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GOLDEN GATE NATIONAL RECREATION AREA

DRAFT DOG MANAGEMENT PLAN / ENVIRONMENTAL IMPACT STATEMENT

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SPECIAL-STATUS SPECIES

As stated previously in chapter 3, special-status species are plants and animals that are legally protected under the state and federal ESA of 1973 or other regulations, and species that are considered sufficiently rare by the scientific community to qualify for such status. Additional federal regulations protect endangered and threatened wildlife species, including the *Fish and Wildlife Coordination Act* of 1934 (as amended), the *Bald and Golden Eagle Protection Act*, the *Marine Mammal Protection Act*, and the *Migratory Bird Treaty Act*. These acts are discussed in more detail in the paragraphs that follow. The California ESA (administered by the DFG) does not supersede the federal ESA, but operates in conjunction with it to provide additional protection to threatened and endangered species in California, as well as species that are not protected through federal regulations. In addition to threatened and endangered state-listed species, the DFG maintains an informal list of plant and wildlife species of special concern because of population declines and restricted distributions, and/or because they are associated with habitats that are declining in California. The CNPS has also developed lists of plants of special concern in California. Although federal agencies are not required to comply with the California Fish and Game Code, the NPS makes every reasonable effort to conduct its actions in a manner consistent with relevant state laws and regulations. In this section, impacts on federally and state-listed threatened and endangered species as well as candidate species are analyzed. Due to the extensive numbers of additional plant and wildlife species included on lists produced by the CNPS and the California DFG, impacts on these species are analyzed in the “Vegetation” and “Wildlife” sections. However, these species are still given equal consideration for analysis in this plan/EIS compared to federally and state-listed species discussed in this section. Additionally, any impacts on designated critical habitat are also evaluated in this section.

This section provides an overview of the guiding policies and regulations, describes the study area, includes a definition of duration, details the assessment methodology, and defines the impact thresholds for special-status species. This section then provides a detailed, species-specific impact analysis for each alternative and each site in the alternative. It is important to note that only those federally and state-listed species that are present and affected by this project are included in the discussions of this section.

GUIDING POLICIES AND REGULATIONS

Federal Laws and Regulations

Endangered Species Act (ESA). The USFWS and National Oceanic and Atmospheric Association (NOAA) Fisheries have jurisdiction over species formally listed as threatened or endangered under the ESA (16 USC 1531–1544). The USFWS has interpreted the definition of “harm” to include significant habitat modification. An activity may be defined as a take even if it is unintentional or accidental. An endangered species is one that is considered in danger of becoming extinct throughout all or a significant portion of its range. A threatened species is one that is likely to become endangered in the foreseeable future. In addition to endangered and threatened species, which are legally protected under the ESA, there are lists of candidate species for which the USFWS currently has enough information to support a proposal for listing as threatened or endangered species.

Section 7 of the ESA outlines procedures for federal interagency cooperation to conserve federally listed species and designated critical habitat. The NPS is required to consult with USFWS or NOAA Fisheries to ensure that they are not undertaking, funding, permitting, or authorizing actions likely to jeopardize the continued existence of listed species. This consultation may be either informal or formal consultation. Under a formal consultation, either USFWS or NOAA Fisheries issues a biological opinion. The biological opinion generally authorizes some level of incidental take and details the reasonable and

prudent measures that the action agency needs to implement to ensure that critical habitat is not destroyed or degraded and that a listed species is not jeopardized by the federal action. Section 9 of the ESA prohibits the “take” of federally listed species, which is broadly defined as “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct.”

Migratory Bird Treaty Act. The *Migratory Bird Treaty Act*, which was first enacted in 1918, implements a series of treaties between the United States and Great Britain (on behalf of Canada), Mexico, Japan, and Russia, which provide for international migratory bird protection and authorize the Secretary of the Interior to regulate the take of migratory birds. There is a list of bird species that are protected by the *Migratory Bird Treaty Act*. The act makes it unlawful, except as allowed by regulations, “at any time, by any means, or in any manner, to pursue, take, or kill any migratory bird, or any part, nest, or egg of any such bird, included in the terms of conventions” with certain other countries (16 USC 703). This includes direct and indirect acts, although harassment and habitat modification are not included unless they result in the direct loss of birds, nests, or eggs. All the bird species at GGNRA discussed in chapter 3 are protected under the *Migratory Bird Treaty Act*, with the exception of starlings, pigeons, crows, and game birds.

Executive Order 13186—Responsibilities of Federal Agencies to Protect Migratory Birds. This executive order directs executive departments and agencies to take certain actions to further implement the *Migratory Bird Treaty Act*. This executive order creates a more comprehensive strategy for the conservation of migratory birds by the federal government, and fulfills the government’s duty to lead in the protection of this international resource. This executive order also provides a specific framework for the federal government’s compliance with its treaty obligations to Canada, Mexico, Russia, and Japan and provides broad guidelines on conservation responsibilities and requires the development of more detailed guidance in memoranda of understanding. For example, the executive order aids in incorporating national planning for bird conservation into agency programs and provides the formal presidential guidance necessary for agencies to incorporate migratory bird conservation more fully into their programs.

Marine Mammal Protection Act. The *Marine Mammal Protection Act*, which was most recently reauthorized in 1994 (16 USC 1361 et seq.), establishes a moratorium, with certain exceptions, on the take of marine mammals in U.S. waters. The term “take” is statutorily defined as “to harass, hunt, capture, or kill, or attempt to harass, hunt, capture, or kill any marine mammal.” “Harassment” is defined under the 1994 amendments as any act of pursuit, torment, or annoyance that has the potential to injure a marine mammal in the wild, or has the potential to disturb a marine mammal in the wild by causing disruption to behavioral patterns, including but not limited to migration, breathing, nursing, breeding, feeding, or sheltering. All the marine mammal species at GGNRA discussed in chapter 3 are protected under the *Marine Mammal Protection Act*.

Magnuson-Stevens Fishery Management and Conservation Act. The *Magnuson-Stevens Fishery Conservation and Management Act*, as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-267), requires all federal agencies to consult with NOAA Fisheries on all actions or proposed actions allowed, funded, or undertaken by the agency that may adversely affect essential fish habitat. Essential fish habitat is defined as “those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity.” Waters include aquatic areas and their associated physical, chemical, and biological properties. Substrate includes sediment underlying the waters. Necessary means the habitat required to support a sustainable fishery and the managed species’ contribution to a healthy ecosystem.

NPS Natural Resource Policies and Guidelines

As stated previously in the “Vegetation section,” the NPS has developed specific guidelines for the management of natural resources (NPS 1991). The guidelines provide for the management of native and non-native plant and animal species.

The NPS *Management Policies 2006* direct park managers to preserve natural resources, processes, systems, and values of park units in an unimpaired condition to perpetuate their inherent integrity and to provide present and future generations with the opportunity to enjoy them (NPS 2006b, section 4.1). Additionally, the *Organic Act* of 1916 (16 USC 1) commits the NPS to making informed decisions that perpetuate the conservation and protection of park resources unimpaired for the benefit and enjoyment of future generations, as described in detail in chapter 1.

State Laws and Regulations

California Endangered Species Act. Pursuant to the California ESA, which is administered by the California DFG, state-listed threatened or endangered species are protected from any take (California Code of Regulations, title 14, sections 670.2 and 670.5; California ESA, section 2080). The state ESA is similar to the federal ESA both in process and substance; it is intended to provide additional protection to threatened and endangered species in California. The California ESA does not supersede the federal ESA, but operates in conjunction with it. Species may be listed as threatened or endangered under both acts (in which case the provisions of both state and federal laws apply) or under only one act (Mueller 1994). The take of state-listed species incidental to otherwise lawful activities requires an incidental take permit.

California Native Plant Protection Act. In addition to the California ESA, the *California Native Plant Protection Act* provides protection to endangered and rare plant species, subspecies, and varieties of wild native plants in California. The definitions of “endangered” and “rare” closely parallel the definitions of “endangered” and “threatened” plant species in the California ESA. The *California Native Plant Protection Act* lists are used by both the California DFG and the USFWS when considering formal species protection under the ESA and the California ESA. The CNPS has created five lists in an effort to categorize degrees of concern: List 1A (Plants Presumed Extinct in California), List 1B (Plants Rare, Threatened, or Endangered in California and Elsewhere), List 2 (Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere), List 3 (Plants about Which We Need More Information: A Review List), and List 4 (Plants of Limited Distribution: A Watch List). The California DFG considers all plants listed by the CNPS as “special plants” and recommends that impacts on plants on lists 1 and 2 be considered during project analysis.

California Fish and Game Code, Protection of Birds. The California Fish and Game Code states that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird (section 3503). Specifically, it is unlawful to take, possess, or destroy any raptors (i.e., eagles, hawks, owls, and falcons), including their nests or eggs (section 3503.5). The code adopts the provisions of the *Migratory Bird Treaty Act* and states that it is unlawful to take or possess any designated migratory nongame bird or any part of such migratory nongame bird (section 3513). The state code offers no statutory or regulatory mechanism for obtaining an incidental take permit for the loss of nongame migratory birds. Typical violations include destruction of active nests resulting from removal of vegetation in which the nests are located. Violation of the code could also include failure of active raptor nests resulting from disturbance of nesting pairs by nearby project construction.

Informal Species Designations

Both the federal and state governments maintain lists of species that are not legally protected but are species that may be rare enough to qualify for listing under the respective endangered species acts. In addition, the CNPS maintains a list of species in California that are considered rare or endangered according to their criteria and the California DFG maintains an informal list of plant and wildlife species of special concern because of population declines and restricted distributions, and/or because they are associated with habitats that are declining in California. The species listed by these agencies are defined as other species of interest and require consideration by the NPS when management actions are taken to ensure that actions do not harm the species or their habitats. Impacts associated with other species of interest at GGNRA are described in the “Vegetation” and “Wildlife” sections of chapter 4.

STUDY AREA

The geographic study area for special-status species includes the individual sites of GGNRA under consideration for this plan/EIS that could be impacted by dog management activities including new lands. There are 21 individual sites relevant to this project, which have been previously described in detail in chapter 3.

DURATION OF IMPACT

Duration describes the length of time an effect would occur, either short term or long term. Long term impacts to special status species are described as those persisting for the life of the plan/EIS (the next 20 years). After the implementation of the plan, a 1- to 3-month period of public education would occur to implement the proposed action followed by a 1- to 3-month period testing the compliance-based management strategy. At the beginning of the education and enforcement period, short-term impacts on all natural resources would occur, regardless of the alternative chosen. During this period, impacts on special status species would be similar to the current conditions and would be short-term. Following the education period, monitoring for compliance would begin and it is expected that compliance with the dog walking regulations and associated adverse impacts would improve gradually and the impacts on special status species would then become long term, as described below for each alternative.

ASSESSMENT METHODOLOGY

The impact analysis for special-status species includes qualifying habitat types that would be lost or restored, and discussing other potential direct and indirect effects. For the purposes of this document, special-status species addressed in this section include federally and state-listed threatened and endangered species and candidate species as described in the following paragraphs. Impacts on designated critical habitat are also evaluated. Habitat loss or restoration is based on an analysis of vegetation changes. Potential impacts that could occur beyond the limit of direct project disturbance, including those that may not be related to habitat loss, are discussed on a qualitative basis.

The information in this analysis is obtained through best professional judgment of park staff, experts in the field, recovery plans and actions for listed species, ongoing data collection for other projects, and other supporting literature (as cited in the text). NPS observations and anecdotal evidence at GGNRA are also included and described by site, when available. Impacts on special-status species were assessed in terms of changes in the amount and connectivity of special-status species habitat, integrity of the habitat (including past disturbance) and populations, and the potential for increased/decreased disturbance and number of individuals. The park would adhere to any additional measures required by a biological opinion issued by the USFWS (if applicable and in accordance with Section 7 of the ESA) beyond those

described in this document. For all listed species, proposed actions would be conducted under the terms and conditions of the biological opinion issued by the USFWS and NOAA Fisheries.

IMPACT THRESHOLDS

The following impact thresholds were established to determine the magnitude of effects on special-status species and their associated habitat (including designated critical habitat) that would result from implementation of the various alternatives being considered. Primary steps in assessing impacts on special-status species were taken to determine:

- which species and supporting habitat are found in areas likely to be affected by dog management described in the alternatives;
- any habitat loss or alteration caused by the alternatives; and
- the displacement and/or disturbance potential of the actions, as well as the potential for the species and suitable or supporting habitat to be affected by the alternatives.

Intensity of Impact

Intensity describes the degree of the effect on special-status species; federally and state-listed threatened and endangered species are addressed together in this section. The intensity of impact is species-specific and related to population size and distribution in the park and regionally. The environmental consequences for federal threatened and endangered species are described in a way that meets the requirements of the NEPA and the ESA. Definitions for impact conclusions required for Section 7 ESA consultation are presented below:

<i>No effect:</i>	A proposed action would not affect a federally listed species, candidate species, or designated critical habitat.
<i>May affect, not likely to adversely affect:</i>	Effects on federally listed or candidate species would be discountable (i.e., extremely unlikely to occur and not able to be meaningfully measured, detected, or evaluated) or would be beneficial.
<i>May affect, likely to adversely affect:</i>	Adverse effects on a federally listed or candidate species may occur as a direct or indirect result of proposed actions and the effects would be either not discountable or not beneficial.
<i>Likely to jeopardize proposed species or adversely modify proposed critical habitat (impairment):</i>	The appropriate conclusion when the NPS or the USFWS identifies situations in which the proposal could jeopardize the continued existence of a federally listed or candidate species or adversely modify critical habitat for a species within or outside park boundaries.

Impacts were determined by examining the potential effects of dog walking activities on special-status species, their habitats, or the natural processes sustaining them as well as responses to disturbance by dogs. The intensity of each adverse impact is judged as having a minor, moderate, or major effect. A beneficial impact would be a positive change for special-status species. Negligible impacts are neither adverse nor beneficial, nor long term or short term. No impact on special-status species may also be

applicable for some alternatives and sites if dogs are prohibited; for federally listed species, this impact intensity would equate to a determination of “no effect.” The following impact threshold definitions are used to describe the severity and magnitude of changes to federally and state-listed species under each of the alternatives. Each threshold definition references the ESA determinations described above, where applicable.

Beneficial A beneficial impact is a beneficial change from the current conditions and is a relative indicator of progress compared to the no-action alternative. In general, a beneficial impact would be an increase in the viability of the species if species-limiting factors (e.g., habitat loss, competition, and mortality) are reduced and if species resilience is enhanced through improving habitat integrity. For federally listed species, this impact intensity would equate to a determination of “may affect, not likely to adversely affect.”

Negligible Impacts would result in no measurable or perceptible changes in individuals of a species or its habitat (including critical habitat as designated under the ESA). For federally listed species, this impact intensity would equate to a determination of “may affect, not likely to adversely affect.”

Adverse **Minor.** Impacts would result in measurable or perceptible changes in individuals of a species or its habitat, but would be localized in a relatively small area. The reproductive success of individuals of a species would not be affected. Adverse impacts may include occasional disturbance to individuals or avoidance of certain areas, although essential features of critical habitat would not be impacted. For federally listed species, this impact intensity would equate to a determination of “may affect, likely to adversely affect.”

Moderate. Impacts would result in measurable and/or consequential changes in individuals of a species or its habitat; however, the impact would remain relatively localized. The reproductive success of individuals of a species would be affected, but the species itself would not be permanently lost. Adverse impacts may include frequent disturbance or avoidance of certain areas or injury or mortality of individuals, but the long-term viability of the species would be maintained. Essential features of critical habitat may be impacted. For federally listed species, this impact intensity would equate to a determination of “may affect, likely to adversely affect.”

Major. Impacts would result in measurable and/or consequential changes to a large number of individuals of a species or a large area of its habitat. These changes would be substantial, highly noticeable, and permanent, occurring over a widespread geographic area, resulting in a loss of species viability. Adverse impacts may include frequent and repeated disturbance or injury or mortality of individuals to the point that the long-term viability of the species would be compromised. Essential features of critical habitat would be impacted. In extreme adverse cases, effects would be irreversible and the species may be extirpated from the park. For federally listed species, this impact intensity would equate to a determination of “likely to jeopardize proposed species or adversely modify proposed critical habitat (impairment).”

It is important to note that dogs are viewed as a contributing factor to impacts associated with special-status species and the total elimination of dogs in the park would still leave disturbance effects on special-status species by other factors, such as visitors without dogs who would continue to visit the park and use the trails/roads. Disturbance by visitors and their activities (including associated equipment) as well as by dogs has been occurring and currently occurs in GGNRA as an existing condition. However, on a relative

scale, visitors with dogs could impact special-status species to a greater extent than visitors without dogs. The impacts analysis describes species-specific impacts on special-status species by alternative and site.

IMPACTS COMMON TO ALL ALTERNATIVES

It has been suggested by several sources that dogs, “particularly while off leash, increase the radius of human recreational influence or disturbance beyond what it would be in the absence of a dog” (Sime 1999, 8.4; Miller et al. 2001). “At some level, domestic dogs still maintain instincts to hunt and/or chase” (Sime 1999, 8.2). However, Andrusiak (2003) suggests that dogs traveling quietly along a trail with screening vegetation on both sides are unlikely to disturb or even encounter wildlife. But “even if the chase instinct is not triggered, dog presence in and of itself may be an agent of disturbance or stress to wildlife” (Sime 1999, 8.3) and animals that are prey of wild canids may perceive dogs as predators and may be subject to nonlethal, fear-based alterations in physiology, activity, and habitat use (Miller et al. 2001; Lenth and Knight 2008). Generally, potential impacts on wildlife as a result of interactions with domestic dogs could be broadly classified as falling into three categories: harassment, injury, or death. Harassment is the disruption of normal maintenance activities, such as feeding, resting, or grooming, and can include disrupting, alarming, or even chasing wildlife. Dogs may disturb wildlife either accidentally or deliberately through chasing (Andrusiak 2003). Dogs on leash disturb wildlife less frequently than dogs off leash; actual direct injury or mortality to wildlife by dogs is rare (Andrusiak 2003). If dogs chase or pursue wildlife, injuries to wildlife could be sustained directly or indirectly as a result of accidents that occur during the chase rather than through direct contact with the dog. Injuries sustained may result in death or may compromise the animal’s ability to carry on other necessary life functions, resulting in eventual death or reduced reproductive success.

The modification of normal behaviors such as feeding, nesting, grooming, and resting can occur through repeated disturbance, and wildlife may relocate from preferred habitat to other areas to avoid harassment, which could result in the displacement of wildlife from public to private lands (Sime 1999, 8.4). Dog presence has been correlated with altered patterns of habitat use for wildlife species (Lenth and Knight 2008, 222). “Authors of many wildlife disturbance studies concluded that dogs with people, dogs on leash, or loose dogs all provoked the most pronounced disturbance reactions from their study animals” (Sime 1999, 8.2).

The “presence of dogs may intensify bird responses to pedestrians” (Sime 1999, 8.10). Birds usually are more sensitive to dogs approaching than to human beings (Andrusiak 2003). It has been shown that birds react when dogs accompany walkers and that even “dogs restrained on leashes can disturb birds sufficiently to induce displacement and cause a decrease in local bird fauna” (Banks and Bryant 2007, 612). Although leashing makes it difficult for pets to chase birds and reduces the probability of disturbance and the number of birds per disturbance, leashed pets still disturb birds (Lafferty 2001a, 1955). Flocking birds in open habitats (e.g., beaches) are more vulnerable to disturbance than single birds in dense cover. Ground-dwelling birds have been shown to be most affected by dogs (Banks and Bryant 2007, 612).

“Dogs can disrupt habitat use, cause displacement responses, and injure or kill birds” (Sime 1999, 8.10). Migrating species, especially shorebirds, use stopovers areas to rest and feed, replacing energy consumed between stops. Dogs disturbing foraging birds may diminish the birds’ foraging time and can result in a loss of energy required to migrate, significantly affecting the birds’ survival during migration (Andrusiak 2003).

A study by Forrest and St. Clair showed that “off-leash dogs have no impacts on the diversity or abundance of birds and small mammals in urban parks,” potentially because these species are fairly tolerant of moderate levels of human activity (Forrest and St. Clair 2006, 51). Still, some studies have

shown that “local wildlife does not become habituated to continued disturbance” by dogs (Banks and Bryant 2007, 612).

Crissy Field

Impacts from dogs as a result of the two different definitions of the Crissy Field WPA (the 36 CFR 7.97(d) definition for alternative A and the Warming Hut to approximately 900 feet east of the former Coast Guard Pier definition for alternatives B–E) would be the same for all alternatives. Even though the WPA would be expanded for alternatives B–E, this change would not influence the overall impacts analysis at this site because it would neither increase nor decrease the impacts at Crissy Field described in the paragraphs that follow. Further explanation of these two definitions can be found in the “Current Regulations and Policies” section of chapter 2.

Cumulative Impacts

The impacts analysis, which describes species-specific impacts on special-status species by alternative and site, is followed by a discussion of cumulative impacts as a result of each alternative and site. Generally, past actions that have influenced special-status species at GGNRA are urban development and loss of habitat continuity, the establishment of and overall dominance by non-native plant species, and fire suppression. Other ongoing programs being completed both in the park and on private lands and lands managed by other agencies adjacent to GGNRA-managed lands in the park are considered in the cumulative impacts discussion for each species.

COMPLIANCE-BASED MANAGEMENT STRATEGY

In order to ensure protection of special status species from dog walking activities, the dog walking regulations defined in action alternatives B, C, D, and E would be regularly enforced by park law enforcement, and compliance monitored by park staff. A compliance-based management strategy would be implemented to address noncompliance and would apply to all action alternatives. Noncompliance would include dog walking within restricted areas, dog walking under voice and sight control in designated on-leash dog walking areas, and dog walking under voice and sight control outside of established ROLAs. If noncompliance occurs, impacts to special status species have the potential to increase and become short-term negligible to moderate adverse. Special status wildlife species can be directly affected by dogs through the disruption of normal activities, such as feeding, resting, or grooming and can also disrupt, alarm, or even chase after wildlife. Noncompliant dogs that chase or pursue wildlife could result in injuries that may result in death or may compromise the animal’s ability to carry on other necessary life functions or reduced reproductive success. Special status plant species can be both directly affected by dogs through physical disturbance and indirectly affected by dogs through defecation and urination. Physical disturbance to vegetation can include trampling or digging that may reduce the viability of the plant(s). Defecation by dogs could also affect vegetation by concentrating nutrients in particular areas. Noncompliant dog walkers could also create social trails that would increase erosion, damage root systems, further fragment habitat, and alter reproductive success by isolating plants, thus reducing the opportunities for cross-pollination and effective seed dispersal. To prevent these impacts from increasing or occurring outside of the designated dog walking areas the NPS would regularly monitor all sites. When noncompliance is observed in an area, park staff would focus on enforcing the regulations, educating dog walkers, and establishing buffer zones, time and use restrictions, and SUP restrictions. If noncompliance continues and compliance falls below 75 percent (measured as the percentage of total dogs / dog walkers observed during the previous 12 months not in compliance with the regulations) the area’s management would be changed to the next more restrictive level of dog management. In this case, ROLAs would be changed to on-leash dog walking areas and on-leash dog walking areas would be changed to no dog walking areas. Impacts from noncompliance could reach short-

term negligible to moderate adverse, but the compliance-based management strategy is designed to return impacts to a level that assumes compliance, as described in the overall impacts analysis, or provide beneficial impacts where dog walking is reduced or eliminated.

FEDERALLY AND STATE-LISTED WILDLIFE SPECIES

At GGNRA, for new and/or pending properties recently acquired by the park (Cattle Hill and Pedro Point Headlands), inventorying of listed and unique wildlife species is currently ongoing. Therefore, potential habitat is identified at these sites because site-specific information concerning listed plant species at these locations was relatively unknown at the time of this document's publication.

SAN BRUNO ELFIN BUTTERFLY (FEDERALLY ENDANGERED)

The larval host plant for the San Bruno elfin butterfly is sedum, a succulent plant that grows on rocky north-facing slopes along the coast (coastal scrub) (Newby 2000). San Bruno elfin butterflies are closely tied to sedum host plants, where they lay their eggs and where larvae develop; the adults emerge for only a short period. Existing San Bruno elfin butterfly populations occur in known colonies of sedum only at Milagra Ridge, on rocky outcrops that are relatively inaccessible to people and dogs (NPS 2005c).

Milagra Ridge

Alternative A: No Action. Dogs are currently allowed on leash on all trails and the fire road at Milagra Ridge. Both the road and the trails traverse habitat that could support the host sedum species of the San Bruno elfin butterfly at rocky outcrops in coastal scrub habitat at this site. This site has documented moderate visitor use, and 25 leash law violations were issued in 2007/2088 (table 9). Because the population of the San Bruno elfin butterfly is small and isolated, it is potentially susceptible to threats and stochastic events (random or rare), but such events are unlikely due to the relative inaccessibility of the habitat that supports this species in relation to trails at Milagra Ridge. Historical use of this area shows no indication that either the host plant or the butterfly is being affected by dogs on the trails and roads.

Therefore, alternative A would result in negligible impacts on the San Bruno elfin butterfly because no measurable or perceptible change in the population or habitat of the San Bruno elfin butterfly would be expected from this alternative. Impacts would be localized and could constitute a permanent loss if San Bruno elfin butterfly eggs or larvae are present on vegetation in or along a trail that is disturbed by dogs. However, it is unlikely that direct impacts on individuals of this butterfly would occur from dogs as a result of this alternative because of the relative inaccessibility of the habitat in relation to trails and because dogs are required to be on leash for alternative A.

Under alternative A, no permit system exists for dog walking. At Milagra Ridge, commercial dog walking is uncommon; therefore, commercial dog walking would have negligible impacts on the San Bruno elfin butterfly.

Cumulative Impacts. Projects and actions in and near Milagra Ridge were considered for the cumulative impacts analysis (appendix K). Long-term parkwide projects such as trail rehabilitation performed as part of Park Stewardship Programs would have the potential to affect the San Bruno elfin butterfly and its habitat in San Mateo County. Since San Bruno elfin butterfly habitat in the park is mapped and monitored on a regular basis, the habitat would be considered and avoided during in-park projects and operations, particularly since it occurs primarily in relatively inaccessible patches on rocky outcrops at Milagra Ridge. Other ongoing programs, including non-native plant removal projects in the park as well as Wildland/Urban Interface Initiative projects on adjacent parklands, may result in beneficial effects by preventing non-native vegetation from displacing San Bruno elfin butterfly habitat. The objective of the

San Bruno Elfin and Mission Blue Butterflies Recovery Plan (USFWS 1984) is to protect, maintain, and enhance existing populations of the two endangered butterfly species; therefore, this plan should provide beneficial effects to the San Bruno elfin butterfly. Additionally, the site management plan for Milagra Ridge includes a statement to protect and enhance the habitat of the mission blue butterfly in coordination with GGNRA (NPS) and USFWS. Although habitat restoration as a result of the plans mentioned above has focused on the mission blue butterfly, the plans should both provide beneficial effects to the San Bruno elfin butterfly as well, through protection of existing butterfly habitat.

The negligible impacts on the San Bruno elfin butterfly under alternative A were considered together with the effects of the projects mentioned above. The beneficial effects from the habitat restoration projects combined with the negligible impacts from alternative A would result in negligible cumulative impacts on the San Bruno elfin butterfly.

Indirect Impacts in Adjacent Parks

In lands adjacent to GGNRA, there are 36 parks with dog use areas within about a 10-mile radius of Milagra Ridge and 5 parks within about a 5-mile radius; the closest parks are Esplanade Beach in Pacifica (which is temporarily closed) and the San Bruno Dog Park (map 27). No indirect impacts on the San Bruno elfin butterfly in adjacent lands would be expected under alternative A since there would be no change in current conditions at the site.

MILAGRA RIDGE ALTERNATIVE A CONCLUSION TABLE

San Bruno Elfin Butterfly Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Negligible impacts	It is unlikely that direct impacts on individuals of this butterfly species would occur from dogs because of the relative inaccessibility of the habitat in relation to trails and because dogs would be required to be on leash	N/A	Negligible cumulative impacts No indirect impacts in adjacent lands

N/A—not applicable

Alternative B: NPS Leash Regulation. Alternative B would allow on-leash dog walking on the fire road and the trail to the westernmost overlook and WWII bunker, as well as on the future Milagra Battery Trail, similar to alternative A. However, the trail loop to the top of the hill would not be open for dog walking in this alternative. On-leash dog walking is based on an allowed 6-foot dog leash. Since dog walkers may walk along the edge of the fire road or trails, dogs would then have access to the adjacent land 6 feet in all directions, resulting in an LOD area for vegetation that would extend 6 feet out from the edges of the fire road or trails. In general, impacts on the San Bruno elfin butterfly would be limited to the existing fire road and trails and the 6-foot corridor immediately adjacent to the trails/fire roads. Because the host plants are not located along the trails and due to the relative inaccessibility of the sedum host plants in relation to trails, negligible impacts on the butterfly in areas adjacent to the trail (6-foot corridor or LOD area) would occur, but impacts on the habitat would not be detectable or measurable.

Overall, assuming compliance with the leash regulation, negligible impacts on the San Bruno elfin butterfly would occur in the Milagra Ridge site. Impacts would be localized and could constitute a permanent loss if San Bruno elfin butterfly eggs or larvae are present on vegetation in or along a trail that

is disturbed by dogs. However, it is unlikely that direct impacts on individuals of this butterfly species would occur from dogs as a result of any of the alternatives because of the relative inaccessibility of the habitat in relation to trails and because dogs would be required to be on leash for alternative B.

Under alternative B, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs per person with no permit required. Since commercial dog walking is uncommon at Milagra Ridge, it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking under alternative B would have a negligible impact on the San Bruno elfin butterfly.

Cumulative Impacts. The negligible impacts on the San Bruno elfin butterfly under alternative B were considered together with the effects of the projects mentioned above in alternative A. The beneficial effects from the habitat restoration projects combined with the negligible impacts from alternative B would result in negligible cumulative impacts on the San Bruno elfin butterfly.

Indirect Impacts in Adjacent Parks

No indirect impacts on the San Bruno elfin butterfly in adjacent lands would be expected under alternative B since the fire road would still be open for dog walking at Milagra Ridge.

MILAGRA RIDGE ALTERNATIVE B CONCLUSION TABLE

San Bruno Elfin Butterfly Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Negligible impacts in 6-foot corridors adjacent to trails (LOD area)	Host plant habitat is not located along trails		
Overall negligible impacts, assuming compliance	It is unlikely that direct impacts on individuals of this butterfly species would occur from dogs because of the relative inaccessibility of the habitat in relation to trails and because dogs would be required to be on leash	No change, assuming compliance	Negligible cumulative impacts No indirect impacts in adjacent lands

Alternative C: Emphasis on Multiple Use—Balanced by County. Alternative C would allow on-leash dog walking in the same areas as alternative B, and impacts would be the same, assuming compliance: negligible in the LOD area and overall.

Under alternative C, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be allocated at Milagra Ridge, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking is not common at Milagra Ridge, it is likely that commercial dog walkers would have no impact on the number of dog walkers. Therefore, commercial dog walking under alternative C would have negligible impacts on the San Bruno elfin butterfly.

Cumulative Impacts. The negligible impacts on the San Bruno elfin butterfly under alternative C were considered together with the effects of the projects mentioned above in alternative A. The beneficial effects from the habitat restoration projects combined with the negligible impacts from alternative C would result in negligible cumulative impacts on the San Bruno elfin butterfly.

Indirect Impacts in Adjacent Parks

No indirect impacts on the San Bruno elfin butterfly in adjacent lands would be expected under alternative C since the fire road would still be open for dog walking at Milagra Ridge.

MILAGRA RIDGE ALTERNATIVE C CONCLUSION TABLE

San Bruno Elfin Butterfly Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Negligible impacts in 6-foot corridors adjacent to trails (LOD area)	Host plant habitat is not located along trails		
Overall negligible impacts, assuming compliance	It is unlikely that direct impacts on individuals of this butterfly species would occur from dogs because of the relative inaccessibility of the habitat in relation to trails and because dogs would be required to be on leash	No change, assuming compliance	Negligible cumulative impacts No indirect impacts in adjacent lands

Alternative D: Most Protective Based on Resource Protection/Visitor Safety. Alternative D would not allow dogs at this site, thereby protecting any preferred habitat along the fire road and trails; therefore, this alternative would result in no impact on the San Bruno elfin butterfly.

Since dogs would not be allowed at Milagra Ridge, there would be no impact from commercial dog walkers on the San Bruno elfin butterfly.

Cumulative Impacts. The negligible impacts on the San Bruno elfin butterfly under alternative D were considered together with the effects of the projects mentioned above in alternative A. The beneficial effects from the habitat restoration projects combined with the negligible impacts from alternative D would result in negligible cumulative impacts on the San Bruno elfin butterfly.

Indirect Impacts in Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation under alternative D, particularly Esplanade Beach (which is temporarily closed) and the San Bruno Dog Park, because they are the closest dog use areas. Impacts on the San Bruno elfin butterfly in adjacent lands from increased dog use would be negligible because it is unknown whether habitat to support the host sedum species exists at these locations; if habitat does exist, it is likely that it would be in areas inaccessible to visitors and dogs, similar to the occurrence of the habitat at rocky outcrops at Milagra Ridge.

MILAGRA RIDGE ALTERNATIVE D CONCLUSION TABLE

San Bruno Elfin Butterfly Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
No impact, assuming compliance	Dogs would be prohibited at the site	Beneficial, assuming compliance	Negligible cumulative impacts Negligible indirect impacts in adjacent lands

Alternative E: Most Dog Walking Access/Most Management Intensive. Alternative E would allow on-leash dog walking on the same trails as alternative B, with the addition of a loop to the top of the hill; even with that addition, impacts would be the same as alternative B, assuming compliance: negligible in the LOD area and overall.

Under alternative E, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be allocated at Milagra Ridge, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking is not common at Milagra Ridge, it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking under alternative E would have negligible impacts on the San Bruno elfin butterfly.

Cumulative Impacts. The negligible impacts on the San Bruno elfin butterfly under alternative E were considered together with the effects of the projects mentioned above in alternative A. The beneficial effects from the habitat restoration projects combined with the negligible impacts from alternative E would result in negligible cumulative impacts on the San Bruno elfin butterfly.

Indirect Impacts in Adjacent Parks

No indirect impacts on the San Bruno elfin butterfly in adjacent lands would be expected under alternative E since the fire road would still be open for dog walking at Milagra Ridge.

MILAGRA RIDGE ALTERNATIVE E CONCLUSION TABLE

San Bruno Elfin Butterfly Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Negligible impacts in 6-foot corridors adjacent to trails (LOD area)	Host plant habitat is not located along trails		
Overall negligible impacts, assuming compliance	It is unlikely that direct impacts on individuals of this butterfly species would occur from dogs because of the relative inaccessibility of the habitat in relation to trails and because dogs would be required to be on leash	No change, assuming compliance	Negligible cumulative impacts No indirect impacts in adjacent lands

Preferred Alternative. Alternative C was selected as the preferred alternative for Milagra Ridge. The preferred alternative would allow on-leash dog walking on the fire road and the trail to the westernmost overlook and WWII bunker, as well as on the future Milagra Battery Trail. However, the trail loop to the top of the hill would not be open to dog walking in this alternative. On-leash dog walking is based on an allowed 6-foot dog leash. Since dog walkers may walk along the edges of the fire road or trails, dogs would then have access to the adjacent land 6 feet in all directions, resulting in an LOD area for vegetation that would extend 6 feet out from the edges of the fire road or trails. In general, impacts on the San Bruno elfin butterfly would be limited to the existing fire road and trails and the 6-foot corridor immediately adjacent to the trails/fire roads. Because the host plants are not located along the trails and due to the relative inaccessibility of the sedum host plants in relation to trails, negligible impacts on the butterfly in areas adjacent to the trail (6-foot corridor or LOD area) would occur, but impacts on the habitat would not be detectable or measurable.

Overall, assuming compliance with the leash regulation, negligible impacts on the San Bruno elfin butterfly would occur in the Milagra Ridge site. Impacts would be localized and could constitute a permanent loss if San Bruno elfin butterfly eggs or larvae are present on vegetation in or along a trail that is disturbed by dogs. However, it is unlikely that direct impacts on individuals of this butterfly species would occur from dogs as a result of any of the alternatives because of the relative inaccessibility of the habitat in relation to trails and because dogs would be required to be on leash for the preferred alternative.

Under the preferred alternative, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be allocated at Milagra Ridge, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking is not common at Milagra Ridge, it is likely that commercial dog walkers would have no impact on the number of dog walkers. Therefore, commercial dog walking under the preferred alternative would have negligible impacts on the San Bruno elfin butterfly.

Cumulative Impacts. Projects and actions in and near Milagra Ridge were considered for the cumulative impacts analysis (appendix K). Long-term parkwide projects such as trail rehabilitation performed as part of Park Stewardship Programs would have the potential to affect the San Bruno elfin butterfly and its habitat in San Mateo County. Since San Bruno elfin butterfly habitat in the park is mapped and monitored on a regular basis, the habitat would be considered and avoided during in-park projects and operations, particularly since it occurs primarily in relatively inaccessible patches on rocky outcrops at Milagra Ridge. Other ongoing programs, including non-native plant removal projects in the park as well as Wildland/Urban Interface Initiative projects on adjacent parklands, may result in beneficial effects by preventing non-native vegetation from displacing San Bruno elfin butterfly habitat. The objective of the *San Bruno Elfin and Mission Blue Butterflies Recovery Plan* (USFWS 1984) is to protect, maintain, and enhance existing populations of the two endangered butterfly species; therefore, this plan should provide beneficial effects to the San Bruno elfin butterfly. Additionally, the site management plan for Milagra Ridge includes a statement to protect and enhance the habitat of the mission blue butterfly in coordination with GGNRA (NPS) and USFWS. Although habitat restoration as a result of the plans mentioned above has focused on the mission blue butterfly, the plans should both provide beneficial effects to the San Bruno elfin butterfly as well, through protection of existing butterfly habitat.

The negligible impacts on the San Bruno elfin butterfly under the preferred alternative were considered together with the effects of the projects mentioned above. The beneficial effects from the habitat restoration projects combined with the negligible impacts from the preferred alternative would result in negligible cumulative impacts on the San Bruno elfin butterfly.

Indirect Impacts in Adjacent Parks

In lands adjacent to GGNRA, there are 36 parks with dog use areas within about a 10-mile radius of Milagra Ridge and 5 parks within about a 5-mile radius; the closest parks are Esplanade Beach in Pacifica (which is temporarily closed) and the San Bruno Dog Park (map 27). No indirect impacts on the San Bruno elfin butterfly in adjacent lands would be expected under the preferred alternative since the fire road would still be open for dog walking at Milagra Ridge.

MILAGRA RIDGE PREFERRED ALTERNATIVE CONCLUSION TABLE

San Bruno Elfin Butterfly Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Negligible impacts in 6-foot corridors adjacent to trails (LOD area)	Host plant habitat is not located along trails		
Overall negligible impacts, assuming compliance	It is unlikely that direct impacts on individuals of this butterfly species would occur from dogs because of the relative inaccessibility of the habitat in relation to trails and because dogs would be required to be on leash	No change, assuming compliance	Negligible cumulative impacts No indirect impacts in adjacent lands

MISSION BLUE BUTTERFLY (FEDERALLY ENDANGERED)

Mission blue butterfly populations use lupine host plants (*Lupinus albifrons*, *L. formosus*, and *L. variicolor*) that inhabit coastal scrub habitat and grassland habitat at GGNRA. The mission blue butterfly is very closely tied to the lupine host plants that support them, and adult butterflies lay their eggs on these plants. For purposes of this analysis, existing habitat is defined as areas where the mission blue butterfly host plants have been mapped. Additionally, other suitable habitat for the mission blue butterfly has been identified by modeling areas that have similar characteristics to existing mission blue butterfly habitat. In the study area, the mission blue butterfly has been documented at Alta Trail/Orchard Fire Road/Pacheco Fire Road, Oakwood Valley, the Marin Headlands Trails, Fort Baker, Milagra Ridge, and Sweeney Ridge/Cattle Hill; Tennessee Valley, in the Marin Headlands Trails, also has mission blue butterfly habitat and documented occurrences of mission blue butterfly (Bennett 2008, 8).

It has been suggested that intensive trampling by dogs weakens vegetation in a similar manner as trampling by humans (Sime 1999). Generally, potential damage to vegetation (including mission blue butterfly host plants) could occur with increased visitor use with dogs through the physical disturbance and/or alteration of trail habitat due to increased exposure to dog waste, especially at trailheads where dogs can congregate prior to accessing trails. Trailheads are known as areas of disturbance by visitors and their activities as well as by “marking” dogs. The lupine host plants grow in the trail beds and directly adjacent to the trail in some locations as well as off trail at GGNRA (NPS 2009b). Therefore, mission blue butterfly host plants (mission blue butterfly habitat) could be affected by both on- and off-leash dog walking due to the plants’ presence in and adjacent to the trail beds. The permanent loss of individuals of the species could occur if mission blue butterfly eggs or larvae are present on vegetation along a trail/road that is disturbed by dogs. Potential adverse impacts from dogs include trampling host plants, dislodging eggs from host plants, crushing larvae, adding nutrients to soils from dog waste, and spreading invasive plants, all of which could affect the lupine host plants that support the mission blue butterfly. A more detailed mission blue butterfly discussion regarding individual sites and by alternative is included below.

Alta Trail/Orchard Fire Road/Pacheco Fire Road

Alternative A: No Action. Under current conditions, dogs are allowed under voice control or on leash on the trails and roads from Marin City to Oakwood Valley. These areas experience low to moderate use by runners, bicyclists, and hikers (table 9) and the site is a high use individual and commercial dog walking area, with typically 5 to 12 dogs under voice control per commercial walker. There is mapped mission blue butterfly habitat in the grassy hillsides between the Alta Trail and Oakwood Valley Fire Road, where social trails have connected the fire roads; these social trails are closed, but still experience use by both

visitors and dogs (Merkle 2010b, 1). These grassy hillsides adjacent to Alta Trail (mapped mission blue butterfly habitat) are a favorite use area for commercial dog walkers, and fencing has been erected to exclude dogs from mission blue butterfly habitat (Merkle 2010b, 1). Therefore, the social trails in mission blue butterfly habitat that are used by dog walkers, particularly commercial dog walkers with voice-controlled dogs, are potentially susceptible to physical disturbance by dogs.

Alternative A would continue to result in long-term minor to moderate adverse impacts on the mission blue butterfly at Alta Trail/Orchard Fire Road/Pacheco Fire Road through localized, perceptible damage to mission blue butterfly habitat in the trail beds, roads, and adjacent areas as a result of damage to the vegetation from dogs. Even though impacts would be localized in a relatively small area, the reproductive success of individuals may also be affected as an indirect result of impacts on mission blue butterfly habitat.

Under alternative A, no permit system exists for dog walking. However, commercial dog walking at Alta Trail, Orchard Fire Road, and Pacheco Fire Road is common, with commercial dog walkers often having 5 to 12 dogs under voice control at one time. Commercial dog walking would continue to create long-term minor to moderate adverse impacts on the mission blue butterfly. Dogs under voice control would continue to disturb the mission blue butterfly and associated habitat.

Cumulative Impacts. Projects and actions in and near Alta Trail/Orchard Fire Road/Pacheco Fire Road were considered for the cumulative impacts analysis (appendix K). The following is a discussion of projects that have had, are currently having, or have the potential to have effects on the mission blue butterfly at or in the vicinity of this site.

The *San Bruno Elfin and Mission Blue Butterflies Recovery Plan* (USFWS 1984), Wildland/Urban Interface Initiative projects, habitat restoration programs, ongoing monitoring, and volunteer opportunities sponsored by the park—such as efforts with the Golden Gate National Parks Conservancy to restore mission blue butterfly habitat in Marin County—all have the potential to beneficially affect the mission blue butterfly and its habitat in Alta Trail/Orchard Fire Road/Pacheco Fire Road. Additionally, controlled burns will be conducted to help restore mission blue butterfly habitat through beneficial ecological disturbance effects (GGNPC 2010e, 1–2). The primary objective of the *San Bruno Elfin and Mission Blue Butterflies Recovery Plan* (USFWS 1984) is to protect, maintain, and enhance existing populations of the two endangered butterfly species. Management activities described in the plan that will benefit the mission blue butterfly include protecting essential habitat outside targeted park locations through cooperative agreements with adjacent landowners and negotiating conservation easements or similar land conservation agreements (USFWS 1984). Additional acreage of mission blue butterfly habitat will be restored under an agreement with USFWS.

Additional actions have had, are currently having, or have the potential to have adverse impacts on the mission blue butterfly and its habitat at or in the vicinity of GGNRA sites such as Alta Trail/Orchard Fire Road/Pacheco Fire Road. The Park Stewardship Programs, Marin County fire management activities, maintenance operations, and other agency projects may have moderate short- and/or long-term adverse impacts associated with them that would require mitigation to minimize effects on mission blue butterfly habitat.

The long-term minor to moderate adverse impacts on the mission blue butterfly from dogs at Alta Trail, Orchard Fire Road, and Pacheco Fire Road under alternative A were considered together with the effects of the projects mentioned above. The beneficial effects from the habitat restoration and protection projects should reduce some of the adverse impacts on the mission blue butterfly from alternative A; however, the effects from the fire management activities, maintenance operations, and other agency projects on mission blue butterfly habitat would be adverse. When combined, the beneficial and adverse

effects from these projects may balance out. Therefore, the cumulative analysis for this park site will mainly focus on the results of the impact analysis for each alternative. Cumulative impacts on the mission blue butterfly under this alternative would be expected to be long term, minor to moderate, and adverse.

Indirect Impacts in Adjacent Parks

In lands adjacent to GGNRA, there are 31 parks with dog use areas within about a 10-mile radius of Alta Trail, Orchard Fire Road, and Pacheco Fire Road and 19 parks within about a 5-mile radius; the closest park is Remington Dog Park in Sausalito, which allows off-leash dog use (map 26). No indirect impacts on the mission blue butterfly in adjacent lands would be expected under alternative A since there would be no change in current conditions at the site.

ALTA TRAIL/ORCHARD FIRE ROAD/PACHECO FIRE ROAD ALTERNATIVE A CONCLUSION TABLE

Mission Blue Butterfly Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Long-term minor to moderate adverse impacts	Dogs could damage mission blue butterfly habitat in the trail beds and adjacent to the trails and roads; protective fencing for habitat would not exclude noncompliant dogs and social trails would degrade habitat	N/A	Long-term minor to moderate, adverse cumulative impacts No indirect impacts in adjacent lands

N/A = not applicable.

Alternative B: NPS Leash Regulation. Alternative B would allow on-leash dog walking on the Alta Trail to Orchard Fire Road and on Orchard Fire Road and Pacheco Fire Road. On-leash dog walking would be based on an allowed 6-foot dog leash. The LOD area would include Alta Trail, Orchard Fire Road, Pacheco Fire Road, and all areas adjacent to the trails/roads up to 6 feet. Existing mission blue butterfly habitat at Alta Trail/Orchard Fire Road/Pacheco Fire Road is located away from the trails (beyond the 6-foot LOD corridors) and dogs on leash on the trails would not be in proximity to mission blue butterfly habitat; thus, they would not likely impact mission blue butterfly habitat in the LOD area. Therefore, impacts in the LOD area would be negligible.

Overall, alternative B would result in negligible impacts on the mission blue butterfly, assuming compliance. Under alternative B, dogs would no longer be allowed on the social trails at Alta Trail/Orchard Fire Road/Pacheco Fire Road (which meander through mission blue butterfly habitat), so this alternative would keep dogs out of mission blue butterfly habitat. The loss of these trails would reduce the opportunity for dogs to be in proximity to mission blue butterfly habitat, and although this would protect adjacent trail habitat, it would not result in a measurable or perceptible change for the mission blue butterfly; therefore, impacts would remain negligible.

Under alternative B, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs per person with no permit required. Since the percentage of commercial dog walkers is considered high at Alta Trail/Orchard Fire Road/Pacheco Fire Road, dogs walked by commercial dog walkers would cause the majority of the adverse impacts on the mission blue butterfly from dogs at the site. Overall impacts on the mission blue butterfly from dogs walked by both commercial and private individuals are summarized above.

Cumulative Impacts. The negligible impacts on the mission blue butterfly from dogs at Alta Trail, Orchard Fire Road, and Pacheco Fire Road under alternative B were considered together with the effects

of the projects mentioned above in alternative A. The beneficial effects from the habitat restoration and protection projects combined with the adverse effects from the fire management activities, maintenance operations, and other agency projects and the negligible impacts from alternative B would result in negligible cumulative impacts on the mission blue butterfly.

Indirect Impacts in Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation by individual and commercial dog walkers under alternative B, particularly Remington Dog Park, because it is the closest dog use area. Visitation may increase in adjacent lands since dog walking under voice control would no longer be allowed at the Alta Trail/Orchard Fire Road/Pacheco Fire Road site; however, only negligible indirect impacts on the mission blue butterfly in adjacent lands would be expected.

ALTA TRAIL/ORCHARD FIRE ROAD/PACHECO FIRE ROAD ALTERNATIVE B CONCLUSION TABLE

Mission Blue Butterfly Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Negligible impacts in 6-foot corridors adjacent to trails (LOD area)	Mission blue butterfly habitat is not located adjacent to road/trails where dogs would be allowed		
Overall negligible impacts, assuming compliance	Existing habitat is located away from trails and dogs on leash on the trails would not be in proximity to mission blue butterfly habitat; use of social trails would be eliminated	Beneficial, assuming compliance	Negligible cumulative impacts Negligible indirect impacts in adjacent lands

Alternative C: Emphasis on Multiple Use—Balanced by County. Alternative C would have the same dog walking restrictions as alternative B, and impacts would be the same, assuming compliance: negligible in the LOD area and overall.

Under alternative C, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. Any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs, and the permit may restrict use by time and area. Permits would be allowed for Alta Trail/Orchard Fire Road/Pacheco Fire Road. Impacts on the mission blue butterfly from permit holders with four to six dogs would be expected to increase under this alternative; however, impacts would not be expected to increase enough to cause a change in the threshold level. Since commercial dog walking is common at Alta Trail/Orchard Fire Road/Pacheco Fire Road, impacts on the mission blue butterfly would be expected from this user group. Impacts on the mission blue butterfly from commercial dog walkers would be similar to impacts from other dog walkers as summarized in the preceding paragraph; therefore, impacts from commercial dog walking would be negligible.

Cumulative Impacts. Under alternative C, the cumulative impacts on the mission blue butterfly at this park site and indirect impacts on the mission blue butterfly at adjacent lands would be the same as those under alternative B: negligible cumulative impacts and negligible indirect impacts in adjacent lands.

ALTA TRAIL/ORCHARD FIRE ROAD/PACHECO FIRE ROAD ALTERNATIVE C CONCLUSION TABLE

Mission Blue Butterfly Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Negligible impacts in 6-foot corridors adjacent to trails (LOD area)	Mission blue butterfly habitat is not located adjacent to roads/trail where dogs would be allowed		
Overall negligible impacts, assuming compliance	Existing habitat is located away from trails and use of the social trails at the site would be eliminated	Beneficial, assuming compliance	Negligible cumulative impacts Negligible indirect impacts in adjacent lands

Alternative D: Most Protective Based on Resource Protection/Visitor Safety. Under alternative D, dogs would not be allowed at this site. Therefore, assuming compliance, no impacts on the mission blue butterfly from dogs would occur at this site.

Since no commercial dog walking would be allowed under alternative D, no impact on the mission blue butterfly from commercial dog walking would occur.

Cumulative Impacts. The lack of impacts on the mission blue butterfly at Alta Trail, Orchard Fire Road, and Pacheco Fire Road under alternative D was considered together with the effects of the projects mentioned above under alternative A. There would be a combination of adverse and beneficial effects from actions in and around this park site; when combined, these effects would balance out, resulting in negligible impacts. These negligible impacts combined with the lack of impacts on the mission blue butterfly from dogs under alternative D would result in negligible cumulative impacts.

Indirect Impacts in Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation by individual and commercial dog walkers under alternative D since this alternative would not allow dogs; therefore, indirect impacts on the mission blue butterfly in adjacent lands from increased dog use would be expected to be negligible to long term, minor, and adverse. A range is presented because it is unknown whether the mission blue butterfly or suitable habitat and host plants exist in adjacent parks.

ALTA TRAIL/ORCHARD FIRE ROAD/PACHECO FIRE ROAD ALTERNATIVE D CONCLUSION TABLE

Mission Blue Butterfly Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
No impact, assuming compliance	Dogs would be prohibited at the site	Beneficial, assuming compliance	Negligible cumulative impacts Negligible to long-term minor adverse indirect impacts in adjacent lands

Alternative E: Most Dog Walking Access/Most Management Intensive. Alternative E would have the same dog walking restrictions as alternative B, and impacts would be the same: negligible in the LOD area and overall.

Under alternative E, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. Any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. Permits would be allowed for Alta Trail/Orchard Fire Road/Pacheco Fire Road. Impacts on the mission blue butterfly from permit holders with four to six dogs would be expected to increase under this alternative; however, impacts would not be expected to increase enough to cause a change in the threshold level. Since commercial dog walking is common at Alta Trail/Orchard Fire Road/Pacheco Fire Road, impacts on the mission blue butterfly would be expected from this user group. Impacts on the mission blue butterfly from commercial dog walkers would be similar to impacts from other dog walkers, as summarized in the preceding paragraph.

Cumulative Impacts. Under alternative E, the cumulative impacts on the mission blue butterfly at this park site and indirect impacts on the mission blue butterfly in adjacent lands would be the same as those under alternative B: negligible cumulative impacts and negligible indirect impacts in adjacent lands.

ALTA TRAIL/ORCHARD FIRE ROAD/PACHECO FIRE ROAD ALTERNATIVE E CONCLUSION TABLE

Mission Blue Butterfly Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Negligible impacts in 6-foot corridors adjacent to trails (LOD area)	Mission blue butterfly habitat is not located adjacent to roads/trail where dogs would be allowed		
Overall negligible impacts, assuming compliance	Existing habitat at is located away from trails and dogs on leash on the trails would not be in proximity to mission blue butterfly habitat; use of social trails would be eliminated	Beneficial, assuming compliance	Negligible cumulative impacts Negligible indirect impacts in adjacent lands

Preferred Alternative. Alternative C was selected as the preferred alternative for Alta Trail, Orchard Fire Road, and Pacheco Fire Road. The preferred alternative would allow on-leash dog walking on the Alta Trail to Orchard Fire Road and on Orchard Fire Road and Pacheco Fire Road. On-leash dog walking would be based on an allowed 6-foot dog leash. The LOD area would include Alta Trail, Orchard Fire Road, Pacheco Fire Road, and all areas adjacent to the trail/roads up to 6 feet. Existing mission blue butterfly habitat at Alta Trail/Orchard Fire Road/Pacheco Fire Road is located away from the trails (beyond the 6-foot LOD corridors) and dogs on leash on the trails would not be in proximity to mission blue butterfly habitat; thus, on-leash dogs would not likely impact mission blue butterfly habitat in the LOD area. Therefore, impacts in the LOD area would be negligible.

Assuming compliance, the preferred alternative would result in overall negligible impacts on the mission blue butterfly. Under the preferred alternative, dogs would no longer be allowed on the social trails at Alta Trail/Orchard Fire Road/Pacheco Fire Road (which meander through mission blue butterfly habitat), so this alternative would keep dogs out of mission blue butterfly habitat. The loss of these trails would reduce the opportunity for dogs to be in proximity to mission blue butterfly habitat, and although this would protect adjacent trail habitat, it would not result in a measurable or perceptible change for the mission blue butterfly, resulting in negligible impacts.

Under the preferred alternative, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. Any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs, and the permit may restrict use by time and area. Permits would be allowed for Alta Trail/Orchard Fire Road/Pacheco Fire Road. Impacts on

the mission blue butterfly from permit holders with four to six dogs would be expected to increase under this alternative; however, impacts would not be expected to increase enough to cause a change in the threshold level. Since commercial dog walking is common at Alta Trail/Orchard Fire Road/Pacheco Fire Road, impacts on the mission blue butterfly would be expected from this user group. Impacts on the mission blue butterfly from commercial dog walkers would be similar to impacts from other dog walkers, as summarized in the preceding paragraph.

Cumulative Impacts. Projects and actions in and near Alta Trail/Orchard Fire Road/Pacheco Fire Road were considered for the cumulative impacts analysis (appendix K). The following is a discussion of projects that have had, are currently having, or have the potential to have effects on the mission blue butterfly at or in the vicinity of this site.

The *San Bruno Elfin and Mission Blue Butterflies Recovery Plan* (USFWS 1984), Wildland/Urban Interface Initiative projects, habitat restoration programs, ongoing monitoring, and volunteer opportunities sponsored by the park—such as efforts with the Golden Gate National Parks Conservancy to restore mission blue butterfly habitat in Marin County—all have the potential to beneficially affect the mission blue butterfly and its habitat in Alta Trail/Orchard Fire Road/Pacheco Fire Road. Additionally, controlled burns will be conducted to help restore mission blue butterfly habitat through beneficial ecological disturbance effects (GGNPC 2010e, 1–2). The primary objective of the *San Bruno Elfin and Mission Blue Butterflies Recovery Plan* (USFWS 1984) is to protect, maintain, and enhance existing populations of the two endangered butterfly species. Management activities described in the plan that will benefit the mission blue butterfly include protecting essential habitat outside targeted park locations through cooperative agreements with adjacent landowners and negotiating conservation easements or similar land conservation agreements (USFWS 1984). Additional acreage of mission blue butterfly habitat will be restored under an agreement with USFWS.

Additional actions have had, are currently having, or have the potential to have adverse impacts on the mission blue butterfly and its habitat at or in the vicinity of GGNRA sites such as Alta Trail/Orchard Fire Road/Pacheco Fire Road. The Park Stewardship Programs, Marin County fire management activities, maintenance operations, and other agency projects may have moderate short- and/or long-term adverse impacts associated with them that would require mitigation to minimize effects on mission blue butterfly habitat.

The negligible impacts on the mission blue butterfly from dogs at Alta Trail, Orchard Fire Road, and Pacheco Fire Road under the preferred alternative were considered together with the effects of the projects mentioned above. The beneficial effects from the habitat restoration and protection projects combined with the adverse effects from the fire management activities, maintenance operations, and other agency projects and the negligible impacts from the preferred alternative would result in negligible cumulative impacts on the mission blue butterfly.

Indirect Impacts in Adjacent Parks

In lands adjacent to GGNRA, there are 31 parks with dog use areas within about a 10-mile radius of Alta Trail, Orchard Fire Road, and Pacheco Fire Road and 19 parks within about a 5-mile radius; the closest park is Remington Dog Park in Sausalito, which allows off-leash dog use (map 26). The adjacent lands may experience increased visitation by individual and commercial dog walkers under the preferred alternative, particularly Remington Dog Park, because it is the closest dog use area. This increase in visitation would occur because dog walking under voice control would no longer be allowed at the Alta Trail/Orchard Fire Road/Pacheco Fire Road site; however, only negligible indirect impacts on the mission blue butterfly would be expected.

ALTA TRAIL/ORCHARD FIRE ROAD/PACHECO FIRE ROAD PREFERRED ALTERNATIVE CONCLUSION TABLE

Mission Blue Butterfly Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Negligible impacts in 6-foot corridors adjacent to trails (LOD area)	Mission blue butterfly habitat is not located adjacent to roads/trail where dogs would be allowed		
Overall negligible impacts, assuming compliance	Existing habitat is located away from trails and use of the social trails at this site would be eliminated	Beneficial, assuming compliance	Negligible cumulative impacts Negligible indirect impacts in adjacent lands

Oakwood Valley

Alternative A: No Action. Dogs are currently allowed on leash or under voice control on the Oakwood Valley Fire Road and on the Oakwood Valley Trail from the junction with the fire road to Alta Trail. On-leash dog walking is allowed on the Oakwood Valley Trail from the trailhead to the junction with Oakwood Valley Fire Road. These areas experience moderate use by dog walkers (table 9). There is no mission blue butterfly habitat directly along Oakwood Valley Fire Road (Merkle 2010b). However, there is mapped mission blue butterfly habitat in the grassy hillsides between this fire road and the Alta Trail, where social trails have connected the fire roads; these social trails are closed but experience use by both visitors and dogs (Merkle 2010b, 1). These grassy hillsides adjacent to Oakwood Valley Fire Road (mapped mission blue butterfly habitat) are a favorite use area for commercial dog walkers, and fencing has been erected to exclude dogs from mission blue butterfly habitat (Merkle 2010b, 1). Therefore, the social trails in mission blue butterfly habitat that are used by dog walkers, particularly commercial dog walkers with voice-controlled dogs, are potentially susceptible to physical disturbance by dogs.

Therefore, alternative A would continue to result in long-term minor to moderate adverse impacts on the mission blue butterfly at Oakwood Valley through localized, perceptible damage to mission blue butterfly habitat in the trail beds, roads, and adjacent areas as a result of damage to the vegetation from dogs. Even though impacts would be localized in a relatively small area, the reproductive success of individuals may also be affected as an indirect result of impacts on mission blue butterfly habitat.

Under alternative A, no permit system exists for dog walking. At Oakwood Valley, commercial dog walking is uncommon. Therefore, commercial dog walking would have negligible impacts on the mission blue butterfly.

Cumulative Impacts. Projects and actions in and near Oakwood Valley were considered for the cumulative impacts analysis (appendix K). The following is a discussion of projects that have had, are currently having, or have the potential to have effects on the mission blue butterfly at or in the vicinity of this site.

The *San Bruno Elfin and Mission Blue Butterflies Recovery Plan* (USFWS 1984), Wildland/Urban Interface Initiative projects, habitat restoration programs, ongoing monitoring, and volunteer opportunities sponsored by the park—such as efforts with the Golden Gate National Parks Conservancy to restore mission blue butterfly habitat in Marin County—all have the potential to beneficially affect the mission blue butterfly and its habitat in Oakwood Valley. Additionally, controlled burns will be conducted to help restore mission blue butterfly habitat through beneficial ecological disturbance effects

(GGNPC 2010e, 1–2). The primary objective of the *San Bruno Elfin and Mission Blue Butterflies Recovery Plan* (USFWS 1984) is to protect, maintain, and enhance existing populations of the two endangered butterfly species. Management activities described in the plan that will benefit the mission blue butterfly include protecting essential habitat outside targeted park locations through cooperative agreements with adjacent landowners and negotiating conservation easements or similar land conservation agreements (USFWS 1984). Additional acreage of mission blue butterfly habitat will be restored under an agreement with USFWS.

Additional actions have had, are currently having, or have the potential to have adverse impacts on the mission blue butterfly and its habitat at or in the vicinity of GGNRA sites such as Oakwood Valley. The Park Stewardship Programs, Marin County fire management activities, maintenance operations, and other agency projects may have moderate short- and/or long-term adverse impacts associated with them that would require mitigation to minimize effects on mission blue butterfly habitat.

The long-term minor to moderate adverse impacts on the mission blue butterfly from dogs at Oakwood Valley under alternative A were considered together with the effects of the projects mentioned above. The beneficial effects from the habitat restoration and protection projects should reduce some of the adverse impacts on the mission blue butterfly from alternative A; however, the effects from the fire management activities, maintenance operations, and other agency projects on mission blue butterfly habitat would be adverse. When combined, the beneficial and adverse effects from these projects may balance out. Therefore, the cumulative analysis for this park site will mainly focus on the results of the impact analysis for each alternative. Cumulative impacts on the mission blue butterfly under this alternative would be expected to be long term, minor to moderate, and adverse.

Indirect Impacts in Adjacent Parks

In lands adjacent to GGNRA, there are 31 parks with dog use areas within about a 10-mile radius of Oakwood Valley and 22 parks within about a 5-mile radius; the closest park is Remington Dog Park in Sausalito (map 26). No indirect impacts on the mission blue butterfly in adjacent lands would be expected under alternative A since there would be no change in current conditions at the site.

OAKWOOD VALLEY ALTERNATIVE A CONCLUSION TABLE

Mission Blue Butterfly Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Long-term minor to moderate adverse impacts	Dogs could damage mission blue butterfly habitat in the trail beds and adjacent to the trails and roads; protective fencing for habitat would not exclude noncompliant dogs and social trails would degrade habitat	N/A	Long-term minor to moderate adverse cumulative impacts No indirect impacts in adjacent lands

N/A = not applicable.

Alternative B: NPS Leash Regulation. Alternative B would allow on-leash dog walking on the Oakwood Valley Fire Road and Oakwood Valley Trail. On-leash dog walking would be based on an allowed 6-foot dog leash. The LOD area would include Oakwood Valley Fire Road and Oakwood Valley Trail and all areas adjacent to the trail/road up to 6 feet. Existing mission blue butterfly habitat at Oakwood Valley is located away from the trails/roads (beyond the 6-foot LOD corridors) and dogs on leash on the trails would not be in proximity to mission blue butterfly habitat; thus, dogs would not likely

impact mission blue butterfly habitat in the LOD area. Therefore, impacts in the LOD area would be negligible.

Overall, alternative B would result in negligible impacts on the mission blue butterfly at Oakwood Valley. Under alternative B, dogs would no longer be allowed on the social trails near Oakwood Valley Fire Road (which meander through mission blue butterfly habitat), so this alternative would keep dogs out of mission blue butterfly habitat. The loss of these trails would reduce the opportunity for dogs to be in proximity to mission blue butterfly habitat, and although this would protect adjacent trail habitat, it would not result in a measurable or perceptible change for the mission blue butterfly; therefore, impacts would remain negligible.

Under alternative B, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs per person with no permit required. Since commercial dog walking is not common at Oakwood Valley, it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking under alternative B would have negligible impacts on the mission blue butterfly.

Cumulative Impacts. The negligible impacts on the mission blue butterfly from dogs at Oakwood Valley under alternative B were considered together with the effects of the projects mentioned above in alternative A. The beneficial effects from the habitat restoration and protection projects combined with the adverse effects from the fire management activities, maintenance operations, and other agency projects and the negligible impacts from alternative B would result in negligible cumulative impacts on the mission blue butterfly.

Indirect Impacts in Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation under alternative B, particularly Remington Dog Park, because it is the closest dog use area and this park allows off-leash dog walking. Voice and sight control dog walking would not be allowed under alternative B. However, indirect impacts on the mission blue butterfly in adjacent lands from increased dog use would be negligible since most of the area (road/trail) at Oakwood Valley offered for dog walking would not change.

OAKWOOD VALLEY ALTERNATIVE B CONCLUSION TABLE

Mission Blue Butterfly Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Negligible impacts in 6-foot corridors adjacent to trails (LOD area)	Mission blue butterfly habitat is not located adjacent to road/trails where dogs would be allowed		
Overall negligible impacts, assuming compliance	Existing habitat at is located away from trails and dogs on leash on the trails would not be in proximity to mission blue butterfly habitat; use of social trails would be eliminated	Beneficial, assuming compliance	Negligible cumulative impacts Negligible indirect impacts in adjacent lands

Alternative C: Emphasis on Multiple Use—Balanced by County. Alternative C proposes a ROLA on the Oakwood Valley Fire Road to the junction with Oakwood Valley Trail. Double gates would be located at both ends, with continuous fencing to protect sensitive habitat. Oakwood Valley Trail would allow on-leash dog walking from the junction with Oakwood Valley Fire Road to a new gate at Alta Trail. Dogs under voice and sight control in the ROLA would have access to the land between the edge of the trail and fence (LOD area). Impacts on the mission blue butterfly in the LOD area (in the ROLA and in the 6-foot corridors adjacent to the trail) would be negligible because existing mission blue butterfly habitat is located away from the trails (beyond the 6-foot LOD corridors) and not in the area proposed as a ROLA. Dogs on leash on the fire road would not be in proximity to mission blue butterfly habitat; thus, dogs would not likely impact mission blue butterfly habitat in the LOD area. Therefore, impacts in the LOD area would be negligible.

Overall, alternative C would result in negligible impacts on the mission blue butterfly at Oakwood Valley. Under alternative C, dogs would no longer be allowed on the social trails near Oakwood Valley Fire Road (which meander through mission blue butterfly habitat), so this alternative would keep dogs out of mission blue butterfly habitat. The loss of these trails would reduce the opportunity for dogs to be in proximity to mission blue butterfly habitat, and although this would protect adjacent trail habitat, it would not result in a measurable or perceptible change for the mission blue butterfly; therefore, impacts would remain negligible.

Under alternative C, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be allocated at Oakwood Valley, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking is not common at Oakwood Valley, it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking under alternative C would have a negligible impact on the mission blue butterfly.

Cumulative Impacts. The negligible impacts on the mission blue butterfly from dogs at Oakwood Valley under alternative C were considered together with the effects of the projects mentioned above in alternative A. The beneficial effects from the habitat restoration and protection projects combined with the adverse effects from the fire management activities, maintenance operations, and other agency projects and the negligible impacts from alternative C would result in negligible cumulative impacts on the mission blue butterfly.

Indirect Impacts in Adjacent Parks

The adjacent lands identified under alternative A should not experience increased visitation under alternative C since voice and sight control dog walking would be allowed under this alternative. No indirect impacts on the mission blue butterfly in adjacent lands would occur.

OAKWOOD VALLEY ALTERNATIVE C CONCLUSION TABLE

Mission Blue Butterfly Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Negligible impacts in 6-foot corridors adjacent to trails (LOD area) and in ROLA	Mission blue butterfly habitat is not located adjacent to roads/trails where dogs would be allowed or in ROLA		
Overall negligible impacts, assuming compliance	Existing habitat at Oakwood Valley is located away from trails and use of the social trails near the fire road would be eliminated	Beneficial, assuming compliance	Negligible cumulative impacts No indirect impacts in adjacent lands

Alternative D: Most Protective Based on Resource Protection/Visitor Safety. Under alternative D, on-leash dog walking would only be allowed along the Oakwood Valley Fire Road from Tennessee Valley Road to the junction with Oakwood Valley Trail; dogs would be prohibited in the rest of Oakwood Valley. There is mapped mission blue butterfly habitat in the grassy hillsides between the Alta Trail and the Oakwood Valley Fire Road. Existing mission blue butterfly habitat at Oakwood Valley is located away from the trails (beyond the 6-foot LOD corridors) and dogs on leash on the trails would not be in proximity to mission blue butterfly habitat; thus, dogs would not likely impact mission blue butterfly habitat in the LOD area. Therefore, impacts in the LOD area would be negligible.

Overall, alternative D would result in negligible impacts on the mission blue butterfly at Oakwood Valley. Under alternative D, dogs would no longer be allowed on the social trails near Oakwood Valley Fire Road (which meander through mission blue butterfly habitat), so this alternative would keep dogs out of mission blue butterfly habitat. The loss of these trails would reduce the opportunity for dogs to be in proximity to mission blue butterfly habitat, and although this would protect adjacent trail habitat, it would not result in a measurable or perceptible change for the mission blue butterfly; therefore, impacts would remain negligible.

No commercial dog walking would be allowed under alternative D; therefore, commercial dog walking would have no impact on the mission blue butterfly.

Cumulative Impacts. The negligible impacts on the mission blue butterfly from dogs at Oakwood Valley under alternative D were considered together with the effects of the projects mentioned above in alternative A. The beneficial effects from the habitat restoration and protection projects combined with the adverse effects from the fire management activities, maintenance operations, and other agency projects and the negligible impacts from alternative D would result in negligible cumulative impacts on the mission blue butterfly.

Indirect Impacts in Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation under alternative D, particularly Remington Dog Park, because it is the closest dog use area and this park allows off-leash dog walking. Voice and sight control dog walking would not be allowed under alternative D and the Oakwood Valley Trail would be the only area offered for dog walking; however, indirect impacts on the mission blue butterfly in adjacent lands from increased dog use would be negligible since on-leash dog walking would still be offered under alternative D.

OAKWOOD VALLEY ALTERNATIVE D CONCLUSION TABLE

Mission Blue Butterfly Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Negligible impacts in 6-foot corridors adjacent to trails (LOD area)	Mission blue butterfly habitat is not located adjacent to roads/trails where dogs would be allowed		
Overall negligible impacts, assuming compliance	Existing habitat at is located away from trails and dogs on leash on the trails would not be in proximity to mission blue butterfly habitat; use of social trails would be eliminated	Beneficial, assuming compliance	Negligible cumulative impacts Negligible indirect impacts in adjacent lands

Alternative E: Most Dog Walking Access/Most Management Intensive. Alternative E proposes a ROLA on the Oakwood Valley Fire Road to the junction with Oakwood Valley Trail. Double gates would be located at both ends, with noncontinuous fencing where needed to protect sensitive habitat. Oakwood Valley Trail would allow on-leash dog walking from the junction with Oakwood Valley Fire Road to a new gate at Alta Trail. Dogs under voice control in the ROLA would have access to the land between the edge of the trail and fence (LOD area). Impacts on the mission blue butterfly in the LOD area (in the ROLA and in the 6-foot corridors adjacent to trails) would be negligible because existing mission blue butterfly habitat is located away from the trails (beyond the 6-foot LOD corridors) and not in the area proposed as a ROLA. Dogs on leash on the trails would not be in proximity to mission blue butterfly habitat and thus would not likely impact mission blue butterfly habitat in the LOD area. Therefore, impacts in the LOD area would be negligible.

Assuming compliance, alternative E would result in overall negligible impacts on the mission blue butterfly at Oakwood Valley. Under alternative E, dogs would no longer be allowed on the social trails near Oakwood Valley Fire Road (which meander through mission blue butterfly habitat), so this alternative would keep dogs out of mission blue butterfly habitat. The loss of these trails would reduce the opportunity for dogs to be in proximity to mission blue butterfly habitat, and although this would protect adjacent trail habitat, it would not result in a measurable or perceptible change for the mission blue butterfly; therefore, impacts would remain negligible.

Under alternative E, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be allocated at Oakwood Valley, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking activity is not common at Oakwood Valley, it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking under alternative E would have negligible impacts on the mission blue butterfly.

Cumulative Impacts. Under alternative E, the cumulative impacts on the mission blue butterfly at this park site and indirect impacts on the mission blue butterfly at adjacent lands would be the same as those under alternative C: negligible cumulative impacts and no indirect impacts in adjacent lands.

OAKWOOD VALLEY ALTERNATIVE E CONCLUSION TABLE

Mission Blue Butterfly Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Negligible impacts in 6-foot corridors adjacent to trails (LOD area) and in ROLA	Mission blue butterfly habitat is not located adjacent to roads/trails where dogs would be allowed or in ROLA		
Overall negligible impacts, assuming compliance	Existing habitat at Oakwood Valley is located away from trails and use of the social trails near the fire road would be eliminated	Beneficial, assuming compliance	Negligible cumulative impacts No indirect impacts in adjacent lands

Preferred Alternative. Alternative C was selected as the preferred alternative for Oakwood Valley. Alternative C proposes a ROLA on the Oakwood Valley Fire Road to the junction with Oakwood Valley Trail. Double gates would be located at both ends, with continuous fencing to protect sensitive habitat. Oakwood Valley Trail would allow on-leash dog walking from the junction with Oakwood Valley Fire Road to a new gate at Alta Trail. Dogs under voice control in the ROLA would have access to the land between the edge of the trail and fence (LOD area). Impacts on the mission blue butterfly in the LOD area (in the ROLA and the 6-foot corridors adjacent to trails) would be negligible because existing mission blue butterfly habitat is located away from the trails (beyond the 6-foot LOD corridors) and not in the area proposed as a ROLA. Dogs on leash on the trails would not be in proximity to mission blue butterfly habitat and thus would not likely impact mission blue butterfly habitat in the LOD; therefore, impacts in the LOD area would be negligible.

Overall, the preferred alternative would result in negligible impacts on the mission blue butterfly at Oakwood Valley. Dogs would no longer be allowed on the social trails near Oakwood Valley Fire Road (which meander through mission blue butterfly habitat), so this alternative would keep dogs out of mission blue butterfly habitat. The loss of these trails would reduce the opportunity for dogs to be in proximity to mission blue butterfly habitat, and although this would protect adjacent trail habitat, it would not result in a measurable or perceptible change for the mission blue butterfly; therefore, impacts would remain negligible.

All dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be allocated at Oakwood Valley, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking activity is not common at Oakwood Valley, it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking under the preferred alternative would have negligible impacts on the mission blue butterfly.

Cumulative Impacts. Projects and actions in and near Oakwood Valley were considered for the cumulative impacts analysis (appendix K). The following is a discussion of projects that have had, are currently having, or have the potential to have effects on the mission blue butterfly at or in the vicinity of this site.

The *San Bruno Elfin and Mission Blue Butterflies Recovery Plan* (USFWS 1984), Wildland/Urban Interface Initiative projects, habitat restoration programs, ongoing monitoring, and volunteer opportunities sponsored by the park—such as efforts with the Golden Gate National Parks Conservancy to restore mission blue butterfly habitat in Marin County—all have the potential to beneficially affect the

mission blue butterfly and its habitat in Oakwood Valley. Additionally, controlled burns will be conducted to help restore mission blue butterfly habitat through beneficial ecological disturbance effects (GGNPC 2010e, 1–2). The primary objective of the *San Bruno Elfin and Mission Blue Butterflies Recovery Plan* (USFWS 1984) is to protect, maintain, and enhance existing populations of the two endangered butterfly species. Management activities described in the plan that will benefit the mission blue butterfly include protecting essential habitat outside targeted park locations through cooperative agreements with adjacent landowners and negotiating conservation easements or similar land conservation agreements (USFWS 1984). Additional acreage of mission blue butterfly habitat will be restored under an agreement with USFWS.

Additional actions have had, are currently having, or have the potential to have adverse impacts on the mission blue butterfly and its habitat at or in the vicinity of GGNRA sites such as Oakwood Valley. The Park Stewardship Programs, Marin County fire management activities, maintenance operations, and other agency projects may have moderate short- and/or long-term adverse impacts associated with them that would require mitigation to minimize effects on mission blue butterfly habitat.

The negligible impacts on the mission blue butterfly from dogs at Oakwood Valley under the preferred alternative were considered together with the effects of the projects mentioned above. The beneficial effects from the habitat restoration and protection projects combined with the adverse effects from the fire management activities, maintenance operations, and other agency projects and the negligible impacts from the preferred alternative would result in negligible cumulative impacts on the mission blue butterfly.

Indirect Impacts in Adjacent Parks

In lands adjacent to GGNRA, there are 31 parks with dog use areas within about a 10-mile radius of Oakwood Valley and 22 parks within about a 5-mile radius; the closest park is Remington Dog Park in Sausalito (map 26). The adjacent lands should not experience increased visitation under the preferred alternative since voice and sight control dog walking would be allowed in a ROLA under this alternative. No indirect impacts on the mission blue butterfly in adjacent lands would occur.

OAKWOOD VALLEY PREFERRED ALTERNATIVE CONCLUSION TABLE

Mission Blue Butterfly Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Negligible impacts in 6-foot corridors adjacent to trails (LOD area) and in ROLA	Mission blue butterfly habitat is not located adjacent to roads/trails where dogs would be allowed or in the ROLA		
Overall negligible impacts, assuming compliance	Existing habitat at Oakwood Valley is located away from trails and use of the social trails near the fire road would be eliminated	Beneficial, assuming compliance	Negligible cumulative impacts No indirect impacts in adjacent lands

Marin Headlands Trails

Alternative A: No Action. Under current conditions, on-leash dog walking is allowed along portions of the Coastal Trail (Hill 88 to Muir Beach), the Battery Smith-Guthrie Fire Road Loop, North Miwok Trail, County View Road, and South Rodeo Beach Trail. As a result of the 2005 federal court order affirming the 2004 *U.S. v. Barley* decision, dog walking under voice control (or on leash) is allowed along other

portions of the Coastal Trail (Golden Gate Bridge to Hill 88, including portions of the Lagoon Trail); the Coastal, Wolf Ridge, and Miwok Trail Loop; and the Old Bunker Fire Road Loop (Merkle 2010d, 1). Mission blue butterflies and habitat exist along the North Miwok trail corridor, where dogs are allowed on leash, and along a section of the Coastal Trail (Julian Road) where voice-control dog walking is allowed (Smith 2010, 1). The park practice is to close trails through mission blue butterfly habitat to bicycles, dogs, and horses, but allow dogs on leash on fire roads through mission blue butterfly habitat (Merkle 2010d, 1).

The Barley decision reinstated voice-control dog walking along the Coastal Trail between the Golden Gate Bridge and Hill 88 even though the park had a biological opinion from USFWS (1995) restricting dogs to protect mission blue butterfly habitat along the section of the Coastal Trail from Slacker Ridge to the Rifle Range (Smith 2010, 1). The reinstatement of voice control potentially allows dogs to roam off trail in these areas. Fencing was placed in the mid-1990s to protect mission blue butterfly habitat along sections of the Coastal Trail to protect lupine host plants, although the fencing is post and cable and would not necessarily exclude dogs (Smith 2010, 1).

The Tennessee Valley portion of the Marin Headlands Trails contains mission blue butterfly habitat and mission blue butterflies have been observed along the North Miwok Trail (Bennett 2008, 8). Tennessee Valley is closed to dogs, but the Coastal Trail (where dogs are allowed on leash) crosses lower Tennessee Valley, and the North Miwok Trail (which allows on-leash dog walking) meets the upper Tennessee Valley Trail. There were 47 leash law violations and 137 recorded incidents of dogs in closed areas at this site in 2007/2008 (table 9 and appendix G).

Therefore, alternative A would continue to result in long-term minor to moderate adverse impacts on the mission blue butterfly at the Marin Headlands Trails through localized, perceptible damage to mission blue butterfly habitat in the trail beds, roads, and adjacent areas as a result of damage to the vegetation from dogs. Even though impacts would be localized in a relatively small area, the reproductive success of individuals may also be affected as an indirect result of impacts on mission blue butterfly habitat.

Under alternative A, no permit system exists for commercial dog walking. At the Marin Headlands Trails, commercial dog walking is uncommon; therefore, commercial dog walking would have negligible impacts on the mission blue butterfly.

Cumulative Impacts. Projects and actions in and near the Marin Headlands Trails were considered for the cumulative impacts analysis (appendix K). The following is a discussion of projects that have had, are currently having, or have the potential to have effects on the mission blue butterfly at or in the vicinity of the Marin Headlands Trails.

The *San Bruno Elfin and Mission Blue Butterflies Recovery Plan* (USFWS 1984), the Southern Marin Headlands Project, Wildland/Urban Interface Initiative projects, habitat restoration programs, ongoing monitoring, and volunteer opportunities sponsored by the park—such as efforts with the Golden Gate National Parks Conservancy to restore mission blue butterfly habitat in Marin County—all have the potential to beneficially affect the mission blue butterfly and its habitat in the Marin Headlands Trails. Additionally, controlled burns will be conducted to help restore mission blue butterfly habitat through beneficial ecological disturbance effects (GGNPC 2010e, 1–2). The primary objective of the *San Bruno Elfin and Mission Blue Butterflies Recovery Plan* (USFWS 1984) is to protect, maintain, and enhance existing populations of the two endangered butterfly species, and the plan is focused on the Marin Headlands Trails and Fort Baker. Management activities described in the plan that will benefit the mission blue butterfly include protecting essential habitat outside these locations through cooperative agreements with adjacent landowners and negotiating conservation easements or similar land conservation agreements; restoring historic coastal scrub habitats by controlling non-native plants (e.g.,

gorse, French broom, pampas grass) that threaten the associated host and nectar plants used by the mission blue butterfly species, including silver-leaf lupine; and preventing further habitat degradation due to herbicides, pesticides, other toxicants, and off-road vehicle use (USFWS 1984). The Southern Marin Headlands Project initiated in the summer/fall of 2007 focused on enhancing the Coastal Trail corridor in the southern Marin Headlands and included removal of selected non-native trees that compromise the health of habitat used by the mission blue butterfly (GGNPC 2010 n.d., 1). Additional acreage of mission blue butterfly habitat will be restored under an agreement with USFWS.

Additional actions have had, are currently having, or have the potential to have adverse impacts on the mission blue butterfly and its habitat at or in the vicinity of GGNRA sites such as the Marin Headlands Trails. The Park Stewardship Programs, the *Marin Headlands/Fort Baker Improvement and Transportation Management Plan/EIS* (NPS 2009d, ix, 82), Marin County fire management activities, maintenance operations, and other agency projects may have moderate short- and/or long-term adverse impacts associated with them that would require mitigation to minimize effects on mission blue butterfly habitat. Approximately 93 acres of habitat for the mission blue butterfly will be restored in the southern Marin Headlands to mitigate for impacts from road and trail construction that are a part of the *Marin Headlands/Fort Baker Improvement and Transportation Management Plan/EIS* (GGNPC 2010f, 1).

The long-term minor to moderate adverse impacts on the mission blue butterfly from dogs at the Marin Headlands Trails under alternative A were considered together with the effects of the projects mentioned above. The beneficial effects from the habitat restoration and protection projects should reduce some of the adverse impacts on the mission blue butterfly from alternative A; however, the effects from the fire management activities, maintenance operations, and other agency projects on mission blue butterfly habitat would be adverse. When combined, the beneficial and adverse effects from these projects may balance out. Therefore, the cumulative analysis for this park site will mainly focus on the results of the impact analysis for each alternative. Cumulative impacts on the mission blue butterfly under this alternative would be expected to be long term, minor to moderate, and adverse.

Indirect Impacts in Adjacent Parks

In lands adjacent to GGNRA, there are 28 parks with dog use areas within about a 10-mile radius of the Marin Headlands Trails and 18 parks within about a 5-mile radius; the closest park is Remington Dog Park in Sausalito (map 26). No indirect impacts on mission blue butterfly in adjacent lands would be expected under alternative A since there would be no change in current conditions at the site.

MARIN HEADLANDS TRAILS ALTERNATIVE A CONCLUSION TABLE

Mission Blue Butterfly Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Long-term minor to moderate adverse impacts	Dogs could damage mission blue butterfly habitat in the trail beds and adjacent to the trails and roads; protective fencing for habitat would not exclude noncompliant dogs	N/A	Long-term minor to moderate adverse cumulative impacts No indirect impacts in adjacent lands

N/A = not applicable.

Alternative B: NPS Leash Regulation. Alternative B would prohibit dogs on the trails. This alternative would be most protective of the coastal scrub habitat and the mission blue butterfly lupine host plants, and would maintain the integrity of the entire Marin Headlands Trails site. Assuming compliance, alternative B would result in no impact on the mission blue butterfly.

Since dogs would not be allowed in the Marin Headlands Trails, there would be no impact from commercial dog walkers on the mission blue butterfly.

Cumulative Impacts. The lack of impacts on the mission blue butterfly from dogs at the Marin Headlands Trails under alternative B was considered together with the effects of the projects mentioned above in alternative A. The beneficial effects from the habitat restoration and protection projects combined with the adverse effects from the fire management activities, maintenance operations, and other agency projects and the lack of impacts from alternative B would result in negligible cumulative impacts on the mission blue butterfly.

Indirect Impacts in Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation under alternative B, particularly Remington Dog Park, because it is the closest dog use area to Marin Headlands Trails. This increase would be a result of alternative B not allowing dogs at the Marin Headlands Trails site. Indirect impacts on the mission blue butterfly in adjacent lands from increased dog use would range from negligible to long term, minor, and adverse; a range is presented because it is unknown whether the mission blue butterfly or suitable habitat and host plants exist in adjacent parks.

MARIN HEADLANDS TRAILS ALTERNATIVE B CONCLUSION TABLE

Mission Blue Butterfly Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
No impact, assuming compliance	Dogs would be prohibited at the site	Beneficial, assuming compliance	Negligible cumulative impacts Negligible to long-term minor adverse indirect impacts in adjacent lands

Alternative C: Emphasis on Multiple Use—Balanced by County. Alternative C would allow on-leash dog walking along the Lower Rodeo Valley Trail Corridor; several trails, including the Lagoon Trail, Miwok Trail, and Rodeo Valley Trail; the Battery Smith-Guthrie Fire Road Loop; and the Old Bunker Fire Road Loop. This alternative would allow on-leash dog access only on these perimeter trails in the Marin Headlands, while preserving and maintaining the integrity of interior habitat. On-leash dog walking would be based on an allowed 6-foot dog leash. The LOD area would include areas adjacent to the trails/roads up to 6 feet. Because dogs would not be allowed on the North Miwok Trail and the hiking-only section of the Coastal Trail (Julian Road, where mission blue butterfly habitat exists) under alternative C, negligible impacts on the mission blue butterfly would occur in the LOD area because existing vegetation that supports the mission blue butterfly is not located along the trails/roads.

Because dogs would not be allowed on the North Miwok Trail and the hiking-only section of the Coastal Trail (Julian Road, where mission blue butterfly habitat exists), overall negligible impacts on the mission blue butterfly would occur because of protection of habitat along the trails and roads of the Marin Headlands. This alternative would not result in a measurable or perceptible change in mission blue butterfly habitat; therefore, impacts in the site as a whole would remain negligible.

Under alternative C, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be allocated at the Marin Headlands Trails, so individual and commercial dog walkers would only be

allowed to walk one to three dogs on leash per person. Since commercial dog walking activity is not common at the Marin Headlands Trails, it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking under alternative C would have negligible impacts on the mission blue butterfly.

Cumulative Impacts. The negligible impacts on the mission blue butterfly from dogs at the Marin Headlands Trails under alternative C were considered together with the effects of the projects mentioned above in alternative A. The beneficial effects from the habitat restoration and protection projects combined with the adverse effects from the fire management activities, maintenance operations, and other agency projects and the negligible impacts from alternative C would result in negligible cumulative impacts on the mission blue butterfly.

Indirect Impacts in Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation under alternative C, particularly Remington Dog Park, because it is the closest dog use area that allows off-leash dog walking. This increase would be a result of alternative C not allowing dogs under voice and sight control at the Marin Headlands Trails, although dogs would still be allowed on leash at this site. However, indirect impacts on the mission blue butterfly in adjacent lands from increased dog use would be negligible since it is not known whether mission blue butterflies exist in these lands and not all dog walkers would leave the Marin Headlands Trails to visit other sites.

MARIN HEADLANDS TRAILS ALTERNATIVE C CONCLUSION TABLE

Mission Blue Butterfly Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Negligible impacts in 6-foot corridors adjacent to trails (LOD area)	Mission blue butterfly habitat is not located adjacent to roads/trails where dogs would be allowed		
Overall negligible impacts, assuming compliance	On-leash dog access would be allowed only on the perimeter trails, preserving the integrity of interior habitat; prohibiting dogs on the North Miwok Trail and the hiking-only section of the Coastal Trail would protect habitat	Beneficial, assuming compliance	Negligible cumulative impacts Negligible indirect impacts in adjacent lands

Alternative D: Most Protective Based on Resource Protection/Visitor Safety. Alternative D would have the same dog walking restrictions as alternative B (no dogs on site), and impacts would be the same, assuming compliance: no impact.

Since dogs would not be allowed at Marin Headlands Trails, there would be no impact from commercial dog walkers on the mission blue butterfly under this alternative.

Cumulative Impacts. The lack of impacts on the mission blue butterfly from dogs at the Marin Headlands Trails under alternative D was considered together with the effects of the projects mentioned above in alternative A. The beneficial effects from the habitat restoration and protection projects combined with the adverse effects from the fire management activities, maintenance operations, and other

agency projects and the lack of impacts from alternative D would result in negligible cumulative impacts on the mission blue butterfly.

Indirect Impacts in Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation under alternative D, particularly Remington Dog Park, because it is the closest dog use area to Marin Headlands Trails. This increase would be a result of alternative D not allowing dogs at the Marin Headlands Trails site. Indirect impacts on the mission blue butterfly in adjacent lands from increased dog use would range from negligible to long term, minor, and adverse; a range is presented because it is unknown whether the mission blue butterfly or suitable habitat and host plants exist in adjacent parks.

MARIN HEADLANDS TRAILS ALTERNATIVE D CONCLUSION TABLE

Mission Blue Butterfly Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
No impact, assuming compliance	Dogs would be prohibited at the site	Beneficial, assuming compliance	Negligible cumulative impacts Negligible to long-term minor adverse indirect impacts in adjacent lands

Alternative E: Most Dog Walking Access/Most Management Intensive. Alternative E would allow on-leash dog walking along the Lower Rodeo Valley Trail Corridor, the Old Bunker Fire Road Loop, the Battery Smith-Guthrie Fire Road Loop, and the Coastal Trail Bike Route. Dogs would not be allowed on the North Miwok Trail (where mission blue butterfly habitat exists), but on-leash dog walking would be allowed on these perimeter trails in the Marin Headlands Trails and along the Coastal Trail (Julian Road), which supports mission blue butterfly habitat in some areas (NPS 2010b). Therefore, alternative E would result in long-term minor adverse impacts on the mission blue butterfly in the LOD area at the Marin Headlands Trails through perceptible damage to mission blue butterfly habitat along the trail bed as a result of damage to the vegetation from dogs.

The long-term minor adverse impacts from dogs in the LOD area under alternative E would occur in a relatively small area when compared to the site as a whole. However, more trails would be available to dogs in comparison to alternative C, including portions of the Coastal Trail in the easternmost area of Marin Headlands Trails that support mission blue butterfly habitat. Therefore, assuming compliance, the overall impacts on the mission blue butterfly from on-leash dog walking would be long term, minor, and adverse because a measurable or perceptible change in mission blue butterfly habitat could occur as a result of dog disturbance. These impacts on mission blue butterfly habitat would be considered perceptible changes, but localized at the site and therefore minor.

Under alternative E, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be allocated at Marin Headlands Trails, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking is not common at the Marin Headlands Trails, it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking under alternative E would have negligible impacts on the mission blue butterfly.

Cumulative Impacts. The long-term minor adverse impacts on the mission blue butterfly from dogs at the Marin Headlands Trails under alternative E were considered together with the effects of the projects mentioned above under alternative A. The beneficial effects from the habitat restoration and protection projects should reduce some of the adverse impacts on the mission blue butterfly from alternative E; however, the effects from the fire management activities, maintenance operations, and other agency projects on mission blue butterfly habitat would be adverse. When combined, the beneficial and adverse effects from these projects may balance out. Therefore, the cumulative analysis for this park site will mainly focus on the results of the impact analysis for each alternative. Cumulative impacts on the mission blue butterfly under this alternative would be expected to be long term, minor, and adverse.

Indirect Impacts in Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation under alternative E, particularly Remington Dog Park, because it is the closest dog use area that allows off-leash dog walking. This increase would be a result of alternative E not allowing dogs under voice and sight control at the Marin Headlands Trails, although dogs would still be allowed on leash at this site. However, indirect impacts on the mission blue butterfly in adjacent lands from increased dog use would be negligible since it is not known whether mission blue butterflies exist in these lands and not all dog walkers would leave the Marin Headlands Trails to visit other sites.

MARIN HEADLANDS TRAILS ALTERNATIVE E CONCLUSION TABLE

Mission Blue Butterfly Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Long-term minor adverse impacts in 6-foot corridors adjacent to trails (LOD area)	Dogs could damage mission blue butterfly habitat in the trail beds and adjacent to the Coastal Trail (Julian Road)		
Overall long-term minor adverse impacts, assuming compliance	On-leash dogs would be allowed only on the perimeter trails, which would maintain the integrity of interior habitat; no dogs would be allowed on the North Miwok Trail but dogs would be allowed on leash on the sections of the Coastal Trail, which supports mission blue butterfly habitat	No change, assuming compliance	Long-term minor adverse cumulative impacts Negligible indirect impacts in adjacent lands

Preferred Alternative. Alternative C was selected as the preferred alternative for the Marin Headlands Trails. The preferred alternative would allow on-leash dog walking along the Lower Rodeo Valley Trail Corridor; several trails, including the Lagoon Trail, Miwok Trail, and Rodeo Valley Trail; the Battery Smith-Guthrie Fire Road Loop; and the Old Bunker Fire Road Loop. This alternative would allow on-leash dog access only on these perimeter trails in the Marin Headlands, while preserving and maintaining the integrity of interior habitat. On-leash dog walking would be based on an allowed 6-foot dog leash. The LOD would include areas adjacent to the trails/roads up to 6 feet. Because dogs would not be allowed on the North Miwok Trail and the hiking-only section of the Coastal Trail (Julian Road, where mission blue butterfly habitat exists) under the preferred alternative, negligible impacts on the mission blue

butterfly would occur in the LOD area because existing vegetation that supports the mission blue butterfly is not located along the trails/roads.

Because dogs would not be allowed on the North Miwok Trail and the hiking-only section of the Coastal Trail (Julian Road, where mission blue butterfly habitat exists), assuming compliance, overall negligible impacts on the mission blue butterfly would occur because of protection of habitat along the trails and roads of the Marin Headlands Trails. This alternative would not result in a measurable or perceptible change in mission blue butterfly habitat; therefore, impacts would remain negligible.

Under the preferred alternative, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be allocated at the Marin Headlands Trails, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking is not common at the Marin Headlands Trails, it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking under the preferred alternative would have negligible impacts on the mission blue butterfly.

Cumulative Impacts. Projects and actions in and near the Marin Headlands Trails were considered for the cumulative impacts analysis (appendix K). The following is a discussion of projects that have had, are currently having, or have the potential to have effects on the mission blue butterfly at or in the vicinity of the Marin Headlands Trails.

The *San Bruno Elfin and Mission Blue Butterflies Recovery Plan* (USFWS 1984), the Southern Marin Headlands Project, Wildland/Urban Interface Initiative projects, habitat restoration programs, ongoing monitoring, and volunteer opportunities sponsored by the park—such as efforts with the Golden Gate National Parks Conservancy to restore mission blue butterfly habitat in Marin County—all have the potential to beneficially affect the mission blue butterfly and its habitat in the Marin Headlands Trails. Additionally, controlled burns will be conducted to help restore mission blue butterfly habitat through beneficial ecological disturbance effects (GGNPC 2010e, 1–2). The primary objective of the *San Bruno Elfin and Mission Blue Butterflies Recovery Plan* (USFWS 1984) is to protect, maintain, and enhance existing populations of the two endangered butterfly species, and the plan is focused on the Marin Headlands Trails and Fort Baker. Management activities described in the plan that will benefit the mission blue butterfly include protecting essential habitat outside these locations through cooperative agreements with adjacent landowners and negotiating conservation easements or similar land conservation agreements; restoring historic coastal scrub habitats by controlling non-native plants (e.g., gorse, French broom, pampas grass) that threaten the associated host and nectar plants used by the mission blue butterfly species, including silver-leaf lupine; and preventing further habitat degradation due to herbicides, pesticides, other toxicants, and off-road vehicle use (USFWS 1984). The Southern Marin Headlands Project initiated in the summer/fall of 2007 focused on enhancing the Coastal Trail corridor in the southern Marin Headlands and included removal of selected non-native trees that compromise the health of habitat used by the mission blue butterfly (GGNPC 2010 n.d., 1). Additional acreage of mission blue butterfly habitat will be restored under an agreement with USFWS.

Additional actions have had, are currently having, or have the potential to have adverse impacts on the mission blue butterfly and its habitat at or in the vicinity of GGNRA sites such as the Marin Headlands Trails. The Park Stewardship Programs, the *Marin Headlands/Fort Baker Improvement and Transportation Management Plan/EIS* (NPS 2009d, ix, 82), Marin County fire management activities, maintenance operations, and other agency projects may have moderate short- and/or long-term adverse impacts associated with them that would require mitigation to minimize effects on mission blue butterfly habitat. Approximately 93 acres of habitat for the mission blue butterfly will be restored in the southern

Marin Headlands to mitigate for impacts from road and trail construction that are a part of the *Marin Headlands/Fort Baker Improvement and Transportation Management Plan/EIS* (GGNPC 2010f, 1).

The negligible impacts on the mission blue butterfly from dogs at the Marin Headlands Trails under the preferred alternative were considered together with the effects of the projects mentioned above. The beneficial effects from the habitat restoration and protection projects combined with the adverse effects from the fire management activities, maintenance operations, and other agency projects and the negligible impacts from the preferred alternative would result in negligible cumulative impacts on the mission blue butterfly.

Indirect Impacts in Adjacent Parks

In lands adjacent to GGNRA, there are 28 parks with dog use areas within about a 10-mile radius of the Marin Headlands Trails and 18 parks within about a 5-mile radius; the closest park is Remington Dog Park in Sausalito (map 26). The adjacent lands may experience increased visitation under the preferred alternative, particularly Remington Dog Park, because it is the closest dog use area that allows off-leash dog walking. This increase would be a result of the preferred alternative not allowing dogs under voice and sight control at the Marin Headlands Trails, although dogs would still be allowed on leash at this site. However, indirect impacts on the mission blue butterfly in adjacent lands from increased dog use would be negligible since it is not known whether mission blue butterflies exist in these lands and not all dog walkers would leave the Marin Headlands Trails to visit other sites.

MARIN HEADLANDS TRAILS PREFERRED ALTERNATIVE CONCLUSION TABLE

Mission Blue Butterfly Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Negligible impacts in 6-foot corridors adjacent to trails (LOD area)	Mission blue butterfly habitat is not located adjacent to roads/trails where dogs would be allowed		
Overall negligible impacts, assuming compliance	On-leash dogs would be allowed only on the perimeter trails, which would maintain the integrity of interior habitat; prohibiting dogs on the North Miwok Trail and the hiking-only section of the Coastal Trail would protect habitat	Beneficial, assuming compliance	Negligible cumulative impacts Negligible indirect impacts in adjacent lands

Fort Baker

Alternative A: No Action. The mission blue butterfly is known to occur at Fort Baker. Restoration of habitat for mission blue butterfly was initiated in 1990 (55 acres have been restored as of publication) and is still ongoing at the site. Dogs are currently required to be on leash throughout Fort Baker, except that dogs are not allowed on Chapel Trail (adjacent to mission blue butterfly habitat) or the pier. Battery Yates has mission blue butterfly habitat that is partially fenced (post and cable), but this fencing would not physically exclude dogs. Drown Fire Road is adjacent to mission blue butterfly habitat (NPS July 2009b). Dogs have been observed off leash at Battery Yates and behind the Bay Area Discovery Museum. It has been predicted that a marked increase in visitor use along the waterfront portion of this site is likely to

occur as a result of upgrades to the waterfront along with the recently opened lodge and conference center. There were 57 leash law violations issued at Fort Baker in 2007/2008 (table 9).

Alternative A would continue to result in long term, minor, adverse impacts on the mission blue butterfly at Fort Baker through damage to habitat in the trail beds, roads, and adjacent areas as a result of dogs. These impacts on mission blue butterfly habitat would be considered perceptible changes, but localized at the site and therefore minor.

Under alternative A, no permit system exists for commercial dog walking. At Fort Baker, commercial dog walking is uncommon; therefore, commercial dog walking would have negligible impacts on the mission blue butterfly.

Cumulative Impacts. Projects and actions in and near Fort Baker were considered for the cumulative impacts analysis (appendix K). The following is a discussion of projects that have had, are currently having, or have the potential to have effects on the mission blue butterfly at or in the vicinity of this site.

The *San Bruno Elfin and Mission Blue Butterflies Recovery Plan* (USFWS 1984), Wildland/Urban Interface Initiative projects, habitat restoration programs, ongoing monitoring, and volunteer opportunities sponsored by the park—such as efforts with the Golden Gate National Parks Conservancy to restore mission blue butterfly habitat in Marin County—all have the potential to beneficially affect the mission blue butterfly and its habitat at Fort Baker. Additionally, controlled burns will be conducted to help restore mission blue butterfly habitat through beneficial ecological disturbance effects (GGNPC 2010e, 1–2). The primary objective of the *San Bruno Elfin and Mission Blue Butterflies Recovery Plan* (USFWS 1984) is to protect, maintain, and enhance existing populations of the two endangered butterfly species, and the plan is focused on the Marin Headlands Trails and Fort Baker. Management activities described in the plan that will benefit the mission blue butterfly include protecting essential habitat outside these locations through cooperative agreements with adjacent landowners and negotiating conservation easements or similar land conservation agreements; restoring historic coastal scrub habitats by controlling non-native plants (e.g., gorse, French broom, pampas grass) that threaten the associated host and nectar plants used by the mission blue butterfly species, including silver-leaf lupine; and preventing further habitat degradation due to herbicides, pesticides, other toxicants, and off-road vehicle use (USFWS 1984). The Fort Baker EIS (NPS 2008f) and habitat restoration programs will have beneficial effects through restoration and expansion of mission blue butterfly habitat and control of non-native vegetation. Additional acreage of mission blue butterfly habitat will be restored under an agreement with USFWS; planned restoration of mission blue butterfly habitat as mitigation for the Golden Gate Bridge seismic retrofit work would continue to be implemented at Fort Baker (NPS 2008f, 4-28). These future restoration efforts would expand on this project, completing up to 23 acres of additional mission blue butterfly habitat restoration at Fort Baker (NPS 2008f, 4-28).

Additional actions have had, are currently having, or have the potential to have adverse impacts on the mission blue butterfly and its habitat at or in the vicinity of GGNRA sites such as Fort Baker. The Park Stewardship Programs, the *Marin Headlands/Fort Baker Improvement and Transportation Management Plan/EIS*, Marin County fire management activities, maintenance operations, and other agency projects may have moderate short- and/or long-term adverse impacts associated with them that would require mitigation to minimize effects on mission blue butterfly habitat.

The long-term minor adverse impacts on the mission blue butterfly from dogs at Fort Baker under alternative A were considered together with the effects of the projects mentioned above. The beneficial effects from the habitat restoration and protection projects should reduce some of the adverse impacts on the mission blue butterfly from alternative A. Even though the effects from the fire management activities, maintenance operations, and other agency projects on mission blue butterfly habitat would be

adverse, the benefits from restoration actions at Fort Baker should mitigate these adverse impacts. Therefore, the cumulative impacts on the mission blue butterfly under this alternative would be expected to be negligible.

Indirect Impacts in Adjacent Parks

In lands adjacent to GGNRA, there are 26 parks with dog use areas within about a 10-mile radius of Fort Baker and 2 parks within about a 5-mile radius; the closest park is Remington Dog Park in Sausalito (map 26). No indirect impacts on the mission blue butterfly in adjacent lands would be expected under alternative A since there would be no change in current conditions at the site.

FORT BAKER ALTERNATIVE A CONCLUSION TABLE

Mission Blue Butterfly Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Long-term minor adverse impacts	Dogs could damage mission blue butterfly habitat in the trail beds and adjacent to the trails and roads; fencing for habitat protection would not exclude noncompliant dogs	N/A	Negligible cumulative impacts No indirect impacts in adjacent lands

N/A = not applicable.

Alternative B: NPS Leash Regulation. Alternative B would allow on-leash dog walking on Drown Fire Road (adjacent to mission blue butterfly habitat), the Bay Trail (not including Battery Yates Loop), the Lodge/Conference Center Grounds, and the Parade Ground. On-leash dog walking would be based on an allowed 6-foot dog leash. The LOD would include all areas adjacent to the trails/roads up to 6 feet. Dogs would no longer be allowed on the Battery Yates Loop under this alternative due to the presence of mission blue butterfly habitat, but would be allowed along Drown Fire Road, which also supports mission blue butterfly habitat. Therefore, long-term minor adverse impacts on the mission blue butterfly in areas adjacent to the trail (6-foot corridor or LOD area) would occur as a result of this alternative.

Not allowing dogs on the Battery Yates Loop would protect mission blue butterfly habitat. However, alternative B would allow on-leash dog walking along Drown Fire Road, which supports mission blue butterfly habitat. Therefore, assuming compliance, alternative B would result in overall negligible to long-term minor adverse impacts on the mission blue butterfly. Prohibiting dogs at the Battery Yates Loop would reduce the opportunity for dogs to be in proximity to mission blue butterfly habitat, but allowing dogs on Drown Fire Road would result in perceptible changes, but localized at the site and therefore minor. Although much of the trail is fenced with post and cable fencing, host plants do grow along the shoulder of the fire road outside the fenced area along the edge of the trail.

Under alternative B, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs per person with no permit required. Since commercial dog walking is not common in this area, it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking under alternative B would have negligible impacts on the mission blue butterfly.

Cumulative Impacts. The negligible impacts on the mission blue butterfly from dogs at Fort Baker under alternative B were considered together with the effects of the projects mentioned above. Even though the effects from the fire management activities, maintenance operations, and other agency projects on mission blue butterfly habitat would be adverse, the benefits from restoration actions at Fort Baker should mitigate

these adverse impacts. Therefore, the cumulative impacts on the mission blue butterfly under this alternative would be expected to be negligible.

Indirect Impacts in Adjacent Parks

No indirect impacts on mission blue butterfly in adjacent lands would be expected under alternative B since on-leash dog walking would still be allowed at Fort Baker.

FORT BAKER ALTERNATIVE B CONCLUSION TABLE

Mission Blue Butterfly Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Long-term minor adverse impacts in 6-foot corridors adjacent to trails (LOD area)	Mission blue butterfly habitat is located adjacent to Drown Fire Road, where on-leash dog walking would be allowed		
Overall negligible to long-term minor adverse impacts, assuming compliance	Prohibiting dogs on the Battery Yates Loop would protect mission blue butterfly habitat, but allowing dogs along Drown Fire Road would affect butterfly habitat; dogs would be allowed on Drown Fire Road, where host plants occur unfenced along the road	Beneficial to no change, assuming compliance	Negligible cumulative impacts No indirect impacts in adjacent lands

Alternative C: Emphasis on Multiple Use—Balanced by County. Alternative C would allow on-leash dog walking on Drown Fire Road (adjacent to mission blue butterfly habitat), the Bay Trail (including Battery Yates Loop), the Lodge/Conference Center Grounds, and the Parade Ground. On-leash dog walking would be based on an allowed 6-foot dog leash. The LOD would include all areas adjacent to the trails/roads up to 6 feet. Under this alternative, dogs would be allowed on the Battery Yates Loop and along Drown Fire Road, both of which support mission blue butterfly habitat. Therefore, long-term minor adverse impacts on the mission blue butterfly in areas adjacent to the trail (6-foot corridor or LOD area) would occur as a result of this alternative because mission blue butterfly habitat along the Battery Yates Loop and Drown Fire Road would be affected by on-leash dogs and would result in perceptible changes in the habitat.

Alternative C allows on-leash dog walking along Drown Fire Road and the Bay Trail (including Battery Yates Loop), which both support mission blue butterfly habitat. Therefore, assuming compliance, alternative C would result in overall negligible to long-term minor adverse impacts on the mission blue butterfly; allowing dogs on the Drown Fire Road and the Bay Trail would result in perceptible changes to mission blue butterfly habitat, but these impacts would be localized at the site and would therefore be considered minor.

Under alternative C, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. Any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs, and the permit may restrict use by time and area. Permits would be allowed at Fort Baker. Impacts on the mission blue butterfly from permit holders with four to six dogs would be expected to increase under this alternative; however, impacts would not be expected to increase enough to cause a change in the threshold level. Since commercial dog walking is

not common at Fort Baker, it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking under alternative C would have negligible impacts on the mission blue butterfly.

Cumulative Impacts. Under alternative C, the cumulative impacts on the mission blue butterfly at this park site and indirect impacts on the mission blue butterfly in adjacent lands would be the same as those under alternative B: negligible cumulative impacts and no indirect impacts on the mission blue butterfly in adjacent lands.

FORT BAKER ALTERNATIVE C CONCLUSION TABLE

Mission Blue Butterfly Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Long-term minor adverse impacts in 6-foot corridors adjacent to trails (LOD area)	Mission blue butterfly habitat is located adjacent to Battery Yates Loop and Drown Fire Road, where dogs would be allowed		
Overall negligible to long-term minor adverse impacts, assuming compliance	Allowing dogs along Battery Yates Loop and Drown Fire Road would affect butterfly habitat, but impacts would be localized at the site	Beneficial to no change, assuming compliance	Negligible cumulative impacts No indirect impacts in adjacent lands

Alternative D: Most Protective Based on Resource Protection/Visitor Safety. Alternative D would allow on-leash dog walking only at the Lodge/Conference Center Grounds and on the Bay Trail. Dogs would not be allowed on the Battery Yates Loop or along Drown Fire Road under this alternative, due to the presence of mission blue butterfly habitat. On-leash dog walking would be based on an allowed 6-foot dog leash. The LOD would include all areas adjacent to the trail up to 6 feet. No impact on the mission blue butterfly in areas adjacent to the trail (6-foot corridor or LOD area) would occur as a result of this alternative.

Not allowing dogs on the Battery Yates Loop or along Drown Fire Road would protect mission blue butterfly habitat in the site as a whole. Therefore, assuming compliance, alternative D would result in no overall impacts on the mission blue butterfly. Prohibiting dogs at the Battery Yates Loop and Drown Fire Road would eliminate the opportunity for dogs to be in proximity to mission blue butterfly habitat, resulting in no measurable or perceptible change in mission blue butterfly habitat; therefore, no impact would occur.

No commercial dog walking would be allowed under alternative D; therefore, commercial dog walking would have no impact on the mission blue butterfly.

Cumulative Impacts. The negligible impacts on the mission blue butterfly from dogs at Fort Baker under alternative D were considered together with the effects of the projects mentioned above. Even though the effects from the fire management activities, maintenance operations, and other agency projects on mission blue butterfly habitat would be adverse, the benefits from restoration actions at Fort Baker should mitigate these adverse impacts. Therefore, the cumulative impacts on the mission blue butterfly under this alternative would be expected to be negligible.

Indirect Impacts in Adjacent Parks

Negligible indirect impacts on the mission blue butterfly in adjacent lands may occur under alternative D; on-leash dog walking would not be allowed in the Parade Ground and visitors with dogs may choose to go to another park site that has a large area for walking dogs.

FORT BAKER ALTERNATIVE D CONCLUSION TABLE

Mission Blue Butterfly Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
No impact in 6-foot corridors adjacent to trails (LOD area)	Dogs would not be allowed along trails/roads that support mission blue butterfly habitat in the trail beds and adjacent to the trails and roads		
No overall impacts, assuming compliance	Prohibiting dogs on the Battery Yates Loop and Drown Fire Road would provide additional protection of mission blue butterfly habitat	Beneficial, assuming compliance	Negligible cumulative impacts Negligible indirect impacts in adjacent lands

Alternative E: Most Dog Walking Access/Most Management Intensive. Alternative E would have the same dog walking restrictions as alternative C, and impacts would be the same: long term, minor, and adverse in the LOD area and negligible to long term, minor, and adverse overall.

Under alternative C, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. Any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs, and the permit may restrict use by time and area. Permits would be allowed at Fort Baker. Impacts on the mission blue butterfly from permit holders with four to six dogs would be expected to increase under this alternative; however, impacts would not be expected to increase enough to cause a change in the threshold level. Since commercial dog walking is not common at Fort Baker, it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking under alternative C would have negligible impacts on the mission blue butterfly.

Cumulative Impacts. Under alternative E, the cumulative impacts on the mission blue butterfly at this park site and indirect impacts on the mission blue butterfly in adjacent lands would be the same as those under alternative C: negligible cumulative impacts and no indirect impacts on the mission blue butterfly in adjacent lands.

FORT BAKER ALTERNATIVE E CONCLUSION TABLE

Mission Blue Butterfly Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Long-term minor adverse impacts in 6-foot corridors adjacent to trails (LOD area)	Mission blue butterfly habitat is located adjacent to Battery Yates Loop and Drown Fire Road, where dogs would be allowed		
Overall negligible to long-term minor adverse impacts, assuming compliance	Allowing dogs along Battery Yates Loop and Drown Fire Road would affect butterfly habitat, but impacts would be localized at the site	Beneficial to no change, assuming compliance	Negligible cumulative impacts No indirect impacts in adjacent lands

Preferred Alternative. Alternative C was selected as the preferred alternative for Fort Baker. The preferred alternative would allow on-leash dog walking on Drown Fire Road (adjacent to mission blue butterfly habitat), the Bay Trail (including Battery Yates Loop), the Lodge/Conference Center Grounds, and the Parade Ground. On-leash dog walking would be based on an allowed 6-foot dog leash. The LOD would include all areas adjacent to the trails/roads up to 6 feet. Dogs would be allowed on leash along the Battery Yates Loop and Drown Fire Road, both of which support mission blue butterfly habitat. Therefore, long-term minor adverse impacts on the mission blue butterfly in areas adjacent to the trail (6-foot corridor or LOD area) would occur as a result of this alternative.

The preferred alternative would allow on-leash dog walking along the Battery Yates Loop and Drown Fire Road, both of which support mission blue butterfly habitat; therefore, assuming compliance, this alternative would result in overall negligible to long-term minor adverse impacts on the mission blue butterfly. Allowing dogs on the Battery Yates Loop and Drown Fire Road would result in perceptible changes, but localized at the site and therefore minor.

Under the preferred alternative, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. Any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs, and the permit may restrict use by time and area. Permits would be allowed at Fort Baker. Impacts on the mission blue butterfly from permit holders with four to six dogs would be expected to increase under this alternative; however, impacts would not be expected to increase enough to cause a change in the threshold level. Since commercial dog walking is not common at Fort Baker, it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking under the preferred alternative would have negligible impacts on the mission blue butterfly.

Cumulative Impacts. Projects and actions in and near Fort Baker were considered for the cumulative impacts analysis (appendix K). The following is a discussion of projects that have had, are currently having, or have the potential to have effects on the mission blue butterfly at or in the vicinity of this site.

The *San Bruno Elfin and Mission Blue Butterflies Recovery Plan* (USFWS 1984), Wildland/Urban Interface Initiative projects, habitat restoration programs, ongoing monitoring, and volunteer opportunities sponsored by the park—such as efforts with the Golden Gate National Parks Conservancy to restore mission blue butterfly habitat in Marin County—all have the potential to beneficially affect the mission blue butterfly and its habitat at Fort Baker. Additionally, controlled burns will be conducted to help restore mission blue butterfly habitat through beneficial ecological disturbance effects (GGNPC 2010e, 1–2). The primary objective of the *San Bruno Elfin and Mission Blue Butterflies Recovery Plan* (USFWS 1984) is to protect, maintain, and enhance existing populations of the two endangered butterfly

species, and the plan is focused on the Marin Headlands Trails and Fort Baker. Management activities described in the plan that will benefit the mission blue butterfly include protecting essential habitat outside these locations through cooperative agreements with adjacent landowners and purchase of conservation easements or similar land conservation agreements; restoring historic coastal scrub habitats by controlling non-native plants (e.g., gorse, French broom, pampas grass) that threaten the associated host and nectar plants used by the mission blue butterfly species, including silver-leaf lupine; and preventing further habitat degradation from herbicides, pesticides, other toxicants, and off-road vehicle use (USFWS 1984).

The Fort Baker EIS (NPS 2008f) and habitat restoration programs will have beneficial effects through restoration and expansion of mission blue butterfly habitat and control of non-native vegetation. Additional acreage of mission blue butterfly habitat will be restored under an agreement with USFWS; planned restoration of mission blue butterfly habitat as mitigation for the Golden Gate Bridge seismic retrofit work would continue to be implemented at Fort Baker (NPS 2008f, 4-28). These future restoration efforts would expand on this project, completing up to 23 acres of additional mission blue butterfly habitat restoration at Fort Baker (NPS 2008f, 4-28).

Additional actions have had, are currently having, or have the potential to have adverse impacts on the mission blue butterfly and its habitat at or in the vicinity of GGNRA sites such as Fort Baker. The Park Stewardship Programs, the *Marin Headlands/Fort Baker Improvement and Transportation Management Plan/EIS*, Marin County fire management activities, maintenance operations, and other agency projects may have moderate short- and/or long-term adverse impacts associated with them that would require mitigation to minimize effects on mission blue butterfly habitat.

The negligible impacts on the mission blue butterfly from dogs at Fort Baker under the preferred alternative were considered together with the effects of the projects mentioned above. Even though the effects from the fire management activities, maintenance operations, and other agency projects on mission blue butterfly habitat would be adverse, the benefits from restoration actions at Fort Baker should mitigate these adverse impacts. Therefore, the cumulative impacts on the mission blue butterfly under this alternative would be expected to be negligible.

Indirect Impacts in Adjacent Parks

In lands adjacent to GGNRA, there are 26 parks with dog use areas within about a 10-mile radius of Fort Baker and 2 parks within about a 5-mile radius; the closest park is Remington Dog Park in Sausalito (map 26). No indirect impacts on the mission blue butterfly in adjacent lands would be expected under the preferred alternative since on-leash dog walking would still be allowed at Fort Baker.

FORT BAKER PREFERRED ALTERNATIVE CONCLUSION TABLE

Mission Blue Butterfly Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Long-term minor adverse impacts in 6-foot corridors adjacent to trails (LOD area)	Mission blue butterfly habitat is located adjacent to Battery Yates Loop and Drown Fire Road, where dogs would be allowed		
Overall negligible to long-term minor adverse impacts, assuming compliance	Allowing dogs along Battery Yates Loop and Drown Fire Road would affect butterfly habitat, but impacts would be localized at the site	Beneficial to no change, assuming compliance	Negligible cumulative impacts No indirect impacts in adjacent lands

Milagra Ridge

Alternative A: No Action. The mission blue butterfly is known to at Milagra Ridge; an area referred to as the “Mission Blue Butterfly Corridor” is located in portions of this site (NPS 2005c), including the Loop Trail. Under current conditions, dogs are allowed on leash on the fire road and the trails, including the Loop Trail, to access the overlook and WWII bunker and would be allowed on the future Milagra Battery Trail. This site has documented moderate visitor use and 25 leash law violations were issued in 2007/2008 (table 9).

Alternative A would continue to result in long-term minor adverse impacts on the mission blue butterfly through damage to habitat in the trail beds and adjacent areas as a result of dogs. These impacts on mission blue butterfly habitat would be considered perceptible changes, but localized at the site and therefore minor.

Under alternative A, no permit system exists for commercial dog walking. At Milagra Ridge, commercial dog walking is uncommon; therefore, commercial dog walking would have negligible impacts on the mission blue butterfly.

Cumulative Impacts. Projects and actions in and near Milagra Ridge were considered for the cumulative impacts analysis (appendix K). The following is a discussion of projects that have had, are currently having, or have the potential to have effects on the mission blue butterfly at or in the vicinity of this site.

The *San Bruno Elfin and Mission Blue Butterflies Recovery Plan* (USFWS 1984), Wildland/Urban Interface Initiative projects, habitat restoration programs, ongoing monitoring, and volunteer opportunities sponsored by the park—such as efforts with the Golden Gate National Parks Conservancy to restore mission blue butterfly habitat in San Mateo County—all have the potential to beneficially affect the mission blue butterfly and its habitat at Milagra Ridge. Additionally, controlled burns will be conducted to help restore mission blue butterfly habitat through beneficial ecological disturbance effects (GGNPC 2010e, 1–2). The primary objective of the *San Bruno Elfin and Mission Blue Butterflies Recovery Plan* (USFWS 1984) is to protect, maintain, and enhance existing populations of the two endangered butterfly species. Management activities described in the plan that will benefit the mission blue butterfly include protecting essential habitat outside targeted park locations through cooperative agreements with adjacent landowners and negotiating conservation easements or similar land conservation agreements (USFWS 1984). Additionally, the site management plan for Milagra Ridge includes a statement to protect and enhance the habitat of the mission blue butterfly in coordination with GGNRA (NPS) and USFWS.

Additional actions have had, are currently having, or have the potential to have adverse impacts on the mission blue butterfly and its habitat at or in the vicinity of GGNRA sites such as Milagra Ridge. The Park Stewardship Programs, maintenance operations, and other agency projects may have moderate short- and/or long-term adverse impacts associated with them that would require mitigation to minimize effects on mission blue butterfly habitat.

The long-term minor adverse impacts on the mission blue butterfly from dogs at Milagra Ridge under alternative A were considered together with the effects of the projects mentioned above. The beneficial effects from the habitat restoration and protection projects should reduce some of the adverse impacts on the mission blue butterfly from alternative A; however, the effects on mission blue butterfly habitat from the fire management activities, maintenance operations, and other agency projects would be adverse. When combined, the beneficial and adverse effects from these projects may balance out. Therefore, the cumulative analysis for this park site will mainly focus on the results of the impact analysis for each

alternative. Cumulative impacts on the mission blue butterfly under this alternative would be expected to be long term, minor, and adverse.

Indirect Impacts in Adjacent Parks

In lands adjacent to GGNRA, there are 36 parks with dog use areas within about a 10-mile radius of Milagra Ridge and 5 parks within about a 5-mile radius; the closest parks are Esplanade Beach in Pacifica (which is temporarily closed) and the San Bruno Dog Park (map 27). No indirect impacts on the mission blue butterfly in adjacent lands would be expected under alternative A since there would be no change in current conditions at the site.

MILAGRA RIDGE ALTERNATIVE A CONCLUSION TABLE

Mission Blue Butterfly Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Long-term minor adverse impacts	Dogs could damage mission blue butterfly habitat in the trail beds and adjacent to the trails and roads	N/A	Long-term minor adverse cumulative impacts No indirect impacts in adjacent lands

N/A = not applicable.

Alternative B: NPS Leash Regulation. Alternative B would allow on-leash dog walking on the fire road and the trails to the overlook and WWII bunker, as well as the future Milagra Battery Trail. However, the trail loop to the top of the hill would not be open for dog walking in this alternative. On-leash dog walking would be based on an allowed 6-foot dog leash. The LOD would include areas adjacent to the trails/roads up to 6 feet, including the Milagra Ridge Trail, where mission blue butterfly is known to occur. Impacts on areas adjacent to the trail (6-foot corridor or LOD area) would be long term, minor, and adverse since existing vegetation that supports the mission blue butterfly is located along the trail.

The long-term minor adverse impacts from dogs in the LOD area would occur in a relatively small area when compared to the site as a whole; therefore, assuming compliance, the overall impact on the mission blue butterfly from on-leash dog walking at Milagra Ridge would be negligible.

Under alternative B, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs per person with no permit required. Since commercial dog walking is not common at Milagra Ridge, it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking under alternative B would have negligible impacts on the mission blue butterfly.

Cumulative Impacts. The negligible impacts on the mission blue butterfly from dogs at Milagra Ridge under alternative B were considered together with the effects of the projects mentioned above in alternative A. The beneficial effects from the habitat restoration and protection projects combined with the adverse effects from the fire management activities, maintenance operations, and other agency projects and the negligible impacts from alternative B would result in negligible cumulative impacts on the mission blue butterfly.

Indirect Impacts in Adjacent Parks

No indirect impacts on the mission blue butterfly in adjacent lands would be expected under alternative B since the fire road would still be open for dog walking.

MILAGRA RIDGE ALTERNATIVE B CONCLUSION TABLE

Mission Blue Butterfly Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Long-term minor adverse impacts in 6-foot corridors adjacent to trails (LOD area)	Dogs could damage mission blue butterfly habitat in the trail beds and areas adjacent to the trails and roads		
Overall negligible impacts, assuming compliance	Physically restraining dogs would protect mission blue butterfly habitat off trail; trails and the LOD area are a small portion of the site	Beneficial, assuming compliance	Negligible cumulative impacts No indirect impacts in adjacent lands

Alternative C: Emphasis on Multiple Use—Balanced by County. Alternative C would allow on-leash dog walking in the same areas as alternative B, and impacts would be the same, assuming compliance: long term, minor, and adverse in the LOD area and negligible overall.

Under alternative C, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be allocated at Milagra Ridge, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking is not common at Milagra Ridge, it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking under alternative C would have negligible impacts on the mission blue butterfly.

Cumulative Impacts. Under alternative C, the cumulative impacts on the mission blue butterfly at Milagra ridge would be the same as those under alternative B: negligible cumulative impacts and no indirect impacts on the mission blue butterfly in adjacent lands.

MILAGRA RIDGE ALTERNATIVE C CONCLUSION TABLE

Mission Blue Butterfly Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Long-term minor adverse impacts in 6-foot corridors adjacent to trails (LOD area)	Dogs could damage mission blue butterfly habitat in the trail beds and areas adjacent to the trails and roads		
Overall negligible impacts, assuming compliance	Physically restraining dogs would protect mission blue butterfly habitat off trail; trails and the LOD area are a small portion of the site	Beneficial, assuming compliance	Negligible cumulative impacts No indirect impacts in adjacent lands

Alternative D: Most Protective Based on Resource Protection/Visitor Safety. Alternative D would not allow dogs at this site and would therefore result in no impact on the mission blue butterfly, assuming compliance.

Since dogs would not be allowed at Milagra Ridge, there would be no impact from commercial dog walkers on the mission blue butterfly.

Cumulative Impacts. The lack of impacts on the mission blue butterfly from dogs at Milagra Ridge under alternative D was considered together with the effects of the projects mentioned above in alternative A. The beneficial effects from the habitat restoration and protection projects combined with the adverse effects from the fire management activities, maintenance operations, and other agency projects and the lack of impacts from alternative D would result in negligible cumulative impacts on the mission blue butterfly.

Indirect Impacts in Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation under alternative D since this alternative would not allow dogs. Indirect impacts on the mission blue butterfly in adjacent lands from increased dog use would be expected to range from negligible to long term, minor, and adverse at Milagra Ridge. A range is presented because it is unknown whether the mission blue butterfly or suitable habitat and host plants exist in adjacent parks.

MILAGRA RIDGE ALTERNATIVE D CONCLUSION TABLE

Mission Blue Butterfly Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
No impact, assuming compliance	Dogs would be prohibited at the site	Beneficial, assuming compliance	Negligible cumulative impacts Negligible to long-term minor adverse indirect impacts in adjacent lands

Alternative E: Most Dog Walking Access/Most Management Intensive. Alternative E would allow on-leash dog walking on the same trails as alternative B, with the addition of a loop to the top of the hill, and impacts would be the same, assuming compliance: long term, minor, and adverse in the LOD area and negligible overall.

Under alternative E, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be allocated at Milagra Ridge, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking is not common at Milagra Ridge, it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking under alternative E would have negligible impacts on the mission blue butterfly.

Cumulative Impacts. Under alternative E, the cumulative impacts and the indirect impacts on the mission blue butterfly in adjacent lands would be the same as those under alternative B: negligible cumulative impacts and no indirect impacts on the mission blue butterfly in adjacent lands.

MILAGRA RIDGE ALTERNATIVE E CONCLUSION TABLE

Mission Blue Butterfly Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Long-term minor adverse impacts in 6-foot corridors adjacent to trails (LOD area)	Dogs could damage mission blue butterfly habitat in the trail beds and adjacent to the trails and roads		
Overall negligible impacts, assuming compliance	Physically restraining dogs would protect vegetation off trail; trails and the LOD area are a small portion of the site	Beneficial, assuming compliance	Negligible cumulative impacts No indirect impacts in adjacent lands

Preferred Alternative. Alternative C was selected as the preferred alternative for Milagra Ridge. The preferred alternative would allow on-leash dog walking on the fire road and the trails to the overlook and WWII bunker, as well as on the future Milagra Battery Trail. However, the trail loop to the top of the hill would not be open for dog walking in this alternative. On-leash dog walking would be based on an allowed 6-foot dog leash. The LOD would include areas adjacent to the trails/roads up to 6 feet, including the Milagra Ridge Trail, where the mission blue butterfly is known to occur. Impacts on areas adjacent to the trails (6-foot corridor or LOD area) would be long term, minor, and adverse since existing vegetation that supports the mission blue butterfly is located along the trails.

The long-term minor adverse impacts from dogs in the LOD would occur in a relatively small area when compared to the site as a whole; therefore, the overall impacts on the mission blue butterfly from on-leash dog walking at Milagra Ridge would be negligible, assuming compliance.

Under the preferred alternative, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be allocated at Milagra Ridge, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking is not common at Milagra Ridge, it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking under the preferred alternative would have negligible impacts on the mission blue butterfly.

Cumulative Impacts. Projects and actions in and near Milagra Ridge were considered for the cumulative impacts analysis (appendix K). The following is a discussion of projects that have had, are currently having, or have the potential to have effects on the mission blue butterfly at or in the vicinity of this site.

The *San Bruno Elfin and Mission Blue Butterflies Recovery Plan* (USFWS 1984), Wildland/Urban Interface Initiative projects, habitat restoration programs, ongoing monitoring, and volunteer opportunities sponsored by the park—such as efforts with the Golden Gate National Parks Conservancy to restore mission blue butterfly habitat in San Mateo County—all have the potential to beneficially affect the mission blue butterfly and its habitat at Milagra Ridge. Additionally, controlled burns will be conducted to help restore mission blue butterfly habitat through beneficial ecological disturbance effects (GGNPC 2010e, 1–2). The primary objective of the *San Bruno Elfin and Mission Blue Butterflies Recovery Plan* (USFWS 1984) is to protect, maintain, and enhance existing populations of the two endangered butterfly species. Management activities described in the plan that will benefit the mission blue butterfly include protecting essential habitat outside targeted park locations through cooperative agreements with adjacent landowners and negotiating conservation easements or similar land conservation agreements (USFWS 1984). Additionally, the site management plan for Milagra Ridge

includes a statement to protect and enhance the habitat of the mission blue butterfly in coordination with the GGNRA and USFWS.

Additional actions have had, are currently having, or have the potential to have adverse impacts on the mission blue butterfly and its habitat at or in the vicinity of GGNRA sites such as Milagra Ridge. The Park Stewardship Programs, maintenance operations, and other agency projects may have moderate short- and/or long-term adverse impacts associated with them that would require mitigation to minimize effects on mission blue butterfly habitat.

The negligible impacts on the mission blue butterfly from dogs at Milagra Ridge under the preferred alternative were considered together with the effects of the projects mentioned above. The beneficial effects from the habitat restoration and protection projects combined with the adverse effects from the fire management activities, maintenance operations, and other agency projects and the negligible impacts from the preferred alternative would result in negligible cumulative impacts on the mission blue butterfly.

Indirect Impacts in Adjacent Parks

In lands adjacent to GGNRA, there are 36 parks with dog use areas within about a 10-mile radius of Milagra Ridge and 5 parks within about a 5-mile radius; the closest parks are Esplanade Beach in Pacifica (which is temporarily closed) and the San Bruno Dog Park (map 27). No indirect impacts on the mission blue butterfly in adjacent lands would be expected under the preferred alternative since the fire road would still be open for dog walking.

MILAGRA RIDGE PREFERRED ALTERNATIVE CONCLUSION TABLE

Mission Blue Butterfly Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Long-term minor adverse impacts in 6-foot corridors adjacent to trails (LOD area)	Dogs could damage mission blue butterfly habitat in the trail beds and areas adjacent to the trails and roads		
Overall negligible impacts, assuming compliance	Physically restraining dogs would protect vegetation off trail; trails and the LOD area are a small portion of the site	Beneficial, assuming compliance	Negligible cumulative impacts No indirect impacts in adjacent lands

Sweeney Ridge/Cattle Hill

Alternative A: No Action. The mission blue butterfly is known to occur along the Notch Trail at Sweeney Ridge and the host plants are known to occur in other areas at Sweeney Ridge (USFWS 1995, 3). Recent habitat surveys indicate that mission blue butterfly host plants are not present at Cattle Hill (NRM Environmental Consulting 2007, 2). Therefore, only impacts on mission blue butterfly habitat at Sweeney Ridge will be discussed in the paragraphs that follow. Under current conditions, the Notch Trail is closed to dogs and on-leash dog walking is allowed on all other trails at Sweeney Ridge, including Mori Ridge Trail, Sweeney Ridge Trail, Sneath Lane, and Baquiano Trail. Sweeney Ridge/Cattle Hill has documented low to moderate use by dog walkers, and 55 leash law violations occurred in 2007/2008 (table 9).

Alternative A would continue to result in long-term minor adverse impacts on the mission blue butterfly at Sweeney Ridge through damage to host plants and habitat in the trail beds and adjacent areas as a result

of dogs. These impacts on mission blue butterfly habitat would be considered perceptible changes, but localized at the site and therefore minor. Alternative A would result in no impacts to the mission blue butterfly at Cattle Hill because suitable habitat has not been documented at this site to date (NRM Environmental Consulting 2007, 2).

Under alternative A, no permit system for commercial dog walking exists. Commercial dog walking is uncommon at Sweeney Ridge and Cattle Hill; therefore, commercial dog walking would have negligible impacts on the mission blue butterfly at this site.

Cumulative Impacts. Projects and actions in and near Sweeney Ridge/Cattle Hill were considered for the cumulative impacts analysis (appendix K). The following is a discussion of projects that have had, are currently having, or have the potential to have effects on the mission blue butterfly at or in the vicinity of this site.

The *San Bruno Elfin and Mission Blue Butterflies Recovery Plan* (USFWS 1984), Wildland/Urban Interface Initiative projects, habitat restoration programs, ongoing monitoring, and volunteer opportunities sponsored by the park—such as efforts with the Golden Gate National Parks Conservancy to restore mission blue butterfly habitat in San Mateo County—all have the potential to beneficially affect the mission blue butterfly and its habitat at Sweeney Ridge. Additionally, controlled burns will be conducted to help restore mission blue butterfly habitat through beneficial ecological disturbance effects (GGNPC 2010e, 1–2). The primary objective of the *San Bruno Elfin and Mission Blue Butterflies Recovery Plan* (USFWS 1984) is to protect, maintain, and enhance existing populations of the two endangered butterfly species. Management activities described in the plan that will benefit the mission blue butterfly include protecting essential habitat outside targeted park locations through cooperative agreements with adjacent landowners and negotiating conservation easements or similar land conservation agreements (USFWS 1984). Additional acreage of mission blue butterfly habitat will be restored under an agreement with USFWS.

Additional actions have had, are currently having, or have the potential to have adverse impacts on the mission blue butterfly and its habitat at or in the vicinity of GGNRA sites such as Sweeney Ridge/Cattle Hill. The Park Stewardship Programs, maintenance operations, and other agency projects may have moderate short- and/or long-term adverse impacts associated with them that would require mitigation to minimize effects on mission blue butterfly habitat.

The lack of impact at Cattle Hill to the long-term minor adverse impacts at Sweeney Ridge on the mission blue butterfly from dogs under alternative A were considered together with the effects of the projects mentioned above. The beneficial effects from the habitat restoration and protection projects should reduce some of the adverse impacts on the mission blue butterfly from alternative A; however, the effects from the fire management activities, maintenance operations, and other agency projects on mission blue butterfly habitat would be adverse. When combined, the beneficial and adverse effects from these projects may balance out. Therefore, the cumulative analysis for this park site will mainly focus on the results of the impact analysis for each alternative. Cumulative impacts on the mission blue butterfly under this alternative at Sweeney Ridge would be expected to be long term, minor, and adverse. Cumulative impacts on the mission blue butterfly under this alternative at Cattle Hill would be expected to be negligible.

Indirect Impacts in Adjacent Parks

In lands adjacent to GGNRA, there are 24 parks with dog use areas within about a 10-mile radius of Sweeney Ridge and Cattle Hill and 4 parks within about a 5-mile radius; the closest parks are the San Bruno Dog Park and Esplanade Beach in Pacifica (which is temporarily closed) (map 27). No indirect

impacts on the mission blue butterfly in adjacent lands would be expected under alternative A since there would be no change in current conditions at the site.

SWEENEY RIDGE/CATTLE HILL ALTERNATIVE A CONCLUSION TABLE

Mission Blue Butterfly Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Long-term minor adverse impacts at Sweeney Ridge No impact at Cattle Hill	Dogs could damage mission blue butterfly habitat in the trail beds and adjacent to the trails and roads Mission blue butterfly host plants are not present at Cattle Hill	N/A	Negligible to long-term minor adverse cumulative impacts No indirect impacts in adjacent lands

N/A = not applicable.

Alternative B: NPS Leash Regulation. Alternative B would prohibit dogs at both sites, which would provide a large area of relatively undisturbed contiguous habitat that supports the listed mission blue butterfly. Therefore, assuming compliance, alternative B would result in no impact on the mission blue butterfly because of protection of mission blue butterfly habitat at Sweeney Ridge. Alternative B would result in no impacts to the mission blue butterfly because suitable habitat has not been documented at this site to date (NRM Environmental Consulting 2007, 2).

Since dogs would not be allowed at Sweeney Ridge/Cattle Hill, there would be no impact from commercial dog walkers on the mission blue butterfly at this site.

Cumulative Impacts. The lack of impacts on the mission blue butterfly from dogs at Sweeney Ridge/Cattle Hill under alternative B were considered together with the effects of the projects mentioned above in alternative A. The beneficial effects from the habitat restoration and protection projects combined with the adverse effects from the fire management activities, maintenance operations, and other agency projects and the lack of impacts from alternative B would result in negligible cumulative impacts on the mission blue butterfly.

Indirect Impacts in Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation under alternative B, particularly the San Bruno Dog Park and Esplanade Beach (which is temporarily closed), because they are the closest dog use areas. Indirect impacts on the mission blue butterfly in adjacent lands from increased dog use would range from negligible to long term, minor, and adverse; a range is presented because it is unknown whether the mission blue butterfly or suitable habitat and host plants exist in adjacent parks.

SWEENEY RIDGE/CATTLE HILL ALTERNATIVE B CONCLUSION TABLE

Mission Blue Butterfly Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
No impact, assuming compliance (at both sites)	Dogs would be prohibited at both sites	Beneficial, assuming compliance	Negligible cumulative impacts Negligible to long-term minor adverse indirect impacts at adjacent lands

Alternative C: Emphasis on Multiple Use—Balanced by County. Under alternative C, no dog walking would be allowed at Sweeney Ridge. At Cattle Hill, on-leash dog walking would be allowed on the Baquiano Trail from Fassler Avenue up to and including the Farallons View Trail. However, recent habitat surveys indicate that mission blue butterfly host plants are not present at Cattle Hill (NRM Environmental Consulting 2007, 2). Therefore, there would be no impact on the mission blue butterfly since there is no mission blue butterfly habitat at Cattle Hill and no dogs would be allowed at Sweeney Ridge.

Under alternative C, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be allocated at Sweeney Ridge/Cattle Hill, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since dog walking would not be allowed at Sweeney Ridge, commercial dog walking under alternative C would have no impact on the mission blue butterfly. Since there is no mission blue butterfly habitat at Cattle Hill there would be no impact on the mission blue butterfly from commercial dog walkers.

Cumulative Impacts. Under alternative C, the cumulative impacts and indirect impacts in adjacent lands would be the same as those under alternative B: negligible cumulative impacts and negligible to long-term minor adverse indirect impacts on the mission blue butterfly in adjacent lands.

SWEENEY RIDGE/CATTLE HILL ALTERNATIVE C CONCLUSION TABLE

Mission Blue Butterfly Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
No impact, assuming compliance (at both sites)	Dogs would be prohibited at Sweeney Ridge; no mission blue butterfly habitat exists at Cattle Hill	Beneficial, assuming compliance	Negligible cumulative impacts Negligible to long-term minor adverse indirect impacts in adjacent lands

Alternative D: Most Protective Based on Resource Protection/Visitor Safety. This alternative would have the same dog walking restrictions as described for alternative B, and impacts would be the same: no impact.

Since dogs would not be allowed at Sweeney Ridge/Cattle Hill, there would be no impact from commercial dog walkers on the mission blue butterfly.

Cumulative Impacts. The lack of impacts on the mission blue butterfly from dogs at Sweeney Ridge/Cattle Hill under alternative D was considered together with the effects of the projects mentioned above in alternative A. The beneficial effects from the habitat restoration and protection projects combined with the adverse effects from the fire management activities, maintenance operations, and other agency projects and the lack of impacts from alternative D would result in negligible cumulative impacts on the mission blue butterfly.

Indirect Impacts in Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation under alternative B, particularly the San Bruno Dog Park and Esplanade Beach (which is temporarily closed), because they are the closest dog use areas. Indirect impacts on the mission blue butterfly in adjacent lands from increased

dog use would range from negligible to long term, minor, and adverse; a range is presented because it is unknown whether the mission blue butterfly or suitable habitat and host plants exist in adjacent parks.

SWEENEY RIDGE/CATTLE HILL ALTERNATIVE D CONCLUSION TABLE

Mission Blue Butterfly Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
No impact, assuming compliance (at both sites)	Dogs would be prohibited at both sites	Beneficial, assuming compliance	Negligible cumulative impacts Negligible to long-term minor adverse indirect impacts in adjacent lands

Alternative E: Most Dog Walking Access/Most Management Intensive. Alternative E would allow on-leash dog walking at Sweeney Ridge on Sneath Lane, on the Sweeney Ridge Trail from the Portola Discovery site to Notch Trail, and on the Mori Ridge Trail; the Notch Trail would be closed to dogs. At Cattle Hill, dogs would be allowed on leash on the Baquiano Trail from Fassler Avenue up to and including the Farallons View Trail; recent habitat surveys indicate that mission blue butterfly host plants are not present at Cattle Hill (NRM Environmental Consulting 2007, 2). However, the mission blue butterfly is known to occur along the Notch Trail at Sweeney Ridge and the host plants are known to occur in other areas at Sweeney Ridge (USFWS 1995, 3). On-leash dog walking would be based on an allowed 6-foot dog leash. The LOD would include areas adjacent to the trails/roads up to 6 feet. Impacts on areas adjacent to the trail (6-foot corridor or LOD area) would be long term, minor, and adverse at Sweeney Ridge since existing vegetation that supports the mission blue butterfly is located along the trail and could be damaged as a result of dogs.

The long-term minor adverse impacts from dogs in the LOD would occur in a relatively small area when compared to the site as a whole; therefore, the overall impact on the mission blue butterfly from on-leash dog walking at Sweeney Ridge would be negligible, assuming compliance. There would be no impact on the mission blue butterfly at Cattle Hill since there is no mission blue butterfly habitat at this site.

Under alternative E, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be allocated at Sweeney Ridge/Cattle Hill, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking is not common at Sweeney Ridge, it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking under alternative E would have negligible impacts on the mission blue butterfly at Sweeney Ridge. There would be no impact on the mission blue butterfly at Cattle Hill from commercial dog walkers since there is no mission blue butterfly habitat at this site.

Cumulative Impacts. The negligible impacts on the mission blue butterfly from dogs at Sweeney Ridge under alternative E were considered together with the effects of the projects mentioned above in alternative A. The beneficial effects from the habitat restoration and protection projects combined with the adverse effects from the fire management activities, maintenance operations, and other agency projects and the negligible impacts from alternative E at Sweeney Ridge would result in negligible cumulative impacts on the mission blue butterfly.

The lack of impacts on the mission blue butterfly from dogs at Cattle Hill under alternative E was considered together with the effects of the projects mentioned above in alternative A. The beneficial effects from the habitat restoration and protection projects combined with the adverse effects from the fire

management activities, maintenance operations, and other agency projects and the lack of impacts from alternative E at Cattle Hill would result in negligible cumulative impacts on the mission blue butterfly.

Indirect Impacts in Adjacent Parks

No indirect impacts on the mission blue butterfly in adjacent lands would be expected since dogs would be allowed on trails at both Sweeney Ridge and Cattle Hill under alternative E.

SWEENEY RIDGE/CATTLE HILL ALTERNATIVE E CONCLUSION TABLE

Mission Blue Butterfly Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Long-term minor adverse impacts in 6-foot corridors adjacent to trails (LOD area) at Sweeney Ridge	Dogs could damage mission blue butterfly habitat in the trail beds and adjacent to the trails and roads		
Overall negligible impacts at Sweeney Ridge, assuming compliance	Physically restraining dogs would protect mission blue habitat off trail; trails and the LOD area are a small portion of the site at Sweeney Ridge	Beneficial, assuming compliance	Negligible cumulative impacts No indirect impacts in lands adjacent to Sweeney Ridge
No impact at Cattle Hill, assuming compliance	No mission blue butterfly habitat exists at Cattle Hill	Beneficial, assuming compliance	Negligible cumulative impacts No indirect impacts in lands adjacent to Cattle Hill

Preferred Alternative. Alternative C was selected as the preferred alternative for Sweeney Ridge/Cattle Hill. Under the preferred alternative, no dog walking would be allowed at Sweeney Ridge. At Cattle Hill, on-leash dog walking would be allowed on the Baquiano Trail from Fassler Avenue up to and including the Farallons View Trail. However, recent habitat surveys indicate that mission blue butterfly host plants are not present at Cattle Hill (NRM Environmental Consulting 2007, 2). Therefore, there would be no impact on the mission blue butterfly under this alternative since there is no mission blue butterfly habitat at Cattle Hill and no dogs would be allowed at Sweeney Ridge.

All dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be allocated at Sweeney Ridge/Cattle Hill, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since dog walking would not be allowed at Sweeney Ridge, commercial dog walking under alternative C would have no impact on the mission blue butterfly. Since there is no mission blue butterfly habitat at Cattle Hill there would be no impact on the mission blue butterfly from commercial dog walkers.

Cumulative Impacts. Projects and actions in and near Sweeney Ridge/Cattle Hill were considered for the cumulative impacts analysis (appendix K). The following is a discussion of projects that have had, are currently having, or have the potential to have effects on the mission blue butterfly at or in the vicinity of this site.

The San Bruno Elfin and Mission Blue Butterflies Recovery Plan (USFWS 1984), Wildland/Urban Interface Initiative projects, habitat restoration programs, ongoing monitoring, and volunteer opportunities sponsored by the park—such as efforts with the Golden Gate National Parks Conservancy to restore mission blue butterfly habitat in San Mateo County—all have the potential to beneficially affect the mission blue butterfly and its habitat at Sweeney Ridge. Additionally, controlled burns will be conducted to help restore mission blue butterfly habitat through beneficial ecological disturbance effects (GGNPC 2010e, 1–2). The primary objective of the San Bruno Elfin and Mission Blue Butterflies Recovery Plan (USFWS 1984) is to protect, maintain, and enhance existing populations of the two endangered butterfly species. Management activities described in the plan that will benefit the mission blue butterfly include protecting essential habitat outside targeted park locations through cooperative agreements with adjacent landowners and negotiating conservation easements or similar land conservation agreements (USFWS 1984). Additional acreage of mission blue butterfly habitat will be restored under an agreement with USFWS.

Additional actions have had, are currently having, or have the potential to have adverse impacts on the mission blue butterfly and its habitat at or in the vicinity of GGNRA sites such as Sweeney Ridge/Cattle Hill. The Park Stewardship Programs, maintenance operations, and other agency projects may have moderate short- and/or long-term adverse impacts associated with them that would require mitigation to minimize effects on mission blue butterfly habitat.

The lack of impacts on the mission blue butterfly from dogs at Sweeney Ridge/Cattle Hill under the preferred alternative was considered together with the effects of the projects mentioned above. The beneficial effects from the habitat restoration and protection projects combined with the adverse effects from the fire management activities, maintenance operations, and other agency projects and the lack of impacts from the preferred alternative would result in negligible cumulative impacts on the mission blue butterfly.

Indirect Impacts in Adjacent Parks

In lands adjacent to GGNRA, there are 24 parks with dog use areas within about a 10-mile radius of Sweeney Ridge and Cattle Hill and 4 parks within about a 5-mile radius; the closest parks are the San Bruno Dog Park and Esplanade Beach in Pacifica (which is temporarily closed) (map 27). The adjacent lands may experience increased visitation, particularly the San Bruno Dog Park and Esplanade Beach, because they are the closest dog use areas. Indirect impacts on the mission blue butterfly in adjacent lands from increased dog use would range from negligible to long term, minor, and adverse; a range is presented because it is unknown whether the mission blue butterfly or suitable habitat and host plants exist in adjacent parks.

SWEENEY RIDGE/CATTLE HILL PREFERRED ALTERNATIVE CONCLUSION TABLE

Mission Blue Butterfly Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
No impact, assuming compliance	Dogs would be prohibited at Sweeney Ridge; no mission blue butterfly habitat exists at Cattle Hill	Beneficial, assuming compliance	Negligible cumulative impacts Negligible to long-term minor adverse indirect impacts in adjacent lands

TIDEWATER GOBY (FEDERALLY ENDANGERED)

The tidewater goby is known to occur in high densities in Rodeo Lagoon in the Marin Headlands. In January 2008, the USFWS published a final rule re-designating critical habitat for the tidewater goby that included Rodeo Lagoon, described as critical habitat unit MAR-4 in the final rule (USFWS 2008a, 5936, 5941). The *Recovery Plan for the Tidewater Goby* calls for protection and enhancement of currently occupied habitat, including managing freshwater inflow, non-native species, channelization, water quality, and human impacts; developing strategies to prevent further loss of habitat; and conducting research and monitoring (USFWS 2005b).

Rodeo Beach/South Rodeo Beach (Rodeo Lagoon)

Alternative A: No Action. In the vicinity of Rodeo Lagoon, dog walking is currently allowed under voice control or on leash on Rodeo Beach. Rodeo Lake is currently closed to dogs; Rodeo Lagoon is currently closed to dogs and humans for overall resource protection. The NPS has restricted people and dogs from accessing the lagoon. However, there is no physical barrier to prevent dogs or visitors from accessing the lagoon, specifically at the beach–lagoon shoreline. A fence is proposed along the western shoreline of the lagoon that will deter but not physically exclude dogs from accessing the lagoon from the beach. A fence more impervious to dogs in this area is not feasible because winter storm waves wash over the entire beach, and wind-driven litter and debris would be trapped in the fence. The area receives low to moderate use by dog walkers, and one incident of a dog in a closed area and four incidents of dogs disturbing wildlife were recorded in 2007/2008 (table 9 and appendix G). Additionally, park staff members have estimated that they observe dogs in the lagoon at least once a week, and on a daily basis during good weather (Merkle 2010b, 1). Additionally, the voice-control areas are located immediately adjacent to the shoreline of the lagoon and the lagoon is not screened and is highly visible and accessible. Because tidewater gobies are resident fish and complete their entire life cycle in Rodeo Lagoon, all life history stages could be affected by dogs that gain access to the lagoon. Specifically, the tidewater goby adults and embryos inhabit breeding burrows in shoreline areas of the lagoon. The park has observed that dogs frequently play and run around in the shallow water of the lagoon and inlet. Dogs along the shoreline of the lagoon could crush goby burrows or goby eggs. Frequent use of the shoreline areas may result in loss of emergent and/or submergent vegetation due to trampling. Loss of cover may increase the risk of predation on the goby. The population of tidewater gobies in Rodeo Lagoon is isolated from other populations and is genetically distinct (Dawson et al. 2001, 4). Even so, impacts on the goby would be localized along the western edge of the lagoon, where dogs sometimes come off the beach into the lagoon; therefore, individuals of the species would be affected but the overall population and gene pool of the gobies would not be affected. NPS staff members have issued citations and verbal warnings for dogs accessing Rodeo Lagoon (Merkle 2010c, 1); even one animal stepping into goby habitat could possibly crush the eggs, resulting in a take under the ESA. Although dogs are currently accessing the lagoon, there is no published documentation that dogs have either directly or indirectly affected the goby in Rodeo Lagoon.

Therefore, to encompass possible effects, alternative A impacts on the tidewater goby and its critical habitat would be long term and would range from negligible to moderate and adverse. Generally, impacts would be localized along the western edge of the lagoon. Dogs could gain access to the lagoon and could crush goby burrows or goby eggs; the reproductive success of individuals of the species in a small, localized area (Rodeo Lagoon) could be affected and essential features of designated critical habitat may be impacted. Impacts would be localized but could constitute a permanent loss if tidewater goby individuals or eggs are crushed as a result of disturbance by dogs.

Under alternative A, no permit system exists for commercial dog walking. At Rodeo Beach/South Rodeo Beach, commercial dog walking is uncommon; therefore, commercial dog walking would have negligible impacts on the tidewater goby.

Cumulative Impacts. Projects and actions in and near Rodeo Beach/South Rodeo Beach were considered for the cumulative impacts analysis (appendix K). The following is a discussion of projects that have had, are currently having, or have the potential to have effects on the tidewater goby at or in the vicinity of this site.

The recovery plan for the tidewater goby calls for protection and enhancement of currently occupied habitat, including managing freshwater inflow, non-native species, channelization, water quality, and human impacts; developing strategies to prevent further loss of habitat; and conducting research and monitoring (USFWS 2005b). The loss and modification of habitat as well as degradation of water quality are among the principal threats to the tidewater goby as determined by the USFWS (2008a, 5922). The *Marin Headlands/Fort Baker Improvement and Transportation Management Plan/EIS*, the Park Stewardship Programs, maintenance activities, and structural fire operations have the potential to affect the tidewater goby and its habitat. The *Marin Headlands/Fort Baker Improvement and Transportation Management Plan/EIS* (NPS 2009d) may beneficially affect the tidewater goby through slight habitat improvements and substantially reduced sediment and contaminant input into Rodeo Lagoon. Habitat restoration programs are restoring riparian and wetland vegetation along the shoreline. Implementation of best management practices for park maintenance operations and improved facilities for vehicle washing at the fire station at Rodeo Beach/South Rodeo Beach will also reduce sedimentation and improve water quality in the lagoon. The tidewater goby was identified at the Giacomini Ranch in areas proposed for tidal wetland restoration. The NPS and the California State Lands Commission formulated the *Giacomini Wetland Restoration Project* (Marin County, near Tomales Bay), which restored 560 acres of pastures to wetlands of increased complexity and diversity of vegetation and aquatic habitats (NPS 2009i; NPS and CSLC 2007). Therefore, this project could increase habitat for the tidewater goby in the Tomales Bay watershed ecosystem.

The negligible to long-term moderate adverse impacts on the tidewater goby from dogs at Rodeo Beach/South Rodeo Beach under alternative A were considered together with the effects of the projects mentioned above. The beneficial effects from the habitat enhancement and protection projects should reduce some of the adverse impacts on the tidewater goby from alternative A. Therefore, the cumulative impacts on the tidewater goby under this alternative would be expected to range from negligible to long term, minor, and adverse.

Indirect Impacts in Adjacent Parks

In lands adjacent to GGNRA, there are 27 parks with dog use areas within about a 10-mile radius of Rodeo Beach/South Rodeo Beach and 9 parks within about a 5-mile radius; the closest park is Remington Dog Park in Sausalito (map 26). No indirect impacts on the tidewater goby in adjacent lands would be expected under alternative A since there would be no change in current conditions at the site.

RODEO BEACH/SOUTH RODEO BEACH ALTERNATIVE A CONCLUSION TABLE

Tidewater Goby and Critical Habitat Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Negligible to long-term moderate adverse impacts	Dogs gain access to closed lagoon and could crush goby burrows or cause increased turbidity by trampling shoreline areas and re-suspending sediment; impacts would be localized along the western edge of the lagoon; a range of impacts is presented to encompass possible effects	N/A	Negligible to long-term minor adverse cumulative impacts No indirect impacts in adjacent lands

N/A = not applicable.

Alternative B: NPS Leash Regulation. In the vicinity of Rodeo Lagoon, alternative B would allow on-leash dog walking on Rodeo Beach, access trails, and footbridge to the beach. Rodeo Lagoon and Rodeo Lake are currently closed to dogs. Although the goby currently persists at the site under current conditions, limiting dog walking to on leash would avoid impacts on the existing population at Rodeo Lagoon. Additionally, a concurrent NPS project includes the installation of a post-and-cable fence along the beach side of Rodeo Lagoon to discourage visitors from accessing the lagoon, though it would not physically exclude dogs from this area. As stated above, tidewater gobies are resident fish with an isolated gene pool that complete their entire life cycle in Rodeo Lagoon. If dogs are physically restrained on leash at this site and deterred by fencing, they should not gain access to the lagoon or its shorelines. Assuming compliance with proposed regulations, alternative B would result in negligible impacts on the tidewater goby and its critical habitat; no measurable or perceptible changes to individual gobies, the population, or designated critical habitat would occur.

Under alternative B, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs per person with no permit required. Since commercial dog walking is not common at Rodeo Beach/South Rodeo Beach, it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking under alternative B would have negligible impacts on the tidewater goby.

Cumulative Impacts. The negligible impacts on the tidewater goby from dogs at Rodeo Beach/South Rodeo Beach under alternative B were considered together with the beneficial effects of the projects mentioned above under alternative A. The beneficial effects from the habitat enhancement and protection projects combined with the negligible impacts from alternative B would result in beneficial cumulative impacts.

Indirect Impacts in Adjacent Parks

The adjacent lands identified under alternative A may experience some increase in visitation under alternative B, particularly Remington Dog Park, since dogs under voice control would no longer be allowed under alternative B and because this park is the closest dog use area that allows dogs off leash; however, dogs would still be allowed on leash at Rodeo Beach/South Rodeo Beach under alternative B. Therefore, indirect impacts on the tidewater goby in adjacent lands from increased dog use would be negligible since it is not known whether the tidewater goby exists at these lands and not all dog walkers would leave Rodeo Beach/South Rodeo Beach to visit other sites.

RODEO BEACH/SOUTH RODEO BEACH ALTERNATIVE B CONCLUSION TABLE

Tidewater Goby and Critical Habitat Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Negligible impacts, assuming compliance	Rodeo Lagoon would continue to be closed to dogs; physically restraining dogs on leash would prevent dog access to Rodeo Lagoon	Beneficial to no change, assuming compliance	Beneficial cumulative impacts Negligible indirect impacts at adjacent lands

Alternative C: Emphasis on Multiple Use—Balanced by County. In the vicinity of Rodeo Lagoon, alternative C would allow on-leash dog walking on the wooden footbridge over the lagoon. Rodeo Lagoon and Rodeo Lake are currently closed to dogs. Dogs would be allowed under voice and sight control in a ROLA on Rodeo Beach, and a post-and-cable fence is proposed as part of a concurrent project. This fence along the beach side of Rodeo Lagoon would discourage visitors from accessing the lagoon, but would not physically exclude dogs or visitors from this area. The ROLA would include portions of the sparsely vegetated foredunes that extend from the crest of the beach east to the lagoon and south to the ridge on the beach just north of South Rodeo Beach. This alternative would not require dog walkers to physically restrain their dogs on leash on Rodeo Beach, which is located immediately adjacent to the gobies and their federally designated critical habitat. Assuming compliance with proposed regulations, alternative C would result in negligible impacts on the tidewater goby and its critical habitat; no measurable or perceptible changes to individual gobies, the population, or designated critical habitat would occur.

Under alternative C, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. Any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. In a ROLA, permit holders may have up to six dogs off leash and the permit may restrict use by time and area. Permits would be allowed at Rodeo Beach/South Rodeo Beach. Impacts on the tidewater goby from permit holders with four to six dogs off leash would be expected to increase under this alternative; however, impacts would not be expected to increase enough to cause a change in the threshold level. Since commercial dog walking is not common at Rodeo Beach/South Rodeo Beach, it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking under alternative C would have negligible impacts on the tidewater goby.

Cumulative Impacts. The negligible impacts on the tidewater goby from dogs at Rodeo Beach/South Rodeo Beach under alternative C were considered together with the beneficial effects of the projects mentioned above under alternative A. The beneficial effects from the habitat enhancement and protection projects combined with the negligible impacts from alternative C would result in beneficial cumulative impacts.

Indirect Impacts in Adjacent Parks

No indirect impacts on the tidewater goby at adjacent lands would be expected under alternative C since voice and sight control dog walking would be allowed in a ROLA under this alternative. No change in visitation would be expected.

RODEO BEACH/SOUTH RODEO BEACH ALTERNATIVE C CONCLUSION TABLE

Tidewater Goby and Critical Habitat Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Negligible impacts, assuming compliance	Rodeo Lagoon would continue to be closed to dogs; physically restraining dogs on leash would prevent dog access to Rodeo Lagoon; compliant dogs in the ROLA would not affect the goby; the proposed fence would also deter dogs from gaining access to the lagoon	Beneficial to no change, assuming compliance	Beneficial cumulative impacts No indirect impacts in adjacent lands

Alternative D: Most Protective Based on Resource Protection/Visitor Safety. In the vicinity of Rodeo Lagoon, under alternative D on-leash dog walking would be allowed on Rodeo Beach north of the footbridge to the lagoon and on the footbridge. Impacts would be the same as those for alternative B, assuming compliance: negligible.

No commercial dog walking would be allowed under alternative D; therefore, commercial dog walking would have no impact on the tidewater goby.

Cumulative Impacts. The negligible impacts on the tidewater goby from dogs at Rodeo Beach/South Rodeo Beach under alternative D were considered together with the beneficial effects of the projects mentioned above under alternative A. The beneficial effects from the habitat enhancement and protection projects combined with the negligible impacts from alternative D would result in beneficial cumulative impacts.

Indirect Impacts in Adjacent Parks

The adjacent lands identified under alternative A may experience some increase in visitation under alternative D, particularly Remington Dog Park, since dogs under voice control would no longer be allowed under alternative D and this park is the closest dog use area that allows dogs off leash; however, dogs would still be allowed on leash at this site under alternative D. Therefore, indirect impacts on the tidewater goby in adjacent lands from increased dog use would be negligible since it is not known whether the tidewater goby exists in these lands and not all dog walkers would leave Rodeo Beach/South Rodeo Beach to visit other sites.

RODEO BEACH/SOUTH RODEO BEACH ALTERNATIVE D CONCLUSION TABLE

Tidewater Goby and Critical Habitat Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Negligible impacts, assuming compliance	Rodeo Lagoon would continue to be closed to dogs; physically restraining dogs on leash would prevent dog access to Rodeo Lagoon	Beneficial to no change, assuming compliance	Beneficial cumulative impacts Negligible indirect impacts in adjacent lands

Alternative E: Most Dog Walking Access/Most Management Intensive. This alternative would include a ROLA on Rodeo Beach that would extend to the crest of the beach, instead of extending inland to the post-and-cable fence proposed as part of a concurrent project; on-leash dog walking would be

allowed on the rest of Rodeo Beach/South Rodeo beach, including the footbridge to the lagoon. Rodeo Lagoon is currently closed to dogs and people, and the proposed fence along the beach side of Rodeo Lagoon would discourage visitors from accessing the lagoon but would not physically exclude dogs from this area. Although this alternative includes a ROLA, with the addition of the fence as a deterrent, compliance with regulations in this alternative would result in protection of individual gobies and critical habitat. Therefore, assuming compliance, alternative E would result in negligible impacts on the tidewater goby and its critical habitat; no measurable or perceptible changes to individual gobies, the population, or designated critical habitat would occur.

Under alternative E, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. Any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. In a ROLA, permit holders may have up to six dogs off leash and the permit may restrict use by time and area. Permits would be allowed at Rodeo Beach/South Rodeo Beach. Impacts on the tidewater goby from permit holders with four to six dogs off leash would be expected to increase under this alternative; however, impacts would not be expected to increase enough to cause a change in the threshold level. Since commercial dog walking is not common at Rodeo Beach/South Rodeo Beach, it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking under alternative E would have negligible impacts on the tidewater goby.

Cumulative Impacts. The negligible impacts on the tidewater goby from dogs at Rodeo Beach/South Rodeo Beach under alternative E were considered together with the beneficial effects of the projects mentioned above under alternative A. The beneficial effects from the habitat enhancement and protection projects combined with the negligible impacts from alternative E would result in beneficial cumulative impacts.

Indirect Impacts in Adjacent Parks

No indirect impacts on the tidewater goby in adjacent lands would be expected under alternative E since voice and sight control dog walking would be allowed in a ROLA under this alternative. No change in visitation would be expected.

RODEO BEACH/SOUTH RODEO BEACH ALTERNATIVE E CONCLUSION TABLE

Tidewater Goby and Critical Habitat Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Negligible impacts, assuming compliance	Rodeo Lagoon would continued to be closed to dogs; physically restraining dogs on leash would prevent dog access to Rodeo Lagoon; compliant dogs in the ROLA would not affect the goby; the proposed fence would deter dogs from gaining access to the lagoon	Beneficial to no change, assuming compliance	Beneficial cumulative impacts No indirect impacts in adjacent lands

Preferred Alternative. Alternative C was selected as the preferred alternative for Rodeo Beach/South Rodeo Beach. In the vicinity of Rodeo Lagoon, the preferred alternative would allow on-leash dog walking on the wooden footbridge over the lagoon. Rodeo Lagoon and Rodeo Lake are currently closed to dogs. Dogs would be allowed under voice and sight control in a ROLA on Rodeo Beach, and a post-and-cable fence is proposed as part of a concurrent project. This fence along the beach side of Rodeo

Lagoon would discourage visitors from accessing the lagoon, but would not physically exclude dogs or visitors from this area. The ROLA would include portions of the sparsely vegetated foredunes that extend from the crest of the beach east to the lagoon and south to the ridge on the beach just north of South Rodeo Beach. This alternative would not require dog walkers to physically restrain their dogs on leash on Rodeo Beach, which is located immediately adjacent to the gobies and their federally designated critical habitat. Assuming compliance with proposed regulations, the preferred alternative would result in negligible impacts on the tidewater goby and its critical habitat; no measurable or perceptible changes to individual gobies, the population, or designated critical habitat would occur.

All dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. Any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. In a ROLA, permit holders may have up to six dogs off leash and the permit may restrict use by time and area. Permits would be allowed at Rodeo Beach/South Rodeo Beach. Impacts on the tidewater goby from permit holders with four to six dogs off leash would be expected to increase under this alternative; however, impacts would not be expected to increase enough to cause a change in the threshold level. Since commercial dog walking is not common at Rodeo Beach/South Rodeo Beach, it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking under the preferred alternative would have negligible impacts on the tidewater goby.

Cumulative Impacts. Projects and actions in and near Rodeo Beach/South Rodeo Beach were considered for the cumulative impacts analysis (appendix K). The following is a discussion of projects that have had, are currently having, or have the potential to have effects on the tidewater goby at or in the vicinity of this site.

The recovery plan for the tidewater goby calls for protection and enhancement of currently occupied habitat, including managing freshwater inflow, non-native species, channelization, water quality, and human impacts; developing strategies to prevent further loss of habitat; and conducting research and monitoring (USFWS 2005b). The loss and modification of habitat as well as degradation of water quality are among the principal threats to the tidewater goby as determined by the USFWS (2008a, 5922). The *Marin Headlands/Fort Baker Improvement and Transportation Management Plan/EIS*, the Park Stewardship Programs, maintenance activities, and structural fire operations have the potential to affect the tidewater goby and its habitat. The *Marin Headlands/Fort Baker Improvement and Transportation Management Plan/EIS* may beneficially affect the tidewater goby through slight habitat improvements and substantially reduced sediment and contaminant input into Rodeo Lagoon. Habitat restoration programs are restoring riparian and wetland vegetation along the shoreline. Implementation of best management practices for park maintenance operations and improved facilities for vehicle washing at the fire station at Rodeo Beach will also reduce sedimentation and improve water quality in the lagoon. The tidewater goby was identified at the Giacomini Ranch in areas proposed for tidal wetland restoration. The *Giacomini Wetland Restoration Project* (near Tomales Bay), which is restoring wetlands at the Giacomini Ranch, could increase habitat for the tidewater goby in the Tomales Bay watershed ecosystem.

The negligible impacts on the tidewater goby from dogs at Rodeo Beach/South Rodeo Beach under the preferred alternative were considered together with the beneficial effects of the projects mentioned above. The beneficial effects from the habitat enhancement and protection projects combined with the negligible impacts from the preferred alternative would result in beneficial cumulative impacts.

Indirect Impacts in Adjacent Parks

In lands adjacent to GGNRA, there are 27 parks with dog use areas within about a 10-mile radius of Rodeo Beach/South Rodeo Beach and 9 parks within about a 5-mile radius; the closest park is Remington

Dog Park in Sausalito (map 26). No indirect impacts on the tidewater goby in adjacent lands would be expected under the preferred alternative since voice and sight control dog walking would be allowed in a ROLA. No change in visitation would be expected.

RODEO BEACH/SOUTH RODEO BEACH PREFERRED ALTERNATIVE CONCLUSION TABLE

Tidewater Goby and Critical Habitat Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Negligible impacts, assuming compliance	Rodeo Lagoon would continue to be closed to dogs; physically restraining dogs on leash would prevent dog access to Rodeo Lagoon; compliant dogs in the ROLA would not affect the goby; the proposed fence would deter dogs from gaining access to the lagoon	Beneficial to no change, assuming compliance	Beneficial cumulative impacts No indirect impacts in adjacent lands

COHO SALMON (FEDERALLY AND STATE ENDANGERED)

The central California coast coho salmon evolutionarily significant unit is listed as federally endangered as well as state endangered. In GGNRA, a genetically distinct run of coho salmon is found in the Marin Headlands, specifically in Redwood Creek at Muir Beach. Designated critical habitat for coho includes the majority of accessible estuarine and stream areas in the coastal watersheds of Marin County, including Redwood Creek in GGNRA.

Muir Beach (Redwood Creek)

Alternative A: No Action. In the vicinity of Muir Beach, the beach and the boardwalk/path to the beach that crosses Redwood Creek is currently open to dogs under voice control. The park has closed the lagoon and Redwood Creek, although it has been observed that these closures have been violated and dogs have accessed Redwood Creek; three incidents were recorded for dogs in a closed area in 2007/2008 (appendix G). The fence along the beach side of lower Redwood Creek and the lagoon discourages visitors from accessing the water, but does not physically exclude dogs or visitors from this area. The Muir Beach Community is located adjacent to this area, which results in high visitation on the weekends at Muir Beach. Park staff has observed that some local residents' dogs run free and leave dog waste without proper disposal at Muir Beach. The voice-control area of Muir Beach encompasses the entrance channel of Redwood Creek and is located immediately adjacent to the shoreline of the lagoon, which has recently been restored. There is no physical barrier to prevent dogs from accessing portions of Redwood Creek that support coho salmon. Coho salmon use Redwood Creek throughout their life cycle, from migrating and laying eggs as adults to living in the stream as juveniles (NPS 2008d). Salmonids in general are sensitive to water quality issues; coho salmon are heavily dependent on stream flow and very sensitive to water temperature (NPS 2008d). Because coho salmon complete sensitive portions of their life cycle in Redwood Creek, adult and juvenile life history stages could be affected by dogs that gain access to the creek. Eggs would not be affected, because salmonids require gravel areas of substrate for laying eggs; these areas are located farther upstream from the area where dogs can access Redwood Creek. Dogs along the shoreline of Redwood Creek could alter the normal behavior of coho salmon directly if they frequently access the creek or its shoreline (NPS 2009b), or indirectly by causing increased turbidity by trampling shoreline areas and re-suspending sediment so that feeding is impaired. Potential impacts would be localized to the small area where dogs can access Redwood Creek. There is no documentation that

dogs have either directly or indirectly affected the coho salmon in Redwood Creek. Although coho salmon persist at the site under current conditions, a recent salmon decline has been observed in Redwood Creek. While a portion of this decline can be attributed to regional oceanic phenomena, local conditions that have not yet been determined may also have been a factor (NPS 2008d).

Therefore, alternative A impacts on the coho salmon and its critical habitat would be long term and would range from negligible to minor and adverse. A few individuals of the species in a small, localized area (Redwood Creek) could be occasionally affected by disturbance from dogs but essential features of critical habitat would not be impacted.

Under alternative A, no permit system exists for commercial dog walking. At Muir Beach, commercial dog walking is uncommon; therefore, commercial dog walking would have negligible impacts on the coho salmon.

Cumulative Impacts. Projects and actions in and near Muir Beach were considered for the cumulative impacts analysis (appendix K). The following is a discussion of projects that have had, are currently having, or have the potential to have effects on coho salmon at or in the vicinity of this site.

The park monitors coho salmon annually in Redwood Creek; there were no spawning coho salmon observed during the 2007–2008 winter monitoring period, although a small number of coho fry were observed the next spring. While a portion of this decline can be attributed to regional oceanic phenomena, local conditions that have not yet been identified may also have been a factor (NPS 2008d, 2). Numerous creek and wetland restoration projects currently underway or proposed, the Park Stewardship Programs, implementation of the GGNRA *Fire Management Plan* (NPS 2005a), Wildland/Urban Interface Initiative projects, habitat restoration programs, and maintenance operations all have the potential to affect coho salmon and critical habitat.

Overall, many of the projects that have been completed, are currently being implemented, or are planned for future implementation or are long term in GGNRA will benefit coho salmon. Examples of projects and plans that will provide some benefit to coho salmon and critical habitat follow. The *Coho and Steelhead Restoration Project* has been initiated by the NPS, and focuses on Pine Gulch, Redwood, Olema, and Lagunitas creeks and their watersheds. This project includes assessing current coho salmon and steelhead trout abundance and distribution and developing and implementing a plan for restoring and monitoring the fish and their habitat. The *Muir Beach Wetland and Creek Restoration Project* aimed to restore a functional, self-sustaining ecosystem at the lagoon and included wetland, riparian, and aquatic components to re-create habitat for sustainable populations of special-status species, including habitat for federally and state-listed endangered coho salmon and federally threatened steelhead trout. The *Lower Redwood Creek Interim Flood Reduction Measures and Floodplain/Channel Restoration* project helped to reduce flooding on Pacific Way in Muir Beach, maintained passage for federally threatened fish in Redwood Creek, and restored habitat and the floodplain at the GGNRA Banducci site. Specifically, this project reconnected Redwood Creek to its floodplain, expanded riparian vegetation, increased in-channel habitat complexity, and reestablished geomorphic processes, thus improving habitat for coho salmon and steelhead trout. The *Redwood Creek Watershed: Vision for the Future* project included efforts by public agencies in the watershed, who worked with the public and the vision team to identify issues and values in the watershed and define desired future conditions for watershed resources to create a Redwood Creek watershed that exists as an intact natural ecosystem and offers opportunities to learn, experience, and protect nature, rural character, and cultural history in an urbanized area.

The negligible to long-term minor adverse impacts on coho salmon from dogs at Muir Beach under alternative A were considered together with the effects of the projects mentioned above. The beneficial effects from the habitat restoration projects should reduce some of the adverse impacts on coho salmon

from alternative A. Therefore, cumulative impacts on coho salmon under this alternative would be expected to be negligible.

Indirect Impacts in Adjacent Parks

In lands adjacent to GGNRA, there are 30 parks with dog use areas within about a 10-mile radius of Muir Beach and 21 parks within about a 5-mile radius; the closest park is Mount Tamalpais State Park (map 26). No indirect impacts on the coho salmon in adjacent lands would be expected under alternative A since there would be no change in current conditions at the site.

MUIR BEACH ALTERNATIVE A CONCLUSION TABLE

Coho Salmon and Critical Habitat Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Negligible to long-term minor adverse impacts	Lagoon and Redwood Creek closures have been violated; adult and juvenile life stages could be affected by dogs gaining access to the creek and indirectly causing increased turbidity by trampling shoreline areas and re-suspending sediment	N/A	Negligible cumulative impacts No indirect impacts in adjacent lands

N/A = not applicable.

Alternative B: NPS Leash Regulation. In the vicinity of Muir Beach, alternative B would require on-leash dog walking in the parking area, on the Pacific Way Trail, on the boardwalk/path to the beach, and on the beach. The lagoon and Redwood Creek are currently closed to dogs. The fence along the beach side of lower Redwood Creek and lagoon discourages visitors from accessing the water, but does not physically exclude dogs or visitors from this area. As stated above, coho salmon complete sensitive portions of their life cycle in Redwood Creek. If dogs are physically restrained on leash at this site and deterred by fencing, they should not gain access to the creek or its shorelines and should not affect the salmon during juvenile and adult life stages. Therefore, assuming compliance, alternative B would result in negligible impacts on the coho salmon and its critical habitat; no measurable or perceptible changes to individual salmon, the population, or designated critical habitat would occur.

Under alternative B, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs per person with no permit required. Since commercial dog walking is not common at Muir Beach, it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking under alternative B would have negligible impacts on coho salmon.

Cumulative Impacts. The negligible impacts on coho salmon from dogs at Muir Beach under alternative B were considered together with the beneficial effects of the projects mentioned above under alternative A. The beneficial effects from the habitat restoration projects combined with the negligible impacts from alternative B would result in beneficial cumulative impacts on coho salmon under this alternative.

Indirect Impacts in Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation under alternative B. Voice-control dog walking would no longer be allowed at Muir Beach under this alternative; however, dogs would still be allowed on the site on leash. Therefore, indirect impacts on the coho salmon from increased dog use in adjacent lands would be expected to be negligible since it is not known whether the coho salmon exists at these lands and not all dog walkers would leave Muir Beach to visit other sites.

MUIR BEACH ALTERNATIVE B CONCLUSION TABLE

Coho Salmon and Critical Habitat Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Negligible impacts, assuming compliance	The lagoon and Redwood Creek would continue to be closed to dogs; physically restraining dogs on leash would prevent dog access to the creek and its shorelines	Beneficial to no change, assuming compliance	Beneficial cumulative impacts Negligible indirect impacts in adjacent lands

Alternative C: Emphasis on Multiple Use—Balanced by County. Alternative C would have the same dog walking restrictions as alternative B, and impacts would be the same, assuming compliance: negligible.

Under alternative C, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be allocated at Muir Beach, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking is not common at Muir Beach, it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking under alternative C would have negligible impacts on coho salmon.

Cumulative Impacts. Under alternative C, the cumulative impacts on the coho salmon at this park site and indirect impacts on the coho salmon in adjacent lands would be the same as those under alternative B: beneficial cumulative impacts and negligible indirect impacts in adjacent lands.

MUIR BEACH ALTERNATIVE C CONCLUSION TABLE

Coho Salmon and Critical Habitat Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Negligible impacts, assuming compliance	The lagoon and Redwood Creek would continue to be closed to dogs; physically restraining dogs on leash would prevent dog access to the creek or its shorelines	Beneficial to no change, assuming compliance	Beneficial cumulative impacts Negligible indirect impacts in adjacent lands

Alternative D: Most Protective Based on Resource Protection/Visitor Safety. In the vicinity of Muir Beach, alternative D would allow on-leash dog walking in the parking area and on the Pacific Way Trail. The beach and the boardwalk/path to the beach would be closed to dogs. The lagoon and Redwood Creek are currently closed to dogs. The fence along the beach side of lower Redwood Creek and lagoon discourages visitors from accessing the water, but does not physically exclude dogs or visitors from this

area. This alternative would provide maximum protection of Redwood Creek and the coho salmon. If dogs are physically restrained on leash at this site and deterred by fencing, they should not gain access to the creek or its shorelines and should not affect the salmon during juvenile and adult life stages. Therefore, assuming compliance, alternative D would result in negligible impacts on the coho salmon and its critical habitat; no measurable or perceptible changes to individual salmon, the population, or designated critical habitat would occur.

No commercial dog walking would be allowed under alternative D; therefore, commercial dog walking would have no impact on coho salmon.

Cumulative Impacts. The negligible impacts on coho salmon from dogs at Muir Beach under alternative D were considered together with the beneficial effects of the projects mentioned above under alternative A. The beneficial effects from the habitat restoration projects combined with the negligible impacts from alternative D would result in beneficial cumulative impacts on coho salmon under this alternative.

Indirect Impacts in Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation under alternative D, particularly Mount Tamalpais State Park, because it is the closest dog use area. Dog walking would not be allowed on the beach under alternative D, which may increase dog use in adjacent lands. Indirect impacts on the coho salmon in adjacent lands from increased dog use would range from negligible to long term, minor, and adverse; a range is presented because it is unknown whether the coho salmon or suitable water bodies exist at adjacent parks.

MUIR BEACH ALTERNATIVE D CONCLUSION TABLE

Coho Salmon and Critical Habitat Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Negligible impacts, assuming compliance	The lagoon and Redwood Creek would continue to be closed to dogs; physically restraining dogs on leash would prevent dog access to the creek and its shorelines	Beneficial to no change, assuming compliance	Beneficial cumulative impacts Negligible to long-term minor adverse indirect impacts in adjacent lands

Alternative E: Most Dog Walking Access/Most Management Intensive. In the vicinity of Muir Beach, the parking area, the Pacific Way Trail, and the boardwalk/path to the beach would be open for on-leash dog walking. The portion of Muir Beach south of the boardwalk/path to the beach (not encompassing the entrance channel to Redwood Creek) would be a designated ROLA open to dogs under voice and sight control. Although a ROLA has been designated under this alternative, it would not be sited near Redwood Creek. The lagoon and Redwood Creek area are currently closed to dogs. The fence along the beach side of lower Redwood Creek and lagoon discourages visitors from accessing the water, but does not physically exclude dogs or visitors from this area. If dogs are physically restrained on leash at this site and deterred by a fence, they should not gain access to the creek or its shorelines and should not affect the salmon during juvenile and adult life stages. Therefore, assuming compliance, alternative E would result in negligible impacts on the coho salmon and its critical habitat; no measurable or perceptible changes to individual salmon, the population, or designated critical habitat would occur.

Under alternative E, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a

permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be allocated at Muir Beach, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking is not common at Muir Beach, it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking under alternative E would have negligible impacts on coho salmon.

Cumulative Impacts. The negligible impacts on coho salmon from dogs at Muir Beach under alternative E were considered together with the beneficial effects of the projects mentioned above under alternative A. The beneficial effects from the habitat restoration projects combined with the negligible impacts from alternative E would result in beneficial cumulative impacts on coho salmon under this alternative.

Indirect Impacts in Adjacent Parks

No indirect impacts on the coho salmon in adjacent lands would be expected under alternative E since on-leash and voice and sight control dog walking would be allowed at the site.

MUIR BEACH ALTERNATIVE E CONCLUSION TABLE

Coho Salmon and Critical Habitat Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Negligible impacts, assuming compliance	The lagoon and Redwood Creek would continue to be closed to dogs; physically restraining dogs on leash would prevent access to the creek and its shorelines; the ROLA would not be sited near Redwood Creek	Beneficial to no change, assuming compliance	Beneficial cumulative impacts No indirect impacts in adjacent lands

Preferred Alternative. Alternative D was selected as the preferred alternative for Muir Beach. In the vicinity of Muir Beach, the preferred alternative would allow on-leash dog walking in the parking area and on the Pacific Way Trail. The beach and the boardwalk/path to the beach would be closed to dogs. The lagoon and Redwood Creek are currently closed to dogs. The fence along the beach side of lower Redwood Creek and lagoon discourages visitors from accessing the water, but does not physically exclude dogs or visitors from this area. This alternative would provide maximum protection of Redwood Creek and the coho salmon. If dogs are physically restrained on leash at this site and deterred by fencing, they should not gain access to the creek or its shorelines and should not affect the salmon during juvenile and adult life stages. Therefore, assuming compliance, the preferred alternative would result in negligible impacts on the coho salmon and its critical habitat; no measurable or perceptible changes to individual salmon, the population, or designated critical habitat would occur.

Alternative C was selected as the preferred alternative for permits for all sites. All dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be allocated at Muir Beach, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking is not common at Muir Beach, it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking under the preferred alternative would have negligible impacts on coho salmon.

Cumulative Impacts. Projects and actions in and near Muir Beach were considered for the cumulative impacts analysis (appendix K). The following is a discussion of projects that have had, are currently having, or have the potential to have effects on coho salmon at or in the vicinity of this site.

The park monitors coho salmon annually in Redwood Creek; there were no spawning coho salmon observed during the 2007–2008 winter monitoring period, although a small number of coho fry were observed the next spring. While a portion of this decline can be attributed to regional issues, local conditions that have not yet been identified may also have been a factor (NPS 2008d, 2). Numerous creek and wetland restoration projects currently underway or proposed, the Park Stewardship Programs, implementation of the GGNRA *Fire Management Plan* (NPS 2005a), Wildland–Urban Interface Initiative projects, habitat restoration programs, and maintenance operations all have the potential to affect coho salmon and critical habitat.

Overall, many of the projects that have been completed, are currently being implemented, or are planned for future implementation or that are long term in GGNRA will benefit coho salmon. Examples of projects and plans that will provide some benefit to coho salmon and critical habitat follow. The *Coho and Steelhead Restoration Project* has been initiated by the NPS, and focuses on Pine Gulch, Redwood, Olema, and Lagunitas creeks and their watersheds. This project includes assessing current coho salmon and steelhead trout abundance and distribution and developing and implementing a plan for restoring and monitoring the fish and their habitat. The *Muir Beach Wetland and Creek Restoration Project* aimed to restore a functional, self-sustaining ecosystem at the lagoon and included wetland, riparian and aquatic components to re-create habitat for sustainable populations of special-status species, including habitat for federally and state-listed endangered coho salmon and federally threatened steelhead trout. The *Lower Redwood Creek Interim Flood Reduction Measures and Floodplain/Channel Restoration* project helped to reduce flooding on Pacific Way in Muir Beach, maintained passage for federally threatened fish in Redwood Creek, and restored habitat and the floodplain at the GGNRA Banducci site. Specifically, this project reconnected Redwood Creek to its floodplain, expanded riparian vegetation, increased in-channel habitat complexity, and reestablished geomorphic processes, thus improving habitat for coho salmon and steelhead trout. The *Redwood Creek Watershed: Vision for the Future* project included efforts by public agencies in the watershed, who worked with the public and the vision team to identify issues and values in the watershed and define desired future conditions for watershed resources to create a Redwood Creek watershed that exists as an intact natural ecosystem and offers opportunities to learn, experience, and protect nature, rural character, and cultural history in an urbanized area.

The negligible impacts on coho salmon from dogs at Muir Beach under the preferred alternative were considered together with the beneficial effects of the projects mentioned above. The beneficial effects from the habitat restoration projects combined with the negligible impacts from the preferred alternative would result in beneficial cumulative impacts on coho salmon under this alternative.

Indirect Impacts in Adjacent Parks

In lands adjacent to GGNRA, there are 30 parks with dog use areas within about a 10-mile radius of Muir Beach and 21 parks within about a 5-mile radius; the closest park is Mount Tamalpais State Park (map 26). The adjacent lands may experience increased visitation under the preferred alternative, particularly Mount Tamalpais State Park, because it is the closest dog use area. Dog walking would not be allowed on Muir Beach under the preferred alternative, which may increase dog use in adjacent lands. Indirect impacts on the coho salmon in adjacent lands from increased dog use would range from negligible to long term, minor, and adverse; a range is presented because it is unknown whether the coho salmon or suitable water bodies exist at adjacent parks.

MUIR BEACH PREFERRED ALTERNATIVE CONCLUSION TABLE

Coho Salmon and Critical Habitat Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Negligible impacts, assuming compliance	The lagoon and Redwood Creek would continue to be closed to dogs; physically restraining dogs on leash would prevent dog access to the creek and its shorelines	Beneficial to no change, assuming compliance	Beneficial cumulative impacts Negligible to long-term minor adverse indirect impacts in adjacent lands

STEELHEAD TROUT (FEDERALLY THREATENED)

The central California coast steelhead trout distinct population segment is listed as federally threatened. In the study area, this species occurs in Stinson Beach (Easkoot Creek), Muir Beach (Redwood Creek), Rodeo Beach (Rodeo Lagoon), and the Marin Headlands Trails (Rodeo Creek and Gerbode Creek). Designated critical habitat for central California coast steelhead trout includes most of the coastal streams of Marin County, including Redwood Creek in GGNRA (NOAA 2005, 76). At the Rodeo Beach site, it is likely that the steelhead trout is only found in Rodeo Lagoon for very limited periods and only during migration due to existing poor water quality at the lagoon (NPS 2010m). Because of the limited use of Rodeo Lagoon by the steelhead trout, all impacts on the steelhead trout at this site would be considered negligible; therefore, impacts on the steelhead in Rodeo Lagoon at Rodeo Beach are not discussed further in this section. Similarly, the steelhead trout has infrequent access to Easkoot Creek at the Stinson Beach site. However, Easkoot Creek is densely vegetated with riparian plant species and generally difficult for leashed dogs to access (NPS 2010m). Because of the difficulty of access to Easkoot Creek, all impacts on the steelhead trout at this site would be considered negligible; therefore, impacts on the steelhead in Easkoot Creek at Stinson Beach are not discussed further in this section. The following sections analyze impacts to steelhead trout at Muir Beach (Redwood Creek) and the Marin Headlands Trails (Rodeo Creek and Gerbode Creek).

Muir Beach (Redwood Creek)

Alternative A: No Action. In the vicinity of Muir Beach, the beach and the boardwalk/path to the beach that crosses Redwood Creek is currently open to dogs under voice control. The park has closed the lagoon and Redwood Creek to dogs, although violations of these closures have been observed—three incidents were recorded of dogs in a closed area in 2007/2008 (appendix G). The fence along the beach side of lower Redwood Creek and the lagoon discourages visitors from accessing the water, but does not physically exclude dogs or visitors from this area. The voice-control area of Muir Beach encompasses the entrance channel of Redwood Creek and is located immediately adjacent to the lagoon. Additionally, the Muir Beach Community is located adjacent to this area, and it has been observed by park staff that some local residents' dogs run free and leave dog waste without proper disposal. Similar to coho salmon, steelhead trout use Redwood Creek during their life cycle, from migrating as adults to living in the stream or lagoon as juveniles (NPS 2008d, 1). Eggs would not be affected because salmonids require gravel areas of substrate for laying eggs, and these areas are located upstream of the area where dogs can access Redwood Creek. Dogs could alter the normal behavior of steelhead trout directly if they frequently access the creek or its shoreline (NPS 2009b), or indirectly by causing increased turbidity by trampling shoreline areas and re-suspending sediment so that feeding is impaired. Potential impacts would be localized to the small area where dogs can access Redwood Creek. There is no documentation that dogs have either directly or indirectly affected the steelhead trout in Redwood Creek.

Therefore, alternative A impacts on the steelhead trout would range from negligible to long term, minor, and adverse. A few individuals of the species in a small, localized area (Redwood Creek) could be occasionally affected by disturbance from dogs but essential features of critical habitat would not be impacted.

Under alternative A, no permit system exists for commercial dog walking. At Muir Beach, commercial dog walking is uncommon; therefore, commercial dog walking would have negligible impacts on steelhead trout.

Cumulative Impacts. Projects and actions in and near Muir Beach were considered for the cumulative impacts analysis (appendix K). The following is a discussion of projects that have had, are currently having, or have the potential to have effects on steelhead trout at or in the vicinity of this site.

The park monitors steelhead trout and is conducting habitat restoration and protection activities, particularly in Redwood Creek. The degradation of spawning (gravel) habitat, habitat alteration, and water diversions are among the primary threats to steelhead trout (NPS 2009). Numerous creek and wetland restoration projects currently underway or proposed, the *Marin Headlands/Fort Baker Improvement and Transportation Management Plan/EIS*, the Park Stewardship Programs, implementation of the *Fire Management Plan* (NPS 2005a), Wildland/Urban Interface Initiative projects, habitat restoration programs, and maintenance operations all have the potential to affect steelhead trout.

Overall, many of the projects that have been completed, are currently being implemented, or are planned for future implementation will benefit steelhead trout. Examples of projects and plans that will provide some benefit to steelhead trout follow. The *Muir Beach Wetland and Creek Restoration Project* aimed to restore a functional, self-sustaining ecosystem at the lagoon and included wetland, riparian, and aquatic components to re-create habitat for sustainable populations of special-status species, including the federally and state-listed endangered coho salmon and the federally threatened steelhead trout. The *Lower Redwood Creek Interim Flood Reduction Measures and Floodplain/Channel Restoration* project helped to reduce flooding on Pacific Way in Muir Beach, maintained passage for federally threatened fish in Redwood Creek, and restored habitat and the floodplain at the GGNRA Banducci site. Specifically, this project reconnected Redwood Creek to its floodplain, expanded riparian vegetation, increased in-channel habitat complexity, and reestablished geomorphic processes, thus improving habitat for coho salmon and steelhead trout. The *Coho and Steelhead Restoration Project* has been initiated by the NPS, and focuses on Pine Gulch, Redwood, Olema, and Lagunitas creeks and their watersheds. This project includes assessing current coho salmon and steelhead trout abundance and distribution and developing and implementing a plan for restoring and monitoring the fish and their habitat. The *Redwood Creek Watershed: Vision for the Future* project included efforts by public agencies in the watershed, who worked with the public and the vision team to identify issues and values in the watershed and define desired future conditions for watershed resources to create a Redwood Creek watershed that exists as an intact natural ecosystem and offers opportunities to learn, experience, and protect nature, rural character, and cultural history in an urbanized area.

The negligible to long-term minor adverse impacts on steelhead trout from dogs at Muir Beach under alternative A were considered together with the effects of the projects mentioned above. The beneficial effects from the habitat restoration projects should reduce some of the adverse impacts on steelhead trout from alternative A. Therefore, the cumulative impacts on the steelhead trout under this alternative would be expected to be negligible.

Indirect Impacts in Adjacent Parks

In lands adjacent to GGNRA, there are 30 parks with dog use areas within about a 10-mile radius of Muir Beach and 21 parks within about a 5-mile radius; the closest park is Mount Tamalpais State Park (map 26). No indirect impacts on steelhead trout in adjacent lands would be expected under alternative A since there would be no change in current conditions at the site.

MUIR BEACH ALTERNATIVE A CONCLUSION TABLE

Steelhead Trout Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Negligible to long-term minor adverse impacts	Lagoon and Redwood Creek closures have been violated; adults and juveniles could be affected by dogs gaining access to the creek and causing increased turbidity by trampling shoreline areas and re-suspending sediment	N/A	Negligible cumulative impacts No indirect impacts in adjacent lands

N/A = not applicable.

Alternative B: NPS Leash Regulation. In the vicinity of Muir Beach, alternative B would allow on-leash dog walking in the parking area, on the Pacific Way Trail, on the path/boardwalk to the beach, and on the beach. The lagoon and Redwood Creek are currently closed to dogs. As stated above, steelhead trout complete portions of their life cycle in Redwood Creek. If dogs are physically restrained on leash at this site and deterred by fencing, they should not gain access to the creek or its shorelines and should not affect the steelhead trout during juvenile and adult life stages. Therefore, assuming compliance, alternative B would result in negligible impacts on the steelhead trout and its critical habitat; no measurable or perceptible changes in individual trout, the population, or designated critical habitat would occur.

Under alternative B, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs per person with no permit required. Since commercial dog walking is not common at Muir Beach, it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking under alternative B would have negligible impacts on steelhead trout.

Cumulative Impacts. The negligible impacts on steelhead trout from dogs at Muir Beach under alternative B were considered together with the effects of the projects mentioned above under alternative A. The beneficial effects from the habitat restoration projects combined with the negligible impacts from alternative B would result in beneficial cumulative impacts in this park site.

Indirect Impacts in Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation under alternative B. Voice-control dog walking would no longer be allowed at Muir Beach under this alternative; however, dogs would still be allowed on the site on leash. Therefore, indirect impacts on steelhead trout in adjacent lands from increased dog use would be expected be negligible since it is not known whether the steelhead trout exists in these lands and not all dog walkers would leave Muir Beach to visit other sites.

MUIR BEACH ALTERNATIVE B CONCLUSION TABLE

Steelhead Trout Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Negligible impacts, assuming compliance	The lagoon and Redwood Creek would continue to be closed to dogs; physically restraining dogs on leash would prevent dog access to the creek and its shorelines	Beneficial to no change, assuming compliance	Beneficial cumulative impacts Negligible indirect impacts in adjacent lands

Alternative C: Emphasis on Multiple Use—Balanced by County. Alternative C would have the same dog walking restrictions as alternative B, and impacts would be the same: negligible.

Under alternative C, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be allocated at Muir Beach, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking is not common at Muir Beach, it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking under alternative C would have negligible impacts on steelhead trout.

Cumulative Impacts. Under alternative C, the cumulative impacts on steelhead trout at Muir Beach and the indirect impacts on steelhead trout in adjacent parks would be the same as those under alternative B: beneficial cumulative impacts and negligible indirect impacts in adjacent lands.

MUIR BEACH ALTERNATIVE C CONCLUSION TABLE

Steelhead Trout Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Negligible impacts, assuming compliance	Redwood Creek would continue to be closed to dogs; physically restraining dogs on leash would prevent dog access to the creek and its shorelines	Beneficial to no change, assuming compliance	Beneficial cumulative impacts Negligible indirect impacts in adjacent lands

Alternative D: Most Protective Based on Resource Protection/Visitor Safety. In the vicinity of Muir Beach, alternative D would allow on-leash dog walking in the parking area and on the Pacific Way Trail. The beach and the boardwalk/path to the beach would be closed to dogs. The lagoon and Redwood Creek are currently closed to dogs. The fence along the beach side of lower Redwood Creek and the lagoon discourages visitors from accessing the water, but does not physically exclude dogs or visitors from this area. This alternative would provide maximum protection of Redwood Creek and the steelhead trout. If dogs are physically restrained on leash at this site and deterred by fencing, they should not gain access to the creek or its shorelines and should not affect the trout during juvenile and adult life stages. Therefore, assuming compliance, alternative D would result in negligible impacts on the steelhead trout and its critical habitat; no measurable or perceptible changes to individual trout, the population, or designated critical habitat would occur.

No commercial dog walking would be allowed under alternative D; therefore, commercial dog walking would have no impact on steelhead trout.

Cumulative Impacts. The negligible impacts on steelhead trout from dogs at Muir Beach under alternative D were considered together with the effects of the projects mentioned above under alternative A. The beneficial effects from the habitat restoration projects combined with the negligible impacts from alternative D would result in beneficial cumulative impacts in this park site.

Indirect Impacts in Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation under alternative D, particularly Mount Tamalpais State Park, because it is the closest dog use area. Dog walking would not be allowed on the beach under alternative D, which may increase dog use in adjacent lands. Indirect impacts on steelhead trout in adjacent lands from increased dog use would range from negligible to long term, minor, and adverse; a range is presented because it is unknown whether the steelhead trout or suitable water bodies exist in adjacent parks.

MUIR BEACH ALTERNATIVE D CONCLUSION TABLE

Steelhead Trout Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Negligible impacts, assuming compliance	The lagoon and Redwood Creek would continue to be closed to dogs; physically restraining dogs on leash would prevent dog access to the creek and its shorelines	Beneficial to no change, assuming compliance	Beneficial cumulative impacts Negligible to long-term minor adverse indirect impacts in adjacent lands

Alternative E: Most Dog Walking Access/Most Management Intensive. In the vicinity of Muir Beach, the parking area, the Pacific Way Trail, and the boardwalk/path to the beach would be open for on-leash dog walking. The portion of Muir Beach south of the boardwalk/path to the beach (not encompassing the entrance channel to Redwood Creek) would be a designated ROLA open to dogs under voice and sight control. Although a ROLA has been designated under this alternative, it would not be sited near Redwood Creek. The lagoon and Redwood Creek area are currently closed to dogs. The fence along the beach side of lower Redwood Creek and lagoon discourages visitors from accessing the water, but does not physically exclude dogs or visitors from this area. If dogs are physically restrained on leash at this site and deterred by fencing, they should not gain access to the creek or its shorelines and should not affect the steelhead trout during juvenile and adult life stages. Therefore, assuming compliance, alternative E would result in negligible impacts on the steelhead trout and its critical habitat; no measurable or perceptible changes to individual trout, the population, or designated critical habitat would occur.

Under alternative E, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be allocated at Muir Beach, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking is not common at Muir Beach, it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking under alternative E would have negligible impacts on steelhead trout.

Cumulative Impacts. The negligible impacts on steelhead trout from dogs at Muir Beach under alternative E were considered together with the effects of the projects mentioned above under alternative A. The beneficial effects from the habitat restoration projects combined with the negligible impacts from alternative E would result in beneficial cumulative impacts in this park site.

Indirect Impacts in Adjacent Parks

No indirect impacts on the steelhead trout in adjacent lands would be expected under alternative E since on-leash and voice and sight control dog walking would be allowed at the site.

MUIR BEACH ALTERNATIVE E CONCLUSION TABLE

Steelhead Trout Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Negligible impacts, assuming compliance	The lagoon and Redwood Creek would continue to be closed to dogs; physically restraining dogs on leash would prevent dog access to the creek and its shorelines; the ROLA would not be sited near the lagoon or Redwood Creek	Beneficial to no change, assuming compliance	Beneficial cumulative impacts No indirect impacts in adjacent lands

Preferred Alternative. Alternative D was selected as the preferred alternative for Muir Beach. In the vicinity of Muir Beach, the preferred alternative would allow on-leash dog walking in the parking area and on the Pacific Way Trail. The beach and the boardwalk/path to the beach would be closed to dogs. The lagoon and Redwood Creek are currently closed to dogs. The fence along the beach side of lower Redwood Creek and lagoon discourages visitors from accessing the water, but does not physically exclude dogs or visitors from this area. This alternative would provide maximum protection of Redwood Creek and the steelhead trout. If dogs are physically restrained on leash at this site and deterred by fencing, they should not gain access to the creek or its shorelines and should not affect the trout during juvenile and adult life stages. Therefore, assuming compliance, the preferred alternative would result in negligible impacts on the steelhead trout and its critical habitat; no measurable or perceptible changes to individual trout, the population, or designated critical habitat would occur.

Alternative C was selected as the preferred alternative for permits for all sites. All dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be allocated at Muir Beach, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking is not common at Muir Beach, it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking under the preferred alternative would have negligible impacts on steelhead trout.

Cumulative Impacts. Projects and actions in and near Muir Beach were considered for the cumulative impacts analysis (appendix K). The following is a discussion of projects that have had, are currently having, or have the potential to have effects on steelhead trout at or in the vicinity of this site.

The park monitors steelhead trout and is conducting habitat restoration and protection activities, particularly in Redwood Creek. The degradation of spawning (gravel) habitat, habitat alteration, and water diversions are among the primary threats to steelhead trout (NPS 2009). Numerous creek and wetland restoration projects currently underway or proposed, the *Marin Headlands/Fort Baker Improvement and Transportation Management Plan/EIS*, the Park Stewardship Programs, implementation of the *Fire Management Plan* (NPS 2005a), Wildland/Urban Interface Initiative projects, habitat restoration programs, and maintenance operations all have the potential to affect steelhead trout.

Overall, many of the projects that have been completed, are currently being implemented, or are planned for future implementation will benefit steelhead trout. Examples of projects and plans that will provide some benefit to steelhead trout follow. The *Muir Beach Wetland and Creek Restoration Project* aimed to restore a functional, self-sustaining ecosystem at the lagoon and included wetland, riparian, and aquatic components to re-create habitat for sustainable populations of special-status species, including habitat for federally and state-listed endangered coho salmon and federally threatened steelhead trout. The *Lower Redwood Creek Interim Flood Reduction Measures and Floodplain/Channel Restoration* project helped to reduce flooding on Pacific Way in Muir Beach, maintained passage for federally threatened fish in Redwood Creek, and restored habitat and the floodplain at the GGNRA Banducci site. Specifically, this project reconnected Redwood Creek to its floodplain, expanded riparian vegetation, increased in-channel habitat complexity, and reestablished geomorphic processes, thus improving habitat for coho salmon and steelhead trout. The *Coho and Steelhead Restoration Project* has been initiated by the NPS, and focuses on Pine Gulch, Redwood, Olema, and Lagunitas creeks and their watersheds. This project includes assessing current coho salmon and steelhead trout abundance and distribution and developing and implementing a plan for restoring and monitoring the fish and their habitat. The *Redwood Creek Watershed: Vision for the Future* project included efforts by public agencies in the watershed, who worked with the public and the vision team to identify issues and values in the watershed and define desired future conditions for watershed resources to create a Redwood Creek watershed that exists as an intact natural ecosystem and offers opportunities to learn, experience, and protect nature, rural character, and cultural history in an urbanized area.

The negligible impacts on steelhead trout from dogs at Muir Beach under the preferred alternative were considered together with the effects of the projects mentioned above. The beneficial effects from the habitat restoration projects combined with the negligible impacts from the preferred alternative would result in beneficial cumulative impacts for this park site.

Indirect Impacts in Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation under the preferred alternative, particularly Mount Tamalpais State Park, because it is the closest dog use area. Dog walking would not be allowed on the beach under the preferred alternative, which may increase dog use in adjacent lands. Indirect impacts on steelhead trout in adjacent lands from increased dog use would range from negligible to long term, minor, and adverse; a range is presented because it is unknown whether the steelhead trout or suitable water bodies exist in adjacent parks.

MUIR BEACH PREFERRED ALTERNATIVE CONCLUSION TABLE

Steelhead Trout Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Negligible impacts, assuming compliance	The lagoon and Redwood Creek would continue to be closed to dogs; physically restraining dogs on leash would prevent dog access to the creek and its shorelines	Beneficial to no change, assuming compliance	Beneficial cumulative impacts Negligible to long-term minor adverse indirect impacts in adjacent lands

Marin Headlands Trails (Rodeo Creek and Gerbode Creek)

Alternative A: No Action. Currently, Tennessee Valley is closed to dogs with the exception of the section of the Coastal Trail that crosses Tennessee Valley and the North Miwok Trail from the junction with the Tennessee Valley Trail, where dogs are allowed on leash. This site has documented low to high

visitor use, including low to moderate use by dog walkers; 137 incidents of dogs in a closed area were recorded in 2007/2008 (table 9 and appendix G). Similar to coho salmon, steelhead trout use Rodeo Creek and Gerbode Creek (both of which flow into Rodeo Lake) during their life cycle, from migrating as adults to living in the stream or lagoon as juveniles (NPS 2008d, 1). Eggs would not be affected, because salmonids require gravel areas of substrate for laying eggs. Dogs could alter the normal behavior of steelhead trout directly if they frequently access the creek or shorelines (NPS 2009b), or indirectly by causing increased turbidity by trampling shoreline areas and re-suspending sediment so that feeding is impaired. However, potential impacts would be localized to the area where dogs can access these creeks. There is no documentation that dogs have either directly or indirectly affected the trout in either Rodeo Creek or Gerbode Creek. Therefore, alternative A impacts on the steelhead trout would range from negligible to long term, minor, and adverse. A few individuals of the species in a small, localized area (Rodeo Creek and Gerbode Creek) could occasionally be affected by disturbance from dogs but essential features of critical habitat would not be impacted.

Under alternative A, no permit system exists for commercial dog walking. At the Marin Headlands Trails, commercial dog walking is uncommon; therefore, commercial dog walking would have negligible impacts on the steelhead trout.

Cumulative Impacts. Projects and actions in and near the Marin Headlands Trails were considered for the cumulative impacts analysis (appendix K). The following is a discussion of projects that have had, are currently having, or have the potential to have effects on steelhead trout at or in the vicinity of this site.

The park monitors steelhead trout and is conducting habitat restoration and protection activities. The degradation of spawning (gravel) habitat, habitat alteration, and water diversions are among the primary threats to steelhead trout (NPS 2009). Numerous creek and wetland restoration projects currently underway or proposed, the *Marin Headlands/Fort Baker Improvement and Transportation Management Plan/EIS*, the Park Stewardship Programs, implementation of the *Fire Management Plan* (NPS 2005a), Wildland/Urban Interface Initiative projects, habitat restoration programs, and maintenance operations all have the potential to affect steelhead trout. Overall, many of the projects that have been completed, are currently being implemented, or are planned for future implementation will benefit steelhead trout.

The negligible to long-term minor adverse impacts on steelhead trout from dogs at the Marin Headlands Trails under alternative A were considered together with the effects of the projects mentioned above. The beneficial effects from the habitat restoration and protection activities should reduce some of the adverse impacts on steelhead trout from alternative A. Therefore, the cumulative impacts on the steelhead trout under this alternative would be expected to be negligible.

Indirect Impacts in Adjacent Parks

In lands adjacent to GGNRA, there are 28 parks with dog use areas within about a 10-mile radius of the Marin Headlands Trails and 18 parks within about a 5-mile radius; the closest park is Remington Dog Park in Sausalito (map 26). No indirect impacts on the steelhead trout in adjacent lands would be expected under alternative A since there would be no change in current conditions at the site.

MARIN HEADLAND TRAILS ALTERNATIVE A CONCLUSION TABLE

Steelhead Trout Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Negligible to long-term minor adverse impacts	In Rodeo Creek and Gerbode Creek, adults and juveniles could be affected by dogs gaining access to the creek and causing increased turbidity by trampling shoreline areas and re-suspending sediment	N/A	Negligible cumulative impacts No indirect impacts in adjacent lands

N/A = not applicable.

Alternative B: NPS Leash Regulation. Alternative B would prohibit dogs at the Marin Headlands site and Rodeo Lake as well as Rodeo Creek and Gerbode Creek would be closed to dogs. This alternative would be most protective of the steelhead trout and the creeks would maintain the integrity of the entire Marin Headlands Trails site. Assuming compliance, alternative B would result in no impact on the steelhead trout.

Since dogs would not be allowed at the Marin Headlands Trails, there would be no impact from commercial dog walkers on the steelhead trout.

Cumulative Impacts. The lack of impacts on steelhead trout from dogs at the Marin Headlands Trails under alternative B were considered together with the effects of the projects mentioned above under alternative A. The beneficial effects from the habitat restoration and protection activities combined with the lack of impacts from alternative B would result in beneficial cumulative impacts.

Indirect Impacts in Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation under alternative B, particularly Remington Dog Park, because it is the closest dog use area. This increase would be a result of alternative B not allowing dogs at the Marin Headlands Trails. However, indirect impacts on the steelhead trout in adjacent lands from increased dog use would be negligible because it is unknown whether the trout or suitable habitat and water bodies exist in adjacent parks.

MARIN HEADLANDS TRAILS ALTERNATIVE B CONCLUSION TABLE

Steelhead Trout Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
No impact, assuming compliance	Dogs would be prohibited at the site	Beneficial, assuming compliance	Beneficial cumulative impacts Negligible indirect impacts in adjacent lands

Alternative C: Emphasis on Multiple Use—Balanced by County. Alternative C would allow on-leash dog walking along the Lower Rodeo Valley Trail Corridor; several trails, including the Lagoon Trail, Miwok Trail, and Rodeo Valley Trail; the Battery Smith-Guthrie Fire Road Loop; and the Old Bunker Fire Road Loop. Dogs would be physically restrained on a leash and would be allowed on fewer trails altogether compared to Alternative A. Assuming compliance with proposed regulations, alternative C

would result in negligible impacts on the steelhead trout; no measurable or perceptible changes to individual trout, the population, or designated critical habitat would occur.

Under alternative C, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be allocated at Marin Headlands Trails, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking activity is not common at the Marin Headlands Trails, it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking under alternative C would have negligible impacts on the steelhead trout.

Cumulative Impacts. The negligible impacts on steelhead trout from dogs at the Marin Headlands Trails under alternative C were considered together with the effects of the projects mentioned above under alternative A. The beneficial effects from the habitat restoration and protection activities combined with the negligible impacts from alternative C would result in beneficial cumulative impacts.

Indirect Impacts in Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation under alternative C, particularly Remington Dog Park, because it is the closest dog use area that allows off-leash dog walking. This increase would be a result of alternative C not allowing dogs under voice and sight control at the Marin Headlands Trails, although dogs would still be allowed on leash at this site. However, indirect impacts on the steelhead trout in adjacent lands from increased dog use would be negligible since it is not known whether the trout or suitable habitat and water bodies exist in adjacent parks and not all dog walkers would leave the Marin Headlands Trails to visit other sites.

MARIN HEADLANDS TRAILS ALTERNATIVE C CONCLUSION TABLE

Steelhead Trout Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Negligible impacts, assuming compliance	Physically restraining dogs on leash would prevent dog access to the both Rodeo Creek and Gerbode Creek	Beneficial to no change, assuming compliance	Beneficial cumulative impacts Negligible indirect impacts in adjacent lands

Alternative D: Most Protective Based on Resource Protection/Visitor Safety. Alternative D would have the same dog walking restrictions as alternative B (no dogs on site), and impacts would be the same, assuming compliance: no impact.

Since dogs would not be allowed at the Marin Headlands Trails, there would be no impact from commercial dog walkers on the steelhead trout.

Cumulative Impacts. The lack of impacts on steelhead trout from dogs at the Marin Headlands Trails under alternative D were considered together with the effects of the projects mentioned above under alternative A. The beneficial effects from the habitat restoration and protection activities combined with the lack of impacts from alternative D would result in beneficial cumulative impacts.

Indirect Impacts in Adjacent Parks

The indirect impacts on the steelhead trout in adjacent lands would be the same as those under alternative B: negligible.

MARIN HEADLANDS TRAILS ALTERNATIVE D CONCLUSION TABLE

Steelhead Trout Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
No impact, assuming compliance	Dogs would be prohibited at the site	Beneficial, assuming compliance	Beneficial cumulative impacts Negligible indirect impacts in adjacent lands

Alternative E: Most Dog Walking Access/Most Management Intensive. Alternative E would allow on-leash dog walking along the Lower Rodeo Valley Trail Corridor, the Old Bunker Fire Road Loop, the Battery Smith-Guthrie Fire Road Loop, and the Coastal Trail Bike Route. Impacts would be the same as those under alternative C, assuming compliance: negligible.

Under alternative E, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be allocated at Marin Headlands Trails, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking is not common at the Marin Headlands Trails, it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking under alternative E would have negligible impacts on the steelhead trout.

Cumulative Impacts. The negligible impacts on steelhead trout from dogs at Marin Headlands Trails under alternative E were considered together with the effects of the projects mentioned above under alternative A. The beneficial effects from the habitat restoration and protection activities combined with the negligible impacts from alternative E would result in beneficial cumulative impacts.

Indirect Impacts in Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation under alternative E, particularly Remington Dog Park, because it is the closest dog use area that allows off-leash dog walking. This increase would be a result of alternative E not allowing dogs under voice and sight control at the Marin Headlands Trails, although on-leash dog walking would still be allowed at the site. However, indirect impacts on the frog in adjacent lands from increased dog use would be negligible since not all dog walkers would leave the Marin Headlands Trails to visit other sites and it is not known whether the trout or suitable habitat or water bodies exist in these lands.

MARIN HEADLANDS TRAILS ALTERNATIVE E CONCLUSION TABLE

Steelhead Trout Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Negligible impacts, assuming compliance	Physically restraining dogs on leash would prevent dog access to the both Rodeo Creek and Gerbode Creek	Beneficial to no change, assuming compliance	Beneficial cumulative impacts Negligible indirect impacts in adjacent lands

Preferred Alternative. Alternative C was selected as the preferred alternative for the Marin Headlands site. The preferred alternative would allow on-leash dog walking along the Lower Rodeo Valley Trail Corridor; several trails, including the Lagoon Trail, Miwok Trail, and Rodeo Valley Trail; the Battery Smith-Guthrie Fire Road Loop; and the Old Bunker Fire Road Loop. Dogs would be physically restrained on a leash and would be allowed on fewer trails altogether compared to alternative A. Assuming compliance with proposed regulations, the preferred alternative would result in negligible impacts on the steelhead trout; no measurable or perceptible changes to individual trout, the population, or designated critical habitat would occur.

Under the preferred alternative, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be allocated at Marin Headlands Trails, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking is not common at Marin Headlands Trails, it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking under the preferred alternative would have negligible impacts on the steelhead trout.

Cumulative Impacts. Projects and actions in and near the Marin Headlands Trails were considered for the cumulative impacts analysis (appendix K). The following is a discussion of projects that have had, are currently having, or have the potential to have effects on steelhead trout at or in the vicinity of this site.

The park monitors steelhead trout and is conducting habitat restoration and protection activities. The degradation of spawning (gravel) habitat, habitat alteration, and water diversions are among the primary threats to steelhead trout (NPS 2009). Numerous creek and wetland restoration projects currently underway or proposed, the *Marin Headlands/Fort Baker Improvement and Transportation Management Plan/EIS*, the Park Stewardship Programs, implementation of the *Fire Management Plan* (NPS 2005a), Wildland/Urban Interface Initiative projects, habitat restoration programs, and maintenance operations all have the potential to affect steelhead trout. Overall, many of the projects that have been completed, are currently being implemented, or are planned for future implementation will benefit steelhead trout.

The negligible impacts on steelhead trout from dogs at the Marin Headlands Trails under the preferred alternative were considered together with the effects of the projects mentioned above. The beneficial effects from the habitat restoration and protection activities combined with the negligible impacts from the preferred alternative would result in beneficial cumulative impacts.

Indirect Impacts in Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation under the preferred alternative, particularly Remington Dog Park, because it is the closest dog use area that allows off-leash dog walking. This increase would be a result of the preferred alternative not allowing dogs under voice

and sight control at the Marin Headlands Trails, although dogs would still be allowed on leash at this site. However, indirect impacts on the steelhead trout in adjacent lands from increased dog use would be negligible since it is not known whether the trout or suitable habitat and water bodies exist in adjacent parks and not all dog walkers would leave the Marin Headlands Trails to visit other sites.

MARIN HEADLANDS TRAILS PREFERRED ALTERNATIVE CONCLUSION TABLE

Steelhead Trout Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Negligible impacts, assuming compliance	Physically restraining dogs on leash would prevent dog access to the both Rodeo Creek and Gerbode Creek	Beneficial to no change, assuming compliance	Beneficial cumulative impacts Negligible indirect impacts in adjacent lands

CALIFORNIA RED-LEGGED FROG (FEDERALLY THREATENED)

In the study area, this species occurs in Marin County at Muir Beach (water bodies at the site provide habitat but no known breeding occurs) and the Marin Headlands Trails (Rodeo Lake provides breeding habitat, Rodeo Lagoon provides nonbreeding habitat, and Tennessee Valley Pond provides breeding habitat), as well as at Mori Point (the ponds provide breeding habitat), Milagra Ridge (the ponds provide breeding habitat), Sweeney Ridge/Cattle Hill, and Pedro Point (provides nonbreeding habitat) in San Mateo County (Fong 2010). Cattle Hill has mapped occurrences of the California red-legged frog at the site, but neither Sweeney Ridge nor Cattle Hill has known breeding that has been documented to date (URS Corporation 2010, Figure 3). However, both Sweeney Ridge and Cattle Hill provide potential breeding and nonbreeding habitat for the California red-legged frog based upon modeling efforts (URS Corporation 2010, Figure 3). Given location of pond and creek at Milagra Ridge, the old road where dog walking is allowed is located some distance from both the pond and the creek (Smith 2010, 1). Therefore, because of the inability for dogs to access both the pond and the creek that support California red-legged frog breeding habitat, all impacts on the California red-legged frog at this site would be considered negligible; therefore, impacts on the California red-legged frog at Milagra Ridge are not discussed further in this section. All other sites listed above will therefore be included in the paragraphs that follow for a detailed impacts analysis. Although the California red-legged frog is normally associated with wetland areas and water bodies, this species can also use upland and riparian habitat. The USFWS designated critical habitat units for the California red-legged frog in 2001 and revised the units in 2006 and 2008 (USFWS 2008b). For the California red-legged frog, there is a small portion of critical habitat unit SNM-1A that is located in the southern corner of Sweeney Ridge (USFWS 2006); proposed critical habitat for the frog occurs throughout most of Cattle Hill (USFWS 2008). Proposed critical habitat also occurs at Pedro Point Headlands (USFWS 2008b). In this section, the California red-legged frog is hereafter often referred to as “the frog.”

Muir Beach (Lagoon)

Alternative A: No Action. In the vicinity of Muir Beach, the beach and the boardwalk/path to the beach that crosses Redwood Creek is currently open to dogs under voice control. The park has closed the lagoon and Redwood Creek, although it has been observed that these closures have been violated and dogs have accessed Redwood Creek—three incidents of dogs in a closed area were recorded in 2007/2008 (appendix G). The fence along the beach side of lower Redwood Creek and the lagoon discourages visitors from accessing the water, but does not physically exclude dogs or visitors from accessing portions of Redwood Creek. The Muir Beach Community is located adjacent to this area, which results in high visitation at Muir Beach on the weekends. The voice-control area of Muir Beach encompasses the

entrance channel of Redwood Creek and is located immediately adjacent to the shoreline of the lagoon, which has recently been restored. Although there is currently no documented California red-legged frog breeding at Muir Beach and no previous documentation of frogs in other water bodies at the site (lagoon, creek, or shoreline areas), juvenile frogs were recently found moving from an upstream breeding pond (near Green Gulch) that is located away from the Muir Beach site down the creek corridor towards Muir Beach (Fong 2010; NPS 2010b, 2010m). As future habitat improves for the frogs and the construction of breeding ponds is finished, breeding may occur in the future at Muir Beach (Fong 2010). Currently, frog life stages that could be affected at the site by dogs include juveniles and adults, since juveniles have recently been found at the site. Even though frog breeding habitat occurs off-site from Muir Beach, near Green Gulch (off the Coastal and Green Gulch trails), noncompliant dogs under voice control could gain access to this area and affect frog eggs. Eggs could be affected by trampling from off-leash dogs, as has been documented at a pond in Pacifica, California by the City of San Francisco in San Mateo County (Fong 2010). Dogs could affect adult/juvenile frogs at these sites through impacts to habitat, such as trampling vegetation along the water/wetland edges, or through behavioral disturbance by injuring or causing mortality to individuals of the species in these water bodies. However, there is no published documentation that dogs have either directly or indirectly affected the frog at this location. Therefore, to encompass possible effects, alternative A impacts on the frog would be long term and would range from negligible to minor and adverse; frog eggs, juveniles, and adults could be affected by dogs through occasional behavioral disturbance, such as trampling vegetation along the water/wetland edges, or by injuring or causing mortality to individuals of the species in these water bodies. Impacts would be localized but could constitute a permanent loss if frog eggs are crushed as a result of disturbance by dogs.

Under alternative A, no permit system exists for commercial dog walking. At Muir Beach, commercial dog walking is uncommon; therefore, commercial dog walking would have negligible impacts on the California red-legged frog.

Cumulative Impacts. Projects and actions in and near Muir Beach were considered for the cumulative impacts analysis (appendix K). The following is a discussion of projects that have had, are currently having, or have the potential to have effects on the California red-legged frog at or in the vicinity of this site.

The fragmentation of existing habitat and the continued colonization of existing habitat by non-native species may represent the most important current threats to California red-legged frogs. The *Muir Beach Wetland and Creek Restoration Project*, the *Lower Redwood Creek Interim Flood Reduction Measures and Floodplain/Channel Restoration* at Muir Beach, the Park Stewardship Programs, implementation of the *Fire Management Plan* (NPS 2005a), Wildland/Urban Interface Initiative projects, habitat restoration programs, and maintenance operations all have the potential to affect the frog and its habitat. Interim flood control actions at Muir Beach resulted in unauthorized take of California red-legged frogs; formal Section 7 consultation and mitigation measures were initiated to address this take and prevent future occurrences. Habitat restoration and maintenance operations aim to prevent impacts on the frog. Some examples of projects and plans that will specifically provide some benefit to the frog include the *Muir Beach Wetland and Creek Restoration Project* and the Park Stewardship Programs, which both include provisions for the creation of additional frog habitat. Additionally, the NPS and the California State Lands Commission formulated the *Giacomini Wetland Restoration Project* (Marin County, near Tomales Bay), which restored 560 acres of pastures to wetlands of increased complexity and diversity of vegetation and aquatic habitats (NPS 2009l; NPS and CSLC 2007).

The negligible to long-term minor adverse impacts on the California red-legged frog from dogs at Muir Beach under alternative A were considered together with the effects of the projects mentioned above. The beneficial effects from the restoration activities should reduce some of the adverse impacts on the

California red-legged frog from alternative A. Therefore, the cumulative impacts on the California red-legged frog under this alternative would be expected to be negligible.

Indirect Impacts in Adjacent Parks

In lands adjacent to GGNRA, there are 30 parks with dog use areas within about a 10-mile radius of Muir Beach and 21 parks within about a 5-mile radius; the closest park is Mount Tamalpais State Park (map 26). No indirect impacts on the frog in adjacent lands would be expected under alternative A since there would be no change in current conditions at the site.

MUIR BEACH ALTERNATIVE A CONCLUSION TABLE

California Red-legged Frog Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Negligible to long-term minor adverse impacts	Although Lagoon closures are violated frequently, there is no frog breeding at the Muir Beach site, but the site provides nonbreeding habitat; breeding occurs at a pond off site and noncompliant dogs could access this area; frog eggs, juveniles, and adults could be affected by dogs through habitat or behavioral disturbance	N/A	Negligible cumulative impacts No indirect impacts in adjacent lands

N/A = not applicable.

Alternative B: NPS Leash Regulation. In the vicinity of Muir Beach, alternative B would allow on-leash dog walking in the parking area, on the Pacific Way Trail, on the path/boardwalk to the beach, and on the beach. The lagoon and Redwood Creek are currently closed to dogs. If dogs are physically restrained on leash at this site and deterred by the existing fence, they should not gain access to the creek or its shorelines or other water bodies and should not affect the frog during juvenile and adult life stages. Therefore, assuming compliance, alternative B would result in negligible impacts on the frog; no measurable or perceptible changes to the frog or breeding/nonbreeding habitat would occur.

Under alternative B, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs per person with no permit required. Since commercial dog walking is not common at Muir Beach, it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking under alternative B would have negligible impacts on the frog.

Cumulative Impacts. The negligible impacts on the California red-legged frog from dogs at Muir Beach under alternative B were considered together with the effects of the projects mentioned above under alternative A. The beneficial effects from the restoration activities combined with the negligible impacts on the California red-legged frog under alternative B would result in beneficial cumulative impacts at this park site.

Indirect Impacts in Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation under alternative B. Voice-control dog walking would no longer be allowed at Muir Beach under this alternative; however, dogs would still be allowed at the site on leash; therefore, indirect impacts on the frog in adjacent lands

from increased dog use would be expected to be negligible because it is unknown whether the frog or suitable habitat and water bodies exist at adjacent parks.

MUIR BEACH ALTERNATIVE B CONCLUSION TABLE

California Red-legged Frog Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Negligible impacts, assuming compliance	Water bodies would continue to be closed to dogs and the fence would discourage access; physically restraining dogs on leash would prevent dog access to water bodies that may provide habitat to juvenile or adult frogs	Beneficial to no change, assuming compliance	Beneficial cumulative impacts Negligible indirect impacts in adjacent lands

Alternative C: Emphasis on Multiple Use—Balanced by County. Alternative C would have the same dog walking restrictions as alternative B, and impacts would be the same, assuming compliance: negligible.

Under alternative C, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be allocated at Muir Beach, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking is not common at Muir Beach, it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking under alternative C would have negligible impacts on the frog.

Cumulative Impacts. Under alternative C, the cumulative impacts on the frog at this park site and indirect impacts on the frog in adjacent lands would be the same as those under alternative B: beneficial cumulative impacts and negligible indirect impacts in adjacent lands.

MUIR BEACH ALTERNATIVE C CONCLUSION TABLE

California Red-legged Frog Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Negligible impacts, assuming compliance	The lagoon and Redwood Creek would continue to be closed to dogs; physically restraining dogs on leash would prevent dog access to water bodies that may provide habitat to juvenile or adult frogs	Beneficial to no change, assuming compliance	Beneficial cumulative impacts Negligible indirect impacts in adjacent lands

Alternative D: Most Protective Based on Resource Protection/Visitor Safety. Alternative D would allow on-leash dog walking in the parking area and on the Pacific Way Trail. The beach and the boardwalk/path to the beach would be closed to dogs. The lagoon and Redwood Creek are currently closed to dogs. If dogs are physically restrained on leash at this site and deterred by the existing fence, they should not gain access to the creek or its shorelines or other water bodies and should not affect the frog during egg, juvenile, or adult life stages. Additionally, portions of the creek, the lagoon, and the shoreline are in areas where dogs are prohibited under alternative D. Therefore, assuming compliance,

alternative D would result in negligible impacts on the frog; no measurable or perceptible changes to the frog or breeding/nonbreeding habitat would occur.

No commercial dog walking would be allowed under alternative D; therefore, commercial dog walking would have no impact on the frog.

Cumulative Impacts. The negligible impacts on the California red-legged frog from dogs at Muir Beach under alternative D were considered together with the effects of the projects mentioned above under alternative A. The beneficial effects from the restoration activities combined with the negligible impacts on the California red-legged frog under alternative D would result in beneficial cumulative impacts at this park site.

Indirect Impacts in Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation under alternative D, particularly Mount Tamalpais, because it is the closest dog use area. Dog walking would not be allowed on the beach under alternative D, which may increase dog use in adjacent lands. Indirect impacts on the frog in adjacent lands from increased dog use would range from negligible to long term, minor, and adverse; a range is presented because it is unknown whether the frog or suitable habitat and water bodies exist in adjacent parks.

MUIR BEACH ALTERNATIVE D CONCLUSION TABLE

California Red-legged Frog Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Negligible impacts, assuming compliance	The lagoon and Redwood Creek would continue to be closed to dogs; physically restraining dogs on leash would prevent dog access water bodies and part of the creek, the lagoon, and the shoreline are in areas where dogs are prohibited under alternative D	Beneficial to no change, assuming compliance	Beneficial cumulative impacts Negligible to long-term minor adverse indirect impacts in adjacent lands

Alternative E: Most Dog Walking Access/Most Management Intensive. The Pacific Way Trail, the parking area, and the boardwalk/path to the beach would be open for on-leash dog walking and the portion of Muir Beach south of the boardwalk/path to the beach (not encompassing the entrance channel to Redwood Creek) would be a designated ROLA open to dogs under voice and sight control. The lagoon and Redwood Creek are currently closed to dogs. Although a ROLA has been designated under this alternative, it would not be sited near the habitat in the tidal lagoon and Redwood Creek that supports the frog. Therefore, assuming compliance, alternative E would result in negligible impacts on the frog; no measurable or perceptible changes to frogs or breeding/nonbreeding habitat would occur.

Under alternative E, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be allocated at Muir Beach, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking is not common at Muir Beach, it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking under alternative E would have negligible impacts on the frog.

Cumulative Impacts. The negligible impacts on the California red-legged frog from dogs at Muir Beach under alternative E were considered together with the effects of the projects mentioned above under alternative A. The beneficial effects from the restoration activities combined with the negligible impacts on the California red-legged frog under alternative E would result in beneficial cumulative impacts at this park site.

Indirect Impacts in Adjacent Parks

No indirect impacts on the frog in adjacent lands would be expected under alternative E since on-leash and voice and sight control dog walking would be allowed at the site.

MUIR BEACH ALTERNATIVE E CONCLUSION TABLE

California Red-legged Frog Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Negligible impacts, assuming compliance	The lagoon and Redwood Creek would continue to be closed to dogs; physically restraining dogs on leash would prevent dog access to the creek and its shorelines; the ROLA would not be sited near Redwood Creek	Beneficial to no change, assuming compliance	Beneficial cumulative impacts No indirect impacts in adjacent lands

Preferred Alternative. Alternative D was selected as the preferred alternative for Muir Beach. The preferred alternative would allow on-leash dog walking in the parking area and on the Pacific Way Trail. The beach and the boardwalk/path to the beach would be closed to dogs. The lagoon and Redwood Creek are currently closed to dogs. This alternative would provide protection of the habitat at the tidal lagoon and Redwood Creek that support nonbreeding frog habitat. If habitat improves for the frog when the construction of breeding ponds is finished, breeding may occur at the site in the future. If dogs are physically restrained on leash at this site and deterred by the existing fence, they should not gain access to the creek or its shorelines or other water bodies and should not affect the frog during egg, juvenile, or adult life stages. Additionally, portions of the creek, the lagoon, and the shoreline are in areas where dogs are prohibited under the preferred alternative. Therefore, assuming compliance, the preferred alternative would result in negligible impacts on the frog; no measurable or perceptible changes to the frog or breeding/nonbreeding habitat would occur.

Alternative C was selected as the preferred alternative for permits for all sites. All dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be allocated at Muir Beach, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking is not common at Muir Beach, it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking under the preferred alternative would have negligible impacts on the frog.

Cumulative Impacts. Projects and actions in and near Muir Beach were considered for the cumulative impacts analysis (appendix K). The following is a discussion of projects that have had, are currently having, or have the potential to have effects on the California red-legged frog at or in the vicinity of this site.

The fragmentation of existing habitat and the continued colonization of existing habitat by non-native species may represent the most important current threats to California red-legged frogs. The *Muir Beach Wetland and Creek Restoration Project*, the *Lower Redwood Creek Interim Flood Reduction Measures and Floodplain/Channel Restoration* at Muir Beach, the Park Stewardship Programs, implementation of the *Fire Management Plan* (NPS 2005a), Wildland/Urban Interface Initiative projects, habitat restoration programs, and maintenance operations all have the potential to affect the frog and its habitat. Interim flood control actions at Muir Beach resulted in unauthorized take of California red-legged frogs; formal Section 7 consultation and mitigation measures were initiated to address this take and prevent future occurrences. Habitat restoration and maintenance operations aim to prevent impacts on the frog. Some examples of projects and plans that will specifically provide some benefit to the frog include the *Muir Beach Wetland and Creek Restoration Project* and the Park Stewardship Programs, which both include provisions for the creation of additional frog habitat.

The negligible impacts on the California red-legged frog from dogs at Muir Beach under the preferred alternative were considered together with the effects of the projects mentioned above. The beneficial effects from the restoration activities combined with the negligible impacts on the California red-legged frog from the preferred alternative would result in beneficial cumulative impacts at this park site.

Indirect Impacts in Adjacent Parks

In lands adjacent to GGNRA, there are 30 parks with dog use areas within about a 10-mile radius of Muir Beach and 21 parks within about a 5-mile radius; the closest park is Mount Tamalpais State Park (map 26). The adjacent lands may experience increased visitation under the preferred alternative, particularly Mount Tamalpais, because it is the closest dog use area. Dog walking would not be allowed on the beach under the preferred alternative, which may increase dog use in adjacent lands. Indirect impacts on the frog in adjacent lands from increased dog use would range from negligible to long term, minor, and adverse; a range is presented because it is unknown whether the frog or suitable habitat and water bodies exist in adjacent parks.

MUIR BEACH PREFERRED ALTERNATIVE CONCLUSION TABLE

California Red-legged Frog Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Negligible impacts, assuming compliance	The lagoon and Redwood Creek would continue to be closed to dogs; physically restraining dogs on leash would prevent dog access water bodies and part of the creek, the lagoon, and the shoreline are in areas where dogs are prohibited under the preferred alternative	Beneficial to no change, assuming compliance	Beneficial cumulative impacts Negligible to long-term minor adverse indirect impacts in adjacent lands

Marin Headlands Trails (Tennessee Valley, Rodeo Lake, Rodeo Lagoon)

Alternative A: No Action. Currently, Tennessee Valley is closed to dogs with the exception of the section of the Coastal Trail that crosses Tennessee Valley and the North Miwok Trail from the junction with the Tennessee Valley Trail, where dogs are allowed on leash. This site has documented low to high visitor use, including low to moderate use by dog walkers; 137 incidents of dogs in a closed area were recorded in 2007/2008 (table 9 and appendix G). The Tennessee Valley pond, which provides breeding habitat for the frog, is difficult to access due to the surrounding dense willow vegetation and as stated

above, the majority of Tennessee Valley is closed to dogs. However, the freshwater Rodeo Lake (supports breeding frog populations) and Rodeo Lagoon (which provides nonbreeding frog habitat) are also located within the Marin Headlands Trails site. Rodeo Lake is currently closed to dogs and Rodeo Lagoon is currently closed to dogs and humans for overall resource protection. Current NPS management to protect frogs at GGNRA has included closing areas to visitors and dogs where frog populations have been observed. There is no physical barrier to prevent dogs or visitors from accessing Rodeo Lake. A fence is proposed along the western shoreline of the lagoon that will deter but not physically exclude dogs from accessing the lagoon from the beach. Additionally, park staff members have estimated that they observe dogs in the lagoon at least once a week, and on a daily basis during good weather (Merkle 2010b, 1). The voice-control areas for dogs are located immediately adjacent to the shoreline of the lagoon, which is not screened and is highly visible and accessible. Frog life stages that could be affected at the site by dogs include eggs, juveniles and adults. Eggs could be affected by trampling from off leash dogs, as has been documented at a pond in Pacifica, California by the City of San Francisco in San Mateo County (Fong 2010). However, there is no published documentation that dogs have either directly or indirectly affected the frog at this location. Therefore, to encompass possible effects, alternative A impacts on the frog would be long term and would range from negligible to minor and adverse; frog eggs, juveniles, and adults could be affected by dogs through occasional habitat disturbance, such as trampling vegetation along the water/wetland edges, or by behavioral disturbance, such as injuring or causing mortality to individuals of the species in these water bodies. Impacts would be localized but could constitute a permanent loss if frog eggs are crushed as a result of disturbance by dogs.

Under alternative A, no permit system exists for commercial dog walking. At the Marin Headlands Trails, commercial dog walking is uncommon; therefore, commercial dog walking would have negligible impacts on the frog.

Cumulative Impacts. Projects and actions in and near the Marin Headlands Trails were considered for the cumulative impacts analysis (appendix K). The following is a discussion of projects that have had, are currently having, or have the potential to have effects on the California red-legged frog at or in the vicinity of this site.

The fragmentation of existing habitat and the continued colonization of existing habitat by non-native species may represent the most important current threats to California red-legged frogs. The Park Stewardship Programs, implementation of the *Fire Management Plan* (NPS 2005a), Wildland/Urban Interface Initiative projects, habitat restoration programs, and maintenance operations all have the potential to affect the frog and its habitat. Habitat restoration and maintenance operations aim to prevent impacts on the frogs. An example of the programs that will specifically provide some benefit to the frog is the Park Stewardship Programs, which include provisions for the creation of additional frog habitat.

The negligible to long-term minor adverse impacts on the California red-legged frog from dogs at the Marin Headlands Trails under alternative A were considered together with the effects of the projects mentioned above. The beneficial effects from the creation of additional frog habitat and the actions from the Park Stewardship Programs should reduce some of the adverse effects of alternative A. Therefore, negligible cumulative impacts would be expected on the California red-legged frog under this alternative.

Indirect Impacts in Adjacent Parks

In lands adjacent to GGNRA, there are 28 parks with dog use areas within about a 10-mile radius of the Marin Headlands Trails and 18 parks within about a 5-mile radius; the closest park is Remington Dog Park in Sausalito (map 26). No indirect impacts on the frog in adjacent lands would be expected under alternative A since there would be no change in current conditions at the site.

MARIN HEADLANDS TRAILS ALTERNATIVE A CONCLUSION TABLE

California Red-legged Frog Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Negligible to long-term minor adverse impacts	The site provides both breeding (Rodeo Lake) and nonbreeding (Rodeo lagoon) areas that are accessed by noncompliant dogs; eggs, juveniles, and adults could be affected by dogs through habitat disturbance as well as behavioral disturbance	N/A	Negligible cumulative impacts No indirect impacts in adjacent lands

N/A = not applicable.

Alternative B: NPS Leash Regulation. Alternative B would prohibit dogs at the Marin Headlands site and Rodeo Lagoon and Rodeo Lake would still be closed to dogs. This alternative would be most protective of the frog and the breeding ponds at Tennessee Valley and Rodeo Lake as well as the nonbreeding habitat at Rodeo Lagoon and would maintain the integrity of the entire Marin Headlands Trails site. Assuming compliance, alternative B would result in no impact on the frog.

Since dogs would not be allowed at the Marin Headlands Trails, there would be no impact from commercial dog walkers on the frog.

Cumulative Impacts. The lack of impacts on the California red-legged frog from dogs at the Marin Headlands Trails under alternative B was considered together with the effects of the projects mentioned above in alternative A. The beneficial effects from the creation of additional frog habitat and the Park Stewardship Programs and other actions combined with the lack of impacts from alternative B should result in beneficial cumulative impacts on the California red-legged frog under this alternative.

Indirect Impacts in Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation under alternative B, particularly Remington Dog Park, because it is the closest dog use area. This increase would be a result of alternative B not allowing dogs at the Marin Headlands Trails. However, indirect impacts on the frog in adjacent lands from increased dog use would be negligible because it is unknown whether the frog or suitable habitat and water bodies exist in adjacent parks.

MARIN HEADLANDS TRAILS ALTERNATIVE B CONCLUSION TABLE

California Red-legged Frog Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
No impacts, assuming compliance	Dogs would be prohibited at the site	Beneficial to no change, assuming compliance	Beneficial cumulative impacts Negligible indirect impacts in adjacent lands

Alternative C: Emphasis on Multiple Use—Balanced by County. Alternative C would allow on-leash dog walking along the Lower Rodeo Valley Trail Corridor; several trails, including the Lagoon Trail, Miwok Trail, and Rodeo Valley Trail; the Battery Smith-Guthrie Fire Road Loop; and the Old Bunker Fire Road Loop. Dogs would be physically restrained on a leash and would be allowed on fewer trails

altogether compared to alternative A. Therefore, assuming compliance, alternative C would result in negligible impacts on the frog; no measurable or perceptible changes in frogs or breeding/nonbreeding habitat would occur.

Under alternative C, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be allocated at Marin Headlands Trails, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking activity is not common at the Marin Headlands Trails, it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking under alternative C would have negligible impacts on the frog.

Cumulative Impacts. The negligible impacts on the California red-legged frog from dogs at the Marin Headlands Trails under alternative C were considered together with the effects of the projects mentioned above in alternative A. The beneficial effects from the creation of additional frog habitat and the Park Stewardship Programs and other actions combined with the negligible impacts from alternative C should result in beneficial cumulative impacts on the California red-legged frog under this alternative.

Indirect Impacts in Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation under alternative C, particularly Remington Dog Park, because it is the closest dog use area that allows off-leash dog walking. This increase would be a result of alternative C not allowing dogs under voice and sight control at the Marin Headlands Trails, although dogs would still be allowed on leash at this site. However, indirect impacts on the frog in adjacent lands from increased dog use would be negligible since it is not known whether the frog or suitable habitat and water bodies exist in adjacent parks and not all dog walkers would leave the Marin Headlands Trails to visit other sites.

MARIN HEADLANDS TRAILS ALTERNATIVE C CONCLUSION TABLE

California Red-legged Frog Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Negligible impacts, assuming compliance	Physically restraining dogs on leash would prevent dog access to the Tennessee Valley pond, Rodeo Lake, or Rodeo Lagoon	Beneficial to no change, assuming compliance	Beneficial cumulative impacts Negligible indirect impacts in adjacent lands

Alternative D: Most Protective Based on Resource Protection/Visitor Safety. Alternative D would have the same dog walking restrictions as alternative B (no dogs on site), and impacts would be the same, assuming compliance: no impact.

Since dogs would not be allowed at the Marin Headlands Trails, there would be no impact from commercial dog walkers on the frog.

Cumulative Impacts. Under alternative D, the cumulative impacts on the frog at this park site and indirect impacts on the frog in adjacent lands would be the same as those under alternative B: beneficial cumulative impacts and negligible to long-term minor adverse indirect impacts on the frog in adjacent lands. A range is presented because it is unknown whether the frog or suitable habitat and water bodies exist in adjacent parks.

MARIN HEADLANDS TRAILS ALTERNATIVE D CONCLUSION TABLE

California Red-legged Frog Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
No impact, assuming compliance	Dogs would be prohibited at the site	Beneficial, assuming compliance	Beneficial cumulative impacts Negligible to long-term, minor, adverse indirect impacts in adjacent lands

Alternative E: Most Dog Walking Access/Most Management Intensive. Alternative E would allow on-leash dog walking along the Lower Rodeo Valley Trail Corridor, the Old Bunker Fire Road Loop, the Battery Smith-Guthrie Fire Road Loop, and the Coastal Trail Bike Route. Impacts would be the same as those under alternative C, assuming compliance: negligible.

Under alternative E, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be allocated at Marin Headlands Trails, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking is not common at the Marin Headlands Trails, it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking under alternative E would have negligible impacts on the frog.

Cumulative Impacts. The negligible impacts on the California red-legged frog from dogs at the Marin Headlands Trails under alternative E were considered together with the effects of the projects mentioned above in alternative A. The beneficial effects from the creation of additional frog habitat and the Park Stewardship Programs and other actions combined with the negligible impacts from alternative E should result in beneficial cumulative impacts on the California red-legged frog under this alternative.

Indirect Impacts in Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation under alternative E, particularly Remington Dog Park, because it is the closest dog use area that allows off-leash dog walking. This increase would be a result of alternative E not allowing dogs under voice and sight control at the Marin Headlands Trails, although on-leash dog walking would still be allowed at the site. However, indirect impacts on the frog in adjacent lands from increased dog use would be negligible since not all dog walkers would leave the Marin Headlands Trails to visit other sites and it is not known whether the frog or suitable habitat or water bodies exist in these lands.

MARIN HEADLANDS TRAILS ALTERNATIVE E CONCLUSION TABLE

California Red-legged Frog Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Negligible impacts, assuming compliance	Physically restraining dogs would prevent dog access to the Tennessee Valley pond, Rodeo Lagoon, and Rodeo Lake	Beneficial to no change, assuming compliance	Beneficial cumulative impacts Negligible indirect impacts in adjacent lands

Preferred Alternative. Alternative C was selected as the preferred alternative for the Marin Headlands Trails. The preferred alternative would allow on-leash dog walking along the Lower Rodeo Valley Trail

Corridor; several trails, including the Lagoon Trail, Miwok Trail, and Rodeo Valley Trail; the Battery Smith-Guthrie Fire Road Loop; and the Old Bunker Fire Road Loop. Dogs would be physically restrained on leash and would be allowed on fewer trails altogether. Therefore, assuming compliance, the preferred alternative would result in negligible impacts on the frog; no measurable or perceptible changes in frogs or breeding/nonbreeding habitat would occur.

Under the preferred alternative, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be allocated at Marin Headlands Trails, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking is not common at Marin Headlands Trails, it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking under the preferred alternative would have negligible impacts on the frog.

Cumulative Impacts. Projects and actions in and near the Marin Headlands Trails were considered for the cumulative impacts analysis (appendix K). The following is a discussion of projects that have had, are currently having, or have the potential to have effects on the California red-legged frog at or in the vicinity of this site.

The fragmentation of existing habitat and the continued colonization of existing habitat by non-native species may represent the most important current threats to California red-legged frogs. The Park Stewardship Programs, implementation of the *Fire Management Plan* (NPS 2005a), Wildland/Urban Interface Initiative projects, habitat restoration programs, and maintenance operations all have the potential to affect the frog and its habitat. Habitat restoration and maintenance operations aim to prevent impacts on the frog. An example of the programs that will specifically provide some benefit to the frog is the Park Stewardship Programs, which include provisions for the creation of additional frog habitat.

The negligible impacts on the California red-legged frog from dogs at the Marin Headlands Trails under the preferred alternative were considered together with the effects of the projects mentioned above. The beneficial effects from the creation of additional frog habitat and the actions from the Park Stewardship Programs combined with the negligible impacts from the preferred alternative should result in beneficial cumulative impacts on the California red-legged frog.

Indirect Impacts in Adjacent Parks

In lands adjacent to GGNRA, there are 28 parks with dog use areas within about a 10-mile radius of the Marin Headlands Trails and 18 parks within about a 5-mile radius; the closest park is Remington Dog Park in Sausalito (map 26). The adjacent lands may experience increased visitation under the preferred alternative, particularly Remington Dog Park, because it is the closest dog use area that allows off-leash dog walking. This increase would be a result of the preferred alternative not allowing dogs under voice and sight control at the Marin Headlands Trails, although dogs would still be allowed on leash at this site. However, indirect impacts on the frog in adjacent lands from increased dog use would be negligible since it is not known whether the frog or suitable habitat and water bodies exist in adjacent parks and not all dog walkers would leave the Marin Headlands Trails to visit other sites.

MARIN HEADLANDS TRAILS PREFERRED ALTERNATIVE CONCLUSION TABLE

California Red-legged Frog Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Negligible impacts, assuming compliance	Physically restraining dogs on leash would prevent dog access to the Tennessee Valley pond, Rodeo Lake, or Rodeo Lagoon	Beneficial to no change, assuming compliance	Beneficial cumulative impacts Negligible indirect impacts in adjacent lands

Mori Point

Alternative A: No Action. Under current conditions, dogs are allowed on leash on all trails at Mori Point. This site has moderate visitor use by dog walkers, and over 50 leash law violations were recorded in 2007/2008 (table 9). Although current GGNRA regulations require dogs to be leashed at Mori Point, unleashed dogs are often observed at the site. The NPS created four ponds at Mori Point to enhance the freshwater wetland habitat and to provide foraging habitat for the San Francisco garter snake, which also provides breeding and rearing habitat for the California red-legged frog (NPS 2009b). Educational signs and fences have been placed around the ponds and wetland habitat at Mori Point to prevent direct impacts on frogs and frog habitat; however, dogs have occasionally been observed in the ponds (Hatch et al. pers. comm. 2010). In addition, the Pollywog Path at Mori Point is adjacent to the ponds, which is near the unnamed (and unfenced) creek where frogs are frequently found at this site (Hatch et al. pers. comm. 2010). Frog life stages that could be affected by dogs include eggs, juveniles, and adults. Eggs could be affected by trampling from off leash dogs, as has been documented at a pond in Pacifica, California by the City of San Francisco in San Mateo County (Fong 2010). However, there is no documentation that dogs have either directly or indirectly affected the frog at Mori Point. Therefore, to encompass possible effects, alternative A impacts on the frog would range from negligible to minor and adverse; frog eggs, juveniles, and adults could be affected by dogs through occasional habitat disturbance, such as trampling vegetation along the water/wetland edges, or by behavioral disturbance, such as injuring or causing mortality to individuals of the species in these water bodies. Impacts would be localized but could constitute a permanent loss if frog eggs are crushed as a result of disturbance by dogs.

Under alternative A, no permit system exists for commercial dog walking. At Mori Point, commercial dog walking is uncommon; therefore, commercial dog walking would have negligible impacts on the frog.

Cumulative Impacts. Projects and actions in and near Mori Point were considered for the cumulative impacts analysis (appendix K). The following is a discussion of projects that have had, are currently having, or have the potential to have effects on the California red-legged frog at or in the vicinity of this site.

The fragmentation of existing habitat and the continued colonization of existing habitat by non-native species may represent the most important current threats to California red-legged frogs. The Park Stewardship Programs, implementation of the *Fire Management Plan* (NPS 2005a), Wildland/Urban Interface Initiative projects, habitat restoration programs, and maintenance operations all have the potential to affect the frog and its habitat. Habitat restoration and maintenance operations aim to prevent impacts on the frog. An example of the programs that will specifically provide some benefit to the frog is the Park Stewardship Programs, which include provisions for the creation of additional frog habitat. The *Mori Point Restoration and Trail Plan* project will protect and enhance habitat for the frog at Mori Point by guiding visitor use away from restoration areas and potential habitat. The Sharp Park Golf Course, located in Pacifica in San Mateo County (adjacent to Mori Point), supports California red-legged frogs,

which breed in a pond on the course. Plans at the golf course range from restoration to entirely natural habitat, to minor modifications that would improve habitat connectivity for frogs and snakes.

The negligible to long-term minor adverse impacts on the California red-legged frog from dogs at Mori Point under alternative A were considered together with the effects of the projects mentioned above. The beneficial effects from the Park Stewardship Programs and other restoration projects such as the *Mori Point Restoration and Trail Plan* project at this park site should reduce some of the adverse impacts on the California red-legged frog from alternative A. Therefore, cumulative impacts on the California red-legged frog would be expected to be negligible.

Indirect Impacts in Adjacent Parks

In lands adjacent to GGNRA, there are 23 parks with dog use areas within about a 10-mile radius of Mori Point and 3 parks within about a 5-mile radius; the closest parks are Esplanade Beach in Pacifica (which is temporarily closed) and the San Bruno Dog Park (map 27). No indirect impacts on the frog in adjacent lands would be expected under alternative A since there would be no change in current conditions at the site.

MORI POINT ALTERNATIVE A CONCLUSION TABLE

California Red-legged Frog Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Negligible to long-term minor adverse impacts	Dogs have occasionally been observed in fence ponds that support frog breeding habitat; eggs, juveniles, and adults could be affected by dogs through habitat and behavioral disturbance	N/A	Negligible to long-term minor adverse cumulative impacts No indirect impacts in adjacent lands

N/A = not applicable.

Alternative B: NPS Leash Regulation. Alternative B would allow on-leash dog walking on the Coastal Trail and on the portion of the beach owned by the NPS, but dogs would not be allowed on the Pollywog Path adjacent to the ponds and the unnamed creek. Educational signs and fences have been placed around the ponds and wetland habitat at Mori Point to prevent direct impacts on frogs and frog habitat. If dogs are physically restrained on leash at this site and deterred by fences, they should not gain access to the ponds and should not affect the frog during egg, juvenile, and adult life stages. Therefore, assuming compliance, alternative B would result in negligible impacts on the frog; no measurable or perceptible changes in the frog or breeding/nonbreeding habitat would occur.

Under alternative B, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs per person with no permit required. Since commercial dog walking is not common in this area, it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking under alternative B would have negligible impacts on the frog.

Cumulative Impacts. The negligible impacts on the California red-legged frog from dogs at Mori Point under alternative B were considered together with the effects of the projects mentioned above in alternative A. The beneficial effects from the Park Stewardship Programs and other restoration projects such as the *Mori Point Restoration and Trail Plan* project at this park site combined with the negligible impacts on the California red-legged frog from alternative B would result in beneficial cumulative impacts.

Indirect Impacts in Adjacent Parks

The adjacent lands identified under alternative A would probably not experience any increased visitation under alternative B since visitors would be allowed to continue to walk dogs at this site; therefore, no indirect impacts on the frog would be expected in adjacent lands.

MORI POINT ALTERNATIVE B CONCLUSION TABLE

California Red-legged Frog Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Negligible impacts, assuming compliance	Physically restraining dogs on leash would prevent dog access to ponds and dogs would not be allowed on the Pollywog Path adjacent to the ponds	Beneficial to no change, assuming compliance	Beneficial cumulative impacts No indirect impacts in adjacent lands

Alternative C: Emphasis on Multiple Use—Balanced by County. Alternative C would allow on-leash dog walking on the Coastal Trail, Old Mori Road, and the portion of the beach owned by the NPS, but dogs would not be allowed on the Pollywog Path adjacent to the ponds of the unnamed creek. Therefore, assuming compliance, alternative C would result in negligible impacts on the frog; no measurable or perceptible changes in frogs or breeding/nonbreeding habitat would occur.

Under alternative C, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be allocated at Mori Point, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking is not common at Mori Point, it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking under alternative C would have negligible impacts on the frog.

Cumulative Impacts. The negligible impacts on the California red-legged frog from dogs at Mori Point under alternative C were considered together with the effects of the projects mentioned above in alternative A. The beneficial effects from the Park Stewardship Programs and other restoration projects such as the *Mori Point Restoration and Trail Plan* project at this park site combined with the negligible impacts on the California red-legged frog from alternative C would result in beneficial cumulative impacts.

Indirect Impacts in Adjacent Parks

The adjacent lands identified under alternative A would probably not experience any increased visitation under alternative C since visitors would be allowed to continue to walk dogs at this site; therefore, no indirect impacts on the frog would be expected in adjacent lands.

MORI POINT ALTERNATIVE C CONCLUSION TABLE

California Red-legged Frog Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Negligible impacts, assuming compliance	Physically restraining dogs on leash would prevent dog access to ponds and dogs would not be allowed on the Pollywog Path adjacent to the ponds	Beneficial to no change, assuming compliance	Beneficial cumulative impacts Negligible indirect impacts in adjacent lands

Alternative D: Most Protective Based on Resource Protection/Visitor Safety. Alternative D would not allow dogs at the site and therefore would result in no impact on the frog.

Since dogs would not be allowed at Mori Point, there would be no impact from commercial dog walkers on the frog.

Cumulative Impacts. The lack of impacts on the California red-legged frog from dogs at Mori Point under alternative D was considered together with the effects of the projects mentioned above in alternative A. The beneficial effects from the Park Stewardship Programs and other restoration projects such as the *Mori Point Restoration and Trail Plan* project at this park site combined with the lack of impacts on the California red-legged frog from alternative D would result in beneficial cumulative impacts.

Indirect Impacts in Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation under alternative D since this alternative would not allow dogs. Indirect impacts on the frog in adjacent lands from increased dog use would be expected to range from negligible to long term, minor, and adverse. A range is presented because it is unknown whether the frog or suitable habitat and water bodies exist in adjacent parks.

MORI POINT ALTERNATIVE D CONCLUSION TABLE

California Red-legged Frog Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
No impact, assuming compliance	Dogs would be prohibited at the site	Beneficial, assuming compliance	Beneficial cumulative impacts Negligible to long-term minor adverse indirect impacts in adjacent lands

Alternative E: Most Dog Walking Access/Most Management Intensive. Alternative E would allow on-leash dog walking on the same trails as alternative C, but with the addition of the Pollywog Path, which leads to the ponds and provides habitat for the frog. The Pollywog Path is also adjacent to the unnamed (and unfenced) creek where frogs are frequently found at this site (NPS 2010m). Dogs would be physically restrained on leash and the leash policy would be enforced, but dogs could directly affect frog habitat even while on leash and being along the Pollywog Path. Therefore, assuming compliance, alternative E would result in a negligible to long-term minor adverse impacts on the frog because perceptible changes in frogs or breeding/nonbreeding habitat could occur in a small, localized area.

Under alternative E, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be allocated at Mori Point, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking is not common at Mori Point, it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking under alternative E would have negligible impacts on the frog.

Cumulative Impacts. The negligible to long-term minor adverse impacts on the California red-legged frog from dogs at Mori Point under alternative E were considered together with the effects of the projects mentioned above under alternative A. The beneficial effects from the Park Stewardship Programs and other restoration projects such as the *Mori Point Restoration and Trail Plan* project at this park site should reduce some of the adverse impacts on the California red-legged frog from alternative E. Therefore, cumulative impacts on the California red-legged frog would be expected to be negligible.

Indirect Impacts in Adjacent Parks

The adjacent lands identified under alternative A would probably not experience any increased visitation under alternative E since visitors would be allowed to continue to walk dogs at this site; therefore, no indirect impacts on the frog would be expected in adjacent lands.

MORI POINT ALTERNATIVE E CONCLUSION TABLE

California Red-legged Frog Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Negligible to long-term minor adverse impacts, assuming compliance	Physically restraining dogs on leash would prevent dog access to ponds, although on-leash dogs would be allowed on the Pollywog Path adjacent to the ponds, which is close to the unfenced creek where frogs are frequently found	Beneficial to no change, assuming compliance	Negligible cumulative impacts No indirect impacts in adjacent lands

Preferred Alternative. Alternative C was selected as the preferred alternative for Mori Point. The preferred alternative would allow dogs on the Coastal Trail, Old Mori Road, and the portion of the beach owned by the NPS, but dogs would not be allowed on the Pollywog Path adjacent to the ponds and the unnamed creek. Therefore, assuming compliance, the preferred alternative would result in negligible impacts on the frog; no measurable or perceptible changes to frogs or breeding/nonbreeding habitat would occur.

Under the preferred alternative, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be allocated at Mori Point, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking is not common at Mori Point, it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking under the preferred alternative would have negligible impacts on the frog.

Cumulative Impacts. Projects and actions in and near Mori Point were considered for the cumulative impacts analysis (appendix K). The following is a discussion of projects that have had, are currently having, or have the potential to have effects on the California red-legged frog at or in the vicinity of this site.

The fragmentation of existing habitat and the continued colonization of existing habitat by non-native species may represent the most important current threats to California red-legged frogs. The Park Stewardship Programs, implementation of the *Fire Management Plan* (NPS 2005a), Wildland/Urban Interface Initiative projects, habitat restoration programs, and maintenance operations all have the potential to affect the frog and its habitat. Habitat restoration and maintenance operations aim to prevent impacts on the frogs. An example of the programs that will specifically provide some benefit to the frog is the Park Stewardship Programs, which include provisions for the creation of additional frog habitat. The *Mori Point Restoration and Trail Plan* project will protect and enhance habitat for the frog at Mori Point by guiding visitor use away from restoration areas and potential habitat. The Sharp Park Golf Course, located in Pacifica in San Mateo County (adjacent to Mori Point), supports California red-legged frogs, which breed in a pond on the course. Plans at the golf course range from restoration to entirely natural habitat, to minor modifications that would improve habitat connectivity for frogs and snakes.

The negligible impacts on the California red-legged frog from dogs at Mori Point under the preferred alternative were considered together with the effects of the projects mentioned above. The beneficial effects from the Park Stewardship Programs and other restoration projects such as the *Mori Point Restoration and Trail Plan* project at this park site combined with the negligible impacts on the California red-legged frog from the preferred alternative would result in beneficial cumulative impacts.

Indirect Impacts in Adjacent Parks

In lands adjacent to GGNRA, there are 23 parks with dog use areas within about a 10-mile radius of Mori Point and 3 parks within about a 5-mile radius; the closest parks are Esplanade Beach in Pacifica (which is temporarily closed) and the San Bruno Dog Park (map 27). The adjacent lands would probably not experience any increased visitation under the preferred alternative since visitors would be allowed to continue to walk dogs at this site; therefore, no indirect impacts on the frog would be expected in adjacent lands.

MORI POINT PREFERRED ALTERNATIVE CONCLUSION TABLE

California Red-legged Frog Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Negligible impacts, assuming compliance	Physically restraining dogs on leash would prevent dog access to ponds, and dogs would not be allowed on the Pollywog Path adjacent to the ponds	Beneficial to no change, assuming compliance	Beneficial cumulative impacts Negligible indirect impacts in adjacent lands

Sweeney Ridge/Cattle Hill

Alternative A: No Action. Under current conditions, on-leash dog walking is allowed on all trails at Sweeney Ridge except the Notch Trail, which is closed to dogs. This site has documented low to moderate visitor use by dog walkers, and off-leash dog walking occurs along the trails of Sweeney Ridge; 55 leash law violations occurred in 2007/2008 (table 9). Cattle Hill is currently not part of GGNRA, but unrestricted dog walking occurs at this site. Cattle Hill has mapped occurrences of the California red-legged frog at the site, but neither Sweeney Ridge nor Cattle Hill has known breeding that has been

documented to date (URS Corporation 2010, Figure 3). However, both Sweeney Ridge and Cattle Hill provide potential breeding and nonbreeding habitat for the California red-legged frog based upon modeling efforts for these sites (URS Corporation 2010, Figure 3). There is also a small portion of critical habitat unit SNM-1A that is located in the southern corner of Sweeney Ridge (USFWS 2006) and proposed critical habitat for the frog occurs throughout most of Cattle Hill (USFWS 2008b). Therefore, this section analyzes impacts to both nonbreeding and critical habitat for juvenile and adult life stages of the frog because no known breeding occurs at this site to date (Fong 2010). Dogs could affect adult/juvenile frogs at these sites through habitat disturbance, such as trampling vegetation along the water/wetland edges, or by behavioral disturbance such as injuring or causing mortality to individuals of the species at this site. Even so, there is no documentation that dogs have either directly or indirectly affected the frog at Sweeney Ridge or Cattle Hill.

Therefore, to encompass possible effects, alternative A impacts on the frog would be long term and would range from negligible to minor and adverse. A few individuals (juveniles and adults) of the species in a small, localized area (Sweeney Ridge/Cattle Hill) could be occasionally affected by disturbance from dogs but essential features of critical habitat would not be impacted and reproductive success of individuals of the species would not be affected.

Under alternative A, no permit system exists for commercial dog walking. Commercial dog walking is uncommon at Sweeney Ridge and Cattle Hill; therefore, commercial dog walking would have negligible impacts on the frog.

Cumulative Impacts. Projects and actions in and near Sweeney Ridge/Cattle Hill were considered for the cumulative impacts analysis (appendix K). The following is a discussion of projects that have had, are currently having, or have the potential to have effects on the California red-legged frog at or in the vicinity of this site.

The fragmentation of existing habitat and the continued colonization of existing habitat by non-native species may represent the most important current threats to California red-legged frogs. The Park Stewardship Programs, implementation of the *Fire Management Plan* (NPS 2005a), Wildland/Urban Interface Initiative projects, habitat restoration programs, and maintenance operations all have the potential to affect the frog and its habitat. Habitat restoration and maintenance operations aim to prevent impacts on the frog. An example of the programs that will specifically provide some benefit to the frog is the Park Stewardship Programs, which include provisions for the creation of additional frog habitat.

The negligible to long-term minor adverse impacts on the California red-legged frog from dogs at Sweeney Ridge/Cattle Hill under alternative A were considered together with the effects of the projects mentioned above. The beneficial effects from the Park Stewardship Programs and other actions should reduce some of the adverse impacts on the California red-legged frog from alternative A. Therefore, cumulative impacts on the California red-legged frog under this alternative would be expected to be negligible.

Indirect Impacts in Adjacent Parks

In lands adjacent to GGNRA, there are 24 parks with dog use areas within about a 10-mile radius of Sweeney Ridge and Cattle Hill and 4 parks within about a 5-mile radius; the closest parks are the San Bruno Dog Park and Esplanade Beach in Pacifica (which is temporarily closed) (map 27). No indirect impacts on the frog in adjacent lands would be expected under alternative A since there would be no change in current conditions at the site.

SWEENEY RIDGE/CATTLE HILL ALTERNATIVE A CONCLUSION TABLE

California Red-legged Frog Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Negligible to long-term minor adverse impacts	Sites have no known breeding habitat but have mapped critical habitat; juveniles and adults could be affected by dogs through trampling as well as behavioral disturbance or causing injury or mortality to individuals	N/A	Negligible cumulative impacts No indirect impacts in adjacent lands

N/A = not applicable.

Alternative B: NPS Leash Regulation. Alternative B would not allow dogs at either site and would provide protection for a large area of relatively undisturbed contiguous habitat. Assuming compliance, alternative B would result in no impact on the frog.

Since dogs would not be allowed at Sweeney Ridge/Cattle Hill, there would be no impact from commercial dog walkers on the frog.

Cumulative Impacts. The lack of impacts on the California red-legged frog from dogs at Sweeney Ridge/Cattle Hill under alternative B was considered together with the effects of the projects mentioned above under alternative A. The beneficial effects from the Park Stewardship Programs combined with the lack of impacts on the California red-legged frog from alternative B would result in beneficial cumulative impacts.

Indirect Impacts in Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation under alternative B, particularly the San Bruno Dog Park and Esplanade Beach (which is temporarily closed), because they are the closest dog use areas. Indirect impacts on the frog in adjacent lands from increased dog use would range from negligible to long term, minor, and adverse; a range is presented because it is unknown whether the frog or suitable habitat and water bodies exist in adjacent parks.

SWEENEY RIDGE/CATTLE HILL ALTERNATIVE B CONCLUSION TABLE

California Red-legged Frog Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
No impact, assuming compliance	Dogs would be prohibited at the site	Beneficial, assuming compliance	Beneficial cumulative impacts Negligible to long-term minor adverse indirect impacts

Alternative C: Emphasis on Multiple Use—Balanced by County. Under alternative C, no dogs would be allowed at Sweeney Ridge. Therefore, assuming compliance, this alternative would result in no impact on the frog at Sweeney Ridge. At Cattle Hill, dogs would be allowed on leash on the Baquiano Trail from Fassler Avenue up to and including the Farallons View Trail. Physically restraining dogs on leash would not allow dog access to any water bodies that support the frogs or nonbreeding or critical habitat. Therefore, assuming compliance, alternative C would result in negligible impacts on the frog at Cattle

Hill because no measurable or perceptible changes in frogs or critical habitat or nonbreeding habitat would occur.

Under alternative C, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be allocated at Sweeney Ridge/Cattle Hill, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since dog walking would not be allowed at Sweeney Ridge, commercial dog walking under alternative C would have no impact on the frog. Since commercial dog walking is not common at Cattle Hill, it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking under alternative C would have negligible impacts on the frog.

Cumulative Impacts. The negligible impacts on the California red-legged frog from dogs at Cattle Hill under alternative C were considered together with the effects of the projects mentioned above under alternative A. The beneficial effects from the Park Stewardship Programs combined with the negligible impacts on the California red-legged frog from alternative C would result in negligible cumulative impacts at Cattle Hill. At Sweeney Ridge, the lack of impacts combined with the beneficial effects from the Park Stewardship Programs would result in beneficial cumulative impacts.

Indirect Impacts in Adjacent Parks

Adjacent lands may experience increased visitation since dogs would no longer be allowed at Sweeney Ridge. Therefore, indirect impacts in adjacent lands would be negligible to long term, minor, and adverse for both Sweeney Ridge/Cattle Hill since these sites are contiguous and would affect the same adjacent lands; a range is presented because it is unknown whether the frog or suitable habitat and water bodies exist at adjacent parks.

SWEENEY RIDGE/CATTLE HILL ALTERNATIVE C CONCLUSION TABLE

California Red-legged Frog Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
No impact at Sweeney Ridge, assuming compliance	Dogs would be prohibited at Sweeney Ridge	Beneficial, assuming compliance	Beneficial cumulative impacts Negligible to long-term minor adverse impacts in lands adjacent to Sweeney Ridge
Negligible impacts, assuming compliance, at Cattle Hill	At Cattle Hill, physically restraining dogs would prevent dog access to any water bodies that support the frog	Beneficial to no change, assuming compliance	Negligible cumulative impacts Negligible to long-term minor adverse impacts in lands adjacent to Cattle Hill

Alternative D: Most Protective Based on Resource Protection/Visitor Safety. Alternative D would have the same dog walking restrictions as alternative B (no dogs on Sweeney Ridge or Cattle Hill sites), and impacts on the frog would be the same, assuming compliance: no impact.

Since dogs would not be allowed at Sweeney Ridge/Cattle Hill, there would be no impact from commercial dog walkers on the frog.

Cumulative Impacts. Under alternative D, the cumulative impacts on the frog at this park site and indirect impacts on the frog in adjacent lands would be the same as those under alternative B: beneficial cumulative impacts and negligible to long-term minor adverse impacts on the frog in adjacent lands.

SWEENEY RIDGE/CATTLE HILL ALTERNATIVE D CONCLUSION TABLE

California Red-legged Frog Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
No impact, assuming compliance	Dogs would be prohibited at the site	Beneficial, assuming compliance	Beneficial cumulative impacts Negligible to long-term minor adverse indirect impacts in adjacent lands

Alternative E: Most Dog Walking Access/Most Management Intensive. At Sweeney Ridge, alternative E would allow on-leash dog walking along Mori Ridge Trail, Sweeney Ridge Trail from Portola Discovery Site to the Notch Trail, and Sneath Lane. At Cattle Hill, dogs would be allowed on leash on the Baquiano Trail from Fassler Avenue up to and including the Farallons View Trail. The trails at Sweeney Ridge/Cattle Hill are long, with high quality habitat directly adjacent to the trails, and the on-leash dog trails under this alternative are a greater portion of the entire site compared to alternatives B, C, and D. Additionally, Cattle Hill trails would allow on-leash dog walking under this alternative as does alternative C, and these trails generally receive low to moderate use. However, because the frog is generally found in and around the ponds at this site, the on-leash requirements would prevent dog access to any water bodies that support the frog. Therefore, assuming compliance, alternative E would result in negligible impacts on the frog; no measurable or perceptible changes in frogs, critical habitat, or nonbreeding habitat would occur.

Under alternative E, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be allocated at Sweeney Ridge/Cattle Hill, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking activity is not common at Sweeney Ridge or Cattle Hill, it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking under alternative E would have negligible impacts on the frog.

Cumulative Impacts. The negligible impacts on the California red-legged frog from dogs at Sweeney Ridge/Cattle Hill under alternative E were considered together with the effects of the projects mentioned above under alternative A. The beneficial effects from the Park Stewardship Programs and other actions combined with the negligible impacts on the California red-legged frog from alternative E would result in negligible cumulative impacts.

Indirect Impacts in Adjacent Parks

No indirect impacts on the frog in adjacent lands would be expected under alternative E since trails would be open for dog walking at both Sweeney Ridge and Cattle Hill and visitor use at this site and in adjacent lands would be unlikely to change.

SWEENEY RIDGE/CATTLE HILL ALTERNATIVE E CONCLUSION TABLE

California Red-legged Frog Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Negligible impacts, assuming compliance	Physically restraining dogs on leash would prevent dog access to any water bodies that support the frog	Beneficial to no change, assuming compliance	Negligible cumulative impacts No indirect impacts in adjacent lands

Preferred Alternative. Alternative C was selected as the preferred alternative for Sweeney Ridge/Cattle Hill. Under the preferred alternative, no dogs would be allowed at Sweeney Ridge; therefore, assuming compliance, this alternative would result in no impact on the frog at Sweeney Ridge. At Cattle Hill, dogs would be allowed on leash on the Baquiano Trail from Fassler Avenue up to and including the Farallons View Trail. Physically restraining dogs on leash would not allow dog access to any water bodies that support the frogs or nonbreeding or critical habitat. Therefore, assuming compliance, the preferred alternative would result in negligible impacts on the frog at Cattle Hill because no measurable or perceptible changes in frogs or critical habitat or nonbreeding habitat would occur.

Under the preferred alternative, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites, any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be allocated at Sweeney Ridge/Cattle Hill, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since dog walking would not be allowed at Sweeney Ridge, commercial dog walking under the preferred alternative would have no impact on the frog. Since commercial dog walking is not common at Cattle Hill, it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking under alternative C would have negligible impacts on the frog.

Cumulative Impacts. Projects and actions in and near Sweeney Ridge/Cattle Hill were considered for the cumulative impacts analysis (appendix K). The following is a discussion of projects that have had, are currently having, or have the potential to have effects on the California red-legged frog at or in the vicinity of this site.

The fragmentation of existing habitat and the continued colonization of existing habitat by non-native species may represent the most important current threats to California red-legged frogs. The Park Stewardship Programs, implementation of the *Fire Management Plan* (NPS 2005a), Wildland/Urban Interface Initiative projects, habitat restoration programs, and maintenance operations all have the potential to affect the frog and its habitat. Habitat restoration and maintenance operations aim to prevent impacts on the frog. An example of the programs that will specifically provide some benefit to the frog is the Park Stewardship Programs, which include provisions for the creation of additional frog habitat.

The lack of impacts at Sweeney Ridge combined with the beneficial impacts from the projects mentioned above would result in beneficial cumulative impacts. The negligible impacts on the California red-legged frog from dogs at Cattle Hill under the preferred alternative were considered together with the effects of the projects mentioned above. The beneficial effects from the Park Stewardship Programs and other actions combined with the negligible impacts on the California red-legged frog at Cattle Hill from the preferred alternative would result in negligible cumulative impacts.

Indirect Impacts in Adjacent Parks

In lands adjacent to GGNRA, there are 24 parks with dog use areas within about a 10-mile radius of Sweeney Ridge and Cattle Hill and 4 parks within about a 5-mile radius; the closest parks are the San Bruno Dog Park and Esplanade Beach in Pacifica (which is temporarily closed) (map 27). Lands adjacent to Sweeney Ridge may experience increased visitation since dogs would no longer be allowed at Sweeney Ridge. Therefore, indirect impacts in lands adjacent to Sweeney Ridge would be negligible to long term, minor, and adverse; a range is presented because it is unknown whether the frog or suitable habitat and water bodies exist at adjacent parks. However, no impact on the frog in lands adjacent to Cattle Hill would be expected under the preferred alternative since trails would be open for dog walking at Cattle Hill.

SWEENEY RIDGE/CATTLE HILL PREFERRED ALTERNATIVE CONCLUSION TABLE

California Red-legged Frog Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
No impact at Sweeney Ridge, assuming compliance	Dogs would be prohibited at Sweeney Ridge	Beneficial, assuming compliance	Beneficial cumulative impacts Negligible to long-term minor adverse impacts in lands adjacent to Sweeney Ridge
Negligible impacts, assuming compliance, at Cattle Hill	At Cattle Hill, physically restraining dogs would prevent dog access to any water bodies that support the frog	Beneficial to no change, assuming compliance	Negligible cumulative impacts Negligible to long-term minor adverse impacts in lands adjacent to Cattle Hill

Pedro Point Headlands

Alternative A: No Action. Although this site is currently not part of GGNRA, unrestricted dog walking occurs at this site. This site has documented low to moderate visitor use and the numbers of dog related incidents at the site are unknown since the NPS does not currently own the property and it is not patrolled by park rangers (table 9). Proposed critical habitat for the frog occurs throughout most of the Pedro Point Headlands (USFWS 2008b), although no known breeding habitat occurs at the site (Fong 2010). Therefore, dogs could affect adult or juvenile frogs at these sites through habitat disturbance, such as trampling vegetation along the water/wetland edges, or by behavioral disturbance such as injuring or causing mortality to individuals of the species at this site. Even so, there is no documentation that dogs have either directly or indirectly affected the frog at the Pedro Point Headlands. Therefore, to encompass possible effects, alternative A impacts on the frog would be long term and would range from negligible to minor and adverse. A few individuals of the species in a small, localized area could be occasionally affected by disturbance from dogs but essential features of proposed critical habitat would not be impacted and reproductive success of individuals of the species would not be affected.

There are currently no commercial dog walking regulations at Pedro Point Headlands. It is unknown whether commercial dog walkers contribute to impacts on the frog.

Cumulative Impacts. Projects and actions in and near Pedro Point Headlands were considered for the cumulative impacts analysis (appendix K). The following is a discussion of projects that have had, are currently having, or have the potential to have effects on the California red-legged frog at or in the vicinity of this site.

The fragmentation of existing habitat and the continued colonization of existing habitat by non-native species may represent the most important current threats to California red-legged frogs. The Park Stewardship Programs, implementation of the *Fire Management Plan* (NPS 2005a), Wildland/Urban Interface Initiative projects, habitat restoration programs, and maintenance operations all have the potential to affect the frog and its habitat. Habitat restoration and maintenance operations aim to prevent impacts on the frog. An example of the programs that will specifically provide some benefit to the frog is the Park Stewardship Programs, including the Pedro Point Headlands Stewardship Project, which is aiming to protect endangered and native species at the site (City College of San Francisco, Center for Habitat Restoration 2008).

The negligible to long-term minor adverse impacts on the California red-legged frog from dogs at the Pedro Point Headlands under alternative A were considered together with the effects of the projects mentioned above. The beneficial effects from the Park Stewardship Programs and other actions should reduce some of the adverse impacts on the California red-legged frog from alternative A. Therefore, cumulative impacts on the California red-legged frog under this alternative would be expected to be negligible.

Indirect Impacts in Adjacent Parks

In lands adjacent to GGNRA, there are 14 parks with dog use areas within about a 10-mile radius of the Pedro Point Headlands and 2 parks within about a 5-mile radius; the closest parks are Montara State Beach and Esplanade Beach in Pacifica (which is temporarily closed) (map 27). No indirect impacts on the frog at adjacent lands would be expected under alternative A since there would be no change in current conditions at the site.

PEDRO POINT HEADLANDS ALTERNATIVE A CONCLUSION TABLE

California Red-legged Frog Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Negligible to long-term minor adverse impacts	Site has no known breeding habitat but has proposed critical habitat; juveniles and adults could be affected by dogs trampling and causing behavioral disturbance, injury, or mortality to individuals	N/A	Negligible cumulative impacts No indirect impacts in adjacent lands

N/A = not applicable.

Alternative B: NPS Leash Regulation. Alternative B would allow on-leash dog walking on the Coastal Trail at the Pedro Point Headlands. If dogs are physically restrained on leash at this site, they should not gain access to frog habitat and should not affect juvenile or adult frogs. Therefore, assuming compliance, alternative B would result in negligible impacts on the frog; no measurable or perceptible changes to frogs, nonbreeding habitat, or critical habitat would occur.

Under alternative B, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs per person with no permit required. Since commercial dog walking is not common at the Pedro Point Headlands, it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking under alternative B would have negligible impacts on the frog.

Cumulative Impacts. The negligible impacts on the California red-legged frog from dogs at the Pedro Point Headlands under alternative B were considered together with the effects of the projects mentioned above under alternative A. The beneficial effects from the Park Stewardship Programs and other actions combined with the negligible impacts on the California red-legged frog from alternative B would result in negligible cumulative impacts.

Indirect Impacts in Adjacent Parks

No indirect impacts on the frog in adjacent lands would be expected under alternative B since on-leash dog walking would be allowed at the Pedro Point Headlands and visitor use at the site and in adjacent lands would be unlikely to change.

PEDRO POINT HEADLANDS ALTERNATIVE B CONCLUSION TABLE

California Red-legged Frog Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Negligible impacts, assuming compliance	Physically restraining dogs on leash would prevent dog access to frog habitat	Beneficial to no change, assuming compliance	Negligible cumulative impacts No indirect impacts in adjacent lands

Alternative C: Emphasis on Multiple Use—Balanced by County. Similar to alternative B, alternative C would allow on-leash dog walking on the Coastal Trail, and impacts would be the same, assuming compliance: negligible.

Under alternative C, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be allocated at the Pedro Point Headlands, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking is not common at the Pedro Point Headlands, it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking under alternative C would have negligible impacts on the frog.

Cumulative Impacts. Under alternative C, the cumulative impacts on the frog at this park site and indirect impacts on the frog in adjacent lands would be the same as those under alternative B: negligible cumulative impacts and no indirect impacts on the frog in adjacent lands.

PEDRO POINT HEADLANDS ALTERNATIVE C CONCLUSION TABLE

California Red-legged Frog Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Negligible impacts, assuming compliance	Physically restraining dogs would prevent dog access to potential habitat for the frog	Beneficial to no change, assuming compliance	Negligible cumulative impacts No indirect impacts in adjacent lands

Alternative D: Most Protective Based on Resource Protection/Visitor Safety. Alternative D would not allow dogs at the site and therefore would result in no impact on the frog.

Since dogs would not be allowed at the Pedro Point Headlands, there would be no impact from commercial dog walkers on the frog.

Cumulative Impacts. The lack of impacts on the California red-legged frog from dogs at the Pedro Point Headlands under alternative D was considered together with the effects of the projects mentioned above under alternative A. The beneficial effects from the Park Stewardship Programs and other actions combined with the lack of impacts on the California red-legged frog from alternative D would result in beneficial cumulative impacts.

Indirect Impacts in Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation under alternative D, particularly Montara State Beach and Esplanade Beach (which is temporarily closed), because they are the closest dog use areas. Indirect impacts on the frog in adjacent lands from increased dog use would range from negligible to long term, minor, and adverse since dog walking is considered a low to moderate use activity at the Pedro Point Headlands; a range is presented because it is unknown whether the frog or suitable habitat and water bodies exist in adjacent parks.

PEDRO POINT HEADLANDS ALTERNATIVE D CONCLUSION TABLE

California Red-legged Frog Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
No impact, assuming compliance	Dogs would be prohibited at the site	Beneficial, assuming compliance	Beneficial cumulative impacts Negligible to long-term minor adverse indirect impacts in adjacent lands

Alternative E: Most Dog Walking Access/Most Management Intensive. Similar to alternative B, alternative E would allow on-leash dog walking on the Coastal Trail, and impacts would be the same, assuming compliance: negligible.

Under alternative E, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be allocated at the Pedro Point Headlands, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking is not common at the Pedro Point Headlands, it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking under alternative E would have negligible impacts on the frog.

Cumulative Impacts. Under alternative E, the cumulative impacts on the frog at this park site and indirect impacts on the frog in adjacent lands would be the same as those under alternative B: negligible cumulative impacts and no indirect impacts in adjacent lands.

PEDRO POINT HEADLANDS ALTERNATIVE E CONCLUSION TABLE

California Red-legged Frog Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Negligible impacts, assuming compliance	Physically restraining dogs on leash would prevent dog access to any water bodies that support habitat for the frog	Beneficial to no change, assuming compliance	Negligible cumulative impacts No indirect impacts in adjacent lands

Preferred Alternative. Alternative C was selected as the preferred alternative for the Pedro Point Headlands. The preferred alternative would allow on-leash dog walking on the Coastal Trail at the Pedro Point Headlands. If dogs are physically restrained on leash at this site, they should not gain access to frog habitat and should not affect the frog during juvenile or adult life stages. Therefore, assuming compliance, the preferred alternative would result in negligible impacts on the frog; no measurable or perceptible changes to frogs, nonbreeding habitat, or critical habitat would occur.

Under the preferred alternative, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be allocated at Pedro Point Headlands, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking is not common at the Pedro Point Headlands, it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking under the preferred alternative would have negligible impacts on the frog.

Cumulative Impacts. Projects and actions in and near Pedro Point Headlands were considered for the cumulative impacts analysis (appendix K). The following is a discussion of projects that have had, are currently having, or have the potential to have effects on the California red-legged frog at or in the vicinity of this site.

The fragmentation of existing habitat and the continued colonization of existing habitat by non-native species may represent the most important current threats to California red-legged frogs. The Park Stewardship Programs, implementation of the *Fire Management Plan* (NPS 2005a), Wildland/Urban Interface Initiative projects, habitat restoration programs, and maintenance operations all have the potential to affect the frog and its habitat. Habitat restoration and maintenance operations aim to prevent impacts on the frog. An example of the programs that will specifically provide some benefit to the frog is the Park Stewardship Programs, which include provisions for the creation of additional frog habitat.

The negligible impacts on the California red-legged frog from dogs at the Pedro Point Headlands under the preferred alternative were considered together with the effects of the projects mentioned above. The beneficial effects from the Park Stewardship Programs and other actions combined with the negligible impacts on the California red-legged frog from the preferred alternative would result in negligible cumulative impacts.

Indirect Impacts in Adjacent Parks

In lands adjacent to GGNRA, there are 14 parks with dog use areas within about a 10-mile radius of the Pedro Point Headlands and 2 parks within about a 5-mile radius; the closest parks are Montara State Beach and Esplanade Beach in Pacifica (which is temporarily closed) (map 27). No indirect impacts on

the frog in adjacent lands would be expected under the preferred alternative since on-leash dog walking would be allowed at the Pedro Point Headlands.

PEDRO POINT HEADLANDS PREFERRED ALTERNATIVE CONCLUSION TABLE

California Red-legged Frog Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Negligible impacts, assuming compliance	Physically restraining dogs on leash would prevent dog access to frog habitat	Beneficial to no change, assuming compliance	Negligible cumulative impacts No indirect impacts in adjacent lands

SAN FRANCISCO GARTER SNAKE (FEDERALLY AND STATE ENDANGERED)

In addition, to federal and state listing, the San Francisco garter snake is also a Fully Protected Animal in California. In GGNRA, the San Francisco garter snake (hereinafter often referred to as “the snake”) has been documented as occurring at Mori Point; the freshwater ponds at this site were created to provide foraging habitat for this species. Milagra Ridge has suitable aquatic, adjacent upland, and dispersal habitats for the snake and Sweeney Ridge/Cattle Hill and Pedro Point Headlands may serve as dispersal habitat for the snake (NPS 2010b). It is important to note that the primary food source of the San Francisco garter snake is the federally threatened California red-legged frog (discussed above). Therefore, described impacts on the frog could also affect the San Francisco garter snake. The snake is normally associated with wetland areas and water bodies, but also uses upland habitat for basking and/or burrowing (USFWS 1985d, 9).

Mori Point

Alternative A: No Action. Under current conditions, dogs are allowed on leash on all trails and on the beach within the GGNRA boundary. The San Francisco garter snake is present in areas that are open for visitor and dog use at this site, which has documented high visitor use, including moderate use by dog walkers; 54 leash law violations occurred at the site in 2007/2008 (table 9). Educational signs and fences have been placed around the ponds and wetland habitat at Mori Point to prevent direct impacts on frogs and frog habitat; however, dogs have occasionally been observed in the ponds (Hatch et al. pers. comm. 2010). The signs and fence also benefit the snake since the frog is its main food source. There is no documentation that dogs have either directly or indirectly affected the San Francisco garter snake at this site.

However, under alternative A, the behavior of the San Francisco garter snake could be directly affected by dogs through capture or digging if snakes are basking on warm surfaces, such as trails, or burrowing in upland areas. The snake could be indirectly affected if avoidance of preferred habitat occurs due to dog presence at the site or if changes to the California red-legged frog population occur. Therefore, impacts on the San Francisco garter snake as a result of alternative A would range from negligible to long-term, minor, and adverse. A few individuals of the species in a small, localized area could be affected by occasional disturbance from dogs but the reproductive success of individuals of the species would not be affected.

Under alternative A, no permit system exists for commercial dog walking. At Mori Point, commercial dog walking is uncommon; therefore, commercial dog walking would have negligible impacts on the snake.

Cumulative Impacts. Projects and actions in and near Mori Point were considered for the cumulative impacts analysis (appendix K). The following is a discussion of projects that have had, are currently having, or have the potential to have effects on the San Francisco garter snake at or in the vicinity of this site.

Park Stewardship Programs, the *Mori Point Restoration and Trail Plan* project, maintenance operations, illegal poaching by collectors, interim planning for new GGNRA lands in San Mateo County, and proposed plans for the Sharp Park golf course by the San Francisco Recreation and Park Department all have the potential to affect San Francisco garter snake habitat. Park Stewardship Programs and interim planning for new lands in San Mateo County are actively working to protect and enhance San Francisco garter snake habitat in cooperation with the USFWS as part of the recovery plan. Specifically, the *Mori Point Restoration and Trail Plan* project will protect and enhance habitat for the federally and state-listed threatened San Francisco garter snake at Mori Point by guiding visitor use away from restoration areas. The Sharp Park Golf Course, located in Pacifica (adjacent to Mori Point), supports the San Francisco garter snake. Plans at the golf course range from restoration to entirely natural habitat, to minor modifications that would improve habitat connectivity for frogs and snakes.

The negligible to long-term minor adverse impacts on the San Francisco garter snake from dogs at Mori Point under alternative A were considered together with the effects of the projects mentioned above. The beneficial effects from the Park Stewardship Programs and the *Mori Point Restoration and Trail Plan* project should reduce some of the adverse impacts on the San Francisco garter snake from alternative A. Therefore, cumulative impacts on the California red-legged frog under this alternative would be expected to be negligible.

Indirect Impacts in Adjacent Parks

In lands adjacent to GGNRA, there are 23 parks with dog use areas within about a 10-mile radius of Mori Point and 3 parks within about a 5-mile radius; the closest parks are Esplanade Beach in Pacifica (which is temporarily closed) and the San Bruno Dog Park (map 27). No indirect impacts on the snake in adjacent lands would be expected under alternative A since there would be no change in current conditions at the site.

MORI POINT ALTERNATIVE A CONCLUSION TABLE

San Francisco Garter Snake Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Negligible to long-term minor adverse impacts	Dogs have occasionally been observed in the ponds and snake behavior could be affected by dogs directly (through capture or digging) or indirectly (if preferred habitat is limited or changes in the California red-legged frog population occur)	N/A	Negligible cumulative impacts No indirect impacts in adjacent lands

N/A = not applicable

Alternative B: NPS Leash Regulation. Alternative B would allow on-leash dog walking on the Coastal Trail and on the beach within the GGNRA boundary, but dogs would not be allowed on the Pollywog Path adjacent to the ponds, which provide snake habitat. Educational signs and fences have been placed around the ponds and wetland habitat at Mori Point. If dogs are physically restrained on leash at this site

and deterred by fencing, they should not gain access to the ponds and should not affect the snake in wetland areas or in dispersal habitat. Therefore, assuming compliance, alternative B would result in negligible impacts on the snake; no measurable or perceptible changes to the snake or its habitat would occur.

Under alternative B, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs per person with no permit required. Since commercial dog walking is not common in this area, it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking under alternative B would have negligible impacts on the snake.

Cumulative Impacts. The negligible impacts on the San Francisco garter snake from dogs at Mori Point under alternative A were considered together with the effects of the projects mentioned above under alternative A. The beneficial effects from the Park Stewardship Programs and the *Mori Point Restoration and Trail Plan* project at this site combined with the negligible impacts on the San Francisco garter snake from alternative A would result in beneficial cumulative impacts.

Indirect Impacts in Adjacent Parks

The adjacent lands identified under alternative A would probably not experience any increased visitation under alternative B since visitors would be allowed to continue to walk dogs at this site; therefore, no indirect impacts on the snake would be expected in adjacent lands.

MORI POINT ALTERNATIVE B CONCLUSION TABLE

San Francisco Garter Snake Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Negligible impacts, assuming compliance	Physically restraining dogs on leash would reduce direct impacts on snakes through capture or trampling; dogs would be prohibited on the trail adjacent to the ponds that provide snake habitat	Beneficial to no change, assuming compliance	Beneficial cumulative impacts No indirect impacts in adjacent lands

Alternative C: Emphasis on Multiple Use—Balanced by County. Alternative C would allow dogs on leash on Old Mori Road, the Coastal Trail, and the beach within the GGNRA boundary, but dogs would not be allowed on the Pollywog Path adjacent to the ponds. If dogs are physically restrained on leash at this site and not allowed on the trail adjacent to the ponds (which are also fenced), they should not gain access to the ponds and should not affect the snake in wetland areas or in dispersal habitat. Therefore, assuming compliance, alternative C would result in negligible impacts on the snake; no measurable or perceptible changes to the snake or its habitat would occur.

Under alternative C, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be allocated at Mori Point, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking is not common at Mori Point, it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking under alternative C would have negligible impacts on the snake.

Cumulative Impacts. The negligible impacts on the San Francisco garter snake from dogs at Mori Point under alternative C were considered together with the effects of the projects mentioned above under alternative A. The beneficial effects from the Park Stewardship Programs and the *Mori Point Restoration and Trail Plan* project at this site combined with the negligible impacts on the San Francisco garter snake from alternative C would result in beneficial cumulative impacts.

Indirect Impacts in Adjacent Parks

The adjacent lands identified under alternative A would probably not experience any increased visitation under alternative B since visitors would be allowed to continue to walk dogs at this site; therefore, no indirect impacts on the snake would be expected in adjacent lands.

MORI POINT ALTERNATIVE C CONCLUSION TABLE

San Francisco Garter Snake Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Negligible impacts, assuming compliance	Physically restraining dogs on leash would reduce direct impacts on snakes through capture or trampling; dogs would be prohibited on the trail adjacent to the ponds that provide snake habitat	Beneficial to no change, assuming compliance	Beneficial cumulative impacts No indirect impacts in adjacent lands

Alternative D: Most Protective Based on Resource Protection/Visitor Safety. Alternative D would not allow dogs at the site. Therefore, this alternative would result in no impact on the San Francisco garter snake, assuming compliance.

Since dogs would not be allowed at Mori Point, there would be no impact from commercial dog walkers on the snake.

Cumulative Impacts. The lack of impacts on the San Francisco garter snake from dogs at Mori Point under alternative D was considered together with the effects of the projects mentioned above under alternative A. The beneficial effects from the Park Stewardship Programs and the *Mori Point Restoration and Trail Plan* project at this site combined with the lack of impacts on the San Francisco garter snake from alternative D would result in beneficial cumulative impacts.

Indirect Impacts in Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation under alternative D since this alternative would not allow dogs. Indirect impacts on the snake in adjacent lands from increased dog use would be expected to range from negligible to long term, minor, and adverse; a range is presented because it is unknown whether the snake or suitable habitat and water bodies exist in adjacent parks.

MORI POINT ALTERNATIVE D CONCLUSION TABLE

San Francisco Garter Snake Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
No impact, assuming compliance	Dogs would be prohibited at the site	Beneficial, assuming compliance	Beneficial cumulative impacts Negligible to long-term minor adverse indirect impacts in adjacent lands

Alternative E: Most Dog Walking Access/Most Management Intensive. Alternative E would allow on-leash dog walking on the Coastal Trail, Old Mori Road, the Pollywog Path (adjacent to the ponds), and the section of beach within the GGNRA boundary. If dogs are physically restrained on leash at this site, they should not gain access to the ponds and should not affect the snake in wetland areas or in dispersal habitat. Therefore, assuming compliance, alternative E would result in negligible impacts on the snake; no measurable or perceptible changes to the snake or its habitat would occur.

Under alternative E, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be allocated at Mori Point, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking is not common at Mori Point, it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking under alternative E would have negligible impacts on the snake.

Cumulative Impacts. The negligible impacts on the San Francisco garter snake from dogs at Mori Point under alternative E were considered together with the effects of the projects mentioned above under alternative A. The beneficial effects from the Park Stewardship Programs and the *Mori Point Restoration and Trail Plan* project at this site combined with the negligible impacts on the San Francisco garter snake from alternative E would result in beneficial cumulative impacts.

Indirect Impacts in Adjacent Parks

The adjacent lands identified under alternative A would probably not experience any increased visitation under alternative E since visitors would be allowed to continue to walk dogs at Mori Point. Therefore, no indirect impacts on the snake would be expected in adjacent lands.

MORI POINT ALTERNATIVE E CONCLUSION TABLE

San Francisco Garter Snake Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Negligible impacts, assuming compliance	Physically restraining dogs on leash would reduce direct impacts on snakes through capture or trampling, although on-leash dogs would be allowed on the trail adjacent to some of the ponds (Pollywog Path)	Beneficial to no change, assuming compliance	Beneficial cumulative impacts No indirect impacts in adjacent lands

Preferred Alternative. Alternative C was selected as the preferred alternative for Mori Point. The preferred alternative would allow dogs on Old Mori Road, the Coastal Trail, and the portion of beach within the GGNRA boundary, but dogs would not be allowed on the Pollywog Path adjacent to the ponds. If dogs are physically restrained on leash at this site and not allowed on the Pollywog Path adjacent to the ponds (which are also fenced), they should not gain access to the ponds and should not affect the snake in wetland areas or in dispersal habitat. Therefore, assuming compliance, the preferred alternative would result in negligible impacts on the snake; no measurable or perceptible changes to the snake or its habitat would occur.

Under the preferred alternative, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be allocated at Mori Point, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking is not common at Mori Point, it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking under the preferred alternative would have negligible impacts on the snake.

Cumulative Impacts. Projects and actions in and near Mori Point were considered for the cumulative impacts analysis (appendix K). The following is a discussion of projects that have had, are currently having, or have the potential to have effects on the San Francisco garter snake at or in the vicinity of this site.

Park Stewardship Programs, the *Mori Point Restoration and Trail Plan* project, maintenance operations, illegal poaching by collectors, interim planning for new GGNRA lands in San Mateo County, and proposed plans for the Sharp Park golf course by the San Francisco Recreation and Park Department all have the potential to affect San Francisco garter snake habitat. Park Stewardship Programs and interim planning for new lands in San Mateo County are actively working to protect and enhance San Francisco garter snake habitat in cooperation with the USFWS as part of the recovery plan. Specifically, the *Mori Point Restoration and Trail Plan* project will protect and enhance habitat for the federally and state-listed threatened San Francisco garter snake at Mori Point by guiding visitor use away from restoration areas. The Sharp Park Golf Course, located in Pacifica (adjacent to Mori Point), supports the San Francisco garter snake. Plans at the golf course range from restoration to entirely natural habitat, to minor modifications that would improve habitat connectivity for frogs and snakes.

The negligible impacts on the San Francisco garter snake from dogs at Mori Point under the preferred alternative were considered together with the effects of the projects mentioned above. The beneficial effects from the Park Stewardship Programs and the *Mori Point Restoration and Trail Plan* project at this site combined with the negligible impacts on the San Francisco garter snake from the preferred alternative would result in beneficial cumulative impacts.

Indirect Impacts in Adjacent Parks

In lands adjacent to GGNRA, there are 23 parks with dog use areas within about a 10-mile radius of Mori Point and 3 parks within about a 5-mile radius; the closest parks are Esplanade Beach in Pacifica (which is temporarily closed) and the San Bruno Dog Park (map 27). The adjacent lands would probably not experience any increased visitation under the preferred alternative since visitors would be allowed to continue to walk dogs at this site; therefore, no indirect impacts on the snake would be expected in adjacent lands.

MORI POINT PREFERRED ALTERNATIVE CONCLUSION TABLE

San Francisco Garter Snake Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Negligible impacts, assuming compliance	Physically restraining dogs would reduce direct impacts on snakes through capture and trampling (due to mobility of species); dogs would be prohibited on the trail adjacent to the ponds that provide snake habitat	Beneficial to no change, assuming compliance	Beneficial cumulative impacts No indirect impacts in adjacent lands

Milagra Ridge

Alternative A: No Action. Dogs are currently allowed on leash on all trails at Milagra Ridge. This site has documented moderate visitor use by bicyclists, walkers, and hikers, and high visitor use by dog walkers (table 9). There were 25 leash law violations at this site in 2007/2008 (table 9). There is no documentation that dogs have either directly or indirectly affected the San Francisco garter snake at this site.

However, under alternative A, the behavior of the San Francisco garter snake could be directly affected by dogs (through capture or digging) if snakes are basking on warm surfaces, such as trails, or burrowing in upland areas. The San Francisco garter snake could be indirectly affected if avoidance of preferred habitat occurs due to dog presence at the site or if changes in the California red-legged frog population occur. Therefore, impacts on the snake as a result of alternative A would range from negligible to long term, minor, and adverse. A few individuals of the species in a small, localized area could be affected by occasional disturbance from dogs but the reproductive success of individuals of the species would not be affected.

Under alternative A, no permit system exists for commercial dog walking. At Milagra Ridge, commercial dog walking is uncommon; therefore, commercial dog walking would have negligible impacts on the snake.

Cumulative Impacts. Projects and actions in and near Milagra Ridge were considered for the cumulative impacts analysis (appendix K). The following is a discussion of projects that have had, are currently having, or have the potential to have effects on the San Francisco garter snake at or in the vicinity of this site.

Park Stewardship Programs, maintenance operations, illegal poaching by collectors, and interim planning for new GGNRA lands in San Mateo County all have potential to affect San Francisco garter snake habitat. Park Stewardship Programs and interim planning for new lands in San Mateo County are actively working to protect and enhance San Francisco garter snake habitat in cooperation with the USFWS as part of the recovery plan.

The negligible to long-term minor adverse impacts on the San Francisco garter snake from dogs at Milagra Ridge under alternative A were considered together with the effects of the projects mentioned above. The beneficial effects from the Park Stewardship Programs should reduce some of the adverse impacts on the San Francisco garter snake from alternative A. Therefore, cumulative impacts on the San Francisco garter snake under this alternative would be expected to be negligible.

Indirect Impacts in Adjacent Parks

In lands adjacent to GGNRA, there are 36 parks with dog use areas within about a 10-mile radius of Milagra Ridge and 5 parks within about a 5-mile radius; the closest parks are Esplanade Beach in Pacifica (which is temporarily closed) and the San Bruno Dog Park (map 27). No indirect impacts on the snake in adjacent lands would be expected under alternative A since there would be no change in current conditions at the site.

MILAGRA RIDGE ALTERNATIVE A CONCLUSION TABLE

San Francisco Garter Snake Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Negligible to long-term minor adverse impacts	Snake behavior could be affected by off-leash dogs directly (through capture or digging) or indirectly (if changes in the California red-legged frog population occur)	N/A	Negligible cumulative impacts No indirect impacts in adjacent lands

N/A = not applicable.

Alternative B: NPS Leash Regulation. Alternative B would allow dogs on leash on the fire road and the trails to the overlook and WWII bunker as well as on the future Milagra Battery Trail. However, the trail loop to the top of the hill would not be available to dogs under this alternative. If dogs are physically restrained on leash, they should not gain access to the aquatic habitat or dispersal habitat used by snakes at this site. Therefore, assuming compliance, alternative B would result in negligible impacts on the snake; no measurable or perceptible changes to the snake or its habitat would occur.

Under alternative B, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs per person with no permit required. Since commercial dog walking is uncommon at Milagra Ridge, it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking under alternative B would have negligible impacts on the snake.

Cumulative Impacts. The negligible impacts on the San Francisco garter snake from dogs at Milagra Ridge under alternative B were considered together with the effects of the projects mentioned above under alternative A. The beneficial effects from the Park Stewardship Programs and other actions combined with the negligible impacts on the San Francisco garter snake from alternative B would result in negligible cumulative impacts.

Indirect Impacts in Adjacent Parks

The adjacent lands identified under alternative A would probably not experience any increased visitation under alternative B since visitors would be allowed to continue to walk dogs at this site on the fire road and other trails; therefore, no indirect impacts on the snake would be expected in adjacent lands.

MILAGRA RIDGE ALTERNATIVE B CONCLUSION TABLE

San Francisco Garter Snake Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Negligible impacts, assuming compliance	Physically restraining dogs on leash would reduce direct impacts on snakes through capture and trampling	Beneficial to no change, assuming compliance	Negligible cumulative impacts No indirect impacts in adjacent lands

Alternative C: Emphasis on Multiple Use—Balanced by County. Alternative C would have the same dog walking restrictions as alternative B, and impacts would be the same, assuming compliance: negligible.

Under alternative C, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be allocated at Milagra Ridge, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking is not common at Milagra Ridge, it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking under alternative C would have negligible impacts on the snake.

Cumulative Impacts. Under alternative C, the cumulative impacts on the snake at this park site and indirect impacts on the snake in adjacent lands would be the same as those under alternative B: negligible cumulative impacts and no indirect impacts on the snake in adjacent lands.

MILAGRA RIDGE ALTERNATIVE C CONCLUSION TABLE

San Francisco Garter Snake Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Negligible impacts, assuming compliance	Physically restraining dogs would reduce direct impacts on snakes through capture and trampling (due to mobility of species)	Beneficial to no change, assuming compliance	Negligible cumulative impacts No indirect impacts in adjacent lands

Alternative D: Most Protective Based on Resource Protection/Visitor Safety. Alternative D would not allow dogs at the site. Therefore, this alternative would result in no impact on the San Francisco garter snake, assuming compliance.

Since dogs would not be allowed at Milagra Ridge, there would be no impact from commercial dog walkers on the snake.

Cumulative Impacts. The lack of impacts on the San Francisco garter snake from dogs at Milagra Ridge under alternative D was considered together with the effects of the projects mentioned above under alternative A. The beneficial effects from the Park Stewardship Programs and other actions combined with the lack of impacts on the San Francisco garter snake from alternative D would result in beneficial cumulative impacts.

Indirect Impacts in Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation under alternative D since this alternative would not allow dogs at the site. Indirect impacts on the snake in adjacent lands from increased dog use would be expected to range from negligible to long term, minor, and adverse; a range is presented because it is unknown whether the snake or suitable habitat and water bodies exist in adjacent parks.

MILAGRA RIDGE ALTERNATIVE D CONCLUSION TABLE

San Francisco Garter Snake Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
No impact, assuming compliance	Dogs would be prohibited at the site	Beneficial, assuming compliance	Beneficial cumulative impacts Negligible to long-term minor adverse indirect impacts in adjacent lands

Alternative E: Most Dog Walking Access/Most Management Intensive. Alternative E would allow on-leash dog walking on the same trails as alternative B, with the addition of a trail loop to the top of the hill, and impacts would be the same, assuming compliance: negligible.

Under alternative E, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be allocated at Milagra Ridge, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking is not common at Milagra Ridge, it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking under alternative E would have negligible impacts on the snake.

Cumulative Impacts. Under alternative E, the cumulative impacts on the San Francisco garter snake at Milagra Ridge and the indirect impacts on the snake in adjacent parks would be the same as those under alternative B: negligible cumulative impacts and no indirect impacts on the snake in adjacent lands.

MILAGRA RIDGE ALTERNATIVE E CONCLUSION TABLE

San Francisco Garter Snake Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Negligible impacts, assuming compliance	Physically restraining dogs on leash would reduce direct impacts on snakes through capture and trampling	Beneficial to no change, assuming compliance	Negligible cumulative impacts No indirect impacts in adjacent lands

Preferred Alternative. Alternative C was selected as the preferred alternative for Milagra Ridge. The preferred alternative would allow dogs on leash on the fire road and the trails to the overlook and WWII bunker as well as the future Milagra Battery Trail. The trail loop to the top of the hill would not be available to dogs under this alternative. If dogs are physically restrained on leash at this site, they should not gain access to and should not affect the snake in aquatic areas or in dispersal habitat. Therefore, assuming compliance, the preferred alternative would result in negligible impacts on the snake; no measurable or perceptible changes to the snake or its habitat would occur.

Under the preferred alternative, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be allocated at Milagra Ridge, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking is not common at Milagra Ridge, it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking under the preferred alternative would have negligible impacts on the snake.

Cumulative Impacts. Projects and actions in and near Milagra Ridge were considered for the cumulative impacts analysis (appendix K). The following is a discussion of projects that have had, are currently having, or have the potential to have effects on the San Francisco garter snake at or in the vicinity of this site.

Park Stewardship Programs, maintenance operations, illegal poaching by collectors, and interim planning for new GGNRA lands in San Mateo County all have the potential to affect San Francisco garter snake habitat. Park Stewardship Programs and interim planning for new lands in San Mateo County are actively working to protect and enhance San Francisco garter snake habitat in cooperation with the USFWS as part of the recovery plan.

The negligible impacts on the San Francisco garter snake from dogs at Milagra Ridge under the preferred alternative were considered together with the effects of the projects mentioned above. The beneficial effects from the Park Stewardship Programs combined with the negligible impacts on the San Francisco garter snake from the preferred alternative would result in negligible cumulative impacts.

Indirect Impacts in Adjacent Parks

In lands adjacent to GGNRA, there are 36 parks with dog use areas within about a 10-mile radius of Milagra Ridge and 5 parks within about a 5-mile radius; the closest parks are Esplanade Beach in Pacifica (which is temporarily closed) and the San Bruno Dog Park (map 27). The adjacent lands would probably not experience any increased visitation under the preferred alternative, since visitors would be allowed to continue to walk dogs at this site on the fire road and other trails; therefore, no indirect impacts on the snake would be expected in adjacent lands.

MILAGRA RIDGE PREFERRED ALTERNATIVE CONCLUSION TABLE

San Francisco Garter Snake Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Negligible impacts, assuming compliance	Physically restraining dogs on leash would reduce direct impacts on snakes through capture and trampling	Beneficial to no change, assuming compliance	Negligible cumulative impacts No indirect impacts in adjacent lands

Sweeney Ridge/Cattle Hill

Alternative A: No Action. Under current conditions, dogs are allowed on leash on all trails except the Notch Trail, where dog walking is not allowed. This site has documented low to moderate visitor use by dog walkers and low use by hikers and bicyclists. Off-leash dog walking has been observed along the trails of Sweeney Ridge; 55 leash law violations occurred in 2007/2008 (table 9). Cattle Hill is currently

not part of GGNRA, but unrestricted dog walking occurs at this site. There is no documentation that dogs have either directly or indirectly affected the San Francisco garter snake at this site.

However, under alternative A, the behavior of the San Francisco garter snake could be directly affected by dogs (through capture or digging) if snakes are basking on warm surfaces, such as trails, or burrowing in upland areas. The snake could be indirectly affected if avoidance of preferred habitat occurs due to dog presence at the site or if changes in the California red-legged frog population occur. Therefore, impacts on the San Francisco garter snake as a result of alternative A would range from negligible to long-term, minor, and adverse. A few individuals of the species in a small, localized area could be affected by occasional disturbance from dogs but the reproductive success of individuals of the species would not be affected.

Under alternative A, no permit system exists for commercial dog walking. Commercial dog walking is uncommon at Sweeney Ridge and Cattle Hill; therefore, commercial dog walking would have negligible impacts on the snake.

Cumulative Impacts. Projects and actions in and near Sweeney Ridge/Cattle Hill were considered for the cumulative impacts analysis (appendix K). The following is a discussion of projects that have had, are currently having, or have the potential to have effects on the San Francisco garter snake at or in the vicinity of this site.

Park Stewardship Programs, maintenance operations, illegal poaching by collectors, and interim planning for new GGNRA lands in San Mateo County all have the potential to affect San Francisco garter snake habitat. Park Stewardship Programs and interim planning for new lands in San Mateo County are actively working to protect and enhance San Francisco garter snake habitat in cooperation with the USFWS as part of the recovery plan.

The negligible to long-term minor adverse impacts on the San Francisco garter snake from dogs at Sweeney Ridge/Cattle Hill under alternative A were considered together with the effects of the projects mentioned above. The beneficial effects from the Park Stewardship Programs and other actions should reduce some of the adverse impacts on the San Francisco garter snake from alternative A. Therefore, cumulative impacts on the San Francisco garter snake under this alternative would be expected to be negligible.

Indirect Impacts in Adjacent Parks

In lands adjacent to GGNRA, there are 24 parks with dog use areas within about a 10-mile radius of Sweeney Ridge and Cattle Hill and 4 parks within about a 5-mile radius; the closest parks are the San Bruno Dog Park and Esplanade Beach in Pacifica (which is temporarily closed) (map 27). No indirect impacts on the snake in adjacent lands would be expected under alternative A since there would be no change in current conditions at the site.

SWEENEY RIDGE/CATTLE HILL ALTERNATIVE A CONCLUSION TABLE

San Francisco Garter Snake Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Negligible to long-term minor adverse impacts	Snake behavior could be affected by off-leash dogs directly (through capture or digging) or indirectly (if changes in the California red-legged frog population occur)	N/A	Negligible cumulative impacts No indirect impacts in adjacent lands

N/A = not applicable.

Alternative B: NPS Leash Regulation. Alternative B would not allow dogs at the site and would provide protection for a large area of relatively undisturbed contiguous habitat. Therefore, this alternative would result in no impact on the San Francisco garter snake, assuming compliance.

Since dogs would not be allowed at Sweeney Ridge/Cattle Hill, there would be no impact from commercial dog walkers on the snake.

Cumulative Impacts. The lack of impacts on the San Francisco garter snake from dogs at Sweeney Ridge/Cattle Hill under alternative B were considered together with the effects of the projects mentioned above under alternative A. The beneficial effects from the Park Stewardship Programs and other actions combined with the lack of impacts on the San Francisco garter snake from alternative B would result in beneficial cumulative impacts.

Indirect Impacts in Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation under alternative B since this alternative would not allow dogs. Indirect impacts on the snake in adjacent lands from increased dog use would be expected to range from negligible to long term, minor, and adverse; a range is presented because it is unknown whether the snake or suitable habitat and water bodies exist in adjacent parks.

SWEENEY RIDGE/CATTLE HILL ALTERNATIVE B CONCLUSION TABLE

San Francisco Garter Snake Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
No impact, assuming compliance	Dogs would be prohibited at the site	Beneficial, assuming compliance	Beneficial cumulative impacts Negligible to long-term minor adverse indirect impacts in adjacent lands

Alternative C: Emphasis on Multiple Use—Balanced by County. Under alternative C no dog walking would be allowed at Sweeney Ridge. Assuming compliance, there would be no impact on the snake from dog walking at Sweeney Ridge. At Cattle Hill, on-leash dog walking would be allowed on the Baquiano Trail from Fassler Avenue up to and including the Farallons View Trail. On-leash dog walking is based on an allowed 6-foot dog leash. Since dog walkers may walk along the edges of the trails, dogs would then have access to the adjacent land 6 feet in both directions, resulting in an LOD area that would extend 6 feet out from both edges of the trails. Although dogs would be allowed on the Cattle Hill trails, dogs would be physically restrained on leash and the leash policy would be enforced. If dogs are physically restrained on leash at this site, they should not gain access to dispersal habitat and should not affect the

snake. Therefore, assuming compliance, alternative C would result in negligible impacts on the snake at Cattle Hill; no measurable or perceptible changes to individual snakes, the population, or designated critical habitat would occur.

Under alternative C, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be allocated at Sweeney Ridge/Cattle Hill, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since dog walking would not be allowed at Sweeney Ridge, commercial dog walking under alternative C would have no impact on the snake. Since commercial dog walking is not common at Cattle Hill, it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking under alternative C would have negligible impacts on the snake at Cattle Hill.

Cumulative Impacts. The negligible impacts on the snake from dogs at Cattle Hill under alternative C were considered together with the effects of the projects mentioned above under alternative A. The beneficial effects from the Park Stewardship Programs combined with the negligible impacts on the snake from alternative C would result in negligible cumulative impacts at Cattle Hill. At Sweeney Ridge, the lack of impacts combined with the beneficial effects from the Park Stewardship Programs would result in beneficial cumulative impacts.

Indirect Impacts in Adjacent Lands

Adjacent lands may experience increased visitation since dogs would no longer be allowed at Sweeney Ridge. Therefore, indirect impacts in adjacent lands would be negligible to long term, minor, and adverse for both Sweeney Ridge/Cattle Hill since these sites are contiguous and would affect the same adjacent lands; a range is presented because it is unknown whether the frog or suitable habitat and water bodies exist at adjacent parks.

SWEENEY RIDGE/CATTLE HILL ALTERNATIVE C CONCLUSION TABLE

San Francisco Garter Snake Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
No impact at Sweeney Ridge, assuming compliance	Dogs would be prohibited at Sweeney Ridge	Beneficial, assuming compliance	Beneficial cumulative impacts Negligible to long-term minor adverse impacts in adjacent lands
Negligible impacts, assuming compliance, at Cattle Hill	At Cattle Hill, physically restraining dogs would reduce direct impacts on snakes through capture and trampling, although on-leash dogs would be allowed on numerous trails	Beneficial to no change, assuming compliance	Negligible cumulative impacts Negligible to long-term minor adverse impacts in adjacent lands

Alternative D: Most Protective Based on Resource Protection/Visitor Safety. Alternative D would not allow dogs at the site and would provide protection for a large area of relatively undisturbed contiguous habitat. Therefore, this alternative would result in no impact on the San Francisco garter snake, assuming compliance.

Since dogs would not be allowed at Sweeney Ridge/Cattle Hill, there would be no impact from commercial dog walkers on the snake.

Cumulative Impacts. Under alternative D, the cumulative impacts on the snake at this park site and indirect impacts on the snake in adjacent lands would be the same as those under alternative B: beneficial cumulative impacts and negligible to long-term minor adverse indirect impacts on the snake in adjacent lands. A range is presented because it is unknown whether the snake or suitable habitat and water bodies exist in adjacent parks.

SWEENEY RIDGE/CATTLE HILL ALTERNATIVE D CONCLUSION TABLE

San Francisco Garter Snake Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
No impact, assuming compliance	Dogs would be prohibited at the site	Beneficial, assuming compliance	Beneficial cumulative impacts Negligible to long-term minor adverse indirect impacts in adjacent lands

Alternative E: Most Dog Walking Access/Most Management Intensive. Alternative E would allow on-leash dog walking at Sweeney Ridge along Mori Ridge Trail, on the Sweeney Ridge Trail from the Portola Discovery site to the Notch Trail, and on Sneath Lane; the Notch Trail would be closed to dogs. At Cattle Hill, on-leash dog walking would be allowed on the Baquiano Trail from Fassler Avenue up to and including the Farallons View Trail. The trails at Sweeney Ridge/Cattle Hill are long, with high quality habitat directly adjacent to the trails, and the on-leash dog trails under this alternative are a greater portion of the entire site compared to alternatives B, C, and D. Additionally, Cattle Hill trails would allow on-leash dog walking under this alternative as does alternative C, and these trails generally receive low to moderate use. Physically restraining dogs on leash would protect habitat off trail, but on-leash dogs could still disturb snake behavior at this site due to the numerous trails open to dogs in high quality snake dispersal habitat. Therefore, assuming compliance, alternative E would result in negligible to long-term, minor, adverse impacts on the snake. A few individuals of the species in a small, localized area could be affected by occasional disturbance from dogs but the reproductive success of individuals of the species would not be affected.

Under alternative E, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be allocated at Sweeney Ridge/Cattle Hill, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking is not common at Sweeney Ridge or Cattle Hill, it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking under alternative E would have negligible impacts on the snake.

Cumulative Impacts. The negligible to long-term, minor, adverse impacts on the San Francisco garter snake from dogs at Sweeney Ridge/Cattle Hill under alternative E were considered together with the effects of the projects mentioned above under alternative A. The beneficial effects from the Park Stewardship Programs and other actions combined with the negligible impacts on the San Francisco garter snake from alternative E would result in negligible cumulative impacts.

Indirect Impacts in Adjacent Parks

No indirect impacts on the snake in adjacent lands would be expected under alternative E since trails allowing dogs would be designated at both Sweeney Ridge and Cattle Hill.

SWEENEY RIDGE/CATTLE HILL ALTERNATIVE E CONCLUSION TABLE

San Francisco Garter Snake Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Negligible to long-term minor adverse impacts, assuming compliance	Physically restraining dogs on leash would reduce direct impacts on snakes through capture and trampling, but on-leash dogs would be allowed on numerous trails that support snake dispersal habitat and could occasionally affect the snake or its habitat	No change, assuming compliance	Negligible cumulative impacts No indirect impacts in adjacent lands

Preferred Alternative. Alternative C was selected as the preferred alternative for Sweeney Ridge/Cattle Hill. Under the preferred alternative no dog walking would be allowed at Sweeney Ridge. Therefore, assuming compliance, there would be no impact on the snake at Sweeney Ridge. At Cattle Hill, on-leash dog walking would be allowed on the Baquiano Trail from Fassler Avenue up to and including the Farallons View Trail. On-leash dog walking is based on an allowed 6-foot dog leash. Since dog walkers may walk along the edges of the trails, dogs would then have access to the adjacent land 6 feet in both directions, resulting in an LOD area that would extend 6 feet out from both edges of the trails. Although dogs would be allowed on the Cattle Hill trails under this alternative, dogs would be physically restrained on leash and the leash policy would be enforced. If dogs are physically restrained on leash at this site, they should not gain access to dispersal habitat and should not affect the snake. Therefore, assuming compliance, the preferred alternative would result in negligible impacts on the snake at Cattle Hill; no measurable or perceptible changes to individual snakes, the population, or designated critical habitat would occur.

All dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be allocated at Sweeney Ridge/Cattle Hill, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since dog walking would not be allowed at Sweeney Ridge, commercial dog walking under the preferred alternative would have no impact on the snake. Since commercial dog walking is not common at Cattle Hill, it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking under the preferred alternative would have negligible impacts on the snake at Cattle Hill.

Cumulative Impacts. Projects and actions in and near Sweeney Ridge/Cattle Hill were considered for the cumulative impacts analysis (appendix K). The following is a discussion of projects that have had, are currently having, or have the potential to have effects on the San Francisco garter snake at or in the vicinity of this site.

Park Stewardship Programs, maintenance operations, illegal poaching by collectors, and interim planning for new GGNRA lands in San Mateo County all have the potential to affect San Francisco garter snake habitat. Park Stewardship Programs and interim planning for new lands in San Mateo County are actively

working to protect and enhance San Francisco garter snake habitat in cooperation with the USFWS as part of the recovery plan.

The lack of impacts on the snake at Sweeney Ridge and the negligible impacts on the snake from dogs at Cattle Hill under the preferred alternative were considered together with the effects of the projects mentioned above. At Sweeney Ridge, the lack of impacts combined with the beneficial effects from the Park Stewardship Programs and other actions would result in beneficial cumulative impacts. The beneficial effects from the Park Stewardship Programs and other actions combined with the negligible impacts from dogs at Cattle Hill under the preferred alternative would result in negligible cumulative impacts.

Indirect Impacts in Adjacent Lands

Adjacent lands may experience increased visitation since dogs would no longer be allowed at Sweeney Ridge. Therefore, indirect impacts in adjacent lands would be negligible to long term, minor, and adverse for both Sweeney Ridge/Cattle Hill since these sites are contiguous and would affect the same adjacent lands; a range is presented because it is unknown whether the frog or suitable habitat and water bodies exist at adjacent parks.

SWEENEY RIDGE/CATTLE HILL PREFERRED ALTERNATIVE CONCLUSION TABLE

San Francisco Garter Snake Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
No impact at Sweeney Ridge, assuming compliance	No dogs would be prohibited at Sweeney Ridge	Beneficial, assuming compliance	Beneficial cumulative impacts Negligible to long-term minor adverse impacts in adjacent lands
Negligible impacts, assuming compliance, at Cattle Hill	At Cattle Hill, physically restraining dogs would reduce direct impacts on snakes through capture and trampling, although on-leash dogs would be allowed on numerous trails	Beneficial, assuming compliance	Negligible cumulative impacts Negligible to long-term minor adverse impacts in adjacent lands

Pedro Point Headlands

Alternative A: No Action. Although this site is currently not part of GGNRA, unrestricted dog walking occurs at this site. This site has documented low to moderate visitor use; however, the number of incidents related to dog walking activities at the site is unknown since the NPS does not currently own the property (table 9). There is no documentation that dogs have either directly or indirectly affected the San Francisco garter snake at this site.

Under alternative A, the behavior of the San Francisco garter snake could be directly affected by dogs through capture or digging if snakes are basking on warm surfaces, such as trails, or burrowing in upland areas. The snake could be indirectly affected if avoidance of preferred habitat occurs due to dog presence at the site or if changes in the California red-legged frog population occur. Therefore, impacts on the San Francisco garter snake as a result of alternative A would range from negligible to long term, minor, and adverse. A few individuals of the species in a small, localized area could be affected by occasional disturbance from dogs but the reproductive success of individuals of the species would not be affected.

There are currently no commercial dog walking regulations at Pedro Point Headlands. It is unknown whether commercial dog walkers contribute to impacts on the snake.

Cumulative Impacts. Projects and actions in and near the Pedro Point Headlands were considered for the cumulative impacts analysis (appendix K). The following is a discussion of projects that have had, are currently having, or have the potential to have effects on the San Francisco garter snake at or in the vicinity of this site.

Park Stewardship Programs, maintenance operations, illegal poaching by collectors, and interim planning for new GGNRA lands in San Mateo County all have the potential to affect San Francisco garter snake habitat. Park Stewardship Programs and interim planning for new lands in San Mateo County are actively working to protect and enhance San Francisco garter snake habitat in cooperation with the USFWS as part of the recovery plan.

The negligible to long-term minor adverse impacts on the San Francisco garter snake from dogs at Pedro Point Headlands under alternative A were considered together with the effects of the projects mentioned above. The beneficial effects from the Park Stewardship Programs and other actions should reduce some of the adverse impacts on the San Francisco garter snake from alternative A. Therefore, cumulative impacts on the San Francisco garter snake under this alternative would be expected to be negligible.

Indirect Impacts in Adjacent Parks

In lands adjacent to GGNRA, there are 14 parks with dog use areas within about a 10-mile radius of the Pedro Point Headlands and 2 parks within about a 5-mile radius; the closest parks are Montara State Beach and Esplanade Beach in Pacifica (which is temporarily closed) (map 27). No indirect impacts on the snake in adjacent lands would be expected under alternative A since there would be no change in current conditions at the site.

PEDRO POINT HEADLANDS ALTERNATIVE A CONCLUSION TABLE

San Francisco Garter Snake Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Negligible to long-term minor adverse impacts	Snake behavior could be affected by off-leash dogs directly (through capture or digging) or indirectly (if changes in the California red-legged frog population occur)	N/A	Negligible cumulative impacts No indirect impacts in adjacent lands

N/A = not applicable.

Alternative B: NPS Leash Regulation. Alternative B would allow on-leash dog walking on the Coastal Trail. If dogs are physically restrained on leash at this site, they should not gain access to the dispersal habitat used by the snake. Therefore, assuming compliance, alternative B would result in negligible impacts on the snake; no measurable or perceptible changes to the snake or its habitat would occur.

Under alternative B, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs per person with no permit required. Since commercial dog walking is not common at the Pedro Point Headlands, it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking under alternative B would have negligible impacts on the snake.

Cumulative Impacts. The negligible impacts on the San Francisco garter snake from dogs at Pedro Point Headlands under alternative B were considered together with the effects of the projects mentioned above under alternative A. The beneficial effects from the Park Stewardship Programs and other actions combined with the negligible impacts on the San Francisco garter snake from alternative B would result in negligible cumulative impacts.

Indirect Impacts in Adjacent Parks

No indirect impacts on the snake in adjacent lands would be expected under alternative B since on-leash dog walking would be allowed at the Pedro Point Headlands.

PEDRO POINT HEADLANDS ALTERNATIVE B CONCLUSION TABLE

San Francisco Garter Snake Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Negligible impacts, assuming compliance	Physically restraining dogs on leash would reduce direct impacts on snakes through capture and trampling; dogs would be prohibited on all trails except the Coastal Trail	Beneficial to no change, assuming compliance	Negligible cumulative impacts No indirect impacts in adjacent lands

Alternative C: Emphasis on Multiple Use—Balanced by County. Alternative C would have the same dog walking restrictions as alternative B (on-leash dog walking on the Coastal Trail), and impacts would be the same, assuming compliance: negligible.

Under alternative C, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be allocated at the Pedro Point Headlands, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking is not common at the Pedro Point Headlands, it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking under alternative C would have negligible impacts on the snake.

Cumulative Impacts. Under alternative C, the cumulative impacts on the snake at this park site and indirect impacts on the snake in adjacent lands would be the same as those under alternative B: negligible cumulative impacts and no indirect impacts on the snake in adjacent lands.

PEDRO POINT HEADLANDS ALTERNATIVE C CONCLUSION TABLE

San Francisco Garter Snake Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Negligible impacts, assuming compliance	Physically restraining dogs on leash would reduce direct impacts on snakes through capture and trampling; dogs would be prohibited on all trails except the Coastal Trail	Beneficial to no change, assuming compliance	Negligible cumulative impacts No indirect impacts in adjacent lands

Alternative D: Most Protective Based on Resource Protection/Visitor Safety. Alternative D would not allow dogs at the site. Therefore, this alternative would result in no impact on the San Francisco garter snake, assuming compliance.

Since dogs would not be allowed at the Pedro Point Headlands, there would be no impact from commercial dog walkers on the snake.

Cumulative Impacts. The lack of impacts on the San Francisco garter snake from dogs at Pedro Point Headlands under alternative D was considered together with the effects of the projects mentioned above under alternative A. The beneficial effects from the Park Stewardship Programs and other actions combined with the lack of impacts on the San Francisco garter snake from alternative D would result in beneficial cumulative impacts.

Indirect Impacts in Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation under alternative D, particularly Montara State Beach and Esplanade Beach (which is temporarily closed), because they are the closest dog use areas. Indirect impacts on the snake in adjacent lands from increased dog use would range from negligible to long term, minor, and adverse at the Pedro Point Headlands; a range is presented because it is unknown whether the snake or suitable habitat and water bodies exist in adjacent parks.

PEDRO POINT HEADLANDS ALTERNATIVE D CONCLUSION TABLE

San Francisco Garter Snake Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
No impact, assuming compliance	Dogs would be prohibited at the site	Beneficial, assuming compliance	Beneficial cumulative impacts Negligible to long-term minor adverse indirect impacts in adjacent lands

Alternative E: Most Dog Walking Access/Most Management Intensive. Alternative E would have the same dog walking restrictions as alternative B (on-leash dog walking on the Coastal Trail), and impacts would be the same, assuming compliance: negligible.

Under alternative E, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be allocated at the Pedro Point Headlands, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking is not common at the Pedro Point Headlands, it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking under alternative E would have negligible impacts on the snake.

Cumulative Impacts. Under alternative E, the cumulative impacts on the snake at this park site and indirect impacts on the snake in adjacent lands would be the same as those under alternative B: negligible cumulative impacts and no indirect impacts on the snake in adjacent lands.

PEDRO POINT HEADLANDS ALTERNATIVE E CONCLUSION TABLE

San Francisco Garter Snake Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Negligible impacts, assuming compliance	Physically restraining dogs on leash would reduce direct impacts on snakes through capture and trampling; dogs would be prohibited on all trails except the Coastal Trail	Beneficial to no change, assuming compliance	Negligible cumulative impacts No indirect impacts in adjacent lands

Preferred Alternative. Alternative C was selected as the preferred alternative for the Pedro Point Headlands. The preferred alternative would allow on-leash dog walking on the Coastal Trail. If dogs are physically restrained on leash, they should not gain access to and should not affect the snake in dispersal habitat at this site. Therefore, assuming compliance, the preferred alternative would result in negligible impacts on the snake; no measurable or perceptible changes to the snake or its habitat would occur.

Under the preferred alternative, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be allocated at the Pedro Point Headlands, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking is not common at the Pedro Point Headlands, it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking under the preferred alternative would have negligible impacts on the snake.

Cumulative Impacts. Projects and actions in and near Pedro Point Headlands were considered for the cumulative impacts analysis (appendix K). The following is a discussion of projects that have had, are currently having, or have the potential to have effects on the San Francisco garter snake at or in the vicinity of this site.

Park Stewardship Programs, maintenance operations, illegal poaching by collectors, and interim planning for new GGNRA lands in San Mateo County all have the potential to affect San Francisco garter snake habitat. Park Stewardship Programs and interim planning for new lands in San Mateo County are actively working to protect and enhance San Francisco garter snake habitat in cooperation with the USFWS as part of the recovery plan.

The negligible impacts on the San Francisco garter snake from dogs at the Pedro Point Headlands under the preferred alternative were considered together with the effects of the projects mentioned above. The beneficial effects from the Park Stewardship Programs and other actions combined with the negligible impacts on the San Francisco garter snake from the preferred alternative would result in negligible cumulative impacts.

Indirect Impacts in Adjacent Parks

In lands adjacent to GGNRA, there are 14 parks with dog use areas within about a 10-mile radius of Pedro Point Headlands and 2 parks within about a 5-mile radius; the closest parks are Montara State Beach and Esplanade Beach in Pacifica (which is temporarily closed) (map 27). No indirect impacts on the snake in adjacent lands would be expected under the preferred alternative since on-leash dog walking would be allowed at the Pedro Point Headlands.

PEDRO POINT HEADLANDS PREFERRED ALTERNATIVE CONCLUSION TABLE

San Francisco Garter Snake Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Negligible impacts, assuming compliance	Physically restraining dogs on leash would reduce direct impacts on snakes through capture and trampling; dogs would be prohibited on all trails except the Coastal Trail	Beneficial to no change, assuming compliance	Negligible cumulative impacts No indirect impacts in adjacent lands

WESTERN SNOWY PLOVER (FEDERALLY THREATENED)

In GGNRA, the western snowy plover uses areas with wide, sandy, dune-backed beaches (or sections of beaches) for roosting and foraging during their nonbreeding season. There is no documentation of this species nesting in GGNRA, but they overwinter at the Ocean Beach SPPA and at the Crissy Field WPA. The *Recovery Plan for Pacific Coast Population of the Western Snowy Plover* indicates that monitoring and management of western snowy plover breeding, wintering, and migrating habitat to maximize survival and productivity and reduce disturbance to this species are important for this species' recovery (USFWS 2007a, 140–141).

Survey data have indicated that impacts on western snowy plovers at Crissy Field are predominantly from two sources; walkers who traverse the beach area and dogs (both on and off leash) (GGA 2009, 12). Because western snowy plovers have cryptically colored plumage and blend in with their surroundings, making them hard to see, park visitors may inadvertently disturb them. Also, unleashed dogs may chase or catch birds (CRB 2006). State parks literature points out that even leashed dogs may frighten nearby plovers, causing the birds to use up their small reserves of energy to flee instead of gathering food, which can be enough to kill the birds (CRB 2006). Plovers tend to take flight more readily and expend more energy when approached by dogs than by people on foot (Hatch 1996, ii); Lafferty (2001a) also shows that dogs affect shorebirds at a greater distance than people do (Lafferty 2001a, 1950). Leashed dogs can bark and/or lunge at feeding and roosting shorebirds, including western snowy plovers, at beach areas. There have been multiple instances documented where dogs have flushed or chased shorebirds, including western snowy plovers (GGA 2009, 12; Hatch 1996, ii; 2007; Hatch et al. 2006; Zlatunich 2007). Chasing of plovers clearly meets the definition of harassment and take under the ESA of 1973 and as specifically defined for western snowy plovers (Hatch 1996). The USFWS states that

Dogs on beaches can pose a serious threat to snowy plovers during both the breeding and nonbreeding seasons. Unleashed pets, primarily dogs, sometimes chase snowy plovers and destroy nests. Repeated disturbances by dogs can interrupt brooding, incubating, and foraging behavior of adult plovers and cause chicks to become separated from their parents (USFWS 2007a, 63).

The USFWS further states that dog disturbance at wintering and staging sites may adversely affect individual survivorship and fecundity, thereby affecting the species at a population level (USFWS 2007a, 65).

Even though western snowy plovers do not nest at GGNRA, general impacts on the western snowy plover from dogs include disturbance, harassment, interruption of roosting/foraging behavior, and limitation of use of preferred habitat when plovers are at sites during their nonbreeding season. Chronic disturbance to this species during the nonbreeding season could affect breeding behavior outside GGNRA.

Crissy Field (and the Crissy Field WPA)

Common to All Alternatives. Impacts from dogs as a result of the two different definitions of the Crissy Field WPA (the 36 CFR 7.97(d) definition for alternative A and the Warming Hut to approximately 900 feet east of the former Coast Guard Pier definition for alternatives B–E) would be the same for all alternatives. Even though the WPA would be expanded for alternatives B–E, this change would not influence the overall impacts analysis at this site because it would neither increase nor decrease the impacts at Crissy Field described in the paragraphs that follow. Further explanation of these two definitions can be found in the “Current Regulations and Policies” section of chapter 2.

Alternative A: No Action. Currently, dogs are allowed under voice control at Crissy Airfield, along the promenade, and at Central Beach. Dogs are allowed in the WPA under voice control except during the seasonal leash restriction from July 1 to May 15 (to protect the western snowy plover). However, it has been observed that the leash restriction is frequently violated (Hatch et al. 2006, 2007; Zlatunich 2007, 2009). Monitoring data at the site have demonstrated that the harassment and disturbance of western snowy plovers due to off-leash dogs have increased in the Crissy Field WPA following the *U.S. v. Barley* decision (NPS 2006e; NPS 2008a, 2). Dogs, both on and off leash, are routinely brought into the WPA by park visitors and are the greatest source of disturbance to western snowy plovers (GGA 2009). Despite education and enforcement efforts, compliance with the Code of Federal Regulations special regulation establishing the seasonal leash restriction remains extremely low (GGA 2009; Hatch et al. 2007). Numerous recent citations and warnings at the WPA have been issued for violations of the leash law, closed area restrictions, and disturbance to wildlife (table 9 and appendix G). Dogs have specifically been documented as chasing western snowy plovers at the Crissy Field WPA. In addition, western snowy plovers infrequently use the habitat at Central Beach (including the tidal inlet from Crissy Marsh), where there are no leash restrictions, although this area is not as wide and the beach characteristics may not provide the same quality of habitat as the WPA. The park has documented dogs going under the bridge into Crissy Marsh, accessing the flood shoal and adjacent areas along the marsh, and chasing birds (Merkle 2010e, 1).

Therefore, alternative A would result in long-term moderate adverse impacts on the western snowy plover because dogs would continue to frequently disturb and/or harass the birds and potentially limit their use of preferred habitat. Dogs could interrupt roosting or foraging, which causes plovers to expend energy; frequent disturbance of this type affects fat reserves needed for migration and breeding. Although this species does not nest in GGNRA, chronic disturbance during the nonbreeding season could indirectly affect breeding behavior. Therefore, impacts would result in measurable and/or consequential changes to individuals of a species through frequent disturbance, but the impact would remain relatively localized and therefore moderate.

Under alternative A, no permit system exists for commercial dog walking. However, commercial dog walking at Crissy Field occurs regularly. Commercial dog walking would continue to contribute to the long-term moderate adverse impacts on the western snowy plover. Commercial dog walkers with multiple dogs under voice control would impact the western snowy plover as a result of frequent disturbance or harassment of the birds by dogs.

Cumulative Impacts. Projects and actions in and near Crissy Field were considered for the cumulative impacts analysis (appendix K). The following is a discussion of projects that have had, are currently having, or have the potential to have effects on the western snowy plover at or in the vicinity of this site.

Along the California coast, western snowy plovers have been extirpated from 33 of 53 nesting sites since 1970, and now number approximately 1,400 birds (USFWS 2007a). Although the western snowy plover

does not nest at the Crissy Field WPA, this area is still important for foraging, resting, and overwintering; chronic disturbance during the nonbreeding season could affect breeding behavior.

Oil spills have occurred and will likely occur in the Pacific Ocean and in San Francisco Bay; oil spills have historically affected plovers in GGNRA (USFWS 2007a). Western snowy plovers forage along the shoreline and in beach wrack (seaweed and other natural wave-cast organic debris) at the high-tide line and are thus at risk of direct exposure to oil during spills (USFWS 2007a). However, because snowy plovers do not forage in the water, they are less susceptible to oiling than other species (NPS 2009b). On November 7, 2007, approximately 58,000 gallons of bunker fuel spilled from a container ship into the bay, resulting in the largest oil spill in the San Francisco Bay since the Cape Mohican incident in 1996. As a result, the Natural Resource Damage Assessment (NRDA) process was initiated and a study estimated that of 52 snowy plovers (included 45 banded snowy plovers) potentially affected by the Cosco Busan oil spill, nearly all the snowy plovers survived the immediate effects from the spill and were still alive 2 years later (NPS 2009b). The Marine Mammal Center, which works with the Oiled Wildlife Care Network (OWCN), captured a total of 951 birds affected by the spill and found a total of 884 dead as a result of this incident (MMC 2009).

Proposed restoration projects and plans, maintenance operations, and continued expansion of European beachgrass, have the potential to affect the western snowy plover and its habitat at Crissy Field. Additionally, the shorebird docent program and education and outreach efforts at the park will benefit the western snowy plover. An example of the regional projects and plans that will specifically benefit the western snowy plover is the Abbotts Lagoon Area Dune Restoration Plan, a project in the Point Reyes National Seashore that proposes to restore 300 acres of coastal dune habitat south of Abbotts Lagoon to benefit the western snowy plover. Habitat would be restored by removing highly invasive non-native plant species, which have greatly altered sand movement, dune structure, and habitat function for native plants and animals adapted to a coastal environment. Restoring dune habitat to a more natural condition and removing beachgrass would provide area-wide and regional benefits for the western snowy plover population at the park. Additionally, the proposed Bolinas Lagoon Ecosystem Restoration Project should benefit the western snowy plover, as Bolinas Lagoon boasts a healthy, though fragile, ecosystem that provides habitat for the western snowy plover.

The long-term moderate adverse impacts on the western snowy plover from dogs at Crissy Field under alternative A were considered together with the effects of the projects mentioned above. The beneficial effects from the restoration projects should reduce some of the adverse impacts on the western snowy plover from alternative A; however, impacts resulting from the past oil spill, maintenance operations, and continued expansion of European beachgrass would adversely affect the western snowy plover. When combined, these beneficial and adverse effects may balance out. Therefore, the cumulative analysis for the western snowy plover will mainly focus on the results of the impact analysis for this alternative. Cumulative impacts on the western snowy plover under this alternative would be expected to be long term, moderate, and adverse.

Indirect Impacts in Adjacent Parks

In lands adjacent to GGNRA, there are 35 parks with dog use areas within about a 10-mile radius of Crissy Field and 22 parks within about a 5-mile radius; the closest park is Mountain Lake Park (map 27). In addition, Crissy Field is located directly north of Area B of the Presidio; Area B is subject to the Presidio Trust's regulations on dog walking, which do not allow dogs to be off-leash. No indirect impacts on the plover in adjacent lands, including Area B of the Presidio, would be expected under alternative A since there would be no change in current conditions at the site.

CRISSY FIELD ALTERNATIVE A CONCLUSION TABLE

Western Snowy Plover Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Long-term moderate adverse impacts	The seasonal leash restriction is frequently violated in the WPA; dogs would continue to disturb and/or harass the birds and potentially limit their use of preferred habitat and interrupt roosting or foraging behavior, which causes birds to expend energy; frequent disturbance of this type affects fat reserves needed for migration and breeding	N/A	Long-term moderate adverse cumulative impacts No indirect impacts in adjacent lands

N/A = not applicable.

Alternative B: NPS Leash Regulation. Alternative B would allow on-leash dog walking throughout Crissy Field, except dogs would not be allowed in the WPA and dogs are currently not allowed in Crissy Marsh. Alternative B would result in the protection of western snowy plover habitat and individuals of the species by closing the WPA site to dogs and physically restraining dogs on leash in other areas, which would improve habitat quality and reduce disturbance to western snowy plovers. To further support this conclusion, it has been stated that the elimination of dogs from the WPA will likely result in a reduction of disturbance to western snowy plovers (GGA 2009). Also, the use of preferred habitat in WPA by the plover would not be limited under this alternative. Assuming compliance with proposed regulations, alternative B would result in negligible impacts on the western snowy plover; western snowy plover habitat and individuals of the species would be protected by closing the WPA site to dogs and physically restraining dogs in other areas. Finally, this alternative would provide consistency with the *Recovery Plan for the Western Snowy Plover* (USFWS 2007a).

Under alternative B, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs per person with no permit required. Even though the percentage of commercial dog walkers is considered high at Crissy Field, dogs walked by commercial dog walkers would add only negligible impacts on the western snowy plover since the western snowy plover habitat and individuals of the species would be protected by closing the WPA site to dogs and physically restraining dogs in other areas.

Cumulative Impacts. The negligible impacts on the western snowy plover from dogs at Crissy Field under alternative B were considered together with the effects of the projects mentioned above in alternative A. When combined, the beneficial effects from the restoration projects and the adverse impacts resulting from the past oil spill, maintenance operations, and continued expansion of European beachgrass may balance out. Therefore, the cumulative analysis for the western snowy plover will mainly focus on the results of the impact analysis for this alternative. Cumulative impacts on the western snowy plover under this alternative would be expected to be negligible.

Indirect Impacts in Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation by individual and commercial dog walkers under alternative B, particularly Mountain Lake Park, because it is the closest dog use area that allows off-leash dog walking. However, it is assumed that adjacent lands may not

provide suitable plover habitat; therefore, indirect impacts on the western snowy plover in adjacent lands from increased dog use would be negligible. In addition, no indirect impacts on the western snowy plover in Area B of the Presidio would be expected under alternative B, since this area does not have suitable plover habitat and does not allow off-leash dog walking.

CRISSY FIELD ALTERNATIVE B CONCLUSION TABLE

Western Snowy Plover Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Negligible impacts, assuming compliance	Western snowy plover habitat and individuals would be protected by closing the WPA site to dogs and physically restraining dogs on leash in other areas; use of preferred habitat in WPA by the plover would not be limited; this alternative is consistent with the recovery plan for the western snowy plover	Beneficial, assuming compliance	Negligible cumulative impacts Negligible indirect impacts in adjacent lands

Alternative C: Emphasis on Multiple Use—Balanced by County. Alternative C would have the same dog walking restrictions as alternative B, except dogs would not be allowed on East Beach and would be allowed under voice and sight control in two ROLAs established on Crissy Airfield and Central Beach; dogs would not be allowed in the WPA and dogs are currently not allowed in Crissy Marsh. Western snowy plovers infrequently use the habitat at Central Beach (including the tidal inlet from Crissy Marsh) where the ROLA would be established, and the beach characteristics at this site may not provide the same quality of habitat as the WPA. However, off-leash dogs could disturb and/or harass the birds and interrupt roosting or foraging behavior. Therefore, in the beach ROLA, long-term minor adverse impacts on the western snowy plover would occur.

The long-term minor adverse impacts on the plover in the beach ROLA would occur in a relatively small area when compared to the site as a whole. Assuming compliance with proposed regulations, alternative C would result in overall negligible impacts on the western snowy plover because dogs would be prohibited in the WPA. Additionally, the Central Beach ROLA (situated away from the WPA) is infrequently used by plovers and makes up only a portion of the entire Crissy Field site. Western snowy plover habitat and individuals of the species would be protected by closing the WPA site to dogs, the plovers' use of preferred habitat in the WPA would not be limited, and alternative C is consistent with the *Recovery Plan for the Western Snowy Plover*.

Under alternative C, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. Any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. In a ROLA, permit holders may have up to six dogs off leash and the permit may restrict use by time and area. Permits would be allowed at Crissy Field. Impacts on the western snowy plover from permit holders with four to six dogs off leash would be expected to increase under this alternative; however, impacts would not be expected to increase enough to cause a change in the threshold level. Since commercial dog walking is common at Crissy Field, impacts on the western snowy plover would be expected from this user group. Impacts on western snowy plover from commercial dog walkers would be similar to impacts from other dog walkers, as summarized above in overall impacts; therefore, impacts from commercial dog walking would be negligible.

Cumulative Impacts. The negligible impacts on the western snowy plover from dogs at Crissy Field under alternative C were considered together with the effects of the projects mentioned above in alternative A. When combined, the beneficial effects from the restoration projects and the adverse impacts resulting from the past oil spill, maintenance operations, and continued expansion of European beachgrass may balance out. Therefore, the cumulative analysis for the western snowy plover will mainly focus on the results of the impact analysis for this alternative. Cumulative impacts on the western snowy plover under this alternative would be expected to be negligible.

Indirect Impacts in Adjacent Parks

No indirect impacts on the plover in adjacent lands, including Area B of the Presidio, would be expected under alternative C since ROLAs would be provided on the airfield and on Central Beach.

CRISSY FIELD ALTERNATIVE C CONCLUSION TABLE

Western Snowy Plover Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Long-term minor adverse impacts in beach ROLA	Western snowy plovers infrequently use the habitat at Central Beach that will be designated as a ROLA and off-leash dogs could disturb and/or harass the birds and interrupt roosting or foraging behavior		
Overall negligible impacts, assuming compliance	Western snowy plover habitat and individuals would be protected by closing the WPA site to dogs and physically restraining dogs on leash in other areas; use of preferred habitat in WPA by the plover would not be limited; this alternative is consistent with the recovery plan for the western snowy plover	Beneficial, assuming compliance	Negligible cumulative impacts No indirect impacts in adjacent lands

Alternative D: Most Protective Based on Resource Protection/Visitor Safety. Alternative D would allow on-leash dog walking along the promenade, on the eastern portion of Crissy Airfield, and on the trails and grassy areas near East Beach (not including the West Bluff picnic area). Dogs would not be allowed in or near the WPA or on any of the beaches, but dogs would be allowed under voice and sight control in a ROLA on the western portion of Crissy Airfield. Dogs are currently not allowed in Crissy Marsh. Assuming compliance, negligible impacts on the western snowy plover would occur as a result of this alternative because western snowy plover habitat and individuals of the species would be protected by closing the WPA site to dogs and physically restraining dogs in most areas, the ROLA would not be located adjacent to the WPA, the plovers' use of preferred habitat in the WPA would not be limited, and the alternative is consistent with the *Recovery Plan for the Western Snowy Plover*. To further support this conclusion, it has been stated that the elimination of dogs from the WPA will likely result in a reduction of disturbance to western snowy plovers (GGA 2009).

No commercial dog walking would be allowed under alternative D; therefore, commercial dog walking would have no impact on the western snowy plover.

Cumulative Impacts. The negligible impacts on the western snowy plover from dogs at Crissy Field under alternative D were considered together with the effects of the projects mentioned above in alternative A. When combined, the beneficial effects from the restoration projects and the adverse impacts resulting from the past oil spill, maintenance operations, and continued expansion of European beachgrass may balance out. Therefore, the cumulative analysis for the western snowy plover will mainly focus on the results of the impact analysis for this alternative. Cumulative impacts on the western snowy plover under this alternative would be expected to be negligible.

Indirect Impacts in Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation by individual and commercial dog walkers under alternative D since off-leash dog walking would not be allowed on the beach. However, it is assumed that nearby lands may not provide suitable plover habitat; therefore, indirect impacts on the plover in adjacent lands from increased dog use would be negligible. In addition, no indirect impacts on the western snowy plover in Area B of the Presidio would be expected under alternative D, since this area does not have suitable plover habitat and does not allow off-leash dog walking.

CRISSY FIELD ALTERNATIVE D CONCLUSION TABLE

Western Snowy Plover Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Negligible impacts, assuming compliance	Western snowy plover habitat and individuals would be protected by closing the WPA site to dogs and physically restraining dogs on leash in most areas; the ROLA would not be located adjacent to the WPA; use of preferred habitat in the WPA by the plover would not be limited; this alternative is consistent with the recovery plan for the western snowy plover	Beneficial, assuming compliance	Negligible cumulative impacts Negligible indirect impacts in adjacent lands

Alternative E: Most Dog Walking Access/Most Management Intensive. Alternative E would allow on-leash dog walking along the promenade, on East Beach, on the trails and paths to East Beach, on the paths to Central Beach, and in the WPA. Dogs would be allowed under voice and sight control in two ROLAs established on Crissy Airfield and Central Beach. Dogs are currently not allowed in Crissy Marsh. The current protections would be in place for western snowy plovers, but would be extended throughout the year to eliminate confusion of the seasonal leash restrictions. This alternative would provide protection for western snowy plovers when the leash law is followed. However, even though dogs would be on leash in the WPA, the USFWS statement that “Dogs on beaches can pose a serious threat to snowy plovers during both the breeding and nonbreeding season” (USFWS 2007a) implies that even leashed dogs may affect the behavior of the western snowy plover. Assuming compliance, alternative E would result in long-term minor adverse impacts on the western snowy plover because physically restraining dogs on leash in the WPA would reduce chasing, but even leashed dogs in the WPA could bark and/or lunge at feeding and roosting western snowy plovers, resulting in disturbance and/or harassment in a relatively small area; the reproductive success of individuals of the species would not be affected, but the use of preferred habitat in the WPA by the western snowy plover may be limited. Also,

the Central Beach ROLA would be located adjacent to the WPA and this alternative is not consistent with the *Recovery Plan for the Western Snowy Plover*.

Under alternative E, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. Any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. In a ROLA, permit holders may have up to six dogs off leash and the permit may restrict use by time and area. Permits would be allowed at Crissy Field. Impacts on the western snowy plover from permit holders with four to six dogs off leash would be expected to increase under this alternative; however, impacts would not be expected to increase enough to cause a change in the threshold level. Since commercial dog walking is common at Crissy Field, impacts on the western snowy plover would be expected from this user group. Impacts on the western snowy plover from commercial dog walkers would be similar to impacts from other dog walkers, as summarized above in overall impacts; therefore, impacts from commercial dog walking would be long term, minor, and adverse.

Cumulative Impacts. The long-term minor adverse impacts on the western snowy plover from dogs at Crissy Field under alternative E were considered together with the effects of the projects mentioned above in alternative A. When combined, the beneficial effects from the restoration projects and the adverse impacts resulting from the past oil spill, maintenance operations, and continued expansion of European beachgrass may balance out. Therefore, the cumulative analysis for the western snowy plover will mainly focus on the results of the impact analysis for this alternative. Cumulative impacts on the western snowy plover under this alternative would be expected to be long term, minor, and adverse.

Indirect Impacts in Adjacent Parks

No indirect impacts on the plover in adjacent lands, including Area B of the Presidio, would be expected under alternative E since two ROLAs would be provided on the airfield and Central Beach.

CRISSY FIELD ALTERNATIVE E CONCLUSION TABLE

Western Snowy Plover Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Long-term minor adverse impacts, assuming compliance	Physically restraining dogs on leash in the WPA would reduce chasing, but even leashed dogs could bark and/or lunge at feeding and roosting western snowy plovers, causing disturbance and/or harassment in a relatively small area; the beach ROLA is located adjacent to the WPA; plovers' use of preferred habitat in the WPA may be limited; this alternative is not consistent with the recovery plan for the western snowy plover	Beneficial, assuming compliance	Long-term minor adverse cumulative impacts No indirect impacts in adjacent lands

Preferred Alternative. Alternative C was selected as the preferred alternative for Crissy Field. The preferred alternative would allow on-leash dog walking throughout Crissy Field, except dogs would not be allowed in the WPA or on East Beach. Dogs would be allowed under voice and sight control in two ROLAs established on Crissy Airfield and Central Beach. Dogs are currently not allowed in Crissy

Marsh. Western snowy plovers infrequently use the habitat at Central Beach (including the tidal inlet from Crissy Marsh) where the ROLA would be established, and the beach characteristics at this site may not provide the same quality of habitat as the WPA. However, off-leash dogs could disturb and/or harass the birds and interrupt roosting or foraging behavior. Therefore, in the beach ROLA, long-term minor adverse impacts on the western snowy plover would occur.

The long-term minor adverse impacts on the western snowy plover in the beach ROLA would occur in a relatively small area when compared to the site as a whole. Overall, assuming compliance with proposed regulations, the preferred alternative would result in negligible impacts on the western snowy plover because dogs would be prohibited in the WPA. Additionally, the Central Beach ROLA (situated away from the WPA) is infrequently used by plovers and makes up only a portion of the entire Crissy Field site. Western snowy plover habitat and individuals of the species would be protected by closing the WPA site to dogs, the plovers' use of preferred habitat in the WPA would not be limited, and the preferred alternative is consistent with the *Recovery Plan for the Western Snowy Plover*.

Under the preferred alternative, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. Any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. In a ROLA, permit holders may have up to six dogs off leash and the permit may restrict use by time and area. Permits would be allowed at Crissy Field. Impacts on the western snowy plover from permit holders with four to six dogs off leash would be expected to increase under this alternative; however, impacts would not be expected to increase enough to cause a change in the threshold level. Since commercial dog walking is common at Crissy Field, impacts on the western snowy plover would be expected from this user group. Impacts on western snowy plover from commercial dog walkers would be similar to impacts from other dog walkers, as summarized above in overall impacts; therefore, impacts from commercial dog walking would be negligible.

Cumulative Impacts. Projects and actions in and near Crissy Field were considered for the cumulative impacts analysis (appendix K). The following is a discussion of projects that have had, are currently having, or have the potential to have effects on the western snowy plover at or in the vicinity of this site.

Along the California coast, western snowy plovers have been extirpated from 33 of 53 nesting sites since 1970, and now number approximately 1,400 birds (USFWS 2007a). Although the western snowy plover does not nest at the Crissy Field WPA, this area is still important for foraging, resting, and overwintering; chronic disturbance during the nonbreeding season could affect breeding behavior.

Oil spills have occurred and will likely occur in the Pacific Ocean and in San Francisco Bay; oil spills have historically affected plovers in GGNRA (USFWS 2007a). Western snowy plovers forage along the shoreline and in beach wrack (seaweed and other natural wave-cast organic debris) at the high-tide line and are thus at risk of direct exposure to oil during spills (USFWS 2007a). However, because snowy plovers do not forage in the water, they are less susceptible to oiling than other species (NPS 2009b). On November 7, 2007, approximately 58,000 gallons of bunker fuel spilled from a container ship into the bay, resulting in the largest oil spill in the San Francisco Bay since the Cape Mohican incident in 1996. As a result, the NRDA process was initiated and a study estimated that of 52 snowy plovers (included 45 banded snowy plovers) potentially affected by the Cosco Busan oil spill, nearly all the snowy plovers survived the initial effects from the spill and were still alive 2 years later (NPS 2009b). The Marine Mammal Center, which works with the OWCN, captured a total of 951 birds affected by the spill and found a total of 884 dead as a result of this incident (MMC 2009).

Proposed restoration projects and plans, maintenance operations, and continued expansion of European beachgrass have the potential to affect the western snowy plover and its habitat at Crissy Field.

Additionally, the shorebird docent program and education and outreach efforts at the park will benefit the western snowy plover. An example of the regional projects and plans that will specifically benefit the western snowy plover is the *Abbotts Lagoon Area Dune Restoration Plan*, a project in the Point Reyes National Seashore that proposes to restore 300 acres of coastal dune habitat south of Abbotts Lagoon to benefit the western snowy plover. Habitat would be restored by removing highly invasive non-native plant species, which have greatly altered sand movement, dune structure, and habitat function for native plants and animals adapted to a coastal environment. Restoring dune habitat to a more natural condition and removing beachgrass would provide area-wide and regional benefits for the western snowy plover population at the park. Additionally, the proposed *Bolinas Lagoon Ecosystem Restoration Project* should benefit the western snowy plover, as Bolinas Lagoon boasts a healthy, though fragile, ecosystem that provides habitat for the western snowy plover.

The negligible impacts on the western snowy plover from dogs at Crissy Field under the preferred alternative were considered together with the effects of the projects mentioned above. When combined, the beneficial effects from the restoration projects and the adverse impacts resulting from the past oil spill, maintenance operations, and continued expansion of European beachgrass may balance out. Therefore, the cumulative analysis for the western snowy plover will mainly focus on the results of the impact analysis for this alternative. Cumulative impacts on the western snowy plover under this alternative would be expected to be negligible.

Indirect Impacts in Adjacent Parks

In lands adjacent to GGNRA, there are 35 parks with dog use areas within about a 10-mile radius of Crissy Field and 22 parks within about a 5-mile radius; the closest park is Mountain Lake Park (map 27). In addition, Crissy Field is located directly north of Area B of the Presidio; Area B is subject to the Presidio Trust's regulations on dog walking, which do not allow dogs to be off-leash. No indirect impacts on the plover in adjacent lands, including Area B of the Presidio, would be expected under the preferred alternative since two ROLAs would be provided on the airfield and Central Beach.

CRISSY FIELD PREFERRED ALTERNATIVE CONCLUSION TABLE

Western Snowy Plover Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Long-term minor adverse impacts in the beach ROLA	Western snowy plovers infrequently use the habitat at Central Beach that would be designated as a ROLA, and off-leash dogs could disturb and/or harass the birds and interrupt roosting or foraging behavior		
Overall negligible impacts, assuming compliance	Western snowy plover habitat and individuals would be protected by closing the WPA site to dogs and physically restraining dogs on leash in other areas; plovers' use of preferred habitat in the WPA would not be limited; this alternative is consistent with the recovery plan for the western snowy plover	Beneficial, assuming compliance	Negligible cumulative impacts No indirect impacts in adjacent lands

Ocean Beach SPPA (Stairwell 21 South to Sloat Boulevard)

Alternative A: No Action. Under current conditions, the SPPA is open to dogs under voice control from May 15 to July 1, but seasonal leash restrictions require dogs to be on leash between July 1 and May 15. At this site, the seasonal closures designed to protect western snowy plovers at Ocean Beach are frequently violated and harassment (flushing) of shorebirds including western snowy plovers by dogs and people is fairly common (Hatch 1996; Hatch et al. 2006, 2007, 2008; USFWS 2007a). Current compliance with 36 CFR 7.97(d) (seasonal leash restriction) is estimated at less than 50 percent by the NPS (Hatch et al. 2007; NPS n.d.). Specifically, Ocean Beach has had numerous incidences of dogs chasing and harassing western snowy plovers (Hatch 1996). During a western snowy plover monitoring survey conducted by Hatch (1996) from December 1994 to May 1996, 362 dogs were observed chasing birds; 19 dogs were observed chasing at least 62 western snowy plovers; and roaming dogs inadvertently disturbed at least 100 additional western snowy plovers. During a long-term monitoring survey conducted from 1994 to 2006, 48 off-leash dogs were observed chasing western snowy plovers (NPS 2006h). Western snowy plover monitoring data have demonstrated that the harassment and disturbance of western snowy plovers due to off-leash dogs have increased in the SPPA immediately following the *U.S. v. Barley* decision (NPS 2006; NPS 2008, 2). Seasonal leash restrictions were then reinstated to protect the western snowy plover. However, numerous citations and warnings at the SPPA have recently been issued for violations of the leash law and closed area restrictions, as well as disturbance to wildlife (table 9 and appendix G).

Therefore, alternative A would result in long-term moderate adverse impacts on the western snowy plover because dogs would continue to frequently disturb and/or harass the birds and potentially limit their use of preferred habitat. Dogs could interrupt roosting or foraging, which causes the birds to expend energy; frequent disturbance of this type affects fat reserves needed for migration and breeding. Although this species does not nest in GGNRA, chronic disturbance during the nonbreeding season could indirectly affect breeding behavior. Therefore, impacts would result in measurable and/or consequential changes in individuals of a species through frequent disturbance, but the impact would remain relatively localized and therefore moderate.

Under alternative A, no permit system exists for commercial dog walking. At Ocean Beach, commercial dog walking is uncommon; therefore, commercial dog walking would have negligible impacts on the western snowy plover.

Cumulative Impacts. Projects and actions in and near the Ocean Beach SPPA were considered for the cumulative impacts analysis (appendix K). The following is a discussion of projects that have had, are currently having, or have the potential to have effects on the western snowy plover at or in the vicinity of this site.

Along the California coast, western snowy plovers have been extirpated from 33 of 53 nesting sites since 1970, and now number approximately 1,400 birds (USFWS 2007a). Although the western snowy plover does not nest at the Ocean Beach SPPA, this area is still important for foraging, resting, and overwintering; chronic disturbance during the nonbreeding season could affect breeding behavior.

Oil spills have occurred and will likely occur in the Pacific Ocean and in San Francisco Bay; oil spills have historically affected plovers in GGNRA (USFWS 2007a). Western snowy plovers forage along the shoreline and in beach wrack (seaweed and other natural wave-cast organic debris) at the high-tide line and are thus at risk of direct exposure to oil during spills (USFWS 2007a). However, because snowy plovers do not forage in the water, they are less susceptible to oiling than other species (NPS 2009b). On November 7, 2007, approximately 58,000 gallons of bunker fuel spilled from a container ship into the bay, resulting in the largest oil spill in the San Francisco Bay since the Cape Mohican incident in 1996.

As a result, the NRDA process was initiated and a study estimated that of 52 snowy plovers (included 45 banded snowy plovers) potentially affected by the Cosco Busan oil spill, nearly all the snowy plovers survived the initial effects from the spill and were still alive 2 years later (NPS 2009b). The Marine Mammal Center, which works with the OWCN, captured a total of 951 birds affected by the spill and found a total of 884 dead as a result of this incident (MMC 2009).

Proposed restoration projects and plans, maintenance operations, continued expansion of European beachgrass, and the *Ocean Beach Erosion Control Project* have the potential to affect the western snowy plover and its habitat at Ocean Beach. The *Ocean Beach Erosion Control Project* is developing long-term solutions to beach and bluff erosion problems at Ocean Beach along the Great Highway consistent with the enhancement of natural processes. An example of the regional projects and plans that will specifically benefit the western snowy plover is the *Abbotts Lagoon Area Dune Restoration Plan*, a project in the Point Reyes National Seashore that proposes to restore 300 acres of coastal dune habitat south of Abbotts Lagoon to benefit the western snowy plover. Habitat would be restored by removing highly invasive non-native plant species, which have greatly altered sand movement, dune structure, and habitat function for native plants and animals adapted to a coastal environment. Restoring dune habitat to a more natural condition and removing beachgrass would provide area-wide and regional benefits for the western snowy plover population at the park. Additionally, the proposed *Bolinas Lagoon Ecosystem Restoration Project* should benefit the western snowy plover, as Bolinas Lagoon boasts a healthy, though fragile, ecosystem that provides habitat for the western snowy plover.

The long-term moderate adverse impacts on the western snowy plover from dogs at the Ocean Beach SPPA under alternative A were considered together with the effects of the projects mentioned above. The beneficial effects from the restoration projects should reduce some of the adverse impacts on the western snowy plover from alternative A; however, impacts resulting from the past oil spill, maintenance operations, erosion control projects, and continued expansion of European beachgrass would adversely affect the western snowy plover. When combined, the beneficial and adverse effects from these actions may balance out. Therefore, the cumulative analysis for the western snowy plover will mainly focus on the results of the impact analysis for this alternative. Cumulative impacts on the western snowy plover under this alternative would be expected to be long term, moderate, and adverse.

Indirect Impacts in Adjacent Parks

In lands adjacent to GGNRA, there are 38 parks with dog use areas within about a 10-mile radius of Ocean Beach and 15 parks within about a 5-mile radius; the closest parks are Golden Gate Park—North Central Area and Golden Gate Park—South Central Area (map 27). No impacts on the western snowy plover in adjacent lands would be expected under alternative A since there would be no change in current conditions at the site.

OCEAN BEACH SPPA ALTERNATIVE A CONCLUSION TABLE

Western Snowy Plover Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Long-term moderate adverse impacts	The seasonal leash restriction is frequently violated in the SPPA; dogs would continue to disturb and/or harass the birds and potentially limit their use of preferred habitat and interrupt roosting or foraging behavior, which causes birds to expend energy; frequent disturbance of this type affects fat reserves needed for migration and breeding	N/A	Long-term moderate adverse cumulative impacts No indirect impacts in adjacent lands

N/A = not applicable.

Alternative B: NPS Leash Regulation. Alternative B would allow on-leash dog walking on the adjacent trail along Great Highway, but not on the beach in the SPPA. Because an approximately 2-mile length of beach (the SPPA) would not be available to dogs, this alternative would provide protection of the western snowy plover. Alternative B would result in the protection of western snowy plover habitat and individuals of the species by closing the SPPA site to dogs and physically restraining dogs on leash in other areas, which would improve habitat quality and reduce disturbance to western snowy plovers. Also, the plovers' use of preferred habitat in the SPPA would not be limited. Assuming compliance with proposed regulations, alternative B would result in no impact on the western snowy plover; western snowy plover habitat and individuals of the species would be protected by closing the SPPA site to dogs and physically restraining dogs on leash in other areas. Finally, this alternative would provide consistency with the *Recovery Plan for the Western Snowy Plover* (USFWS 2007a).

Under alternative B, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs per person with no permit required. However, commercial dog walkers would have no impact on the western snowy plover since the SPPA site would be closed to dogs and dogs would be physically restrained on leash in other areas of the site.

Cumulative Impacts. The lack of impacts on the western snowy plover from dogs at the Ocean Beach SPPA under alternative B were considered together with the effects of the projects mentioned above under alternative A. When combined, the beneficial effects from the restoration projects and the adverse impacts resulting from the past oil spill, maintenance operations, and continued expansion of European beachgrass may balance out. Therefore, the cumulative impacts on the western snowy plover would be expected to be negligible.

Indirect Impacts in Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation under alternative B, particularly Golden Gate Park—North Central Area and Golden Gate Park—South Central Area, because they are the closest dog use areas. However, it is assumed that these adjacent areas do not provide suitable plover habitat; therefore, indirect impacts on the plover in adjacent lands from increased dog use would be negligible.

OCEAN BEACH SPPA ALTERNATIVE B CONCLUSION TABLE

Western Snowy Plover Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
No impact, assuming compliance	Western snowy plover habitat and individuals would be protected by closing the SPPA site to dogs and physically restraining dogs on leash in other areas; plovers' use of preferred habitat in the SPPA would not be limited; the alternative is consistent with the recovery plan for the western snowy plover	Beneficial, assuming compliance	Negligible cumulative impacts Negligible indirect impacts in adjacent lands

Alternative C: Emphasis on Multiple Use—Balanced by County. Alternative C would have the same dog walking restrictions as alternative B, and impacts on the western snowy plover would be the same, assuming compliance: no impact.

Under alternative C, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be allocated at Ocean Beach, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Regardless, commercial dog walkers would have no impact on the western snowy plover since the SPPA site would be closed to dogs and dogs would be physically restrained in other areas of the site.

Cumulative Impacts. Under alternative C, the cumulative impacts on the western snowy plover at the Ocean Beach SPPA and the indirect impacts on the plover in adjacent parks would be the same as those under alternative B: negligible.

OCEAN BEACH SPPA ALTERNATIVE C CONCLUSION TABLE

Western Snowy Plover Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
No impact, assuming compliance	Western snowy plover habitat and individuals would be protected by closing the SPPA site to dogs and physically restraining dogs on leash in other areas; plovers' use of preferred habitat in the SPPA would not be limited; the alternative is consistent with the recovery plan for the western snowy plover	Beneficial, assuming compliance	Negligible cumulative impacts Negligible indirect impacts in adjacent lands

Alternative D: Most Protective Based on Resource Protection/Visitor Safety. Alternative D would have the same dog walking restrictions as alternative B, and impacts on the western snowy plover would be the same, assuming compliance: no impact.

No commercial dog walking would be allowed under alternative D; therefore, commercial dog walking would have no impact on the western snowy plover.

Cumulative Impacts. Under alternative D, the cumulative impacts on the western snowy plover at the Ocean Beach SPPA and the indirect impacts on the plover in adjacent parks would be the same as those under alternative B: negligible.

OCEAN BEACH SPPA ALTERNATIVE D CONCLUSION TABLE

Western Snowy Plover Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
No impact, assuming compliance	Western snowy plover habitat and individuals would be protected by closing the SPPA site to dogs and physically restraining dogs on leash in other areas; plovers' use of preferred habitat in the SPPA would not be limited; the alternative is consistent with the recovery plan for the western snowy plover	Beneficial, assuming compliance	Negligible cumulative impacts Negligible indirect impacts in adjacent lands

Alternative E: Most Dog Walking Access/Most Management Intensive. Alternative E would allow on-leash dog walking on the beach in the SPPA during all seasons, as well as on the adjacent trail along Great Highway. This alternative would provide protection for western snowy plovers when the leash law is followed. The current protections would be in place for western snowy plovers, but would be extended throughout the year to eliminate the current confusion with the seasonal leash restrictions. However, even though dogs would be on leash in the SPPA, the USFWS statement that “Dogs on beaches can pose a serious threat to snowy plovers during both the breeding and nonbreeding season” (USFWS 2007a) implies that even leashed dogs may affect the behavior of the western snowy plover. Assuming compliance, alternative E would result in long-term minor adverse impacts on the western snowy plover because physically restraining dogs on leash in the SPPA would reduce chasing, but even leashed dogs in could bark and/or lunge at feeding and roosting western snowy plovers, causing occasional disturbance and/or harassment in a relatively small area; the reproductive success of individuals of the species would not be affected, but the plovers' use of preferred habitat in the SPPA may be limited. This alternative is not consistent with the *Recovery Plan for Pacific Coast Population of the Western Snowy Plover* (USFWS 2007a).

Under alternative E, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be allocated at Ocean Beach, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking is not common at Ocean Beach, it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking under alternative E would have negligible impacts on the western snowy plover.

Cumulative Impacts. The long-term minor adverse impacts on the western snowy plover from dogs at the Ocean Beach SPPA under alternative E were considered together with the effects of the projects mentioned above under alternative A. The beneficial effects from the restoration projects should reduce some of the adverse impacts on the western snowy plover from alternative E; however, impacts resulting from the past oil spill, maintenance operations, erosion control projects, and continued expansion of

European beachgrass would adversely affect the western snowy plover. When combined, the beneficial and adverse effects from these actions may balance out. Therefore, the cumulative analysis for the western snowy plover will mainly focus on the results of the impact analysis for this alternative. Cumulative impacts on the western snowy plover under this alternative would be expected to be long term, minor, and adverse.

Indirect Impacts in Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation under alternative E, particularly Golden Gate Park—North Central Area and Golden Gate Park—South Central Area, because they are the closest dog use areas. However, it is assumed that these adjacent areas do not provide suitable western snowy plover habitat; therefore, indirect impacts on the plover in adjacent lands from increased dog use would be negligible.

OCEAN BEACH SPPA ALTERNATIVE E CONCLUSION TABLE

Western Snowy Plover Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Long-term minor adverse impacts, assuming compliance	Physically restraining dogs on leash in the SPPA would reduce chasing, but even leashed dogs could bark and/or lunge at feeding and roosting western snowy plovers, causing disturbance and/or harassment in a relatively small area; plovers' use of preferred habitat in SPPA may be limited; this alternative is not consistent with the recovery plan for the western snowy plover	Beneficial, assuming compliance	Long-term minor adverse cumulative impacts Negligible impacts in adjacent lands

Preferred Alternative. Alternative C was selected as the preferred alternative for the Ocean Beach SPPA. The preferred alternative would not allow dogs on the beach in the SPPA, although dog walking on leash would be allowed on the trail adjacent to the Great Highway. Because an approximately 2-mile length of beach (the SPPA) would not be available to dogs, this alternative would provide for protection of the western snowy plover from dogs and consistency with the *Recovery Plan for the Western Snowy Plover* (USFWS 2007a). Therefore, the preferred alternative would result in no impact on the western snowy plover because individual plovers and habitat would be protected by closing the SPPA site to dogs and physically restraining dogs on leash in other areas; plovers' use of preferred habitat would not be limited. To further support this conclusion, this alternative would prevent disturbance/harassment by dogs to western snowy plovers and would be consistent with the recovery plan.

All dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be allocated at Ocean Beach, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Regardless, commercial dog walkers would have no impact on the western snowy plover since the SPPA site would be closed to dogs and dogs would be physically restrained on leash in other areas of the site.

Cumulative Impacts. Projects and actions in and near the Ocean Beach SPPA were considered for the cumulative impacts analysis (appendix K). The following is a discussion of projects that have had, are currently having, or have the potential to have effects on the western snowy plover at or in the vicinity of this site.

Along the California coast, western snowy plovers have been extirpated from 33 of 53 nesting sites since 1970, and now number approximately 1,400 birds (USFWS 2007a). Although the western snowy plover does not nest at the Ocean Beach SPPA, this area is still important for foraging, resting, and overwintering; chronic disturbance during the nonbreeding season could affect breeding behavior.

Oil spills have occurred and will likely occur in the Pacific Ocean and in San Francisco Bay; oil spills have historically affected plovers in GGNRA (USFWS 2007a). Western snowy plovers forage along the shoreline and in beach wrack (seaweed and other natural wave-cast organic debris) at the high-tide line and are thus at risk of direct exposure to oil during spills (USFWS 2007a). However, because western snowy plovers do not forage in the water, they are less susceptible to oiling than other species (NPS 2009b). On November 7, 2007, approximately 58,000 gallons of bunker fuel spilled from a container ship into the bay, resulting in the largest oil spill in the San Francisco Bay since the Cape Mohican incident in 1996. As a result, the NRDA process was initiated and a study estimated that of 52 snowy plovers (included 45 banded snowy plovers) potentially affected by the Cosco Busan oil spill, nearly all the snowy plovers survived the initial effects from the spill and were still alive 2 years later (NPS 2009b). The Marine Mammal Center, which works with the OWCN, captured a total of 951 birds affected by the spill and found a total of 884 dead as a result of this incident (MMC 2009).

Proposed restoration projects and plans, maintenance operations, continued expansion of European beachgrass, and the *Ocean Beach Erosion Control Project* have the potential to affect the western snowy plover and its habitat at Ocean Beach. The *Ocean Beach Erosion Control Project* is developing long-term solutions to beach and bluff erosion problems at Ocean Beach along the Great Highway consistent with the enhancement of natural processes. An example of the regional projects and plans that will specifically benefit the western snowy plover is the *Abbotts Lagoon Area Dune Restoration Plan*, a project in the Point Reyes National Seashore that proposes to restore 300 acres of coastal dune habitat south of Abbotts Lagoon to benefit the western snowy plover. Habitat would be restored by removing highly invasive non-native plant species, which have greatly altered sand movement, dune structure, and habitat function for native plants and animals adapted to a coastal environment. Restoring dune habitat to a more natural condition and removing beachgrass would provide area-wide and regional benefits for the western snowy plover population at the park. Additionally, the proposed *Bolinas Lagoon Ecosystem Restoration Project* should benefit the western snowy plover, as Bolinas Lagoon boasts a healthy, though fragile, ecosystem that provides habitat for the western snowy plover.

The lack of impacts on the western snowy plover from dogs at the Ocean Beach SPPA under the preferred alternative was considered together with the effects of the projects mentioned above. When combined, the beneficial effects from the restoration projects and the adverse impacts resulting from the past oil spill, maintenance operations, and continued expansion of European beachgrass may balance out. Therefore, the cumulative impacts on the western snowy plover would be expected to be negligible.

Indirect Impacts in Adjacent Parks

In lands adjacent to GGNRA, there are 38 parks with dog use areas within about a 10-mile radius of the Ocean Beach SPPA and 15 parks within about a 5-mile radius; the closest parks are Golden Gate Park—North Central Area and Golden Gate Park—South Central Area (map 27). The adjacent lands may experience increased visitation under the preferred alternative, particularly Golden Gate Park—North Central Area and Golden Gate Park—South Central Area, because they are the closest dog use areas.

However, it is assumed that these adjacent areas do not provide suitable plover habitat; therefore, indirect impacts on the plover in adjacent lands from increased dog use would be negligible.

OCEAN BEACH SPPA PREFERRED ALTERNATIVE CONCLUSION TABLE

Western Snowy Plover Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
No impact, assuming compliance	Western snowy plover habitat and individuals would be protected by closing the SPPA site to dogs and physically restraining dogs on leash in other areas; plovers' use of preferred habitat in the SPPA would not be limited; the alternative is consistent with the recovery plan for the western snowy plover	Beneficial, assuming compliance	Negligible cumulative impacts Negligible indirect impacts in adjacent lands

Ocean Beach (North of Stairwell 21 and South of Sloat Boulevard)

Alternative A: No Action. At Ocean Beach, the areas located north of Stairwell 21 and south of Sloat Boulevard are currently open to dogs under voice control. However, this area is located adjacent to the SPPA (where seasonal leash restrictions are in effect) and may cause visitor confusion regarding leash laws, possibly resulting in off-leash dogs inadvertently entering the SPPA. Only small numbers of western snowy plovers have been observed in areas outside the SPPA, including at this location.

Therefore, alternative A would result in long-term minor to moderate adverse impacts on the western snowy plover because dogs would continue to occasionally to frequently disturb and/or harass the birds at the adjacent SPPA and potentially limit their use of preferred habitat; a few individuals of the species in a small, localized area could be affected and reproductive success could be indirectly affected.

Under alternative A, no permit system exists for commercial dog walking. At Ocean Beach, commercial dog walking is uncommon; therefore, commercial dog walking would have negligible impacts on the western snowy plover.

Cumulative Impacts. The long-term minor to moderate adverse impacts on the western snowy plover from dogs at Ocean Beach under alternative A were considered together with the effects of the projects mentioned above under alternative A for the Ocean Beach SPPA. The beneficial effects from the restoration projects should reduce some of the adverse impacts on the western snowy plover from alternative A; however, impacts resulting from the past oil spill, maintenance operations, erosion control projects, and continued expansion of European beachgrass would adversely affect the western snowy plover. When combined, the beneficial and adverse effects from these actions may balance out. Therefore, the cumulative analysis for the western snowy plover will mainly focus on the results of the impact analysis for this alternative. Cumulative impacts on the western snowy plover under this alternative would be expected to be long term, minor to moderate, and adverse.

Indirect Impacts in Adjacent Parks

The indirect impacts on the plover in adjacent lands would be the same as those under alternative A for the Ocean Beach SPPA: no indirect impacts.

OCEAN BEACH ALTERNATIVE A CONCLUSION TABLE

Western Snowy Plover Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Long-term minor to moderate adverse impacts	Only small numbers of western snowy plovers have been observed in this area, but disturbance and harassment could occur; also, dogs can access the SPPA from this beach	N/A	Long-term minor to moderate adverse cumulative impacts No indirect impacts in adjacent lands

N/A = not applicable.

Alternative B: NPS Leash Regulation. Alternative B would allow on-leash dog walking on the beach north of Stairwell 21 and south of Sloat Boulevard. This alternative would provide protection for western snowy plovers when the leash law is followed. However, even though dogs would be on leash on the beach, USFWS (2007a) implies that even leashed dogs may affect the behavior of the western snowy plover. Only small numbers of western snowy plovers have been observed in areas outside the SPPA, including this location. Assuming compliance with proposed regulations, alternative B would result in negligible impacts on the western snowy plover because plover habitat and individuals of the species would be protected by closing the SPPA site to dogs and physically restraining dogs on leash on the beach, which would reduce chasing of the western snowy plover.

Under alternative B, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs per person with no permit required. Since commercial dog walking is not common at Ocean Beach, it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking under alternative B would have negligible impacts on the western snowy plover.

Cumulative Impacts. The negligible impacts on the western snowy plover from dogs at Ocean Beach under alternative B were considered together with the effects of the projects mentioned above under the Ocean Beach SPPA alternative A. When combined, the beneficial effects from the restoration projects and the adverse impacts resulting from the past oil spill, maintenance operations, and continued expansion of European beachgrass may balance out. Therefore, the cumulative impacts on the western snowy plover would be expected to be negligible.

Indirect Impacts in Adjacent Parks

The indirect impacts on the western snowy plover in adjacent lands would be the same as those under alternative B for the Ocean Beach SPPA: negligible.

OCEAN BEACH ALTERNATIVE B CONCLUSION TABLE

Western Snowy Plover Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Negligible impacts, assuming compliance	Only small numbers of western snowy plovers have been observed in this area (outside the SPPA); plover habitat and individuals would be protected by physically restraining dogs on leash on the beach, but even leashed dogs may affect the behavior of the plover	Beneficial, assuming compliance	Negligible cumulative impacts Negligible indirect impacts in adjacent lands

Alternative C: Emphasis on Multiple Use—Balanced by County. Alternative C would allow dogs under voice and sight control in a ROLA on the beach north of Stairwell 21; dogs would be prohibited south of Sloat Boulevard. This alternative would provide protection for the western snowy plover from dogs and consistency with the recovery plan (USFWS 2007a), but the ROLA would be sited immediately adjacent to the SPPA; however, only small numbers of western snowy plovers have been observed in this area (outside the SPPA). Therefore, assuming compliance, alternative C would result in negligible impacts on the western snowy plover because only small numbers of western snowy plovers have been observed at this location. Dogs could disturb and/or harass western snowy plovers in the ROLA on the beach and potentially limit their use of preferred habitat; a few individuals of the species in a small, localized area could be negatively affected but the reproductive success of individuals of the species would not be affected.

Under alternative C, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be allocated at Ocean Beach, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking is not common at Ocean Beach, it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking under alternative C would have negligible impacts on the western snowy plover.

Cumulative Impacts. The negligible impacts on the western snowy plover from dogs at Ocean Beach under alternative C were considered together with the effects of the projects mentioned above under the Ocean Beach SPPA alternative A. When combined, the beneficial effects from the restoration projects and the adverse impacts resulting from the past oil spill, maintenance operations, and continued expansion of European beachgrass may balance out. Therefore, the cumulative impacts on the western snowy plover would be expected to be negligible.

Indirect Impacts in Adjacent Parks

The adjacent lands may experience increased visitation under alternative C, particularly Golden Gate Park—North Central Area and Golden Gate Park—South Central Area, because they are the closest dog use areas. However, it is assumed that these adjacent areas do not provide suitable plover habitat; therefore, indirect impacts on the plover in adjacent lands from increased dog use would be negligible.

OCEAN BEACH ALTERNATIVE C CONCLUSION TABLE

Western Snowy Plover Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Negligible impacts, assuming compliance	Only small numbers of western snowy plovers have been observed in this area (outside the SPPA), but the ROLA would be sited immediately adjacent to the SPPA	Beneficial, assuming compliance	Negligible cumulative impacts Negligible indirect impacts in adjacent lands

Alternative D: Most Protective Based on Resource Protection/Visitor Safety. Alternative D would have the same dog walking restrictions as alternative B, except dogs would not be allowed on the beach south of Sloat Boulevard; dogs would be allowed on leash on the beach north of Stairwell 21, where only small numbers of western snowy plovers have been observed. Due to physical restraint on leash, it is highly unlikely that dogs would access the SPPA. This alternative would provide protection for the western snowy plover from dogs and consistency with the recovery plan (USFWS 2007a). Assuming

compliance, this alternative would result in negligible impacts on the western snowy plover. Individual plovers and preferred habitat would be protected by closing the SPPA site to dogs and prohibiting dogs or physically restraining dogs on leash in other areas.

No commercial dog walking would be allowed under alternative D; therefore, commercial dog walking would have no impact on the western snowy plover.

Cumulative Impacts. The negligible impacts on the western snowy plover from dogs at Ocean Beach under alternative D were considered together with the effects of the projects mentioned above under the Ocean Beach SPPA alternative A. When combined, the beneficial effects from the restoration projects and the adverse impacts resulting from the past oil spill, maintenance operations, and continued expansion of European beachgrass may balance out. Therefore, the cumulative impacts on the western snowy plover would be expected to be negligible.

Indirect Impacts in Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation under alternative D, particularly Golden Gate Park—North Central Area and Golden Gate Park—South Central Area, because they are the closest dog use areas. However, it is assumed that these adjacent areas do not provide suitable plover habitat; therefore, indirect impacts on the plover in adjacent lands from increased dog use would be negligible.

OCEAN BEACH ALTERNATIVE D CONCLUSION TABLE

Western Snowy Plover Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Negligible impacts, assuming compliance	Only small numbers of western snowy plovers have been observed in this area; plover habitat and individuals would be protected by physically restraining dogs on leash on the beach, but even leashed dogs may affect the small numbers of plovers on the beach where dogs would be allowed	Beneficial, assuming compliance	Negligible cumulative impacts Negligible indirect impacts in adjacent lands

Alternative E: Most Dog Walking Access/Most Management Intensive. Alternative E would allow on-leash dog walking on the beach south of Sloat Boulevard and under voice and sight control in a ROLA on the beach north of Stairwell 21. Assuming compliance, alternative E would result in negligible to long-term minor adverse impacts on the western snowy plover, because small numbers of western snowy plovers have been observed at this location and off-leash dogs would be allowed in part of this area. Dogs could disturb and/or harass western snowy plovers in the ROLA located adjacent to the SPPA on the beach, causing occasional disturbance and/or harassment in a relatively small area; the reproductive success of individuals of the species would not be affected but plovers' use of preferred habitat may be limited.

Under alternative E, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be allocated at Ocean Beach, so individual and commercial dog walkers would only be allowed to walk one

to three dogs on leash per person. Since commercial dog walking is not common at Ocean Beach, it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking under alternative E would have negligible impacts on the western snowy plover.

Cumulative Impacts. The negligible to long-term minor adverse impacts on the western snowy plover from dogs at Ocean Beach under alternative E were considered together with the effects of the projects mentioned above under the Ocean Beach SPPA alternative A. When combined, the beneficial effects from the restoration projects and the adverse impacts resulting from the past oil spill, maintenance operations, and continued expansion of European beachgrass may balance out. Therefore, the cumulative impacts on the western snowy plover would be expected to be negligible to long term, minor, and adverse.

Indirect Impacts in Adjacent Parks

The indirect impacts on the western snowy plover in adjacent lands would be the same as those under alternative E for the Ocean Beach SPPA: negligible.

OCEAN BEACH ALTERNATIVE E CONCLUSION TABLE

Western Snowy Plover Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Negligible to long-term minor adverse impacts, assuming compliance	Only small numbers of western snowy plovers have been observed in this area (outside the SPPA), but the ROLA would be sited immediately adjacent to the SPPA	Beneficial to no change, assuming compliance	Negligible to long-term minor adverse cumulative impacts Negligible impacts in adjacent lands

Preferred Alternative. Alternative C was selected as the preferred alternative for Ocean Beach. The preferred alternative would allow dogs under voice and sight control in a ROLA on the beach north of Stairwell 21; dogs would be prohibited south of Sloat Boulevard. This alternative would provide protection for the western snowy plover from dogs and consistency with the recovery plan (USFWS 2007a); only small numbers of western snowy plovers have been observed in this area (outside the SPPA), but the ROLA would be sited immediately adjacent to the SPPA. Therefore, assuming compliance, the preferred alternative would result in negligible impacts on the western snowy plover because only small numbers of western snowy plovers have been observed at this location. Dogs could disturb and/or harass western snowy plovers in the ROLA on the beach and potentially limit their use of preferred habitat; a few individuals of the species in a small, localized area could be negatively affected but the reproductive success of individuals of the species would not be affected.

All dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be allocated at Ocean Beach, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking is not common at Ocean Beach, it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking under the preferred alternative would have negligible impacts on the western snowy plover.

Cumulative Impacts. Projects and actions in and near Ocean Beach were considered for the cumulative impacts analysis (appendix K). The following is a discussion of projects that have had, are currently having, or have the potential to have effects on the western snowy plover at or in the vicinity of this site.

Along the California coast, western snowy plovers have been extirpated from 33 of 53 nesting sites since 1970, and now number approximately 1,400 birds (USFWS 2007a). Although the western snowy plover does not nest at Ocean Beach, this area is still important for foraging, resting, and overwintering; chronic disturbance during the nonbreeding season could affect breeding behavior.

Oil spills have occurred and will likely occur in the Pacific Ocean and in San Francisco Bay; oil spills have historically affected plovers in GGNRA (USFWS 2007a). Western snowy plovers forage along the shoreline and in beach wrack (seaweed and other natural wave-cast organic debris) at the high-tide line and are thus at risk of direct exposure to oil during spills (USFWS 2007a). However, because western snowy plovers do not forage in the water, they are less susceptible to oiling than other species (NPS 2009b). On November 7, 2007, approximately 58,000 gallons of bunker fuel spilled from a container ship into the bay, resulting in the largest oil spill in the San Francisco Bay since the Cape Mohican incident in 1996. As a result, the NRDA process was initiated and a study estimated that of 52 snowy plovers (included 45 banded snowy plovers) potentially affected by the Cosco Busan oil spill, nearly all the snowy plovers survived the initial effects from the spill and were still alive 2 years later (NPS 2009b). The Marine Mammal Center, which works with the OWCN, captured a total of 951 birds affected by the spill and found a total of 884 dead as a result of this incident (MMC 2009).

Proposed restoration projects and plans, maintenance operations, continued expansion of European beachgrass, and the *Ocean Beach Erosion Control Project* have the potential to affect the western snowy plover and its habitat at Ocean Beach. The *Ocean Beach Erosion Control Project* is developing long-term solutions to beach and bluff erosion problems at Ocean Beach along the Great Highway consistent with the enhancement of natural processes. An example of the regional projects and plans that will specifically benefit the western snowy plover is the *Abbotts Lagoon Area Dune Restoration Plan*, a project in the Point Reyes National Seashore that proposes to restore 300 acres of coastal dune habitat south of Abbotts Lagoon to benefit the western snowy plover. Habitat would be restored by removing highly invasive non-native plant species, which have greatly altered sand movement, dune structure, and habitat function for native plants and animals adapted to a coastal environment. Restoring dune habitat to a more natural condition and removing beachgrass would provide area-wide and regional benefits for the western snowy plover population at the park. Additionally, the proposed *Bolinas Lagoon Ecosystem Restoration Project* should benefit the western snowy plover, as Bolinas Lagoon boasts a healthy, though fragile, ecosystem that provides habitat for the western snowy plover.

The negligible impacts on the western snowy plover from dogs at Ocean Beach under the preferred alternative were considered together with the effects of the projects mentioned above. When combined, the beneficial effects from the restoration projects and the adverse impacts resulting from the past oil spill, maintenance operations, and continued expansion of European beachgrass may balance out. Therefore, the cumulative impacts on the western snowy plover would be expected to be negligible.

Indirect Impacts in Adjacent Parks

In lands adjacent to GGNRA, there are 38 parks with dog use areas within about a 10-mile radius of Ocean Beach and 15 parks within about a 5-mile radius; the closest parks are Golden Gate Park—North Central Area and Golden Gate Park—South Central Area (map 27). The adjacent lands may experience increased visitation under the preferred alternative, particularly Golden Gate Park—North Central Area and Golden Gate Park—South Central Area, because they are the closest dog use areas. However, it is assumed that these adjacent areas do not provide suitable western snowy plover habitat; therefore, indirect impacts on the plover in adjacent lands from increased dog use would be negligible.

OCEAN BEACH PREFERRED ALTERNATIVE CONCLUSION TABLE

Western Snowy Plover Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Negligible impacts, assuming compliance	Only small numbers of western snowy plovers have been observed in this area (outside the SPPA), but the ROLA would be sited immediately adjacent to the SPPA	Beneficial, assuming compliance	Negligible cumulative impacts Negligible indirect impacts in adjacent lands

BANK SWALLOW (STATE THREATENED)

A nesting colony of the bank swallow occupies burrows in the coastal bluff habitat at Fort Funston, one of only a few remaining coastal breeding sites for the species along the outer coast in California. The bank swallows are present at Fort Funston during their breeding season (April to early August) and spend the nonbreeding season in South America (NPS 2009b).

Fort Funston

Alternative A: No Action. Dogs are currently allowed under voice control on the beach and throughout the site, including on all trails at Fort Funston, with the exception of a 12-acre fenced Habitat Protection Area closure in upper Fort Funston, the voluntary seasonal closure for bank swallow protection (April 1–August 15) on a section of beach extending 50 feet from the base of the coastal bluff below the bank swallow habitat areas, and the north end of the Coastal Trail due to erosion. Visitors can access areas surrounding the coastal bluffs from above the beach at the Beach Access Trail. Signs and fencing (currently partially buried) along the bluff edge and along the beach below the colony have been installed to restrict access to these areas by visitors; park rangers actively patrol the closure areas to ensure adherence to the restrictions. The bank swallow colony is actively managed by the NPS due to the vulnerability of these bluff-nesting birds, the regional uniqueness of the colony, and the high human/dog use in the Fort Funston area. It has been documented by park personnel that people and dogs access the bluff tops and even gain access to the beach from the trails above the bluff area; this access is more frequent at the north end of the site and occurs even with the seasonal area closures (NPS 2007e, 5–6). The Fort Funston site experiences high visitor use, including high use by private and commercial dog walkers (table 9). The bank swallow colony at Fort Funston is monitored weekly by park personnel to document the number of burrows, bank swallow activity, and disturbance to the burrows and/or species during the breeding season (NPS 2007e, 3). During the monthly bird surveys at Fort Funston, dogs were recorded in restricted areas, and on many occasions, both dogs and humans were observed inside the restricted areas (USGS 2004). However, effects from human/dog presence on the nesting success of the bank swallow at Fort Funston have not been adequately studied. Dogs could likely dig at or collapse the burrows, and climbers (after their dogs or on their own) could also collapse the burrows; both activities could result in disturbance to the birds, flush them from nests, and cause active sloughing and landslides that may block or crush burrows with the young inside (NPS 2007e, 5). Currently, some dogs access the bluff from the beach, resulting in some local disturbances to the bank swallow colony, and there have been numerous recent instances where hazardous conditions/pet rescues have occurred at Fort Funston, which result in further disturbance to the colony during the breeding season (table 9). Closing the area through fencing and sign installation has been unsuccessful in preventing recreational disturbance to the bank swallow colony, although the colony has persisted despite increased human/dog use in the area (NPS n.d., 7–8). Historical evidence has shown that the colony has shifted locations periodically. The most recent colony shift occurred from further south to the north end of the site; this shift caused the bank

swallows to move from fairly high bluffs (where access from the beach was not an issue) to lower bluffs that are more likely to be disturbed from the beach and through the dunes from above the coastal bluffs.

Therefore, alternative A would result in continued long-term minor to moderate adverse impacts on the bank swallow colony because impacts on the bluff habitat and occasional to frequent disturbance to individuals of the species by dogs would be perceptible but localized in a relatively small area; bank swallow nesting success could be impacted by dogs during the breeding season at this site.

Under alternative A, no permit system exists for commercial dog walking. However, commercial dog walking regularly occurs at Fort Funston. Commercial dog walking would continue to contribute to the long-term minor to moderate adverse impacts on the bank swallow.

Cumulative Impacts. Projects and actions in and near Fort Funston were considered for the cumulative impacts analysis (appendix K). The following is a discussion of projects that have had, are currently having, or have the potential to have effects on the bank swallow at or in the vicinity of this site.

Fort Funston supports one of only a few remaining coastal breeding sites for the bank swallow in California; the closest other breeding site is at Año Nuevo State Reserve in Santa Cruz County, approximately 55 miles south of San Francisco and GGNRA. The bank swallow is protected at both Fort Funston in GGNRA and at Año Nuevo State Reserve. Park Stewardship Programs, which incorporate trail rehabilitation, including the Coastal Trail at GGNRA, may also provide a benefit to the bank swallows at Fort Funston through habitat protection for the species. Also, the San Francisco Public Utilities Commission is currently developing a *Lake Merced Watershed Plan*, which seeks to provide a comprehensive set of strategies to sustain the health of the Lake Merced Watershed while also providing recreational and educational opportunities. Located immediately to the east of Fort Funston (across Skyline Boulevard), Lake Merced is the largest freshwater wetland between Point Reyes in Marin County and Pescadero Marsh in southern San Mateo County. The 509-acre lake is an emergency source of water for the City of San Francisco and is used for firefighting or sanitation purposes if no other sources of water are available. The resource management portion of the plan, which focuses on flora and fauna preservation as well as restoration and enhancement of the watershed's natural areas, habitat values, and ecological function, should benefit the bank swallow, which forages at Lake Merced.

The long-term minor to moderate adverse impacts on the bank swallow from dogs at Fort Funston under alternative A were considered together with the effects of the projects mentioned above. The beneficial effects from the habitat protection at the site and from the *Lake Merced Watershed Plan* should reduce some of the adverse impacts on the bank swallow from alternative A. Therefore, the cumulative impacts on the bank swallow under this alternative would be expected to be long term, minor, and adverse.

Indirect Impacts in Adjacent Parks

In lands adjacent to GGNRA, there are 38 parks with dog use areas within about a 10-mile radius of Fort Funston and 16 parks within about a 5-mile radius; the closest park is Lake Merced (map 27). No indirect impacts in adjacent lands would be expected under alternative A since there would be no change in current conditions at the site.

FORT FUNSTON ALTERNATIVE A CONCLUSION TABLE

Bank Swallow Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Long-term minor to moderate adverse impacts	Dogs have accessed the bluff from the beach and hazardous conditions/pet rescues have occurred, which disturb the colony during the breeding season; continuing impacts from dogs and/or humans would include digging at or collapsing the burrows, flushing birds from nests, and causing active sloughing and landslides that may block or crush burrows with the young inside	N/	Long-term minor adverse cumulative impacts No indirect impacts in adjacent lands

N/A = not applicable.

Alternative B: NPS Leash Regulation. Alternative B would allow on-leash dog walking on Fort Funston trails that are not closed to dogs, as well as on the beach, with a voluntary seasonal closures extending 50 feet from the foot of the bluffs during the bank swallow nesting season (April 1 through August 15). Therefore, assuming compliance, alternative B would result in negligible impacts on the bank swallow because the bank swallow population and habitat would be protected by eliminating access to the breeding sites in the bluff face, which could increase nesting success during the breeding season at this site; bank swallows' use of preferred habitat would not be limited; and direct disturbance to the colony by dogs would essentially be eliminated.

Under alternative B, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs per person with no permit required. Since the percentage of commercial dog walkers is considered high at Fort Funston, dogs walked by commercial dog walkers would cause the majority of the adverse impacts on the bank swallow from dogs at the site. Overall impacts on the bank swallow from dogs walked by both commercial and private individuals are presented above; these impacts would be negligible.

Cumulative Impacts. The negligible impacts on the bank swallow from dogs at Fort Funston under alternative B were considered together with the effects of the projects mentioned above under alternative A. The beneficial effects from the habitat protection at the site and from the *Lake Merced Watershed Plan* combined with the negligible impacts on the bank swallow from alternative B would result in beneficial cumulative impacts on the bank swallow.

Indirect Impacts in Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation by individual and commercial dog walkers under alternative B. However, these adjacent lands do not provide habitat for the bank swallow; therefore, no indirect impacts on the bank swallow in adjacent lands would occur from increased dog use.

FORT FUNSTON ALTERNATIVE B CONCLUSION TABLE

Bank Swallow Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Negligible impacts, assuming compliance	The beach seasonal closure would be in place during nesting season and the population/habitat would be protected by eliminating access to the breeding sites in the bluff face, which could increase nesting success	Beneficial, assuming compliance	Beneficial cumulative impacts No indirect impacts in adjacent lands

Alternative C: Emphasis on Multiple Use—Balanced by County. Alternative C would allow on-leash dog walking on the Coastal Trail, the Chip Trail, the Sunset Trail, and the Beach Access Trail; dog walking under voice and sight control would be allowed in a ROLA on the beach south of the Beach Access Trail and in another ROLA north of the main parking lot. No dogs would be allowed on the beach north of the Beach Access Trail, where the bank swallows nest in the bluff face. A voluntary seasonal closure extending 50 feet from the foot of the bluffs during the bank swallow nesting season (April 1 through August 15) currently exists at the site. Assuming compliance, alternative C would result in no impact on the bank swallow because the bank swallow population and habitat would be protected by requiring on-leash dog walking and the ROLAs would be situated away from the breeding site. The bank swallow population and habitat would be protected by eliminating access to the breeding sites in the bluff face, which could increase nesting success during the breeding season at this site; bank swallows' use of preferred habitat would not be limited; and direct disturbance to the colony by dogs would essentially be eliminated.

Under alternative C, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. Any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. In a ROLA, permit holders may have up to six dogs off leash and the permit may restrict use by time and area. Permits would be allowed at Fort Funston. Impacts on the bank swallow from commercial dog walkers would be similar to impacts from other dog walkers, as summarized in the preceding paragraph; therefore, there would be no impact from commercial dog walking.

Cumulative Impacts. The lack of impacts on the bank swallow from dogs at Fort Funston under alternative C was considered together with the effects of the projects mentioned above under alternative A. The beneficial effects from the habitat protection at the site and from the *Lake Merced Watershed Plan* combined with the lack of impacts on the bank swallow from alternative C would result in beneficial cumulative impacts on the bank swallow.

Indirect Impacts in Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation by individual and commercial dog walkers under alternative C. However, these adjacent lands do not provide habitat for the bank swallow; therefore, no indirect impacts on the bank swallow in adjacent lands would occur from increased dog use.

FORT FUNSTON ALTERNATIVE C CONCLUSION TABLE

Bank Swallow Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
No impact, assuming compliance	No dogs would be allowed north of the Beach Access Trail, where the bank swallows nest in the bluff face; the population/habitat would thus be protected by eliminating access to the breeding sites in the bluff face, which could increase nesting success; the ROLA would be situated away from the breeding site	Beneficial, assuming compliance	Beneficial cumulative impacts No indirect impacts in adjacent lands

Alternative D: Most Protective Based on Resource Protection/Visitor Safety. Alternative D would allow on-leash dog walking on the Coastal Trail and other trails not closed to dogs and on the beach south of the Beach Access Trail; dog walking under voice and sight control would be allowed in a ROLA east of the Coastal Trail and west of the Equestrian Trail, north of the drinking fountain. No dogs would be allowed on the beach north of the Beach Access Trail, where the bank swallow colony is located in the bluff face. A voluntary seasonal closure extending 50 feet from the foot of the bluffs during the bank swallow nesting season (April 1 through August 15) currently exists on the site. Assuming compliance, alternative D would result in no impact on the bank swallow because the bank swallow population and habitat at Fort Funston would be protected by requiring on-leash dog walking, restricting voice and sight control dog walking to an upland ROLA away from bank swallow habitat, and prohibiting dogs in the vicinity of the bluff area. The bank swallow population and habitat would be protected by eliminating dog and human access to the breeding sites in the bluff face, which could increase nesting success during the breeding season at this site; bank swallows' use of preferred habitat would not be limited; and direct disturbance to the colony by dogs would essentially be eliminated.

No commercial dog walking would be allowed under alternative D; therefore, commercial dog walking would have no impact on the bank swallow.

Cumulative Impacts. The lack of impacts on the bank swallow from dogs at Fort Funston under alternative D was considered together with the effects of the projects mentioned above under alternative A. The beneficial effects from the habitat protection at the site and from the *Lake Merced Watershed Plan* combined with the lack of impacts on the bank swallow from alternative D would result in beneficial cumulative impacts on the bank swallow.

Indirect Impacts in Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation by individual and commercial dog walkers under alternative D. However, these adjacent lands do not provide habitat for the bank swallow; therefore, no indirect impacts on the bank swallow in adjacent lands would occur from increased dog use.

FORT FUNSTON ALTERNATIVE D CONCLUSION TABLE

Bank Swallow Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
No impact, assuming compliance	No dogs would be allowed north of Beach Access Trail, where the bank swallows nest in the bluff face, and dogs would be physically restrained on leash south of the Beach Access Trail; population/habitat would thus be protected by eliminating access to the breeding sites in the bluff face, which could increase nesting success	Beneficial, assuming compliance	Beneficial cumulative impacts No indirect impacts in adjacent lands

Alternative E: Most Dog Walking Access/Most Management Intensive. Alternative E would allow on-leash dog walking on the Coastal Trail and other trails not closed to dogs, and under voice and sight control in a ROLA on the beach south of the Beach Access Trail and in a ROLA corridor between the Chip Trail, the western boundary of the Habitat Corridor, and the Equestrian Trail. Alternative E would also allow on-leash dog walking on the beach north of the Beach Access Trail. A voluntary seasonal closure (April 1 through August 15) extending 50 feet from the foot of the northernmost bluffs is currently in place at the site. Assuming compliance, alternative E would result in negligible impacts on the bank swallow because the bank swallow population and habitat would be protected by requiring on-leash dog walking and the ROLAs would be situated away from the breeding site. The bank swallow population and habitat would be protected by eliminating dog and human access to the breeding sites in the bluff face, which could increase nesting success during the breeding season at this site; bank swallows' use of preferred habitat would not be limited; and direct disturbance to the colony by dogs would essentially be eliminated.

Under alternative E, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. Any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. In a ROLA, permit holders may have up to six dogs off leash and the permit may restrict use by time and area. Impacts on the bank swallow from permit holders with four to six dogs off leash would be expected to increase under this alternative; however, impacts would not be expected to increase enough to cause a change in the threshold level. Since commercial dog walking is common at Fort Funston, impacts on the bank swallow would be expected from this user group. Impacts on the bank swallow from commercial dog walkers would be similar to impacts from other dog walkers, as summarized in the above paragraph; therefore, impacts from commercial dog walking would be negligible.

Cumulative Impacts. The negligible impacts on the bank swallow from dogs at Fort Funston under alternative E were considered together with the effects of the projects mentioned above under alternative A. The beneficial effects from the habitat protection at the site and from the *Lake Merced Watershed Plan* combined with the negligible impacts on the bank swallow from alternative E would result in beneficial cumulative impacts on the bank swallow.

Indirect Impacts in Adjacent Parks

No indirect impacts on the bank swallow in adjacent lands would be expected under alternative E since two ROLAs would be provided at the site.

FORT FUNSTON ALTERNATIVE E CONCLUSION TABLE

Bank Swallow Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Negligible impacts, assuming compliance	On-leash dog walking would be allowed north of the Beach Access trail, with a seasonal closure in place during nesting season; the population/habitat would be protected by eliminating access to the breeding sites in the bluff face, which could increase nesting success; the ROLAs would be situated away from the breeding site	Beneficial, assuming compliance	Beneficial cumulative impacts No indirect impacts in adjacent lands

Preferred Alternative. Alternative C was selected as the preferred alternative for Fort Funston. The preferred alternative would allow on-leash dog walking on the Coastal Trail, the Chip Trail, the Sunset Trail, and the Beach Access Trail; dog walking under voice and sight control would be allowed in a ROLA on the beach south of the Beach Access Trail and in another ROLA north of the main parking lot. No dogs would be allowed on the beach north of the Beach Access Trail, where the bank swallows nest in the bluff face. A voluntary seasonal closures extending 50 feet from the foot of the bluffs during the bank swallow nesting season (April 1 through August 15) is currently in place at the site. Assuming compliance, the preferred alternative would result in no impact on the bank swallow because the bank swallow population and habitat would be protected by requiring on-leash dog walking and the ROLAs would be situated away from the breeding site. The bank swallow population and habitat would be protected by eliminating dog and human access to the breeding sites in the bluff face, which could increase nesting success during the breeding season at this site; bank swallows' use of preferred habitat would not be limited; and direct disturbance to the colony by dogs would essentially be eliminated.

Under the preferred alternative, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. Any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. In a ROLA, permit holders may have up to six dogs off leash and the permit may restrict use by time and area. Permits would be allowed at Fort Funston. Impacts on the bank swallow from commercial dog walkers would be similar to impacts from other dog walkers, as summarized in the preceding paragraph; therefore, there would be no impact on the bank swallow from commercial dog walking.

Cumulative Impacts. Projects and actions in and near Fort Funston were considered for the cumulative impacts analysis (appendix K). The following is a discussion of projects that have had, are currently having, or have the potential to have effects on the bank swallow at or in the vicinity of this site.

Fort Funston supports one of only a few remaining coastal breeding sites for the bank swallow in California; the closest other breeding site is at Año Nuevo State Reserve in Santa Cruz County, approximately 55 miles south of San Francisco and GGNRA. The bank swallow is protected at both Fort Funston in GGNRA and at Año Nuevo State Reserve. Park Stewardship Programs, which incorporate trail rehabilitation, including the Coastal Trail at GGNRA, may also provide a benefit to the bank swallows at Fort Funston through habitat protection for the species. Also, the San Francisco Public Utilities Commission is currently developing a *Lake Merced Watershed Plan* that seeks to provide a comprehensive set of strategies to sustain the health of the Lake Merced Watershed while also providing recreational and educational opportunities. Located immediately to the east of Fort Funston (across Skyline Boulevard), Lake Merced is the largest freshwater wetland between Point Reyes in Marin County

and Pescadero Marsh in southern San Mateo County. The 509-acre lake is an emergency source of water for the City of San Francisco and is used for firefighting or sanitation purposes if no other sources of water are available. The resource management portion of the plan, which focuses on flora and fauna preservation as well as restoration and enhancement of the watershed's natural areas, habitat values, and ecological function, should benefit the bank swallow, which forages at Lake Merced.

The lack of impacts on the bank swallow from dogs at Fort Funston under the preferred alternative was considered together with the effects of the projects mentioned above. The beneficial effects from the habitat protection at the site and from the *Lake Merced Watershed Plan* combined with the lack of impacts on the bank swallow from the preferred alternative would result in beneficial cumulative impacts on the bank swallow.

Indirect Impacts in Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation by individual and commercial dog walkers under the preferred alternative. However, these adjacent lands do not provide habitat for the bank swallow; therefore, no indirect impacts on the bank swallow in adjacent lands would occur from increased dog use.

FORT FUNSTON PREFERRED ALTERNATIVE CONCLUSION TABLE

Bank Swallow Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
No impact, assuming compliance	No dogs would be allowed north of the Beach Access Trail, where the bank swallows nest in the bluff face; the population/habitat would thus be protected by eliminating access to the breeding sites in the bluff face, which could increase nesting success; the ROLAs would be situated away from the breeding site	Beneficial, assuming compliance	Beneficial cumulative impacts No indirect impacts in adjacent lands

NORTHERN SPOTTED OWL (FEDERALLY THREATENED)

In the study area, northern spotted owls have only been documented at Homestead Valley; suitable habitat (coniferous and evergreen forests) exists at Oakwood Valley, but northern spotted owls have not been detected at this site.

Homestead Valley

Alternative A: No Action. Under current conditions, dogs are allowed under voice control throughout the site. Northern spotted owls have been documented at Homestead Valley, where the trails and roads traverse coastal scrub and grassland habitat used as foraging habitat by the northern spotted owl. This northern spotted owl habitat has been mapped adjacent to NPS designated trails in areas that connect with neighborhoods in the eastern part of the site, which is used by local residents walking their dogs (NPS 2009b). Therefore, well-defined trails (that have not been designated by NPS) exist that go directly through spotted owl habitat, and the NPS recently discovered northern spotted owls nesting within 20 feet of a trail at Homestead Valley (NPS 2009b). The presence of dogs and disturbance by dogs could indirectly impact the owl by temporarily affecting the abundance and/or distribution of the dusky-footed

woodrat, the primary prey item for northern spotted owls (Lenth et al. 2008, 220). Northern spotted owls may also respond to barking dogs, as some dog barking can sound like the territorial calls of the northern spotted owl. However, a northern spotted owl vocalizing in response to a barking dog would not cause a perceptible or measurable risk to the owl. Northern spotted owl fledglings are often found on the ground near the nest after their first flight attempt. There have been a few cases reported of dogs discovering young northern spotted owls on the ground or alerting owners to the presence of owls on the ground (NPS 2009b). Though the likelihood of an occurrence is small, it is possible that young owls on the ground could be disturbed or injured by dogs if they are found on or near trails. Additionally, adult owls may be stressed or physically challenged when trying to protect fledglings on the ground in the presence of dogs.

Therefore, alternative A would result in continued negligible to long-term minor adverse impacts on the northern spotted owl because individual fledglings could occasionally be affected by dogs if found on a trail or immediately adjacent to a trail used by dogs. Impacts on the northern spotted owl would be considered perceptible changes in individuals of the species, but localized at the site and therefore minor because suitable owl habitat at this site is very limited.

Under alternative A, no permit system exists for commercial dog walking. At Homestead Valley, commercial dog walking is uncommon; therefore, commercial dog walking would have negligible impacts on the northern spotted owl.

Cumulative Impacts. Projects and actions in and near Homestead Valley were considered for the cumulative impacts analysis (appendix K). The following is a discussion of projects that have had, are currently having, or have the potential to have effects on the northern spotted owl at or in the vicinity of this site.

A *Final Recovery Plan for the Northern Spotted Owl* was developed in 2008 by the USFWS that stated that competition from the barred owl poses a complex threat to the spotted owl (USFWS 2008d). Recently at GGNRA, there have been increased barred owl detections at the park (NPS 2009b). Barred owls present a much greater long-term threat to the northern spotted owl at GGNRA than dogs. The recovery plan recommends barred owl removal experiments to determine the best path to help the spotted owl recover (USFWS 2008d, Recovery Action 29). A plan/EIS was recently initiated that will propose experimental removals of the barred owl, which could provide a cumulative benefit to the northern spotted owl. In addition to the barred owl, recent monitoring at GGNRA has documented several pairs of great horned owls in the vicinity of Oakwood Valley and Alta Trail/Orchard Fire Road/Pacheco Fire Road area. Great horned owls can prey on northern spotted owls and often displace them from nesting sites. The presence of great horned owls in these areas reduces the chance that northern spotted owls would be present. Besides competition from other owls, corvids (ravens, crows, and jays) or other nest predators may depredate spotted owl nests, thus also having a long-term negative effect on the northern spotted owl (NPS 2005a). However, there are many plans, projects, and activities that consider northern spotted owls in their planning and implementation, thus minimizing impacts, particularly during breeding season. Such activities include the *Marin Headlands/Fort Baker Improvement and Transportation Management Plan/EIS*, Park Stewardship Programs, implementation of the *Fire Management Plan* (NPS 2005a), Wildland/Urban Interface Initiative projects, and maintenance operations. Catastrophic wildfire and sudden oak death (caused by an introduced pathogen) could negatively affect the habitat of the northern spotted owl.

The negligible to long-term minor adverse impacts on the northern spotted owl from dogs at Homestead Valley under alternative A were considered together with the effects of the projects mentioned above. There would be a combination of adverse and beneficial effects on the northern spotted owl from actions in and around Homestead Valley; when combined, these effects would balance out, resulting in negligible

impacts. These negligible impacts combined with the negligible to long-term minor adverse impacts from dogs under alternative A would result in negligible to long-term minor adverse cumulative impacts.

Indirect Impacts in Adjacent Parks

In lands adjacent to GGNRA, there are 38 parks with dog use areas within a 10-mile radius of Homestead Valley and 26 parks within a 5-mile radius; the closest parks are Old Mill Park and Plaza, which are part of the City of Mill Valley (map 26). The closest parks with off-leash dog use areas are Bayfront Park in Mill Valley and Camino Alto Open Space Preserve (fire roads in the latter location permit off-leash access). No indirect impacts on the owl in adjacent lands would be expected under alternative A since there would be no change in current conditions at the site.

HOMESTEAD VALLEY ALTERNATIVE A CONCLUSION TABLE

Northern Spotted Owl Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Negligible to long-term minor adverse impacts	Young owls on the ground could be disturbed or injured by dogs if found on or near trails since all trails at the site would allow dogs under voice control; adult owls could be stressed or physically challenged when trying to protect fledglings on the ground in the presence of dogs, but suitable owl habitat at this site is very limited	N/A	Negligible to long-term minor adverse cumulative impacts No indirect impacts in adjacent lands

N/A = not applicable.

Alternative B: NPS Leash Regulation. Alternative B would allow on-leash dog walking on Homestead Fire Road and on neighborhood connector trails that would be designated in the future. Because dogs would be physically restrained on leash on all roads and trails at this site, it is unlikely that dogs would gain access to fledglings on the trails, assuming compliance. As a result, this alternative would provide protection for the northern spotted owl. The mere presence of dogs at the site could still affect the northern spotted owl (e.g., by disturbance from barking), but this effect cannot be quantified. Therefore, alternative B would result in negligible impacts on the owl because no measurable or perceptible changes in individuals of a species or suitable habitat would occur.

Under alternative B, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs per person with no permit required. Since commercial dog walking is not common in this area, it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking under alternative B would have negligible impacts on the northern spotted owl.

Cumulative Impacts. The negligible impacts on the northern spotted owl from dogs at Homestead Valley under alternative B were considered together with the effects of the projects mentioned above under alternative A. There would be a combination of adverse and beneficial effects on the northern spotted owl from actions in and around Homestead Valley; when combined, these effects would balance out, resulting in negligible impacts. These negligible impacts combined with the negligible impacts from dogs under alternative B would result in negligible cumulative impacts.

Indirect Impacts in Adjacent Parks

The adjacent lands identified under alternative A may experience some increased visitation under alternative B since off-leash dog walking would no longer be allowed at this site. Impacts on the owl in adjacent lands from potential increased dog use would be negligible since this is a low use site for dog walking activities and it is unknown whether the owl or suitable habitat exists in adjacent parks.

HOMESTEAD VALLEY ALTERNATIVE B CONCLUSION TABLE

Northern Spotted Owl Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Negligible impacts, assuming compliance	Dogs would be physically restrained on leash and it would be unlikely that dogs would gain access to fledglings on/along the trails/roads	Beneficial to no change, assuming compliance	Negligible cumulative impacts Negligible indirect impacts in adjacent lands

Alternative C: Emphasis on Multiple Use—Balanced by County. This alternative would have the same dog walking restrictions as alternative B, and impacts on the northern spotted owl would be the same, assuming compliance: negligible.

Under alternative C, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be allocated at Homestead Valley, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking is not common in this area, it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking under alternative C would have negligible impacts on the northern spotted owl.

Cumulative Impacts. Under alternative C, the cumulative impacts on the northern spotted owl at Homestead Valley and the indirect impacts on the owl in adjacent parks would be the same as those under alternative B: negligible.

HOMESTEAD VALLEY ALTERNATIVE C CONCLUSION TABLE

Northern Spotted Owl Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Negligible impacts, assuming compliance	Dogs would be physically restrained on leash and it would be unlikely that dogs would gain access to fledglings on/along the trails/roads	Beneficial to no change, assuming compliance	Negligible cumulative impacts Negligible indirect impacts in adjacent lands

Alternative D: Most Protective Based on Resource Protection/Visitor Safety. Alternative D would allow on-leash dog walking on the Homestead Fire Road only. Although dogs would not be allowed on the neighborhood connector trails, the impacts would be the same as described above for alternative B, assuming compliance: negligible.

No commercial dog walking would be allowed under alternative D; therefore, commercial dog walking would have no impact on the northern spotted owl.

Cumulative Impacts. The negligible impacts on the northern spotted owl from dogs at Homestead Valley under alternative D were considered together with the effects of the projects mentioned above under alternative A. There would be a combination of adverse and beneficial effects on the northern spotted owl from actions in and around Homestead Valley; when combined, these effects would balance out, resulting in negligible impacts. These negligible impacts combined with the negligible impacts from dogs under alternative D would result in negligible cumulative impacts.

Indirect Impacts in Adjacent Parks

The adjacent lands identified under alternative A may experience some increased visitation under alternative D since off-leash dog walking would no longer be allowed at this site. Impacts on the owl in adjacent lands from potential increased dog use would be negligible since this is a low use site for dog walking activities and it is unknown whether the owl or suitable habitat exists in adjacent parks.

HOMESTEAD VALLEY ALTERNATIVE D CONCLUSION TABLE

Northern Spotted Owl Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Negligible impacts, assuming compliance	Dogs would be physically restrained on leash and it would be unlikely that dogs would gain access to fledglings on/along the trails/roads	Beneficial to no change, assuming compliance	Negligible cumulative impacts Negligible indirect impacts in adjacent lands

Alternative E: Most Dog Walking Access/Most Management Intensive. This alternative would have the same dog walking restrictions as alternative B, and impacts on the northern spotted owl would be the same, assuming compliance: negligible.

Under alternative E, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be allocated at Homestead Valley, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking is not common in this area, it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking under alternative E would have negligible impacts on the northern spotted owl.

Cumulative Impacts. Under alternative E, the cumulative impacts on the northern spotted owl at Homestead Valley and the indirect impacts on the owl in adjacent parks would be the same as those under alternative B: negligible.

HOMESTEAD VALLEY ALTERNATIVE E CONCLUSION TABLE

Northern Spotted Owl Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Negligible impacts, assuming compliance	Dogs would be physically restrained on leash and it would be unlikely that dogs would gain access to fledglings on/along the trails/roads	Beneficial to no change, assuming compliance	Negligible cumulative impacts Negligible indirect impacts in adjacent lands

Preferred Alternative. Alternative C was selected as the preferred alternative for Homestead Valley. The preferred alternative would allow on-leash dog walking on Homestead Fire Road and on neighborhood connector trails that would be designated in the future. Because dogs would be physically restrained on leash on all roads and trails at this site, it is unlikely that dogs would gain access to fledglings on the trail, assuming compliance. As a result, this alternative would provide protection for the northern spotted owl. However, the mere presence of dogs at the site could still affect the northern spotted owl (e.g., by disturbance from barking), but this affect cannot be quantified. Therefore, the preferred alternative would result in negligible impacts on the owl because no measurable or perceptible changes in individuals of a species or suitable habitat would occur.

Under the preferred alternative, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be allocated at Homestead Valley, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking is not common in this area, it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking under the preferred alternative would have negligible impacts on the northern spotted owl.

Cumulative Impacts. Projects and actions in and near Homestead Valley were considered for the cumulative impacts analysis (appendix K). The following is a discussion of projects that have had, are currently having, or have the potential to have effects on the northern spotted owl at or in the vicinity of this site.

A *Final Recovery Plan for the Northern Spotted Owl* was developed in 2008 by the USFWS that stated that competition from the barred owl poses a complex threat to the spotted owl (USFWS 2008d). Recently at GGNRA, there have been increased barred owl detections at the park (NPS 2009b). Barred owls present a much greater long-term threat to the northern spotted owl at GGNRA than dogs. The recovery plan recommends barred owl removal experiments to determine the best path to help the spotted owl recover (USFWS 2008d, Recovery Action 29). A plan/EIS was recently initiated that will propose experimental removals of the barred owl, which could provide a cumulative benefit to the northern spotted owl. In addition to the barred owl, recent monitoring at GGNRA has documented several pairs of great horned owls in the vicinity of Oakwood Valley and Alta Trail/Orchard Fire Road/Pacheco Fire Road area. Great horned owls can prey on northern spotted owls and often displace them from nesting sites. The presence of great horned owls in these areas reduces the chance that northern spotted owls would be present. Besides competition from other owls, corvids (ravens, crows, and jays) or other nest predators may depredate spotted owl nests, thus also having a long-term negative effect on the northern spotted owl (NPS 2005a). However, there are many plans, projects, and activities that consider northern spotted owls in their planning and implementation, thus minimizing impacts, particularly during breeding season. Such activities include the *Marin Headlands/Fort Baker Improvement and Transportation Management Plan/EIS*, Park Stewardship Programs, implementation of the *Fire Management Plan* (NPS 2005a), Wildland/Urban Interface Initiative projects, and maintenance operations. Catastrophic wildfire and sudden oak death (caused by an introduced pathogen) could negatively affect the habitat of the northern spotted owl.

The negligible impacts on the northern spotted owl from dogs at Homestead Valley under the preferred alternative were considered together with the effects of the projects mentioned above. There would be a combination of adverse and beneficial effects on the northern spotted owl from actions in and around Homestead Valley; when combined, these would balance out, resulting in negligible impacts. These negligible impacts combined with the negligible impacts from dogs under the preferred alternative would result in negligible cumulative impacts.

Indirect Impacts in Adjacent Parks

In lands adjacent to GGNRA, there are 38 parks with dog use areas within a 10-mile radius of Homestead Valley and 26 parks within a 5-mile radius; the closest parks are Old Mill Park and Plaza, which are part of the City of Mill Valley (map 26). The closest parks with off-leash dog use areas are Bayfront Park in Mill Valley and Camino Alto Open Space Preserve (fire roads in the latter location permit off-leash access). The adjacent lands may experience some increased visitation under the preferred alternative since off-leash dog walking would no longer be allowed at this site. Impacts on the owl in adjacent lands from potential increased dog use would be negligible since this is a low use site for dog walking activities and it is unknown whether the owl or suitable habitat exists in adjacent parks.

HOMESTEAD VALLEY PREFERRED ALTERNATIVE CONCLUSION TABLE

Northern Spotted Owl Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Negligible impacts, assuming compliance	Dogs would be physically restrained on leash and it would be unlikely that dogs would gain access to fledglings on/along the trails/roads	Beneficial to no change, assuming compliance	Negligible cumulative impacts Negligible indirect impacts in adjacent lands

Oakwood Valley

Alternative A: No Action. Under current conditions, dogs are allowed on leash or under voice control on Oakwood Valley Fire Road and Oakwood Valley Trail from the junction with the fire road to the junction with Alta Trail. On-leash dog walking is allowed on Oakwood Valley Trail from the trailhead to the junction with Oakwood Valley Fire Road. Although northern spotted owls have not been documented at Oakwood Valley, portions of the trails and roads are through suitable habitat for the owl, especially in the south along Oakwood Valley Trail. Oakwood Valley has a moderate level of use by dog walkers (table 9). The presence of dogs and disturbance by dogs could indirectly impact the owl by temporarily affecting the abundance and/or distribution of the dusky-footed woodrat, the primary prey item for northern spotted owls (Lenth et al. 2008). Northern spotted owls may also respond to barking dogs, as some dog barking can sound like the territorial calls of the northern spotted owl calls, but a northern spotted owl vocalizing in response to a barking dog would not cause a perceptible or measurable risk to the owl. However, there is no documentation that northern spotted owls do exist at the site.

Therefore, alternative A would result in continued negligible to long-term minor adverse impacts on the northern spotted owl because suitable owl habitat could be limited as a result of dog presence, and, if present, young or adult owls on the ground could be occasionally disturbed or injured by dogs if found on or near trails since some trails at the site would allow dogs under voice control.

Under alternative A, no permit system exists for commercial dog walking. At Oakwood Valley, commercial dog walking is uncommon. Therefore, commercial dog walking would have negligible impacts on the northern spotted owl.

Cumulative Impacts. Projects and actions in and near Oakwood Valley were considered for the cumulative impacts analysis (appendix K). The following is a discussion of projects that have had, are currently having, or have the potential to have effects on the northern spotted owl at or in the vicinity of this site.

A *Final Recovery Plan for the Northern Spotted Owl* was developed in 2008 by the USFWS that stated that competition from the barred owl poses a complex threat to the spotted owl (USFWS 2008d). Recently at GGNRA, there have been increased barred owl detections at the park (NPS 2009b). Barred owls present a much greater long-term threat to the northern spotted owl at GGNRA than dogs. The recovery plan recommends barred owl removal experiments to determine the best path to help the spotted owl recover (USFWS 2008d, Recovery Action 29). A plan/EIS was recently initiated that will propose experimental removals of the barred owl, which could provide a cumulative benefit to the northern spotted owl. In addition to the barred owl, recent monitoring at GGNRA has documented several pairs of great horned owls in the vicinity of Oakwood Valley and Alta Trail/Orchard Fire Road/Pacheco Fire Road. Great horned owls can prey on northern spotted owls and often displace them from nesting sites. The presence of great horned owls in these areas reduces the chance that northern spotted owls would be present. Besides competition from other owls, corvids (ravens, crows, and jays) or other nest predators may depredate spotted owl nests, thus also having a long-term negative effect on the northern spotted owl (NPS 2005a). However, there are many plans, projects, and activities that consider northern spotted owls in their planning and implementation, thus minimizing impacts, particularly during breeding season. Such activities include the *Marin Headlands/Fort Baker Improvement and Transportation Management Plan/EIS*, Park Stewardship Programs, implementation of the *Fire Management Plan* (NPS 2005a), Wildland/Urban Interface Initiative projects, and maintenance operations. Catastrophic wildfire and sudden oak death (caused by an introduced pathogen) could negatively affect the habitat of the northern spotted owl.

The negligible to long-term minor adverse impacts on the northern spotted owl from dogs at Oakwood Valley under alternative A were considered together with the effects of the projects mentioned above. The beneficial effects on the northern spotted owl from actions in and around Oakwood Valley should reduce some of the adverse impacts from alternative A. Therefore cumulative impacts would be negligible.

Indirect Impacts in Adjacent Parks

In lands adjacent to GGNRA, there are 31 parks with dog use areas within about a 10-mile radius of Oakwood Valley and 22 parks within about a 5-mile radius; the closest park is Remington Dog Park in Sausalito (map 26). No indirect impacts on the owl in adjacent lands would be expected under alternative A since there would be no change in current conditions at the site.

OAKWOOD VALLEY ALTERNATIVE A CONCLUSION TABLE

Northern Spotted Owl Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Negligible to long-term minor adverse impacts	Portions of the trails/roads that would allow dogs under voice control would be in suitable habitat for the owl, but there is no documentation that the northern spotted owl exists at the site	N/A	Negligible cumulative impacts No indirect impacts in adjacent lands

N/A = not applicable.

Alternative B: NPS Leash Regulation. Alternative B would allow on-leash dog walking on the Oakwood Valley Fire Road and on the Oakwood Valley Trail from the trailhead to the junction with the fire road. Dogs would be physically restrained on leash on all roads and trails at this site, and it is unlikely that dogs would gain access to fledglings on the trail or disturb or harm adults should northern spotted owls establish a territory or nest in the vicinity of the trails considered in this alternative. Therefore, assuming compliance, alternative B would result in negligible impacts on the owl. Although this alternative would provide protection for the northern spotted owl, there is no documentation that northern

spotted owls do exist at the site; no measurable or perceptible changes to individuals of a species or suitable habitat would occur.

Under alternative B, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs per person with no permit required. Since commercial dog walking is not common at Oakwood Valley, it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking under alternative B would have negligible impacts on the northern spotted owl.

Cumulative Impacts. The negligible impacts on the northern spotted owl from dogs at Oakwood Valley under alternative B were considered together with the effects of the projects mentioned above under alternative A. There would be a combination of adverse and beneficial effects on the northern spotted owl from actions in and around Oakwood Valley; when combined, these effects would balance out, resulting in negligible impacts. These negligible impacts combined with the negligible impacts from dogs under alternative B would result in negligible cumulative impacts.

Indirect Impacts in Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation under alternative B, particularly Remington Dog Park, because it is the closest dog use area and this park allows off-leash dog walking. Voice and sight control dog walking would not be allowed under alternative B. However, indirect impacts on the owl in adjacent lands from increased dog use would be negligible since most of the area (road/trails) offered for dog walking would not change and because it is unknown whether the owl or suitable habitat exists in adjacent parks.

OAKWOOD VALLEY ALTERNATIVE B CONCLUSION TABLE

Northern Spotted Owl Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Negligible impacts, assuming compliance	Dogs would be physically restrained on leash and there is no documentation that the owl exists at the site	Beneficial to no change, assuming compliance	Negligible cumulative impacts Negligible indirect impacts in adjacent lands

Alternative C: Emphasis on Multiple Use—Balanced by County. Alternative C would establish a ROLA on the Oakwood Valley Fire Road to the junction with Oakwood Valley Trail. Double gates would be located at both ends, with continuous fencing to protect sensitive habitat. Oakwood Valley Trail would allow on-leash dog walking from the junction with Oakwood Valley Fire Road to a new gate at Alta Trail. Assuming compliance, alternative C would result in negligible impacts on the owl. Although this alternative would provide protection for the northern spotted owl through continuous fencing at the ROLA and on-leash dog walking in other areas, there is no documentation that northern spotted owls do exist at the site; no measurable or perceptible changes in individuals of a species or suitable habitat would occur.

Under alternative C, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be allocated at Oakwood Valley, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking is not common at Oakwood Valley, it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking under alternative C would have negligible impacts on the northern spotted owl.

Cumulative Impacts. The negligible impacts on the northern spotted owl from dogs at Oakwood Valley under alternative C were considered together with the effects of the projects mentioned above under alternative A. There would be a combination of adverse and beneficial effects on the northern spotted owl from actions in and around Oakwood Valley; when combined, these effects would balance out, resulting in negligible impacts. These negligible impacts combined with the negligible impacts from dogs under alternative C would result in negligible cumulative impacts.

Indirect Impacts in Adjacent Parks

The adjacent lands may experience increased visitation under alternative C, particularly Remington Dog Park, because it is the closest dog use area and this park allows off-leash dog walking. Indirect impacts on the owl in adjacent lands from increased dog use would be negligible since most of the area (road/trails) offered for dog walking would not change and because it is unknown whether the owl or suitable habitat exists in adjacent parks.

OAKWOOD VALLEY ALTERNATIVE C CONCLUSION TABLE

Northern Spotted Owl Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Negligible impacts, assuming compliance	Dogs would be physically restrained on leash or in a continuously fenced ROLA; there is no documentation that the owl exists at the site	Beneficial to no change, assuming compliance	Negligible cumulative impacts Negligible indirect impacts in adjacent lands

Alternative D: Most Protective Based on Resource Protection/Visitor Safety. Alternative D would allow on-leash dog walking only on the Oakwood Valley Fire Road to the junction with the Oakwood Valley Trail. Dogs would not be allowed on the Oakwood Valley Trail. Dogs would be physically restrained on leash or prohibited on all roads and trails at this site, and it is unlikely that dogs would gain access to fledglings on the trail or disturb or harm adults should northern spotted owls establish a territory or nest in the vicinity of the road considered in this alternative. Therefore, alternative D would result in negligible impacts on the owl. Although this alternative would provide protection for the northern spotted owl, there is no documentation that northern spotted owls do exist at the site; no measurable or perceptible changes in individuals of a species or suitable habitat would occur.

No commercial dog walking would be allowed under alternative D; therefore, commercial dog walking would have no impact on the northern spotted owl.

Cumulative Impacts. Under alternative D, the cumulative impacts on the northern spotted owl at Oakwood Valley and the indirect impacts on the owl in adjacent parks would be the same as those under alternative B: negligible.

OAKWOOD VALLEY ALTERNATIVE D CONCLUSION TABLE

Northern Spotted Owl Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Negligible impacts, assuming compliance	Dogs would be physically restrained on leash and there is no documentation that the owl exists at the site	Beneficial to no change, assuming compliance	Negligible cumulative impacts Negligible indirect impacts in adjacent lands

Alternative E: Most Dog Walking Access/Most Management Intensive. Alternative E would establish a ROLA on the Oakwood Valley Fire Road to the junction with Oakwood Valley Trail. Double gates would be located at both ends, with noncontinuous fencing where needed to protect sensitive habitat. Oakwood Valley Trail would allow on-leash dog walking from the junction with Oakwood Valley Fire Road to a new gate at Alta Trail. Impacts under this alternative would be the same as those under alternative C, assuming compliance: negligible.

Under alternative E, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be allocated at Oakwood Valley, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking is not common in this area, it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking under alternative E would have negligible impacts on the northern spotted owl.

Cumulative Impacts. Under alternative E, the cumulative impacts on the northern spotted owl at Oakwood Valley and the indirect impacts on the owl in adjacent parks would be the same as those under alternative C: negligible.

OAKWOOD VALLEY ALTERNATIVE E CONCLUSION TABLE

Northern Spotted Owl Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Negligible impacts, assuming compliance	Dogs would be physically restrained on leash or in a noncontinuously fenced ROLA; there is no documentation that the owl exists at the site	Beneficial to no change, assuming compliance	Negligible cumulative impacts Negligible indirect impacts in adjacent lands

Preferred Alternative. Alternative C was selected as the preferred alternative for Oakwood Valley. The preferred alternative would establish a ROLA on the Oakwood Valley Fire Road to the junction with Oakwood Valley Trail. Double gates would be located at both ends, with continuous fencing to protect sensitive habitat. Oakwood Valley Trail would allow on-leash dog walking from the junction with Oakwood Valley Fire Road to a new gate at Alta Trail. Assuming compliance, the preferred alternative would result in negligible impacts on the owl. Although this alternative would provide protection for the northern spotted owl through continuous fencing at the ROLA and on-leash dog walking in other areas, there is no documentation that northern spotted owls do exist at the site; no measurable or perceptible changes to individuals of a species or suitable habitat would occur.

Under the preferred alternative, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private,

could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be allocated at Oakwood Valley, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking is not common at Oakwood Valley, it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking under the preferred alternative would have negligible impacts on the northern spotted owl.

Cumulative Impacts. Projects and actions in and near Oakwood Valley were considered for the cumulative impacts analysis (appendix K). The following is a discussion of projects that have had, are currently having, or have the potential to have effects on the northern spotted owl at or in the vicinity of this site.

A final recovery plan for the northern spotted owl was developed in 2008 by the USFWS that stated that competition from the barred owl poses a complex threat to the spotted owl (USFWS 2008d). Recently, there have been increased barred owl detections at GGNRA (NPS 2009b). Barred owls present a much greater long-term threat to the northern spotted owl at GGNRA than dogs. The recovery plan recommends barred owl removal experiments to determine the best path to help the spotted owl recover (USFWS 2008d, Recovery Action 29). A plan/EIS was recently initiated that will propose experimental removals of the barred owl, which could provide a cumulative benefit to the northern spotted owl. In addition to the barred owl, recent monitoring at GGNRA has documented several pairs of great horned owls in the vicinity of the Oakwood Valley and Alta Trail/Orchard Fire Road/Pacheco Fire Road. Great horned owls can prey on northern spotted owls and often displace them from nesting sites. The presence of great horned owls in these areas reduces the chance that northern spotted owls would be present. Besides competition from other owls, corvids (ravens, crows, and jays) or other nest predators may depredate spotted owl nests, thus also having a long-term negative effect on the northern spotted owl (NPS 2005a). However, there are many plans, projects, and activities that consider northern spotted owls in their planning and implementation, thus minimizing impacts, particularly during breeding season. Such activities include the *Marin Headlands/Fort Baker Improvement and Transportation Management Plan/EIS*, Park Stewardship Programs, implementation of the *Fire Management Plan* (NPS 2005a), Wildland/Urban Interface Initiative projects, and maintenance operations. Catastrophic wildfire and sudden oak death (caused by an introduced pathogen) could negatively affect the habitat of the northern spotted owl.

The negligible impacts on the northern spotted owl from dogs at Oakwood Valley under the preferred alternative were considered together with the effects of the projects mentioned above. There would be a combination of adverse and beneficial effects on the northern spotted owl from actions in and around Oakwood Valley; when combined, these effects would balance out, resulting in negligible impacts. These negligible impacts combined with the negligible impacts from dogs under the preferred alternative would result in negligible cumulative impacts.

Indirect Impacts in Adjacent Parks

In lands adjacent to GGNRA, there are 31 parks with dog use areas within about a 10-mile radius of Oakwood Valley and 22 parks within about a 5-mile radius; the closest park is Remington Dog Park in Sausalito (map 26). The adjacent lands may experience increased visitation under the preferred alternative, particularly Remington Dog Park, because it is the closest dog use area and this park allows off-leash dog walking. Indirect impacts on the owl from increased dog use in adjacent lands would be negligible since most of the area (road/trails) offered for dog walking would not change and because it is unknown whether the owl or suitable habitat exists in adjacent parks.

OAKWOOD VALLEY PREFERRED ALTERNATIVE CONCLUSION TABLE

Northern Spotted Owl Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Negligible impacts, assuming compliance	Dogs would be physically restrained on leash or in a fenced ROLA; there is no documentation that the owl exists at the site	Beneficial to no change, assuming compliance	Negligible cumulative impacts Negligible indirect impacts in adjacent lands

GUADALUPE FUR SEAL (FEDERALLY AND STATE THREATENED)

This species is an occasional vagrant of offshore marine habitat and could be found hauled out or stranded, if injured or sick, along the coastal portions of GGNRA. However, this species is unlikely to be affected by dog management. In 9 years of collected data by the Marine Mammal Center (2000 through 2005 and 2007 through 2009), there was only one recorded stranding of a Guadalupe fur seal at GGNRA (Stinson Beach) (MMC 2010). Therefore, a detailed impact analysis of this species is not necessary for this project, but a general discussion of impacts on hauled-out or stranded pinnipeds is included in the “Wildlife” section of chapter 4 for each applicable site at GGNRA.

STELLER SEA LION (FEDERALLY THREATENED)

There is a historical sea lion haul-out location at Seal Rock in San Francisco, and this species is an occasional vagrant of offshore marine habitat. Steller sea lions could be found hauled out or stranded, if injured or sick, along the coastal portions of GGNRA. However, this species is unlikely to be affected by dog management and in 9 years of collected data by the Marine Mammal Center (2000 through 2005 and 2007 through 2009), there were no recorded strandings of Steller sea lions at GGNRA (MMC 2010). Therefore, a detailed impact analysis of this species is not necessary for this project, but a general discussion of impacts on hauled-out or stranded pinnipeds is included in the “Wildlife” section of chapter 4 for each applicable site at GGNRA.

New Lands: Federally and State-listed Wildlife Species

Alternative A: No Action. For new lands that come under the management of GGNRA, alternative A would manage these lands under existing NPS regulations as described in 36 CFR 2.15, which forbids possession of a pet in a public building, public transportation vehicle, location designated as a swimming beach, or any structure or area closed to pets by the superintendent. Therefore, on-leash dog walking would be allowed at new lands under alternative A.

If dogs are physically restrained on leash and not allowed in water bodies, they should not gain access to any water bodies or shorelines, thereby avoiding impacts on any listed aquatic species at new lands and resulting in negligible impacts. Chasing of wildlife would be eliminated but on-leash dogs could still infrequently disturb wildlife behavior if listed species are present at new lands in upland areas or outside water bodies. As a result, listed wildlife species may avoid trail corridors that allow on-leash dog walking and be displaced from high quality habitat that is degraded by the presence of dogs. If dogs gain access to these communities, impacts on listed wildlife species would most likely be long term, minor, and adverse because off-leash dogs could leave the roads or trails and enter areas that have not been previously disturbed. Listed wildlife species could be affected by occasional disturbance from dogs, including physical damage to habitat or nests and burrows from digging or trampling as well as chasing and even capturing listed wildlife species; listed wildlife species may also avoid and/or be displaced from high quality habitat that is degraded by the presence of dogs. Therefore, overall impacts on listed wildlife

species at new lands from private and commercial dog walkers as a result of alternative A would range from negligible to long term, minor, and adverse to encompass a range of potential effects at newly acquired lands under management by GGNRA. No impact on listed wildlife species would be expected to occur at sites that are closed to dogs.

Under alternative A, no permit system would exist for dog walking. At sites where commercial dog walking is not common, it is likely that this alternative would not have an impact on the number of dog walkers resulting in a negligible impact on listed wildlife species. At sites where commercial dog walking is common, impacts to listed wildlife species from commercial dog walkers would be similar to impacts from other dog walkers and would range from negligible to long-term, minor and adverse.

Cumulative Impacts. Because it is unknown what new land locations may come under GGNRA management in the future, the cumulative impacts analysis for new lands would be similar to the cumulative impact analysis that was completed for park sites that are located in proximately to the new lands.

Indirect Impacts on Adjacent Parks

It is unknown what parks (including dog use areas) would be located adjacent to new lands not yet acquired by GGNRA. Therefore, a range of indirect impacts was developed to encompass the range of impact possibilities that could occur at lands located adjacent to these new lands that have not yet been acquired. Adjacent lands could range from urban lands previously developed to preserved lands. Since on-leash dog walking would be allowed at new lands under this alternative the overall indirect impacts on listed wildlife species in adjacent lands would range from no indirect impacts on listed wildlife species from dogs if there is no change in current conditions at the site to long-term, minor, adverse impacts because it is unknown where and to what habitat exists for listed wildlife species in these unknown adjacent lands.

NEW LANDS ALTERNATIVE A CONCLUSION TABLE

Federally and State-listed Wildlife Species Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Overall negligible to long-term minor adverse impacts; no impact at sites that prohibit dogs	Physically restraining dogs on leash should prevent dog access to listed wildlife, but dogs could still disturb species by barking and by their presence; off-leash dogs could damage habitat, nests, or burrows by digging or trampling as well as chasing or capturing listed wildlife species; loss of preferred habitat could occur	N/A	Results would be similar to the cumulative impact analysis that was completed for park sites that are located in proximately to the new lands No indirect impact to long-term, minor, and adverse indirect impact at adjacent lands

N/A = not applicable.

Alternative B: NPS Leash Regulation. For new lands that come under the management of GGNRA, alternative B would manage these lands under existing NPS regulations as described in 36 CFR 2.15, which forbids possession of a pet in a public building, public transportation vehicle, location designated as a swimming beach, or any structure or area closed to pets by the superintendent. Alternative B would allow on-leash dog walking unless conditions:

- impedes the attainment of a park's desired future conditions for natural and cultural resources as identified through the park's planning process, or
- creates an unsafe or unhealthful environment for visitors or employees, or
- impedes or interferes with park programs or activities, or
- triggers the compliance-based management strategy's process for closure.

Because it is unknown what types of lands in what locations may come under GGNRA management in the future, a conservative approach to the impact analysis was adopted to encompass the range of possibilities from acquiring urban lands previously developed to acquiring intact, preserved lands. It is expected that all new lands would be surveyed to determine whether federally or state-listed animal species exist at the site prior to designating dog management for an area. It is assumed that management of dog walking activities in new lands acquired by GGNRA would be developed to avoid any impacts on federally or state-listed species.

At most new lands, the impacts on listed wildlife species from allowing on-leash dog walking would be negligible because physically restraining dogs on leash and closing water bodies to dogs would protect any listed aquatic wildlife species. When compliance is assumed at the new lands, it is expected that owners would be in close contact with their dogs and presumably would be likely to comply with cleanup regulations. Chasing of wildlife would be eliminated but on-leash dogs could still infrequently disturb wildlife behavior if listed species are present at new lands in upland areas or outside water bodies. As a result, listed wildlife species may avoid trail corridors that allow on-leash dog walking and be displaced from high quality habitat that is degraded by the presence of dogs, resulting in long-term minor adverse impacts due to the sensitive nature of listed species. Therefore, assuming compliance, overall impacts on listed wildlife species at new lands from private and commercial dog walkers as a result of alternative B would range from negligible to long term, minor, and adverse to encompass a range of potential effects at newly acquired lands under management by GGNRA. No impacts on listed wildlife species would be expected at sites that are closed to or proposed for closure to dogs.

Under alternative B, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. All dogs must be on a leash. At sites where commercial dog walking is not common, it is likely that the new regulation would not have an impact on the number of dog walkers resulting in a negligible impacts on listed wildlife species at new lands. At sites where commercial dog walking is common, impacts from commercial dog walkers would be similar to impacts from other dog walkers. Overall impacts on listed wildlife species at new lands from dogs walked by both commercial and private individuals are summarized above.

Cumulative Impacts. Because it is unknown what new land locations may come under GGNRA management in the future, the cumulative impacts analysis for new lands would be similar to the cumulative impact analysis that was completed for park sites that are located in proximately to the new lands.

Indirect Impacts on Adjacent Parks

As stated under alternative A, it is unknown what parks (including dog use areas) would be located adjacent to new lands not yet acquired by GGNRA. Therefore, a range of indirect impacts was developed to encompass the range of impact possibilities that could occur at lands located adjacent to these new lands that have not yet been acquired. Since on-leash dog walking would be allowed at new lands under this alternative the overall indirect impacts on listed wildlife species in adjacent lands would range from no indirect impacts on listed wildlife species from dogs if there is no change in current conditions at the site to long-term, minor, adverse impacts because it is unknown where and to what habitat exists for listed wildlife species in these unknown adjacent lands.

NEW LANDS ALTERNATIVE B CONCLUSION TABLE

Federally and State-listed Wildlife Species Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Overall negligible to long-term minor adverse impacts, assuming compliance; no impact at sites that prohibit dogs	Physically restraining dogs on leash should prevent dog access to many special-status species, but dogs could still disturb species by barking and by their presence; dogs could cause loss of preferred habitat	N/A	Results would be similar to the cumulative impact analysis that was completed for park sites that are located in proximately to the new lands No indirect impact to long-term, minor, and adverse indirect impact at adjacent lands

N/A = not applicable.

Alternative C: Emphasis on Multiple Use—Balanced by County. Under alternative C, dog walking regulations in new lands would be the same as alternative B, and impacts would be the same, assuming compliance: negligible to long-term minor adverse impacts overall and no impact at sites that prohibit dogs.

At most new lands, the impacts on listed wildlife species from allowing on-leash dog walking would be negligible because physically restraining dogs on leash and closing water bodies to dogs would protect any listed aquatic wildlife species. When compliance is assumed at the new lands, it is expected that owners would be in close contact with their dogs and presumably would be likely to comply with cleanup regulations. Chasing of wildlife would be eliminated but on-leash dogs could still infrequently disturb wildlife behavior if listed species are present at new lands in upland areas or outside water bodies. As a result, listed wildlife species may avoid trail corridors that allow on-leash dog walking and be displaced from high quality habitat that is degraded by the presence of dogs, resulting in long-term minor adverse impacts due to the sensitive nature of listed species. Therefore, assuming compliance, overall impacts on listed wildlife species at new lands from private and commercial dog walkers as a result of alternative C would range from negligible to long term, minor, and adverse to encompass a range of potential effects at newly acquired lands under management by GGNRA. No impact on listed wildlife species would be expected at sites that are closed to or proposed for closure to dogs.

Under alternative C, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. All dogs must be on a leash. At sites where commercial dog walking is not common, it is likely that the new regulation would not have an impact on the number of dog walkers resulting in a negligible impact on listed wildlife species at new lands. At sites where commercial dog walking is common, impacts from commercial dog walkers would be similar to impacts from other

dog walkers. Overall impacts on listed wildlife species at new lands from dogs walked by both commercial and private individuals are summarized above.

Cumulative Impacts. Because it is unknown what new land locations may come under GGNRA management in the future, the cumulative impacts analysis for new lands would be similar to the cumulative impact analysis that was completed for park sites that are located in proximity to the new lands.

Indirect Impacts on Adjacent Parks

As stated under alternative A, it is unknown what parks (including dog use areas) would be located adjacent to new lands not yet acquired by GGNRA. Therefore, a range of indirect impacts was developed to encompass the range of impact possibilities that could occur at lands located adjacent to these new lands that have not yet been acquired. Since on-leash dog walking would be allowed at new lands under this alternative the overall indirect impacts on listed wildlife species in adjacent lands would range from no indirect impacts on listed wildlife species from dogs if there is no change in current conditions at the site to long-term, minor, adverse impacts because it is unknown where and to what habitat exists for listed wildlife species in these unknown adjacent lands.

NEW LANDS ALTERNATIVE C CONCLUSION TABLE

Federally and State-listed Wildlife Species Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Overall negligible to long-term minor adverse impacts, assuming compliance; no impact at sites that prohibit dogs	Physically restraining dogs on leash should prevent dog access to many special-status species, but dogs could still disturb species by barking and by their presence; dogs could cause loss of preferred habitat	N/A	Results would be similar to the cumulative impact analysis that was completed for park sites that are located in proximity to the new lands No indirect impact to long-term, minor, and adverse indirect impact at adjacent lands

N/A = not applicable.

Alternative D: Most Protective Based on Resource Protection/Visitor Safety. New lands would be closed to dog walking unless opened by the GGNRA Compendium, as evaluated by criteria below. The “closed unless opened” approach is the reverse of 36 CFR 2.15. Only on-leash dog walking would be considered at new lands. New lands would not be considered for voice and sight control (ROLAs). Once open to on-leash, compliance-based management strategies apply. Areas could be opened to on-leash dog walking if opening the area would not:

- impede the attainment of a park’s desired future conditions for natural and cultural resources as identified through the park’s planning process, or
- create an unsafe or unhealthful environment for visitors or employees, or
- impede or interfere with park programs or activities.

Because it is unknown what types of lands in what locations may come under GGNRA management in the future, a conservative approach to the impact analysis was adopted to encompass the range of possibilities from acquiring urban lands previously developed to acquiring intact, preserved lands. It is

expected that all new lands would be surveyed to determine whether federally or state-listed animal species exist at the site prior to designating dog management for an area. It is assumed that management of dog walking activities in new lands acquired by GGNRA would be developed to avoid any impacts on federally or state-listed species. At most new lands, the impacts on listed wildlife species from allowing on-leash dog walking would be negligible because physically restraining dogs on leash and closing water bodies to dogs would protect any listed aquatic wildlife species. When compliance is assumed at the new lands, it is expected that owners would be in close contact with their dogs and presumably would be likely to comply with cleanup regulations. Chasing of wildlife would be eliminated, but on-leash dogs could still infrequently disturb wildlife behavior if listed species are present at new lands in upland areas or outside water bodies. As a result, listed wildlife species may avoid trail corridors that allow on-leash dog walking and be displaced from high quality habitat that is degraded by the presence of dogs, resulting in long-term minor adverse impacts due to the sensitive nature of listed species. Therefore, assuming compliance, overall impacts on listed wildlife species at new lands from private and commercial dog walkers as a result of alternative D would range from negligible to long term, minor, and adverse to encompass a range of potential effects at newly acquired lands under management by GGNRA. No impact on listed wildlife species would be expected at sites that are closed to or proposed for closure to dogs.

No commercial dog walking would be allowed under alternative D; therefore, commercial dog walking would have no impact on listed wildlife species. Private dog walkers would be allowed to walk one to three dogs.

Cumulative Impacts. Because it is unknown what new land locations may come under GGNRA management in the future, the cumulative impacts analysis for new lands would be similar to the cumulative impact analysis that was completed for park sites that are located in proximately to the new lands.

Indirect Impacts on Adjacent Parks

As stated under alternative A, it is unknown what parks (including dog use areas) would be located adjacent to new lands not yet acquired by GGNRA. Therefore, a range of indirect impacts was developed to encompass the range of impact possibilities that could occur at lands located adjacent to these new lands that have not yet been acquired. On-leash dog walking may be allowed at new lands if opened under the compendium; therefore, the overall indirect impacts on listed wildlife species in adjacent lands would range from no indirect impacts on listed wildlife species from dogs if there is no change in current conditions at the site to long-term, minor, adverse impacts because it is unknown where and to what habitat exists for listed wildlife species in these unknown adjacent lands.

NEW LANDS ALTERNATIVE D CONCLUSION TABLE

Federally and State-listed Wildlife Species Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Overall negligible to long-term minor adverse impacts, assuming compliance; no impact at sites that prohibit dogs	Physically restraining dogs on leash should prevent dog access to many special-status species, but dogs could still disturb species by barking and by their presence; dogs could cause loss of preferred habitat	N/A	Results would be similar to the cumulative impact analysis that was completed for park sites that are located in proximately to the new lands No indirect impact to long-term, minor, and adverse indirect impact at adjacent lands

N/A = not applicable.

Alternative E: Most Dog Walking Access/Most Management Intensive. For new lands that come under the management of GGNRA, alternative E would initially manage these lands under existing NPS regulations as described in 36 CFR 2.15, which forbids possession of a pet in a public building, public transportation vehicle, location designated as a swimming beach, or any structure or area closed to pets by the superintendent. Alternative E would allow dog walking unless conditions:

- impede the attainment of a park's desired future conditions for natural and cultural resources as identified through the park's planning process;
- create an unsafe or unhealthful environment for visitors or employees;
- impede or interfere with park programs or activities; or
- trigger the compliance-based management strategy's process for closure.

Additionally, new lands may be opened to voice and sight control if:

- Off-leash dog use existed before acquisition, and
- one year baseline data is collected through the compliance-based management strategy's monitoring program, and
- compliance-based management strategy not triggered (primary or secondary management responses).

Alternative E would allow on leash dog walking and potentially ROLAs at new lands managed by GGNRA as long as it would not impede attainment of the park's desired future conditions. Also, alternative E could close areas to on-leash dog walking if allowing on-leash dog walking would impede attainment of the park's desired future conditions. Because it is unknown what types of lands in what locations may come under GGNRA management in the future, a conservative approach to the impact analysis was adopted to encompass the range of possibilities from acquiring urban lands previously developed to acquiring intact, preserved lands. Similarly, because site-specific information concerning listed wildlife species is unknown at this time, impacts are presented as a range to encompass potential effects. It is entirely possible that new lands managed by GGNRA could support special-status wildlife species and/or critical habitat. Therefore, it is expected that all new lands would be surveyed to determine whether special-status wildlife species exist at the site prior to designating dog management for an area.

It is assumed that ROLAs would not be located in an area that supports listed wildlife species or critical habitat for listed species so that the park's desired future conditions can be attained. Even so, dogs in a ROLA would be confined to a smaller area, potentially increasing the impacts on the adjacent natural habitat and vegetation and affecting listed wildlife species that use these habitats. Adjacent habitat would be affected by dogs through trampling, digging, dog waste, and nutrient addition; listed wildlife species may avoid and/or be displaced from high quality habitat that is degraded by the presence of dogs, resulting in long-term moderate adverse impacts on listed wildlife species in areas located adjacent to a ROLA. However, at most new lands, the impacts on listed wildlife species from allowing on-leash dog walking would be negligible because physically restraining dogs on leash in areas outside ROLAs and closing water bodies to dogs would protect any listed aquatic wildlife species. When compliance is assumed at the new lands, it is expected that owners would be in close contact with their dogs and presumably would be likely to comply with cleanup regulations. Chasing of wildlife would be eliminated, but on-leash dogs could still infrequently disturb wildlife behavior if listed species are present at new lands in upland areas or outside water bodies. As a result, listed wildlife species may avoid trail corridors that allow on-leash dog walking and be displaced from high quality habitat that is degraded by the presence of dogs, resulting in long-term moderate adverse impacts due to the sensitive nature of listed

species. Therefore, assuming compliance, overall impacts on listed wildlife species at new lands from private and commercial dog walkers as a result of alternative E would range from negligible to long term, moderate, and adverse to encompass a range of potential effects at newly acquired lands under management by GGNRA. No impact on listed wildlife species would be expected at sites that are closed to or proposed for closure to dogs.

Under alternative E, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. All dogs must be on a leash. At sites where commercial dog walking is not common, it is likely that the new regulation would not have an impact on the number of dog walkers resulting in a negligible impact on listed wildlife species. At sites where commercial dog walking is common, impacts on listed wildlife species from commercial dog walkers would be similar to impacts from other dog walkers. Overall impacts on listed wildlife species at new lands from dogs walked by both commercial and private individuals are summarized above.

Cumulative Impacts. Because it is unknown what new land locations may come under GGNRA management in the future, the cumulative impacts analysis for new lands would be similar to the cumulative impact analysis that was completed for park sites that are located in proximately to the new lands.

Indirect Impacts on Adjacent Parks

As stated under alternative A, it is unknown what parks (including dog use areas) would be located adjacent to new lands not yet acquired by GGNRA. Therefore, a range of indirect impacts was developed to encompass the range of impact possibilities that could occur at lands located adjacent to these new lands that have not yet been acquired. On-leash dog walking would be allowed at new lands under this alternative. In addition, voice and sight control may be allowed at new lands under this alternative; therefore, the overall indirect impacts on listed wildlife species in adjacent lands would range from no indirect impacts on listed wildlife species from dogs if there is no change in current conditions at the site to long-term, minor, adverse impacts because it is unknown where and to what habitat exists for listed wildlife species in these unknown adjacent lands.

NEW LANDS ALTERNATIVE E CONCLUSION TABLE

Federally and State-listed Wildlife Species Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Overall negligible to long-term moderate adverse impacts, assuming compliance; no impact at sites that prohibit dogs	Physically restraining dogs on leash should prevent dog access to many special-status species, but dogs could still disturb species by barking and by their presence; dogs could cause loss of preferred habitat; dogs in a ROLA could increase impacts on listed wildlife in and adjacent to the ROLA	N/A	Results would be similar to the cumulative impact analysis that was completed for park sites that are located in proximately to the new lands No indirect impact to long-term, minor and adverse indirect impact at adjacent lands

N/A = not applicable.

Preferred Alternative. For special-status wildlife species in new lands, alternative D would be the preferred alternative. Under the preferred alternative, new lands would be closed to dog walking unless opened by the GGNRA Compendium, as evaluated by criteria below. The “closed unless opened” approach is the reverse of 36 CFR 2.15. Only on-leash dog walking would be considered at new lands.

New lands would not be considered for voice and sight control (ROLAs). Once open to on-leash, compliance-based management strategies apply. Areas could be opened to on-leash dog walking if opening the area would not:

- impede the attainment of a park's desired future conditions for natural and cultural resources as identified through the park's planning process, or
- create an unsafe or unhealthful environment for visitors or employees, or
- impede or interfere with park programs or activities.

Because it is unknown what types of lands in what locations may come under GGNRA management in the future, a conservative approach to the impact analysis was adopted to encompass the range of possibilities from acquiring urban lands previously developed to acquiring intact, preserved lands. It is expected that all new lands would be surveyed to determine whether federally or state-listed animal species exist at the site prior to designating dog management for an area. It is assumed that management of dog walking activities in new lands acquired by GGNRA would be developed to avoid any impacts on federally or state-listed species. At most new lands, the impacts on listed wildlife species from allowing on-leash dog walking would be negligible because physically restraining dogs on leash and closing water bodies to dogs would protect any listed aquatic wildlife species. When compliance is assumed at the new lands, it is expected that owners would be in close contact with their dogs and presumably would be likely to comply with cleanup regulations. Chasing of wildlife would be eliminated but on-leash dogs could still infrequently disturb wildlife behavior if listed species are present at new lands in upland areas or outside water bodies. As a result, listed wildlife species may avoid trail corridors that allow on-leash dog walking and be displaced from high quality habitat that is degraded by the presence of dogs, resulting in long-term minor adverse impacts due to the sensitive nature of listed species. Therefore, assuming compliance, overall impacts on listed wildlife species at new lands from private and commercial dog walkers as a result of the preferred alternative would range from negligible to long term, minor, and adverse to encompass a range of potential effects at newly acquired lands under management by GGNRA. No impact on listed wildlife species would be expected at sites that are closed to or proposed for closure to dogs.

Alternative C was selected as the preferred alternative for permits at all sites including new lands. All dog walkers, including commercial dog walkers, would be allowed up to three dogs with no permit required. All dogs must be on a leash. At sites where commercial dog walking is not common, it is likely that the new regulation would not have an impact on the number of dog walkers resulting in a negligible impact on listed wildlife species. At sites where commercial dog walking is common, impacts to listed wildlife species from commercial dog walkers would be similar to impacts from other dog walkers. Overall impacts to listed wildlife species from dogs walked by both commercial and private individuals are summarized above.

Cumulative Impacts. Because it is unknown what new land locations may come under GGNRA management in the future, the cumulative impacts analysis for new lands would be similar to the cumulative impact analysis that was completed for park sites that are located in proximately to the new lands.

Indirect Impacts on Adjacent Parks

It is unknown what parks (including dog use areas) would be located adjacent to new lands not yet acquired by GGNRA. Therefore, a range of indirect impacts was developed to encompass the range of impact possibilities that could occur at lands located adjacent to these new lands that have not yet been acquired. Adjacent lands could range from urban lands previously developed to preserved lands. Since

on-leash dog walking would be allowed at new lands under this alternative the overall indirect impacts on listed wildlife species in adjacent lands would range from no indirect impacts on listed wildlife species from dogs if there is no change in current conditions at the site to long-term, minor, adverse impacts because it is unknown where and to what habitat exists for listed wildlife species in these unknown adjacent lands.

NEW LANDS PREFERRED ALTERNATIVE CONCLUSION TABLE

Federally and State-listed Wildlife Species Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Overall negligible to long-term minor adverse impacts, assuming compliance; no impact at sites that prohibit dogs	Physically restraining dogs on leash should prevent access to many special-status species, but dogs could still disturb species by barking and by their presence; dogs could cause loss of preferred habitat	N/A	Results would be similar to the cumulative impact analysis that was completed for park sites that are located in proximately to the new lands No indirect impact to long-term, minor, and adverse indirect impact at adjacent lands

N/A = not applicable.

FEDERALLY AND STATE-LISTED PLANT SPECIES

At GGNRA, the management of vegetation is primarily focused on research, monitoring, and actively restoring habitat for threatened, endangered, and unique plant species. Restoration efforts at GGNRA have included decompacting soils, removing non-native plant species, and planting listed and unique plant species to expand on existing (or historical) populations. For new and/or pending properties recently acquired by the park (Cattle Hill and Pedro Point Headlands), inventorying of listed and unique plant species is currently ongoing. Therefore, suitable habitat is identified at these sites because site-specific information concerning listed plant species at these locations is relatively unknown at the time of publication.

SAN FRANCISCO LESSINGIA (FEDERALLY AND STATE ENDANGERED)

The San Francisco lessingia currently exists in only a few locations in San Francisco (the Presidio and Baker Beach as discussed above) and Daly City, California, as two separate genotypes. However, San Francisco lessingia recovery units have been identified by the USFWS (2003) and are located in areas in GGNRA. Both Baker Beach and Bluffs to Golden Gate Bridge and Fort Funston sites have been designated as San Francisco lessingia recovery and enhancement sites for the annual plant (USFWS 2003). Additionally, a small population of San Francisco lessingia exists in north Baker Beach. Although coastal dune habitat for this species exists at Fort Funston, there is no current documentation of existing presence of this species. The core population of the San Francisco lessingia is at the Lobos Creek Dune community in the Presidio. However, the Lobos Valley, where this population occurs at Lobos Creek in the GGNRA, is not in the study area for this plan/EIS and this site is not discussed further in this section, with the exception of cumulative impacts analysis. Therefore, the impacts on the San Francisco lessingia are analyzed for Baker Beach and Bluffs to Golden Gate Bridge and for Fort Funston sites in the paragraphs that follow.

Baker Beach and Bluffs to Golden Gate Bridge

Alternative A: No Action. Under current conditions, dogs are allowed under voice control on the beach north of Lobos Creek and on-leash dog walking is allowed on the trails to the beach and on the Battery Crosby Trail; the Batteries to Bluffs Trail is closed. A small population of San Francisco lessingia is found in north Baker Beach. This population could be potentially affected by dog use on the Coastal Trail. At the Baker Beach and Bluffs to Golden Gate Bridge site, there are designated reintroduction, restoration, and protection areas (recovery units) for the San Francisco lessingia (USFWS 2003). The Presidio Recovery Unit for this species includes most of the trails in the area around Baker Beach, including part of the Coastal Trail as well as the Sand Ladder Trail (USFWS 2003). Portions of this unit are in and adjacent to areas where dogs under voice control are allowed. Additionally, social trails exist at the site and traverse coastal scrub habitat that could support the San Francisco lessingia throughout this site. As suggested by the U.S. Geological Survey (USGS) (2004), heavy off-leash dog use increases deterioration of native dune communities. This site has documented low to high visitor use, including low to moderate use by dog walkers (table 9).

Under alternative A, if dogs access areas of dune scrub vegetation in these regions, they could affect the San Francisco lessingia through trampling, digging, or dog waste. This could also affect the population in north Baker Beach since dogs are allowed on the Battery Crosby Trail. Therefore, alternative A would result in continued negligible to long-term moderate adverse impacts on the San Francisco lessingia.

No permit system exists for commercial dog walking under alternative A. At Baker Beach and Bluffs to Golden Gate Bridge, commercial dog walking is uncommon; therefore, commercial dog walking would have negligible impacts on the San Francisco lessingia.

Cumulative Impacts. Projects and actions in and near Baker Beach and Bluffs to Golden Gate Bridge were considered for the cumulative impacts analysis (appendix K). The following is a discussion of projects that have had, are currently having, or have the potential to have effects on the San Francisco lessingia at or in the vicinity of this site.

Primary among the past actions that have influenced listed plant species at GGNRA such as San Francisco lessingia are urban development and loss of habitat continuity, the establishment and overall dominance by non-native plant species, and land management practices including placement of roads and trails for park users. In particular, urban development and landscaping have reduced the available habitat for these species, with the gradual creation of islands of intact vegetation surrounded by infrastructure and associated non-native species. Populations of rare plants have become isolated from each other, which decreases opportunities for cross-pollination or seed movement. This gradually causes a reduction in the overall adaptability or elasticity of populations to respond to changing environmental conditions, resulting in long-term adverse impacts on population sizes and overall species survival.

Current transportation, trail, and development planning efforts in GGNRA and beyond NPS-managed boundaries would have direct short-term effects on special-status plant species in the disturbance area, and long-term direct and indirect effects on vegetation as a whole through potential creation of habitat (through ground-disturbing activities) for non-native plant species encroachment and establishment. However, ongoing efforts to identify mitigation for these projects, such as pre-project weed control, post-project planting and weeding, and use of weed-free products (soils, fill material, and equipment), would reduce the potential for these types of impacts. Since special-status plants are mapped and monitored on a regular basis and are considered during site design and avoided wherever possible, these impacts would be minor to negligible. Other ongoing programs, including non-native plant removal projects in the park, the site management plan for Milagra Ridge, habitat restoration programs, volunteer opportunities sponsored by the park, and maintenance operations all have the potential to affect listed plant species at

GGNRA. The Wildland/Urban Interface Initiative projects on private lands and lands managed by other agencies adjacent to GGNRA-managed lands, the GGNRA *Fire Management Plan* (NPS 2005a), and the vegetation management plan for the Presidio would beneficially affect the park's vegetation and associated listed plant species, including the San Francisco lessingia. Additionally, Park Stewardship Programs, which include native plant habitat restoration projects that occur throughout the park, will provide beneficial effects to the San Francisco lessingia.

The San Francisco lessingia currently exists in only a few locations in San Francisco (the Presidio and Baker Beach as discussed above) and Daly City, California, as two separate genotypes. Specifically, the San Francisco lessingia exists at six sites in the Presidio of San Francisco (USFWS 2003; iii), including Lobos Creek, the Battery Caulfield Road site, the Wherry Dunes restoration site, the Rob Hill site, the Presidio Golf Course roadside site and the Public Health Services Hospital sites) (USFWS 2003; 29-32). The NPS monitors the population sizes of San Francisco lessingia over time and has fenced off remnant populations on the Presidio to protect them from excessive trampling (USFWS 2003; 50). Generally, habitat loss, changes in ecological processes due to human development, and encroachment by invasive species are the primary reasons that the species is listed. However, the core San Francisco lessingia population exists in the Lobos Creek Valley restoration site (near Baker Beach and Bluffs to Golden Gate Bridge), where the population was between 154,065 and 231,097 individuals in 2008 (NPS 2008h). Through future restoration projects, and if the recovery areas for the species at Baker Beach and Bluffs to Golden Gate Bridge are adequately protected in the future, a beneficial effect on the San Francisco lessingia would occur.

The negligible to long-term moderate adverse impacts on the San Francisco lessingia from dogs at Baker Beach and Bluffs to Golden Gate Bridge under alternative A were considered together with the effects of the projects mentioned above. The beneficial effects from the habitat restoration projects and protected recovery areas would not be expected to reduce the adverse impacts on the San Francisco lessingia from alternative A. Cumulatively, alternative A would have long-term minor to moderate adverse impacts on the San Francisco lessingia because the core San Francisco lessingia population exists in the Lobos Creek Valley restoration site (near Baker Beach and Bluffs to Golden Gate Bridge). The current population in north Baker Beach and the recovery areas for the species at Baker Beach and Bluffs to Golden Gate Bridge would not be adequately protected under alternative A.

Indirect Impacts in Adjacent Parks

In lands adjacent to GGNRA, there are 36 parks with dog use areas within about a 10-mile radius of Baker Beach and Bluffs to Golden Gate Bridge and 20 parks within about a 5-mile radius; the closest park is Mountain Lake Park, which allows off-leash dog walking (map 27). In addition, Baker Beach is located directly west of Area B of the Presidio; Area B is subject to the Presidio Trust's regulations on dog walking, which do not allow dogs to be off-leash. No indirect impacts on the San Francisco lessingia in adjacent lands, including Area B of the Presidio, would be expected under alternative A since there would be no change in current conditions at the site.

BAKER BEACH AND BLUFFS TO GOLDEN GATE BRIDGE ALTERNATIVE A CONCLUSION TABLE

San Francisco Lessingia Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Negligible to long-term moderate adverse impacts	Dogs and their walkers have created social trails in habitat that supports a small population of this species at the site; portions of the recovery unit for this species are in and adjacent to areas where dogs under voice control are allowed; this plant could be disturbed by dogs since dogs are allowed on the trail to Battery Crosby near a small population of this plant; however, the Lobos Valley, where the core population of the plant occurs at GGNRA, is not in the study area for this plan/EIS	N/A	Long-term minor to moderate adverse cumulative impacts No indirect impacts in adjacent lands

N/A = not applicable.

Alternative B: NPS Leash Regulation. Alternative B would allow on-leash dog walking on the beach north of Lobos Creek Inlet and on all trails in the vicinity of Baker Beach except the Batteries to Bluffs Trail and the Battery Crosby Trail, where dog walking would be prohibited. On-leash dog walking is based on an allowed 6-foot dog leash. In general, impacts would be limited to the trails and the 6-foot corridor immediately adjacent to the trails; the beach is not suitable habitat for the San Francisco lessingia. Impacts on the San Francisco lessingia adjacent to the trails (LOD area) would be long term, minor, and adverse since these areas have not been previously disturbed and contain naturally functioning soils that could support the growth of the San Francisco lessingia. Potential impacts on the current population in north Baker Beach would occur as a result of disturbance by dogs through trampling, digging, or dog waste, and nutrient addition could also occur from outside the LOD area, but these impacts would be localized in a relatively small area. The long-term minor adverse impacts from dogs in the LOD area would affect only a portion of the entire site; however, the Presidio Recovery Unit for this species includes most of the trails in the area around Baker Beach, including part of the Coastal Trail as well as the Sand Ladder Trail (USFWS 2003). Physically restraining dogs on leash would protect San Francisco lessingia and potential habitat, but the Presidio Recovery Unit for the species is located in and adjacent to areas where on-leash dog walking would be allowed; dogs could affect the San Francisco lessingia population at north Baker Beach through trampling, digging, or dog waste; areas designated for further study and potential recovery of the San Francisco lessingia could also be affected by dogs. Therefore, assuming compliance, alternative B would result in overall negligible to long-term minor adverse impacts on the San Francisco lessingia because suitable habitat could occasionally be degraded by dogs at this site but effects would be localized in a relatively small area.

Under alternative B, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs per person with no permit required. Since commercial dog walking is not common at Baker Beach and Bluffs to Golden Gate Bridge, it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking under alternative B would have a negligible impact on the San Francisco lessingia.

Cumulative Impacts. The negligible to long-term minor adverse impacts on the San Francisco lessingia from dogs at Baker Beach and Bluffs to Golden Gate Bridge under alternative B were considered together with the effects of the projects mentioned above under alternative A. The beneficial effects from the habitat restoration projects and protected recovery areas would not be expected to reduce the adverse

impacts on the San Francisco lessingia from alternative B. Cumulatively, alternative B would have negligible to long-term minor adverse impacts on the San Francisco lessingia because the core San Francisco lessingia population exists in the Lobos Creek Valley restoration site (near Baker Beach and Bluffs to Golden Gate Bridge). The current population in north Baker Beach and the recovery areas for the species at Baker Beach and Bluffs to Golden Gate Bridge would not be adequately protected under alternative B.

Indirect Impacts in Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation under alternative B, particularly Mountain Lake Park, because it is the closest dog use area and it allows off-leash dog walking. Even though some visitors may choose to visit other park sites that allow off-leash dog walking, negligible indirect impacts on the San Francisco lessingia in adjacent lands would be expected from increased dog use because these dog parks are unlikely to support existing populations of the San Francisco lessingia. No indirect impacts on the San Francisco lessingia in Area B of the Presidio would be expected under alternative B. The six San Francisco lessingia locations within the Presidio would not be indirectly affected by alternative B since on-leash requirements exist at this site and the NPS has fenced off remnant populations on the Presidio to protect them from excessive trampling (USFWS 2003; 50).

BAKER BEACH AND BLUFFS TO GOLDEN GATE BRIDGE ALTERNATIVE B CONCLUSION TABLE

San Francisco Lessingia Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Long-term minor adverse impacts in 6-foot corridors adjacent to trails (LOD area)	If San Francisco lessingia is located in the LOD area, plants would be affected by dogs through trampling, digging, and dog waste; nutrient addition would also occur		
Overall negligible to long-term minor adverse impacts, assuming compliance	Physically restraining dogs on leash would protect San Francisco lessingia and potential habitat, but recovery and enhancement sites for the species are located in and adjacent to areas where on-leash dog walking would be allowed; dogs could affect the San Francisco lessingia through trampling, digging, or dog waste	Beneficial to no change, assuming compliance	Negligible to long-term minor adverse cumulative impacts Negligible indirect impacts in adjacent lands

Alternative C: Emphasis on Multiple Use—Balanced by County. Alternative C dog walking restrictions would be the same as alternative B, and impacts would be the same, assuming compliance: long term, minor, and adverse in the LOD area and negligible to long term, minor, and adverse overall.

Under alternative C, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. Any dog walker, commercial or private, could obtain a permit to walk more than three dogs with a limit of six dogs on leash, and permits may be restricted by time and area. Permits would be allowed at Baker Beach and Bluffs to Golden Gate Bridge. Impacts on the San Francisco lessingia from permit holders with four to six dogs would be expected to increase under this alternative; however, impacts would not be expected to increase enough to cause a change in the

threshold level. Since commercial dog walking is not common at Baker Beach and Bluffs to Golden Gate Bridge, it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking under alternative C would have negligible impacts on the San Francisco lessingia.

Cumulative Impacts. Under alternative C, the cumulative impacts at this park site and indirect impacts in adjacent lands would be the same as those under alternative B: negligible to long term, minor, adverse cumulative impacts on the San Francisco lessingia at this site and negligible indirect impacts on the lessingia in adjacent lands and no indirect impacts on the San Francisco lessingia in Area B of the Presidio.

BAKER BEACH AND BLUFFS TO GOLDEN GATE BRIDGE ALTERNATIVE C CONCLUSION TABLE

San Francisco Lessingia Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Long-term minor adverse impacts in 6-foot corridors adjacent to trails (LOD area)	If San Francisco lessingia is located in the LOD area, plants would be affected by dogs through trampling, digging, and dog waste; nutrient addition would also occur		
Overall negligible to long-term minor adverse impacts, assuming compliance	Physically restraining dogs on leash would protect San Francisco lessingia and potential habitat, but recovery and enhancement sites for the species are located in and adjacent to areas where on-leash dog walking would be allowed; dogs could affect the San Francisco lessingia through trampling, digging, or dog waste; individuals of the species could be injured or killed	Beneficial to no change, assuming compliance	Negligible to long-term minor adverse cumulative impacts Negligible indirect impacts in adjacent lands

Alternative D: Most Protective Based on Resource Protection/Visitor Safety. Alternative D would allow on-leash dog walking on the section of the beach north of Lobos Creek and south of the northern parking lot and on all trails in the vicinity of Baker Beach except the Batteries to Bluffs Trail and the Battery Crosby Trail, where no dog walking would be allowed. On-leash dog walking is based on an allowed 6-foot dog leash. In general, impacts would be limited to the trails and the 6-foot corridor immediately adjacent to the trails; the beach is not suitable habitat for the San Francisco lessingia. Impacts on the San Francisco lessingia adjacent to the trails (LOD area) would be long term, minor, and adverse since these areas have not been previously disturbed and contain naturally functioning soils that could support the growth of the San Francisco lessingia. Impacts would occur as a result of disturbance by dogs through trampling, digging, or dog waste; nutrient addition could also occur from outside the LOD area, but these impacts would be localized in a relatively small area.

The long-term minor adverse impacts from dogs in the LOD area would affect only a portion of the entire site; however, the Presidio Recovery Unit for this species includes most of the trails in the area around Baker Beach and Bluffs to Golden Gate Bridge, including part of the Coastal Trail (USFWS 2003), where on-leash dog walking would be allowed under alternative D. Physically restraining dogs on leash would protect San Francisco lessingia and potential habitat, but the Presidio Recovery Unit for the species is located in and adjacent to areas where on-leash dog walking would be allowed; dogs could affect the

population of San Francisco lessingia in north Baker Beach through trampling, digging, or dog waste; areas designated for further study and potential recovery of the San Francisco lessingia could also be affected by dogs. Therefore, assuming compliance, alternative D would result in overall negligible to long-term minor adverse impacts on the San Francisco lessingia because suitable habitat could occasionally be degraded by dogs at this site but effects would be localized in a relatively small area.

No commercial dog walking would be allowed under alternative D; therefore, commercial dog walking would have no impact on the San Francisco lessingia.

Cumulative Impacts. The negligible to long-term minor adverse impacts on the San Francisco lessingia from dogs at Baker Beach and Bluffs to Golden Gate Bridge under alternative D were considered together with the effects of the projects mentioned above in alternative A. The beneficial effects from the habitat restoration projects and protected recovery areas would not be expected to reduce the adverse impacts on the San Francisco lessingia from alternative D. Cumulatively, alternative D would have negligible to long-term minor adverse impacts on the San Francisco lessingia because the core San Francisco lessingia population exists in the Lobos Creek Valley restoration site (near Baker Beach and Bluffs to Golden Gate Bridge). The current population in north Baker Beach and the recovery areas for the species at Baker Beach and Bluffs to Golden Gate Bridge would not be adequately protected under alternative D.

Indirect Impacts in Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation under alternative D, particularly Mountain Lake Park, because it is the closest dog use area and it allows off-leash dog walking. Some visitors may choose to visit other park sites that allow off-leash dog walking, but it is unlikely that these dog parks support existing populations of the San Francisco lessingia; therefore, indirect impacts on San Francisco lessingia in adjacent lands would be negligible. No indirect impacts on the San Francisco lessingia in Area B of the Presidio would be expected under alternative D. The six San Francisco lessingia locations within the Presidio should not be indirectly affected by alternative A since on-leash requirements exist at this site and the NPS has fenced off remnant populations on the Presidio to protect them from excessive trampling (USFWS 2003; 50).

BAKER BEACH AND BLUFFS TO GOLDEN GATE BRIDGE ALTERNATIVE D CONCLUSION TABLE

San Francisco Lessingia Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Long-term minor adverse impacts in 6-foot corridors adjacent to trails (LOD area)	San Francisco lessingia is located in the LOD area, plants would be affected by dogs through trampling, digging, and dog waste; nutrient addition would also occur		
Overall negligible to long-term minor adverse impacts, assuming compliance	Physically restraining dogs on leash would protect San Francisco lessingia and potential habitat, but recovery and enhancement sites for the species are located in and adjacent to areas where on-leash dog walking would be allowed; dogs could affect the San Francisco lessingia through trampling, digging, or dog waste	Beneficial to no change, assuming compliance	Negligible to long-term minor adverse cumulative impacts Negligible indirect impacts in adjacent lands

Alternative E: Most Dog Walking Access/Most Management Intensive. Alternative E would allow on-leash dog walking on the northern portion of the beach and on all trails in the vicinity of Baker Beach except the Batteries to Bluffs Trail and the Battery Crosby Trail, where dog walking would not be allowed. A ROLA would be established on the southern portion of the beach, immediately north of Lobos Creek, for dog walking under voice and sight control; the beach ROLA would not be located in suitable habitat for the San Francisco lessingia. On-leash dog walking is based on an allowed 6-foot dog leash. In general, impacts would be limited to the trails and the 6-foot corridor immediately adjacent to the trails; the beach is not suitable habitat for the San Francisco lessingia. Impacts on the San Francisco lessingia adjacent to the trails (LOD area) would be long term, minor, and adverse since these areas have not been previously disturbed and contain naturally functioning soils that could support the growth of the San Francisco lessingia. Impacts would occur as a result of disturbance by dogs through trampling, digging, or dog waste; nutrient addition could also occur from outside the LOD area, but these impacts would be localized in a relatively small area.

The long-term minor adverse impacts from dogs in the LOD area would affect only a portion of the entire site; however, the Presidio Recovery Unit for this species includes most of the trails in the area around Baker Beach and Bluffs to Golden Gate Bridge, including part of the Coastal Trail and the Sand Ladder Trail (USFWS 2003), where on-leash dog walking would be allowed for alternative E. Physically restraining dogs on leash would protect San Francisco lessingia and potential habitat, but the Presidio Recovery Unit for the species is located in and adjacent to areas where on-leash dog walking would be allowed; dogs could affect the San Francisco lessingia through trampling, digging, or dog waste; areas designated for further study and potential recovery of the San Francisco lessingia could also be affected by dogs. Therefore, assuming compliance, alternative E would result in overall negligible to long-term minor adverse impacts on the San Francisco lessingia because suitable habitat could occasionally be degraded by dogs at this site but effects would be localized in a relatively small area.

Under alternative E, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. Any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. In a ROLA, permit holders may have up to six dogs off leash and the permit may restrict use by time and area. Permits would be allowed at Baker Beach and Bluffs to Golden Gate Bridge. Impacts on the San Francisco lessingia from permit holders with four to six dogs off leash would be expected to increase under this alternative; however, impacts would not be expected to increase enough to cause a change in the threshold level. Since commercial dog walking is not common at Baker Beach and Bluffs to Golden Gate Bridge, it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking under alternative E would have negligible impacts on the San Francisco lessingia.

Cumulative Impacts. The negligible to long-term minor adverse impacts on the San Francisco lessingia from dogs at Baker Beach and Bluffs to Golden Gate Bridge under alternative E were considered together with the effects of the projects mentioned above under alternative A. The beneficial effects from the habitat restoration projects and protected recovery areas would not be expected to reduce the adverse impacts on the San Francisco lessingia from alternative E. Cumulatively, alternative E would have negligible to long-term minor adverse impacts on the San Francisco lessingia because the core San Francisco lessingia population exists in the Lobos Creek Valley restoration site (near Baker Beach and Bluffs to Golden Gate Bridge). The current population in north Baker Beach and the recovery areas for the species at Baker Beach and Bluffs to Golden Gate Bridge would not be adequately protected under alternative E.

Indirect Impacts in Adjacent Parks

The adjacent lands identified under alternative A would not be expected to experience increased visitation under alternative E since voice and sight control dog walking would be allowed in a ROLA at Baker Beach and Bluffs to Golden Gate Bridge; therefore, no indirect impacts in adjacent lands, including Area B of the Presidio, would occur.

BAKER BEACH AND BLUFFS TO GOLDEN GATE BRIDGE ALTERNATIVE E CONCLUSION TABLE

San Francisco Lessingia Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Long-term minor adverse impacts in 6-foot corridors adjacent to trails (LOD area)	If San Francisco lessingia is located in the LOD area, plants would be affected by dogs through trampling, digging, and dog waste; nutrient addition would also occur; beach ROLA would be located where no suitable San Francisco lessingia habitat exists		
Overall negligible to long-term minor adverse impacts, assuming compliance	Physically restraining dogs on leash would protect San Francisco lessingia and potential habitat, but recovery and enhancement sites for the species are located in and adjacent to areas where on-leash dog walking would be allowed; dogs could affect the San Francisco lessingia through trampling, digging, or dog waste	Beneficial to no change, assuming compliance	Negligible to long-term minor adverse cumulative impacts No indirect impacts in adjacent lands

Preferred Alternative. Alternative D was selected as the preferred alternative for Baker Beach and Bluffs to Golden Gate Bridge. The preferred alternative would allow on-leash dog walking on the section of the beach north of Lobos Creek and south of the northern parking lot and on all trails in the vicinity of Baker Beach except the Batteries to Bluffs Trail and the Battery Crosby Trail, where no dog walking would be allowed. On-leash dog walking is based on an allowed 6-foot dog leash. In general, impacts would be limited to the trails and the 6-foot corridor immediately adjacent to the trails; the beach is not suitable habitat for the San Francisco lessingia. Impacts on the San Francisco lessingia adjacent to the trails (LOD area) would be long term, minor, and adverse since these areas have not been previously disturbed and contain naturally functioning soils that could support the growth of the San Francisco lessingia. Impacts would occur as a result of disturbance by dogs through trampling, digging, or dog waste; nutrient addition could also occur from outside the LOD area, but these impacts would be localized in a relatively small area.

The long-term minor adverse impacts from dogs in the LOD area would affect only a portion of the entire site; however, the Presidio Recovery Unit for this species includes most of the trails in the area around Baker Beach, including part of the Coastal Trail (USFWS 2003), where on-leash dog walking would be allowed under the preferred alternative. Physically restraining dogs on leash would protect San Francisco lessingia and potential habitat, but the Presidio Recovery Unit for the species is located in and adjacent to areas where on-leash dog walking would be allowed; dogs could affect the San Francisco lessingia through trampling, digging, or dog waste; and areas designated for further study and potential recovery of the San Francisco lessingia could also be affected by dogs. Therefore, assuming compliance, the preferred alternative would result in overall negligible to long-term minor adverse impacts on the San Francisco

lessingia because suitable habitat could occasionally be degraded by dogs at this site, but these impacts would be localized in a relatively small area.

Alternative C was selected as the preferred alternative for permits for all sites. All dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. Any dog walker, commercial or private, could obtain a permit to walk more than three dogs with a limit of six dogs on leash, and permits may be restricted by time and area. Permits would be allowed at Baker Beach and Bluffs to Golden Gate Bridge. Impacts on the San Francisco lessingia from permit holders with four to six dogs would be expected to increase under this alternative; however, impacts would not be expected to increase enough to cause a change in the threshold level. Since commercial dog walking is not common at Baker Beach and Bluffs to Golden Gate Bridge, it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking under the preferred alternative would have negligible impacts on the San Francisco lessingia.

Cumulative Impacts. Projects and actions in and near Baker Beach and Bluffs to Golden Gate Bridge were considered for the cumulative impacts analysis (appendix K). The following is a discussion of projects that have had, are currently having, or have the potential to have effects on the San Francisco lessingia at or in the vicinity of this site.

Primary among the past actions that have influenced listed plant species at GGNRA such as San Francisco lessingia are urban development and loss of habitat continuity, the establishment and overall dominance by non-native plant species, and land management practices including placement of roads and trails for park users. In particular, urban development and landscaping have reduced the available habitat for these species, with the gradual creation of islands of intact vegetation surrounded by infrastructure and associated non-native species. Populations of rare plants have become isolated from each other, which decreases opportunities for cross-pollination or seed movement. This gradually causes a reduction in the overall adaptability or elasticity of populations to respond to changing environmental conditions, resulting in long-term adverse impacts on population sizes and overall species survival.

Current transportation, trail, and development planning efforts in GGNRA and beyond NPS-managed boundaries would have direct short-term effects on special-status plant species in the disturbance area, and long-term direct and indirect effects on vegetation as a whole through potential creation of habitat (through ground-disturbing activities) for non-native plant species encroachment and establishment. However, ongoing efforts to identify mitigation for these projects, such as pre-project weed control, post-project planting and weeding, and use of weed-free products (soils, fill material, and equipment), would reduce the potential for these types of impacts. Since special-status plants are mapped and monitored on a regular basis and are considered during site design and avoided wherever possible, these impacts would be minor to negligible. Other ongoing programs, including non-native plant removal projects in the park, the site management plan for Milagra Ridge, habitat restoration programs, volunteer opportunities sponsored by the park, and maintenance operations all have the potential to affect listed plant species at GGNRA. The Wildland/Urban Interface Initiative projects on private lands and lands managed by other agencies adjacent to GGNRA-managed lands, the GGNRA *Fire Management Plan* (NPS 2005a), and the vegetation management plan for the Presidio would beneficially affect the park's vegetation and associated listed plant species, including the San Francisco lessingia. Additionally, Park Stewardship Programs, which include native plant habitat restoration projects that occur throughout the park, will provide beneficial effects to the San Francisco lessingia.

The San Francisco lessingia currently exists in only a few locations in San Francisco and Daly City, California, as two separate genotypes. Habitat loss, changes in ecological processes due to human development, and encroachment by invasive species are the primary reasons that the species is listed. There is a small population in north Baker Beach. However, the core San Francisco lessingia population

exists in the Lobos Creek Valley restoration site (near Baker Beach and Bluffs to Golden Gate Bridge), where the population was between 154,065 and 231,097 individuals in 2008 (NPS 2008h). Through future restoration projects, and if the recovery areas for the species at Baker Beach and Bluffs to Golden Gate Bridge are adequately protected in the future, a beneficial effect on the San Francisco lessingia would occur.

The negligible to long-term minor adverse impacts on the San Francisco lessingia from dogs at Baker Beach and Bluffs to Golden Gate Bridge under the preferred alternative were considered together with the effects of the projects mentioned above. The beneficial effects from the habitat restoration projects and protected recovery areas would not be expected to reduce the adverse impacts on the San Francisco lessingia from the preferred alternative. Cumulatively, the preferred alternative would have negligible to long-term minor adverse impacts on the San Francisco lessingia because the core San Francisco lessingia population exists in the Lobos Creek Valley restoration site (near Baker Beach and Bluffs to Golden Gate Bridge). The current population in north Baker Beach and the recovery areas for the species at Baker Beach and Bluffs to Golden Gate Bridge would not be adequately protected under the preferred alternative.

Indirect Impacts in Adjacent Parks

In lands adjacent to GGNRA, there are 36 parks with dog use areas within about a 10-mile radius of Baker Beach and Bluffs to Golden Gate Bridge and 20 parks within about a 5-mile radius; the closest park is Mountain Lake Park, which allows off-leash dog walking (map 27). In addition, Baker Beach is located directly west of Area B of the Presidio; Area B is subject to the Presidio Trust's regulations on dog walking, which do not allow dogs to be off-leash. The adjacent lands may experience increased visitation under the preferred alternative, particularly Mountain Lake Park, because it is the closest dog use area and it allows off-leash dog walking. Some visitors may choose to visit other park sites that allow off-leash dog walking, but it is unlikely that these dog parks support existing populations of the San Francisco lessingia. The six San Francisco lessingia locations within the Presidio should not be indirectly affected by the preferred alternative since on-leash requirements exist at this site and the NPS has fenced off remnant populations on the Presidio to protect them from excessive trampling (USFWS 2003; 50).

**BAKER BEACH AND BLUFFS TO GOLDEN GATE BRIDGE PREFERRED ALTERNATIVE CONCLUSION
TABLE**

San Francisco Lessingia Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Long-term minor adverse impacts in 6-foot corridors adjacent to trails (LOD area)	If San Francisco lessingia is located in the LOD area, plants would be affected by dogs through trampling, digging, and dog waste; nutrient addition would also occur		
Overall negligible to long-term minor adverse impacts, assuming compliance	Physically restraining dogs on leash would protect San Francisco lessingia and potential habitat, but recovery and enhancement sites for the species are located in and adjacent to areas where on-leash dog walking would be allowed; dogs could affect the San Francisco lessingia through trampling, digging, or dog waste	Beneficial to no change, assuming compliance	Negligible to long-term minor adverse cumulative impacts Negligible indirect impacts in adjacent lands

Fort Funston

Alternative A: No Action. Under current conditions, dogs are allowed under voice control throughout Fort Funston, with the exception of the 12-acre fenced Habitat Protection Area closure in upper Fort Funston, the voluntary seasonal closure for bank swallow protection (April 1–August 15) on a section of beach extending 50 feet from the base of the coastal bluff below the bank swallow habitat areas, and the north end of the Coastal Trail due to erosion. This site supports habitat for the San Francisco lessingia, but currently, San Francisco lessingia introduction is precluded by the inability to protect reintroductions of this species from unrestricted dog use (Fritzke 2009, 1). Habitat that would support the San Francisco lessingia is adjacent to the bank swallow habitat; fencing along the Coastal Trail reduces access to the dune habitat that would support San Francisco lessingia, as well as the bluff top above the bank swallow habitat. A portion of the northern end of the Coastal Trail in the site is also closed due to increasing erosion. The trails traverse coastal dune habitat that could support the San Francisco lessingia at this site. Signs and fencing along the bluff edge and along the beach below the bank swallow colony have been installed to restrict access to the bluff face by visitors. These area closures have been modestly successful in protecting the bank swallow colony; however, dogs have accessed the restoration areas, despite fencing that is in place (USGS 2004). During the monthly bird surveys at Fort Funston, dogs were recorded in restricted areas and on many occasions, both dogs and humans were observed inside the restricted areas (USGS 2004). Dogs could affect suitable coastal dune habitat for the San Francisco lessingia and could affect the plant directly through trampling, digging, or dog waste. It has been suggested that heavy off-leash dog use increases deterioration of native dune communities (USGS 2004) and that intensive trampling of vegetation by dogs weakens vegetation in a similar manner as trampling by humans (Sime 1999).

Under alternative A, dogs would continue to access the coastal dune habitat at Fort Funston, where trails traverse habitat that could support this species at the site; dogs could also access restoration areas, despite the fencing in place. Additionally, the unrestricted dog use at the site would preclude the reintroduction of this species by NPS (Fritzke 2009, 1). Therefore, alternative A would result in continued long-term moderate adverse impacts on the San Francisco lessingia at Fort Funston.

No permit system exists for commercial dog walking under alternative A. However, commercial dog walking regularly occurs at Fort Funston. Commercial dog walking would continue to contribute to the long-term moderate adverse impacts on the San Francisco lessingia.

Cumulative Impacts. Projects and actions in and near Fort Funston were considered for the cumulative impacts analysis (appendix K). The following is a discussion of projects that have had, are currently having, or have the potential to have effects on the San Francisco lessingia at or in the vicinity of this site.

Primary among the past actions that have influenced listed plant species at GGNRA such as San Francisco lessingia are urban development and loss of habitat continuity, the establishment and overall dominance by non-native plant and tree species, and land management practices including placement of roads and trails for park users. In particular, urban development and landscaping have reduced the available habitat for these species, with the gradual creation of islands of intact vegetation surrounded by infrastructure and associated non-native species. Populations of rare plants have become isolated from each other, which decreases opportunities for cross-pollination or seed movement. This gradually causes a reduction in the overall adaptability or elasticity of populations to respond to changing environmental conditions, resulting in long-term adverse impacts on population sizes and overall species survival.

Current transportation, trail, and development planning efforts in GGNRA and beyond NPS-managed boundaries would have direct short-term effects on special-status plant species in the disturbance area and long-term direct and indirect effects on vegetation as a whole through potential creation of habitat

(through ground-disturbing activities) for non-native plant species encroachment and establishment. However, ongoing efforts to identify mitigation for these projects, such as pre-project weed control, post-project planting and weeding, and use of weed-free products (soils, fill material, and equipment), would reduce the potential for these types of impacts. Since special-status plants are mapped and monitored on a regular basis and are considered during site design and avoided wherever possible, these impacts would be minor to negligible. The vegetation management plan for the Presidio would beneficially affect vegetation and associated listed plant species, including the San Francisco lessingia. Additionally, GGNRA Park Stewardship Programs, which include native plant habitat restoration projects, occur throughout the park. Both the vegetation management plan and the Park Stewardship Programs are led by NPS natural resources staff and will provide beneficial effects to the San Francisco lessingia.

The San Francisco lessingia currently exists in only a few locations in San Francisco and Daly City, California, as two separate genotypes. Habitat loss, changes in ecological processes due to human development, and encroachment by invasive species are the primary reasons that the species is listed. However, the core San Francisco lessingia population exists in the Lobos Creek valley restoration site (near Baker Beach and Bluffs to Golden Gate Bridge), where the population was between 154,065 and 231,097 individuals in 2008 (NPS 2008h). Through future restoration projects, and if the recovery areas for the species at Baker Beach are adequately protected in the future, a beneficial effect on the San Francisco lessingia would occur. However, the greatest benefit to this species would occur if the Daly City genotype is reintroduced at Fort Funston, because the NPS would be implementing actions that have been identified in the recovery plan that can help in the recovery of this species.

The long-term moderate adverse impacts on the San Francisco lessingia from dogs at Fort Funston under alternative A were considered together with the effects of the projects mentioned above. There would be a combination of adverse and beneficial effects on the San Francisco lessingia from actions in and around Fort Funston; when combined, these effects would balance out, resulting in negligible impacts. These negligible impacts combined with the long-term moderate adverse impacts under alternative A would result in long-term moderate adverse cumulative impacts.

Indirect Impacts in Adjacent Parks

In lands adjacent to GGNRA, there are 38 parks with dog use areas within about a 10-mile radius of Fort Funston and 16 parks within about a 5-mile radius; the closest park is Lake Merced (map 27). No indirect impacts on the San Francisco lessingia in adjacent lands would be expected under alternative A since there would be no change in current conditions at the site.

FORT FUNSTON ALTERNATIVE A CONCLUSION TABLE

San Francisco Lessingia Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Long-term moderate adverse impacts	Dogs access coastal dune habitat and trails traverse habitat that could support this species at the site; dogs access restoration areas, despite fencing in place; species could be affected by trampling, digging, or dog waste; introduction of the species at the site would be precluded by the inability to protect reintroduced populations from unrestricted dog use	N/A	Long-term moderate adverse cumulative impacts No indirect impacts in adjacent lands

N/A = not applicable.

Alternative B: NPS Leash Regulation. Alternative B would allow on-leash dog walking on Fort Funston trails and on the beach. Currently dogs are prohibited from the 12-acre fenced Habitat Protection Area closure in upper Fort Funston, the voluntary seasonal closure for bank swallow protection (April 1–August 15) on a section of beach extending 50 feet from the base of the coastal bluff below the bank swallow habitat areas, and the north end of the Coastal Trail due to erosion. On-leash dog walking is based on an allowed 6-foot dog leash. In general, impacts would be limited to the trails and the 6-foot corridor immediately adjacent to the trails; the beach is not suitable habitat for the San Francisco lessingia. Impacts on the San Francisco lessingia adjacent to the trails (LOD area) would be long term, minor, and adverse since these areas have not been previously disturbed and contain naturally functioning soils that could support the growth of the San Francisco lessingia. Impacts would occur as a result of disturbance by dogs through trampling, digging, or dog waste; nutrient addition could also occur from outside the LOD area, but these impacts would be localized in a relatively small area.

The long-term minor adverse impacts on the San Francisco lessingia along the trails would occur in a relatively small area when compared to the site as a whole. Therefore, assuming compliance, alternative B would result in overall negligible impacts on the San Francisco lessingia at Fort Funston. Although coastal dune habitat for this species exists at Fort Funston, there is no current documentation of the existing presence of this species. Physically restraining dogs on leash would protect the potential San Francisco lessingia habitat and may allow the NPS to reintroduce the Daly City genotype of the species at Fort Funston. It is possible that in the future the San Francisco lessingia population in GGNRA would have increased reproductive success and the ability to increase in size (Fritzke 2009, 1), but it is unknown at the time whether this alternative would result in measurable or perceptible changes in the San Francisco lessingia or its habitat and thus a negligible impact is appropriate.

Under alternative B, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs per person with no permit required. Since the percentage of commercial dog walkers is considered high at Fort Funston, dogs walked by commercial dog walkers would cause the majority of the adverse impacts on the San Francisco lessingia from dogs at the site. Overall impacts on the San Francisco lessingia from dogs walked by both commercial and private individuals are summarized above.

Cumulative Impacts. The negligible impacts on the San Francisco lessingia at Fort Funston under alternative B were considered together with the effects of the projects mentioned above under alternative A “Cumulative Impacts.” As stated above for alternative A, the greatest benefit to this species would occur if the Daly City genotype is reintroduced at Fort Funston, because the NPS would be implementing actions that have been identified in the recovery plan that can help in the recovery of this species. Cumulatively, this alternative would have negligible impacts on the San Francisco lessingia when added to the other past, present, or foreseeable future actions at and around this park site as part of alternative B.

Indirect Impacts in Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation by individual and commercial dog walkers under alternative B since off-leash dog walking would no longer be allowed at Fort Funston, which is a high use site for dog walking. The closest park that allows off-leash dog walking is Lake Merced; this dog park is unlikely to support existing populations of the San Francisco lessingia. Therefore, indirect impacts on the San Francisco lessingia in adjacent lands from increased dog use would be negligible.

FORT FUNSTON ALTERNATIVE B CONCLUSION TABLE

San Francisco Lessingia Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Long-term minor adverse impacts in 6-foot corridors adjacent to trails (LOD area)	If San Francisco lessingia potential habitat is located in the LOD area, plants would be affected by dogs through trampling, digging, and dog waste; nutrient addition would also occur		
Overall negligible impacts, assuming compliance	Physically restraining dogs on leash would protect San Francisco lessingia and potential habitat and may allow the NPS to reintroduce the genotype at Fort Funston	Beneficial, assuming compliance	Beneficial cumulative impacts Negligible indirect impacts in adjacent lands

Alternative C: Emphasis on Multiple Use—Balanced by County. Alternative C would allow on-leash dog walking on most trails in the upper Fort Funston area and dog walking under voice and sight control in two ROLAs (both outside San Francisco lessingia habitat areas): one on the beach south of the Beach Access Trail and one north of the main parking lot between the Chip Trail and the Sunset Trail. On-leash dog walking is based on an allowed 6-foot dog leash. In general, impacts would be limited to the trails and the 6-foot corridors immediately adjacent to the trails; the one ROLA would be located on a beach where no suitable San Francisco lessingia habitat exists and the other ROLA would be located in an upland area that could potentially support the San Francisco lessingia. The impacts on the San Francisco lessingia adjacent to the trails (LOD area) and within the ROLAs would be long term, minor to moderate, and adverse since these areas have not been previously disturbed and contain naturally functioning soils that could support the growth of the San Francisco lessingia. Impacts would occur as a result of disturbance by dogs through trampling, digging, or dog waste, and nutrient addition could also occur from outside the LOD area, but these impacts would be localized in a relatively small area. Additionally, restoration potential at this site would be limited due to the upland ROLA, even though the ROLA site is less attractive in alternative C compared to alternatives D and E because it is located adjacent to an existing parking lot.

The long-term minor to moderate adverse impacts on the San Francisco lessingia along the trails would occur in a portion of the site at Fort Funston. The upland ROLA would be in coastal dune vegetation that could support San Francisco lessingia, but in other areas, physically restraining dogs on leash would protect San Francisco lessingia and potential habitat. Therefore, assuming compliance, alternative C would result in overall long-term, minor, adverse impacts on the San Francisco lessingia at Fort Funston. The restoration potential would be limited for the NPS to reintroduce the Daly City genotype of the species at Fort Funston.

Under alternative C, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. Any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. In a ROLA, permit holders may have up to six dogs off leash and the permit may restrict use by time and area. Permits would be allowed at Fort Funston. Impacts on the San Francisco lessingia from commercial dog walkers would be similar to impacts from other dog walkers, as summarized above in overall impacts; therefore, impacts from commercial dog walking would long-term, minor, and adverse.

Cumulative Impacts. The long-term, minor, adverse impacts on the San Francisco lessingia under alternative C were considered together with the effects of the projects mentioned above under alternative A “Cumulative Impacts.” As stated above for alternative A, the greatest benefit to this species would occur if the Daly City genotype is reintroduced at Fort Funston, because the NPS would be implementing actions that have been identified in the recovery plan that can help in the recovery of this species. Cumulatively, this alternative would have negligible impacts on the San Francisco lessingia when added to these other past, present, or foreseeable future actions at and around this park site as part of alternative C.

Indirect Impacts in Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation by individual and commercial dog walkers under alternative C since off-leash dog walking would be restricted to two ROLAs at Fort Funston, which is a high use site for dog walking. Dog walkers can currently walk their dogs off-leash throughout the site and being restricted to two ROLAs may cause some of the dog walkers to visit other locations. The closest park that allows off-leash dog walking is Lake Merced; this dog park is unlikely to support existing populations of the San Francisco lessingia. Therefore, indirect impacts on the San Francisco lessingia in adjacent lands from increased dog use would be negligible.

FORT FUNSTON ALTERNATIVE C CONCLUSION TABLE

San Francisco Lessingia Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Long-term minor to moderate adverse impacts in 6-foot corridors adjacent to trails (LOD area) and in the ROLAs	If potential San Francisco lessingia habitat is located in the LOD area, plants would be affected by dogs through trampling, digging, and dog waste; nutrient addition would also occur; the upland ROLA is within coastal dune vegetation that could support the San Francisco lessingia, but site is less attractive compared to alternatives D and E		
Overall long-term minor adverse impacts, assuming compliance	The upland ROLA is within coastal dune vegetation that could support San Francisco lessingia; in other areas physical restraint to dogs would protect San Francisco lessingia and potential habitat; restoration potential is limited in upland ROLA	Beneficial, assuming compliance	Negligible cumulative impacts Negligible indirect impacts in adjacent lands

Alternative D: Most Protective Based on Resource Protection/Visitor Safety. Alternative D would allow on-leash dog walking on most trails in the upper Fort Funston area and on the beach south of the Beach Access Trail; dog walking under voice and sight control would be allowed in a fenced ROLA north of the water fountain between the Coastal Trail and the Equestrian Trail, where no San Francisco lessingia habitat exists. No dogs would be allowed on the beach north of the Beach Access Trail, where the bank swallows nest in the coastal bluffs. On-leash dog walking is based on an allowed 6-foot dog leash. In general, impacts would be limited to the trails and the 6-foot corridors immediately adjacent to the trails; the one ROLA would be located on a beach where no suitable San Francisco lessingia habitat exists and the other ROLA would be located in an upland area that could potentially support the San

San Francisco lessingia. The impacts on the San Francisco lessingia adjacent to the trails (LOD area) and within the ROLAs would be long term, minor to moderate, and adverse since these areas have not been previously disturbed and contain naturally functioning soils that could support the growth of the San Francisco lessingia. Impacts would occur as a result of disturbance by dogs through trampling, digging, or dog waste, and nutrient addition could also occur from outside the LOD area, but these impacts would be localized in a relatively small area. Additionally, restoration potential at this site would be limited due to the upland ROLA in coastal dune habitat.

The long-term minor to moderate adverse impacts on the San Francisco lessingia along the trails would occur in a portion of the site at Fort Funston. The upland ROLA would be in coastal dune vegetation that could support San Francisco lessingia, but in other areas, physically restraining dogs on leash would protect San Francisco lessingia and potential habitat. Therefore, assuming compliance, alternative D would result in overall long-term, minor, adverse impacts on the San Francisco lessingia at Fort Funston. The restoration potential would be limited for the NPS to reintroduce the Daly City genotype of the species at Fort Funston.

No commercial dog walking would be allowed under alternative D; therefore, commercial dog walking would have no impact on the San Francisco lessingia.

Cumulative Impacts. The long-term, minor, adverse impacts on the San Francisco lessingia at Fort Funston under alternative D were considered together with the effects of the projects mentioned above under alternative A “Cumulative Impacts.” As stated above for alternative A, the greatest benefit to this species would occur if the Daly City genotype is reintroduced at Fort Funston, because the NPS would be implementing actions that have been identified in the recovery plan that can help in the recovery of this species. Cumulatively, this alternative would have negligible impacts on the San Francisco lessingia when added to the other past, present, or foreseeable future actions at and around this park site at Fort Funston under alternative D.

Indirect Impacts in Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation by individual and commercial dog walkers under alternative D since off-leash dog walking would be limited to a ROLA at Fort Funston. In addition, some interior portions of Fort Funston would no longer be open to dogs. The closest park that allows off-leash dog walking is Lake Merced. However, indirect impacts on the San Francisco lessingia in adjacent lands from increased dog use would be negligible since this dog park is unlikely to support existing populations of the San Francisco lessingia. Additionally, even though Fort Funston is high use site for dog walking, not all dog walkers would start visiting parks other than Fort Funston once the new regulation is implemented.

FORT FUNSTON ALTERNATIVE D CONCLUSION TABLE

San Francisco Lessingia Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Long-term minor to moderate adverse impacts in 6-foot corridors adjacent to trails (LOD area) and in the ROLAs	If potential San Francisco lessingia habitat is located in the LOD area, plants would be affected by dogs through trampling, digging, and dog waste; nutrient addition would also occur; the upland ROLA is within coastal dune vegetation that could support the San Francisco lessingia		

San Francisco Lessingia Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Overall long-term minor adverse impacts, assuming compliance	The upland ROLA is within coastal dune vegetation that could support San Francisco lessingia; in other areas physical restraint to dogs would protect San Francisco lessingia and potential habitat; restoration potential is limited in upland ROLA	Beneficial, assuming compliance	Negligible cumulative impacts Negligible indirect impacts in adjacent lands

Alternative E: Most Dog Walking Access/Most Management Intensive. Alternative E would allow on-leash dog walking on most trails in the upper section of Fort Funston and under voice and sight control in two ROLAs, one ROLA on the beach south of the Beach Access Trail and a ROLA corridor between the Chip Trail, the western boundary of the Habitat Corridor, and the Equestrian Trail, in existing coastal dune vegetation. Alternative E also would allow on-leash dog walking on the beach north of the Beach Access Trail. A voluntary seasonal closure is currently in place that extends 50 feet from the foot of the northernmost bluffs for protection of the bank swallow during nesting season (April 1–August 15) (NPS 2009c, 1). On-leash dog walking is based on an allowed 6-foot dog leash. Impacts would be limited to the trails and the 6-foot corridor immediately adjacent to the trails and in the habitat corridor ROLA; the beach ROLA would be located where no suitable San Francisco lessingia habitat exists. Impacts on the San Francisco lessingia adjacent to the trails (LOD area) and in the large habitat corridor ROLA would be long term, moderate, and adverse since the LOD areas have not been previously disturbed and contain naturally functioning soils that could support the growth of the San Francisco lessingia. Concentrated use in the ROLA corridor and in the LOD area, both of which support coastal dune vegetation and could support the San Francisco lessingia, would result in frequent effects from dogs through trampling, digging, and dog waste; nutrient addition would also occur. The large habitat corridor ROLA would preclude using the area for reintroducing the San Francisco lessingia at this location.

The long-term moderate adverse impacts on the San Francisco lessingia along the trails and in the habitat corridor ROLA would occur in a relatively large area when compared to the site as a whole. The large upland ROLA corridor would be in coastal dune vegetation that could support San Francisco lessingia, but in other areas, physically restraining dogs on leash would protect San Francisco lessingia and potential habitat. Therefore, assuming compliance, alternative E would result in overall long-term, minor, adverse impacts on the San Francisco lessingia at Fort Funston. The restoration potential would be limited for the NPS to reintroduce the Daly City genotype of the species at Fort Funston.

Under alternative E, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. Any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. In a ROLA, permit holders may have up to six dogs off leash and the permit may restrict use by time and area. Permits would be allowed at Fort Funston. Impacts on the San Francisco lessingia from permit holders with four to six dogs off leash may increase under this alternative; however, impacts would not be expected to increase enough to cause a change in the threshold level. Impacts on the San Francisco lessingia from commercial dog walkers would be similar to impacts from other dog walkers, as summarized above in overall impacts; therefore, impacts from commercial dog walking would be negligible.

Cumulative Impacts. The long-term, minor impacts on the San Francisco lessingia at Fort Funston under alternative E were considered together with the effects of the projects mentioned above under alternative A “Cumulative Impacts.” As stated above for alternative A, the greatest benefit to this species would occur if the Daly City genotype is reintroduced at Fort Funston, because the NPS would be implementing actions that have been identified in the recovery plan that can help in the recovery of this

species. Cumulatively, this alternative would have negligible impacts on the San Francisco lessingia when added to the other past, present, or foreseeable future actions at and around this park site at Fort Funston as part of alternative E.

Indirect Impacts in Adjacent Parks

The adjacent lands identified under alternative A would not be expected to experience increased visitation under alternative E since off-leash dog walking would be offered in two ROLAs at Fort Funston, which includes the interior portion of Fort Funston and more than half of the beach. Therefore, no indirect impacts on the San Francisco lessingia in adjacent lands would occur from increased dog use.

FORT FUNSTON ALTERNATIVE E CONCLUSION TABLE

San Francisco Lessingia Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Long-term moderate adverse impacts in 6-foot corridors adjacent to trails (LOD area) and in habitat corridor ROLA	Concentrated use in the habitat corridor ROLA and in the LOD area, both of which support coastal dune vegetation and could support the San Francisco lessingia, would result in effects from dogs through trampling, digging, and dog waste; nutrient addition would also occur; the beach ROLA would be located where no suitable San Francisco lessingia habitat exists		
Overall long-term minor adverse impacts, assuming compliance	The large upland ROLA corridor would be in coastal dune vegetation that could support San Francisco lessingia; in other areas, physically restraining dogs on leash would protect San Francisco lessingia and potential habitat; trails and the LOD area are a small portion of the site but the ROLA corridor would be large; restoration potential would be limited in this area	Beneficial, assuming compliance	Negligible cumulative impacts No indirect impacts in adjacent lands

Preferred Alternative. Alternative C was selected as the preferred alternative for Fort Funston. The preferred alternative would allow on-leash dog walking on most trails in the upper Fort Funston area and dog walking under voice and sight control in two ROLAs (both outside San Francisco lessingia habitat areas): one on the beach south of the Beach Access Trail and one north of the main parking lot between the Chip Trail and the Sunset Trail. No impacts on the San Francisco lessingia within the ROLAs would occur under the preferred alternative because the plant does not exist in these areas. On-leash dog walking is based on an allowed 6-foot dog leash. In general, impacts would be limited to the trails and the 6-foot corridors immediately adjacent to the trails; the one ROLA would be located on a beach where no suitable San Francisco lessingia habitat exists and the other ROLA would be located in an upland area that could potentially support the San Francisco lessingia. The impacts on the San Francisco lessingia adjacent to the trails (LOD area) and within the ROLAs would be long term, minor to moderate, and adverse since these

areas have not been previously disturbed and contain naturally functioning soils that could support the growth of the San Francisco lessingia. Impacts would occur as a result of disturbance by dogs through trampling, digging, or dog waste, and nutrient addition could also occur from outside the LOD area, but these impacts would be localized in a relatively small area. Additionally, restoration potential at this site would be limited due to the upland ROLA, even though the ROLA site is less attractive in the preferred alternative compared to alternatives D and E because it is located adjacent to an existing parking lot.

The long-term minor to moderate adverse impacts on the San Francisco lessingia along the trails would occur in a portion of the site at Fort Funston. The upland ROLA would be in coastal dune vegetation that could support San Francisco lessingia, but in other areas, physically restraining dogs on leash would protect San Francisco lessingia and potential habitat. Therefore, assuming compliance, the preferred alternative would result in overall long-term, minor, adverse impacts on the San Francisco lessingia at Fort Funston. The restoration potential would be limited for the NPS to reintroduce the Daly City genotype of the species at Fort Funston.

Under the preferred alternative, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. Any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. In a ROLA, permit holders may have up to six dogs off leash and the permit may restrict use by time and area. Permits would be allowed at Fort Funston. Impacts on the San Francisco lessingia from commercial dog walkers would be similar to impacts from other dog walkers, as summarized above in overall impacts; therefore, impacts from commercial dog walking would long-term, minor, and adverse.

Cumulative Impacts. Projects and actions in and near Fort Funston were considered for the cumulative impacts analysis (appendix K). The following is a discussion of projects that have had, are currently having, or have the potential to have effects on the San Francisco lessingia at or in the vicinity of this site.

Primary among the past actions that have influenced listed plant species at GGNRA such as San Francisco lessingia are urban development and loss of habitat continuity, the establishment and overall dominance by non-native plant and tree species, and land management practices including placement of roads and trails for park users. In particular, urban development and landscaping have reduced the available habitat for these species, with the gradual creation of islands of intact vegetation surrounded by infrastructure and associated non-native species. Populations of rare plants have become isolated from each other, which decreases opportunities for cross-pollination or seed movement. This gradually causes a reduction in the overall adaptability or elasticity of populations to respond to changing environmental conditions, resulting in long-term adverse impacts on population sizes and overall species survival.

Current transportation, trail, and development planning efforts in GGNRA and beyond NPS-managed boundaries would have direct short-term effects on special-status plant species in the disturbance area and long-term direct and indirect effects on vegetation as a whole through potential creation of habitat (through ground disturbing activities) for non-native plant species encroachment and establishment. However, ongoing efforts to identify mitigation for these projects, such as pre-project weed control, post-project planting and weeding, and use of weed-free products (soils, fill material, and equipment), would reduce the potential for these types of impacts. Since special-status plants are mapped and monitored on a regular basis and are considered during site design and avoided wherever possible, these impacts would be minor to negligible. The vegetation management plan for the Presidio would beneficially affect vegetation and associated listed plant species, including the San Francisco lessingia. Additionally, GGNRA Park Stewardship Programs, which include native plant habitat restoration projects, occur throughout the park. Both the vegetation management plan and the Park Stewardship Programs are led by NPS natural resources staff and will provide beneficial effects to the San Francisco lessingia.

The San Francisco lessingia currently exists in only a few locations in San Francisco and Daly City, California, as two separate genotypes. Habitat loss, changes in ecological processes due to human development, and encroachment by invasive species are the primary reasons that the species is listed. However, the core San Francisco lessingia population exists in the Lobos Creek Valley restoration site (near Baker Beach and Bluffs to Golden Gate Bridge), where the population was between 154,065 and 231,097 individuals in 2008 (NPS 2008h). Through future restoration projects, and if the recovery areas for the species at Baker Beach are adequately protected in the future, a beneficial effect on the San Francisco lessingia would occur. However, the greatest benefit to this species would occur if the Daly City genotype is reintroduced at Fort Funston, because the NPS would be implementing actions that have been identified in the recovery plan that can help in the recovery of this species.

The long-term, minor, adverse impacts on the San Francisco lessingia under the preferred alternative were considered together with the effects of the projects mentioned above. As stated above, the greatest benefit to this species would occur if the Daly City genotype is reintroduced at Fort Funston. Cumulatively, this alternative would have negligible impacts on the San Francisco lessingia when added to the other past, present, or foreseeable future actions at and around this park site at Fort Funston as part of the preferred alternative.

Indirect Impacts in Adjacent Parks

In lands adjacent to GGNRA, there are 38 parks with dog use areas within about a 10-mile radius of Fort Funston and 16 parks within about a 5-mile radius; the closest park is Lake Merced (map 27). The adjacent lands may experience increased visitation by individual and commercial dog walkers under the preferred alternative since off-leash dog walking would be restricted to two ROLAs at Fort Funston, which is a high use site for dog walking. Dog walkers can currently walk their dogs off-leash throughout the site and being restricted to two ROLAs may cause some of the dog walkers to visit other locations. The closest park that allows off-leash dog walking is Lake Merced; this dog park is unlikely to support existing populations of the San Francisco lessingia. Therefore, indirect impacts on the San Francisco lessingia in adjacent lands from increased dog use would be negligible.

FORT FUNSTON PREFERRED ALTERNATIVE CONCLUSION TABLE

San Francisco Lessingia Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Long-term minor to moderate adverse impacts in 6-foot corridors adjacent to trails (LOD area) and in the ROLAs	If potential San Francisco lessingia habitat is located in the LOD area, plants would be affected by dogs through trampling, digging, and dog waste; nutrient addition would also occur; the upland ROLA is within coastal dune vegetation that could support the San Francisco lessingia, but site is less attractive compared to alternatives D and E		

San Francisco Lessingia Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Overall long-term minor adverse impacts, assuming compliance	The upland ROLA is within coastal dune vegetation that could support San Francisco lessingia; in other areas physical restraint to dogs would protect San Francisco lessingia and potential habitat; restoration potential is limited in upland ROLA	Beneficial, assuming compliance	Negligible cumulative impacts Negligible indirect impacts in adjacent lands

PRESIDIO (RAVEN'S) MANZANITA (FEDERALLY AND STATE ENDANGERED)

In the past, Presidio manzanita existed as a single individual east of Lincoln Boulevard in Area B of the Presidio on a serpentine outcrop. As part of recovery efforts to reintroduce this species at GGNRA, clones of this individual have been planted west of Lincoln Boulevard near Baker Beach in suitable serpentine coastal prairie habitat.

Baker Beach and Bluffs to Golden Gate Bridge

Alternative A: No Action. Under current conditions, dogs are allowed under voice control on the beach north of Lobos Creek and on-leash dog walking is allowed on the trails to the beach and on the Battery Crosby Trail; the Batteries to Bluffs Trail is closed. This site has documented low to high visitor use, including low to moderate use by dog walkers (table 9). Additionally, in some areas at this site, dogs and their owners/walkers have created a myriad of social trails in serpentine coastal prairie habitat. At Baker Beach, clones of the plant species exist in the vicinity of the Coastal Trail (midway to the Golden Gate Bridge) (Hatch et al. 2010). Currently, this trail is not heavily used but is located immediately adjacent to the road and some off-leash dog use occurs in the area of the clones despite these conditions (Fritzke 2010c). Additionally, as part of a future project, the widening of the Coastal Trail may increase the impacts from off-leash dogs on the clones (Fritzke 2010c). As a result of alternative A, the near-future changes, and the current level of off-leash dog use in the area, dogs could affect the Presidio manzanita through frequent trampling, digging, or dog waste, and planted clones of this species could be injured or killed. Therefore, this alternative would result in continued long-term moderate adverse impacts on the Presidio manzanita. Impacts associated with dog use preclude the NPS from protecting the habitat; these impacts also prevent any future reintroductions of clones or seedling plants of this species at Baker Beach and Bluffs to Golden Gate Bridge, and the reproductive success of clones of this species may be affected by dogs.

Under alternative A, no permit system exists for commercial dog walking. At Baker Beach and Bluffs to Golden Gate Bridge, commercial dog walking is uncommon; therefore, commercial dog walking would have negligible impacts on the Presidio manzanita.

Cumulative Impacts. Projects and actions in and near Baker Beach and Bluffs to Golden Gate Bridge were considered for the cumulative impacts analysis (appendix K). The following is a discussion of projects that have had, are currently having, or have the potential to have effects on the Presidio manzanita at or in the vicinity of this site.

A single natural clonal colony of Presidio manzanita remains on an ocean facing serpentine bedrock outcrop within a larger serpentine soil area near the World War II Memorial at the end of Kobbe Avenue in the Presidio, above Baker Beach, San Francisco (USFWS 2003, 61-62). A clone from this population was planted at another serpentine outcrop at Inspiration Point in the Presidio, off Arguello Boulevard

(USFWS 2003,62) but survival is currently unknown. The Golden Gate National Recreation Area has prepared a comprehensive vegetation management plan (NPS and Presidio Trust 2001), which proposed to increase protection and maintenance of the habitat of the clones at the World War II Memorial site and transplants introduced to other Presidio locations (USFWS 2003,75). In addition, symbolic fencing, interpretive signs, and improved coordination with road maintenance and other staff of the Golden Gate National Recreation Area reduced threats of trampling and accidental damage, which resulted in expansion of the clone in a generally healthy condition most years (USFWS 2003,74).

Through Park Stewardship Programs, the Presidio Coastal Trail alignment has been designed to stay at least 100 feet from any of the Presidio manzanita clones, which would provide long-term protection of this species. Additionally, other GGNRA Park Stewardship Programs, which include native plant habitat restoration projects, occur throughout the park. These programs are led by NPS natural resources staff and will provide beneficial effects to the Presidio manzanita. Off-leash impacts could increase if the Coastal Trail is widened in the future and receives more use (Fritzke 2010c).

The long-term moderate adverse impacts on the Presidio manzanita from dogs at Baker Beach and Bluffs to Golden Gate Bridge under alternative A were considered together with the effects of the projects mentioned above. The beneficial effects from the Park Stewardship Programs, including plant habitat restoration, should reduce some of the adverse impacts on the Presidio manzanita from alternative A. Therefore, cumulative impacts on the Presidio manzanita under this alternative would be expected to be long term, minor, and adverse.

Indirect Impacts in Adjacent Parks

In lands adjacent to GGNRA, there are 36 parks with dog use areas within about a 10-mile radius of Baker Beach and Bluffs to Golden Gate Bridge and 20 parks within about a 5-mile radius; the closest park is Mountain Lake Park, which allows off-leash dog walking (map 27). In addition, Baker Beach is located directly west of Area B of the Presidio; Area B is subject to the Presidio Trust's regulations on dog walking, which do not allow dogs to be off-leash. No indirect impacts on the Presidio manzanita in adjacent lands, including Area B of the Presidio, would be expected under alternative A since there would be no change in current conditions at the site.

BAKER BEACH AND BLUFFS TO GOLDEN GATE BRIDGE ALTERNATIVE A CONCLUSION TABLE

Presidio (Raven's) Manzanita Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Long-term moderate adverse impacts	Clones of this serpentine endemic plant exist in the vicinity of the Coastal Trail midway to the Golden Gate Bridge; off-trail dogs could affect this species although it exists in soil outcrops that are relatively inaccessible at the site; dogs could affect this plant by trampling, digging, or dog waste; the restored population is being affected and few individuals of the species exist at the site, so impacts could affect the reproductive success of the plant	N/A	Long-term minor adverse cumulative impacts No indirect impacts in adjacent lands

N/A = not applicable.

Alternative B: NPS Leash Regulation. Alternative B would allow on-leash dog walking on the beach north of Lobos Creek Inlet and on all trails in the vicinity of Baker Beach except the Batteries to Bluffs Trail and the Battery Crosby Trail, where no dog walking would be allowed. On-leash dog walking is based on an allowed 6-foot dog leash. In general, impacts would be limited to the trails and the 6-foot corridor immediately adjacent to the trails; the beach is not suitable habitat for the Presidio manzanita. Impacts on the Presidio manzanita adjacent to the trails (LOD area) would be long term, minor, and adverse since these areas have not been previously disturbed and contain naturally functioning soils that could support the growth of the Presidio manzanita. Impacts would occur as a result of disturbance by dogs through trampling, digging, or dog waste; nutrient addition could also occur from outside the LOD area, but these impacts would be localized in a relatively small area.

The long-term minor adverse impacts from dogs in the LOD area at Baker Beach and Bluffs to Golden Gate Bridge would affect only a portion of the entire site. Physically restraining dogs on leash would protect the Presidio manzanita, potential habitat and the restored population would be protected, and no measurable or perceptible changes in the Presidio manzanita would be expected at this site as a result of alternative B. Therefore, assuming compliance, alternative B would result in overall negligible impacts on the Presidio manzanita at Baker Beach and Bluffs to Golden Gate Bridge.

Under alternative B, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs per person with no permit required. Since commercial dog walking is not common at Baker Beach and Bluffs to Golden Gate Bridge, it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking under alternative B would have negligible impacts on the Presidio manzanita.

Cumulative Impacts. The negligible impacts on the Presidio manzanita from dogs at Baker Beach and Bluffs to Golden Gate Bridge under alternative B were considered together with the effects of the projects mentioned above under alternative A. The beneficial effects from the Park Stewardship Programs, including plant habitat restoration, combined with the negligible impacts on the Presidio manzanita under alternative B would be expected to result in beneficial cumulative impacts.

Indirect Impacts in Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation under alternative B, particularly Mountain Lake Park, because it is the closest dog use area and it allows off-leash dog walking. Even though some visitors may choose to visit other park sites that allow off-leash dog walking, negligible indirect impacts on the Presidio manzanita in adjacent lands would be expected from increased dog use because these dog parks are unlikely to support existing populations of the Presidio manzanita. No indirect impacts on the San Francisco lessingia in Area B of the Presidio would be expected under alternative B, since this area does not allow off-leash dog walking. The Presidio manzanita clones located within the Presidio should not be indirectly affected by alternative B since on-leash requirements currently exist at this site and the NPS has fenced off the clonal populations on the Presidio to protect them from trampling and accidental damage (USFWS 2003; 74).

BAKER BEACH AND BLUFFS TO GOLDEN GATE BRIDGE ALTERNATIVE B CONCLUSION TABLE

Presidio (Raven's) Manzanita Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Long-term minor adverse impacts in 6-foot corridors adjacent to trails (LOD area)	It is unlikely that Presidio manzanita is located in the LOD area, but if so, plants could be affected by dogs through trampling, digging, and dog waste; nutrient addition would also occur		
Overall negligible impacts, assuming compliance	Physically restraining dogs on leash would protect Presidio manzanita and potential habitat; the restored population would be protected	Beneficial, assuming compliance	Beneficial cumulative impacts Negligible indirect impacts in adjacent lands

Alternative C: Emphasis on Multiple Use—Balanced by County. Alternative C would have the same dog walking restrictions as alternative B, and impacts would be the same, assuming compliance: long term, minor, and adverse in the LOD area and negligible overall.

Under alternative C, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. Any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs, and permits may be restricted by time and area. Permits would be allowed at Baker Beach and Bluffs to Golden Gate Bridge. Impacts on the Presidio manzanita from permit holders with four to six dogs would be expected to increase under this alternative; however, impacts would not be expected to increase enough to cause a change in the threshold level. Since commercial dog walking is not common at Baker Beach and Bluffs to Golden Gate Bridge, it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking under alternative C would have negligible impacts on the Presidio manzanita.

Cumulative Impacts. The negligible impacts on the Presidio manzanita from dogs at Baker Beach and Bluffs to Golden Gate Bridge under alternative C were considered together with the effects of the projects mentioned above under alternative A. The beneficial effects from the Park Stewardship Programs, including plant habitat restoration, combined with the negligible impacts on the Presidio manzanita under alternative C would be expected to result in beneficial cumulative impacts.

Indirect Impacts in Adjacent Parks

Indirect impacts on the Presidio manzanita in adjacent lands would be the same as those under alternative B: negligible and no indirect impacts on the San Francisco lessingia in Area B of the Presidio.

BAKER BEACH AND BLUFFS TO GOLDEN GATE BRIDGE ALTERNATIVE C CONCLUSION TABLE

Presidio (Raven's) Manzanita Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Long-term minor adverse impacts in 6-foot corridors adjacent to trails (LOD area)	It is unlikely that Presidio manzanita is located in the LOD area, but if so, plants could be affected by dogs through trampling, digging, and dog waste; nutrient addition would also occur		

Presidio (Raven's) Manzanita Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Overall negligible impacts, assuming compliance	Physically restraining dogs on leash would protect Presidio manzanita and potential habitat; the restored population would be protected	Beneficial, assuming compliance	Beneficial cumulative impacts Negligible indirect impacts in adjacent lands

Alternative D: Most Protective Based on Resource Protection/Visitor Safety. Alternative D would allow on-leash dog walking on the section of the beach north of Lobos Creek and south of the northern parking lot and on all trails in the vicinity of Baker Beach except the Batteries to Bluffs Trail and the Battery Crosby Trail, where no dog walking would be allowed. On-leash dog walking is based on an allowed 6-foot dog leash. In general, impacts would be limited to the trails and the 6-foot corridor immediately adjacent to the trails; the beach is not suitable habitat for the Presidio manzanita. Impacts on the Presidio manzanita adjacent to the trails (LOD area) would be long term, minor, and adverse since these areas have not been previously disturbed and contain naturally functioning soils that could support the growth of the Presidio manzanita. Impacts would occur as a result of disturbance by dogs through trampling, digging, or dog waste; nutrient addition could also occur from outside the LOD area, but these impacts would be localized in a relatively small area.

The long-term minor adverse impacts from dogs in the LOD area would affect only a portion of the entire site. Physically restraining dogs on leash would protect the Presidio manzanita and potential habitat, the restored population would be protected, and no measurable or perceptible changes in the Presidio manzanita would be expected at this site as a result of alternative D. Therefore, assuming compliance, alternative D would result in overall negligible impacts on the Presidio manzanita at Baker Beach and Bluffs to Golden Gate Bridge.

No commercial dog walking would be allowed under alternative D; therefore, commercial dog walking would have no impact on the Presidio manzanita.

Cumulative Impacts. The negligible impacts on the Presidio manzanita from dogs at Baker Beach and Bluffs to Golden Gate Bridge under alternative D were considered together with the effects of the projects mentioned above under alternative A. The beneficial effects from the Park Stewardship Programs, including plant habitat restoration, combined with the negligible impacts on the Presidio manzanita under alternative D would be expected to result in beneficial cumulative impacts.

Indirect Impacts in Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation under alternative D, particularly Mountain Lake Park, because it is the closest dog use area and it allows off-leash dog walking. Some visitors may choose to visit other park sites that allow off-leash dog walking, but it is unlikely that these dog parks support existing populations of the Presidio manzanita; therefore, indirect impacts on Presidio manzanita in adjacent lands would be negligible. No indirect impacts on the Presidio manzanita in Area B of the Presidio would be expected under alternative D, since this area does not allow off-leash dog walking. The Presidio manzanita clones located within the Presidio should not be indirectly affected by alternative D since on-leash requirements currently exist at this site and the NPS has fenced off the clonal populations on the Presidio to protect them from trampling and accidental damage (USFWS 2003; 74).

BAKER BEACH AND BLUFFS TO GOLDEN GATE BRIDGE ALTERNATIVE D CONCLUSION TABLE

Presidio (Raven's) Manzanita Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Long-term minor adverse impacts in 6-foot corridors adjacent to trails (LOD area)	It is unlikely that Presidio manzanita is located in the LOD area, but if so, plants could be affected by dogs through trampling, digging, and dog waste; nutrient addition would also occur		
Overall negligible impacts, assuming compliance	Physically restraining dogs on leash would protect Presidio manzanita and potential habitat; the restored population would be protected	Beneficial, assuming compliance	Beneficial cumulative impacts Negligible indirect impacts in adjacent lands

Alternative E: Most Dog Walking Access/Most Management Intensive. Alternative E would allow on-leash dog walking on the northern portion of the beach and on all trails in the vicinity of Baker Beach except the Batteries to Bluffs Trail and the Battery Crosby Trail, where no dog walking would be allowed. A ROLA would be established on the southern portion of the beach immediately north of Lobos Creek for dog walking under voice and sight control; this ROLA would not be located in suitable habitat for the Presidio manzanita; therefore, no impacts to the Presidio manzanita would occur within the ROLA. On-leash dog walking is based on an allowed 6-foot dog leash. In general, impacts would be limited to the trails and the 6-foot corridor immediately adjacent to the trails because the beach is not suitable habitat for the Presidio manzanita. Impacts on the Presidio manzanita adjacent to the trails (LOD area) would be long term, minor, and adverse since these areas have not been previously disturbed and contain naturally functioning soils that could support the growth of the Presidio manzanita. Impacts would occur as a result of disturbance by dogs through trampling, digging, or dog waste; nutrient addition could also occur from outside the LOD area, but these impacts would be localized in a relatively small area.

The long-term minor adverse impacts from dogs in the LOD area at Baker Beach and Bluffs to Golden Gate Bridge would affect only a portion of the entire site. Physically restraining dogs on leash would protect the Presidio manzanita and potential habitat, the restored population would be protected, and no measurable or perceptible changes in the Presidio manzanita would be expected at this site as a result of alternative D. Therefore, assuming compliance, alternative D would result in overall negligible impacts on the Presidio manzanita at Baker Beach and Bluffs to Golden Gate Bridge.

Under alternative E, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. Any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. In a ROLA, permit holders may have up to six dogs off leash and the permit may restrict use by time and area. Permits would be allowed at Baker Beach and Bluffs to Golden Gate Bridge. Impacts on the Presidio manzanita from permit holders with four to six dogs off leash would be expected to increase under this alternative; however, impacts would not be expected to increase enough to cause a change in the threshold level. Since commercial dog walking is not common at Baker Beach and Bluffs to Golden Gate Bridge, it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking under alternative E would have negligible impacts on the Presidio manzanita.

Cumulative Impacts. The negligible impacts on the Presidio manzanita from dogs at Baker Beach and Bluffs to Golden Gate Bridge under alternative E were considered together with the effects of the projects mentioned above under alternative A. The beneficial effects from the Park Stewardship Programs, including plant habitat restoration, combined with the negligible impacts on the Presidio manzanita under alternative E would be expected to result in beneficial cumulative impacts.

Indirect Impacts in Adjacent Parks

The adjacent lands, including Area B of the Presidio, identified under alternative A would not be expected to experience increased visitation under alternative E since voice and sight control dog walking would be allowed in a ROLA at Baker Beach and Bluffs to Golden Gate Bridge; therefore, no indirect impacts in adjacent lands would occur.

BAKER BEACH AND BLUFFS TO GOLDEN GATE BRIDGE ALTERNATIVE E CONCLUSION TABLE

Presidio (Raven's) Manzanita Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Long-term minor adverse impacts in 6-foot corridors adjacent to trails (LOD area); no impacts within the ROLA	It is unlikely that Presidio manzanita is located in the LOD area, but if so, plants could be affected by dogs through trampling, digging, and dog waste; nutrient addition would also occur; ROLA is not located in suitable habitat		
Overall negligible impacts, assuming compliance	Physically restraining dogs on leash would protect Presidio manzanita and potential habitat; the restored population would be protected	Beneficial, assuming compliance	Beneficial cumulative impacts No indirect impacts in adjacent lands

Preferred Alternative. Alternative D was selected as the preferred alternative for Baker Beach and Bluffs to Golden Gate Bridge. The preferred alternative would allow on-leash dog walking on the section of the beach north of Lobos Creek and south of the northern parking lot and on all trails in the vicinity of Baker Beach except the Batteries to Bluffs Trail and the Battery Crosby Trail, where no dog walking would be allowed. On-leash dog walking is based on an allowed 6-foot dog leash. In general, impacts would be limited to the trails and the 6-foot corridor immediately adjacent to the trails; the beach is not suitable habitat for the Presidio manzanita. Impacts on the Presidio manzanita adjacent to the trails (LOD area) would be long term, minor, and adverse since these areas have not been previously disturbed and contain naturally functioning soils that could support the growth of the Presidio manzanita. Impacts would occur as a result of disturbance by dogs through trampling, digging, or dog waste; nutrient addition could also occur from outside the LOD area, but these impacts would be localized in a relatively small area.

The long-term minor adverse impacts from dogs in the LOD area at Baker Beach and Bluffs to Golden Gate Bridge would affect only a portion of the entire site. Physically restraining dogs on leash would protect the Presidio manzanita and potential habitat, the restored population would be protected, and no measurable or perceptible changes in the Presidio manzanita would be expected at this site as a result of the preferred alternative. Therefore, assuming compliance, the preferred alternative would result in overall negligible impacts on the Presidio manzanita at Baker Beach and Bluffs to Golden Gate Bridge.

Alternative C was selected as the preferred alternative for permits for all sites. All dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. Any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs, and permits may be restricted by time and area. Permits would be allowed at Baker Beach and Bluffs to Golden Gate Bridge. Impacts on the Presidio manzanita from permit holders with four to six dogs would be expected to increase under this alternative; however, impacts would not be expected to increase enough to cause a change in the threshold level. Since commercial dog walking is not common at Baker Beach and Bluffs to Golden Gate Bridge, it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking under the preferred alternative would have negligible impacts on the Presidio manzanita.

Cumulative Impacts. Projects and actions in and near Baker Beach and Bluffs to Golden Gate Bridge were considered for the cumulative impacts analysis (appendix K). The following is a discussion of projects that have had, are currently having, or have the potential to have effects on the Presidio manzanita at or in the vicinity of this site.

Through Park Stewardship Programs, the Presidio Coastal Trail alignment has been designed to stay at least 100 feet from any of the Presidio manzanita clones, which would provide long-term protection of this species. Additionally, other GGNRA Park Stewardship Programs, which include native plant habitat restoration projects, occur throughout the park. These programs are led by NPS natural resources staff and will provide beneficial effects to the Presidio manzanita. Trail widening and improvements could increase the occurrence of off-leash dog impacts.

The negligible impacts on the Presidio manzanita from dogs at Baker Beach and Bluffs to Golden Gate Bridge under the preferred alternative were considered together with the effects of the projects mentioned above. The beneficial effects from the Park Stewardship Programs, including plant habitat restoration, combined with the negligible impacts on the Presidio manzanita under the preferred alternative would be expected to result in beneficial cumulative impacts.

Indirect Impacts in Adjacent Parks

In lands adjacent to GGNRA, there are 36 parks with dog use areas within about a 10-mile radius of Baker Beach and Bluffs to Golden Gate Bridge and 20 parks within about a 5-mile radius; the closest park is Mountain Lake Park, which allows off-leash dog walking (map 27). In addition, Baker Beach is located directly west of Area B of the Presidio; Area B is subject to the Presidio Trust's regulations on dog walking, which do not allow dogs to be off-leash. The adjacent lands may experience increased visitation under the preferred alternative, particularly Mountain Lake Park, because it is the closest dog use area and it allows off-leash dog walking. Some visitors may choose to visit other park sites that allow off-leash dog walking, but it is unlikely that these dog parks support existing populations of the Presidio manzanita; therefore, indirect impacts on Presidio manzanita in adjacent lands would be negligible. No indirect impacts on the Presidio manzanita in Area B of the Presidio would be expected under the preferred alternative, since this area does not allow off-leash dog walking. The Presidio manzanita clones located within the Presidio should not be indirectly affected by the preferred alternative since on-leash requirements currently exist at this site and the NPS has fenced off the clonal populations on the Presidio to protect them from trampling and accidental damage (USFWS 2003; 74).

BAKER BEACH AND BLUFFS TO GOLDEN GATE BRIDGE PREFERRED ALTERNATIVE CONCLUSION TABLE

Presidio (Raven's) Manzanita Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Long-term minor adverse impacts in 6-foot corridors adjacent to trails (LOD area)	It is unlikely that Presidio manzanita is located in the LOD area, but if so, plants could be affected by dogs through trampling, digging, and dog waste; nutrient addition would also occur		
Overall negligible impacts, assuming compliance	Physically restraining dogs on leash would protect Presidio manzanita and potential habitat; the restored population would be protected	Beneficial, assuming compliance	Beneficial cumulative impacts Negligible indirect impacts in adjacent lands

MARIN DWARF-FLAX (FEDERALLY AND STATE THREATENED)

The Marin dwarf-flax is found in coastal serpentine prairie and scrub habitat in GGNRA as two subpopulations. One subpopulation is located west of Lincoln Boulevard of the Presidio and the other subpopulation is located in soil outcrops above Baker Beach, near the one remaining natural Presidio manzanita location (USFWS 2003; NPS 2008h).

Baker Beach and Bluffs to Golden Gate Bridge

Alternative A: No Action. Under current conditions, dogs are allowed under voice control on the beach north of Lobos Creek and on-leash dog walking is allowed on the trails to the beach and on the Battery Crosby Trail; the Batteries to Bluffs Trail is closed. This site has documented moderate low to high visitor use and low to moderate use by dog walkers (table 9). In some areas at this site, dogs and their owners/walkers have created a myriad of social trails in coastal vegetation.

This species exists in soil outcrops that are in the vicinity of the Coastal Trail midway to the Golden Gate Bridge (Hatch et al. 2010). Under alternative A, on-leash dog walking could affect the Marin dwarf-flax and the sensitive serpentine habitat through trampling, digging, or dog waste; individuals of the species could be injured or killed. Therefore, this alternative would result in continued long-term moderate adverse impacts on the Marin dwarf-flax. Because few individuals of the species currently exist at the site, it is possible that impacts could affect the reproductive success of individuals of the species; therefore, impacts would be moderate.

No permit system exists for commercial dog walking under alternative A. At Baker Beach and Bluffs to Golden Gate Bridge, commercial dog walking is uncommon; therefore, commercial dog walking would have negligible impacts on the Marin dwarf-flax.

Cumulative Impacts. Projects and actions in and near Baker Beach and Bluffs to Golden Gate Bridge were considered for the cumulative impacts analysis (appendix K). The following is a discussion of projects that have had, are currently having, or have the potential to have effects on the Marin dwarf-flax at or in the vicinity of this site.

The Presidio supports populations of Marin dwarf-flax and the NPS has been actively managing the Presidio plant population since 1994 (USFWS 1998, I-15-I-16). Annual censuses of the single population of Marin dwarf-flax have been conducted since 1994 and fencing was erected in 1995 to protect this largest population at the Presidio USFWS 1998, I-15-I-16).

The Presidio Coastal Trail project, invasive plant species control, Park Stewardship Programs, volunteer opportunities sponsored by the park, and maintenance operations all have the potential to affect listed plant species at GGNRA. Efforts to manage this species are underway at the two subpopulations in GGNRA and the NPS is currently considering translocation of seed to suitable habitat areas in these subsites (NPS 2008h). Additionally, Park Stewardship Programs, which include native plant habitat restoration projects, will provide beneficial effects to the Marin dwarf-flax.

The long-term moderate adverse impacts on the Marin dwarf-flax from dogs at Baker Beach and Bluffs to Golden Gate Bridge under alternative A were considered together with the effects of the actions mentioned above. The benefits to the Marin dwarf-flax from the Park Stewardship Programs, the Presidio Coastal Trail project, and invasive plant species control, should reduce some of the adverse impacts of this alternative. Therefore, the cumulative impacts under this alternative would be long term, minor, and adverse.

Indirect Impacts in Adjacent Parks

In lands adjacent to GGNRA, there are 36 parks with dog use areas within about a 10-mile radius of Baker Beach and Bluffs to Golden Gate Bridge and 20 parks within about a 5-mile radius; the closest park is Mountain Lake Park, which allows off-leash dog walking (map 27). In addition, Baker Beach is located directly west of Area B of the Presidio; Area B is subject to the Presidio Trust's regulations on dog walking, which do not allow dogs to be off-leash. No indirect impacts on the Marin dwarf-flax in adjacent lands, including Area B of the Presidio, would be expected under alternative A since there would be no change in current conditions at the site.

BAKER BEACH AND BLUFFS TO GOLDEN GATE BRIDGE ALTERNATIVE A CONCLUSION TABLE

Marin Dwarf-flax Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Long-term moderate adverse impacts	This annual serpentine endemic plant exists in the vicinity of the Coastal Trail midway to the Golden Gate Bridge; off-trail dogs could affect this species by trampling, digging, or dog waste; individuals of the species could be injured or killed; few individuals of the species exist at the site, so reproductive success could be affected	N/A	Long-term minor adverse cumulative impacts No indirect impacts in adjacent lands

N/A = not applicable.

Alternative B: NPS Leash Regulation. Alternative B would allow on-leash dog walking on the beach north of Lobos Creek Inlet and on all trails in the vicinity of Baker Beach except the Batteries to Bluffs Trail or the Battery Crosby Trail, where no dog walking would be allowed. On-leash dog walking is based on an allowed 6-foot dog leash. In general, impacts would be limited to the trails and the 6-foot corridor immediately adjacent to the trails; the beach is not suitable habitat for the Marin dwarf-flax. Impacts on the Marin dwarf-flax adjacent to the trails (LOD area) would be long term, minor, and adverse since these areas have not been previously disturbed and contain naturally functioning soils that could

support the growth of the Marin dwarf-flax. Impacts would occur as a result of disturbance by dogs through trampling, digging, or dog waste; nutrient addition could also occur from outside the LOD area, but these impacts would be localized in a relatively small area.

The long-term minor adverse impacts from dogs in the LOD area at Baker Beach and Bluffs to Golden Gate Bridge would affect only a portion of the entire site, and the Marin dwarf-flax exists in soil outcrops that are relatively inaccessible at the site. Physically restraining dogs on leash would protect the Marin dwarf-flax and potential habitat, the restored population would be protected, and no measurable or perceptible changes in the Marin dwarf-flax would be expected at this site as a result of alternative B. Therefore, assuming compliance, alternative B would result in overall negligible impacts on the Marin dwarf-flax at Baker Beach and Bluffs to Golden Gate Bridge.

Under alternative B, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs per person with no permit required. Since commercial dog walking is not common at Baker Beach and Bluffs to Golden Gate Bridge, it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking under alternative B would have a negligible impact on the Marin dwarf-flax.

Cumulative Impacts. The negligible impacts on the Marin dwarf-flax from dogs at Baker Beach and Bluffs to Golden Gate Bridge under alternative B were considered together with the effects of the actions mentioned above under alternative A. The benefits to the Marin dwarf-flax from the Park Stewardship Programs and other actions combined with the negligible impacts from alternative B would result in negligible cumulative impacts.

Indirect Impacts in Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation under alternative B, particularly Mountain Lake Park, because it is the closest dog use area and it allows off-leash dog walking. Even though some visitors may choose to visit other park sites that allow off-leash dog walking, negligible indirect impacts on the Marin dwarf-flax in adjacent lands would be expected from increased dog use because these dog parks are unlikely to support existing populations of the Marin dwarf-flax. No indirect impacts on the Marin dwarf-flax in Area B of the Presidio would be expected under alternative B, since this area does not allow off-leash dog walking. The Marin dwarf-flax population located within the Presidio should not be indirectly affected by alternative B since on-leash requirements currently exist at this site and the NPS monitors and has fenced the plants on the Presidio to protect this population (USFWS 1998, I-15-I-16).

BAKER BEACH AND BLUFFS TO GOLDEN GATE BRIDGE ALTERNATIVE B CONCLUSION TABLE

Marin Dwarf-flax Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Long-term minor adverse impacts in 6-foot corridors adjacent to trails (LOD area)	It is unlikely that Marin dwarf-flax is located in the LOD area, but if so, plants could be affected by dogs through trampling, digging, and dog waste; nutrient addition would also occur		
Overall negligible impacts, assuming compliance	Physically restraining dogs on leash would protect Marin dwarf-flax and potential habitat; the restored population would be protected	Beneficial, assuming compliance	Negligible cumulative impacts Negligible indirect impacts in adjacent lands

Alternative C: Emphasis on Multiple Use—Balanced by County. Alternative C would have the same dog walking restrictions as alternative B, and impacts would be the same: long term, minor, and adverse in the LOD area and negligible overall.

Under alternative C, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. Any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs, and permits may restrict use by time and area. Impacts on the Marin dwarf-flax from permit holders with four to six dogs would be expected to increase under this alternative; however, impacts would not be expected to increase enough to cause a change in the threshold level. Since commercial dog walking is not common at Baker Beach and Bluffs to Golden Gate Bridge, it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking under alternative C would have negligible impacts on the Marin dwarf-flax.

Cumulative Impacts. The negligible impacts on the Marin dwarf-flax from dogs at Baker Beach and Bluffs to Golden Gate Bridge under alternative C were considered together with the effects of the actions mentioned above under alternative A. The benefits to the Marin dwarf-flax from the Park Stewardship Programs and other actions combined with the negligible impacts from alternative C would result in negligible cumulative impacts.

Indirect Impacts in Adjacent Parks

Indirect impacts on the Marin dwarf-flax in adjacent lands would be the same as those under alternative B: negligible and no indirect impacts on the Marin dwarf-flax in Area B of the Presidio.

BAKER BEACH AND BLUFFS TO GOLDEN GATE BRIDGE ALTERNATIVE C CONCLUSION TABLE

Marin Dwarf-flax Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Long-term minor adverse impacts in 6-foot corridors adjacent to trails (LOD area)	It is unlikely that Marin dwarf-flax is located in the LOD area, but if so, plants could be affected by dogs through trampling, digging, and dog waste; nutrient addition would also occur		
Overall negligible impacts, assuming compliance	Physically restraining dogs on leash would protect Marin dwarf-flax and potential habitat; the restored population would be protected	Beneficial, assuming compliance	Negligible cumulative impacts Negligible indirect impact in adjacent lands

Alternative D: Most Protective Based on Resource Protection/Visitor Safety. Alternative D would allow on-leash dog walking on the section of the beach north of Lobos Creek and south of the northern parking lot and on all trails in the vicinity of Baker Beach except the Batteries to Bluffs Trail and the Battery Crosby Trail, where no dog walking would be allowed. On-leash dog walking is based on an allowed 6-foot dog leash. In general, impacts would be limited to the trails and the 6-foot corridor immediately adjacent to the trails; the beach is not suitable habitat for the Marin dwarf-flax. Impacts on the Marin dwarf-flax adjacent to the trails (LOD area) would be long term, minor, and adverse since these areas have not been previously disturbed and contain naturally functioning soils that could support the growth of the Marin dwarf-flax. Impacts would occur as a result of disturbance by dogs through

trampling, digging, or dog waste; nutrient addition could also occur from outside the LOD area, but these impacts would be localized in a relatively small area.

The long-term minor adverse impacts from dogs in the LOD area at Baker Beach and Bluffs to Golden Gate Bridge would affect only a portion of the entire site, and the Marin dwarf-flax exists in soil outcrops that are relatively inaccessible at the site. Physically restraining dogs on leash would protect the Marin dwarf-flax and potential habitat, the restored population would be protected, and no measurable or perceptible changes in the Marin dwarf-flax would be expected at this site as a result of alternative D. Therefore, assuming compliance, alternative D would result in overall negligible impacts on the Marin dwarf-flax at Baker Beach and Bluffs to Golden Gate Bridge.

No commercial dog walking would be allowed under alternative D; therefore, commercial dog walking would have no impact on the Marin dwarf-flax.

Cumulative Impacts. The negligible impacts on the Marin dwarf-flax from dogs at Baker Beach and Bluffs to Golden Gate Bridge were considered together with the effects of the actions mentioned above under alternative A. The benefits to the Marin dwarf-flax from the Park Stewardship Programs and other actions combined with the negligible impacts from alternative D would result in negligible cumulative impacts.

Indirect Impacts in Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation under alternative D, particularly Mountain Lake Park, because it is the closest dog use area and it allows off-leash dog walking. Some visitors may choose to visit other park sites that allow off-leash dog walking, but it is unlikely that these dog parks support existing populations of the Marin dwarf-flax; therefore, indirect impacts on Marin dwarf-flax in adjacent lands would be negligible. No indirect impacts on the Marin dwarf-flax in Area B of the Presidio would be expected under alternative D, since this area does not allow off-leash dog walking. The Marin dwarf-flax population located within the Presidio should not be indirectly affected by alternative D since on-leash requirements currently exist at this site and the NPS monitors and has fenced the plants on the Presidio to protect this population (USFWS 1998, I-15-I-16).

BAKER BEACH AND BLUFFS TO GOLDEN GATE BRIDGE ALTERNATIVE D CONCLUSION TABLE

Marin Dwarf-flax Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Long-term minor adverse impacts in 6-foot corridors adjacent to trails (LOD area)	It is unlikely that Marin dwarf-flax is located in the LOD area, but if so, plants could be affected by dogs through trampling, digging, and dog waste; nutrient addition would also occur		
Overall negligible impacts, assuming compliance	Physically restraining dogs on leash would protect Marin dwarf-flax and potential habitat; the restored population would be protected	Beneficial, assuming compliance	Negligible cumulative impacts Negligible indirect impact in adjacent lands

Alternative E: Most Dog Walking Access/Most Management Intensive. Alternative E would allow on-leash dog walking on the northern portion of the beach and on all trails in the vicinity of Baker Beach except the Batteries to Bluffs Trail or the Battery Crosby Trail, where no dog walking would be allowed.

A ROLA would be established on the southern portion of the beach, immediately north of Lobos Creek, for dog walking under voice and sight control; this ROLA would not be located in suitable habitat for the Marin dwarf-flax. On-leash dog walking is based on an allowed 6-foot dog leash. In general, impacts would be limited to the trails and the 6-foot corridor immediately adjacent to the trails; the beach is not suitable habitat for the Marin dwarf-flax and therefore, no impacts would occur in the ROLA. Impacts on the Marin dwarf-flax adjacent to the trails (LOD area) would be long term, minor, and adverse since these areas have not been previously disturbed and contain naturally functioning soils that could support the growth of the Marin dwarf-flax. Impacts would occur as a result of disturbance by dogs through trampling, digging, or dog waste; nutrient addition could also occur from outside the LOD area, but these impacts would be localized in a relatively small area.

The long-term minor adverse impacts from dogs in the LOD area at Baker Beach and Bluffs to Golden Gate Bridge would affect only a portion of the entire site, and the Marin dwarf-flax exists in soil outcrops that are relatively inaccessible at the site. Physically restraining dogs on leash would protect the Marin dwarf-flax and potential habitat, the restored population would be protected, and no measurable or perceptible changes in the Marin dwarf-flax would be expected at this site as a result of alternative E. Therefore, assuming compliance, alternative E would result in overall negligible impacts on the Marin dwarf-flax at Baker Beach and Bluffs to Golden Gate Bridge.

Under alternative E, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. Any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. In a ROLA, permit holders may have up to six dogs off leash and the permit may restrict use by time and area. Permits would be allowed at Baker Beach and Bluffs to Golden Gate Bridge. Impacts on the Marin dwarf-flax from permit holders with four to six dogs off leash would be expected to increase under this alternative; however, impacts would not be expected to increase enough to cause a change in the threshold level. Since commercial dog walking is not common at Baker Beach and Bluffs to Golden Gate Bridge, it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking under alternative E would have negligible impacts on the Marin dwarf-flax.

Cumulative Impacts. The negligible impacts on the Marin dwarf-flax from dogs at Baker Beach and Bluffs to Golden Gate Bridge under alternative E were considered together with the effects of the actions mentioned above under alternative A. The benefits to the Marin dwarf-flax from the Park Stewardship Programs and other actions combined with the negligible impacts from alternative E would result in negligible cumulative impacts.

Indirect Impacts in Adjacent Parks

The adjacent lands, including Area B of the Presidio, identified under alternative A would not be expected to experience increased visitation under alternative E since voice and sight control dog walking would be allowed in a ROLA at Baker Beach and Bluffs to Golden Gate Bridge; therefore, no indirect impacts in adjacent lands would occur.

BAKER BEACH AND BLUFFS TO GOLDEN GATE BRIDGE ALTERNATIVE E CONCLUSION TABLE

Marin Dwarf-flax Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Long-term minor adverse impacts in 6-foot corridors adjacent to trails (LOD area)	It is unlikely that Marin dwarf-flax is located in the LOD area, but if so, plants could be affected by dogs through trampling, digging, and dog waste; nutrient addition would also occur; the ROLA would not likely support the Marin dwarf-flax		
Overall negligible impacts, assuming compliance	Physically restraining dogs on leash would protect Marin dwarf-flax and potential habitat; the restored population would be protected	Beneficial, assuming compliance	Negligible cumulative impacts No indirect impacts in adjacent lands

Preferred Alternative. Alternative D was selected as the preferred alternative for Baker Beach and Bluffs to Golden Gate Bridge. The preferred alternative would allow on-leash dog walking on the section of the beach north of Lobos Creek and south of the northern parking lot and on all trails in the vicinity of Baker Beach except the Batteries to Bluffs Trail and the Battery Crosby Trail, where no dog walking would be allowed. On-leash dog walking is based on an allowed 6-foot dog leash. In general, impacts would be limited to the trails and the 6-foot corridor immediately adjacent to the trails; the beach is not suitable habitat for the Marin dwarf-flax. Impacts on the Marin dwarf-flax adjacent to the trails (LOD area) would be long term, minor, and adverse since these areas have not been previously disturbed and contain naturally functioning soils that could support the growth of the Marin dwarf-flax. Impacts would occur as a result of disturbance by dogs through trampling, digging, or dog waste; nutrient addition could also occur from outside the LOD area, but these impacts would be localized in a relatively small area.

The long-term minor adverse impacts from dogs in the LOD area at Baker Beach and Bluffs to Golden Gate Bridge would affect only a portion of the entire site, and the Marin dwarf-flax exists in soil outcrops that are relatively inaccessible at the site. Physically restraining dogs on leash would protect the Marin dwarf-flax and potential habitat, the restored population would be protected, and no measurable or perceptible changes for the Marin dwarf-flax would be expected at this site as a result of the preferred alternative. Therefore, the preferred alternative would result in negligible impacts on the Marin dwarf-flax at Baker Beach and Bluffs to Golden Gate Bridge.

Alternative C was selected as the preferred alternative for permits for all sites. All dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. Any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs, and permits may restrict use by time and area. Impacts on the Marin dwarf-flax from permit holders with four to six dogs would be expected to increase under this alternative; however, impacts would not be expected to increase enough to cause a change in the threshold level. Since commercial dog walking is not common at Baker Beach and Bluffs to Golden Gate Bridge, it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking under the preferred alternative would have negligible impacts on the Marin dwarf-flax.

Cumulative Impacts. Projects and actions in and near Baker Beach and Bluffs to Golden Gate Bridge were considered for the cumulative impacts analysis (appendix K). The following is a discussion of projects that have had, are currently having, or have the potential to have effects on the Marin dwarf-flax at or in the vicinity of this site.

The Presidio Coastal Trail project, invasive plant species control, volunteer opportunities sponsored by the park, and maintenance operations all have the potential to affect listed plant species at GGNRA. Efforts to manage this species are underway at the two subpopulations in GGNRA and the NPS is currently considering translocation of seed to suitable habitat areas in these subsites (NPS 2008h). Additionally, Park Stewardship Programs, which include native plant habitat restoration projects, will provide beneficial effects to the Marin dwarf-flax.

The negligible impacts on the Marin dwarf-flax from dogs at Baker Beach and Bluffs to Golden Gate Bridge under the preferred alternative were considered together with the effects of the actions mentioned above. The benefits to the Marin dwarf-flax from the Park Stewardship Programs and other actions combined with the negligible impacts from the preferred alternative would result in negligible cumulative impacts.

Indirect Impacts in Adjacent Parks

In lands adjacent to GGNRA, there are 36 parks with dog use areas within about a 10-mile radius of Baker Beach and Bluffs to Golden Gate Bridge and 20 parks within about a 5-mile radius; the closest park is Mountain Lake Park, which allows off-leash dog walking (map 27). In addition, Baker Beach is located directly west of Area B of the Presidio; Area B is subject to the Presidio Trust's regulations on dog walking, which do not allow dogs to be off-leash. The adjacent lands may experience increased visitation under the preferred alternative, particularly Mountain Lake Park, because it is the closest dog use area and it allows off-leash dog walking. Some visitors may choose to visit other park sites that allow off-leash dog walking, but it is unlikely that these dog parks support existing populations of the Marin dwarf-flax; therefore, indirect impacts on Marin dwarf-flax in adjacent lands would be negligible. No indirect impacts on the Marin dwarf-flax in Area B of the Presidio would be expected under the preferred alternative, since this area does not allow off-leash dog walking. The Marin dwarf-flax population located within the Presidio should not be indirectly affected by the preferred alternative since on-leash requirements currently exist at this site and the NPS monitors and has fenced the plants on the Presidio to protect this population (USFWS 1998, I-15-I-16).

**BAKER BEACH AND BLUFFS TO GOLDEN GATE BRIDGE PREFERRED ALTERNATIVE CONCLUSION
TABLE**

Marin Dwarf-flax Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Long-term minor adverse impacts in 6-foot corridors adjacent to trails (LOD area)	It is unlikely that Marin dwarf-flax is located in the LOD area, but if so, plants could be affected by dogs through trampling, digging, and dog waste; nutrient addition would also occur		
Overall negligible impacts, assuming compliance	Physically restraining dogs on leash would protect Marin dwarf-flax and potential habitat; the restored population would be protected	Beneficial, assuming compliance	Negligible cumulative impacts Negligible indirect impact in adjacent lands

CALIFORNIA SEABLITE (FEDERALLY ENDANGERED)

This species has been extirpated from the San Francisco Bay Area, although it was reintroduced to the restored salt marsh at Crissy Field in 2001. However, two efforts to reintroduce the species to the Crissy Field Marsh have both failed, potentially due to excessive flooding of the marsh.

Crissy Field

Common to All Alternatives. Impacts from dogs as a result of the two different definitions of the Crissy Field WPA (the 36 CFR 7.97(d) definition for alternative A and the Warming Hut to approximately 900 feet east of the former Coast Guard Pier definition for alternatives B–E) would be the same for all alternatives. Even though the WPA would be expanded for alternatives B–E, this change would not influence the overall impacts analysis at this site because it would neither increase nor decrease the impacts at Crissy Field described in the paragraphs that follow. Further explanation of these two definitions can be found in the “Current Regulations and Policies” section of chapter 2.

Alternative A: No Action. This species has been extirpated from the San Francisco Bay Area, although it was reintroduced to the restored salt marsh at Crissy Field in 2001. Under current conditions, dogs are allowed under voice control throughout Crissy Field; however, there is a seasonal leash restriction in the WPA and dogs are not allowed in Crissy Marsh. The park has installed fencing and signs to restrict access to the Crissy Marsh, although the park has documented that dogs go under the bridge into Crissy Marsh and access the flood shoal areas along the marsh (Merkle 2010e, 1).

If the marsh restoration project is expanded and dogs continue to access the marsh (as is currently documented), alternative A would result in long-term minor adverse impacts on the seablite through occasional disturbance by dogs, including trampling, digging, or dog waste, although impacts would be in a relatively small area.

Under alternative A, no permit system exists for commercial dog walking. However, commercial dog walking at Crissy Field occurs regularly. Commercial dog walking would continue to contribute to the long-term minor adverse impacts on the California seablite.

Cumulative Impacts. Projects and actions in and near Crissy Field were considered for the cumulative impacts analysis (appendix K). The following is a discussion of projects that have had, are currently having, or have the potential to have effects on the California seablite at or in the vicinity of this site.

Park Stewardship Programs, which include native plant habitat restoration projects occur throughout the park, may provide beneficial effects to this plant species. The two plantings to reintroduce the California seablite to the Crissy Marsh have both failed, potentially due to excessive flooding of the marsh. It has been suggested that if the Crissy Marsh restoration is expanded and the tidal inlet is reconfigured, the California seablite could be successfully reintroduced to the park, which would have a beneficial cumulative effect on the species.

The long-term minor adverse impacts on the California seablite from dogs at Crissy Field under alternative A were considered together with the effects of the actions mentioned above. Park Stewardship Programs throughout the park have benefited the California seablite; however, efforts at Crissy Field to reintroduce the California seablite have not been beneficial. Therefore, the benefits to the California seablite from the Park Stewardship Programs would not be expected to reduce the impacts from alternative A at this park site. Cumulative impacts on the California seablite would be expected to be long term, minor, and adverse.

Indirect Impacts in Adjacent Parks

In lands adjacent to GGNRA, there are 35 parks with dog use areas within about a 10-mile radius of Crissy Field and 22 parks within about a 5-mile radius; the closest park is Mountain Lake Park (map 27). In addition, Crissy Field is located directly north of Area B of the Presidio; Area B is subject to the Presidio Trust's regulations on dog walking, which do not allow dogs to be off-leash. No indirect impacts on the California seablite in adjacent lands, including Area B of the Presidio, would be expected under alternative A since there would be no change in current conditions at the site.

CRISSY FIELD ALTERNATIVE A CONCLUSION TABLE

California Seablite Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Long-term minor adverse impacts	Dogs have been observed in the marsh (which prohibits dogs) and if the marsh restoration project is expanded, dogs would affect the seablite through occasional disturbance through trampling, digging, and dog waste	N/A	Long-term minor adverse cumulative impacts No indirect impacts in adjacent lands

N/A = not applicable.

Alternative B: NPS Leash Regulation. Alternative B would allow on-leash dog walking throughout Crissy Field; however, dogs would be prohibited in the WPA and are currently not allowed in Crissy Marsh. Alternative B would result in the protection of seablite habitat by physically restraining dogs on leash. Assuming compliance with proposed regulations, alternative B would result in no impact on the seablite because no measurable or perceptible change in the seablite would be anticipated.

Under alternative B, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs per person with no permit required. Overall impacts on the California seablite from dogs walked by both commercial and private individuals are summarized in the previous paragraph.

Cumulative Impacts. The lack of impacts on the California seablite from dogs at Crissy Field under alternative B was considered together with the effects of the actions mentioned above under alternative A. Park Stewardship Programs throughout the park have benefited the California seablite; however, efforts to reintroduce the California seablite at Crissy Field have not been beneficial. Therefore, cumulative impacts on the California seablite would be expected to be negligible under this alternative.

Indirect Impacts in Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation by individual and commercial dog walkers under alternative B, particularly Mountain Lake Park, because it is the closest dog use area that allows off-leash dog walking; however, indirect impacts on the California seablite in adjacent lands from increased dog use would be negligible since this species has been extirpated from the San Francisco Bay Area and is unlikely to occur at Mountain Lake Park, Area B of the Presidio, or other adjacent parks.

CRISSY FIELD ALTERNATIVE B CONCLUSION TABLE

California Seablite Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
No impact, assuming compliance	Dogs would continue to be prohibited in Crissy Marsh; there would be potential for future restoration projects to restore the species	Beneficial, assuming compliance	Negligible cumulative impacts Negligible indirect impacts in adjacent lands

Alternative C: Emphasis on Multiple Use—Balanced by County. Under alternative C, on-leash dog walking would be allowed on the promenade, the multi-use trail, and the paths to Central Beach, as well as on the trails and grassy areas near East Beach. Dogs would not be allowed in the WPA or on East Beach. Dogs would be allowed under voice and sight control in two ROLAs established on Crissy Airfield and Central Beach, and dogs are currently not allowed in Crissy Marsh. Assuming compliance with proposed regulations, alternative C would result in no impact on the seablite because no measurable or perceptible change in the seablite would be anticipated.

Under alternative C, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. Any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. In a ROLA, permit holders may have up to six dogs off leash and the permit may restrict use by time and area. Permits would be allowed in Crissy Field. Impacts on the California seablite from commercial dog walkers would be similar to impacts from other dog walkers, as summarized in the above paragraph; therefore, there would be no impact from commercial dog walking under this alternative.

Cumulative Impacts. The lack of impacts on the California seablite from dogs at Crissy Field under alternative C was considered together with the effects of the action mentioned above under alternative A. Park Stewardship Programs throughout the park have benefited the California seablite; however, efforts to reintroduce the California seablite at Crissy Field have not been beneficial. Therefore, cumulative impacts on the California seablite would be expected to be negligible under this alternative.

Indirect Impacts in Adjacent Parks

No indirect impacts on the California seablite in adjacent lands, including Area B of the Presidio, would be expected under alternative C since ROLAs would be provided on the airfield and Central Beach at Crissy Field.

CRISSY FIELD ALTERNATIVE C CONCLUSION TABLE

California Seablite Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
No impact, assuming compliance	Dogs would continue to be prohibited in Crissy Marsh; there would be potential for future restoration projects to restore the species	Beneficial, assuming compliance	Negligible cumulative impacts No indirect impacts in adjacent lands

Alternative D: Most Protective Based on Resource Protection/Visitor Safety. Alternative D would allow on-leash dog walking along the promenade, the multi-use trail, and the eastern portion of Crissy Airfield, as well as on the trails and grassy areas near East Beach; dogs are currently not allowed in Crissy Marsh. No dogs would be allowed in the WPA, on Central Beach, or on East Beach. A ROLA would be

established on the western portion of Crissy Airfield. Assuming compliance with proposed regulations, alternative D would result in no impact on the seablite because no measurable or perceptible change in the seablite would be anticipated.

No commercial dog walking would be allowed under alternative D; therefore, commercial dog walking would have no impact on the seablite.

Cumulative Impacts. The lack of impacts on the California seablite from dogs at Crissy Field under alternative D was considered together with the effects of the actions mentioned above under alternative A. Park Stewardship Programs throughout the park have benefited the California seablite; however, efforts at Crissy Field to reintroduce the California seablite have not been beneficial. Therefore, cumulative impacts on the California seablite would be expected to be negligible under this alternative.

Indirect Impacts in Adjacent Parks

Some increase in visitation by individual and commercial dog walkers would be expected in adjacent lands, especially parks that allow off-leash dog walking on beaches, since this activity would no longer be allowed on the beach at Crissy Field. However, indirect impacts on the California seablite in adjacent lands, including Area B of the Presidio, from increased dog use would be negligible since this species has been extirpated from the San Francisco Bay area and is unlikely to occur in adjacent lands.

CRISSY FIELD ALTERNATIVE D CONCLUSION TABLE

California Seablite Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
No impact, assuming compliance	Dogs would continue to be prohibited in Crissy Marsh; there would be potential for future restoration projects to restore species	Beneficial, assuming compliance	Negligible cumulative impacts Negligible indirect impacts in adjacent lands

Alternative E: Most Dog Walking Access/Most Management Intensive. Alternative E would allow on-leash dog walking along the promenade, on East Beach and the trails and grassy areas near East Beach, on the paths to Central Beach, and in the WPA; dogs are currently not allowed in Crissy Marsh. Two ROLAs would be provided for voice and sight control dog walking: one on Crissy Airfield and one on Central Beach. Assuming compliance with proposed regulations, alternative E would result in no impact on the seablite because no measurable or perceptible change in the seablite would be anticipated.

Under alternative E, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. Any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. In a ROLA, permit holders may have up to six dogs off leash and the permit may restrict use by time and area. Permits would be allowed in Crissy Field. Impacts on the California seablite from commercial dog walkers would be similar to impacts from other dog walkers, as summarized in the preceding paragraph; therefore, there would be no impact from commercial dog walking under this alternative.

Cumulative Impacts. The lack of impacts on the California seablite from dogs at Crissy Field under alternative E was considered together with the effects of the actions mentioned above under alternative A. Park Stewardship Programs throughout the park have benefited the California seablite; however, efforts to reintroduce the California seablite at Crissy Field have not been beneficial. Therefore, cumulative impacts on the California seablite would be expected to be negligible under this alternative.

Indirect Impacts in Adjacent Parks

No indirect impacts on the California seablite in adjacent lands, including Area B of the Presidio, would be expected under alternative E since two ROLAs would be provided on the airfield and Central Beach.

CRISSY FIELD ALTERNATIVE E CONCLUSION TABLE

California Seablite Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
No impact, assuming compliance	Dogs would continue to be prohibited in Crissy Marsh; there would be potential for future restoration projects to restore the species	Beneficial, assuming compliance	Negligible cumulative impacts No indirect impacts in adjacent lands

Preferred Alternative. Alternative C was selected as the preferred alternative for Crissy Field. The preferred alternative would allow on-leash dog walking on the promenade, the multi-use trail, and the paths to Central Beach, as well as on the trails and grassy areas near East Beach. Dogs would not be allowed in the WPA or on East Beach, and dogs are currently not allowed in Crissy Marsh. Dogs would be allowed under voice and sight control in two ROLAs established on Crissy Airfield and Central Beach. Assuming compliance with proposed regulations, the preferred alternative would result in no impact on the seablite because no measurable or perceptible change in the seablite would be anticipated.

Under the preferred alternative, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. Any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. In a ROLA, permit holders may have up to six dogs off leash and the permit may restrict use by time and area. Permits would be allowed in Crissy Field. Impacts on the California seablite from commercial dog walkers would be similar to impacts from other dog walkers, as summarized in the above paragraph; therefore, no impacts from commercial dog walking would occur under this alternative.

Cumulative Impacts. Projects and actions in and near Crissy Field were considered for the cumulative impacts analysis (appendix K). The following is a discussion of projects that have had, are currently having, or have the potential to have effects on the California seablite at or in the vicinity of this site.

Park Stewardship Programs, which include native plant habitat restoration projects occur throughout the park, may provide beneficial effects to this plant species. The two plantings to reintroduce the California seablite to the Crissy Field Marsh have both failed, potentially due to excessive flooding of the marsh. It has been suggested that if the Crissy Field Marsh restoration is expanded and the tidal inlet is reconfigured, the California seablite could be successfully reintroduced to the park, which would have a beneficial cumulative effect on the species.

The lack of impacts on the California seablite from dogs at Crissy Field under the preferred alternative was considered together with the effects of the actions mentioned above. Park Stewardship Programs throughout the park have benefited the California seablite; however, efforts to reintroduce the California seablite at Crissy Field have not been beneficial. Therefore, cumulative impacts on the California seablite would be expected to be negligible under this alternative.

Indirect Impacts in Adjacent Parks

In lands adjacent to GGNRA, there are 35 parks with dog use areas within about a 10-mile radius of Crissy Field and 22 parks within about a 5-mile radius; the closest park is Mountain Lake Park (map 27).

In addition, Crissy Field is located directly north of Area B of the Presidio; Area B is subject to the Presidio Trust's regulations on dog walking, which do not allow dogs to be off-leash. No indirect impacts on the California seablite in adjacent lands, including Area B of the Presidio, would be expected under the preferred alternative since two ROLAs would be provided on the airfield and Central Beach at Crissy Field.

CRISSY FIELD PREFERRED ALTERNATIVE CONCLUSION TABLE

California Seablite Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
No impact, assuming compliance	Dogs would continue to be prohibited in Crissy Marsh; there would be potential for future restoration projects to restore the species	Beneficial, assuming compliance	Negligible cumulative impacts No indirect impacts in adjacent lands

HICKMAN'S POTENTILLA (FEDERALLY ENDANGERED AND STATE ENDANGERED)

This plant species inhabits vernal moist areas in serpentine grasslands, coastal scrub, and/or chaparral. Suitable habitat to support Hickman's potentilla occurs at both Mori Point and the Pedro Point Headlands (URS Corporation 2010, figure 19), but there are no mapped occurrences of this plant at either the Mori Point or Pedro Point Headlands sites (Fritzke 2010c).

Mori Point

Alternative A: No Action. Under current conditions, on-leash dog walking is allowed on all trails and the portion of the beach owned by the NPS. This site has documented high visitor use, and 54 leash law violations were issued in 2007/2008 (table 9). Both the road (on one side) and the trails traverse coastal scrub habitat that could support Hickman's potentilla at this site.

Under alternative A, dogs could impact Hickman's potentilla through trampling, digging, or dog waste while traversing the site and accessing unfenced seasonally wet areas where suitable habitat occurs. Therefore, this alternative would result in long-term minor adverse impacts on suitable habitat for Hickman's potentilla at Mori Point. These impacts on suitable Hickman's potentilla habitat would be considered perceptible changes, but localized at the site and therefore minor.

No permit system exists for commercial dog walking under alternative A. At Mori Point, commercial dog walking is uncommon; therefore, commercial dog walking would have negligible impacts on the suitable habitat for Hickman's potentilla.

Cumulative Impacts. Projects and actions in and near Mori Point were considered for the cumulative impacts analysis (appendix K). The following is a discussion of projects that have had, are currently having, or have the potential to have effects on the Hickman's potentilla at or in the vicinity of this site.

Park Stewardship Programs, which include native plant habitat restoration projects throughout the park, may provide beneficial effects to the species; maintenance operations also have the potential to affect Hickman's potentilla. Although it is unknown whether site-specific plans to reintroduce this species exist, the San Francisco Natural Areas Program, which protects remnant habitats and biological communities, may have a beneficial effect on Hickman's potentilla. The *Mori Point Restoration and Trail Plan* will restore the ecological integrity of existing habitats and restore native plant communities at the Mori Point site and may benefit Hickman's potentilla. Additionally, the Martini Creek watershed, located in San

Mateo County, is dominated by coastal scrub habitat and is host to the only remaining viable population of Hickman's potentilla (CCC 2008, 17). The *Nonpoint Source Watershed Assessment for the James Fitzgerald Marine Reserve Critical Coastal Area*, including the Martini Creek watershed, could benefit Hickman's potentilla habitat through the development of an action plan to address potential and known nonpoint source pollution impacts and improve water quality conditions in and around the Fitzgerald Marine Reserve Critical Coastal Area (CCC 2008).

The long-term minor adverse impacts on suitable Hickman's potentilla habitat from dogs at Mori Point under alternative A were considered together with the effects of the projects mentioned above. The beneficial effects from the Park Stewardship Programs, restoration projects, and the watershed plan should reduce some of the adverse impacts on the Hickman's potentilla habitat from alternative A. Therefore, the cumulative impacts on the Hickman's potentilla habitat under this alternative would be expected to be negligible.

Indirect Impacts in Adjacent Parks

In lands adjacent to GGNRA, there are 23 parks with dog use areas within about a 10-mile radius of Mori Point and 3 parks within about a 5-mile radius; the closest parks are Esplanade Beach in Pacifica (which is temporarily closed) and the San Bruno Dog Park (map 27). No indirect impacts on the Hickman's potentilla habitat in adjacent lands would be expected under alternative A since current dog walking conditions would not change.

MORI POINT ALTERNATIVE A CONCLUSION TABLE

Hickman's Potentilla Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Long-term minor adverse impacts	Off-leash dogs could affect suitable habitat for Hickman's potentilla through digging, trampling, and dog waste	N/A	Negligible cumulative impacts No indirect impacts in adjacent lands

N/A = not applicable.

Alternative B: NPS Leash Regulation. Alternative B would allow on-leash dog walking on the Coastal Trail and the portion of beach owned by the NPS, but dogs would not be allowed on the Pollywog Path, which is located adjacent to the ponds. On-leash dog walking would be based on an allowed 6-foot dog leash. The LOD area would include the Coastal Trail and all areas adjacent to the trail up to 6 feet. Suitable Hickman's potentilla habitat is located away from the trail (beyond the 6-foot LOD corridor) in seasonally wet and moist areas; dogs on leash on the trails would not be in proximity to this habitat and thus would not likely impact Hickman's potentilla habitat in the LOD area, resulting in negligible impacts in the LOD area.

Dogs would be physically restrained on leash on all roads and trails at this site. As a result, this alternative would provide protection for suitable Hickman's potentilla habitat. Assuming compliance with regulations, alternative B would result in an overall negligible impact on Hickman's potentilla because no measurable or perceptible changes in suitable Hickman's potentilla habitat would be expected to occur; therefore, impacts would remain negligible.

Under alternative B, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs per person with no permit required. Since commercial dog walking is not common in this area, it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking under alternative B would have a negligible impact on Hickman's potentilla habitat.

Cumulative Impacts. The negligible impacts on suitable Hickman's potentilla habitat from dogs at Mori Point under alternative B were considered together with the effects of the projects mentioned above under alternative A. The beneficial effects from the Park Stewardship Programs, restoration projects, and the watershed plan combined with the negligible impacts on the Hickman's potentilla habitat from alternative B would result in negligible cumulative impacts.

Indirect Impacts in Adjacent Parks

The adjacent lands identified under alternative A would probably not experience any increased visitation under alternative B since visitors would be allowed to continue to walk dogs at this site; therefore, no indirect impacts on Hickman's potentilla in adjacent lands would be expected.

MORI POINT ALTERNATIVE B CONCLUSION TABLE

Hickman's Potentilla Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Negligible impacts in 6-foot corridors adjacent to trails (LOD area)	It is unlikely that Hickman's potentilla is located in the LOD area		
Overall negligible impacts, assuming compliance	Physically restraining dogs on leash would protect suitable habitat for Hickman's potentilla	Beneficial, assuming compliance	Negligible cumulative impacts No indirect impacts in adjacent lands

Alternative C: Emphasis on Multiple Use—Balanced by County. Alternative C would allow on-leash dog walking on the Coastal Trail, the portion of beach owned by the NPS, and Old Mori Road, but dogs would not be allowed on the Pollywog Path, which is located adjacent to the ponds. The LOD area would include the Coastal Trail and Old Mori Road and all areas adjacent to the trails up to 6 feet. Suitable Hickman's potentilla habitat is located away from the trails (beyond the 6-foot LOD corridor) in seasonally wet and moist areas; dogs on leash on the trails would not be in proximity to this habitat and thus would not likely impact Hickman's potentilla in the LOD area, resulting in negligible impacts in the LOD area.

Dogs would be physically restrained on leash on all roads and trails at this site. As a result, this alternative would provide protection for suitable Hickman's potentilla habitat. Assuming compliance with regulations, alternative B would result in overall negligible impacts on Hickman's potentilla because no measurable or perceptible changes in Hickman's potentilla or suitable habitat would be expected to occur; therefore, impacts would remain negligible.

Under alternative C, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be allocated at Mori Point, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking is not common at Mori Point, it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking under alternative C would have negligible impacts on Hickman's potentilla habitat.

Cumulative Impacts. The negligible impacts on suitable Hickman's potentilla habitat from dogs at Mori Point under alternative C were considered together with the effects of the projects mentioned above under alternative A. The beneficial effects from the Park Stewardship Programs, restoration projects, and the

watershed plan combined with the negligible impacts on the Hickman's potentilla habitat from alternative C would result in negligible cumulative impacts.

Indirect Impacts in Adjacent Parks

In lands adjacent to Mori Point the closest parks are Esplanade Beach in Pacifica (which is temporarily closed) and the San Bruno Dog Park (map 27). These parks may experience some increased visitation under alternative C since the Pollywog Path would be closed to dogs, resulting in negligible indirect impacts on Hickman's potentilla in adjacent lands since it is unlikely that the potentilla currently exists at these parks.

MORI POINT ALTERNATIVE C CONCLUSION TABLE

Hickman's Potentilla Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Negligible impacts in 6-foot corridors adjacent to trails (LOD area)	It is unknown whether Hickman's potentilla exists at the site and it is unlikely that this species is located in the LOD area		
Overall negligible impacts, assuming compliance	Physically restraining dogs on leash would protect suitable habitat for Hickman's potentilla	Beneficial, assuming compliance	Negligible cumulative impacts Negligible indirect impacts in adjacent lands

Alternative D: Most Protective Based on Resource Protection/Visitor Safety. Alternative D would prohibit dogs at the site. This alternative would be most protective of suitable Hickman's potentilla habitat and would maintain the integrity of the entire Mori Point site. Assuming compliance, alternative D would result in no impact on Hickman's potentilla habitat.

Since dogs would not be allowed at Mori Point, there would be no impact from commercial dog walkers on Hickman's potentilla.

Cumulative Impacts. The lack of impacts on suitable Hickman's potentilla habitat from dogs at Mori Point under alternative D was considered together with the effects of the projects mentioned above under alternative A. The beneficial effects from the Park Stewardship Programs, restoration projects, and the watershed plan combined with the lack of impacts on the Hickman's potentilla habitat from alternative D would result in beneficial cumulative impacts.

Indirect Impacts in Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation under alternative D since this alternative would not allow dogs. Even so, indirect impacts on Hickman's potentilla in adjacent lands from increased dog use would be expected to be negligible since it is unlikely that the potentilla currently exists in adjacent lands.

MORI POINT ALTERNATIVE D CONCLUSION TABLE

Hickman's Potentilla Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
No impact, assuming compliance	Dogs would be prohibited at the site	Beneficial, assuming compliance	Beneficial cumulative impacts Negligible impacts in adjacent lands

Alternative E: Most Dog Walking Access/Most Management Intensive. Alternative E would allow on-leash dog walking on the same trails as alternative C, with the addition of the Pollywog Path. On-leash dog walking would be based on an allowed 6-foot dog leash. The LOD area would include the trails and all areas adjacent to the trails up to 6 feet. Suitable Hickman's potentilla habitat is located away from the trails (beyond the 6-foot LOD corridor) in seasonally wet and moist areas; dogs on leash on the trails would not be in proximity to this habitat and thus would not likely impact Hickman's potentilla in the LOD area, resulting in negligible impacts in the LOD area.

Dogs would be physically restrained on leash on all roads and trails at this site. As a result, this alternative would provide protection for suitable habitat for Hickman's potentilla. Assuming compliance with regulations, alternative E would result in overall negligible impacts on Hickman's potentilla because no measurable or perceptible changes in the potentilla or suitable habitat would be expected to occur; therefore, impacts would remain negligible.

Under alternative E, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be allocated at Mori Point, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking activity is not common at Mori Point, it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking under alternative E would have negligible impacts on Hickman's potentilla.

Cumulative Impacts. The negligible impacts on suitable Hickman's potentilla habitat from dogs at Mori Point under alternative E were considered together with the effects of the projects mentioned above under alternative A. The beneficial effects from the Park Stewardship Programs, restoration projects, and the watershed plan combined with the negligible impacts on the Hickman's potentilla habitat from alternative E would result in negligible cumulative impacts.

Indirect Impacts in Adjacent Parks

The adjacent lands identified under alternative A would probably not experience any increased visitation under alternative E since visitors would be allowed to continue to walk dogs at this site; therefore, no indirect impacts on Hickman's potentilla would be expected in adjacent lands.

MORI POINT ALTERNATIVE E CONCLUSION TABLE

Hickman's Potentilla Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Negligible impacts in 6-foot corridors adjacent to trails (LOD area)	It is unknown whether Hickman's potentilla exists at the site and it is unlikely that this species is located in the LOD area because suitable habitat (seasonally wet and moist areas) is located away from the trails		
Overall negligible impacts, assuming compliance	Physically restraining dogs on leash would protect suitable habitat for Hickman's potentilla	Beneficial, assuming compliance	Negligible cumulative impacts No indirect impacts in adjacent lands

Preferred Alternative. Alternative C was selected as the preferred alternative for Mori Point. The preferred alternative would allow on-leash dog walking on the Coastal Trail, the portion of beach owned by NPS, and Old Mori Road, but dogs would not be allowed on the Pollywog Path, which is located adjacent to the ponds. The LOD area would include the Coastal Trail and Old Mori Road and all areas adjacent to the trails up to 6 feet. Suitable Hickman's potentilla habitat is located away from the trails (beyond the 6-foot LOD corridor) in seasonally wet and moist areas; dogs on leash on the trails would not be in proximity to this habitat and thus would not likely impact Hickman's potentilla in the LOD area, resulting in negligible impacts in the LOD area.

Dogs would be physically restrained on leash on all roads and trails at this site. As a result, this alternative would provide protection for suitable Hickman's potentilla habitat. Assuming compliance with regulations, the preferred alternative would result in overall negligible impacts on Hickman's potentilla because no measurable or perceptible changes in the potentilla or suitable habitat would be expected to occur; therefore, impacts would remain negligible.

Under the preferred alternative, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be allocated at Mori Point, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking is not common at Mori Point, it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking under the preferred alternative would have negligible impacts on Hickman's potentilla habitat.

Cumulative Impacts. Projects and actions in and near Mori Point were considered for the cumulative impacts analysis (appendix K). The following is a discussion of projects that have had, are currently having, or have the potential to have effects on the Hickman's potentilla at or in the vicinity of this site.

Park Stewardship Programs, which include native plant habitat restoration projects throughout the park, may provide beneficial effects to the species; maintenance operations also have the potential to affect Hickman's potentilla. Although it is unknown whether site-specific plans to reintroduce this species exist, the San Francisco Natural Areas Program, which protects remnant habitats and biological communities, may have a beneficial effect on Hickman's potentilla. The *Mori Point Restoration and Trail Plan* will restore the ecological integrity of existing habitats and restore native plant communities at the Mori Point site and may benefit Hickman's potentilla. Additionally, the Martini Creek watershed, located in San

Mateo County, is dominated by coastal scrub habitat and is host to the only remaining viable population of Hickman's potentilla (CCC 2008, 17). The *Nonpoint Source Watershed Assessment for the James Fitzgerald Marine Reserve Critical Coastal Area*, including the Martini Creek watershed, could benefit Hickman's potentilla through the development of an action plan to address potential and known nonpoint source pollution impacts and improve water quality conditions in and around the Fitzgerald Marine Reserve Critical Coastal Area (CCC 2008).

The negligible impacts on suitable Hickman's potentilla habitat from dogs at Mori Point under the preferred alternative were considered together with the effects of the projects mentioned above. The beneficial effects from the Park Stewardship Programs, restoration projects, and the watershed plan combined with the negligible impacts on the Hickman's potentilla habitat from the preferred alternative would result in negligible cumulative impacts.

Indirect Impacts in Adjacent Parks

In lands adjacent to GGNRA, there are 23 parks with dog use areas within about a 10-mile radius of Mori Point and 3 parks within about a 5-mile radius; the closest parks are Esplanade Beach in Pacifica (which is temporarily closed) and the San Bruno Dog Park (map 27). These parks may experience some increased visitation under the preferred alternative since the Pollywog Path would be closed to dogs, resulting in negligible indirect impacts on Hickman's potentilla in adjacent lands since it is unlikely that the potentilla currently exists at these parks.

MORI POINT PREFERRED ALTERNATIVE CONCLUSION TABLE

Hickman's Potentilla Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Negligible impacts in 6-foot corridors adjacent to trails (LOD area)	It is unknown whether Hickman's potentilla exists at the site and it is unlikely that this species is located in the LOD area		
Overall negligible impacts, assuming compliance	Physically restraining dogs on leash would protect suitable habitat for Hickman's potentilla	Beneficial, assuming compliance	Negligible cumulative impacts Negligible impacts in adjacent lands

Pedro Point Headlands

Alternative A: No Action. Although this site is currently not part of GGNRA, unrestricted dog walking occurs at this site. Park staff members have observed some off-leash dog walking along the Coastal Trail. This site has documented low to moderate visitor use, and the numbers of citations and incident reports related to dog walking activities at the site are unknown since the NPS does not currently own the property and it is not patrolled by park rangers (table 9). The site provides suitable habitat for Hickman's potentilla, but the presence of a population on the site is unknown because of a lack of intensive monitoring.

Under alternative A, dogs could impact suitable habitat for Hickman's potentilla through trampling, digging, or dog waste while traversing the site and accessing unfenced seasonally wet areas. Therefore, this alternative would result in long-term minor adverse impacts on suitable habitat for Hickman's potentilla at the Pedro Point Headlands.

There are currently no commercial dog walking regulations at Pedro Point Headlands. It is unknown whether commercial dog walkers contribute to impacts on suitable habitat for Hickman's potentilla.

Cumulative Impacts. Projects and actions in and near the Pedro Point Headlands were considered for the cumulative impacts analysis (appendix K). The following is a discussion of projects that have had, are currently having, or have the potential to have effects on the Hickman's potentilla at or in the vicinity of this site.

Park Stewardship Programs, which include native plant habitat restoration projects throughout the park, may provide beneficial effects to the species; maintenance operations also have the potential to affect Hickman's potentilla. Although it is unknown whether site-specific plans to reintroduce this species exist, the San Francisco Natural Areas Program, which protects remnant habitats and biological communities, may have a beneficial effect on Hickman's potentilla. The *Mori Point Restoration and Trail Plan* will restore the ecological integrity of existing habitats and restore native plant communities at the Mori Point site and may benefit Hickman's potentilla. Additionally, the Martini Creek watershed, located in San Mateo County, is dominated by coastal scrub habitat and is host to the only remaining viable population of Hickman's potentilla (CCC 2008, 17). The *Nonpoint Source Watershed Assessment for the James Fitzgerald Marine Reserve Critical Coastal Area*, including the Martini Creek watershed, could benefit Hickman's potentilla through the development of an action plan to address potential and known nonpoint source pollution impacts and improve water quality conditions in and around the Fitzgerald Marine Reserve Critical Coastal Area (CCC 2008).

The long-term minor adverse impacts on suitable Hickman's potentilla habitat from dogs at the Pedro Point Headlands under alternative A were considered together with the effects of the projects mentioned above. The beneficial effects from the Park Stewardship Programs and the watershed plan should reduce some of the adverse impacts on Hickman's potentilla habitat from alternative A. Therefore, the cumulative impacts on Hickman's potentilla habitat under this alternative would be expected to be negligible.

Indirect Impacts in Adjacent Parks

In lands adjacent to GGNRA, there are 14 parks with dog use areas within about a 10-mile radius of Pedro Point Headlands and 2 parks within about a 5-mile radius; the closest parks are Montara State Beach and Esplanade Beach in Pacifica (which is temporarily closed) (map 27). No indirect impacts on the Hickman's potentilla habitat in adjacent lands would be expected under alternative A since there would be no change in current conditions at the site.

PEDRO POINT HEADLANDS ALTERNATIVE A CONCLUSION TABLE

Hickman's Potentilla Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Long-term minor adverse impacts	Off-leash dogs could affect suitable habitat for Hickman's potentilla through digging, trampling, and dog waste	N/A	Negligible cumulative impacts No indirect impacts in adjacent lands

N/A = not applicable.

Alternative B: NPS Leash Regulation. Alternative B would allow on-leash dog walking on the Coastal Trail. On-leash dog walking would be based on an allowed 6-foot dog leash. The LOD area would include the Coastal Trail and the area adjacent to the trail up to 6 feet. Suitable Hickman's potentilla habitat is located away from the trail (beyond the 6-foot LOD corridor) in seasonally wet and moist areas;

dogs on leash on the trail would not be in proximity to this habitat and thus would not likely impact Hickman's potentilla in the LOD area, resulting in negligible impacts in the LOD area.

Dogs would be physically restrained on leash on all roads and trails at this site. As a result, this alternative would provide protection for suitable Hickman's potentilla habitat. Overall, assuming compliance with regulations, alternative B would result in negligible impacts on Hickman's potentilla because no measurable or perceptible changes in the potentilla or suitable habitat would be expected to occur; therefore, impacts would remain negligible.

Under alternative B, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs per person with no permit required. Since commercial dog walking is not common at the Pedro Point Headlands, it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking under alternative B would have negligible impacts on Hickman's potentilla.

Cumulative Impacts. The negligible impacts on suitable Hickman's potentilla habitat from dogs at the Pedro Point Headlands under alternative B were considered together with the effects of the projects mentioned above under alternative A. The beneficial effects from the Park Stewardship Programs and the watershed plan combined with the negligible impacts on the Hickman's potentilla habitat from alternative B would result in negligible cumulative impacts.

Indirect Impacts in Adjacent Parks

No indirect impacts on Hickman's potentilla potential habitat in adjacent lands would be expected under alternative B since on-leash dog walking would be allowed at the Pedro Point Headlands.

PEDRO POINT HEADLANDS ALTERNATIVE B CONCLUSION TABLE

Hickman's Potentilla Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Negligible impacts in 6-foot corridors adjacent to trails (LOD area)	It is unlikely that Hickman's potentilla is located in the LOD area		
Overall negligible impacts, assuming compliance	Physically restraining dogs on leash would protect suitable habitat for Hickman's potentilla	Beneficial, assuming compliance	Negligible cumulative impacts No indirect impacts in adjacent lands

Alternative C: Emphasis on Multiple Use—Balanced by County. Similar to alternative B, alternative C would allow on-leash dog walking on the Coastal Trail, and impacts on suitable habitat for Hickman's potentilla would be the same, assuming compliance: negligible in the LOD area and negligible overall.

Under alternative C, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be allocated at Pedro Point Headlands, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking is not common at the Pedro Point Headlands, it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking under alternative C would have negligible impacts on Hickman's potentilla.

Cumulative Impacts. Under alternative C, the cumulative impacts on Hickman's potentilla habitat at this park site and indirect impacts on Hickman's potentilla habitat in adjacent lands would be the same as those under alternative B: negligible cumulative impacts and no indirect impacts in adjacent lands.

PEDRO POINT HEADLANDS ALTERNATIVE C CONCLUSION TABLE

Hickman's Potentilla Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Negligible impacts in 6-foot corridors adjacent to trails (LOD area)	It is unknown whether Hickman's potentilla exists at the site and it is unlikely that this species is located in the LOD area		
Overall negligible impacts, assuming compliance	Physically restraining dogs on leash would protect suitable habitat for Hickman's potentilla	Beneficial, assuming compliance	Negligible cumulative impacts No impacts in adjacent lands

Alternative D: Most Protective Based on Resource Protection/Visitor Safety. Alternative D would prohibit dogs at the site. This alternative would be most protective of suitable Hickman's potentilla habitat and would maintain the integrity of the entire Pedro Point Headlands site. Assuming compliance, alternative D would result in no impact on suitable habitat for Hickman's potentilla.

Since dogs would not be allowed at the Pedro Point Headlands, there would be no impact from commercial dog walkers on Hickman's potentilla.

Cumulative Impacts. The lack of impacts on suitable Hickman's potentilla habitat from dogs at the Pedro Point Headlands under alternative D was considered together with the effects of the projects mentioned above under alternative A. The beneficial effects from the Park Stewardship Programs and the watershed plan combined with the lack of impacts on the Hickman's potentilla habitat from alternative D would result in beneficial cumulative impacts.

Indirect Impacts in Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation under alternative D, particularly Montara State Beach and Esplanade Beach (which is temporarily closed), because they are the closest dog use areas. However, indirect impacts on Hickman's potentilla habitat in adjacent lands from increased dog use would be negligible since it is unlikely that the potentilla currently exists in the adjacent lands.

PEDRO POINT HEADLANDS ALTERNATIVE D CONCLUSION TABLE

Hickman's Potentilla Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
No impact, assuming compliance	Dogs would be prohibited at the site	Beneficial, assuming compliance	Beneficial cumulative impacts Negligible indirect impacts in adjacent lands

Alternative E: Most Dog Walking Access/Most Management Intensive. Similar to alternative B, alternative E would allow on-leash dog walking on the Coastal Trail, and impacts would be the same, assuming compliance: negligible in the LOD area and negligible overall.

Under alternative E, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be allocated at Pedro Point Headlands, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking is not common at the Pedro Point Headlands, it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking under alternative E would have negligible impacts on Hickman's potentilla habitat.

Cumulative Impacts. Under alternative E, the cumulative impacts on potential Hickman's potentilla habitat at the Pedro Point Headlands and the indirect impacts on potential Hickman's potentilla habitat in adjacent parks would be the same as those under alternative B: negligible cumulative impacts and no indirect impacts in adjacent lands.

PEDRO POINT HEADLANDS ALTERNATIVE E CONCLUSION TABLE

Hickman's Potentilla Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Negligible impacts in 6-foot corridors adjacent to trails (LOD area)	It is unknown whether Hickman's potentilla exists at the site and it is unlikely that this species is located in the LOD area		
Overall negligible impacts, assuming compliance	Physically restraining dogs on leash would protect suitable habitat for Hickman's potentilla	Beneficial, assuming compliance	Negligible cumulative impacts No indirect impacts in adjacent lands

Preferred Alternative. Alternative C was selected as the preferred alternative for the Pedro Point Headlands. The preferred alternative would allow on-leash dog walking on the Coastal Trail. On-leash dog walking would be based on an allowed 6-foot dog leash. The LOD area would include the Coastal Trail and the areas adjacent to the trail up to 6 feet. Suitable Hickman's potentilla habitat is located away from the trail (beyond the 6-foot LOD corridor) in seasonally wet and moist areas; dogs on leash on the trail would not be in proximity to this habitat and thus would not likely impact Hickman's potentilla in the LOD area, resulting in negligible impacts in the LOD area.

Dogs would be physically restrained on leash on all roads and trails at this site. As a result, this alternative would provide protection for suitable habitat for Hickman's potentilla. Overall, assuming compliance with regulations, the preferred alternative would result in negligible impacts on Hickman's potentilla habitat because no measurable or perceptible changes in the potentilla or suitable habitat would be expected to occur; therefore, impacts would remain negligible.

Under the preferred alternative, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be allocated at Pedro Point Headlands, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking is not common at the Pedro Point Headlands, it is likely that the new regulation would not have an impact on

the number of dog walkers. Therefore, commercial dog walking under the preferred alternative would have negligible impacts on suitable habitat for Hickman's potentilla.

Cumulative Impacts. Projects and actions in and near Pedro Point Headlands were considered for the cumulative impacts analysis (appendix K). The following is a discussion of projects that have had, are currently having, or have the potential to have effects on the Hickman's potentilla at or in the vicinity of this site.

Park Stewardship Programs, which include native plant habitat restoration projects throughout the park, may provide beneficial effects to the species; maintenance operations also have the potential to affect Hickman's potentilla. Although it is unknown whether site-specific plans to reintroduce this species exist, the San Francisco Natural Areas Program, which protects remnant habitats and biological communities, may have a beneficial effect on Hickman's potentilla. The *Mori Point Restoration and Trail Plan* will restore the ecological integrity of existing habitats and restore native plant communities at the Mori Point site and may benefit Hickman's potentilla. Additionally, the Martini Creek watershed, located in San Mateo County, is dominated by coastal scrub habitat and is host to the only remaining viable population of Hickman's potentilla (CCC 2008, 17). The *Nonpoint Source Watershed Assessment for the James Fitzgerald Marine Reserve Critical Coastal Area*, including the Martini Creek watershed, could benefit Hickman's potentilla through the development of an action plan to address potential and known nonpoint source pollution impacts and improve water quality conditions in and around the Fitzgerald Marine Reserve Critical Coastal Area (CCC 2008).

The negligible impacts on suitable Hickman's potentilla habitat from dogs at the Pedro Point Headlands under the preferred alternative were considered together with the effects of the projects mentioned above. The beneficial effects from the Park Stewardship Programs and the watershed plan combined with the negligible impacts on the Hickman's potentilla habitat from the preferred alternative would result in negligible cumulative impacts.

Indirect Impacts in Adjacent Parks

In lands adjacent to GGNRA, there are 14 parks with dog use areas within about a 10-mile radius of Pedro Point Headlands and 2 parks within about a 5-mile radius; the closest parks are Montara State Beach and Esplanade Beach in Pacifica (which is temporarily closed) (map 27). No indirect impacts on Hickman's potentilla in adjacent lands would be expected under the preferred alternative since on-leash dog walking would be allowed at the Pedro Point Headlands.

PEDRO POINT HEADLANDS PREFERRED ALTERNATIVE CONCLUSION TABLE

Hickman's Potentilla Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Negligible impacts in 6-foot corridors adjacent to trails (LOD area)	It is unlikely that Hickman's potentilla is located in the LOD area		
Overall negligible impacts, assuming compliance	Physically restraining dogs on leash would protect suitable habitat for Hickman's potentilla	Beneficial, assuming compliance	Negligible cumulative impacts No indirect impacts in adjacent lands

New Lands: Federally and State-listed Plant Species

Alternative A: No Action. For new lands that come under the management of GGNRA, alternative A would manage these lands under existing NPS regulations as described in 36 CFR 2.15, which forbids possession of a pet in a public building, public transportation vehicle, location designated as a swimming beach, or any structure or area closed to pets by the superintendent. Therefore, on-leash dog walking would be allowed at new lands under alternative A.

At most new lands, the impacts from allowing on-leash dog walking would be negligible because dogs would not be able to access listed plant species. Physically restraining dogs on leash would protect these resources and would minimize access to these areas. If dogs gain access to these communities, impacts on the listed plant species in the area could be elevated to long term, minor, and adverse. Therefore, overall impacts on listed plant species from private and commercial dog walkers as a result of alternative A would range from negligible to long term, minor, and adverse to encompass a range of potential effects at newly acquired lands under management by GGNRA. No impact on listed plant species would be expected to occur at sites that are closed to dogs.

Under alternative A, no permit system would exist for dog walking. At sites where commercial dog walking is not common, it is likely that this alternative would not have an impact on the number of dog walkers resulting in a negligible impact on listed plant species. At sites where commercial dog walking is common, impacts to listed plant species from commercial dog walkers would be similar to impacts from other dog walkers and would range from negligible to long-term, minor and adverse.

Cumulative Impacts. Because it is unknown what new land locations may come under GGNRA management in the future, the cumulative impacts analysis for new lands would be similar to the cumulative impact analysis that was completed for park sites that are located in proximity to the new lands.

Indirect Impacts on Adjacent Parks

It is unknown what parks (including dog use areas) would be located adjacent to new lands not yet acquired by GGNRA. Therefore, a range of indirect impacts was developed to encompass the range of impact possibilities that could occur at lands located adjacent to these new lands that have not yet been acquired. Adjacent lands could range from urban lands previously developed to preserved lands. Indirect impacts on listed plant species in adjacent lands would range from no indirect impacts on listed plant species from dogs if there is no change in current conditions at the site to long-term, minor, adverse impacts because it is unknown where and to what extent listed plant species occur in these unknown adjacent lands.

NEW LANDS ALTERNATIVE A CONCLUSION TABLE

Federally and State-listed Plant Species Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Overall negligible to long-term minor adverse impacts; no impact at sites that prohibit dogs	Physically restraining dogs on leash would protect listed plants and would minimize access to areas where they are present; off-leash dogs could gain access to these areas	N/A	Results would be similar to the cumulative impact analysis that was completed for park sites that are located in proximately to the new lands No indirect impact to long-term, minor, and adverse indirect impact at adjacent lands

N/A = not applicable.

Alternative B: NPS Leash Regulation. For new lands that come under the management of GGNRA, alternative B would manage these lands under existing NPS regulations as described in 36 CFR 2.15, which forbids possession of a pet in a public building, public transportation vehicle, location designated as a swimming beach, or any structure or area closed to pets by the superintendent. Alternative B would allow on-leash dog walking unless conditions

- impede the attainment of a park's desired future conditions for natural and cultural resources as identified through the park's planning process;
- create an unsafe or unhealthful environment for visitors or employees;
- impede or interfere with park programs or activities; or
- trigger the compliance-based management strategy's process for closure.

Because it is unknown what types of lands in what locations may come under GGNRA management in the future, a conservative approach to the impact analysis was adopted to encompass the range of possibilities from acquiring urban lands previously developed to acquiring intact, preserved lands. It is expected that all new lands would be surveyed to determine whether federally or state-listed plant species exist at the site prior to designating dog management for an area. It is assumed that management of dog walking activities in new lands acquired by GGNRA would be developed to avoid any impacts on federally or state-listed species.

At most new lands, assuming compliance, the impacts from allowing on-leash dog walking would be negligible because physically restraining dogs on leash would protect any listed plant species. When compliance is assumed at the new lands, it is expected that owners would be in close contact with their dogs and presumably would be likely to comply with cleanup regulations. If located immediately adjacent to trails or roads, listed plant species could be disturbed by trampling, digging, and other dog activities. These plants may not recover due to their sensitive nature and these impacts may create opportunities for the establishment of non-native and/or invasive plant species. At sites where natural habitat exists and humans and dogs have not previously affected the area, the impacts would be considered long term, minor, and adverse because these lands are intact and preserved, and are more sensitive to new impacts from humans and/or dogs. Dogs could affect listed plant species through trampling, digging, and dog waste. Therefore, assuming compliance, overall impacts on listed plant species from private and commercial dog walkers as a result of alternative B would range from negligible to long term, minor, and

adverse. No impact on listed plant species would be expected at sites that are currently closed to or proposed for closure to dogs.

Under alternative B, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. All dogs must be on a leash. At sites where commercial dog walking is not common, it is likely that the new regulation would not have an impact on the number of dog walkers resulting in negligible impacts on listed plant species. At sites where commercial dog walking is common, impacts on listed plant species from commercial dog walkers would be similar to impacts from other dog walkers. Overall impacts on listed plant species from dogs walked by both commercial and private individuals are summarized above.

Cumulative Impacts. Because it is unknown what new land locations may come under GGNRA management in the future, the cumulative impacts analysis for new lands would be similar to the cumulative impact analysis that was completed for park sites that are located in proximately to the new lands.

Indirect Impacts on Adjacent Parks

As stated under alternative A, it is unknown what parks (including dog use areas) would be located adjacent to new lands not yet acquired by GGNRA. Therefore, a range of indirect impacts was developed to encompass the range of impact possibilities that could occur at lands located adjacent to these new lands that have not yet been acquired. Since on-leash dog walking would be allowed at new lands under this alternative the overall indirect impacts on listed plant species in adjacent lands would range from no indirect impacts on listed plant species from dogs if there is no change in current conditions at the site to long-term, minor, adverse impacts because it is unknown where and to what extent listed plant species occur in these unknown adjacent lands.

NEW LANDS ALTERNATIVE B CONCLUSION TABLE

Federally and State-listed Plant Species Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Overall negligible to long-term minor adverse impacts, assuming compliance; no impact at sites that prohibit dogs	Physically restraining dogs on leash would protect listed plants; dogs could affect listed plant species through trampling, digging, and dog waste if plants are near trails	N/A	Results would be similar to the cumulative impact analysis that was completed for park sites that are located in proximately to the new lands No indirect impact to long-term, minor, and adverse indirect impact at adjacent lands

N/A = not applicable.

Alternative C: Emphasis on Multiple Use—Balanced by County. Under alternative C, dog walking regulations in new lands would be the same as alternative B, and impacts would be the same, assuming compliance: negligible to long-term minor adverse impacts overall and no impact at sites that prohibit dogs.

Because it is unknown what types of lands in what locations may come under GGNRA management in the future, a conservative approach to the impact analysis was adopted to encompass the range of possibilities from acquiring urban lands previously developed to acquiring intact, preserved lands. It is

expected that all new lands would be surveyed to determine whether federally or state-listed plant species exist at the site prior to designating dog management for an area. It is assumed that management of dog walking activities in new lands acquired by GGNRA would be developed to avoid any impacts on federally or state-listed species.

At most new lands, assuming compliance, the impacts from allowing on-leash dog walking would be negligible because physically restraining dogs on leash would protect any listed plant species. When compliance is assumed at the new lands, it is expected that owners would be in close contact with their dogs and presumably would be likely to comply with cleanup regulations. If located immediately adjacent to trails or roads, listed plant species could be disturbed by trampling, digging, and other dog activities. These plants may not recover due their sensitive nature and these impacts may create opportunities for the establishment of non-native and/or invasive plant species. At sites where natural habitat exists and humans and dogs have not previously affected the area, the impacts would be considered long term, minor, and adverse because these lands are intact and preserved, and are more sensitive to new impacts from humans and/or dogs. Dogs could affect listed plant species through trampling, digging, and dog waste. Therefore, assuming compliance, overall impacts on listed plant species from private and commercial dog walkers as a result of alternative C would range from negligible to long term, minor, and adverse. No impact on listed plant species would be expected at sites that are currently closed to or proposed for closure to dogs.

Under alternative C, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. All dogs must be on a leash. At sites where commercial dog walking is not common, it is likely that the new regulation would not have an impact on the number of dog walkers resulting in negligible impacts on listed plant species. At sites where commercial dog walking is common, impacts on listed plant species from commercial dog walkers would be similar to impacts from other dog walkers. Overall impacts on listed plant species from dogs walked by both commercial and private individuals are summarized above.

Cumulative Impacts. Because it is unknown what new land locations may come under GGNRA management in the future, the cumulative impacts analysis for new lands would be similar to the cumulative impact analysis that was completed for park sites that are located in proximately to the new lands.

Indirect Impacts on Adjacent Parks

As stated under alternative A, it is unknown what parks (including dog use areas) would be located adjacent to new lands not yet acquired by GGNRA. Therefore, a range of indirect impacts was developed to encompass the range of impact possibilities that could occur at lands located adjacent to these new lands that have not yet been acquired. Since on-leash dog walking would be allowed at new lands under this alternative the overall indirect impacts on listed plant species in adjacent lands would range from no indirect impacts on listed plant species from dogs if there is no change in current conditions at the site to long-term, minor, adverse impacts because it is unknown where and to what extent listed plant species occur in these unknown adjacent lands.

NEW LANDS ALTERNATIVE C CONCLUSION TABLE

Federally and State-listed Plant Species Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Overall negligible to long-term minor adverse impacts, assuming compliance; no impact at sites that prohibit dogs	Physically restraining dogs on leash would protect listed plants; dogs could affect listed plant species through trampling, digging, and dog waste if plants are near trails	N/A	Results would be similar to the cumulative impact analysis that was completed for park sites that are located in proximately to the new lands No indirect impact to long-term, minor, and adverse indirect impact at adjacent lands

N/A = not applicable.

Alternative D: Most Protective Based on Resource Protection/Visitor Safety. New lands would be closed to dog walking unless opened by the GGNRA Compendium, as evaluated by criteria below. The “closed unless opened” approach is the reverse of 36 CFR 2.15. Only on-leash dog walking would be considered at new lands. New lands would not be considered for voice and sight control (ROLAs). Once open to on-leash, compliance-based management strategies apply. Areas could be opened to on-leash dog walking if opening the area would not:

- impede the attainment of a park’s desired future conditions for natural and cultural resources as identified through the park’s planning process, or
- create an unsafe or unhealthful environment for visitors or employees, or
- impede or interfere with park programs or activities.

Because it is unknown what types of lands in what locations may come under GGNRA management in the future, a conservative approach to the impact analysis was adopted to encompass the range of possibilities from acquiring urban lands previously developed to acquiring intact, preserved lands. It is expected that all new lands would be surveyed to determine whether federally or state-listed plant species exist at the site prior to designating dog management for an area. It is assumed that management of dog walking activities in new lands acquired by GGNRA would be developed to avoid any impacts on federally or state-listed species. At most new lands, assuming compliance, the impacts from allowing on-leash dog walking would be negligible because physically restraining dogs on leash would protect any listed plant species. When compliance is assumed at the new lands, it is expected that owners would be in close contact with their dogs and presumably would be likely to comply with cleanup regulations. If located immediately adjacent to trails or roads, listed plant species could be disturbed by trampling, digging, and other dog activities. These plants may not recover due to their sensitive nature and these impacts may create opportunities for the establishment of non-native and/or invasive plant species. At sites where natural habitat exists and humans and dogs have not previously affected the area, the impacts would be considered long term, minor, and adverse because these lands are intact and preserved, and are therefore more sensitive to new impacts from humans and/or dogs. Dogs could affect listed plant species through trampling, digging, and dog waste. Therefore, assuming compliance, overall impacts on listed plant species from private and commercial dog walkers as a result of alternative D would range from negligible to long term, minor, and adverse. No impact on listed plant species would be expected at sites that are currently closed to or proposed for closure to dogs.

No commercial dog walking would be allowed under alternative D; therefore, commercial dog walking would have no impact on listed plant species. Private dog walkers would be allowed to walk one to three dogs.

Cumulative Impacts. Because it is unknown what new land locations may come under GGNRA management in the future, the cumulative impacts analysis for new lands would be similar to the cumulative impact analysis that was completed for park sites that are located in proximity to the new lands.

Indirect Impacts on Adjacent Parks

As stated under alternative A, it is unknown what parks (including dog use areas) would be located adjacent to new lands not yet acquired by GGNRA. Therefore, a range of indirect impacts was developed to encompass the range of impact possibilities that could occur at lands located adjacent to these new lands that have not yet been acquired. On-leash dog walking may be allowed at new lands if opened under the compendium; therefore, the overall indirect impacts on listed plant species in adjacent lands would range from no indirect impacts on listed plant species from dogs if there is no change in current conditions at the site to long-term, minor, adverse impacts because it is unknown where and to what extent listed plant species occur in these unknown adjacent lands.

NEW LANDS ALTERNATIVE D CONCLUSION TABLE

Federally and State-listed Plant Species Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Overall negligible to long-term minor adverse impacts, assuming compliance; no impact at sites that prohibit dogs	Physically restraining dogs on leash would protect listed plants; dogs could affect listed plant species through trampling, digging, and dog waste if plants are near trails	N/A	Results would be similar to the cumulative impact analysis that was completed for park sites that are located in proximity to the new lands No indirect impact to long-term, minor, and adverse indirect impact at adjacent lands

N/A = not applicable.

Alternative E: Most Dog Walking Access/Most Management Intensive. For new lands that come under the management of GGNRA, alternative E would initially manage these lands under existing NPS regulations as described in 36 CFR 2.15, which forbids possession of a pet in a public building, public transportation vehicle, location designated as a swimming beach, or any structure or area closed to pets by the superintendent. Alternative E would allow dog walking unless conditions

- impede the attainment of a park's desired future conditions for natural and cultural resources as identified through the park's planning process;
- create an unsafe or unhealthful environment for visitors or employees;
- impede or interfere with park programs or activities; or
- trigger the compliance-based management strategy's process for closure.

Additionally, new lands may be opened to voice and sight control if

- Off-leash dog use existed before acquisition, and
- one year baseline data is collected through the compliance-based management strategy's monitoring program, and
- compliance-based management strategy not triggered (primary or secondary management responses).

Alternative E would allow on-leash dog walking, and potentially ROLAs, at new lands managed by GGNRA as long as it would not impede attainment of the park's desired future conditions. Also, alternative E could close areas to on-leash dog walking if allowing on-leash dog walking would impede attainment of the park's desired future conditions. Because it is unknown what types of lands in what locations may come under GGNRA management in the future, a conservative approach to the impact analysis was adopted to encompass the range of possibilities from acquiring urban lands previously developed to acquiring intact, preserved lands. Similarly, because site-specific information concerning listed plant species is unknown at this time, impacts are presented as a range to encompass potential effects. It is entirely possible that new lands managed by GGNRA could support listed plant species. Therefore, it is expected that all new lands would be surveyed to determine whether listed plant species exist at the site prior to designating dog management for an area.

Some listed plant species could be disturbed by trampling, digging, and other dog activities; these impacts may create opportunities for the establishment of non-native and/or invasive plant species. It is assumed that a ROLA would not be located in an area that supports listed plant species so that the park's desired future conditions can be attained. Even so, dogs in a ROLA would be confined to a smaller area, potentially increasing the impacts on the adjacent natural habitat and vegetation. There is also a potential for an increase in nutrient loading from dog waste due to having more dogs confined to a smaller area directly adjacent to natural habitat. Impacts would result from physical disturbance, such as trampling, digging, and dog waste. Impacts on listed plant species located adjacent to the ROLA would be long term, moderate, and adverse because effects would be measurable and perceptible, but would be localized in a relatively small area. At most new lands, assuming compliance, the impacts from allowing on-leash dog walking would be negligible because dogs would not be able to access listed plant species and physically restraining dogs on leash would protect listed plant species. Therefore, assuming compliance, overall impacts on listed plant species from private and commercial dog walkers as a result of alternative E would range from negligible to long term, moderate, and adverse to encompass a range of potential effects at newly acquired lands under management by GGNRA. No impact on listed plant species would be expected at sites that are currently closed to or proposed for closure to dogs.

Under alternative E, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. All dogs must be on a leash. At sites where commercial dog walking is not common, it is likely that the new regulation would not have an impact on the number of dog walkers resulting in a negligible impact on listed plant species. At sites where commercial dog walking is common, impacts on these plant species from commercial dog walkers would be similar to impacts from other dog walkers. Overall impacts on listed plant species from dogs walked by both commercial dog walkers and private individuals are summarized above.

Cumulative Impacts. Because it is unknown what new land locations may come under GGNRA management in the future, the cumulative impacts analysis for new lands would be similar to the cumulative impact analysis that was completed for park sites that are located in proximity to the new lands.

Indirect Impacts on Adjacent Parks

As stated under alternative A, it is unknown what parks (including dog use areas) would be located adjacent to new lands not yet acquired by GGNRA. Therefore, a range of indirect impacts was developed to encompass the range of impact possibilities that could occur at lands located adjacent to these new lands that have not yet been acquired. On-leash dog walking would be allowed at new lands under this alternative. In addition, voice and sight control may be allowed at new lands under this alternative; therefore, the overall indirect impacts on listed plant species in adjacent lands would range from no indirect impacts on listed plant species from dogs if there is no change in current conditions at the site to long-term, minor, adverse impacts because it is unknown where and to what extent listed plant species occur in these unknown adjacent lands.

NEW LANDS ALTERNATIVE E CONCLUSION TABLE

Federally and State-listed Plant Species Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Overall negligible to long-term moderate adverse impacts, assuming compliance; no impact at sites that prohibit dogs	Physically restraining dogs on leash would protect listed plants; dogs could affect listed plant species through trampling, digging, and dog waste if plants are near trails or in a ROLA; dogs in a ROLA could increase impacts in and adjacent to the ROLA	N/A	Results would be similar to the cumulative impact analysis that was completed for park sites that are located in proximately to the new lands No indirect impact to long-term, minor and adverse indirect impact at adjacent lands

N/A = not applicable.

Preferred Alternative. Alternative D was selected as the preferred alternative. New lands would be closed to dog walking unless opened by the GGNRA Compendium, as evaluated by criteria below. The “closed unless opened” approach is the reverse of 36 CFR 2.15. Only on-leash dog walking would be considered at new lands. New lands would not be considered for voice and sight control (ROLAs). Once open to on-leash, compliance-based management strategies apply. Areas could be opened to on-leash dog walking if opening the area would not:

- impede the attainment of a park’s desired future conditions for natural and cultural resources as identified through the park’s planning process, or
- create an unsafe or unhealthful environment for visitors or employees, or
- impede or interfere with park programs or activities.

Because it is unknown what types of lands in what locations may come under GGNRA management in the future, a conservative approach to the impact analysis was adopted to encompass the range of possibilities from acquiring urban lands previously developed to acquiring intact, preserved lands. It is expected that all new lands would be surveyed to determine whether federally or state-listed plant species exist at the site prior to designating dog management for an area. It is assumed that management of dog walking activities in new lands acquired by GGNRA would be developed to avoid any impacts on federally or state-listed species.

At most new lands, assuming compliance, the impacts from allowing on-leash dog walking would be negligible because physically restraining dogs on leash would protect any listed plant species. When

compliance is assumed at the new lands, it is expected that owners would be in close contact with their dogs and presumably would be likely to comply with cleanup regulations. If located immediately adjacent to trails or roads, listed plant species could be disturbed by trampling, digging, and other dog activities. These plants may not recover due to their sensitive nature and these impacts may create opportunities for the establishment of non-native and/or invasive plant species. At sites where natural habitat exists and humans and dogs have not previously affected the area, the impacts would be considered long term, minor, and adverse because these lands are intact and preserved, and are more sensitive to new impacts from humans and/or dogs. Dogs could affect listed plant species through trampling, digging, and dog waste. Therefore, assuming compliance, overall impacts on listed plant species from private and commercial dog walkers as a result of the preferred alternative would range from negligible to long term, minor, and adverse. No impact on listed plant species would be expected at sites that are currently closed to or proposed for closure to dogs.

Alternative C was selected as the preferred alternative for permits at all sites including new lands. All dog walkers, including commercial dog walkers, would be allowed up to three dogs with no permit required. All dogs must be on a leash. At sites where commercial dog walking is not common, it is likely that the new regulation would not have an impact on the number of dog walkers resulting in a negligible impact on listed plant species. At sites where commercial dog walking is common, impacts to listed plant species from commercial dog walkers would be similar to impacts from other dog walkers. Overall impacts to listed plant species from dogs walked by both commercial and private individuals are summarized above.

Cumulative Impacts. Because it is unknown what new land locations may come under GGNRA management in the future, the cumulative impacts analysis for new lands would be similar to the cumulative impact analysis that was completed for park sites that are located in proximately to the new lands.

Indirect Impacts on Adjacent Parks

It is unknown what parks (including dog use areas) would be located adjacent to new lands not yet acquired by GGNRA. Therefore, a range of indirect impacts was developed to encompass the range of impact possibilities that could occur at lands located adjacent to these new lands that have not yet been acquired. Adjacent lands could range from urban lands previously developed to preserved lands. Since on-leash dog walking would be allowed at new lands under this alternative the overall indirect impacts on listed plant species in adjacent lands would range from no indirect impacts on listed plant species from dogs if there is no change in current conditions at the site to long-term, minor, adverse impacts because it is unknown where and to what extent listed plant species occur in these unknown adjacent lands.

NEW LANDS PREFERRED ALTERNATIVE CONCLUSION TABLE

Federally and State-listed Plant Species Impacts	Rationale	Impact Change Compared to Current Conditions	Cumulative Impacts
Overall negligible to long-term minor adverse impacts, assuming compliance; no impact at sites that prohibit dogs	Physically restraining dogs on leash would protect listed plants; dogs could affect listed plant species through trampling, digging, and dog waste if plants are near trails	N/A	Results would be similar to the cumulative impact analysis that was completed for park sites that are located in proximately to the new lands No indirect impact to long-term, minor, and adverse indirect impact at adjacent lands

N/A = not applicable.

CULTURAL RESOURCES

GUIDING REGULATIONS AND POLICIES

The NPS is charged with management and protection of cultural resources through a variety of guidance documents and legislation implemented by NPS managers to avoid or minimize, to the greatest degree practicable, adverse impacts on park resources and values. In addition to the National Environmental Policy Act under which this document has been prepared, the primary regulatory framework for cultural resources managed by the NPS includes:

Director's Order 28, Cultural Resources Management Guidelines (NPS 1998) is the fundamental guidance document for the management of cultural resources located within the national park system and contains park management standards and other requirements for cultural resources.

NPS Management Policies 2006 outlines NPS management policies for cultural resources including the identification and evaluation of cultural resources, the integration of this information in planning and decision-making, and the stewardship to ensure that cultural resources are preserved and protected (NPS 2006b).

General Management Plan (NPS 1980) provides management guidance for all park resources, including cultural resources. The General Management Plan is currently under revision and updating.

The *National Historic Preservation Act* (NHPA), as amended, functions as the principal legislative authority for management of cultural resources located within national parks—it requires federal agencies to avoid, minimize, or mitigate adverse effects to historic properties related to their undertakings. This impact analysis is designed to comply with the requirements of both NEPA and Section 106 of the NHPA (36 CFR Part 800, Protection of Historic Properties). Impact threshold definitions used for analysis contain statements specifically related to adverse effects as defined in 36 CFR 800. A Section 106 statement follows the conclusion statement for each alternative.

The Advisory Council on Historic Preservation's (ACHP) regulations for implementation of Section 106 require that effects to historic resources be identified and evaluated by determining the area of potential effects (APE, the area of geographic study), identifying cultural resources present within the APE that are either listed on or eligible for listing on the National Register of Historic Places (NRHP), applying the criteria of adverse effect to these cultural resources; and considering ways to avoid, minimize, or mitigate adverse effects to them.

A determination of *no effect*, *no adverse effect* or *adverse effect* must be made for NRHP-listed or NRHP-eligible cultural resources located within the APE. A determination of *no effect* is made when it is found that no historic properties are present or there are historic properties present but the undertaking will have no effect upon them. A determination of *no adverse effect* results when there is an effect to a property but it would not diminish the characteristics of the cultural resource that qualify it for inclusion in the NRHP. An *adverse effect* occurs when an impact alters any characteristic of a cultural resource that qualifies it for inclusion in the NRHP. *Adverse effects* also include reasonably foreseeable effects caused by the proposal that would occur later in time, be farther removed in distance, or be cumulative (36 CFR 800).

STUDY AREA

The APE is determined as the geographic area within which an undertaking may directly or indirectly cause alteration in the character or use of historic properties (36 CFR 800.16(d)) and is described in *Affected Environment, Cultural Resources*. Please refer to maps 24 and 25 in chapter 3 for related

discussion on the designation of the APE and for locational information on cultural resources. The designated APE contains archeological resources, historic structures and cultural landscapes. As the APE is defined by cultural resources boundaries (vs. specific geographic areas as in other resource topics), this section is structured differently than others.

ASSESSMENT METHODOLOGY

As no specific monitoring has occurred at GGNRA to document direct impacts of dogs on the park's cultural resources, analysis of cultural resources is general in nature. It is addressed in terms of ground disturbance in the form of visitor use/dog activity (trampling, digging, etc.) known to exacerbate erosion, which, in turn, can affect the integrity of fragile cultural resources. Impacts assessed here are based on the existence of or reasonably predicted potential for ground disturbance related to visitor/dog activity in sensitive cultural resources areas.

All cultural resources analyzed are either listed on, have been formally determined eligible for, or are expected to be determined eligible for the NRHP.

Area B of the Presidio

Area B of the Presidio is subject to the Presidio Trust's regulations on dog walking, which do not allow dogs to be off-leash. Impacts to cultural resources in this area by the various dog management alternatives have been addressed in this section. The Presidio National Historic Landmark (NHL) APE encompasses Area B of the Presidio (map 25).

Context of Impacts

Site-specific. Impacts confined to a specific site, in its immediate vicinity.

Localized. Impacts confined within park boundaries, or areas larger than site-specific.

Duration of Impacts

Duration describes the length of time an effect would occur, either short term or long term. Long-term impacts to cultural resources are described as those persisting for the life of the plan/EIS (the next 20 years). After the implementation of the plan, a 1- to 3-month period of public education would occur to implement the proposed action followed by a 1- to 3-month period testing the compliance-based management strategy. At the beginning of the education and enforcement period, short-term impacts on cultural resources would occur, regardless of the alternative chosen and would be similar to the current conditions. Following the education period, monitoring for compliance would begin and it is expected that compliance with the dog walking regulations and associated adverse impacts would improve gradually and the impacts on cultural resources would then become long term, as described below for each alternative.

THRESHOLDS

Under the National Environmental Policy Act impacts to cultural resources are assessed as either adverse or beneficial. Section 106 of the NHPA requires assessments of effects as either adverse or not adverse (see above discussion). Under both laws, adverse effects are those that negatively affect the integrity of elements important to a cultural resource's significance. Threshold definitions are designed to comply with both NEPA and NHPA requirements.

Archeological Resources

Beneficial The site would be preserved in its natural state, or stabilized in order to prevent future impacts, or active intervention would be taken to preserve the archaeological resources at the site. For purposes of NHPA Section 106, the determination of effect would be *no adverse effect*.

Negligible The impact is at the lowest level of detection or barely measurable, with no perceptible consequences, either adverse or beneficial, to archaeological resources. For purposes of Section 106, the determination of effect would be *no adverse effect*.

Adverse **Minor.** The impact would affect an archaeological site with the potential to yield information important in prehistory or history and/or that holds significance for associated native people, but would not affect portions of the property that had integrity or elements that were pivotal to the site's significance. For purposes of NHPA Section 106, the determination of effect would be *no adverse effect*.

Moderate. The impact would affect an archaeological site with the potential to yield information important in prehistory or history and/or that holds significance for associated native people, and would impact portions of the property that had integrity or elements that were pivotal to the site's significance. For purposes of NHPA Section 106, the determination of effect would be *adverse effect*.

Major. The impact would affect an archaeological site with the potential to yield important information about human history or prehistory and/or that holds significance for associated native people, and would remove sufficient amounts of the resource to the extent that it would no longer have integrity or elements considered significant. For purposes of NHPA Section 106, the determination of effect would be *adverse effect*.

Historic Structures

Beneficial The character-defining features of one or more structures or buildings listed on or eligible for the NRHP would be stabilized or preserved, or rehabilitated, or restored in accordance with the Secretary of the Interior's Standards for the Treatment of Historic Properties to accurately depict its form, features, and character as it appeared during its period of significance. For purposes of NHPA Section 106, the determination of effect would be *no adverse effect*.

Negligible The impact would cause no alteration to any structures or buildings listed or eligible for listing on the NRHP, or any alterations would be at the lowest level of detection or barely perceptible and not measurable. For purposes of NHPA Section 106, the determination of effect would be *no adverse effect*.

Adverse **Minor.** The impact would not affect the character-defining features of a structure or building listed on or eligible for the NRHP. For purposes of NHPA Section 106, the determination of effect would be *no adverse effect*.

Moderate. The impact would alter a character-defining feature(s) of one or more structures or buildings listed on or eligible for the NRHP, but would not diminish the integrity of the resource to the extent that its National Register eligibility would be jeopardized. For purposes of NHPA Section 106, the determination of effect would be *adverse effect*.

Major. The impact would alter a character-defining feature(s) of one or more structures or buildings listed on or eligible for the NRHP, diminishing the integrity of the resource to the extent that it is no longer eligible to be listed on the NRHP. For purposes of NHPA Section 106, the determination of effect would be *adverse effect*.

Cultural Landscapes

Beneficial Character-defining features would be preserved, or rehabilitated, or restored in accordance with the Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes, therefore maintaining the integrity of the cultural landscape. For purposes of NHPA Section 106, the determination of effect would be *no adverse effect*.

Negligible The impact would cause no alteration to a cultural landscape listed or eligible for listing on the NRHP, or any alterations would be at the lowest levels of detection or barely perceptible and not measurable. For purposes of NHPA Section 106, the determination of effect would be *no adverse effect*.

Adverse **Minor.** The impact would not affect the character-defining features of a cultural landscape listed on or eligible for the NRHP. For purposes of NHPA Section 106, the determination of effect would be *no adverse effect*.

Moderate. The impact would alter one or more character-defining features of a cultural landscape listed or eligible for listing on the NRHP but would not diminish the integrity of the landscape to the extent that its NRHP eligibility would be jeopardized. For purposes of NHPA Section 106, the determination of effect would be *adverse effect*.

Major. The impact would alter one or more character-defining feature(s) of a cultural landscape listed or eligible for the NRHP, diminishing the integrity of the resource to the extent that it would no longer be eligible to be listed on the NRHP. For purposes of NHPA Section 106, the determination of effect would be *adverse effect*.

Cumulative Effects Analysis

CEQ regulations for the implementation of NEPA require the assessment of cumulative impacts in the decision-making process for federal projects. Cumulative impacts are defined as the "impacts on the

environment which result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such actions” (40 CFR 1508.7). Cumulative impacts are addressed for all alternatives, including the No Action alternative.

The NHPA also directs agencies to assess cumulative effects to cultural resources related to an undertaking. These effects are described as adverse effects which include “reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance or cumulative” (36 CFR 80.5(a)(1)).

COMPLIANCE-BASED MANAGEMENT STRATEGY

In order to ensure protection of cultural resources from dog walking activities, the dog walking regulations defined in action alternatives B, C, D, and E would be regularly enforced by park law enforcement, and compliance monitored by park staff. A compliance-based management strategy would be implemented to address noncompliance and would apply to all action alternatives. Noncompliance would include dog walking within restricted areas, dog walking under voice and sight control in designated on-leash dog walking areas, and dog walking under voice and sight control outside of established ROLAs. If noncompliance occurs, impacts to cultural resources have the potential to increase and become short-term negligible to minor adverse. Noncompliant dog walking would directly impact cultural resources, including surface and subsurface archaeological resources, historic fortifications, and cultural landscapes, through digging and trampling of the resources. Ground disturbance by noncompliant dogs can exacerbate natural erosion processes and ultimately affect the overall integrity of the park’s cultural resources. To prevent these impacts from increasing or occurring outside of the designated dog walking areas the NPS would regularly monitor all sites. When noncompliance is observed in an area, park staff would focus on enforcing the regulations, educating dog walkers, and establishing buffer zones, time and use restrictions, and SUP restrictions. If noncompliance continues and compliance falls below 75 percent (measured as the percentage of total dogs / dog walkers observed during the previous 12 months not in compliance with the regulations) the area’s management would be changed to the next more restrictive level of dog management. In this case, ROLAs would be changed to on-leash dog walking areas and on-leash dog walking areas would be changed to no dog walking areas. Impacts from noncompliance could reach short-term negligible to minor adverse, but the compliance-based management strategy is designed to return impacts to a level that assumes compliance, as described in the overall impacts analysis, or provide beneficial impacts where dog walking is reduced or eliminated.

IMPACTS ANALYSIS

Note: please refer to maps 24 and 25 and appendix I for locations of cultural resources included in this analysis.

ALTERNATIVE A: NO ACTION

Archeological Resources (Muir Beach and Lands End)

Muir Beach. The pre-contact archeological site at Muir Beach (CA-MRN-333) contains both surface and subsurface deposits. Currently dogs are allowed in the Muir Beach area under voice control. Many local residents allow their dogs to run free throughout the area and visitation with dogs is highest on weekends. Slopes in the Muir Beach area are prone to land-sliding and soil erosion, both of which are evident in the area (see the “Soils” section in chapter 3).

Lands End. The two pre-contact Point Lobos archeological sites (CA-SFR-5, CA-SFR-21) are located at the southern end of Lands End in a general area where dogs are permitted under voice control. Use of the area by visitors with dogs is low to moderate. Much of the area has been modified by excavations, cuts, and fill; rilling and gully erosion is evident in some areas. Though there are areas where artifacts are exposed on the ground surface, the two archeological sites are relatively protected by existing native vegetation planted specifically for their protection. One is fenced but not in a manner that would preclude visitor or dog traffic.

The three archeological sites are considered relatively stable and their conditions are monitored periodically by park staff. The continuing dog under voice control activity in both the Muir Beach and Lands End areas under the No Action alternative would likely result in negligible to long-term, minor, adverse, site-specific impacts to the park's cultural resources, primarily related to potential for dog-related activity in the general voice control area. For the purposes of Section 106 of the NHPA, the assessment is *no adverse effect*.

Historic Structures (seacoast fortifications within Fort Baker, Fort Scott, Fort Point, Fort Mason, Fort Miley, Fort Funston, and Crissy Airfield)

Permanent Seacoast Fortifications and Their Integral Earthworks

Dogs are currently allowed under voice control and on-leash in areas where seacoast fortifications and their integral earthworks are located—the Forts Baker, Barry, and Cronkhite Historic District (Fort Baker); the Presidio NHL (Forts Scott and Point); Fort Mason Historic District; Fort Miley Military Reservation; and Battery Davis at Fort Funston (see appendix I). Under the No Action alternative, dog activity in these areas varies from high (including commercial dog walkers with multiple dogs) at places like Fort Funston, to less intense dog activity in other areas such as the Fort Miley Military Reservation. High use of an area by visitors with dogs has the potential to negatively affect sensitive seacoast fortification earthworks (trampling, digging). The potential for negative impacts is exacerbated where these resources occur in areas characterized by sandy, unstable soils (e.g., coastal areas of Fort Scott within the Presidio NHL). Compounding this is the fact that many park trails run immediately adjacent to the batteries (e.g., areas within Forts Scott and Point within the Presidio NHL; Fort Baker within the Forts Baker, Barry, and Cronkhite Historic District), as well as through them as is the case at Fort Funston (Battery Davis).

In general, the park's permanent seacoast fortifications are considered to be in good condition (NPS 1999b). Still, ground disturbance by dogs can exacerbate natural erosion processes and ultimately affect the overall integrity of the park's seacoast fortification resources. Dogs can also trample/kill vegetation and cause increased compaction in highly used areas. Both contribute to erosion and increased runoff.

Under the No Action alternative, the on-going impact of dog activity on permanent seacoast fortifications and their integral earthworks is believed to range from negligible to long-term, minor, site-specific (possibly localized), adverse impacts. These impacts are possible where dogs are allowed under voice control, where there is easy access by dogs to sensitive resources, and where resources are located in unstable soils (e.g., Fort Funston [Battery Davis], Fort Scott within the Presidio NHL). For the purposes of Section 106 of the NHPA, the assessment is *no adverse effect*.

Crissy Airfield. Under the No Action alternative dogs are allowed under voice control at Crissy Airfield (Presidio NHL) where use by visitors with dogs is considered moderate to high, including commercial dog walkers with multiple dogs. Park staff have reported that the area requires a high level of maintenance related to dog waste, urination, etc. Violations of the leash law in this general area are common and constitute the overwhelming majority of dog-related citations issued to visitors (table 9).

Currently, the airfield does not exhibit signs of dog-related impacts. A 1921 signal cable hut (building 946) near Crissy Airfield is currently partially buried and appears unaffected by dog activity (Scolari, pers. comm. 2009). Continued use of the Crissy Airfield area under the No Action alternative is expected to result in negligible site-specific impacts to the resources. For purposes of Section 106 of the NHPA, the assessment is *no adverse effect*.

Cultural Landscapes (Forts Baker, Barry, and Cronkhite Historic District; Presidio NHL; Fort Mason Historic District; Fort Miley Military Reservation)

Forts Baker, Barry, and Cronkhite Historic District. Cultural resources located within the Forts Baker, Barry, and Cronkhite Historic District that would be affected by the plan include field fortifications and earthwork portions of permanent seacoast fortifications. Adverse impacts to the earthwork portions of seacoast fortifications range from negligible to long-term minor (see Historic Structures analysis above).

Field Fortifications. An NPS (n.d.a) study designed to identify and preliminarily evaluate field fortifications in the vicinity of Fort Cronkhite has resulted in the location of these resources in relatively close proximity to several trails and roads located to the north of the Fort's cantonment area (i.e., Wolf Ridge). In this area (Rodeo Beach/Marin Headlands), dogs are allowed both on-leash and under voice control on designated sections of the Coastal Trail. In the same general area, dogs under voice control are allowed on sections of the Miwok and Wolf Ridge Trails, as well as along Old Bunker Fire Road. Dog use is not heavy on these trails with the exception of the loop trail that includes sections of the Coastal, Wolf Ridge and Miwok Trails. Much of the off-trail terrain is steep and visitors and dogs tend to stay on-trail. Field fortifications in this area are considered fragile and documentation is incomplete. Some are protected to a degree by thick vegetation (Haller, pers. comm. 2009). Soils in the general area of the crest of Wolf Ridge are loose and sandy (see the "Soils" section of chapter 3).

Violations of the leash law constitute the greatest number of dog-related citations issued to visitors in this area (table 9). While off-trail traffic tends to be low due to topography and vegetation, it is permitted in much of this area and its occurrence can contribute to ground disturbance around these fragile resources (see related discussion, Permanent Seacoast Fortifications and Their Integral Earthworks, Historic Structures analysis, above). Adverse impacts to field fortifications under the No Action alternative are likely to be no greater than negligible to long-term minor and localized related to the fact that most visitor/dog use is on-trail due to topography and vegetation. For purposes of Section 106 of the NHPA, the assessment would be *no adverse effect*.

Seacoast fortifications and their integral earthworks, as well as field fortifications contribute to the significance of the district's association with the history of coast defense in the San Francisco Bay area and impacts to them have the potential to affect its overall integrity and NRHP status. Adverse impacts expected to these contributing cultural resources within the Forts Baker, Barry, and Cronkhite Historic District range from negligible to long-term minor and are not believed to have the potential to jeopardize its NRHP status. For purposes of Section 106 of the NHPA, the assessment is *no adverse effect*.

Presidio of San Francisco National Historic Landmark. The NRHP status of the Presidio NHL is related to its numerous contributing historic, architectural and archeological resources associated with important events in American history. Contributing cultural resources located within the Presidio NHL that would be affected by the plan include field fortifications (Fort Scott), the U.S. Coast Guard Station (USCGS) Historic District, earthwork portions of seacoast fortifications, and Crissy Airfield. Adverse impacts to earthwork portions of seacoast fortifications and Crissy Airfield range from negligible to long-term minor; the Section 106 assessment is *no adverse effect* (see Historic Structures analysis above).

Field Fortifications. Numerous field fortifications associated with WWII batteries at Fort Scott have been documented along Baker Beach and north to the Golden Gate Bridge (Martini n.d.b). Under the No Action alternative, dogs are prohibited along the Batteries to Bluffs Trail; dog walking is allowed under voice control along Baker Beach and on leash along the Coastal Trail that runs adjacent to some of these sensitive resources. As an example, the immediate area around Battery Chamberlin is considered to have a high potential for yielding important data related to these historic fighting positions (Martini n.d.b). These fortifications are particularly fragile, having been constructed in sandy soils that are very vulnerable to erosion (see the “Soils” section of chapter 3). The same potential for yielding important data is also true for areas of the Coastal Trail between Baker Beach and the Golden Gate Bridge.

Use of the area for dog walking is considered low to moderate (table 9). Dogs have been observed off-trail creating the potential for increased ground disturbance and erosion resulting in loss of resource integrity (see related discussion, Permanent Seacoast Fortifications and Their Integral Earthworks, Historic Structures analysis, above). Adverse, localized impacts to field fortifications in this area are expected to range from negligible to long-term minor. For purposes of Section 106 of the NHPA, the assessment would be *no adverse effect*.

U.S. Coast Guard Station Historic District. In the recent past, some of the individual juniper plantings within the U.S. Coast Guard Station’s perimeter hedge have died and dog urine is believed to have contributed to the loss of at least one plant. The park plans to replace these missing plants to re-establish the continuity of the original hedge (Haller, pers. comm. 2009). Currently, dogs are prohibited from the USCGS property; however, dogs under voice control are allowed in immediately adjacent areas including the Crissy Airfield promenade and Crissy Airfield, which border the southern extent of the USCGS.

The general area of the USCGS Historic District receives moderate to high use by visitors with dogs, including commercial dog walkers with multiple dogs. Violations of the leash law in this general area are common and constitute the overwhelming majority of dog-related citations issued to visitors (table 9). Park staff have reported that maintenance needs related to dog waste in the area are high. Under the No Action alternative, these conditions are expected to continue resulting in the potential need for the replacement of additional vegetation related to dog activity. This is considered a negligible to possibly long-term, minor, adverse, site-specific impact to the USCGS Historic District. For purposes of Section 106 of the NHPA, the assessment is *no adverse effect*.

Collectively, adverse impacts expected to contributing resources within the Presidio NHL would range from negligible to long-term minor under the No Action alternative and are not believed to have the potential to jeopardize its NRHP status. For purposes of Section 106 of the NHPA, the assessment is *no adverse effect*.

Fort Mason Historic District. Batteries Burnham and Black Point are located within this Historic District and their integral earthwork components have the potential to be affected by dog activity. These resources contribute to the district’s overall significance and adverse effects to them can affect its NRHP status. Though only on-leash dog walking is currently allowed at Fort Mason, dogs can often be observed running without a leash. Dogs have been observed digging around earthwork portions of seacoast fortifications (Haller, pers. comm. 2009). Use by visitors with dogs is considered low to moderate and includes commercial dog walkers with multiple dogs (table 9). As presented above (Historic Structures analysis), potential adverse impacts to the earthwork portions of the seacoast fortifications are negligible to long-term minor under the No Action alternative. Impacts to the overall Fort Mason Historic District would be expected to result in no greater than negligible to long-term, minor, localized adverse impacts and are not believed to have the potential to jeopardize its NRHP status. For purposes of Section 106 of the NHPA, the assessment is *no adverse effect*.

Fort Miley Military Reservation. Several seacoast fortifications and their earthwork components located within this Historic District have the potential to be affected by dog activity (Batteries Livingston-Springer, BBC #243, Chester) (appendix I). These resources contribute to the District's overall significance and adverse effects to them can affect its NRHP status. Dogs are currently allowed under voice control on the east and west sides of Fort Miley. Use by dog walkers is low (table 9). As presented above (Historic Structures analysis), potential adverse impacts to the earthwork portions of the seacoast fortifications are considered negligible to long-term minor under the No Action alternative. Consequently, impacts would be expected to result in no greater than negligible to long-term minor, localized adverse impacts to the overall Fort Miley Military Reservation and are not believed to have the potential to jeopardize its NRHP status. For purposes of Section 106 of the NHPA, the assessment is *no adverse effect*.

Commercial Dog Walking. Under alternative A, no permit system exists for dog walking. At Muir Beach, Lands End, Fort Miley, Fort Baker, Marin Headlands Trails, Fort Point, and Baker Beach, commercial dog walking is uncommon. Therefore, commercial dog walking would not have an impact on cultural resources. Commercial dog walking is currently considered to be low to moderate at Fort Mason and high at Crissy Airfield and Fort Funston. Commercial dog walkers with multiple dogs under voice control would impact cultural resources through ground disturbance and contribution to erosion around these fragile resources. Commercial dog walking would continue to contribute to the negligible to long-term minor adverse impacts to cultural resources in these areas. For purposes of Section 106 of the NHPA, the assessment associated with commercial dog walking is *no adverse effect*.

Cumulative Impacts

Archeological/Ethnographic Resources

The Big Lagoon wetland and creek restoration project in Marin County includes a cultural resource goal "to incorporate cultural heritage values and sites of the Coast Miwok into the restoration design, visitor experience, and long term management of the project area" (NPS 2008n, 2-12). It is the park's intent to integrate elements of the cultural ecology of the Coast Miwok into the design, management and interpretation of the restoration project. This will be accomplished through consultation with the Federated Indians of Graton Rancheria regarding archeological, ethnographic and ethnohistoric data. The analysis and interpretation of the cultural ecology of some of the prior inhabitants of the area would likely result in a cumulative benefit for the park's cultural resources.

Historic Structures

Permanent Seacoast Fortifications and Their Integral Earthworks. A number of seacoast fortifications located along the coastline of GGNRA have undergone extensive study over the past 20 years (see chapter 3 for more detail). While some of these resources, particularly earlier ones, have been lost to natural erosion or later redevelopment, many still exist under park protection. The park currently manages numerous remaining structures, most of which are "well-preserved examples of nearly every important development in military fortification engineering from before the Civil War to the guided missile era" (NPS 1999b:1). Many of these structures have been determined eligible for the NRHP and often contribute to the significance of larger Historic Districts or National Historic Landmarks that could be affected by this management plan (Fort Miley; Fort Mason; Forts Baker, Barry, and Cronkhite; the Presidio NHL). The entire seacoast fortification network at GGNRA is currently being nominated as a National Historic Landmark and is being managed as such until official determination is complete (NPS 1999b:2). Such management offers protection of these fragile and important resources and provides localized benefits to Historic Structures within the park.

Cultural Landscapes

Forts Baker, Barry, and Cronkhite Historic District. In the recent past, the management of a number of military bases/forts has been transferred from other federal ownership to GGNRA. As the NPS is mandated to preserve and protect these historic resources, GGNRA employs a variety of options to accomplish this such as adaptive use by park partners. Partnering with other groups for the use of such structures provides continued life and maintenance of the structures and landscapes. In addition, a variety of guidance documents (e.g., cultural landscape reports, cultural landscape inventories) focused on these significant historic cultural resources have been completed. These documents consolidate existing research, evaluate cultural landscape elements, and provide recommendations for future maintenance and use of the properties. These studies address specific elements of the Forts Baker, Barry, and Cronkhite Historic District including, among others, Fort Baker (NPS 2005b), Fort Barry (NPS n.d.e), Fort Cronkhite (NPS 2008j)(see chapter 3). Such efforts further the continued and appropriate use of these historic resources and result in a cumulative benefit to the cultural resources of the Forts Baker, Barry, and Cronkhite Historic District.

In addition, rehabilitation/reuse of historic army forts within the Forts Baker, Barry, and Cronkhite Historic District has or could result in benefits to the District resources. For instance, the Fort Baker Plan (NPS 1999b) involves the rehabilitation of numerous historic structures for a conference center. These efforts also include landscape improvements such as restoration of the historic Fort Baker parade grounds. The Headlands Institute Improvement and Expansion Plan (NPS n.d.f) would rehabilitate some historic structures and possibly construct new ones within Fort Cronkhite for a field science education program. While the majority of cumulative impacts to the District related to these actions are expected to be beneficial as related to restoration, rehabilitation and preservation of historic fort elements, several actions (e.g., construction-related ground disturbance, introduction of visually intrusive elements) has or could result in negligible to possibly long-term minor cumulative adverse impacts for some district resources.

Adverse impacts to the Forts Baker, Barry, and Cronkhite Historic District related to transportation projects occurred before and after the NPS took jurisdiction over GGNRA parklands and similar impacts are likely to occur to some degree in the future. For example, the *Marin Headlands and Fort Baker Transportation Infrastructure and Management Plan EIS* (NPS 2007c) is expected to result in a variety of adverse impacts to the District's cultural resources related to modifications to a number of sensitive, character-defining features of historic roadways within the Marin Headlands. In general, transportation projects have and are likely to result in long-term minor to possibly moderate cumulative adverse impacts to the Forts Baker, Barry, and Cronkhite Historic District resources.

Recent improvements to the Marine Mammal Center (NPS 2004a) located just northeast of Fort Cronkhite in the Forts Baker, Barry, and Cronkhite Historic District have resulted in long-term minor cumulative adverse impacts to the District, primarily related to modifications of the landscape's viewshed.

Presidio National Historic Landmark. As is the case for the Forts Baker, Barry, and Cronkhite Historic District, the U.S. Coast Guard Station Historic District, located within the larger Presidio NHL, has benefitted from the transfer to park ownership/management. These benefits derive primarily from the fact that the park is actively involved with the continued life and maintenance of the structures and landscapes within the Presidio, as well as the park's provision of guidance documents for the NHL's appropriate management (e.g., NPS 2006f). These efforts result in cumulative benefits for the Presidio NHL.

Adverse impacts to the resources of the Presidio NHL related to transportation projects have occurred in the past and similar impacts are likely to continue to occur to some degree into the future. As an example, construction of the Golden Gate Bridge in the 1930s resulted in "drastic changes to much of Fort Winfield

Scott and other parts of the Presidio” including partial demolition of portions of Batteries Lancaster and East (Martini n.d.a, 36; NPS 1999a). In general, transportation projects have and are likely to result in long-term minor to possibly moderate cumulative adverse impacts to the Presidio NHL resources.

Future plans for trail realignment projects along Baker Beach and the bluffs north of it (Coastal Trail, Batteries to Bluff Trail) have the potential to affect the cultural resources of the Presidio NHL in the future. In particular, there are a number of fragile field fortifications (machine gun pits, encampments, etc.) located immediately adjacent to many of the WWII batteries in this area (e.g., Chamberlin, Crosby, Godfrey) (Barker, pers. comm. 2009; Martini n.d.). These resources are located in unstable sandy soils and are vulnerable to erosion. The details of the specific trail realignment activities are unknown at this time but it is anticipated that trail design will, under the NHPA assessment, result in *no adverse effects* to these resources (Scolari, pers. comm. 2009).

Fort Mason Historic District. Ownership and management of this District is addressed in the Fort Mason Historic District Cultural Landscape Inventory (NPS 2004a). The management of Fort Mason Historic District is similar to that described under the Forts Baker, Barry, and Cronkhite Historic District and Presidio NHL discussions above, resulting in comparable cumulative benefits for the Historic District.

Fort Miley Military Reservations. Fort Miley dates to the 1890s and, historically, consisted of three distinct complexes of structures—western, central and eastern segments (see discussion in chapter 3). The central portion of the Fort was demolished in 1934 to make way for construction of a Veterans Administration hospital. As a result, this portion of Fort Miley no longer possesses integrity and is excluded from the existing Historic District boundaries. In fact, it is no longer a part of the GGNRA parklands and is administered by the Veterans Administration. While the loss of the integrity of the central portion of Fort Miley decades ago can be considered a minor adverse impact to the military reservation, its current management of remaining seacoast fortifications on the east and west sides of the Fort can be considered a cumulative benefit to cultural landscapes of the park (see Historic Structures, above).

Battery Cavallo Preservation and Interpretation Plan

Battery Cavallo is located within Fort Baker and dates to the early 1870s. Increased visitation to Fort Baker in the 1970s and 80s resulted in uses of the battery area in ways that had the potential to impact the structures integrity. In recent years, access to the battery has been restricted, enhancing preservation of the resource (Martini, n.d.). Battery Cavallo was part of the nomination prepared for “Forts Baker, Barry and Chronkhite” historic district and is considered a contributing resource. A preservation plan for Battery Cavallo is currently in its draft stage (NPS n.d.f) and has the potential to provide cumulative benefits to Battery Cavallo through enhanced preservation actions.

Cumulative Impacts Conclusion

Overall, cumulative impacts of other park projects and actions to cultural resources include benefits primarily related to preservation and enhancement efforts. Cumulative adverse impacts from other park projects and actions range from negligible to possibly moderate and are related to ground disturbance (transportation, construction activities), impacts to views and vistas associated with cultural landscapes, and historic structure demolition. However, impacts to cultural resources under the No Action alternative are not expected to contribute to these adverse cumulative impacts.

Indirect Impacts on Adjacent Parks

There are nine parks with dog use areas in the vicinity of the APEs in Marin County and 17 parks in the vicinity of the APEs in San Francisco County (maps 25 and 26). No indirect impacts on cultural resources in adjacent lands would be expected under alternative A, since there would be no change in current conditions at the site.

ALTERNATIVE A CONCLUSION TABLE

Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion Negligible to long-term minor site-specific adverse impacts to archeological resources; negligible to long-term minor, site-specific and localized adverse impacts to historic structures; and negligible to long-term minor localized adverse impacts to cultural landscapes.	Impacts related primarily to dog-related ground disturbance, which increases erosion and potentially results in negative effects to archeological sites, historic structures and cultural landscapes.	Beneficial cumulative impacts related to preservation and enhancement efforts Negligible to long-term, moderate, adverse cumulative impacts related to ground disturbance (transportation, construction activities), impacts to views and vistas associated with cultural landscapes, and historic structure demolition. No indirect impacts on cultural resources in adjacent lands	N/A
For purposes of Section 106 of the NHPA, the continuation of actions under the No Action alternative would result in <i>no adverse effects</i> to cultural resources.			

N/A = not applicable.

ELEMENTS COMMON TO ALL ACTION ALTERNATIVES (B THROUGH E)

Fencing

Cultural Resources. Under all action alternatives, the perimeters of Batteries Davis (Fort Funston) and East (Fort Point within the Presidio NHL) would be fenced as a protective measure. The fencing would consist of post and wire fencing (approx. 4-inch square mesh, figure 7), is designed to be visually unobtrusive to the historic scene, would serve as an effective barrier to visitors and dogs, and is reversible.

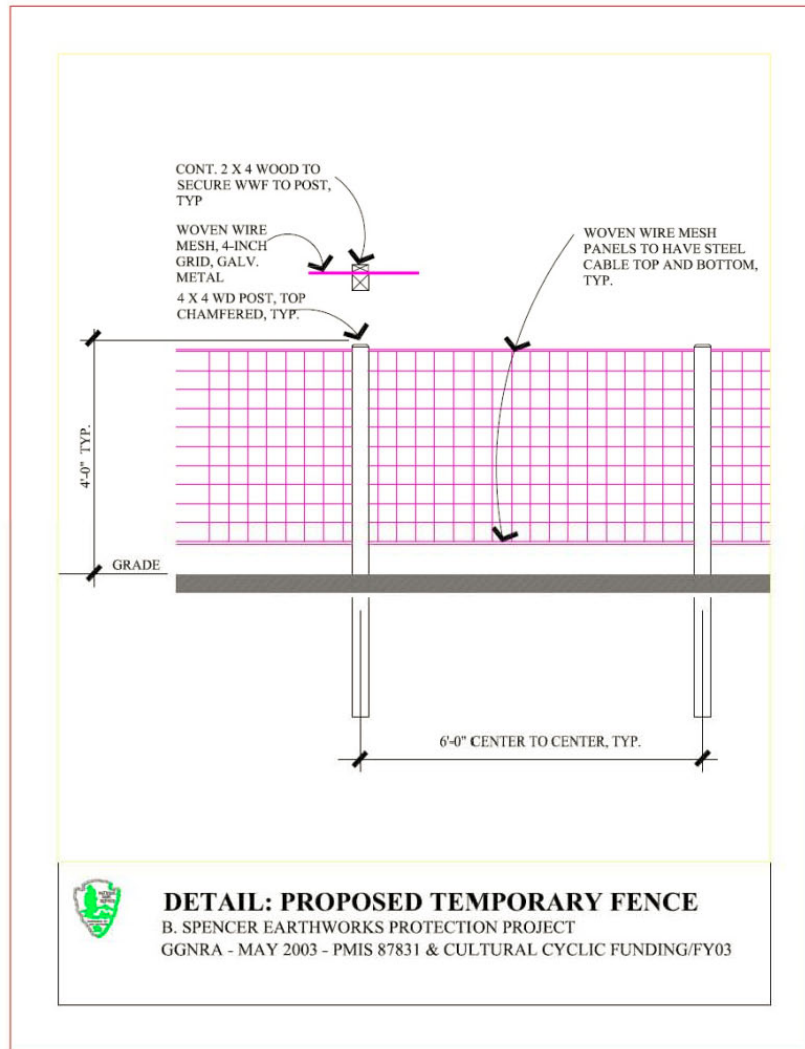


FIGURE 7. EXAMPLE OF FENCING DESIGN TO BE INSTALLED AT BATTERIES DAVIS AND EAST

Installation of fencing at Batteries East and Davis would ultimately contribute to the protection of the earthworks that are integral to these historic structures in that future ground disturbance by visitors with dogs would be minimized—a beneficial, site-specific impact. At the same time, fence construction would result in some ground disturbance related to post installations—a negligible site-specific impact to the resources. For purposes of Section 106 of the NHPA, both actions would result in an assessment of *no adverse effect* for the individual resources, as well as for the Presidio NHL (Battery East).

Dog Walking

Under all action alternatives, dog walking would be allowed only in designated on-leash areas or regulated off leash areas (ROLAs) in park locales that are not considered sensitive resource areas. The on-leash dog walking designation requires walkers to have full control of their dog(s) through a physical restraint with a leash no longer than 6 feet. ROLAs are defined spaces with distinct boundaries where dog walking would be allowed under specific guidelines, which includes voice and sight control. At no time would dogs be allowed in no-dog areas in any portion of the park. This would include the Batteries to

Bluffs Trail north of Baker Beach within the Presidio NHL where a number of sensitive historic structures (earthwork portions of seacoast fortifications, field fortifications) occur.

Confining dogs to trails and ROLAs throughout the park is a notable difference from the current situation and would be expected to result in a decreased potential for trampling and ground disturbance of sensitive cultural resource areas (e.g., archeological sites, earthwork portions of seacoast fortifications, field fortifications) by visitors with dogs. This constitutes a beneficial, localized impact to cultural resources, particularly in those park areas where voice and sight control zones are large and ground disturbance is damaging to cultural resources (e.g., Fort Funston, Baker Beach within the Presidio NHL). However, due to the possibility of a dog disturbing a sensitive cultural area since dogs would be allowed near these sensitive historic structures, a negligible impact could possibly result. Any alteration to a sensitive historic structure from a dog either on a leash or in a ROLA would be at the lowest level of detection or barely perceptible and not measurable. For the purposes of Section 106 of the NHPA, assessment is *no adverse effect*.

Outreach and Education/Partnerships

Under all action alternatives, the park would establish a long-term outreach campaign (visitor centers, website, etc.) to educate the public about the selected alternative and what it would mean for dog regulations. The park would include stakeholder groups and members of the public who were part of the development of the plan to help to disseminate information on the new regulation. By so doing, the park would enhance the likelihood of compliance with the new regulation and, thereby, further the preservation of cultural resources by limiting trampling and ground disturbance by visitors with dogs. This is viewed as a localized benefit to the park's cultural resources. For the purposes of Section 106 of the NHPA, assessment is *no adverse effect*.

ALTERNATIVE B: NPS LEASH REGULATION

Archeological Resources (Muir Beach and Lands End)

Under alternative B, only on-leash dog walking would be allowed on beaches and designated trails within the general areas where the Muir Beach (CA-MRN-333) and Lands End Point Lobos (CA-SFR-5; CA-SFR-21) archeological sites are located. As none of the three analyzed archeological sites is located within or close to these areas, they are not expected to incur any dog-related impacts. Under this alternative, these on-leash requirements provide considerable protection from adverse dog-related activity to these cultural resources and result in a negligible impact to the park's archeological resources. For purposes of Section 106 of the NHPA, assessment would be *no adverse effect*.

Historic Structures (seacoast fortifications located within Fort Mason, Fort Baker, Fort Scott, Fort Point, Fort Funston, Fort Miley; and Crissy Airfield)

Permanent Seacoast Fortifications and Their Integral Earthworks

Under alternative B, dog walking occurs in most areas of sensitive earthwork portions of seacoast fortifications—Fort Mason Historic District, Forts Baker, Barry, and Cronkhite Historic District, the Presidio NHL, and Fort Funston (see appendix I)—would be restricted to on-leash dogs only (appendix I). These areas include beaches, trails, some larger common areas (parade grounds), and parking lots. With the exception of Battery Davis (Fort Funston) where a trail runs through the battery, these on-leash areas do not include direct access to the earthwork portions of the seacoast fortifications. Dogs would be prohibited altogether from the Fort Miley Military Reservation area. These prohibitions and restrictions provide a greater level of protection for these fragile resources by reducing potential dog-related

trampling and ground disturbance resulting in a range of negligible to beneficial impacts to park historic structures. For purposes of Section 106 of the NHPA, assessment would be *no adverse effect*.

Crissy Airfield. Under alternative B, only on-leash dog walking would be allowed at Crissy Airfield (Presidio NHL). Currently, the airfield does not exhibit signs of dog-related impacts. A 1921 signal cable hut (building 946) near Crissy Field is currently partially buried and appears unaffected by dog activity (Scolari, pers. comm. 2009). A further reduction in the potential for dog-related impacts (ground disturbance) would be a positive factor for cultural resources. The actions proposed under alternative B would result in a negligible, site-specific impact to cultural resources. For purposes of Section 106 of the NHPA, the assessment would be *no adverse effect*.

Cultural Landscapes (Forts Baker, Barry and Cronkhite Historic District; Presidio NHL; Fort Mason Historic District; and Fort Miley Military Reservation)

Forts Baker, Barry, and Cronkhite Historic District. Cultural resources located within the Forts Baker, Barry, and Cronkhite Historic District that would be affected by the plan include field fortifications and earthwork portions of seacoast fortifications (appendix I). Impacts to the earthwork portions of seacoast fortifications are expected to be range from negligible to beneficial; the Section 106 assessment is *no adverse effect* (see Historic Structures analysis above).

Field Fortifications. Under alternative B, dogs would be prohibited from all Marin Headland trails where many of the fragile field fortifications are located in sandy, unstable soils in the general area north of Fort Cronkhite. Eliminating dog activity from this area is considered a positive step in the preservation of these resources related to the decreased potential for ground disturbance resulting in a localized benefit to the park's cultural resources. For purposes of Section 106 of the NHPA, the assessment would be *no adverse effect*.

Both field fortifications and earthwork portions of seacoast fortifications contribute to the NRHP status of the Forts Baker, Barry, and Cronkhite Historic District. Under this alternative, on-leash dog walking would be allowed at Fort Baker on-trail and on the parade ground (away from the earthwork portions of seacoast fortifications) (see Historic Structures analysis above); dogs would be prohibited from the Marin Headlands where fragile field fortifications are located. Collectively this would result in reduced dog-related trampling and ground disturbance to these fragile resources resulting in negligible to beneficial impacts to the Forts Baker, Barry, and Cronkhite Historic District. For purposes of Section 106 of the NHPA, assessment would be *no adverse effect*.

Presidio of San Francisco National Historic Landmark. Cultural resources located within the Presidio NHL that contribute to its significance and could be affected by dog management actions include field fortifications at Fort Scott, the USCGS Historic District, earthwork portions of seacoast fortifications, and Crissy Airfield (appendix I). Negligible impacts to earthwork portions of seacoast fortifications and Crissy Airfield are expected; the Section 106 assessment is *no adverse effect* (see Historic Structures analysis above).

Field Fortifications. These fragile resources are located primarily along a coastal area from Baker Beach north to the Golden Gate Bridge within Fort Scott. Under alternative B, only on-leash dog walking would be allowed along the beach, trails, picnic area and parking lots in the Baker Beach to Golden Gate Bridge area. This area is one of high cultural sensitivity with numerous field fortifications present, particularly in the vicinity of Batteries Chamberlin, Crosby and Godfrey (Martini n.d.). The field fortifications have been constructed in sandy/unstable soils and are considered fragile. As a result, ground disturbance can result in erosion and negative impacts to these resources. Restricting dogs to an on-leash presence in this area would minimize the potential for trampling and ground disturbance in areas on/around cultural resources

resulting in a benefit to the park's cultural resources. For purposes of Section 106 of the NHPA, the assessment would be *no adverse effect*.

U.S. Coast Guard Station Historic District. Under alternative B, dog walking on-leash would be allowed along the promenade (Crissy Field) on the southwest border of the Historic District. Vegetation that helps to define the original formal design and the edges of the property has been negatively affected in the past by dogs (urination killing vegetation), many of which are dogs under voice control. On-leash requirements under alternative B are expected to result in a negligible impact to the historic district. For purposes of Section 106 of the NHPA, the assessment would be *no adverse effect*.

Under alternative B, negligible to beneficial impacts are expected for the field fortifications within Fort Scott, the USCGS Historic District, and several contributing historic structures within the Presidio NHL (see Historic Structures analysis above). These impacts are associated with the requirement that dogs be leashed in these areas, thereby minimizing the potential for trampling and ground disturbance, which can exacerbate erosion. Collectively, dog management actions under alternative B that will affect the Presidio NHL are expected to result in negligible impacts for the National Historic Landmark. For purposes of Section 106 of the NHPA, the assessment would be *no adverse effect*.

Fort Mason Historic District. Cultural resources located within the Fort Mason Historic District that contribute to its significance and could be affected by dog management actions include earthwork portions of seacoast fortifications (Burnham, Black Point—see Historic Structures analysis above) (appendix I). Under alternative B, only on-leash dog walking would be allowed in parking and common areas (sidewalks, parade grounds, Laguna Green, Great Meadow, etc.). The restriction to on-leash dog walking at Fort Mason would minimize the potential for dog-related trampling and ground disturbance to these cultural resources and would result in a negligible impact to the Historic District. For purposes of Section 106 of the NHPA, assessment would be *no adverse effect*.

Fort Miley Military Reservation. Cultural resources located within the Fort Miley Military Reservation that contribute to its significance and could be affected by dog management actions include earthwork portions of seacoast fortifications (Batteries Chester, Livingston-Springer, BC #243; see Historic Structures analysis above) (appendix I). Under alternative B, dogs are prohibited in the areas of Fort Miley where these seacoast fortifications are located—a benefit to the Historic District. For purposes of Section 106 of the NHPA, assessment would be *no effect*.

Commercial Dog Walking. Under alternative B, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs per person with no permit required and all dogs must be on a leash. Since commercial dog walking is not common at Muir Beach, Lands End, Fort Baker, Fort Point, and Baker Beach, it is likely that the new regulation would not have an impact on the number of dog walkers. The percentage of commercial dog walkers is considered low to moderate at Fort Mason and high at Fort Funston and Crissy Field; however since dog walking would not be permitted near cultural resources, it is unlikely that commercial dog walking at these sites would create impacts to cultural resources. Overall, dogs walked by commercial dog walkers would create negligible impact to the park's cultural resources. For purposes of Section 106 of the NHPA, assessment would be *no adverse effect*.

Since dogs would not be allowed on the trails at Marin Headlands Trails or at Fort Miley, there would be no impact from commercial dog walkers to cultural resources. For purposes of Section 106 of the NHPA, assessment would be *no effect*.

Cumulative Impacts. Cumulative effects to cultural resources resulting from other park projects and actions are similar to those described under alternative A—beneficial; negligible to possibly long-term,

moderate adverse impacts. However, impacts to cultural resources under alternative B are not expected to contribute to these adverse cumulative impacts.

Indirect Impacts on Adjacent Parks

Visitation by dog walkers may increase at adjacent lands, since dog walking under voice control would no longer be allowed or dogs would no longer be allowed at some of the sites addressed under this resource. Impacts to cultural resources in adjacent lands from increased dog use would be dependent on the presence and location of such resources and the uses allowed in those areas within each adjacent park. While it is possible that no impact or negligible impact will occur, it is unknown at this time

ALTERNATIVE B CONCLUSION TABLE

Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion Negligible impacts to archeological resources; Negligible to beneficial impacts to historic structures and cultural landscapes. For purposes of Section 106 of the NHPA, the assessment for alternative B would be <i>no adverse effects</i> to cultural resources.	Outcomes are related primarily to the reduction in or prohibition of dog activity (trampling, ground disturbance, erosion) in areas of sensitive cultural resources.	Beneficial cumulative impacts related to preservation and enhancement efforts Negligible to long-term, moderate, adverse cumulative impacts related to ground disturbance (transportation, construction activities), impacts to views and vistas associated with cultural landscapes, and historic structure demolition. Indirect impacts on cultural resources in adjacent lands dependent on resource presence/location and park uses.	Beneficial to no change for archeological resources; benefits and negligible changes for historic structures and cultural landscapes

ALTERNATIVE C: EMPHASIS ON MULTIPLE USE

Archeological Resources (Muir Beach and Lands End)

Under alternative C, only on-leash dog walking would be allowed on beaches, designated trails and parking lots within the general areas where the Muir Beach (CA-MRN-333) and Lands End Point Lobos (CA-SFR-5, CA-SFR-21) archeological sites are located. Impacts to archeological resources would be similar to those described under alternative B—negligible. For purposes of Section 106 of the NHPA, assessment would be *no adverse effect*.

Historic Structures (seacoast fortifications located within Fort Mason, Fort Scott, Fort Baker, Fort Point, Fort Funston, Fort Miley; and Crissy Field)

Permanent Seacoast Fortifications and Their Integral Earthworks

Under alternative C, on-leash dog walking is proposed in general areas where seacoast fortifications and their integral earthworks are located at Fort Mason Historic District; Forts Baker, Barry, and Cronkhite Historic District; the Presidio NHL, Fort Miley Military Reservation; and Fort Funston (see appendix I). These areas include beaches, trails, some larger common areas (parade grounds), and picnic and parking

areas but do not include direct access to the earthwork portions of seacoast fortifications. While ROLAs are proposed at Fort Mason Historic District and Fort Funston and in the general area north of Fort Miley Military Reservation (but not within Reservation boundaries), none are located in the immediate areas where sensitive seacoast fortification earthworks occur. The proposals under alternative C (on-leash, ROLAs located away from sensitive resources, etc.) would provide an added level of protection to these fragile resources by reducing the potential for dog-related trampling and ground disturbance resulting in a range of negligible to beneficial impacts to the park's historic structures. For purposes of Section 106 of the NHPA, assessment would be *no adverse effect*.

Crissy Airfield. A ROLA is proposed for the inner portion of Crissy Airfield under alternative C. Currently, dogs under voice control are allowed at Crissy Airfield with no apparent signs of impacts. A 1921 signal cable hut (building 946) near the airfield is currently partially buried and appears unaffected by dog activity (Scolari, pers. comm. 2009). It is expected that with the prohibitions of dogs under voice control in many areas of the park, ROLAs would become more heavily used by visitors looking for areas to run dogs under voice and sight control. Over time, the actions proposed under alternative C at Crissy Airfield (ROLA) are expected to result in negligible to long-term, minor, site-specific, adverse impacts to cultural resources related to trampling and ground disturbance. For purposes of Section 106 of the NHPA, the assessment would be *no adverse effect*.

Cultural Landscapes (Forts Baker, Barry and Cronkhite Historic District; Presidio NHL; Fort Mason Historic District; and Fort Miley Military Reservation)

Forts Baker, Barry and Cronkhite Historic District. Cultural resources that contribute to the NRHP status of the Forts Baker, Barry, and Cronkhite Historic District and could be affected by dog management actions include earthwork portions of seacoast fortifications at Fort Baker and field fortifications (appendix I). Negligible to beneficial impacts to the earthwork portions of seacoast fortifications are expected; for Section 106, the assessment is *no adverse effect* (see Historic Structures analysis above).

Field Fortifications. Under alternative C, dogs would be prohibited from all Marin Headland trails in the area where the majority of the fragile field fortifications are located. Impacts to field fortifications under this alternative are similar to those described under alternative B—beneficial. For purposes of Section 106 of the NHPA, the assessment would be *no adverse effect*.

Under alternative C, only on-leash dog walking would be allowed on trails and the parade grounds at Fort Baker (away from earthwork portions of seacoast fortifications); dogs would be prohibited from areas in the Marin Headlands where field fortifications are located north of Fort Cronkhite (see Historic Structures analysis above). Collectively, these actions would result in reduced dog-related trampling and ground disturbance to these sensitive resources—a negligible to beneficial impact to the Forts Baker, Barry, and Cronkhite Historic District. For purposes of Section 106 of the NHPA, assessment would be *no adverse effect*.

Presidio of San Francisco National Historic Landmark. Cultural resources located within the Presidio NHL that contribute to its significance and could be affected by dog management actions include field fortifications at Fort Scott, the USCGS Historic District, earthwork portions of seacoast fortifications, and Crissy Airfield (appendix I). Negligible impacts to earthwork portions of seacoast fortifications, and negligible to long-term, minor adverse impacts to Crissy Airfield are expected under alternative C; for Section 106, the assessment would be *no adverse effect* (see Historic Structures analysis above).

Field Fortifications. These fragile resources are located primarily along a coastal area from Baker Beach north to the Golden Gate Bridge within Fort Scott. Under alternative C, dog walking on-leash would only

be allowed along the beach, trails, picnic area and parking lots—a similar scenario to that described under alternative B. Impacts to field fortifications under alternative C would be similar to those described under alternative B—beneficial. For purposes of Section 106 of the NHPA, the assessment would be *no adverse effect*.

U.S. Coast Guard Station Historic District. Under this alternative, on leash dog walking would be allowed only along the promenade (Crissy Field) on the southern border of the Historic District. Impacts to the District under alternative C would be similar to those described under alternative B—negligible. For purposes of Section 106 of the NHPA, the assessment would be *no adverse effect*.

With the exception of adverse impacts expected at Crissy Airfield, alternative C would result in negligible to beneficial impacts for the analyzed cultural resources within the Presidio NHL. These impacts are primarily related to the minimizing of the potential for dog-related trampling and ground disturbance. Negligible to long-term, minor, adverse impacts expected at Crissy Airfield are related to its designation as a ROLA under this alternative. Collectively, these impacts would likely result in site-specific, localized negligible impacts for the Presidio National Historic Landmark. For purposes of Section 106 of the NHPA, the assessment would be *no adverse effect*.

Fort Mason Historic District. Cultural resources that contribute to the NRHP status of the Fort Mason Historic District and could be affected by dog management actions include earthwork portions of seacoast fortifications (appendix I) (see Historic Structures analysis above). Under alternative C, on-leash dog walking would be allowed on sidewalks, paved trails and in parking areas, all of which are located away from sensitive earthwork portions of seacoast fortifications at Fort Mason. While ROLAs are proposed (Laguna Green, inner Great Meadow), none are located in areas where sensitive resources (seacoast fortification earthworks) occur. The restriction of dogs to areas at Fort Mason away from the sensitive earthwork portions of seacoast fortifications would minimize dog-related trampling and ground disturbance and result in negligible impacts to the historic district. For purposes of Section 106 of the NHPA, assessment would be *no adverse effect*.

Fort Miley Military Reservation. Cultural resources located within the Fort Miley Military Reservation that contribute to its significance and could be affected by dog management actions include earthwork portions of seacoast fortifications (Batteries Chester, Livingston-Springer, BC #243) (appendix I). Under alternative C, on-leash dog walking is proposed along trails areas on the east side of the military reservation. A ROLA located within the Lands End site that runs along a trail to the north of the military reservation and away from batteries with sensitive fortification earthworks, is also proposed. The restriction of on-leash dog walking to trails and the location of the ROLA would result in a negligible impact to these sensitive earthwork portions of seacoast fortifications (see Historic Structure analysis above) and the larger Fort Miley Military Reservation. For purposes of Section 106 of the NHPA, assessment would be *no adverse effect*.

Commercial Dog Walking. Under alternative C, all dog walkers, including commercial dog walkers, would be allowed up to three dogs with no permit required. Any dog walker, commercial or private, can obtain a permit to walk more than three dogs with a limit of six dogs on leash. In a ROLA, permit holders may have up to six dogs off-leash and the permit may restrict use by time and area. Permits would be allowed at Fort Mason, Fort Funston, Crissy Field, Fort Baker, and Baker Beach. Since commercial dog walking is not common at Fort Baker and Baker Beach, it is likely that the new regulation would not have an impact on the number of dog walkers. The percentage of commercial dog walkers is considered low to moderate at Fort Mason and high at Fort Funston and Crissy Field; however, since dog walking would not be permitted near cultural resources, it is unlikely that commercial dog walking at these sites would create impacts to cultural resources. Overall, dogs walked by commercial dog walkers would create negligible

impact to the park's cultural resources. For purposes of Section 106 of the NHPA, assessment would be *no adverse effect*.

Permits would not be allocated at Muir Beach, Lands End, Fort Miley, Marin Headlands, and Fort Point, so individual or commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking activity is not common at any of these sites it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking under alternative C would have a negligible impact on cultural resources. For purposes of Section 106 of the NHPA, assessment would be *no adverse effect*.

Cumulative Impacts. Cumulative effects to cultural resources resulting from other park projects and actions are similar to those described under alternative A—benefits; negligible to possibly long-term, moderate adverse impacts. However, impacts to cultural resources under alternative C are not expected to contribute to these adverse cumulative impacts.

Indirect Impacts on Adjacent Parks

Visitation by dog walkers may increase at adjacent lands, since dog walking under voice control would no longer be allowed at some of the sites addressed under this resource. Impacts to cultural resources in adjacent lands from increased dog use would be dependent on the presence and location of such resources and the uses allowed in those areas within each adjacent park. While it is possible that no impact or negligible impact will occur, it is unknown at this time

ALTERNATIVE C CONCLUSION TABLE

Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
<p>Conclusion:</p> <p>Negligible impacts to archeological resources; benefits and negligible to long-term, minor, site-specific, adverse impacts for historic structures; and negligible to beneficial impacts to cultural landscapes.</p> <p>For purposes of Section 106 of the NHPA, the assessment for alternative C would be <i>no adverse effects</i> to cultural resources.</p>	<p>Outcomes are related primarily to the reduction in dog activity (trampling, ground disturbance, erosion) in areas of sensitive cultural resources.</p> <p>Site-specific adverse impacts to cultural resources ranging from negligible to minor are associated with the Crissy Airfield's use as a ROLA.</p>	<p>Beneficial cumulative impacts related to preservation and enhancement efforts</p> <p>Negligible to long-term, moderate, adverse cumulative impacts related to ground disturbance (transportation, construction activities), impacts to views and vistas associated with cultural landscapes, and historic structure demolition.</p> <p>Indirect impacts on cultural resources in adjacent lands dependent on resource presence/location and park uses.</p>	<p>Beneficial to no change for archeological resources, historic structures, and cultural landscapes</p>

ALTERNATIVE D: MOST PROTECTIVE OF RESOURCES AND VISITOR SAFETY

Archeological Resources (Muir Beach and Lands End)

Under alternative D, dogs would be prohibited from the beach at Muir Beach and allowed on-leash only in the parking area and a trail that is not located in close proximity to the archeological site (CA-MRN-333). The two Point Lobos archeological sites (CA-SFR-5, CA-SFR-21) at Lands End are located in the

general area that would allow only on-leash dog walking along trails and in parking lots. Impacts to archeological resources under this alternative are similar to those described for alternative B—negligible. For purposes of Section 106 of the NHPA, assessment would be *no adverse effect*.

Historic Structures (seacoast fortifications within Fort Mason, Fort Scott, Fort Baker, Fort Point, Fort Funston, Fort Miley; and Crissy Field)

Permanent Seacoast Fortifications and Their Integral Earthworks

Under alternative D, on-leash dog walking is proposed in general areas of sensitive earthwork portions of seacoast fortifications located within the Fort Mason Historic District; the Forts Baker, Barry, and Cronkhite Historic District; the Presidio NHL; and at Fort Funston (Battery Davis) (appendix I). These on-leash areas include beaches, trails, some larger common areas, and picnic and parking areas. With the exception of Battery Davis at Fort Funston, these on-leash areas do not include direct access to specific sensitive earthwork portions of these fortifications. The existing trail that runs through Battery Davis (now under voice control management) would become an on-leash only trail under this alternative. Dogs would be prohibited at Fort Miley Military Reservation and Battery East Trail at Fort Point (Presidio NHL) where a number of sensitive earthwork portions of seacoast fortifications are located. Proposed ROLAs at Fort Mason Historic District and Fort Funston are located away from such resources. The dog prohibitions in certain areas, on-leash restrictions in others, and the locations of the ROLAs proposed under alternative D would provide enhanced protection to these fragile resources by reducing the potential for dog-related trampling and ground disturbance resulting in beneficial to negligible impacts to the park's historic structures. For purposes of Section 106 of the NHPA, assessment would be *no adverse effect*.

Crissy Airfield. Under alternative D, a ROLA is proposed for the west half of the Crissy Airfield. Currently, dogs are allowed under voice and sight control on the airfield with no apparent signs of impacts to the airfield or nearby building 946 (signal cable hut)(Scolari, pers. comm. 2009). The actions proposed under alternative D are expected to result in impacts to cultural resources similar to those described under alternative C—negligible to long-term, minor, site-specific, adverse—due to its anticipated increased use by visitors with dogs. For purposes of Section 106 of the NHPA, the assessment would be *no adverse effect*.

Cultural Landscapes (Forts Baker, Barry and Cronkhite Historic District; Presidio NHL; Fort Mason Historic District; and Fort Miley Military Reservation)

Forts Baker, Barry, and Cronkhite Historic District. Cultural resources that contribute to the NRHP status of the Forts Baker, Barry, and Cronkhite Historic District and could be affected by dog management actions include field fortifications and earthwork portions of seacoast fortifications at Fort Baker (appendix I). Localized negligible to beneficial impacts to the earthwork portions of seacoast fortifications range are expected; for Section 106, the assessment would be *no adverse effect* (see Historic Structures analysis above).

Field Fortifications. Under alternative D, dogs would be prohibited from Marin Headland trails that lead to the location of the fragile field fortifications north of Fort Cronkhite (Wolf Ridge area). Impacts under this alternative are similar to those described under alternative B—beneficial. For purposes of Section 106 of the NHPA, the assessment would be *no adverse effect*.

Under alternative D, on-leash dog walking would be allowed at Fort Baker on the Bay Trail (not including the Battery Yates Loop) and at the Lodge and Conference Center grounds, neither of which offers direct access to sensitive earthwork portions of seacoast fortifications (see Historic Structures

analysis above). Dogs would be prohibited from the Marin Headlands area where sensitive field fortifications are located. For both areas, this would result in reduced potential for dog-related trampling and ground disturbance to sensitive resources—negligible to beneficial impacts to the Forts Baker, Barry, and Cronkhite Historic District. For purposes of Section 106 of the NHPA, assessment would be *no adverse effect*.

Presidio of San Francisco National Historic Landmark. Cultural resources located within the Presidio NHL that contribute to its significance and could be affected by dog management actions include field fortifications at Fort Scott, the USCGS Historic District, earthwork portions of seacoast fortifications, and Crissy Airfield (appendix I). Negligible impacts to earthwork portions of seacoast fortifications and negligible to long-term, minor adverse impacts to Crissy Airfield are expected under alternative D; for Section 106, the assessment would be *no adverse effect* (see Historic Structures analysis above).

Field Fortifications. These fragile resources are located primarily along a coastal area from Baker Beach north to the Golden Gate Bridge within Fort Scott. Under alternative D, on-leash dog walking would be allowed only along the trails that access the beach south of the north parking lot, picnic areas and parking lots. These on-leash areas do not include direct access to specific field fortifications though some trail alignments cross through sensitive areas. Restricting dogs to an on-leash presence in this area would minimize the potential for trampling and ground disturbance in areas on/around cultural resources resulting in a benefit to the park's cultural resources. For purposes of Section 106 of the NHPA, the assessment would be *no adverse effect*.

U.S. Coast Guard Station Historic District. Under this alternative, on-leash dog walking would be allowed along the promenade on the southern border of the Historic District. Impacts to the District would be similar to those described under alternative B—negligible. For purposes of Section 106 of the NHPA, the assessment would be *no adverse effect*.

With the exception of Crissy Field, negligible impacts or benefits are expected for all resources analyzed within the Presidio NHL under alternative D. Benefits would result from the requirements that dogs be on-leash in the general area of sensitive cultural resources thereby minimizing the potential for trampling and ground disturbance potential. Negligible to long-term, minor, adverse impacts at Crissy Field are related to the designation of the western portion of the airfield as a ROLA under this alternative. Collectively, these impacts would likely result in site-specific, localized negligible impacts for the Presidio National Historic Landmark

Fort Mason Historic District: Cultural resources that contribute to the NRHP status of the Fort Mason Historic District and could be affected by dog management actions include earthwork portions of seacoast fortifications (appendix I) (see Historic Structures analysis above). Under alternative D, on-leash dog walking at Fort Mason would be allowed on sidewalks and in parking areas, all of which are located away from the sensitive earthwork portions of seacoast fortifications. While a ROLA is proposed on Laguna Green, it is not located where sensitive seacoast fortification earthworks occur. The restriction of dogs to areas at Fort Mason away from the sensitive earthwork portions of seacoast fortifications would minimize the potential for dog-related trampling and ground disturbance and result in negligible impacts to the Historic District. For purposes of Section 106 of the NHPA, assessment would be *no adverse effect*.

Fort Miley Military Reservation. Cultural resources located within the Fort Miley Military Reservation that contribute to its significance and could be affected by dog management actions include earthwork portions of seacoast fortifications (Batteries Chester, Livingston-Springer, BC #243) (appendix I). Under alternative D, dogs are prohibited from the Fort Miley Military Reservation. This prohibition would result in localized benefits for these sensitive earthwork portions of seacoast fortification (see Historic

Structures analysis above), as well as localized benefits for the overall Historic District. For purposes of Section 106 of the NHPA, assessment would be *no adverse effect*.

Commercial Dog Walking. No commercial dog walking would be allowed under alternative D; therefore commercial dog walking would have no impact on cultural resources. For purposes of Section 106 of the NHPA, assessment would be *no adverse effect*.

Cumulative Impacts. Cumulative effects to cultural resources resulting from other park projects and actions are similar to those described under alternative A—benefits; negligible to possibly long-term, moderate adverse impacts. However, impacts to cultural resources under alternative D are not expected to contribute to these adverse cumulative impacts.

Indirect Impacts on Adjacent Parks

Visitation by dog walkers may increase at adjacent lands, since dog walking under voice control would no longer be allowed or dogs would no longer be allowed at some of the sites addressed under this resource. Impacts to cultural resources in adjacent lands from increased dog use would be dependent on the presence and location of such resources and the uses allowed in those areas within each adjacent park. While it is possible that no impact or negligible impact will occur, it is unknown at this time

ALTERNATIVE D CONCLUSION TABLE

Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
<p>Conclusion</p> <p>Negligible impacts to archeological resources; benefits, negligible to long-term, minor, site-specific, adverse impacts for historic structures; and negligible to beneficial impacts to cultural landscapes. For purposes of Section 106 of the NHPA, the assessment for alternative D would be <i>no adverse effects</i> to cultural resources.</p>	<p>Outcomes are related primarily to the reduction in dog activity (trampling, ground disturbance, erosion) in areas of sensitive cultural resources as well as the prohibition of dogs in areas containing sensitive resources.</p> <p>Site-specific adverse impacts to cultural resources ranging from negligible to minor are associated with the Crissy Airfield's use as a ROLA.</p>	<p>Beneficial cumulative impacts related to preservation and enhancement efforts</p> <p>Negligible to long-term, moderate, adverse cumulative impacts related to ground disturbance (transportation, construction activities), impacts to views and vistas associated with cultural landscapes, and historic structure demolition.</p> <p>Indirect impacts on cultural resources in adjacent lands dependent on resource presence/location and park uses.</p>	<p>Beneficial to no change for archeological resources, historic structures, and cultural landscapes</p>

ALTERNATIVE E: MOST DOG WALKING ACCESS/MOST MANAGEMENT INTENSIVE

Archeological Resources (Muir Beach and Lands End)

Under alternative E, dogs would be prohibited from the northern section of Muir Beach, would be allowed on-leash only in the parking area and connected trails and a ROLA would be established on the section of beach south of the access path. Both of these areas are located away from the immediate vicinity of the archeological site (CA-MRN-333). The two Lands End Point Lobos archeological sites (CA-SFR-5, CA-SFR-21) are located in an area that would also allow only on-leash dog walking along trails and in parking lots. Impacts to archeological resources under this alternative are similar to those

described for alternative B—negligible. For purposes of Section 106 of the NHPA, assessment would be *no adverse effect*.

Historic Structures (seacoast fortifications located within Fort Mason, Fort Scott, Fort Baker, Fort Point, Fort Funston, Fort Miley; and Crissy Field)

Permanent Seacoast Fortifications and Their Integral Earthworks

Under alternative E, on-leash dog walking is proposed in the general areas of sensitive earthwork portions of seacoast fortifications located within the Fort Mason Historic District; Forts Baker, Barry, and Cronkhite Historic District; the Presidio NHL; Fort Miley Military Reservation; and Fort Funston (appendix I). These areas include beaches, trails, some larger common areas, and picnic and parking areas. In addition, ROLAs are proposed at the Fort Miley Military Reservation/Lands End area, Fort Funston, the Presidio NHL (Fort Scott/Baker Beach area), and the Fort Mason Historic District. With the exception of Battery Davis (Fort Funston), these on-leash and ROLA areas do not include direct access to specific seacoast fortifications and their integral earthworks. The existing trail that runs through Battery Davis (now managed under voice control regulations) would allow only on-leash dog walking under this alternative. The on-leash regulations and the locations of the proposed ROLAs that do not allow direct access to cultural resources under alternative E would provide enhanced protection to these fragile resources by reducing the potential for dog-related trampling and ground disturbance resulting in a negligible to beneficial impact to the park's historic structures. For purposes of Section 106 of the NHPA, assessment would be *no adverse effect*.

Crissy Airfield. Similar to alternative C, a ROLA is proposed for Crissy Airfield under this alternative. The actions proposed under alternative E are expected to result in impacts to cultural resources similar to those described under alternatives C and D—negligible to long-term, minor, site-specific, and adverse—due to its anticipated increased use by visitors with dogs. For purposes of Section 106 of the NHPA, the assessment would be *no adverse effect*.

Cultural Landscapes (Forts Baker, Barry and Cronkhite Historic District; Presidio NHL; Fort Mason Historic District; and Fort Miley Military Reservation)

Forts Baker, Barry, and Cronkhite Historic District. Cultural resources that contribute to the NRHP status of the Forts Baker, Barry, and Cronkhite Historic District and could be affected by dog management actions include field fortifications and earthwork portions of seacoast fortifications at Fort Baker (appendix I). Localized negligible to beneficial impacts to the earthwork portions of seacoast fortifications are expected; for Section 106, the assessment would be *no adverse effect* (see Historic Structures analysis above).

Field Fortifications. Under alternative E, dogs would be prohibited from Marin Headland trails where fragile field fortifications are located north of Fort Cronkhite. Impacts under this alternative are similar to those described under alternative B—beneficial. For purposes of Section 106 of the NHPA, the assessment would be *no adverse effect*.

Under alternative E, on-leash dogs would not have direct access to sensitive earthwork portions of seacoast fortifications within the Forts Baker, Barry, and Cronkhite Historic District (see Historic Structures analysis above); dogs would be prohibited from the Marin Headlands area where sensitive field fortifications are located in the general Fort Cronkhite vicinity. This would result in reduced dog-related trampling and ground disturbance to sensitive resources—a localized benefit to the Forts Baker, Barry, and Cronkhite Historic District. For purposes of Section 106 of the NHPA, assessment would be *no adverse effect*.

Presidio of San Francisco National Historic Landmark. Cultural resources located within the Presidio NHL that contribute to its significance and could be affected by dog management actions include field fortifications at Fort Scott, the USCGS Historic District, earthwork portions of seacoast fortifications, and Crissy Airfield (appendix I). Localized negligible to beneficial impacts to earthwork portions of seacoast fortifications, and negligible to long-term minor, site-specific adverse impacts to Crissy Airfield are expected under alternative E; for Section 106, the assessment would be *no adverse effect* (see Historic Structures analysis above).

Field Fortifications. These fragile resources are located primarily along a coastal area from Baker Beach north to the Golden Gate Bridge within Fort Scott. Under alternative E, only on-leash dog walking would be allowed in areas where these resources are located (on the beach north of the north parking lot and along trails, in picnic area and in parking lots). These on-leash areas include trails that run adjacent to field fortifications but do not include direct access to them. Impacts to field fortifications under alternative E would be similar to those described under alternative B—beneficial. For purposes of Section 106 of the NHPA, the assessment would be *no adverse effect*.

U.S. Coast Guard Station Historic District. Under this alternative, on-leash dog walking would be allowed from the promenade (Crissy Field) to the San Francisco Bay, an area that encompasses the entire structure. Current impacts of dog urination have negatively affected the perimeter hedge (vegetation loss), resulting in the need to replace vegetation, which helps to define the USCGS. Allowing on-leash dog walking into this area has the potential to result in negligible to possibly long-term minor, site-specific adverse impacts and will likely require the need for replanting of lost vegetation. For purposes of Section 106 of the NHPA, the assessment would be *no adverse effect*.

Under alternative E, negligible to beneficial impacts to the affected historic structures and field fortifications within the Presidio NHL are expected related to on-leash requirements along trails in the general area of sensitive resources. These requirements would minimize the potential for trampling and ground disturbance (see Historic Structures analysis above). Negligible to long-term minor, adverse impacts at Crissy Airfield are related to the designation of the airfield as a ROLA. Similar adverse impacts to the USCGS are related to the fact that on-leash dog walking would be allowed in and around the Historic District, increasing the potential for dog urination to negatively affect defining perimeter vegetation. Collectively, these impacts would result in negligible, site-specific, localized impacts for the Presidio NHL. For purposes of Section 106 of the NHPA, the assessment would be *no adverse effect*.

Fort Mason Historic District. Cultural resources that contribute to the NRHP status of the Fort Mason Historic District and could be affected by dog management actions include earthwork portions of seacoast fortifications (appendix I). Under alternative E, on-leash dog walking would be allowed on sidewalks and in parking areas, all of which are located away from sensitive earthwork portions of seacoast fortifications. As is true under alternative C, ROLAs are proposed (Laguna Green, Great Meadow) but do not provide direct access to sensitive seacoast fortification earthworks (see Historic Structures analysis, above). Impacts to the Fort Mason Historic District under this alternative would be similar to those described for alternative C—negligible; for Section 106, the assessment would be *no adverse effect*.

Fort Miley Military Reservation. Cultural resources located within the Fort Miley Military Reservation that contribute to its significance and could be affected by dog management actions include earthwork portions of seacoast fortifications (Batteries Chester, Livingston-Springer, BC #243) (appendix I) (see Historic Structures analysis above). Under alternative E, on-leash dog walking is allowed on several trails in/around Fort Miley Military Reservation. In addition, a ROLA is proposed along the eastern extent of Fort Miley in the general vicinity of Livingston-Springer Battery. The location of the ROLA does not include direct access to the seacoast fortification and its integral earthworks. The on-leash regulations and the fact that the proposed ROLA does not include access to sensitive cultural resources would provide

enhanced protection to these fragile resources by reducing the potential for dog-related trampling and ground disturbance resulting in a negligible localized impact to the Fort Miley Military Reservation (see Historic Structures analysis above). For purposes of Section 106 of the NHPA, assessment would be *no adverse effect*.

Commercial Dog Walking. Under alternative E, all dog walkers, including commercial dog walkers, would be allowed up to three dogs with no permit required. Any dog walker, commercial or private, can obtain a permit to walk more than three dogs with a limit of six dogs on leash. In a ROLA, permit holders may have up to six dogs off-leash and the permit may restrict use by time and area. Permits would be allowed at Fort Mason, Fort Funston, Crissy Field, Fort Baker, and Baker Beach. Since commercial dog walking is not common at Fort Baker and Baker Beach, it is likely that the new regulation would not have an impact on the number of dog walkers. The percentage of commercial dog walkers is considered low to moderate at Fort Mason and high at Fort Funston and Crissy Field; however since dog walking would not be permitted near cultural resources, it is unlikely that commercial dog walking at these sites would create impacts to cultural resources. Overall, dogs walked by commercial dog walkers would create negligible impact to the park's cultural resources. For purposes of Section 106 of the NHPA, assessment would be *no adverse effect*.

Permits would not be allocated at Muir Beach, Lands End, Fort Miley, Marin Headlands, and Fort Point, so individual or commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking activity is not common at any of these sites it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking under alternative E would have a negligible impact on cultural resources. For purposes of Section 106 of the NHPA, assessment would be *no adverse effect*.

Cumulative Impacts. Cumulative effects to cultural resources resulting from other park projects and actions are similar to those described under alternative A—benefits; negligible to possibly long-term, moderate adverse impacts. However, impacts to cultural resources under alternative E are not expected to contribute to these adverse cumulative impacts.

Indirect Impacts on Adjacent Parks

Visitation by dog walkers is not expected to increase at adjacent lands, since ROLAs would be provided at most sites that previously had voice control dog walking. No indirect impacts on cultural resources in adjacent lands would be expected under alternative E, since there would be no change in current conditions at the site.

ALTERNATIVE E CONCLUSION TABLE

Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion Negligible impacts to archeological resources; Benefits, negligible to long-term, minor, site-specific, adverse impacts for historic structures and cultural landscapes. For purposes of Section 106 of the NHPA, the assessment for alternative E would be <i>no adverse effects</i> to cultural resources.	Outcomes are related primarily to the reduction in dog activity (trampling, ground disturbance, erosion) in areas of sensitive cultural resources as well as the prohibition of dogs in areas containing sensitive resources. Site-specific adverse impacts to cultural resources ranging from negligible to minor are associated with the Crissy Airfield's use as a ROLA.	Beneficial cumulative impacts related to preservation and enhancement efforts Negligible to long-term, moderate, adverse cumulative impacts related to ground disturbance (transportation, construction activities), impacts to views and vistas associated with cultural landscapes, and historic structure demolition. No indirect impacts on cultural resources in adjacent lands	Beneficial to no change for archeological resources, historic structures, and cultural landscapes

PREFERRED ALTERNATIVE

Alternative A: No Action. Alternative A was not selected as the preferred alternative for any of the 21 sites considered in his plan.

Alternative B: NPS Leash Regulation. Alternative B was selected as the preferred alternative for the following sites:

- Upper and Lower Fort Mason
- Fort Point Promenade/Fort Point NHS Trails
- Lands End

Archeological Resources (Lands End)

Under the preferred alternative, only on-leash dog walking would be allowed on beaches and designated trails within the general areas where the Lands End Point Lobos (CA-SFR-5; CA-SFR-21) archeological sites are located. As none of the two analyzed archeological sites is located within or close to these areas, they are not expected to incur any dog-related impacts. Under this alternative, these on-leash requirements provide considerable protection from adverse dog-related activity to these cultural resources and result in a negligible impact to the park's archeological resources. For purposes of Section 106 of the NHPA, assessment would be *no adverse effect*.

Historic Structures (seacoast fortifications within Fort Mason and Fort Point)**Permanent Seacoast Fortifications and Their Integral Earthworks**

Under the preferred alternative, dog walking occurs in most areas of sensitive earthwork portions of seacoast fortifications including the Fort Mason Historic District and Fort Point (Presidio NHL) (see appendix I) would be restricted to on-leash dogs only. This area contains some larger common areas (parade grounds), trails and parking lots. These on-leash areas do not include direct access to the

earthwork portions of the seacoast fortifications. These restrictions provide a greater level of protection for these fragile resources by reducing potential dog-related trampling and ground disturbance resulting in a negligible to beneficial impact to the park's historic structures. For purposes of Section 106 of the NHPA, assessment would be *no adverse effect*.

Cultural Landscapes (Fort Mason Historic District; Presidio NHL)

Fort Mason Historic District. Cultural resources located within the Fort Mason Historic District that contribute to its significance and could be affected by dog management actions include earthwork portions of seacoast fortifications (Burnham, Black Point—see Historic Structures analysis above) (appendix I). Under alternative B, only on-leash dog walking would be allowed in parking and common areas (sidewalks, parade grounds, Laguna Green, Great Meadow, etc.). The restriction to on-leash dog walking at Fort Mason would minimize the potential for dog-related trampling and ground disturbance to these cultural resources and would result in a negligible impact to the Historic District. For purposes of Section 106 of the NHPA, assessment would be *no adverse effect*.

Presidio of San Francisco National Historic Landmark. Cultural resources located within the Presidio NHL that contribute to its significance and could be affected by dog management actions include earthwork portions of seacoast fortifications associated with Fort Point and Crissy Airfield (appendix I). Negligible to beneficial impacts to earthwork portions of seacoast fortifications and Crissy Airfield are expected (see Historic Structures analysis above). Collectively, these would result in overall negligible impacts to the Presidio NHL; the Section 106 assessment is *no adverse effect*.

Commercial Dog Walking. Alternative C was selected as the preferred alternative for permits at all sites. All dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. Since commercial dog walking is not common at Lands End and Fort Point, it is likely that the new regulation would not have an impact on the number of dog walkers. The percentage of commercial dog walkers is considered low to moderate at Fort Mason; however, since dog walking would not be permitted near cultural resources, it is unlikely that commercial dog walking at these sites would create impacts to cultural resources. Overall, dogs walked by commercial dog walkers would create negligible impact to the park's cultural resources. For purposes of Section 106 of the NHPA, assessment would be *no adverse effect*.

Cumulative Impacts. Cumulative effects to cultural resources resulting from other park projects and actions would be both beneficial, and negligible to possibly long-term, moderate adverse impacts. However, impacts to cultural resources under the preferred alternative are not expected to contribute to these adverse cumulative impacts.

Archeological/Ethnographic Resources

The Big Lagoon wetland and creek restoration project in Marin County includes a cultural resource goal “to incorporate cultural heritage values and sites of the Coast Miwok into the restoration design, visitor experience, and long term management of the project area” (NPS 2008a, 2-12). It is the park's intent to integrate elements of the cultural ecology of the Coast Miwok into the design, management and interpretation of the restoration project. This will be accomplished through consultation with the Federated Indians of Graton Rancheria regarding archeological, ethnographic and ethnohistoric data. The analysis and interpretation of the cultural ecology of some of the prior inhabitants of the area would likely result in a cumulative benefit for the park's cultural resources.

Historic Structures

Permanent Seacoast Fortifications and Their Integral Earthworks. A number of seacoast fortifications located along the coastline of GGNRA have undergone extensive study over the past 20 years (see chapter 3 for more detail). While some of these resources, particularly earlier ones, have been lost to natural erosion or later redevelopment, many still exist under park protection. The park currently manages numerous remaining structures, most of which are “well-preserved examples of nearly every important development in military fortification engineering from before the Civil War to the guided missile era” (NPS1999b:1). Many of these structures have been determined eligible for the NRHP and often contribute to the significance of larger Historic Districts or National Historic Landmarks that could be affected by this management plan (Fort Miley; Fort Mason; Forts Baker, Barry, and Cronkhite; the Presidio). The entire seacoast fortification network at GGNRA is currently being nominated as a National Historic Landmark and is being managed as such until official determination is complete (NPS 1999b:2). Such management offers protection of these fragile and important resources and provides localized benefits to Historic Structures within the park.

Presidio NHL. The U.S. Coast Guard Station Historic District, located within the larger Presidio NHL, has benefitted from the transfer to park ownership/management. These benefits derive primarily from the fact that the park is actively involved with the continued life and maintenance of the structures and landscapes within the Presidio, as well as the park’s provision of guidance documents for the NHL’s appropriate management (e.g., NPS 2006). These efforts result in cumulative benefits for the Presidio NHL.

Adverse impacts to the resources of the Presidio NHL related to transportation projects have occurred in the past and similar impacts are likely to continue to occur to some degree into the future. As an example, construction of the Golden Gate Bridge in the 1930s resulted in “drastic changes to much of Fort Winfield Scott and other parts of the Presidio” including partial demolition of portions of Batteries Lancaster and East (Martini n.d., 36; NPS 1999a). In general, transportation projects have and are likely to result in long-term minor to possibly moderate cumulative adverse impacts to the Presidio NHL resources.

Future plans for trail realignment projects along Baker Beach and the bluffs north of it (Coastal Trail, Batteries to Bluff Trail) have the potential to affect the cultural resources of the Presidio NHL in the future. In particular, there are a number of fragile field fortifications (machine gun pits, encampments, etc.) located immediately adjacent to many of the WWII batteries in this area (e.g., Chamberlin, Crosby, Godfrey)(Barker, pers. comm. 2009; Martini n.d.a.). These resources are located in unstable sandy soils and are vulnerable to erosion. The details of the specific trail realignment activities are unknown at this time but it is anticipated that trail design will, under the NHPA assessment, result in *no adverse effects* to these resources (Scolari, pers. comm. 2009).

Fort Mason Historic District. Ownership and management of this District is addressed in the Fort Mason Historic District Cultural Landscape Inventory (NPS 2004a). The management of Fort Mason Historic District is similar to that of the Forts Baker, Barry, and Cronkhite Historic District and Presidio NHL. As the NPS is mandated to preserve and protect these historic resources, GGNRA employs a variety of options to accomplish this such as adaptive use by park partners. Partnering with other groups for the use of such structures provides continued life and maintenance of the structures and landscapes. In addition, a variety of guidance documents (e.g., cultural landscape reports, cultural landscape inventories) focused on these significant historic cultural resources have been completed. These documents consolidate existing research, evaluate cultural landscape elements, and provide recommendations for future maintenance and use of the properties. Such efforts further the continued and appropriate use of these historic resources and result in a cumulative benefit to the cultural resources of the Fort Mason Historic District.

Indirect Impacts on Adjacent Parks

Visitation by dog walkers may increase at adjacent lands, since dog walking under voice control would no longer be allowed or dogs would no longer be allowed at some of the sites addressed under this resource. Impacts to cultural resources in adjacent lands from increased dog use would be dependent on the presence and location of such resources and the uses allowed in those areas within each adjacent park. While it is possible that no impact or negligible impact will occur, it is unknown at this time

PREFERRED ALTERNATIVE CONCLUSION TABLE FOR UPPER AND LOWER FORT MASON, FORT POINT PROMENADE/FORT POINT NHS TRAILS, AND LANDS END

Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion Negligible impacts to archeological resources; negligible to beneficial impacts to historic structures; and cultural landscapes. For purposes of Section 106 of the NHPA, the assessment for alternative B would be <i>no adverse effects</i> to cultural resources.	Outcomes are related primarily to the reduction in dog activity (trampling, ground disturbance, erosion) in areas of sensitive cultural resources.	Beneficial cumulative impacts related to preservation and enhancement efforts Negligible to long-term, moderate, adverse cumulative impacts related to ground disturbance (transportation, construction activities), impacts to views and vistas associated with cultural landscapes, and historic structure demolition. Indirect impacts on cultural resources in adjacent lands dependent on resource presence/location and park uses.	Beneficial to no change for archeological resources, historic structures, and cultural landscapes

Alternative C: Emphasis on Multiple Use, Balanced by County. Alternative C was selected as the preferred alternative for the following sites:

- Stinson Beach
- Homestead Valley
- Alta Trail/Orchard Fire Road/Pacheco Fire Road
- Oakwood Valley
- Rodeo Beach/South Rodeo Beach
- Marin Headlands Trails
- Fort Baker
- Crissy Field
- Fort Miley
- Ocean Beach
- Fort Funston
- Mori Point

- Milagra Ridge
- Sweeney Ridge/Cattle Hill
- Pedro Point Headlands

There are no affected cultural resources located in the study areas including Stinson Beach, Homestead Valley, Alta Trail/Orchard Fire Road/Pacheco Fire Road, Oakwood Valley, Rodeo Beach/South Rodeo Beach, Ocean Beach, Mori Point, Milagra Ridge, Sweeney Ridge/Cattle Hill, and Pedro Point Headlands.

Historic Structures (seacoast fortifications located within Fort Miley, Fort Baker, Fort Funston; and Crissy Field)

Permanent Seacoast Fortifications and Their Integral Earthworks

Under the preferred alternative, on-leash dog walking is proposed in general areas where seacoast fortifications and their integral earthworks are located at Fort Miley Military Reservation, Fort Baker (Forts Baker, Barry, and Chronkhite Historic District), and Fort Funston. The Fort Miley area include trails and picnic and parking areas but do not include direct access to the earthwork portions of seacoast fortifications. While a ROLA is proposed in the general area north of Fort Miley Military Reservation (not within Reservation boundaries), the ROLA is not located in the immediate area where sensitive seacoast fortification earthworks occur. On-leash dog walking is allowed along trails and on the parade ground at Fort Baker, none of which offer direct access to seacoast fortifications in the area. On-leash walking in the Fort Funston area is restricted to on-leash trails or ROLAs, all of which restrict access to sensitive cultural resources (Battery Davis). The proposals under the preferred alternative (on-leash, ROLAs located away from sensitive resources, etc.) for Forts Miley, Baker and Funston would provide an added level of protection to these fragile resources by reducing the potential for dog-related trampling and ground disturbance resulting in a negligible to beneficial impact to the park's historic structures. For purposes of Section 106 of the NHPA, assessment would be *no adverse effect*.

Crissy Airfield. A ROLA is proposed for the inner portion of Crissy Airfield under the preferred alternative. Currently, dogs under voice control are allowed at Crissy Airfield with no apparent signs of impacts. A 1921 signal cable hut (building 946) near the airfield is currently partially buried and appears unaffected by dog activity (Scolari, pers. comm. 2009). It is expected that with the prohibitions of dogs under voice control in many areas of the park, ROLAs would become more heavily used by visitors looking for areas to run dogs under voice and sight control. Over time, the actions proposed under the preferred alternative at Crissy Airfield (ROLA) are expected to result in negligible to long-term, minor, site-specific, adverse impacts to cultural resources related to trampling and ground disturbance. For purposes of Section 106 of the NHPA, the assessment would be *no adverse effect*.

Cultural Landscapes (Forts Baker, Barry and Cronkhite Historic District; Presidio NHL; and Fort Miley Military Reservation)

Forts Baker, Barry and Cronkhite Historic District. Cultural resources that contribute to the NRHP status of the Forts Baker, Barry, and Cronkhite Historic District and could be affected by dog management actions include earthwork portions of seacoast fortifications at Fort Baker and field fortifications (appendix I). Negligible to beneficial impacts to the earthwork portions of seacoast fortifications are expected (see Historic Structures analysis above); for Section 106, the assessment is *no adverse effect*.

Field Fortifications. Under the preferred alternative, dogs would be prohibited from all Marin Headland trails in the area where the majority of the fragile field fortifications are located. Eliminating dog activity from this area is considered a positive step in the preservation of these resources related to the decreased potential for ground disturbance resulting in a localized benefit to the park's cultural resources. For purposes of Section 106 of the NHPA, the assessment would be *no adverse effect*.

Under the preferred alternative, only on-leash dog walking would be allowed on trails and the parade grounds at Fort Baker (away from earthwork portions of seacoast fortifications); dogs would be prohibited from areas in the Marin Headlands where field fortifications are located north of Fort Cronkhite (see Historic Structures analysis above). Collectively, these actions would result in reduced dog-related trampling and ground disturbance to these sensitive resources—a negligible to beneficial impact to the Forts Baker, Barry, and Cronkhite Historic District. For purposes of Section 106 of the NHPA, assessment would be *no adverse effect*.

Presidio of San Francisco National Historic Landmark. Cultural resources located within the Presidio NHL that contribute to its significance and could be affected by dog management actions include field fortifications at Fort Scott, the USCGS Historic District, earthwork portions of seacoast fortifications, and Crissy Airfield (appendix I). Negligible to beneficial impacts to earthwork portions of seacoast fortifications, and negligible to long-term, minor adverse impacts to Crissy Airfield are expected under alternative C; for Section 106, the assessment would be *no adverse effect* (see Historic Structures analysis above).

Field Fortifications. These fragile resources are located primarily along a coastal area from Baker Beach north to the Golden Gate Bridge within Fort Scott. Under the preferred alternative, dog walking on-leash would only be allowed along the beach, trails, picnic area and parking lots. This area is one of high cultural sensitivity with numerous field fortifications present, particularly in the vicinity of Batteries Chamberlin, Crosby and Godfrey (Martini n.d.a.). The field fortifications have been constructed in sandy/unstable soils and are considered fragile. As a result, ground disturbance can result in erosion and negative impacts to these resources. Restricting dogs to an on-leash presence in this area would minimize the potential for trampling and ground disturbance in areas on/around cultural resources resulting in a benefit to the park's cultural resources. For purposes of Section 106 of the NHPA, the assessment would be *no adverse effect*.

U.S. Coast Guard Station Historic District. Under this alternative, on leash dog walking would be allowed only along the promenade (Crissy Field) on the southern border of the Historic District. Vegetation that helps to define the original formal design and the edges of the property has been negatively affected in the past by dogs (urination killing vegetation), many of which are dogs under voice control. On-leash requirements under the preferred alternative are expected to result in a negligible impact to the historic district. For purposes of Section 106 of the NHPA, the assessment would be *no adverse effect*.

With the exception of adverse impacts expected at Crissy Airfield, the preferred alternative would result in negligible to beneficial impacts for the analyzed cultural resources within the Presidio NHL. These impacts are primarily related to the minimizing of the potential for dog-related trampling and ground disturbance. Negligible to long-term, minor, adverse impacts expected at Crissy Airfield are related to its designation as a ROLA under this alternative. Collectively, these impacts would likely result in site-specific, localized negligible impacts for the Presidio National Historic Landmark. For purposes of Section 106 of the NHPA, the assessment would be *no adverse effect*.

Fort Miley Military Reservation. Cultural resources located within the Fort Miley Military Reservation that contribute to its significance and could be affected by dog management actions include earthwork portions of seacoast fortifications (Batteries Chester, Livingston-Springer, BC #243) (appendix I). Under the preferred alternative, on-leash dog walking is proposed along trails areas on the east side of the military reservation. A ROLA located within the Lands End site that runs along a trail to the north of the military reservation and away from batteries with sensitive fortification earthworks, is also proposed. The restriction of on-leash dog walking to trails and the location of the ROLA would result in a negligible to beneficial impact to these sensitive earthwork portions of seacoast fortifications (see Historic Structure analysis above). The overall impacts to the larger Fort Miley Military Reservation would be negligible. For purposes of Section 106 of the NHPA, assessment would be *no adverse effect*.

Commercial Dog Walking. Under the preferred alternative, all dog walkers, including commercial dog walkers, would be allowed up to three dogs with no permit required. Any dog walker, commercial or private, can obtain a permit to walk more than three dogs with a limit of six dogs on leash. In a ROLA, permit holders may have up to six dogs off-leash and the permit may restrict use by time and area. Permits would be allowed at Fort Funston, Crissy Field, and Fort Baker. Since commercial dog walking is not common at Fort Baker, it is likely that the new regulation would not have an impact on the number of dog walkers. The percentage of commercial dog walkers is considered high at Fort Funston and Crissy Field; however since dog walking would not be permitted near cultural resources, it is unlikely that commercial dog walking at these sites would create impacts to cultural resources. Overall, dogs walked by commercial dog walkers would create negligible impact to the park's cultural resources. For purposes of Section 106 of the NHPA, assessment would be *no adverse effect*.

Permits would not be allocated at Fort Miley and Marin Headlands, so individual or commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking activity is not common at any of these sites it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking under the preferred alternative would have a negligible impact on cultural resources. For purposes of Section 106 of the NHPA, assessment would be *no adverse effect*.

Cumulative Impacts. Cumulative effects to cultural resources resulting from other park projects and actions would be both beneficial, and negligible to possibly long-term, moderate adverse impacts. However, impacts to cultural resources under the preferred alternative are not expected to contribute to these adverse cumulative impacts.

Historic Structures

Permanent Seacoast Fortifications and Their Integral Earthworks. A number of seacoast fortifications located along the coastline of GGNRA have undergone extensive study over the past 20 years (see chapter 3 for more detail). While some of these resources, particularly earlier ones, have been lost to natural erosion or later redevelopment, many still exist under park protection. The park currently manages numerous remaining structures, most of which are “well-preserved examples of nearly every important development in military fortification engineering from before the Civil War to the guided missile era” (NPS1999b:1). Many of these structures have been determined eligible for the NRHP and often contribute to the significance of larger Historic Districts or National Historic Landmarks that could be affected by this management plan (Fort Miley; Fort Mason; Forts Baker, Barry, and Cronkhite; the Presidio). The entire seacoast fortification network at GGNRA is currently being nominated as a National Historic Landmark and is being managed as such until official determination is complete (NPS 1999b:2). Such management offers protection of these fragile and important resources and provides localized benefits to Historic Structures within the park.

Cultural Landscapes

Forts Baker, Barry, and Cronkhite Historic District. In the recent past, the management of a number of military bases/forts has been transferred from other federal ownership to GGNRA. As the NPS is mandated to preserve and protect these historic resources, GGNRA employs a variety of options to accomplish this such as adaptive use by park partners. Partnering with other groups for the use of such structures provides continued life and maintenance of the structures and landscapes. In addition, a variety of guidance documents (e.g., cultural landscape reports, cultural landscape inventories) focused on these significant historic cultural resources have been completed. These documents consolidate existing research, evaluate cultural landscape elements, and provide recommendations for future maintenance and use of the properties. These studies address specific elements of the Forts Baker, Barry, and Cronkhite Historic District including, among others, Fort Baker (NPS 2005b), Fort Barry (NPS n.d.e), Fort Cronkhite (NPS 2008j)(see chapter 3). Such efforts further the continued and appropriate use of these historic resources and result in a cumulative benefit to the cultural resources of the Forts Baker, Barry, and Cronkhite Historic District.

In addition, rehabilitation/reuse of historic army forts within the Forts Baker, Barry, and Cronkhite Historic District has or could result in benefits to the District resources. For instance, the Fort Baker Plan (NPS 1999b) involves the rehabilitation of numerous historic structures for a conference center. These efforts also include landscape improvements such as restoration of the historic Fort Baker parade grounds. The Headlands Institute Improvement and Expansion Plan (NPS n.d.) would rehabilitate some historic structures and possibly construct new ones within Fort Cronkhite for a field science education program. While the majority of cumulative impacts to the District related to these actions are expected to be beneficial as related to restoration, rehabilitation and preservation of historic fort elements, several actions (e.g., construction-related ground disturbance, introduction of visually intrusive elements) has or could result in negligible to possibly long-term minor cumulative adverse impacts for some district resources.

Adverse impacts to the Forts Baker, Barry, and Cronkhite Historic District related to transportation projects occurred before and after the NPS took jurisdiction over GGNRA parklands and similar impacts are likely to occur to some degree in the future. For example, the *Marin Headlands and Fort Baker Transportation Infrastructure and Management Plan EIS* (NPS 2007c) is expected to result in a variety of adverse impacts to the District's cultural resources related to modifications to a number of sensitive, character-defining features of historic roadways within the Marin Headlands. In general, transportation projects have and are likely to result in long-term minor to possibly moderate cumulative adverse impacts to the Forts Baker, Barry, and Cronkhite Historic District resources.

Recent improvements to the Marine Mammal Center (NPS 2004a) located just northeast of Fort Cronkhite in the Forts Baker, Barry, and Cronkhite Historic District have resulted in long-term minor cumulative adverse impacts to the District, primarily related to modifications of the landscape's viewshed.

Battery Cavallo Preservation and Interpretation Plan. Battery Cavallo is located within Fort Baker and dates to the early 1870s. Increased visitation to Fort Baker in the 1970s and 80s resulted in uses of the battery area in ways that had the potential to impact the structure's integrity. In recent years, access to the battery has been restricted, enhancing preservation of the resource (Martini, n.d.c.). Battery Cavallo was part of the nomination prepared for "Forts Baker, Barry and Chronkhite" historic district and is considered a contributing resource. A preservation plan for Battery Cavallo is currently in its draft stage (Haller, pers. comm. 2010) and has the potential to provide cumulative benefits to Battery Cavallo through enhanced preservation actions.

Presidio NHL. As is the case for the Forts Baker, Barry, and Cronkhite Historic District, the U.S. Coast Guard Station Historic District, located within the larger Presidio NHL, has benefitted from the transfer to park ownership/management. These benefits derive primarily from the fact that the park is actively involved with the continued life and maintenance of the structures and landscapes within the Presidio, as well as the park's provision of guidance documents for the NHL's appropriate management (e.g., NPS 2006f). These efforts result in cumulative benefits for the Presidio NHL.

Adverse impacts to the resources of the Presidio NHL related to transportation projects have occurred in the past and similar impacts are likely to continue to occur to some degree into the future. As an example, construction of the Golden Gate Bridge in the 1930s resulted in "drastic changes to much of Fort Winfield Scott and other parts of the Presidio" including partial demolition of portions of Batteries Lancaster and East (Martini n.d.,36; NPS 1999a). In general, transportation projects have and are likely to result in long-term minor to possibly moderate cumulative adverse impacts to the Presidio NHL resources.

Future plans for trail realignment projects along Baker Beach and the bluffs north of it (Coastal Trail, Batteries to Bluff Trail) have the potential to affect the cultural resources of the Presidio NHL in the future. In particular, there are a number of fragile field fortifications (machine gun pits, encampments, etc.) located immediately adjacent to many of the WWII batteries in this area (e.g., Chamberlin, Crosby, Godfrey) (Barker, pers. comm. 2009; Martini n.d.). These resources are located in unstable sandy soils and are vulnerable to erosion. The details of the specific trail realignment activities are unknown at this time but it is anticipated that trail design will, under the NHPA assessment, result in *no adverse effects* to these resources (Scolari, pers. comm. 2009).

Fort Miley Military Reservations. Fort Miley dates to the 1890s and, historically, consisted of three distinct complexes of structures—western, central and eastern segments (see chapter 3). The central portion of the Fort was demolished in 1934 to make way for construction of a Veterans Administration hospital. As a result, this portion of Fort Miley no longer possesses integrity and is excluded from the existing Historic District boundaries. In fact, it is no longer a part of the GGNRA parklands and is administered by the Veterans Administration. While the loss of the integrity of the central portion of Fort Miley decades ago can be considered a minor adverse impact to the military reservation, its current management of remaining seacoast fortifications on the east and west sides of the Fort can be considered a cumulative benefit to cultural landscapes of the park (see Historic Structures, above).

Cumulative Impacts Conclusion

Overall, cumulative impacts of other park projects and actions to cultural resources include benefits primarily related to preservation and enhancement efforts. Cumulative adverse impacts from other park projects and actions range from negligible to possibly moderate and are related to ground disturbance (transportation, construction activities), impacts to views and vistas associated with cultural landscapes, and historic structure demolition. However, impacts to cultural resources under the No Action alternative are not expected to contribute to these adverse cumulative impacts.

Indirect Impacts on Adjacent Parks

Visitation by dog walkers may increase at adjacent lands, since dog walking under voice control would no longer be allowed at some of the sites addressed under this resource. Impacts to cultural resources on adjacent lands from increased dog use would be dependent on the presence and location of such resources and the uses allowed in those areas within each adjacent park. While it is possible that no impact or negligible impacts will occur, it is unknown at this time

**PREFERRED ALTERNATIVE CONCLUSION TABLE FOR MARIN HEADLANDS TRAILS, FORT BAKER,
CRISSY FIELD, FORT MILEY, AND FORT FUNSTON**

Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion Negligible to beneficial impacts, negligible to long-term, minor, site-specific, adverse impacts to historic structures; negligible localized impacts to cultural landscapes. For purposes of Section 106 of the NHPA, the assessment for alternative C would be <i>no adverse effects</i> to cultural resources.	Outcomes are related primarily to the reduction in dog activity (trampling, ground disturbance, erosion) in areas of sensitive cultural resources. Site-specific adverse impacts to cultural resources ranging from negligible to minor are associated with the Crissy Airfield's use as a ROLA.	Beneficial cumulative impacts related to preservation and enhancement efforts Negligible to long-term, moderate, adverse cumulative impacts related to ground disturbance (transportation, construction activities), impacts to views and vistas associated with cultural landscapes, and historic structure demolition. Indirect impacts on cultural resources in adjacent lands dependent on resource presence/location and park uses	Beneficial to no change for historic structures and cultural landscapes

Alternative D: Most Protective of Resources/Visitor Safety. Alternative D was selected as the preferred alternative for the following sites:

- Muir Beach
- Baker Beach and Bluffs to Golden Gate Bridge

Archeological Resources (Muir Beach)

Under the preferred alternative, dogs would be prohibited from the beach at Muir Beach and allowed on-leash only in the parking area and a trail that is not located in close proximity to the archeological site (CA-MRN-333). Under this alternative, these on-leash requirements provide considerable protection from adverse dog-related activity to these cultural resources and result in a negligible impact to the park's archeological resources. For purposes of Section 106 of the NHPA, assessment would be *no adverse effect*.

Historic Structures (seacoast fortifications within Presidio NHL; Crissy Airfield)

Permanent Seacoast Fortifications and Their Integral Earthworks

Under the preferred alternative, on-leash dog walking is proposed in general areas of sensitive earthwork portions of seacoast fortifications located within the Presidio NHL, along Baker Beach (Fort Scott) (appendix I). These on-leash areas include beaches, trails, some larger common areas, and picnic and parking areas. Dogs will be prohibited along much of the northern stretch of Baker Beach. On-leash areas do not include direct access to specific sensitive earthwork portions of these fortifications. The dog prohibitions in certain areas and on-leash restrictions in others would provide enhanced protection to these fragile resources by reducing the potential for dog-related trampling and ground disturbance resulting in a negligible to beneficial impact to the park's historic structures. For purposes of Section 106 of the NHPA, assessment would be *no adverse effect*.

Cultural Landscapes (Presidio NHL)

Cultural resources located within the Presidio NHL that contribute to its significance and could be affected by dog management actions include field fortifications at Fort Scott, the USCGS Historic District, earthwork portions of seacoast fortifications, and Crissy Airfield (appendix I). Negligible to beneficial impacts to earthwork portions of seacoast fortifications, and negligible to long-term, minor adverse impacts to Crissy Airfield are expected under the preferred alternative; for Section 106, the assessment would be *no adverse effect* (see Historic Structures analysis above).

Field Fortifications. These fragile resources are located primarily along a coastal area from Baker Beach north to the Golden Gate Bridge within Fort Scott. Under the preferred alternative, on-leash dog walking would be allowed only along the trails that access the beach south of the north parking lot, picnic areas and parking lots. These on-leash areas do not include direct access to specific field fortifications though some trail alignments cross through sensitive areas. Restricting dogs to an on-leash presence in this area would minimize the potential for trampling and ground disturbance in areas on/around cultural resources resulting in a benefit to the park's cultural resources. For purposes of Section 106 of the NHPA, the assessment would be *no adverse effect*.

U.S. Coast Guard Station Historic District. Under this alternative, on-leash dog walking would be allowed along the promenade on the southern border of the Historic District. Impacts to the District would be negligible. For purposes of Section 106 of the NHPA, the assessment would be *no adverse effect*.

With the exception of Crissy Field (see alternative D analysis), negligible impacts or benefits are expected for all resources analyzed within the Presidio NHL under the preferred alternative. Benefits would result from the requirements that dogs be on-leash in the general area of sensitive cultural resources thereby minimizing the potential for trampling and ground disturbance potential. Negligible to long-term, minor, adverse impacts at Crissy Field are related to the designation of the western portion of the airfield as a ROLA under this alternative. Collectively, these impacts would likely result in negligible impacts for the Presidio National Historic Landmark

Commercial Dog Walking. No commercial dog walking would be allowed under the preferred alternative; therefore commercial dog walking would have no impact on cultural resources. For purposes of Section 106 of the NHPA, assessment would be *no adverse effect*.

Cumulative Impacts. Cumulative effects to cultural resources resulting from other park projects and actions are considered both adverse and beneficial. However, impacts to cultural resources under the preferred alternative are not expected to contribute to adverse cumulative impacts.

Archeological/Ethnographic Resources

The Big Lagoon wetland and creek restoration project in Marin County includes a cultural resource goal “to incorporate cultural heritage values and sites of the Coast Miwok into the restoration design, visitor experience, and long term management of the project area” (NPS 2008a, 2-12). It is the park's intent to integrate elements of the cultural ecology of the Coast Miwok into the design, management and interpretation of the restoration project. This will be accomplished through consultation with the Federated Indians of Graton Rancheria regarding archeological, ethnographic and ethnohistoric data. The analysis and interpretation of the cultural ecology of some of the prior inhabitants of the area would likely result in a cumulative benefit for the park's cultural resources.

Historic Structures

Permanent Seacoast Fortifications and Their Integral Earthworks. A number of seacoast fortifications located along the coastline of GGNRA have undergone extensive study over the past 20

years (see chapter 3 for more detail). While some of these resources, particularly earlier ones, have been lost to natural erosion or later redevelopment, many still exist under park protection. The park currently manages numerous remaining structures, most of which are “well-preserved examples of nearly every important development in military fortification engineering from before the Civil War to the guided missile era” (NPS1999b:1). Many of these structures have been determined eligible for the NRHP and often contribute to the significance of larger Historic Districts or National Historic Landmarks that could be affected by this management plan (Fort Miley; Fort Mason; Forts Baker, Barry, and Cronkhite; the Presidio NHL). The entire seacoast fortification network at GGNRA is currently being nominated as a National Historic Landmark and is being managed as such until official determination is complete (NPS 1999b:2). Such management offers protection of these fragile and important resources and provides localized benefits to Historic Structures within the park.

Cultural Landscapes (Presidio NHL)

Presidio NHL. Future plans for trail realignment projects along Baker Beach and the bluffs north of it (Coastal Trail, Batteries to Bluff Trail) have the potential to affect the cultural resources of the Presidio NHL in the future. In particular, there are a number of fragile field fortifications (machine gun pits, encampments, etc.) located immediately adjacent to many of the WWII batteries in this area (e.g., Chamberlin, Crosby, Godfrey) (Barker, pers. comm. 2009; Martini n.d.a). These resources are located in unstable sandy soils and are vulnerable to erosion. The details of the specific trail realignment activities are unknown at this time but it is anticipated that trail design will, under the NHPA assessment, result in *no adverse effects* to these resources (Scolari, pers. comm. 2009).

Indirect Impacts on Adjacent Parks

Visitation by dog walkers may increase at adjacent lands, since dog walking under voice control would no longer be allowed or dogs would no longer be allowed at some of the sites addressed under this resource. Impacts to cultural resources in adjacent lands from increased dog use would be dependent on the presence and location of such resources and the uses allowed in those areas within each adjacent park. While it is possible that no impact or negligible impact will occur, it is unknown at this time.

PREFERRED ALTERNATIVE CONCLUSION TABLE FOR MUIR BEACH AND BAKER BEACH AND BLUFFS TO GOLDEN GATE BRIDGE

Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
<p>Conclusion</p> <p>Negligible impacts to archeological resources; negligible to beneficial impacts to historic structures and cultural landscapes.</p> <p>For purposes of Section 106 of the NHPA, the assessment for alternative D would be <i>no adverse effects</i> to cultural resources.</p>	<p>Outcomes are related primarily to the reduction in dog activity (trampling, ground disturbance, erosion) in areas of sensitive cultural resources as well as the prohibition of dogs in areas containing sensitive resources.</p>	<p>Beneficial cumulative impacts related to preservation and enhancement efforts</p> <p>Negligible to long-term, moderate, adverse cumulative impacts related to ground disturbance (transportation, construction activities), impacts to views and vistas associated with cultural landscapes, and historic structure demolition.</p> <p>Indirect impacts on cultural resources in adjacent lands dependent on resource presence/location and park uses</p>	<p>Beneficial to no change for archeological resources, historic structures, and cultural landscapes</p>

Alternative E: Overall Most Dog Walking Access/Most Management Intensive. Alternative E was selected as the preferred alternative for the following site:

Sutro Heights Park

There are no affected cultural resources located at Sutro Heights Park; therefore, they were not analyzed in the plan/EIS.

New Lands

Alternative A: No Action. For new lands that come under the management of GGNRA, alternative A would manage these lands under existing NPS regulations as described in 36 CFR 2.15, which forbids possession of a pet in a public building, public transportation vehicle, location designated as a swimming beach, or any structure or area closed to pets by the superintendent. Therefore, on-leash dog walking would be allowed at new lands under alternative A and would require no permit.

Direct impacts of dogs on the park's cultural resources have not been well documented. At the same time, ground disturbance in the form of visitor use/dog activity (trampling, digging, etc.) is known to exacerbate erosion, which, in turn, can affect the integrity of fragile cultural resources. Dogs and visitors can also trample/kill vegetation and cause increased compaction in highly used areas. Both contribute to erosion and increased runoff. When cultural resources are located in unstable soils/slopes, they are at additional risk of erosion and loss of integrity.

As it is unknown what lands would be acquired in the future, it is also unknown as to what types of cultural resources might be located within those lands. Park actions that have the potential to affect cultural resources would be required to comply with Section 106 of the NHPA. Regulations for implementation of Section 106 require that effects to historic resources be identified and evaluated by determining the APE, the area of geographic study, identifying cultural resources present within the APE that are either listed on or eligible for listing on the NRHP, applying the criteria of adverse effect to these cultural resources; and considering ways to avoid, minimize, or mitigate adverse effects to them. Regarding the park's proposed acquisition and use of new lands, all proposed dog management actions with the potential to affect cultural resources will be reviewed by GGNRA Division of Cultural Resources Preservation Assessment Group under the applicable NPS Programmatic Agreements related to Historic Preservation (NPS 1992, 1994b, 2005b). Under these agreements, actions resulting in effects to cultural resources that are assessed as having *no effect* or *no adverse effect* are certified at the park level. This Preservation Assessment Group meets throughout the year for the purpose of carrying out these kinds of assessments and establishing mitigation measures for projects and activities within the park. The park reports on these review activities to the SHPO and ACHP on an annual basis.

Compliance with park regulations regarding the protection and preservation of cultural resources would result in planning and implementation efforts that avoid or minimize to the greatest degree possible effects to those resources (e.g., location of trail alignments away from sensitive resources). As a result of these planning and preservation efforts, coupled with the on-leash requirements under this alternative, it is believed that impacts to cultural resources related to the acquisition and use of new park lands, including uses by commercial dog walkers, would be primarily negligible to possibly long-term minor adverse. For the purposes of compliance with Section 106 of the NHPA, assessment would be *no adverse effect*.

Indirect Impacts on Adjacent Parks

On-leash dog walking would be allowed within new lands under this alternative. It is unknown what parks (including dog use areas) would be located adjacent to new lands not yet acquired by GGNRA.

Adjacent park lands could vary in their conditions, ranging from urban/developed areas to more natural lands. Depending on presence, location and condition of cultural resources located within adjacent parklands, coupled with a potential increase/decrease of use of these parklands as a result of acquisition of new lands, a range of indirect impacts could occur to these resources. However, as a result of park compliance with cultural resource requirements, it is believed that these issues would be addressed during acquisition of and planning for new park lands. Consequently, it is believed that potential indirect impacts to cultural resources in adjacent parks could include benefits and adverse impacts are not expected to exceed minor and long-term. For the purposes of compliance with Section 106 of the NHPA, assessment would be *no adverse effect*.

Cumulative Impacts. Because it is unknown what new land locations may come under GGNRA management in the future, the cumulative impacts analysis for new lands would be similar to the cumulative impact analysis that was completed for park sites that are located in proximately to the new lands.

NEW LANDS ALTERNATIVE A CONCLUSION TABLE

Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion Negligible to possibly long-term, minor, adverse impact; no impact at sites that prohibit dogs	Minimal adverse effects are expected as a result of compliance with cultural resource regulations and the restriction of dogs to on-leash walking, which would result in reduction in off-trail dog activity (trampling, ground disturbance, erosion) in areas of sensitive cultural resources.	Results would be similar to the cumulative impact analysis that was completed for park sites that are located in proximately to the new lands Indirect impacts adjacent parklands could include benefits and adverse impacts not expected to exceed long-term, minor.	N/A

N/A = not applicable.

Alternatives B and C. For new lands that come under the management of GGNRA, alternatives B and C would manage these lands under existing NPS regulations as described in 36 CFR 2.15, which forbids possession of a pet in a public building, public transportation vehicle, location designated as a swimming beach, or any structure or area closed to pets by the superintendent. Alternatives B and C would allow on-leash dog walking unless the following conditions were triggered:

- impedes the attainment of a park's desired future conditions for natural and cultural resources as identified through the park's planning process, or
- creates an unsafe or unhealthful environment for visitors or employees, or
- impedes or interferes with park programs or activities, or
- triggers the compliance-based management strategy's process for closure.

Under alternatives B and C, all dog walkers, including commercial dog walkers, would be allowed up to three dogs with no permit required. All dogs must be on a leash.

Direct impacts of dogs on the park's cultural resources have not been well documented but related ground disturbance is known to cause erosion and soil compaction that can affect the integrity of cultural resources (see discussion in alternative A immediately above).

As is the case under all “new land” alternatives, it is unknown what lands (and their cultural resources) would be acquired in the future. Park actions that have the potential to affect cultural resources would be required to comply with a variety of cultural resource regulations (e.g., Section 106 of the NHPA) that involve the identification, evaluation and NRHP assessment of impacts to those resources related to park actions (please refer to discussion in alternative A immediately above for more detail).

Compliance with park regulations regarding the protection and preservation of cultural resources would result in planning and implementation efforts that avoid or minimize to the greatest degree possible effects to those resources (e.g., location of trail alignments away from sensitive resources). In areas where dogs are prohibited for reasons stated above, benefits could be expected for cultural resources related to the reduction of ground disturbance, erosion, etc. that can affect cultural resource integrity. Where dogs are allowed, comprehensive planning and preservation efforts (see above), coupled with the on-leash requirements under these alternatives, would result in impacts to cultural resources related to the acquisition and use of new park lands similar to that under alternative A—primarily negligible to possibly long-term minor adverse. For the purposes of compliance with Section 106 of the NHPA, assessment would be *no adverse effect*.

Indirect Impacts on Adjacent Parks

On-leash dog walking would be allowed within new lands under this alternative. It is unknown what parks (including dog use areas) would be located adjacent to new lands not yet acquired by GGNRA. Adjacent park lands could vary in their conditions, ranging from urban/developed areas to more natural lands. Depending on presence, location and condition of cultural resources located within adjacent parklands, coupled with a potential increase/decrease of use of these parklands as a result of acquisition of new lands, a range of indirect impacts could occur to these resources. However, as a result of park compliance with cultural resource requirements, it is believed that these issues would be addressed during acquisition of and planning for new park lands. Consequently, potential indirect impacts to cultural resources in adjacent parks could include benefits and adverse impacts are not expected to exceed minor and long-term. For the purposes of compliance with Section 106 of the NHPA, assessment would be *no adverse effect*.

Cumulative Impacts. Because it is unknown what new land locations may come under GGNRA management in the future, the cumulative impacts analysis for new lands would be similar to the cumulative impact analysis that was completed for park sites that are located in proximity to the new lands.

NEW LANDS ALTERNATIVES B AND C CONCLUSION TABLE

Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion Benefits where dogs prohibited. Negligible to possibly long-term, minor, adverse impact where on-leash dogs allowed.	Minimal adverse effects are expected as a result of compliance with cultural resource regulations and the prohibition of or restriction of dogs to on-leash walking, all of which would result in reduction in off-trail dog activity (trampling, ground disturbance, erosion) in areas of sensitive cultural resources.	Results would be similar to the cumulative impact analysis that was completed for park sites that are located in proximity to the new lands Indirect impacts adjacent parklands could include benefits and adverse impacts not expected to exceed long-term, minor,	N/A

N/A = not applicable.

Alternative D: Most Protective of Resources. New lands would be closed to dog walking unless opened by the GGNRA Compendium, as evaluated by criteria below. The “closed unless opened” approach is the reverse of 36 CFR 2.15. Only on-leash dog walking would be considered at new lands. New lands would not be considered for voice and sight control (ROLAs). Once open to on-leash, compliance-based management strategies apply. Areas could be opened to on-leash dog walking if opening the area would not:

- impede the attainment of a park’s desired future conditions for natural and cultural resources as identified through the park’s planning process, or
- create an unsafe or unhealthful environment for visitors or employees, or
- impede or interfere with park programs or activities.

Direct impacts of dogs on the park’s cultural resources have not been well documented but related ground disturbance is known to cause erosion and soil compaction that can affect the integrity of cultural resources (see discussion in alternative A immediately above).

As is the case under all “new lands” alternatives, it is unknown what lands (and their cultural resources) would be acquired in the future. Park actions that have the potential to affect cultural resources would be required to comply with a variety of cultural resource regulations (e.g., Section 106 of the NHPA), which involve the identification, evaluation and NRHP assessment of impacts to those resources related to park actions (please refer to discussion in alternative A immediately above for more detail).

The “closed unless opened” management policy is expected to result in considerably fewer dog-related impacts to potential cultural resources (e.g., trampling, compaction, etc.), a positive for cultural resources. In cases where an area is opened to dog walking, compliance with park regulations regarding the protection and preservation of cultural resources would result in planning and implementation efforts which avoid or minimize to the greatest degree possible effects to those resources (e.g., location of trail alignments away from sensitive resources). As a result of these planning and preservation efforts, coupled with the “closed unless open” management policy, benefits to cultural resources could be expected under alternative D where dogs are precluded. Where dogs are allowed on-leash, these same requirements

would result in impacts to cultural resources that likely would not exceed minor, long-term, and adverse. For the purposes of compliance with Section 106 of the NHPA, assessment would be no adverse effect.

Indirect Impacts on Adjacent Parks

This alternative would implement a “closed unless opened” management policy for dogs, though on-leash dog walking could be allowed under certain circumstances. It is unknown what parks (including dog use areas) would be located adjacent to new lands not yet acquired by GGNRA. Adjacent park lands could vary in their conditions, ranging from urban/developed areas to more natural lands. Depending on presence, location and condition of cultural resources located within adjacent parklands, coupled with a potential increase/decrease of use of these parklands as a result of acquisition of new lands, a range of indirect impacts could occur to these resources. However, as a result of park compliance with cultural resource requirements, it is believed that these issues would be addressed during acquisition of and planning for new park lands. Consequently, potential indirect impacts to cultural resources in adjacent parks could include benefits and adverse impacts are not expected to exceed minor and long-term. For the purposes of compliance with Section 106 of the NHPA, assessment would be no adverse effect.

Cumulative Impacts. Because it is unknown what new land locations may come under GGNRA management in the future, the cumulative impacts analysis for new lands would be similar to the cumulative impact analysis that was completed for park sites that are located in proximately to the new lands.

NEW LANDS ALTERNATIVE D CONCLUSION TABLE

Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion Benefits where dogs prohibited. Negligible to possibly long-term, minor, adverse impact where on-leash dogs allowed.	Minimal adverse effects are expected as a result of compliance with cultural resource regulations and the prohibition of or restriction of dogs to on-leash walking, all of which would result in reduction in off-trail dog activity (trampling, ground disturbance, erosion) in areas of sensitive cultural resources.	Results would be similar to the cumulative impact analysis that was completed for park sites that are located in proximately to the new lands Indirect impacts adjacent parklands could include benefits and adverse impacts not expected to exceed long-term, minor,	N/A

N/A = not applicable.

Alternative E: Most Dog Walking Access/ Most Management Intensive. For new lands that come under the management of GGNRA, alternative E would initially manage these lands under existing NPS regulations as described in 36 CFR 2.15, which forbids possession of a pet in a public building, public transportation vehicle, location designated as a swimming beach, or any structure or area closed to pets by the superintendent. Alternative E would allow dog walking unless the following conditions were triggered:

- impedes the attainment of a park’s desired future conditions for natural and cultural resources as identified through the park’s planning process, or
- creates an unsafe or unhealthful environment for visitors or employees, or

- impedes or interferes with park programs or activities, or
- triggers the compliance-based management strategy's process for closure.

Additionally, new lands may be opened to voice and sight control if:

- Off-leash dog use existed before acquisition, and
- one year baseline data is collected through the compliance-based management strategy's monitoring program, and
- compliance-based management strategy not triggered (primary or secondary management responses).

Under alternative E, all dog walkers, including commercial dog walkers, would be allowed up to three dogs with no permit required. All dogs must be on a leash.

Direct impacts of dogs on the park's cultural resources have not been well documented, but related ground disturbance is known to cause erosion and soil compaction that can affect the integrity of cultural resources (see discussion in alternative A immediately above).

As is the case under all "new land" alternatives, it is unknown what lands (and their cultural resources) would be acquired in the future. Park actions that have the potential to affect cultural resources would be required to comply with a variety of cultural resource regulations (e.g., Section 106 of the NHPA), which involve the identification, evaluation and NRHP assessment of impacts to those resources related to park actions (please refer to discussion in alternative A immediately above for more detail).

Compliance with park regulations regarding the protection and preservation of cultural resources would result in planning and implementation efforts that avoid or minimize to the greatest degree possible effects to cultural resources (e.g., location of trail alignments away from sensitive resources; fencing of ROLAs/off-leash areas). Comprehensive planning and preservation efforts (see above), coupled with the on-leash requirements under this alternative, would result in impacts to cultural resources related to the acquisition and use of new park lands similar to that described under alternative A—primarily negligible to possibly long-term minor adverse. For the purposes of compliance with Section 106 of the NHPA, assessment would be no adverse effect.

Indirect Impacts on Adjacent Parks

On-leash dog walking, would be allowed within new lands under this alternative. Off-leash areas may also be designated if criteria are met (see above). It is unknown what parks (including dog use areas) would be located adjacent to new lands not yet acquired by GGNRA. Adjacent park lands could vary in their conditions, ranging from urban/developed areas to more natural lands. Depending on presence, location and condition of cultural resources located within adjacent parklands, coupled with the increase/decrease of use of these parklands as a result of the acquisition of new lands, a range of indirect impacts could occur to these resources. However, as a result of park compliance with cultural resource requirements, it is believed that these issues would be addressed during acquisition of and planning for new park lands. Consequently, potential indirect impacts to cultural resources in adjacent parks could include benefits and adverse impacts are not expected to exceed minor and long-term. For the purposes of compliance with Section 106 of the NHPA, assessment would be no adverse effect.

Cumulative Impacts: Because it is unknown what new land locations may come under GGNRA management in the future, the cumulative impacts analysis for new lands would be similar to the

cumulative impact analysis that was completed for park sites that are located in proximately to the new lands.

NEW LANDS ALTERNATIVE E CONCLUSION TABLE

Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion Negligible to possibly long-term, minor, adverse impact where on-leash dogs allowed.	Minimal adverse effects are expected as a result of compliance with cultural resource regulations, the restriction of dogs to on-leash walking in many areas, and the careful selection and design of off-leash areas, all of which would result in reduction in off-trail dog activity (trampling, ground disturbance, erosion) in areas of sensitive cultural resources.	Results would be similar to the cumulative impact analysis that was completed for park sites that are located in proximately to the new lands Indirect impacts adjacent parklands could include benefits and adverse impacts not expected to exceed long-term, minor,	N/A

N/A = not applicable.

Preferred Alternative. Alternative D was selected as the preferred alternative. New lands would be closed to dog walking unless opened by the GGNRA Compendium, as evaluated by criteria below. The “closed unless opened” approach is the reverse of 36 CFR 2.15. Only on-leash dog walking would be considered at new lands. New lands would not be considered for voice and sight control (ROLAs). Once open to on-leash, compliance-based management strategies apply. Areas could be opened to on-leash dog walking if opening the area would not:

- impede the attainment of a park’s desired future conditions for natural and cultural resources as identified through the park’s planning process, or
- create an unsafe or unhealthful environment for visitors or employees, or
- impede or interfere with park programs or activities.

The “closed unless opened” management policy is expected to result in considerably fewer dog-related impacts to potential cultural resources (e.g., trampling, compaction, etc.), a positive for cultural resources. In cases where an area is opened to dog walking, compliance with park regulations regarding the protection and preservation of cultural resources would result in planning and implementation efforts that avoid or minimize to the greatest degree possible effects to those resources (e.g., location of trail alignments away from sensitive resources). As a result of these planning and preservation efforts, coupled with the “closed unless open” management policy, benefits to cultural resources could be expected under alternative D where dogs are precluded. Where dogs are allowed on-leash, these same requirements would result in impacts to cultural resources that likely would not exceed minor, long-term, and adverse. For the purposes of compliance with Section 106 of the NHPA, assessment would be *no adverse effect*.

Alternative C was selected as the preferred alternative for permits at all sites including new lands. All dog walkers, including commercial dog walkers, would be allowed up to three dogs with no permit required. All dogs must be on a leash.

Under alternative C, on-leash dog walking would be allowed on new lands if certain criteria were met (see discussion of alternatives B and C) above. Where dogs are allowed, a maximum of three dogs per person would be enforced. The issue of requiring no permits for dog walking would not influence the expected impacts to cultural resources—primarily negligible to possibly long-term minor adverse impacts to cultural resources. For the purposes of compliance with Section 106 of the NHPA, assessment would be *no adverse effect*.

Indirect Impacts on Adjacent Parks

Alternative D would implement a “closed unless opened” management policy for dogs, though on-leash dog walking could be allowed under certain circumstances. It is unknown what parks (including dog use areas) would be located adjacent to new lands not yet acquired by GGNRA. Adjacent park lands could vary in their conditions, ranging from urban/developed areas to more natural lands. Depending on presence, location and condition of cultural resources located within adjacent parklands, coupled with a potential increase/decrease of use of these parklands as a result of acquisition of new lands, a range of indirect impacts could occur to these resources. However, as a result of park compliance with cultural resource requirements, it is believed that these issues would be addressed during acquisition of and planning for new park lands. Consequently, potential indirect impacts to cultural resources in adjacent parks could include benefits and adverse impacts are not expected to exceed minor and long-term. For the purposes of compliance with Section 106 of the NHPA, assessment would be *no adverse effect*.

Cumulative Impacts. Because it is unknown what new land locations may come under GGNRA management in the future, the cumulative impacts analysis for new lands would be similar to the cumulative impact analysis that was completed for park sites that are located in proximately to the new lands.

NEW LANDS PREFERRED ALTERNATIVE CONCLUSION TABLE

Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion Benefits where dogs prohibited. Negligible to possibly long-term, minor, adverse impact where on-leash dogs allowed.	Minimal adverse effects are expected as a result of compliance with cultural resource regulations and the prohibition of or restriction of dogs to on-leash walking, all of which would result in reduction in off-trail dog activity (trampling, ground disturbance, erosion) in areas of sensitive cultural resources.	Results would be similar to the cumulative impact analysis that was completed for park sites that are located in proximately to the new lands Indirect impacts adjacent parklands could include benefits and adverse impacts not expected to exceed long-term, minor,	N/A

N/A = not applicable.

VISITOR USE AND EXPERIENCE

GUIDING POLICIES AND REGULATIONS

NPS *Management Policies 2006* (NPS 2006b, section 8.2) state that the enjoyment of park resources and values by the people of the United States is part of the fundamental purpose of all parks and that the NPS is committed to providing appropriate, high-quality opportunities for visitors to enjoy the parks. Because many forms of recreation do not require a national park setting and may even be more appropriate to other venues, the NPS will seek to:

- provide opportunities for forms of enjoyment that are uniquely suited and appropriate to the superlative natural and cultural resources found in a particular unit; and
- defer to local, state, and other federal agencies; private industry; and non-governmental organizations to meet the broader spectrum of recreational needs and demands that are not dependent on a national park setting (NPS 2006b, section 8.2).

The NPS may allow other visitor uses that do not meet all the above criteria if they are appropriate to the purpose for which the park was established and if those uses can be sustained without causing unacceptable impacts on park resources or values.

Part of the purpose of a park is to offer opportunities for recreation, education, inspiration, and enjoyment. A park's significance lies in the resources that visitors enjoy. One of the NPS mission goals for visitor satisfaction and understanding at all park units is to ensure that "visitors safely enjoy and are satisfied with the availability, accessibility, diversity, and quality of park facilities, services, and appropriate recreational opportunities (NPS 2000b, 24)." This goal focuses on maintaining high visitor satisfaction by means of appropriate and safe recreational opportunities and experiences.

STUDY AREA

The geographic study area for visitor use is the GGNRA sites under consideration in this dog management plan/EIS, as well as adjacent areas that could be impacted by dog management activities including new lands. There are 21 individual sites relevant to this project, which have been described in detail in chapter 3.

DURATION OF IMPACT

Duration describes the length of time an effect would occur, either short term or long term. Long-term impacts to visitor use and experience are described as those persisting for the life of the plan/EIS (the next 20 years). After the implementation of the plan, a 1- to 3-month period of public education would occur to implement the proposed action followed by a 1- to 3-month period testing the compliance-based management strategy. At the beginning of the education and enforcement period, short-term impacts on visitor use and experience would occur, regardless of the alternative chosen and would be similar to the current conditions. Following the education period, monitoring for compliance would begin and it is expected that compliance with the dog walking regulations and associated adverse impacts would improve gradually and the impacts on visitor use and experience would then become long term, as described below for each alternative.

ASSESSMENT METHODOLOGY

The purpose of this visitor use and experience impact analysis was to determine if the activities proposed among the alternatives are compatible with or in conflict with the purpose of the park, its visitor experience goals, and the direction provided by NPS *Management Policies 2006* (NPS 2006b, section 8.2). Thus, these policies and goals were integrated into the impact thresholds.

Visitor use and experience can be measured by the indicator visitor satisfaction. Visitor satisfaction is measured by visitor satisfaction surveys distributed at various sites throughout the park. The potential for change in visitor experience was evaluated by identifying projected increases or decreases in on-leash and voice-control dog walking and other visitor uses per alternative, and determining whether these projected changes would affect the desired visitor experience and result in greater safety concerns or additional user conflicts.

The impact analysis for visitor use and experience was based on “on-the-ground dog walking conditions” as it is the actual, existing use that provides information on impacts on park resources. The description of current conditions was drawn from visitor use information and visitor incidents related to dog activities at each site. Visitor incidents are based on recent (2007/2008) law enforcement (LE) data presented in chapter 3, table 9, which includes leash law violations and warnings, citations, and reports taken on dog bites/attacks, dog rescues, and pet waste removal violations. The results of the 2002 Northern Arizona University telephone survey of residents in Marin County, San Mateo County, San Francisco County, and Alameda County were also factored into the impact analysis (Social Research Laboratory 2002b).

IMPACT THRESHOLDS

Visitor Use and Experience impacts were determined by examining the potential effects of dog walking activities on the visitor’s experience within a park site. The intensity of each adverse impact is judged as having a minor, moderate, or major effect. A beneficial impact would be a positive change to visitor experience. Negligible impacts are neither adverse nor beneficial, nor long-term or short-term. No impacts to visitor use and experience may also be applicable for some alternatives and sites if dogs are prohibited. The following impact thresholds were established to describe the relative changes in visitor use and visitor experience under the various alternatives being considered:

- Beneficial* A beneficial impact would be a positive change to a visitor use or experience at a park site. Individuals participating in that use or experience in other local or regional areas could return to or begin using the park due to the markedly improved visitor experience as a result of implemented dog management. A beneficial impact is a beneficial change from the current condition and is a relative indicator of progress compared to the no action alternative.
- Negligible* Visitors would be unaware of impacts associated with proposed changes. There would be no noticeable change in visitor use and experience or in any defined indicators of visitor satisfaction or behavior. Defined indicators that may impact visitor satisfaction include greater safety concerns, additional user conflicts, and additional dog-related incidents such as dog bites or dogs chasing or jumping on visitors.

Adverse **Minor.** Changes in visitor use and experience would be slight and detectable, but would not appreciably limit or enhance any critical characteristics of the visitor experience. Critical characteristics of the visitor experience include overall visitor satisfaction, visitor safety, and recreation opportunities. Other park areas would remain available for similar visitor uses and experiences. Visitor satisfaction would remain stable.

Moderate. A few critical characteristics of the existing visitor experience would decrease. The number of visitors engaging in a specific use would be altered, resulting in a noticeable change in visitor satisfaction. Other park areas would remain available for similar visitor uses and experiences; however, some visitors participating in that use or experience might be required to pursue their choice in other available local or regional areas.

Major. Multiple critical characteristics of the existing visitor experience would deteriorate, or become unavailable and/or the number of visitors engaging in a use would be greatly altered, resulting in a noticeable change in visitor satisfaction. A limited number of park areas would be available for similar visitor uses and experiences; thus, large numbers of visitors participating in that use or visitor experience would be required to pursue their choice in other available local or regional areas.

User Groups

This impact analysis of visitor use and experience is based on three GGNRA user groups: visitors who would prefer to walk dogs on GGNRA lands, visitors who would prefer not to have dog walking on GGNRA lands, and visitors who do not have a preference regarding dog walking in GGNRA.

Visitors Who Would Prefer to Walk Dogs in GGNRA

Park visitors with dogs typically use GGNRA for dog walking because of the leash laws in the surrounding areas, where off-leash dog walking experiences are limited or prohibited, and because they prefer to visit areas with access to beaches and the shoreline. Twenty-eight percent of the respondents to the Northern Arizona University 2002 telephone survey were dog owners or dog caregivers (Social Research Laboratory 2002b, 16). Of these dog owners/caregivers, 50 percent of the residents have walked their dogs in GGNRA; a larger portion of dog-owning respondents living in San Francisco (75 percent) and Marin counties (69 percent) have taken dogs to GGNRA sites as compared to dog owners living in San Mateo (44 percent) or Alameda counties (29 percent) (Social Research Laboratory 2002b, 17). Among these visitors, one out of five dog walkers visited the park daily or weekly to walk dogs. Approximately 27 percent of all people surveyed (dog owners and non-dog owners) stated that seeing an off-leash dog added positively to their visitor experience (Social Research Laboratory 2002b, 17). A total of 21 percent of all people surveyed support allowing off-leash dog walking on trails used by other user groups. Some of the respondents stated that they enjoy playing with other visitors' dogs and that dogs add to the park's visual aesthetic experience (Social Research Laboratory 2002b, 19).

The park also received many comments concerning off-leash dog walking when the GGNRA Advance Notice of Proposed Rulemaking (ANPR) was published in the Federal Register. Of the 8,580 comments received, 71 percent of the comments supported some form of off-leash dog walking in the park. Comments stated that off-leash dog walking provided exercise and sociability benefits for dogs and their owners (Social Research Laboratory 2001a, 4).

Visitors Who Would Prefer Not to Have Dog Walking in GGNRA

Picnickers, beachgoers, walkers, joggers, bicyclists, horseback riders, wildlife watchers, and those seeking a quiet and natural experience at the park could be affected by running and barking dogs. Often visitors who are not familiar with dogs or who have had unpleasant experiences with dogs are easily intimidated by dogs. Dogs off leash have the potential to interfere with other visitor activities by barking, knocking over visitors, jumping on visitors, tripping visitors, urinating near visitors, or wandering onto picnic blankets, or by biting visitors, horses, or other dogs. In the 2002 telephone survey conducted for GGNRA in the four-county area, two questions were asked to obtain input on dog walking regulations in GGNRA. The first question asked whether people supported or opposed allowing off-leash dog walking in GGNRA sites. The majority of the people in the four-county area (53 percent) opposed off-leash dog walking and 40 percent supported off-leash dog walking. Majorities of people in all demographic subsets except for dog owners said they opposed off-leash dog walking in GGNRA sites. The second question framed the issue of dog walking regulations within the context of the GGNRA mission. The second question stated, “The mission of GGNRA is the preservation, unimpaired, of the natural and cultural resources and scenic recreation values of the park for present and future generations to enjoy. Knowing this, do you support or oppose allowing off-leash dog walking in GGNRA sites?” After hearing the mission statement, 58 percent of respondents in the four-county area opposed off-leash dog walking and 36 percent supported off-leash dog walking (Social Research Laboratory 2002b, 34). More specifically, of those not strongly opposed to off-leash dog walking in the park, 56 percent of all survey respondents opposed allowing off-leash dog walking on trails used by multiple user groups, such as hikers, cyclists, and horseback riders (Social Research Laboratory, 2002b, 49). During the GGNRA APNR process, individuals stated that off-leash dog walking should not be allowed within the park because it is inconsistent with the NPS established laws and policies (NPS 2006c, 46). Additional input originated during the GGNRA ANPR process, when 13 percent of the 8,580 comments received in the GGNRA ANPR cited feelings of discomfort around or fear of off-leash dogs and expressed the opinion that off-leash dogs were dangerous to children. A similar percentage also stated that dogs in general make the park unsafe for visitors (Social Research Laboratory 2002a, 10).

Visitors Who Do Not Have a Preference about Dog Walking in GGNRA

Some park visitors do not have a preference regarding whether dogs are on leash, under voice control, or present in the park. There would be no impact on the visitor experience of those who have no preference regarding dogs in a park site. This user group would continue to use the sites throughout GGNRA regardless of whether dogs are present either on leash or under voice control. Twenty-seven percent of visitors in the telephone survey who had seen dogs off leash reported that off-leash dogs added to their experience and 22 percent stated dogs off leash detracted from their experience. Nearly half of visitors who had seen dogs off leash in a GGNRA site (49 percent) reported that off-leash dogs had no impact on their experience (Social Research Laboratory 2002b, 17). Because this user group does not have a preference about dog walking in GGNRA, effects resulting from the implementation of a dog management plan on visitor experience for this user group at GGNRA is not included in the analysis.

IMPACTS COMMON TO ALL ALTERNATIVES

Environmental Justice

The park does not track visitation by race, ethnicity, or income group. However, in the 2002 telephone survey, 41 percent of those who had taken dogs for a walk at GGNRA were racial minorities (Asian, African American, and other) and nearly 13 percent of the visitors had an annual total family income of less than \$50,000 (Social Research Laboratory 2002b, 65). In comments responding to the ANPR, both

those in favor of off-leash dog walking and those against off-leash dog walking argued that their position would benefit minorities (Social Research Laboratory 2002a, 11, 20).

The presence of dogs, whether on or off leash, affects visitor experience. Some visitors enjoy the sight of dogs in the park, and enjoy the ability to interact with other people's dogs. For others, dogs off leash inspire fear, and some people would prefer to avoid encounters with dogs (Roberts 2007, iii). Dog owners who leave their dogs' waste on trails, on beaches, or in picnic areas indirectly affect the aesthetics of the park, affect the visitor experience, and reduce the enjoyment of park visitors (Roberts 2007, iii). Also, intensive use of an area for dog walking results in the odor of urine and dog waste, which can be an especially displeasing experience on a hot summer day. In a study conducted by San Francisco State University in 2007 on the ethnic minority visitor use experience at GGNRA, research found that dogs, especially dog waste, were a problem mentioned by all Latino and Asian groups as a barrier to park visitation (Roberts 2007, iii). Overall, research found that Latinos were the most concerned with dog owners' lack of concern or control of their dogs (Roberts 2007, iii).

In the 2002 telephone survey, when minorities were asked if they supported or opposed off-leash dog walking in GGNRA sites, 39 percent of minorities supported off-leash dog walking, while 51 percent opposed off-leash dog walking. Similarly, a total of 39 percent of low-income individuals were in support of off-leash dog walking, while 53 percent were opposed to it (Social Research Laboratory 2002b, 92–93). Without further information on visitation by minorities and low-income individuals and their preferences regarding off-leash dogs in the park, it is difficult to assess the impacts (adverse and beneficial) on this user group. Therefore, minorities and low-income individuals will be assumed to fall under one or more of the user groups (visitors who would prefer to walk dogs on GGNRA lands, visitors who would prefer not to have dog walking on GGNRA lands, and visitors who do not have a preference regarding dog walking in GGNRA) developed for assessing impacts to visitor use and experience.

Aesthetics

It is the dog walker's responsibility to comply with the regulation requiring owners to clean up after their pets. However, this compliance does not always occur, and dog waste can be found scattered throughout the high use dog walking areas. The odor of urine can also be aesthetically displeasing, and when large numbers of dogs urinate in the same area, the associated smell can be very strong on hot summer days. Regardless of the alternative, there is a potential for visitors to continue to not clean up after their dogs. Impacts concerning aesthetics at all park sites where dogs would continue to be allowed would be long term and adverse.

Cumulative Impacts

Past, present, and future project actions in and near GGNRA were considered in combination with each alternative for the cumulative impacts analysis (appendix K). Site-specific and resource-specific projects and actions are discussed in detail under each site and alternative.

Current and reasonably foreseeable future actions positively affecting visitor use and experience in the park are activities that restore and enhance trails, habitats, landscape, and projects that provide safe access to park sites. Many projects also improve the aesthetics of a site, which can benefit the visitor experience. Projects include updating and maintaining infrastructure, improvement of trails, walkways and parking areas; the restoration of habitat and the reestablishment of native plant communities; and projects that are implemented to manage and protect natural resources such as the GGNRA *Fire Management Plan* (NPS 2005a). These efforts have direct benefits to visitor use and experience through better access to sites, improved facilities and signage, and restored natural habitat that can make the aesthetics of the experience better. Completed, current, and future projects that could have beneficial impacts on visitor use and

experience within GGNRA sites considered in this plan/EIS are listed below and discussed under each alternative, as applicable. Although these projects could provide beneficial impacts to the visitor experience, they may not contribute to the cumulative impacts for all visitor groups dependent on considerations of dog management at the site:

- *Lower Easkoot Creek Restoration Project* has restored native vegetation and natural floodplain functions improving the aesthetics of the Stinson Beach area, resulting in beneficial impacts on visitors from an improved visual experience (NPSn.d.d, 1).
- Planned trail improvements at Homestead Valley will formalize and designate trails to connect to existing neighborhood trails with the NPS Homestead Valley site, providing better access particularly for visitors from the local neighborhood.
- The *Dias Ridge Restoration and Trail Improvement Project* is working to realign trail segments and restoring degraded habitat on the ridge above Muir Beach. The project is also eliminating unauthorized trails and lessening erosion. These changes will provide better trails and aesthetics, which will result in an enhanced visitor experience.
- The *Lower Redwood Creek Interim Flood Reduction Measures and Floodplain Channel Restoration Project* was completed in June 2007 to reduce seasonal flooding on Pacific Way, the access route to Muir Beach, which will improve access to the beach for visitors.
- The *Muir Beach Wetland and Creek Restoration Project* includes wetland and creek habitat restoration at the tidal lagoon, making a functional, self-sustaining ecosystem that will provide special-status species habitat, and reduce seasonal flooding on Pacific Way. The reduction of flooding will provide better access and parking for visitors, enhancing visitor experience. Public education, resource interpretation, and stewardship opportunities are also elements within this project that would benefit visitor experience.
- The *Marin Headlands and Fort Baker Transportation Infrastructure Management Plan* provides planning and infrastructure improvements for greater access to the Marin Headlands and Fort Baker areas for visitors to these Marin County park sites.
- The *San Francisco Bay Conservation and Development Commission's Tennessee Valley / Manzanita Connector Pathway Project* will upgrade the existing path to meet current ADA accessibility and design standards for a multi-use pathway, and encourage area residents to use the trail as an alternative to vehicular travel to reach key destinations
- At Fort Baker, the Cavallo Point Lodge, a resort that also houses the Institute at the Golden Gate, will attract additional visitors to the park and expand visitor uses with the addition of a conference center for meetings, infrastructure upgrades and waterfront improvements. Native habitat restoration will improve the aesthetics for visitors to Fort Baker.
- The San Francisco Bay Trail improvement at Laguna Street and Marina Boulevard at Fort Mason includes enhancement of pedestrian and bicycle traffic flow, and landscape re-vegetation, which will improve safety at Fort Mason as well as aesthetics.
- The proposed extension of the Municipal Railway's Historic Streetcar Service would continue the F-line three blocks west from San Francisco Maritime NHP through the Fort Mason Tunnel to the Fort Mason Center at GGNRA, improving public transportation to the area and resulting in the potential for increased visitation to Upper and Lower Fort Mason.
- The Crissy Field Restoration Project restored tidal marsh and dune habitat and added a fully accessible shoreline promenade, trails, boardwalks, overlooks, picnic and seating areas, and

bicycle and inline skating paths, resulting in enhanced recreational opportunities for multiple user groups and improved and restored habitat proving improved scenic qualities.

- The Doyle Drive replacement project will make structural and seismic improvements on Doyle Drive and improve accessibility between Presidio Trust lands and GGNRA lands once complete, resulting in beneficial impacts on visitor use.
- Improvements on the Batteries to Bluffs Trail on the bluffs just north of Baker Beach have resulted in improved aesthetics for visitors that may use the Batteries to Bluffs Trail.
- Recent efforts at Lands End included development of a new promenade and overlook, resurfacing/stabilizing segments of trails, eliminating social trails and damage resulting from social trails, replanting native species in local areas, and engaging the local community in park stewardship. This could result in an increase in visitation in the future (GGNPC 2010a, 1)
- The Restoration of the Sutro Dunes involved the replanting of native vegetation, which benefitted aesthetics at the site, improving the experience for all visitors (San Francisco Examiner 2009, 1).
- The *Ocean Beach Erosion Control Project* is developing solutions to beach and coastal bluff erosion problems at Ocean Beach along Highway 1, consistent with the enhancement of natural processes. This would provide a benefit to aesthetics, which would improve visitor experience.
- A new ADA-accessible restroom and maintenance facilities are planned at Fort Funston. Although the maintenance facilities would not affect visitor use, the new and ADA accessible restroom facilities would improve facilities offered to visitors (NPS 2010h, 1).
- The *Mori Point Restoration and Trail Plan* included development of a safe and sustainable trail system to direct visitors away from restoration areas and endangered species habitat that provides a better recreational experiences for visitors, and through habitat restoration that improves aesthetics (NPS 2010j, 1)
- The Devil's Slide Tunnels Project on U.S. Route 1 will result in a bypass of Devil's Slide by two inland tunnels to provide a safe, dependable highway between the cities of Pacifica and Montara, in San Mateo County. Indirectly, this project would improve visitor access to San Mateo NPS sites.
- The *Pedro Point Headlands Stewardship Project* aims to complete ecological conservation, habitat restoration, and trail development projects, and to foster a community volunteer stewardship program at Pedro Point Headlands. These changes will improve the safety of trails, recreational opportunities, and the aesthetics of the area, which will benefit visitor experience.

Conclusion. Overall, these projects, whether short-term or long-term, could directly or indirectly result in an overall beneficial impact on visitor use and experience at the park sites considered in this plan/EIS. In general, the benefits derived by the various restoration and enhancement projects listed above could provide an enhanced visitor experience for all visitors to GGNRA sites considered in this plan/EIS. However, many of the beneficial effects to the visitor experience from these projects may not be enough of a benefit to reduce the adverse impacts from dogs on visitors who do not prefer to have dogs at the park. Proposed actions for dog management considered in the alternatives by site may result in different cumulative impacts to visitor use and experience for specific user groups or sites and are discussed below.

Cumulative Impacts Related to Dog Walking on Adjacent Recreational Lands

Some alternatives include restricting or eliminating dog walking at a particular site. In these cases, there is a potential for dog walkers currently using those sites to move to a different location in GGNRA or to a location outside the park so that they can continue to exercise their pets. Indirect impacts in adjacent

public lands are analyzed in the cumulative impacts sections for each site. In the parklands of Marin County, dogs must be walked on leash in all areas except McInnis Park, Upton Beach, and on maintained and designated fire roads in Marin County Open Space areas. A number of Marin County cities have established off-leash dog walking parks (map 26 and appendix J): Mill Valley, Novato, Larkspur, San Anselmo, San Rafael, and Sausalito. As described in the “Visitor Use by Dog Owners” section of chapter 3, leashes are required within San Francisco city limits, although 19 city parks/sites (a total of over 680 acres) allow off-leash dogs in designated areas (SFRPD 2002, 19). The San Mateo County Parks and Recreation Division prohibits dogs in all recreational lands, but a number of cities in San Mateo County have established off-leash dog play areas. The East Bay Regional Park District allows dogs in many areas except for swimming beaches and wetlands, and allows off-leash dog walking in one area. A number of cities in the East Bay have also established dog parks.

Commercial dog walking is allowed in many of the public lands neighboring GGNRA. Commercial dog walking permits are issued by the City and County of San Francisco Parks and Recreation Department, East Bay Regional Parks District, and Marin County Open Space District. These permits have set fees, limit the number of dogs allowed at any one time by one person, and can limit access to certain areas. Commercial dog walking would be allowed as part of the new GGNRA dog management regulation for alternatives B, C, and E, with commercial dog walkers restricted to the same maximum number of dogs (three) as any other dog walker. In addition, alternatives C and E would allow any dog walker, commercial or private, to obtain a permit to walk more than three dogs on leash, with a limit of six dogs. Permits would restrict use by time and area. In a ROLA, permit holders may walk one to six dogs under voice and sight control. Alternative D would not allow commercial dog walking; however, other dog walkers would be allowed to walk one to three dogs per person.

Indirect impacts on adjacent parks may occur when conditions in GGNRA units change. For example, if conditions change from allowing to prohibiting off-leash dogs in one or more sites, visitors desiring an off-leash experience for their dogs may go elsewhere. Determining where visitors would go and what specific impacts would occur in specific areas outside GGNRA is difficult. Visitors to GGNRA include local visitors, regional visitors who may have driven varying distances to reach the park, and out-of-state visitors. Depending on where visitors currently walking dogs at GGNRA are coming from, they may choose an adjacent site or one closer to the origin of their trip to exercise their dogs if conditions change at GGNRA. Although it is difficult to accurately predict the impacts in any specific public area outside GGNRA (maps 26 and 27), certain areas in close proximity to multiple GGNRA sites may experience increased visitation under some dog management alternatives; these parks are identified in the site-specific cumulative impact analyses below. Additionally, recent and potential future state budget cutbacks could also contribute to adverse cumulative effects on state parks with dog use areas that may be adversely affected by the action alternatives, such as Montara State Beach (Los Angeles Times 2010, 1; National Trust for Historic Preservation 2009, 1).

COMPLIANCE-BASED MANAGEMENT STRATEGY

In order to ensure a positive visitor experience, the dog walking regulations defined in action alternatives B, C, D, and E would be regularly enforced by park law enforcement, and compliance monitored by park staff. A compliance-based management strategy would be implemented to address noncompliance and would apply to all action alternatives. Noncompliance would include dog walking within restricted areas, dog walking under voice and sight control in designated on-leash dog walking areas, and dog walking under voice and sight control outside of established ROLAs. If noncompliance occurs, impacts to visitor experience, particularly to visitors who do not prefer dogs, has the potential to increase and become short-term minor to major adverse. It is likely that noncompliant dogs would enter areas that are prohibited from dogs and visitors would encounter off-leash dogs in on-leash areas. Visitors who do not prefer dogs may feel uncomfortable recreating in areas with noncompliant dogs and avoid these areas. To prevent

these impacts from increasing or occurring outside of the designated dog walking areas the NPS would regularly monitor all sites. When noncompliance is observed in an area, park staff would focus on enforcing the regulations, educating dog walkers, and establishing buffer zones, time and use restrictions, and SUP restrictions. If noncompliance continues and compliance falls below 75 percent (measured as the percentage of total dogs / dog walkers observed during the previous 12 months not in compliance with the regulations) the area's management would be changed to the next more restrictive level of dog management. In this case, ROLAs would be changed to on-leash dog walking areas and on-leash dog walking areas would be changed to no dog walking areas. Impacts from noncompliance could reach short-term minor to major adverse for visitors who do not prefer dogs, but the compliance-based management strategy is designed to return impacts to a level that assumes compliance, as described in the overall impacts analysis, or provide beneficial impacts where dog walking is reduced or eliminated. Impacts to visitors who prefer dogs at the park may be adversely affected from the compliance-based management strategy.

IMPACT ANALYSIS FOR ALL ALTERNATIVES

MARIN COUNTY SITES

Stinson Beach

Alternative A: No Action. Currently, on-leash dog walking is allowed in the parking lot and picnic areas but not on Stinson Beach, since it is a designated swimming beach. Visitor use by local residents walking their dogs is considered moderate to high in the picnic area, and overall visitation, including beachgoers other than dog walkers, can sometimes be high during the spring (March–May) and fall (September–October) when good weather coincides with weekends and holidays (table 9). There are very few leash law violations for the parking lot and picnic areas (five violations in 2007) (table 9). Often, visitors with dogs park at the north parking lot and walk their dogs to the county portion of Stinson Beach, which allows dogs on the beach. Compliance with the no-dog walking restriction on the park's portion of Stinson Beach is poor, with over 300 warnings for walking a dog in an area closed to pets (appendix G). In addition, dog bites/attacks are common at Stinson Beach, with 17 violations reported in 2007 (table 9). This high number is mainly due to these incidents being reported by lifeguards working on the beach.

There would be no impact on visitors who would prefer to walk dogs at the park, since visitors would continue to bring their dogs to the picnic area. They would also continue bringing their dogs to the parking lot and walking their dogs down to the county portion of Stinson Beach, which is contiguous with the northern end of the park. In addition, visitors would continue to walk dogs across Stinson Beach to reach the nearby county beach, ignoring the official “no dogs” sign posted on Stinson Beach.

Impacts on visitors who would prefer not to have dog walking at this park site would continue to be long term, minor, and adverse since on-leash dog walking would still be allowed throughout the parking lots and picnic areas. Visitors would continue to encounter dogs in the picnic areas, parking lots, and on the beach. Some visitors find that dogs can be a nuisance in the picnic areas because they interfere with picnics by sniffing or eating the food (Social Research Laboratory 2002b, 19). Some visitors may even avoid the picnic areas because of the high number of dogs during the summer months. Visitors expecting to experience the park's beach area without the presence of dogs may encounter dogs, since noncompliance on the beach would be expected to continue.

Under alternative A, no permit system exists for dog walking. At Stinson Beach, commercial dog walking is uncommon. The impacts from commercial dog walkers to visitor experience are similar to the impacts

discussed above for both visitors who would prefer to walk dogs at the park and visitors who would prefer not to have dog walking at this park site.

Cumulative Impacts. Projects and actions in and near Stinson Beach were considered for the cumulative impacts analysis (appendix K). The main project that will affect visitor use and experience at or in the vicinity of Stinson Beach is the Lower Easkoot Creek Restoration Project. This project has restored native vegetation (NPS n.d.d, 1). The creation and restoration of habitat benefits the aesthetics of the Stinson Beach area, resulting in negligible to beneficial impacts on visitor use and experience for all visitors to Stinson Beach. However, since this is a restoration project and not a project that is directly related to dog management or dog-related visitor use it would not significantly affect the cumulative analysis. Therefore, cumulative effects would not be measurable and no change in impact level or intensity is expected on either user group: those who prefer to walk dogs and those who prefer not to have dogs at the site.

Indirect Impacts on Adjacent Parks

In lands adjacent to GGNRA, there are 33 parks with dog use areas within about a 10-mile radius of Stinson Beach and 3 parks within about a 5-mile radius; the closest park is Mt. Tamalpais State Park, part of the Marin Municipal Water District, where on-leash dog walking is permitted (map 26). No indirect impacts on visitor experience in adjacent lands from increased visitor use would be expected under alternative A, since visitors would be expected to continue visiting Stinson Beach because there would be no change in current dog regulations at the site.

STINSON BEACH ALTERNATIVE A CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
No impact for visitors who would prefer to walk dogs at the park	On-leash dog walking would still be allowed on site	Negligible cumulative impacts for visitors who would prefer to walk dogs at the park
Long-term minor adverse impacts for visitors who would prefer not to have dog walking at the park	Visitors would still encounter dogs in the picnic area and parking lot and on the beach	Long-term minor adverse cumulative impacts for visitors who would prefer not to have dog walking at the park
		No indirect impacts in adjacent lands

Alternative B: NPS Leash Regulations. Alternative B would have the same dog walking restrictions as alternative A: On-leash dog walking would be allowed in the parking lots and picnic areas only. Currently, no dog walking would be allowed on the beach as it is a designated swimming beach.

Impacts on visitors who would prefer to walk dogs in the park would be negligible. Visitors would continue to bring on-leash dogs to the picnic area and parking lots at Stinson Beach. The amount of area available for dog walking would not be changed. Although the dog walking restrictions would be the same as the no-action alternative, the regulations for this alternative would be easier to enforce due to the initial education period that would occur after the new regulations are implemented. This would include educating the public and enforcing the no-dog regulation on the beach. Visitation by this user group at Stinson Beach would remain the same.

Impacts on visitors who would prefer not to have dog walking at the park would be beneficial. Even though the dog walking regulation would remain the same as the no-action alternative, impacts would be expected to be beneficial since the dog regulation would be easier to enforce, resulting in visitors not encountering dogs on the beach and allowing for a beach experience without the presence of dogs.

Visitors would continue to encounter on-leash dogs in the parking lot and picnic areas; however, they would not encounter off-leash dogs. Visitation by this user group at Stinson Beach would likely remain the same.

Under alternative B, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs on leash per person with no permit required. Since commercial dog walking is not common at Stinson Beach, it is likely that commercial dog walking would have negligible impacts on both visitors who would prefer to walk dogs at the park and visitors who would prefer not to have dog walking at the park.

Cumulative Impacts. The enhancement of the aesthetics as a result of the restoration of the Lower Easkoot Creek project would add to the visitor experience for both user groups at Stinson Beach, but would not be measurable. As a result, the analysis of impacts on visitor use for either user group would remain the same for both user groups: negligible on visitors who would prefer to walk dogs at Stinson Beach and beneficial impacts on visitors who would prefer not to have dog walking at the site.

Indirect Impacts on Adjacent Parks

No indirect impacts on visitor experience in adjacent lands from increased visitor use would be expected under alternative B since visitors would be expected to continue visiting Stinson Beach because there would be no change in current dog regulations at the site.

STINSON BEACH ALTERNATIVE B CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Negligible impacts for visitors who would prefer to walk dogs at the park	On-leash dog walking would still be allowed; on-leash restriction would be strictly enforced and dog walking on the beach would not be tolerated	Negligible cumulative impacts for visitors who would prefer to walk dogs at the park
Beneficial impacts for visitors who would prefer not to have dog walking at the park, assuming compliance	On-leash dog regulation would be strictly enforced and visitors on the beach would no longer encounter dogs	Beneficial cumulative impacts for visitors who would prefer not to have dog walking at the park
		No indirect impacts in adjacent lands

Alternative C: Emphasis on Multiple Use, Balanced by County. Alternative C would have the same dog walking restrictions as alternative B, on-leash dog walking would be allowed in the parking lots and picnic areas only. Currently, no dog walking is allowed on the beach. Impacts would also be the same: Negligible for visitors who would prefer to walk dogs in the park and beneficial for visitors who would prefer not to have dog walking in the park.

Under alternative C, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be allocated at Stinson Beach, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking is not common at Stinson Beach, it is likely that commercial dog walking would have negligible impacts on both visitors who would prefer to walk dogs at the park and visitors who would prefer not to have dog walking at the park.

Cumulative Impacts. Under alternative C, the cumulative impacts on visitor use and experience at Stinson Beach and the indirect impacts from visitors in adjacent lands would be the same as those under alternative B: negligible cumulative impacts on visitors who would prefer to walk dogs at the park, beneficial cumulative impacts on visitors who would prefer not to have dog walking at the park, and no indirect impacts in adjacent lands.

STINSON BEACH ALTERNATIVE C CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Negligible impact for visitors who would prefer to walk dogs at the park	On-leash dog walking would still be allowed; on-leash restriction would be strictly enforced and dog walking on the beach would not be tolerated	Negligible cumulative impacts for visitors who would prefer to walk dogs at the park
Beneficial impacts for visitors who would prefer not to have dog walking at the park, assuming compliance	On-leash dog regulation would be strictly enforced and visitors on the beach would no longer encounter dogs	Beneficial cumulative impacts for visitors who would prefer not to have dog walking at the park
		No indirect impacts in adjacent lands

Alternative D: Overall Most Protective of Resources/Visitor Safety. Under alternative D, dogs would not be allowed at this site.

Impacts on visitors who would prefer to walk dogs at the park would be long term, minor, and adverse. Dogs would no longer be allowed at this site, including the parking lot and picnic areas. Those visitors who use the Stinson Beach parking lot to access the county beach to walk dogs would also be indirectly affected by this alternative. Visitation by this user group at Stinson Beach would decrease.

Impacts on visitors who would prefer not to have dog walking at the park would be beneficial. Since dogs would no longer be allowed at the site, this user group would have the opportunity to experience the site without the presence of dogs. Visitors would no longer encounter dogs while picnicking or recreating at the site. Without the presence of dogs, the picnic area at Stinson Beach would also be more aesthetically pleasing, as dog waste and the smell of urine would not be present at the site. Visitation by this user group at Stinson Beach would likely increase.

Since dogs would not be allowed at this site the impacts to commercial dog walkers are similar to the impacts discussed above for visitors who would prefer to walk dogs at the park.

Cumulative Impacts. The Lower Easkoot Creek Restoration Project would not directly affect dog management proposed under alternative D or dog-related visitor use; therefore, no measurable effect would occur as a result of cumulative effects. The analysis of impacts on visitor use for either user group would remain the same: impacts on visitors who would prefer to walk dogs at the park would be long term, minor, and adverse and impacts on visitors who would prefer not to have dog walking at the park would be beneficial.

Indirect Impacts on Adjacent Parks

Mount Tamalpais is the closest area for dog walking outside GGNRA. This site is located in the Marin Municipal Water District and allows on-leash dog walking. Adjacent lands may experience increased visitation under alternative D since dogs would no longer be allowed at Stinson Beach. This would result

in negligible impacts to long-term minor adverse indirect impacts on visitor experience in adjacent lands due to the potential for these lands to become more crowded with new visitors and dogs.

STINSON BEACH ALTERNATIVE D CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Long-term minor adverse impacts for visitors who would prefer to walk dogs at the park	Visitors would no longer be allowed to walk dogs on site	Long-term minor adverse cumulative impacts for visitors who would prefer to walk dogs at the park
Beneficial impacts for visitors who would prefer not to have dog walking at the park, assuming compliance	Dog walking would not be allowed on site; a no-dog experience would be available	Beneficial cumulative impacts for visitors who would prefer not to have dog walking at the park
		Negligible to long-term minor adverse indirect impacts in adjacent lands

Alternative E: Overall Most Dog Walking Access/Most Management Intensive. Alternative E would have the same dog walking restrictions as alternative B, and impacts would also be the same: Negligible for visitors who would prefer to walk dogs in the park and beneficial for visitors who would prefer not to have dog walking in the park.

Under alternative E, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be allocated at Stinson Beach, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking is not common at Stinson Beach, it is likely that commercial dog walking would have negligible impacts on both visitors who would prefer to walk dogs at the park and visitors who would prefer not to have dog walking at the park.

Cumulative Impacts. Because restoration of Lower Easkoot Creek enhances visitor experience for all visitors but would not directly affect dog management or dog-related visitor use at Stinson Beach, under alternative E, the cumulative impacts on visitor use and experience at Stinson Beach and the indirect impacts from visitors in adjacent lands would not be significant enough to be measurable. As a result, cumulative impacts would be the same as those under alternative B: negligible cumulative impacts on visitors who would prefer to walk dogs at the park, beneficial impacts on visitors who would prefer not to have dog walking at the park, and no indirect impacts in adjacent lands.

STINSON BEACH ALTERNATIVE E CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Negligible impacts for visitors who would prefer to walk dogs at the park	On-leash dog walking would still be allowed; on-leash restriction would be strictly enforced and dog walking on the beach would not be tolerated	Negligible cumulative impacts for visitors who would prefer to walk dogs at the park
Beneficial impacts for visitors who would prefer not to have dog walking at the park, assuming compliance	On-leash dog regulation would be strictly enforced and visitors on the beach would no longer encounter dogs	Beneficial cumulative impacts for visitors who would prefer not to have dog walking at the park
		No indirect impacts in adjacent lands

Preferred Alternative. Alternative C was selected as the preferred alternative for Stinson Beach. On-leash dog walking would be allowed in the parking lots and picnic areas only. Currently no dog walking is allowed on the beach since it is a designated swimming beach.

Impacts on visitors who would prefer to walk dogs at the park would be negligible. Visitors would continue to bring on-leash dogs to the picnic area and parking lots at Stinson Beach. The amount of area available to dog walking would not be changed. Although the dog walking restrictions would be the same as the no-action alternative, the regulations for this alternative would be easier to enforce due to the initial education period that would occur after the new regulations are implemented. This would include educating the public and enforcing the no-dog regulation on the beach. Visitation by this user group at Stinson Beach would remain the same.

Impacts on visitors who would prefer not to have dog walking at the park would be beneficial. Even though the dog walking regulation would remain the same as the no-action alternative, impacts would be expected to be beneficial since the dog walking regulation would be easier to enforce, resulting in visitors not encountering dogs on the beach and allowing for a beach experience without the presence of dogs. Visitors would continue to encounter on-leash dogs in the parking lot and picnic areas; however, they would not encounter off-leash dogs. Visitation by this user group at Stinson Beach would likely remain the same.

All dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be allocated at Stinson Beach, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking activity at Stinson Beach is not common, it is likely that commercial dog walking would have negligible impacts on both visitors who would prefer to walk dogs at the park and visitors who would prefer not to have dog walking at the park.

Cumulative Impacts. Projects and actions in and near Stinson Beach were considered for the cumulative impacts analysis (appendix K). The main project that will affect visitor use and experience at or in the vicinity of Stinson Beach is the Lower Easkoot Creek Restoration Project (NPS n.d.d, 1). This project has restored native vegetation, which, in turn, has enhanced the aesthetics of the Stinson Beach area, resulting in beneficial impacts on visitor use and experience for all visitors to the site. However, this project does not directly affect dog management or dog-related visitor use; it does not alter the initial impact assessment of alternative C. As a result, the impacts to visitors who would prefer to walk dogs at the park under the preferred alternative would be negligible; visitors who would prefer not to have dog walking at this park site would benefit from the actions of the preferred alternative.

Indirect Impacts on Adjacent Parks

In lands adjacent to GGNRA, there are 33 parks with dog use areas within about a 10-mile radius of Stinson Beach and 3 parks within about a 5-mile radius; the closest park is Mt. Tamalpais State Park, part of the Marin Municipal Water District, where on-leash dog walking is allowed (map 26). No indirect impacts on visitor experience in adjacent lands from increased visitor use would be expected under the preferred alternative, since visitors would be expected to continue visiting Stinson Beach because there would be no change in current dog regulations at the site.

STINSON BEACH PREFERRED ALTERNATIVE CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Negligible impacts for visitors who would prefer to walk dogs at the park	On-leash dog walking would still be allowed; on-leash restriction would be strictly enforced and dog walking on the beach would not be tolerated	Negligible cumulative impacts for visitors who would prefer to walk dogs at the park
Beneficial impacts for visitors who would prefer not to have dog walking at the park, assuming compliance	On-leash dog regulation would be strictly enforced and visitors on the beach would no longer encounter dogs	Beneficial cumulative impacts for visitors who would prefer not to have dog walking at the park
		No indirect impacts in adjacent lands

Homestead Valley

Alternative A: No Action. Dog walking under voice control or on leash is allowed throughout the Homestead Valley site. The site is primarily used by local residents and dog walking is generally considered a low use activity (table 9). There are no leash law violations or dog bites/attacks on record for this site in 2007/2008 (table 9).

Under the no-action alternative, there would be no impact on the visitor experience of visitors who would prefer to walk dogs at the park. Dog walkers would continue to allow their dogs off leash and under voice control throughout the site. Having dogs off leash and playing throughout the area may add to the park experience for visitors with dogs. No change in visitation by this user group at Homestead Valley would be expected.

Impacts on visitors who would prefer to visit the park without dog walking would be long term, minor, and adverse. Visitors would continue to encounter both on-leash dogs and dogs under voice control at this site. Even though this site is primarily used by local dog walkers, other visitors to this park site are currently not able to have a no-dog experience. Visitation by this user group at Homestead Valley would have the potential to decrease due to the presence of dogs.

Under alternative A, no permit system exists for dog walking. At Homestead Valley, commercial dog walking is uncommon. The impacts from commercial dog walkers to visitor experience are similar to the impacts discussed above for both visitors who would prefer to walk dogs at the park and visitors who would prefer not to have dog walking at this park site.

Cumulative Impacts. Projects and actions in and near Homestead Valley were considered for the cumulative impacts analysis (appendix K). The main action that will affect visitor use and experience is the planned trail improvements at Homestead Valley to formalize and designate trails to connect to the existing neighborhood trails. Beneficial impacts would be expected on visitor use and experience from this action for visitors to Homestead Valley that originate in the neighboring community. Trail improvements and connectivity with the local neighborhoods would be expected to enhance visitor accessibility and potentially increase use from the local population. As a result, visitation for either user group could increase. Cumulatively, the benefit of improved access to Homestead Valley could enhance the beneficial effects for visitors who would prefer to walk dogs at this park site under alternative A (no impact). For visitors who would prefer not to have dog walking at Homestead Valley, although Homestead Valley has traditionally been a low use area, trail improvements could result in additional encounters with dogs including unexpected encounters with dogs off leash. However, because the area is a low use area, and used primarily by the neighboring residents, a possible increase in use by neighboring

individuals is not expected to be significant enough to alter the intensity of the expected long-term, minor adverse impacts from the implementation of alternative A. For visitors who prefer not to have dog walking at the site and who may visit from outside of the adjacent neighborhood, the improved accessibility for the local neighborhood and the potential for increased use by the neighboring population could also result in an increase in encounters with dogs. However, cumulative impacts resulting from the improved trail access and alternative A are not expected to be significant enough to alter the intensity of impact from long-term, minor and adverse.

Indirect Impacts on Adjacent Parks

In lands adjacent to GGNRA, there are 38 parks with dog use areas within a 10-mile radius of Homestead Valley and 26 parks within a 5-mile radius; the closest parks are Old Mill Park and Plaza, which are part of the City of Mill Valley (map 26). The closest parks with off-leash dog use areas are Bayfront Park in Mill Valley and Camino Alto Open Space Preserve (fire roads in the latter location permit off-leash access). No indirect impacts on visitor experience in adjacent lands from increased visitor use would be expected under alternative A, since visitors would be expected to continue visiting Homestead Valley because there would be no change in current dog regulations at the site.

HOMESTEAD VALLEY ALTERNATIVE A CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
No impact for visitors who would prefer to walk dogs at the park	Off-leash dog walking would still be allowed on site	Beneficial cumulative impacts for visitors who would prefer to walk dogs at the park
Long-term minor adverse impacts for visitors who would prefer not to have dog walking at the park	Visitors would still encounter dogs off leash throughout the site	Negligible cumulative impacts for visitors who would prefer not to have dog walking at the park
		No indirect impacts in adjacent lands

Alternative B: NPS Leash Regulations. Under alternative B, on-leash dog walking would be allowed only on Homestead Fire Road and on neighborhood connector trails that may be designated in the future. On-leash dog walking would be based on an allowed 6-foot dog leash.

Impacts on visitors who would prefer to walk dogs at the park would be long term, minor, and adverse. Dogs would no longer be allowed to run off leash throughout the entire site. Dogs would be required to be on leash and the area available for dog walking would be reduced. Adverse impacts would be expected for visitors who enjoy watching and playing with dogs off leash. Dog owners may also feel that their pets are not receiving adequate exercise when restrained on a 6-foot leash. Some visitors in this user group may find a different park to exercise their dogs off leash. As a result, visitation by local residents may decrease slightly in this area.

Impacts on visitors who would prefer not to have dog walking at the park would be beneficial. Since dogs would be required to be on leash, visitors would no longer encounter dogs under voice control. Visitors who would prefer not to have dog walking at the park may feel more comfortable recreating at Homestead Valley since dogs would now be restrained on leash. In addition, dog walking would be restricted to the fire road and connecting trails (in the future). Visitation by this user group at Homestead Valley would have the potential to increase.

Under alternative B, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs on leash per person with no permit required. Since commercial dog walking at Homestead

Valley is not common, it is likely that commercial dog walking would have negligible impacts on both visitors who would prefer to walk dogs at the park and visitors who would prefer not to have dog walking at the park.

Cumulative Impacts. Trail improvements at Homestead Valley to formalize and designate trails to connect to the existing neighborhood trails. Beneficial impacts would be expected on visitor use and experience from this action for visitors to Homestead Valley that originate in the neighboring community. Trail improvements and connectivity with the local neighborhoods would be expected to enhance visitor accessibility and potentially increase use from the local population. As a result, visitation for either user group could increase. Cumulatively, the benefit of improved access to Homestead Valley a low use area, and used primarily by the neighboring residents, is not expected to be measurable and would not alter the intensity of the expected impacts from the implementation of alternative B for either user group: negligible for visitors who would prefer to have dog walking and beneficial for those visitors who would prefer not to have dog walking at the site.

Indirect Impacts on Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation under alternative B since dog walking would be limited to a few trails or fire roads and no dog walking under voice control would be available. However, only negligible indirect impacts on visitor experience in adjacent lands from increased visitor use would be expected since Homestead Valley is a low use site for dog walkers.

HOMESTEAD VALLEY ALTERNATIVE B CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Long-term minor adverse impacts for visitors who would prefer to walk dogs at the park	Dog walking would be allowed on leash and in designated areas	Negligible cumulative impacts for visitors who would prefer to walk dogs at the park
Beneficial impacts for visitors who would prefer not to have dog walking at the park, assuming compliance	Off-leash dog walking would no longer be allowed; on-leash dog walking would be allowed only in restricted areas	Beneficial cumulative impacts for visitors who would prefer not to have dog walking at the park
		Negligible indirect impacts in adjacent lands

Alternative C: Emphasis on Multiple Use, Balanced by County. Alternative C would have the same dog walking restrictions as alternative B, and impacts would also be the same: long term, minor, and adverse for visitors who would prefer to walk dogs in the park and beneficial for visitors who would prefer to visit the park without the presence of dogs.

Under alternative C, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be granted at Homestead Valley, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking is not common at Homestead Valley, it is likely that commercial dog walking would have negligible impacts on both visitors who would prefer to walk dogs at the park and visitors who would prefer not to have dog walking at the park.

Cumulative Impacts. Under alternative C, the cumulative impacts at this park site and the indirect impacts in adjacent lands would be the same as those under alternative B: negligible impacts on visitors

who would prefer to walk dogs at this park site, beneficial impacts on visitors who would prefer not to have dog walking at this park site, and negligible indirect impacts in adjacent lands.

HOMESTEAD VALLEY ALTERNATIVE C CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Long-term minor adverse impacts for visitors who would prefer to walk dogs at the park	Dog walking would be allowed on leash and in designated areas	Negligible cumulative impacts for visitors who would prefer to walk dogs at the park
Beneficial impacts for visitors who would prefer not to have dog walking at the park, assuming compliance	Off-leash dog walking would no longer be allowed; on-leash dog walking would be allowed only in restricted areas	Beneficial cumulative impacts for visitors who would prefer not to have dog walking at the park
		Negligible indirect impacts in adjacent lands

Alternative D: Overall Most Protective of Resources/Visitor Safety. Under alternative D, on-leash dog walking would be allowed only on Homestead Fire Road; dogs would be prohibited in other areas on site. On-leash dog walking would be based on an allowed 6-foot dog leash.

Impacts on visitors who would prefer to walk dogs at the park would be long term, minor, and adverse. Dogs would no longer be allowed to run off leash throughout the entire site. Dog walking would be required to be on leash and the area available for dog walking would be reduced to one trail. Since the majority of the users of Homestead Valley live in the surrounding communities and many visitors use the connector trails to access Homestead Fire Road, adverse impacts on dog walkers would be expected. Adverse impacts would be expected for visitors who enjoy watching and playing with dogs off leash. Dog owners may also feel that their pets are not receiving adequate exercise when restrained on a 6-foot leash. Some visitors in this user group may find a different park to exercise their dogs off leash. As a result, visitation by local residents at Homestead Valley may decrease slightly.

Impacts on visitors who would prefer not to have dog walking at the site would be beneficial. Since dogs would be required to be on leash, visitors would no longer encounter dogs under voice control. Visitors who would prefer not to have dog walking at the park may feel more comfortable recreating at Homestead Valley since dogs would now be restrained on leash. In addition, dog walking would be restricted to the fire road; therefore, a no-dog experience would be available for this user group. Visitation by this user group at Homestead Valley would have the potential to increase.

No commercial dog walking would be allowed under alternative D. Private dog walkers would be allowed up to three dogs. Since commercial dog walking is not common at Homestead Valley, it is likely that prohibiting commercial dog walking from this site would have negligible impacts on both visitors who would prefer to walk dogs at the park and visitors who would prefer not to have dog walking at the park.

Cumulative Impacts. Trail improvements at Homestead Valley to formalize and designate trails to connect to the existing neighborhood trails. Beneficial impacts would be expected on visitor use and experience for visitors to Homestead Valley that originate in the neighboring community. Trail improvements and connectivity with the local neighborhoods would be expected to enhance visitor accessibility and potentially increase use from the local population. As a result, visitation for either user group could increase. Cumulatively, the benefit of improved access to Homestead Valley a low use area, and used primarily by the neighboring residents, is not expected to be significant enough to alter the intensity of the expected impacts from the implementation of alternative D for either user group:

beneficial for visitors preferring not to have dog walking at the site and long-term, minor and adverse for visitors who prefer to walk dogs at the site.

Indirect Impacts on Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation under alternative D since dog walking would be limited to the fire road and no dog walking under voice control would be available. However, only negligible indirect impacts on visitor experience in adjacent lands from increased visitor use would be expected since Homestead Valley is a low use site for dog walkers.

HOMESTEAD VALLEY ALTERNATIVE D CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Long-term minor adverse impacts for visitors who would prefer to walk dogs at the park	Dog walking would be allowed on leash and in designated areas	Negligible cumulative impacts for visitors who would prefer to walk dogs at the park
Beneficial impacts for visitors who would prefer not to have dog walking at the park, assuming compliance	Off-leash dog walking would no longer be allowed; on-leash dog walking would be allowed only in restricted areas; a no-dog experience would be available	Beneficial cumulative impacts for visitors who would prefer not to have dog walking at the park
		Negligible indirect impacts in adjacent lands

Alternative E: Overall Most Dog Walking Access/Most Management Intensive. Alternative E would have the same dog walking restrictions as alternative B, and impacts would also be the same: long term, minor, and adverse for visitors who would prefer to walk dogs in the park and beneficial for visitors who would prefer to visit the park without the presence of dogs.

Under alternative E, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be granted at Homestead Valley, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking is not common at Homestead Valley, it is likely that commercial dog walking would have negligible impacts on both visitors who would prefer to walk dogs at the park and visitors who would prefer not to have dog walking at the park.

Cumulative Impacts. Under alternative E, the cumulative impacts at this park site and the indirect impacts in adjacent lands would be the same as those under alternative B: negligible impacts on visitors who would prefer to walk dogs at this park site, beneficial impacts on visitors who would prefer not to have dog walking at this park site, and negligible indirect impacts in adjacent lands.

HOMESTEAD VALLEY ALTERNATIVE E CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Long-term minor adverse impacts for visitors who would prefer to walk dogs at the park	Dog walking would be allowed on leash and in designated areas	Negligible cumulative impacts for visitors who would prefer to walk dogs at the park
Beneficial impacts for visitors who would prefer not to have dog walking at the park, assuming compliance	Off-leash dog walking would no longer be allowed; on-leash dog walking would be allowed only in restricted areas	Beneficial cumulative impacts for visitors who would prefer not to have dog walking at the park
		Negligible indirect impacts in adjacent lands

Preferred Alternative. Alternative C was selected as the preferred alternative for Homestead Valley. On-leash dog walking would be allowed only on Homestead Fire Road and on neighborhood connector trails that may be designated in the future. On-leash dog walking would be based on an allowed 6-foot dog leash.

Impacts on visitors who would prefer to walk dogs at the park would be long term, minor, and adverse. Dogs would no longer be allowed to run off leash throughout the entire site. Dogs would be required to be on leash and the area available for dog walking would be reduced. Adverse impacts would be expected for visitors who enjoy watching and playing with dogs off leash. Dog owners may also feel that their pets are not receiving adequate exercise when restrained on a 6-foot leash. Some visitors in this user group may find a different park to exercise their dogs off leash. As a result, visitation by local residents may decrease slightly in this area.

Impacts on visitors who would prefer not to have dog walking at the park would be beneficial. Since dogs would be required to be on leash, visitors would no longer encounter dogs under voice control. Visitors who would prefer not to have dog walking at the park may feel more comfortable recreating at Homestead Valley since dogs would now be restrained on leash. In addition, dog walking would be restricted to the fire road and connecting trails (to be designated in the future). Visitation by this user group at Homestead Valley would have the potential to increase.

All dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be granted at Homestead Valley, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking is not common at Homestead Valley, it is likely that commercial dog walking would have negligible impacts on both visitors who would prefer to walk dogs at the park and visitors who would prefer not to have dog walking at the park.

Cumulative Impacts. Trail improvements at Homestead Valley to formalize and designate trails to connect to the existing neighborhood trails. Beneficial impacts would be expected on visitor use and experience from this action for visitors to Homestead Valley that originate in the neighboring community. Trail improvements and connectivity with the local neighborhoods would be expected to enhance visitor accessibility and potentially increase use from the local population. As a result, visitation for either user group could increase. Cumulatively, the benefit of improved access to Homestead Valley a low use area, and used primarily by the neighboring residents, is not expected to be measurable and would not alter the intensity of the expected impacts from the implementation of alternative B for either user group: negligible for visitors who would prefer to have dog walking and beneficial for those visitors who would prefer not to have dog walking at the site.

Indirect Impacts on Adjacent Parks

In lands adjacent to GGNRA, there are 38 parks with dog use areas within a 10-mile radius of Homestead Valley and 26 parks within a 5-mile radius; the closest parks are Old Mill Park and Plaza, which are part of the City of Mill Valley (map 26). The closest parks with off-leash dog use areas are Bayfront Park in Mill Valley and Camino Alto Open Space Preserve (fire roads in the latter location permit off-leash access). The adjacent lands may experience increased visitation since dog walking would be limited to a few trails or fire roads and no dog walking under voice control would be available. However, only negligible indirect impacts on visitor experience in adjacent lands from increased visitor use would be expected since Homestead Valley is a low use site for dog walkers.

HOMESTEAD VALLEY PREFERRED ALTERNATIVE CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Long-term minor adverse impacts for visitors who would prefer to walk dogs at the park	Dog walking would be allowed on leash and in designated areas	Negligible cumulative impacts for visitors who would prefer to walk dogs at the park
Beneficial impacts for visitors who would prefer not to have dog walking at the park, assuming compliance	Off-leash dog walking would no longer be allowed; on-leash dog walking would be allowed only in restricted areas	Beneficial cumulative impacts for visitors who would prefer not to have dog walking at the park
		Negligible indirect impacts in adjacent lands

Alta Trail/Orchard Fire Road/Pacheco Fire Road

Alternative A: No Action. Under the no-action alternative, dog walking under voice control would continue on the Alta Trail and fire roads at this site from Marin City to Oakwood Valley. Local and commercial dog walking use of the Alta Trail is high due to the direct access to the site, less than 2 miles off Highway 101, from the end of a public street. Park staff members have observed that commercial dog walkers sometimes walk from 5 to 12 dogs at a time, resulting in 30 to 50 dogs in the area during the periods of heaviest use. This heavy use has resulted in dog waste and urine odors offensive to other user groups such as runners, bicyclists, and hikers. Violations are low for this site, with only eight occurring in 2007/2008, and no dog bites/attacks were reported during this time (table 9).

There would be no impact on visitors who would prefer to walk dogs at the site. Visitors would continue to walk dogs under voice control on the trail and fire roads throughout the site. Having dogs off leash and playing throughout the area may add to the park experience for this user group. Commercial dog walking use would continue to be high in this area, with no limit to the number of dogs walked per person. The high visitation by this user group would remain the same.

Impacts on visitors who would prefer not to have dog walking at the park would continue to be long term, moderate, and adverse. Under the no-action alternative, visitors would continue to encounter a high number of dogs under voice control throughout the site. Currently, it is difficult and unusual for visitors at this park site to have a no-dog experience. In addition, the high number of commercial dog walkers at this site with off-leash dogs would continue to discourage other user groups from recreating at this site. Visitation by this user group would likely decrease and remain low.

Under alternative A, no permit system exists for dog walking; however, commercial dog walkers frequently use Alta Trail, Orchard Fire Road, and Pacheco Fire Road for dog walking activities. Under alternative A, there would be no impacts from commercial dog walking on visitors who would prefer to

walk dogs at the park. Visitors would continue to walk more than three dogs per walker and some visitors would continue to enjoy the presence of the multiple dogs. Impacts from commercial dog walking on visitors who would prefer not to have dog walking at the park would be long term, moderate, and adverse. Some visitors may feel uncomfortable recreating in this area if multiple dog walkers have more than three dogs under voice control at one time.

Cumulative Impacts. There are no known projects or actions that have had, are currently having, or will have effects on visitor use and experience in the vicinity of this park site; however, there is the potential for unknown or unidentified projects or actions to occur during the life of this plan. As a result, cumulative impacts are considered negligible because they cannot be accurately assessed for this site. Therefore, no alteration to the results of the impact assessment are expected for any of the alternative actions proposed for the site and the results of the impact analysis for alternative A will be the only contributing factor to the cumulative impact analysis for visitor use and experience.

There would be no impact on the visitor use and experience for visitors who would prefer to walk dogs at the park under alternative A, and a negligible cumulative impact on this user group. Impacts on the visitor use and experience of visitors who would prefer not to have dog walking at the park would be long term, moderate, and adverse under alternative A.

Indirect Impacts on Adjacent Parks

In lands adjacent to GGNRA, there are 31 parks with dog use areas within about a 10-mile radius of Alta Trail, Orchard Fire Road, and Pacheco Fire Road and 19 parks within about a 5-mile radius; the closest park is Remington Dog Park in Sausalito, which permits off-leash dog use (map 26). No indirect impacts on visitor experience in adjacent lands from increased visitor use would be expected under alternative A, since visitors would be expected to continue visiting the Alta Trail and the fire roads because there would be no change in current dog regulations at the site.

ALTA TRAIL/ORCHARD FIRE ROAD/PACHECO FIRE ROAD ALTERNATIVE A CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
No impact for visitors who would prefer to walk dogs at the park	Off-leash dog walking would still be allowed on site	Negligible cumulative impacts for visitors who would prefer to walk dogs at the park
Long-term moderate adverse impacts for visitors who would prefer not to have dog walking at the park	Visitors would encounter off-leash dogs throughout the site; site is high use area for dog walkers	Long term moderate adverse cumulative impacts for visitors who would prefer not to have dog walking at the park
		No indirect impacts in adjacent lands

Alternative B: NPS Leash Regulations. Alternative B would allow on-leash dog walking on the Alta Trail to Orchard Fire Road, Orchard Fire Road, and Pacheco Fire Road. On-leash dog walking would be based on a 6-foot leash.

Impacts on visitors who would prefer to walk dogs at the park would be long term, minor, and adverse. Dogs would no longer be allowed to run off leash throughout the entire site. Dog walking would be required to be on leash, although the area available for dog walking would remain the same. Adverse impacts would be expected for visitors who enjoy watching and playing with dogs off leash. Dog owners may also feel that their pets are not receiving adequate exercise when restrained on a 6-foot leash. Some

visitors in this user group may find a different park to exercise their dogs off leash. As a result, visitation by local residents may decrease slightly in this area.

Impacts on visitors who would prefer not to have dog walking at the park would be beneficial. Since dogs would be required to be on leash, visitors would no longer encounter dogs under voice control. Visitors who would prefer not to have dog walking at the park may feel more comfortable recreating at this site since dogs would now be restrained on leash. In addition, beneficial impacts would result from a reduction of dog waste at the site since dog walkers are more likely to clean up after their pets when walking them on leash. Visitation by this user group at Alta Trail, Orchard Fire Road, and Pacheco Fire Road would have the potential to increase.

Under alternative B, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs on leash per person with no permit required. Since commercial dog walking at Alta Trail, Orchard Fire Road, and Pacheco Fire Road is a high use activity, impacts on visitors who would prefer to walk dogs at the park would be long term, minor, and adverse. Commercial and private dog walkers looking to walk more than three dogs would have to move to a different location, outside the park. A reduction in the number of dogs walked per person would result in beneficial impacts for visitors who would prefer not to have dog walking at the park.

Cumulative Impacts. As stated under alternative A, there are no known projects or actions that have had, are currently having, or will have effects on visitor use and experience in the vicinity of this park site and there is the potential for unknown or unidentified projects or actions to occur during the life of this plan. As a result, cumulative impacts are considered negligible because they cannot be accurately assessed for this site. Therefore, no alteration to the results of the impact assessment are expected for any of the alternative actions proposed for the site and the results of the impact analysis for alternative B will be the only contributing factor to the cumulative impact analysis for visitor use and experience under alternative B.

There would be long-term minor adverse impacts on the visitor use and experience of visitors who would prefer to walk dogs at the park under alternative B, resulting in long-term minor adverse cumulative impacts on this user group. Impacts on the visitor use and experience of visitors who would prefer not to have dog walking at the park would be beneficial under alternative B, resulting in beneficial cumulative impacts on this user group.

Indirect Impacts on Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation by individual and commercial dog walkers under alternative B, particularly Remington Dog Park, because it is the closest dog use area. Indirect impacts on visitor experience in adjacent lands would be expected since dog walking under voice control would no longer be allowed at this site. Because Alta Trail/Orchard Fire Road/Pacheco Fire Road is a high use site for dog walking, this would result in long-term minor adverse indirect impacts on visitor experience in adjacent lands due to the potential for these lands to become more crowded with new visitors and dogs.

ALTA TRAIL/ORCHARD FIRE ROAD/PACHECO FIRE ROAD ALTERNATIVE B CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Long-term minor adverse impacts for visitors who would prefer to walk dogs at the park	Off-leash dog walking would no longer be allowed; on-leash dog walking would be allowed only in designated areas	Long-term minor adverse cumulative impacts for visitors who would prefer to walk dogs at the park
Beneficial impacts for visitors who would prefer not to have dog walking at the park, assuming compliance	Off-leash dog walking would no longer be allowed; on-leash dog walking would be allowed only in restricted areas	Beneficial cumulative impacts for visitors who would prefer not to have dog walking at the park
		Long-term minor adverse indirect impacts in adjacent lands

Alternative C: Emphasis on Multiple Use, Balanced by County. Alternative C would have the same dog walking restrictions as alternative B, and impacts would also be the same: long term, minor, and adverse for visitors who would prefer to walk dogs at the park and beneficial for visitors who would prefer not to have dog walking at the park.

Under alternative C, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. Any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. Permits would be allowed in Alta Trail, Orchard Fire Road, and Pacheco Fire Road, and the permit may restrict use by time and area. Since commercial dog walking activity at this site is high, impacts on visitors who would prefer to walk dogs off-leash or walk more than six dogs at the park would be long term, minor, and adverse. Commercial and private dog walkers looking to walk more than six dogs would have to move to a different location, outside the park. Additional impacts on visitor use and experience would result from the permit application process. A reduction in the number of dogs walked per person would result in beneficial impacts for visitors who would prefer not to have dog walking at the park.

Cumulative Impacts. As stated under alternative A, there are no known projects or actions that have had, are currently having, or will have effects on visitor use and experience in the vicinity of this park site and there is the potential for unknown or unidentified projects or actions to occur during the life of this plan. As a result, cumulative impacts are considered negligible because they cannot be accurately assessed for this site. Therefore, no alteration to the results of the impact assessment are expected for any of the alternative actions proposed for the site and the results of the impact analysis for alternative C will be the only contributing factor to the cumulative impact analysis for visitor use and experience under alternative C.

Under alternative C, the cumulative impacts on visitor use and experience at this park site and the indirect impacts in adjacent lands would be the same as those under alternative B: long-term minor adverse on visitors who would prefer to walk dogs at the park, beneficial impacts on visitors who would prefer not to have dog walking at the park, and long-term minor adverse indirect impacts on visitor experience in adjacent lands.

ALTA TRAIL/ORCHARD FIRE ROAD/PACHECO FIRE ROAD ALTERNATIVE C CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Long-term minor adverse impacts for visitors who would prefer to walk dogs at the park	Off-leash dog walking would no longer be allowed; on-leash dog walking would be allowed only in designated areas	Long-term minor adverse cumulative impacts for visitors who would prefer to walk dogs at the park
Beneficial impacts for visitors who would prefer not to have dog walking at the park, assuming compliance	Off-leash dog walking would no longer be allowed; on-leash dog walking would be allowed only in restricted areas	Beneficial cumulative impacts for visitors who would prefer not to have dog walking at the park
		Long-term minor adverse indirect impacts in adjacent lands

Alternative D: Overall Most Protective of Resources/Visitor Safety. Under alternative D, dogs would be prohibited at this site.

Impacts on visitors who would prefer to walk dogs at the park would be long term, moderate, and adverse since this is a high use area for dog walkers. Visitors would no longer be able to play, run, and socialize with their dogs at this park site. Since dog walking would no longer be allowed at this site, visitors from this user group would likely begin to use a different park site or an area outside park boundaries for dog walking. Visitation by this user group would decrease immensely.

Impacts on visitors who would prefer not to have dog walking at the park would be beneficial. Prohibiting dogs would allow multiple user groups (runners, bicyclists, hikers) to experience the Alta Trail and Orchard and Pacheco fire roads without the presence of dogs. Visitation by this user group would increase at this site.

Since dogs would not be allowed at this site the impacts to commercial dog walkers are similar to the impacts discussed above for visitors who would prefer to walk dogs at the park.

Cumulative Impacts. As stated under alternative A, there are no known projects or actions that have had, are currently having, or will have effects on visitor use and experience in the vicinity of this park site and there is the potential for unknown or unidentified projects or actions to occur during the life of this plan. As a result, cumulative impacts are considered negligible because they cannot be accurately assessed for this site. Therefore, no alteration to the results of the impact assessment are expected for any of the alternative actions proposed for the site and the results of the impact analysis for alternative D will be the only contributing factor to the cumulative impact analysis for visitor use and experience under alternative D. There would be long-term moderate adverse impacts on the visitor use and experience of visitors who would prefer to walk dogs at the park under alternative D. Impacts on the visitor use and experience of visitors who would prefer not to have dog walking at the park would be beneficial under alternative D.

Indirect Impacts on Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation by individual and commercial dog walkers under alternative D, particularly Remington Dog Park. Indirect impacts on visitor experience in adjacent lands would be expected since dog walking would no longer be allowed at this site. Because Alta Trail/Orchard Fire Road/Pacheco Fire Road is a high use site for dog walking, this would result in long-term minor to moderate adverse indirect impacts on visitor experience in adjacent lands due to the potential for these lands to become more crowded with new visitors and dogs.

ALTA TRAIL/ORCHARD FIRE ROAD/PACHECO FIRE ROAD ALTERNATIVE D CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Long-term moderate adverse impacts for visitors who would prefer to walk dogs at the park	Dog walking would not be allowed at this site; site is high dog walking use area	Long-term moderate adverse cumulative impacts for visitors who would prefer to walk dogs at the park
Beneficial impacts for visitors who would prefer not to have dog walking at the park, assuming compliance	Dog walking would no longer be allowed at the site	Beneficial cumulative impacts for visitors who would prefer not to have dog walking at the park
		Long-term minor to moderate adverse indirect impacts in adjacent lands

Alternative E: Overall Most Dog Walking Access/Most Management Intensive. Alternative E would have the same dog walking restrictions as alternative B, and impacts would also be the same: long term, minor, and adverse for visitors who would prefer to walk dogs at the park and beneficial for visitors who would prefer not to have dog walking at the park.

Under alternative E, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. Any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs., and the permit may restrict use by time and area. Permits would be allowed at this site. Since commercial dog walking at Alta Trail, Orchard Fire Road, and Pacheco Fire Road is high, impacts on visitors who would prefer to walk dogs off-leash or walk more than six dogs at the park would be long term, minor, and adverse. Commercial and private dog walkers looking to walk more than six dogs would have to move to a different location, outside the park. Additional impacts on visitor use and experience would result from the permit application process. A reduction in the number of dogs walked per person would result in beneficial impacts on visitors who would prefer not to have dog walking at the park.

Cumulative Impacts. As stated under alternative A, there are no known projects or actions that have had, are currently having, or will have effects on visitor use and experience in the vicinity of this park site and there is the potential for unknown or unidentified projects or actions to occur during the life of this plan. As a result, cumulative impacts are considered negligible because they cannot be accurately assessed for this site. Therefore, no alteration to the results of the impact assessment are expected for any of the alternative actions proposed for the site and the results of the impact analysis for alternative E will be the only contributing factor to the cumulative impact analysis for visitor use and experience under alternative E. Under alternative E, the impacts on visitor use and experience at this park site and the indirect impacts in adjacent lands would be the same as those under alternative B: long-term minor adverse impacts on visitors who would prefer to walk dogs at the park, beneficial impacts on visitors who would prefer not to have dog walking at the park, and long-term minor adverse indirect impacts on visitor experience in adjacent lands.

ALTA TRAIL/ORCHARD FIRE ROAD/PACHECO FIRE ROAD ALTERNATIVE E CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Long-term minor adverse impacts for visitors who would prefer to walk dogs at the park	Off-leash dog walking would no longer be allowed; on-leash dog walking would be allowed only in designated areas	Long-term minor adverse cumulative impacts for visitors who would prefer to walk dogs at the park

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Beneficial impacts for visitors who would prefer not to have dog walking at the park, assuming compliance	Off-leash dog walking would no longer be allowed; on-leash dog walking would be allowed only in restricted areas	Beneficial cumulative impacts for visitors who would prefer not to have dog walking at the park
		Long-term minor adverse indirect impacts in adjacent lands

Preferred Alternative. Alternative C was selected as the preferred alternative for Alta Trail, Orchard Fire Road, and Pacheco Fire Road. The preferred alternative would allow on-leash dog walking on the Alta Trail to Orchard Fire Road, Orchard Fire Road, and Pacheco Fire Road. On-leash dog walking would be based on a 6-foot leash.

Impacts on visitors who would prefer to walk dogs at the park would be long term, minor, and adverse. Dogs would no longer be allowed to run off leash throughout the entire site. Dog walking would be required to be on leash, although the area available for dog walking would remain the same. Adverse impacts would be expected for visitors who enjoy watching and playing with dogs off leash. Dog owners may also feel that their pets are not receiving adequate exercise when restrained on a 6-foot leash. Some visitors in this user group may find a different park to exercise their dogs off leash. As a result, visitation by local residents may decrease slightly in this area.

Impacts on visitors who would prefer not to have dog walking at the park would be beneficial. Since dogs would be required to be on leash, visitors would no longer encounter dogs under voice control. Visitors who would prefer not to have dog walking at the park may feel more comfortable recreating at this site since dogs would now be restrained on leash. In addition, beneficial impacts would result from a reduction of dog waste at the site since dog walkers are more likely to clean up after their pets when walking them on leash. Visitation by this user group at Alta Trail, Orchard Fire Road, and Pacheco Fire Road would have the potential to increase.

All dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. Any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs, and the permit may restrict use by time and area. Permits would be allowed at this site. Since commercial dog walking use at Alta Trail, Orchard Fire Road, and Pacheco Fire Road is high, impacts on visitors who would prefer to walk dogs off-leash or walk more than six dogs at the park would be long term, minor, and adverse. Commercial and private dog walkers looking to walk more than six dogs would have to move to a different location, outside the park. Additional impacts on visitor use and experience would result from the permit application process. A reduction in the number of dogs walked per person would result in beneficial impacts for visitors who would prefer not to have dog walking at the park.

Cumulative Impacts. There are no known projects or actions that have had, are currently having, or will have effects on visitor use and experience in the vicinity of this park site and there is the potential for unknown or unidentified projects or actions to occur during the life of this plan. As a result, cumulative impacts are considered negligible because they cannot be accurately assessed for this site. Therefore, no alteration to the results of the impact assessment are expected for any of the alternative actions proposed for the site and the results of the impact analysis for the preferred alternative will be the only contributing factor to the cumulative impact analysis for visitor use and experience under the preferred alternative.

There would be long-term minor adverse impacts on the visitor use and experience of visitors who would prefer to walk dogs at the park under the preferred alternative. Impacts on the visitor use and experience

of visitors who would prefer not to have dog walking at the park would be beneficial under the preferred alternative.

Indirect Impacts on Adjacent Parks

In lands adjacent to GGNRA, there are 31 parks with dog use areas within about a 10-mile radius of Alta Trail, Orchard Fire Road, and Pacheco Fire Road and 19 parks within about a 5-mile radius; the closest park is Remington Dog Park in Sausalito, which permits off-leash dog use (map 26). The adjacent lands may experience increased visitation by individual and commercial dog walkers under the preferred alternative, particularly Remington Dog Park, because it is the closest dog use area. Indirect impacts on visitor experience in adjacent lands would be expected since dog walking under voice control would no longer be allowed at this site. Because Alta Trail/Orchard Fire Road/Pacheco Fire Road is a high use site for dog walking, this would result in long-term minor adverse indirect impacts on visitor experience in adjacent lands due to the potential for these lands to become more crowded with new visitors and dogs.

ALTA TRAIL/ORCHARD FIRE ROAD/PACHECO FIRE ROAD PREFERRED ALTERNATIVE CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Long-term minor adverse impacts for visitors who would prefer to walk dogs at the park	Off-leash dog walking would no longer be allowed; on-leash dog walking would be allowed only in designated areas	Long-term minor adverse cumulative impacts for visitors who would prefer to walk dogs at the park
Beneficial impacts for visitors who would prefer not to have dog walking at the park, assuming compliance	Off-leash dog walking would no longer be allowed; on-leash dog walking would be allowed only in restricted areas	Beneficial cumulative impacts for visitors who would prefer not to have dog walking at the park
		Long-term minor adverse indirect impacts in adjacent lands

Oakwood Valley

Alternative A: No Action. Under alternative A, dogs are currently allowed under voice control or on leash on the Oakwood Valley Fire Road and Oakwood Valley Trail from junction with Fire Road to junction with Alta Trail, and on leash on the Oakwood Valley Trail from trailhead to junction with Oakwood Valley Fire Road. However, many dog walkers allow their dogs off leash as soon as they exit their cars along Tennessee Valley Road. On-leash dog walking is allowed on the lower section of the Oakwood Valley Trail. This site is heavily used by local hikers, runners, bicyclists, and horseback riders and moderately used by dog walkers (table 9). The majority of use occurs in the morning, as observed by park staff. The number of commercial dog walkers using this site is relatively low. There are no leash law violations or dog bites/attacks on record for this site in 2007/2008 (table 9).

Under the no-action alternative, there would be no impacts on the visitor experience of people who would prefer to walk dogs at the park. Dog walkers would continue to allow their dogs off leash throughout the site. Having dogs off leash and playing throughout the area may add to the positive park experience for visitors with dogs. No change in visitation by this user group would be expected at Oakwood Valley.

Impacts on visitors who would prefer to visit the park without dogs would be long term, minor, and adverse. Visitors would continue to encounter both on-leash dogs and dogs under voice control at this site. Some visitors may feel uncomfortable when encountering dogs. Visitors from this user group are

currently not able to have a no-dog experience. Visitation by this user group at Oakwood Valley would have the potential to decrease due to the presence of dogs.

Under alternative A, no permit system exists for dog walking. At Oakwood Valley, commercial dog walking is uncommon. The impacts from commercial dog walkers to visitor experience are similar to the impacts discussed above for both visitors who would prefer to walk dogs at the park and visitors who would prefer not to have dog walking at this park site.

Cumulative Impacts. There are no known projects or actions that have had, are currently having, or will have effects on visitor use and experience in the vicinity of this park site and there is the potential for unknown or unidentified projects or actions to occur during the life of this plan. As a result, cumulative impacts are considered negligible because they cannot be accurately assessed for this site. Therefore, no alteration to the results of the impact assessment are expected for any of the alternative actions proposed for the site and the results of the impact analysis for alternative A will be the only contributing factor to the cumulative impact analysis for visitor use and experience under alternative A. There would be no impact on the visitor use and experience of visitors who would prefer to walk dogs at the park under alternative A, resulting in negligible cumulative impacts on this user group. Impacts on the visitor use and experience of visitors who would prefer not to have dog walking at the park would be long term, minor, and adverse under alternative A.

Indirect Impacts on Adjacent Parks

In lands adjacent to GGNRA, there are 31 parks with dog use areas within about a 10-mile radius of Oakwood Valley and 22 parks within about a 5-mile radius; the closest park is Remington Dog Park in Sausalito (map 26). Remington Dog Park allows off-leash dog walking throughout the site. No impacts on visitor experience in adjacent lands would be expected under alternative A since there would be no change in current conditions at the site.

OAKWOOD VALLEY ALTERNATIVE A CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
No impact for visitors who would prefer to walk dogs at the park	Off-leash dog walking would still be allowed on site	Negligible cumulative impacts for visitors who would prefer to walk dogs at the park
Long-term minor adverse impacts for visitors who would prefer not to have dog walking at the park	Visitors would still encounter dogs throughout the site; site is moderate use area for dog walking	Long-term minor adverse cumulative impacts for visitors who would prefer not to have dog walking at the park
		No indirect impacts in adjacent lands

Alternative B: NPS Leash Regulations. Under alternative B, on-leash dog walking would be allowed on the loop created by Oakwood Valley Fire Road and Oakwood Valley Trail. No dogs would be allowed on the Oakwood Valley Fire Road from the Alta Trail to the intersection with the Oakwood Valley Trail. On-leash dog walking would be based on an allowed 6-foot dog leash.

Impacts on visitors who would prefer to walk dogs at the park would be long term, minor, and adverse. Dogs would no longer be allowed to run off leash throughout the entire site. Dog walking would be required to be on leash and the area available for dog walking would be reduced. Adverse impacts would be expected for visitors who enjoy watching and playing with dogs off leash. Dog owners may also feel that their pets are not receiving adequate exercise when restrained on a 6-foot leash. Some visitors in this

user group may find a different park to exercise their dogs off leash. As a result, visitation by local residents may decrease slightly in this area.

Impacts on visitors who would prefer not to have dog walking at the park would be beneficial. Since dogs would be required to be on leash, visitors would no longer encounter dogs under voice control. Visitors who would prefer not to have dog walking at the park may feel more comfortable recreating at Oakwood Valley under this alternative since dogs would be restrained on leash. In addition, dog walking would be restricted to the fire road between the Alta Trail and the intersection of the Oakwood Valley Trail, creating an area for a no-dog experience. Visitation by this user group at Oakwood Valley would have the potential to increase.

Under alternative B, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs on leash per person with no permit required. Since commercial dog walking at Oakwood Valley is uncommon, it is likely that commercial dog walking would have negligible impacts on both visitors who would prefer to walk dogs at the park and visitors who would prefer not to have dog walking at the park.

Cumulative Impacts. As stated under alternative A, there are no known projects or actions that have had, are currently having, or will have effects on visitor use and experience in the vicinity of this park site and there is the potential for unknown or unidentified projects or actions to occur during the life of this plan. As a result, cumulative impacts are considered negligible because they cannot be accurately assessed for this site. Therefore, no alteration to the results of the impact assessment are expected for any of the alternative actions proposed for the site and the results of the impact analysis for alternative B will be the only contributing factor to the cumulative impact analysis for visitor use and experience under alternative B.

There would be long-term minor adverse impacts on the visitor use and experience of visitors who would prefer to walk dogs at the park under alternative B. Impacts on the visitor use and experience of visitors who would prefer not to have dog walking at the park would be beneficial under alternative B.

Indirect Impacts on Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation under alternative B, particularly Remington Dog Park, because it is the closest dog use area and dog walking under voice control would no longer be allowed at Oakwood Valley. However, only negligible indirect impacts on visitor experience in adjacent lands from increased visitor use would be expected since Oakwood Valley is a moderate use site for dog walkers and not all dog walkers would leave Oakwood Valley, since on-leash dog walking would still be available.

OAKWOOD VALLEY ALTERNATIVE B CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Long-term minor adverse impacts for visitors who would prefer to walk dogs at the park	Off-leash dog walking would no longer be allowed; on-leash dog walking would be allowed in designated areas	Long-term minor adverse cumulative impacts for visitors who would prefer to walk dogs at the park
Beneficial impacts for visitors who would prefer not to have dog walking at the park, assuming compliance	Off-leash dog walking would no longer be allowed; on-leash dog walking would be allowed only in restricted areas; a no-dog experience would be available	Beneficial cumulative impacts for visitors who would prefer not to have dog walking at the park

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
		Negligible indirect impacts in adjacent lands

Alternative C: Emphasis on Multiple Use, Balanced by County. For alternative C, a ROLA is proposed for walking under voice control or on leash on the Oakwood Valley Fire Road to the junction with Oakwood Valley Trail. The ROLA would include double gates at both ends (to separate this use from other users of the site) and continuous fencing to protect sensitive habitat. On-leash dog walking is proposed on Oakwood Valley Trail from the junction with the Oakwood Valley Fire Road to a new gate at Alta Trail.

Impacts on visitors who would prefer to walk dogs at the park would be negligible. Even though the amount of area available to dogs would be reduced, an area for dog walking under voice and sight control would be available in a ROLA. The ROLA would still allow an area for both exercise and socialization for dogs under voice and sight control. It is unlikely that there would be a decrease in visitation by visitors who would prefer to walk dogs at this park site.

Impacts on visitors who would prefer not to have dog walking at the park would be beneficial. Although dogs would still be allowed off leash in a portion of the site, visitors would be able to have a no-dog experience along the Oakwood Valley Trail. In addition, dogs would be required to be on leash along a portion of Oakwood Valley Fire Road, so visitors may feel more comfortable recreating in this area since dogs would be restrained. Visitation by this user group at Oakwood Valley would have the potential to increase.

Under alternative C, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be allocated at Oakwood Valley, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking activity at Oakwood Valley is uncommon, it is likely that commercial dog walking would have negligible impacts on both visitors who would prefer to walk dogs at the park and visitors who would prefer not to have dog walking at the park.

Cumulative Impacts. As stated under alternative A, there are no known projects or actions that have had, are currently having, or will have effects on visitor use and experience in the vicinity of this park site and there is the potential for unknown or unidentified projects or actions to occur during the life of this plan. As a result, cumulative impacts are considered negligible because they cannot be accurately assessed for this site. Therefore, no alteration to the results of the impact assessment are expected for any of the alternative actions proposed for the site and the results of the impact analysis for alternative C will be the only contributing factor to the cumulative impact analysis for visitor use and experience under alternative C.

There would be negligible impacts on the visitor use and experience of visitors who would prefer to walk dogs at the park under alternative C. Impacts on the visitor use and experience of visitors who would prefer not to have dog walking at the park would be beneficial under alternative C.

Indirect Impacts on Adjacent Parks

The adjacent lands identified under alternative A would not be expected to experience increased visitation under alternative C, since off-leash dog walking would be offered in a ROLA. Therefore, no indirect impacts on visitor experience in adjacent lands would be expected.

OAKWOOD VALLEY ALTERNATIVE C CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Negligible impacts for visitors who would prefer to walk dogs at the park	Dog walking under voice and sight control would be available; dogs would be prohibited on the Oakwood Valley Trail	Negligible cumulative impacts for visitors who would prefer to walk dogs at the park
Beneficial impacts for visitors who would prefer not to have dog walking at the park, assuming compliance	Dog walking would be limited to the fire road; a no-dog experience would be available	Beneficial cumulative impacts for visitors who would prefer not to have dog walking at the park
		No indirect impacts in adjacent lands

Alternative D: Overall Most Protective of Resources/Visitor Safety. Under alternative D, on-leash dog walking would be allowed only on Oakwood Valley Fire Road from the Tennessee Valley Road trailhead to the junction with the Oakwood Valley Trail. No dogs would be allowed on the Oakwood Valley Trail or on Oakwood Valley Fire Road between the Alta Trail and the junction with the Oakwood Valley Trail.

Impacts on visitors who would prefer to walk dogs at the park would be long term, minor, and adverse. Dogs would no longer be allowed to run off leash throughout the entire site. Dog walking would be required to be on leash and the area available for dog walking would be reduced. Adverse impacts would be expected for visitors who enjoy watching and playing with dogs off leash. Dog owners may also feel that their pets are not receiving adequate exercise when restrained on a 6-foot leash. Some visitors in this user group may find another park to exercise their dogs off leash. As a result, visitation by local residents may decrease slightly in this area.

Impacts on visitors who would prefer not to have dog walking at the park would be beneficial. Since dogs would be required to be on leash, visitors would no longer encounter dogs under voice control. Visitors who would prefer not to have dog walking at the park may feel more comfortable recreating at Oakwood Valley since dogs would now be restrained on leash along Oakwood Valley Fire Road. In addition, dog walking would be prohibited along the Oakwood Valley Trail and a portion of the fire road; therefore, a no-dog experience would be available. Visitation by this user group at Oakwood Valley would have the potential to increase.

No commercial dog walking would be allowed under alternative D. Private dog walkers would be allowed up to three dogs. Since commercial dog walking is not common at Oakwood Valley, it is likely that prohibiting commercial dog walking from this site would have negligible impacts on both visitors who would prefer to walk dogs at the park and visitors who would prefer not to have dog walking at the park.

Cumulative Impacts. As stated under alternative A, there are no known projects or actions that have had, are currently having, or will have effects on visitor use and experience in the vicinity of this park site and there is the potential for unknown or unidentified projects or actions to occur during the life of this plan. As a result, cumulative impacts are considered negligible because they cannot be accurately assessed for this site. Therefore, no alteration to the results of the impact assessment are expected for any of the alternative actions proposed for the site and the results of the impact analysis for alternative D will be the only contributing factor to the cumulative impact analysis for visitor use and experience under alternative D.

There would be long-term minor adverse impacts on the visitor use and experience of visitors who would prefer to walk dogs at the park under alternative D. Impacts on the visitor use and experience of visitors who would prefer not to have dog walking at the park would be beneficial under alternative D.

Indirect Impacts on Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation under alternative D, particularly Remington Dog Park, because it is the closest dog use area and dog walking under voice control would no longer be allowed at Oakwood Valley. However, only negligible indirect impacts on visitor experience in adjacent lands from increased visitor use would be expected since Oakwood Valley is a moderate use site for dog walkers and not all dog walkers would leave Oakwood Valley since on-leash dog walking would still be available.

OAKWOOD VALLEY ALTERNATIVE D CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Long-term minor adverse impacts for visitors who would prefer to walk dogs at the park	Off-leash dog walking would no longer be available; on-leash dog walking would be allowed only in designated areas	Long-term minor adverse cumulative impacts for visitors who would prefer to walk dogs at the park
Beneficial impacts for visitors who would prefer not to have dog walking at the park, assuming compliance	Off-leash dog walking would no longer be allowed; on-leash dog walking would be allowed only on the fire road; a no-dog experience would be available	Beneficial cumulative impacts for visitors who would prefer not to have dog walking at the park
		Negligible indirect impacts in adjacent lands

Alternative E: Overall Most Dog Walking Access/Most Management Intensive. Alternative E would have the same dog walking requirements as alternative C, but unlike alternative C fencing around the ROLA would be non continuous and only where needed. Impacts would also be the same as alternative C: negligible for visitors who would prefer to walk dogs at the park and beneficial for visitors who would prefer not to have dog walking at the park.

Under alternative E, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be allocated at Oakwood Valley, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking activity at Oakwood Valley is uncommon, it is likely that commercial dog walking would have negligible impacts on both visitors who would prefer to walk dogs at the park and visitors who would prefer not to have dog walking at the park.

Cumulative Impacts. As stated under alternative A, there are no known projects or actions that have had, are currently having, or will have effects on visitor use and experience in the vicinity of this park site and there is the potential for unknown or unidentified projects or actions to occur during the life of this plan. As a result, cumulative impacts are considered negligible because they cannot be accurately assessed for this site. Therefore, no alteration to the results of the impact assessment are expected for any of the alternative actions proposed for the site and the results of the impact analysis for alternative E will be the only contributing factor to the cumulative impact analysis for visitor use and experience under alternative E. The cumulative impacts on visitor use and experience at this park site and the indirect impacts in adjacent lands would be the same as those under alternative C: negligible impacts on visitors who would prefer to walk dogs at the park, beneficial on visitors who would prefer not to have dog walking at the park, and no indirect impacts on visitor experience in adjacent lands.

OAKWOOD VALLEY ALTERNATIVE E CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Negligible impacts for visitors who would prefer to walk dogs at the park	Dog walking under voice and sight control would be offered in a ROLA; dogs would not be allowed on the Oakwood Valley Trail	Negligible cumulative impacts for visitors who would prefer to walk dogs at the park
Beneficial impacts for visitors who would prefer not to have dog walking at the park, assuming compliance	Dog walking would be limited to fire road; a no-dog experience would be available	Beneficial cumulative impacts for visitors who would prefer not to have dog walking at the park
		No indirect impacts in adjacent lands

Preferred Alternative. For alternative C, a ROLA is proposed for walking under voice control or on leash on the Oakwood Valley Fire Road to the junction with Oakwood Valley Trail. The ROLA would include double gates at both ends (to separate this use from other users of the site) and continuous fencing to protect sensitive habitat. On-leash dog walking is proposed on Oakwood Valley Trail from the junction with the Oakwood Valley Fire Road to a new gate at Alta Trail.

Impacts on visitors who would prefer to walk dogs at the park would be negligible. Even though the amount of area available to dogs would be reduced, an area for dog walking under voice and sight control would be available in a ROLA. The ROLA would still allow an area for both exercise and socialization for dogs under voice and sight control. It is unlikely that there would be a decrease in visitation by visitors who would prefer to walk dogs at this park site.

Impacts on visitors who would prefer not to have dog walking at the park would be beneficial. Although dogs would still be allowed off leash in a portion of the site, visitors would be able to have a no-dog experience along the Oakwood Valley Trail. In addition, dogs would be required to be on leash along a portion of Oakwood Valley Fire Road, so visitors may feel more comfortable recreating in this area since dogs would be restrained. Visitation by this user group at Oakwood Valley would have the potential to increase.

All dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be allocated at Oakwood Valley, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking activity at Oakwood Valley is uncommon, it is likely that commercial dog walking would have negligible impacts on both visitors who would prefer to walk dogs at the park and visitors who would prefer not to have dog walking at the park.

Cumulative Impacts. There are no known projects or actions that have had, are currently having, or will have effects on visitor use and experience in the vicinity of this park site; however, there is a possibility that unidentified projects or actions could have an effect on visitor experience in the vicinity of Rodeo Beach. Therefore, the results of the impact analysis under the preferred alternative would result in a negligible cumulative impact on visitor use and experience of visitors who would prefer to walk dogs at the park under the preferred alternative. Therefore, the results of the impact analysis under the preferred alternative will be the only contributing factor to the cumulative impact analysis for visitor use and experience. Under the preferred alternative it was determined that there would be negligible impacts to on the visitor use and experience for of visitors who would prefer to walk dogs at the park under the preferred alternative. Impacts to on the visitor use and experience for of visitors who would do not prefer not to have dog walking at the park would be beneficial under the preferred alternative.

Indirect Impacts on Adjacent Parks

In lands adjacent to GGNRA, there are 31 parks with dog use areas within about a 10-mile radius of Oakwood Valley and 22 parks within about a 5-mile radius; the closest park is Remington Dog Park in Sausalito (map 26). Remington Dog Park allows off-leash dog walking throughout the site. The adjacent lands would not be expected to experience increased visitation under the preferred alternative, since off-leash dog walking would be offered in a ROLA. Therefore, no indirect impacts on visitor experience in adjacent lands would be expected.

OAKWOOD VALLEY PREFERRED ALTERNATIVE CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Negligible impacts for visitors who would prefer to walk dogs at the park	Dog walking under voice and sight control would be available; dogs would be prohibited on the Oakwood Valley Trail	Negligible cumulative impacts for visitors who would prefer to walk dogs at the park
Beneficial impacts for visitors who would prefer not to have dog walking at the park, assuming compliance	Dog walking would be limited to the fire road; a no-dog experience would be available	Beneficial cumulative impacts for visitors who would prefer not to have dog walking at the park
		No indirect impacts in adjacent lands

Muir Beach

Alternative A: No Action. At Muir Beach, the boardwalk/path to the beach and the beach are open to dogs under voice control. Dogs are required to be on leash in the parking lot. The lagoon and creek are currently closed to dogs. Muir Beach receives heavy visitation by beachgoers and walkers on the weekends and moderate to high use on the weekdays. Dog walking use is considered low to high at this site (table 9). Park staff members have observed that some residents adjacent to Muir Beach allow their dogs to roam freely off leash and unsupervised along the beach. Dogs have also been documented in areas closed to pets (i.e., Redwood Creek) at Muir Beach (appendix G). Overall, the number of leash law violations is low for this site, with only three occurring in 2007/2008; no dog bites or attacks were reported during this period (table 9).

Under the no-action alternative, there would be no impact on the visitor experience of visitors who would prefer to walk dogs at the park. Dog walkers would continue to allow their dogs off leash throughout the site. Visitors would continue to enjoy exercising, socializing, and playing with the dogs on the beach. Having dogs off leash and playing throughout the area may add to the park experience for visitors with dogs. Residents adjacent to the beach would continue to allow their dogs to roam freely off leash without supervision. No change in visitation by this user group at Muir Beach would be expected.

Impacts on visitors who would prefer to visit the park without dogs would be long term, moderate, and adverse. Visitors would continue to encounter off-leash dogs at this site, some of which would be under voice control and some unsupervised. Visitors and parents with small children may be uncomfortable with dogs running off leash while children are at play in the same area. Some visitors may find dogs urinating and defecating on the beach and in the water objectionable. A no-dog experience would continue to be unavailable at this site. The adverse impacts would be moderate due to the high use of this site and the relatively small size of the beach. Visitation by this user group at Muir Beach would have the potential to decrease due to the presence of off-leash dogs.

Under alternative A, no permit system exists for dog walking. At Muir Beach, commercial dog walking is uncommon. The impacts from commercial dog walkers to visitor experience are similar to the impacts discussed above for both visitors who would prefer to walk dogs at the park and visitors who would prefer not to have dog walking at this park site.

Cumulative Impacts. Projects and actions in and near Muir Beach were considered for the cumulative impacts analysis (appendix K). The following is a discussion of projects that have had, are currently having, or will have effects on visitor use and experience at or in the vicinity of Muir Beach and the Pacific Way Bridge.

The *Dias Ridge Restoration and Trail Improvement Project* is currently realigning trail segments and restoring degraded areas on the ridge above Muir Beach. Specifically, the project will remove unauthorized trails and replace or rehabilitate poorly aligned and eroding trail segments (NPS 2009q, 1). At Muir Beach, the *Lower Redwood Creek Interim Flood Reduction Measures and Floodplain Channel Restoration Project* was completed in July 2007 to help reduce flooding on Pacific Way, which provides access to the beach. Another phase planned at this site, the *Muir Beach Wetland and Creek Restoration Project*, includes wetland and creek restoration at the tidal lagoon. The project will restore a functional, self-sustaining ecosystem that will re-create habitat for special-status species, reduce flooding on Pacific Way, which will improve public access. This project will also provide public education and resource interpretation at the site that would benefit visitor experience, and provide enhanced aesthetics for visitors.

The restoration of habitat benefits the aesthetics of the Muir Beach area and results in negligible to beneficial impacts on visitor use and experience for all visitors to Muir Beach. However, since these projects are focused on habitat restoration and flood reduction they are not directly related to dog management or dog-related visitor use and would not significantly affect the cumulative analysis for alternative A. Therefore, cumulative effects would not be measurable or perceptible on alternative A and no change in impact level or intensity is expected on either user group: negligible for those who prefer to walk dogs and long-term, moderate and adverse for those visitors who prefer not to have dogs at the site.

Indirect Impacts on Adjacent Parks

In lands adjacent to GGNRA, there are 30 parks with dog use areas within about a 10-mile radius of Muir Beach and 21 parks within about a 5-mile radius; the closest park is Mt. Tamalpais State Park (map 26). No indirect impacts on visitor experience in adjacent lands would be expected under alternative A since there would be no change in current conditions at the site.

MUIR BEACH ALTERNATIVE A CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
No impact for visitors who would prefer to walk dogs at the park	Off-leash dog walking would still be allowed on site	Negligible cumulative impacts for visitors who would prefer to walk dogs at the park
Long-term moderate adverse impacts for visitors who would prefer not to have dog walking at the park	Visitors would still encounter dogs under voice control on the beach; site is a high use area	Long-term moderate adverse cumulative impacts for visitors who would prefer not to have dog walking at the park
		No indirect impacts in adjacent lands

Alternative B: NPS Leash Regulations. On-leash dog walking would be allowed on the beach, the boardwalk/path to the beach, the parking area, and the proposed Pacific Way Bridge. No dog walking under voice control would be allowed. The lagoon and creek are currently closed to dogs.

Impacts on visitors who would prefer to walk dogs at the park would be long term, minor, and adverse. Dogs would no longer be allowed to run off leash throughout the entire site. Dog walking would be required to be on leash, although the area available to dog walking would remain the same. Nearby residents would no longer be allowed to let their dogs roam the beach unsupervised. Adverse impacts would be expected for visitors who enjoy watching and playing with dogs off leash. Dog owners may also feel that their pets are not receiving adequate exercise when restrained on a 6-foot leash. Some visitors in this user group may find a different park to exercise their dogs off leash. As a result, visitation by local residents may decrease slightly in this area.

Impacts on visitors who would prefer not to have dog walking at the park would be beneficial. Since dogs would be required to be on leash, visitors would no longer encounter dogs under voice control. Visitors who would prefer not to have dog walking at the park may feel more comfortable recreating at Muir Beach since dogs would be restrained on leash. The beach may become more aesthetically pleasing to these visitors, as dog walkers would be more likely to clean up after their pets when walking them on leash. Visitation by this user group at Muir Beach would have the potential to increase.

Under alternative B, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs on leash per person with no permit required. Since commercial dog is not common at Muir Beach, it is likely that commercial dog walking would have negligible impacts on both visitors who would prefer to walk dogs at the park and visitors who would prefer not to have dog walking at the park.

Cumulative Impacts. As stated under alternative A, although the restoration of habitat benefits the aesthetics of the Muir Beach area and results in negligible to beneficial impacts on visitor use and experience for all visitors to Muir Beach. However, these projects are focused on habitat restoration and flood reduction and are not directly related to dog management or dog-related visitor use and would not significantly affect the cumulative analysis for alternative B. Therefore, cumulative effects would not be measurable or perceptible for alternative B and no change in impact level or intensity is expected on either user group: long-term, minor adverse for those who prefer to walk dogs and beneficial for those visitors who prefer not to have dogs at the site.

Indirect Impacts on Adjacent Parks

Adjacent lands identified under alternative A would likely receive an increase in visitation. Since off-leash dog walking would no longer be allowed at Muir Beach, visitors may use adjacent parks for off-leash dog walking. However, only negligible indirect impacts on visitor experience in adjacent lands from increased visitor use would be expected since not all dog walkers would leave Muir Beach, because on-leash dog walking would still be available.

MUIR BEACH ALTERNATIVE B CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Long-term minor adverse impacts for visitors who would prefer to walk dogs at the park	Off-leash dog walking would no longer be allowed; on-leash dog walking would be allowed only in restricted areas	Long-term minor adverse cumulative impacts for visitors who would prefer to walk dogs at the park

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Beneficial impacts for visitors who would prefer not to have dog walking at the park, assuming compliance	Off-leash dog walking would no longer be allowed; on-leash dog walking would be allowed only in restricted areas	Beneficial cumulative impacts for visitors who would prefer not to have dog walking at the park
		Negligible indirect impacts in adjacent lands

Alternative C: Emphasis on Multiple Use, Balanced by County. Alternative C would have the same dog walking restrictions as alternative B, and impacts would also be the same: long term, minor, and adverse for visitors who would prefer to walk dogs at the park and beneficial for visitors who would prefer not to have dog walking at the park.

Under alternative C, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be granted at Muir Beach, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking is not common at Muir Beach, it is likely that commercial dog walking would have negligible impacts on both visitors who would prefer to walk dogs at the park and visitors who would prefer not to have dog walking at the park.

Cumulative Impacts. As stated under alternative A, although the restoration of habitat benefits the aesthetics of the Muir Beach area and results in negligible to beneficial impacts on visitor use and experience for all visitors to Muir Beach. However, these projects are focused on habitat restoration and flood reduction and are not directly related to dog management or dog-related visitor use and would not significantly affect the cumulative analysis for alternative C. Therefore, cumulative effects would not be measurable or perceptible for alternative C and no change in impact level or intensity is expected on either user group: long-term, minor adverse for those who prefer to walk dogs and beneficial for those visitors who prefer not to have dogs at the site.

MUIR BEACH ALTERNATIVE C CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Long-term minor adverse impacts for visitors who would prefer to walk dogs at the park	Off-leash dog walking would no longer be allowed; on-leash dog walking would be allowed only in restricted areas	Long-term minor adverse cumulative impacts for visitors who would prefer to walk dogs at the park
Beneficial impacts for visitors who would prefer not to have dog walking at the park, assuming compliance	Off-leash dog walking would no longer be allowed; on-leash dog walking would be allowed only in restricted areas	Beneficial cumulative impacts for visitors who would prefer not to have dog walking at the park
		Negligible indirect impacts in adjacent lands

Alternative D: Overall Most Protective of Resources/Visitor Safety. Under alternative D, on-leash dog walking would be allowed only in the parking lot and along the Pacific Way Trail. Dogs would no longer be allowed on the boardwalk/path to the beach or on the beach. The lagoon and creek are currently closed to dogs.

Impacts on visitors who would prefer to walk dogs at the park would be long term, moderate, and adverse. Impacts would be moderate in intensity since visitors would no longer be able to walk their dogs

on the beach and this area currently receives low to high use by dog walkers. Adverse impacts would be expected for visitors who enjoy watching and playing with dogs off leash. Residents adjacent to the beach would no longer be allowed to have their dogs outside their yards or roaming the beach unsupervised. Visitation by this user group would decline as most visitors would begin to use other areas within or outside the park for recreation with dogs.

Impacts on visitors who would prefer not to have dog walking at the park would be beneficial. Since dogs would no longer be allowed on the beach, visitors would be able to experience this area without the presence of dogs. These visitors, especially those with small children, would feel more comfortable recreating at this site. In addition, the area would become more aesthetically pleasing since dog waste would no longer be present on the beach. Visitors who wish to walk along the Pacific Way Trail would only encounter on-leash dogs, which would allow better control of the dogs by the owners. Visitation by this user group would likely increase, especially in the beach area of the site.

No commercial dog walking would be allowed under alternative D. Private dog walkers would be allowed up to three dogs. Since commercial dog walking is not common at Muir Beach, it is likely that prohibiting commercial dog walking from this site would have negligible impacts on both visitors who would prefer to walk dogs at the park and visitors who would prefer not to have dog walking at the park.

Cumulative Impacts. As stated under alternative A, although the restoration of habitat benefits the aesthetics of the Muir Beach area and results in negligible to beneficial impacts on visitor use and experience for all visitors to Muir Beach. However, these projects are focused on habitat restoration and flood reduction and are not directly related to dog management or dog-related visitor use and would not significantly affect the cumulative analysis for alternative D. Therefore, cumulative effects would not be measurable or perceptible for alternative D and no change in impact level or intensity is expected on either user group: long-term, moderate adverse for those who prefer to walk dogs and beneficial for those visitors who prefer not to have dogs at the site.

Indirect Impacts on Adjacent Parks

Adjacent lands identified under alternative A would likely receive an increase in visitation. Since dog walking would no longer be allowed on the beach, visitors would likely use adjacent parks for dog walking. The indirect impacts on visitor use in adjacent lands due to increased visitation would range from negligible to long term, minor, and adverse since Muir Beach is a low to high use site for dog walkers and dog walking would no longer be available on the beach.

MUIR BEACH ALTERNATIVE D CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Long-term moderate adverse impacts for visitors who would prefer to walk dogs at the park	Dog walking would be allowed on leash and in designated areas; no dogs would be allowed on the beach	Long-term moderate adverse cumulative impacts for visitors who would prefer to walk dogs at the park
Beneficial impacts for visitors who would prefer not to have dog walking at the park, assuming compliance	Dog walking would no longer be allowed on the beach, allowing a no-dog experience	Beneficial cumulative impacts for visitors who would prefer not to have dog walking at the park
		Negligible to long-term, minor and adverse indirect impacts in adjacent lands

Alternative E: Overall Most Dog Walking Access/Most Management Intensive. Dog walking under voice and sight control would be allowed only in a ROLA located on the southern portion of the beach. On-leash dog walking would be allowed on the Pacific Way Trail, the boardwalk/path to the beach, and the parking lot. The lagoon and creek are currently closed to dogs. Alternative E would provide a balance for all user groups, including dog walkers.

Impacts on visitors who would prefer to walk dogs at the beach would be long term, minor, and adverse. Impacts on these visitors would occur since dogs would no longer be allowed on the entire beach; however, impacts would be minimal because the ROLA would provide a separate area to enjoy recreation activities associated with dogs under voice and sight control and to allow dogs to exercise and socialize. Although dogs would still be allowed off leash, impacts would be minor and adverse due to the reduction of the area available to dogs and the low to high use by dog walkers. It is expected that visitation by this user group would stay the same due to the availability of the ROLA.

Impacts on visitors who would prefer not to have dog walking at the park would be beneficial. The restriction of dogs to a portion of the beach would allow visitors to have an area along the beach for a park experience without the presence of dogs. These visitors, especially those with small children, would feel more comfortable recreating in this portion of the site. In addition, the area would become more aesthetically pleasing since dog waste would no longer be present on the beach. Visitation by this user group at Muir Beach would likely increase.

Under alternative E, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be granted at Muir Beach, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking activity at Muir Beach is not common, it is likely that commercial dog walking would have negligible impacts on both visitors who would prefer to walk dogs at the park and visitors who would prefer not to have dog walking at the park.

Cumulative Impacts. As stated under alternative A, although the restoration of habitat benefits the aesthetics of the Muir Beach area and results in negligible to beneficial impacts on visitor use and experience for all visitors to Muir Beach. However, these projects are focused on habitat restoration and flood reduction and are not directly related to dog management or dog-related visitor use and would not significantly affect the cumulative analysis for alternative E. Therefore, cumulative effects would not be measurable or perceptible for alternative E and no change in impact level or intensity is expected on either user group: long-term, minor adverse for those who prefer to walk dogs and beneficial for those visitors who prefer not to have dogs at the site.

Indirect Impacts on Adjacent Parks

The adjacent lands identified under alternative A would likely not experience increased visitation under alternative E. It is likely that visitors would use the proposed ROLA at Muir Beach for off-leash dog walking. No indirect impacts on visitor use in adjacent lands due to increased visitation would be expected.

MUIR BEACH ALTERNATIVE E CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Long-term minor adverse impacts for visitors who would prefer to walk dogs at the park	Dog walking would be allowed on leash and in designated areas; a ROLA would be available, but half the beach would not allow dogs	Long-term minor adverse cumulative impacts for visitors who would prefer to walk dogs at the park
Beneficial impacts for visitors who would prefer not to have dog walking at the park, assuming compliance	Off-leash dog walking would be allowed in designated areas; a no-dog experience would be available	Beneficial cumulative impacts for visitors who would prefer not to have dog walking at the park
		No indirect impacts in adjacent lands

Preferred Alternative. Alternative D was selected as the preferred alternative for Muir Beach. On-leash dog walking would only be allowed in the parking lot and along the Pacific Way Trail. Dogs would no longer be allowed on the path to the beach or on the beach. The lagoon and creek are currently closed to dogs.

Impacts on visitors who would prefer to walk dogs at the park would be long term, moderate, and adverse. Impacts would be moderate in intensity since visitors would no longer be able to walk their dogs on the beach and this area currently receives low to high use by dog walkers. Adverse impacts would be expected for visitors who enjoy watching and playing with dogs off leash. Residents adjacent to the beach would no longer be allowed to have their dogs outside their yards or roaming the beach unsupervised. Visitation by this user group would decline as most visitors would begin to use other areas within or outside the park for recreation with dogs.

Impacts on visitors who would prefer not to have dog walking at the park would be beneficial. Since dogs would no longer be allowed on the beach, visitors would be able to experience this area without the presence of dogs. These visitors, especially those with small children, would feel more comfortable recreating at this site. In addition, the area would become more aesthetically pleasing since dog waste would no longer be present on the beach. Visitors who wish to walk along the Pacific Way Trail would only encounter on-leash dogs, which would allow better control of the dogs by the owners. Visitation by this user group would likely increase, especially in the beach area of the site.

Alternative C was selected as the preferred alternative for permits at all sites. All dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be granted at Muir Beach, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking is not common at Muir Beach, it is likely that commercial dog walking would have negligible impacts on both visitors who would prefer to walk dogs at the park and visitors who would prefer not to have dog walking at the park.

Cumulative Impacts. Projects and actions in and near Muir Beach were considered for the cumulative impacts analysis (appendix K). The following is a discussion of projects that have had, are currently having, or will have effects on visitor use and experience at or in the vicinity of Muir Beach and the Pacific Way Bridge.

The *Dias Ridge Restoration and Trail Improvement Project* is currently realigning trail segments and restoring degraded areas on the ridge above Muir Beach (NPS 2009q, 1). At Muir Beach, the Lower Redwood Creek Interim Flood Reduction Measures and Floodplain Channel Restoration Project was

completed in July 2007 to help reduce flooding on Pacific Way. Another phase planned at this site, the Muir Beach Wetland and Creek Restoration Project, includes wetland and creek restoration at the tidal lagoon. The project will restore a functional, self-sustaining ecosystem that will re-create habitat for special-status species, reduce flooding on Pacific Way, and provide enhanced aesthetics for visitors to experience. Although the restoration of habitat benefits the aesthetics of the Muir Beach area and results in negligible to beneficial impacts on visitor use and experience for all visitors to Muir Beach. However, these projects are focused on habitat restoration and flood reduction and are not directly related to dog management or dog-related visitor use and would not significantly affect the cumulative analysis for the preferred alternative. Therefore, cumulative effects would not be measurable or perceptible for the preferred alternative and no change in impact level or intensity is expected on either user group: long-term, moderate adverse for those who prefer to walk dogs and beneficial for those visitors who prefer not to have dogs at the site.

Indirect Impacts on Adjacent Parks

In lands adjacent to GGNRA, there are 30 parks with dog use areas within about a 10-mile radius of Muir Beach and 21 parks within about a 5-mile radius; the closest park is Mt. Tamalpais State Park (map 26). Adjacent lands would likely receive an increase in visitation. Since dog walking would no longer be allowed on the beach, visitors would likely use adjacent parks for dog walking. The indirect impacts on visitor use in adjacent lands due to increased visitation would range from negligible to long term, minor, and adverse since Muir Beach is a low to high use site for dog walkers and dog walking would no longer be available on the beach.

MUIR BEACH PREFERRED ALTERNATIVE CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Long-term moderate adverse impacts for visitors who would prefer to walk dogs at the park	Dog walking would be allowed on leash and in designated areas; no dogs would be allowed on the beach	Long-term moderate adverse cumulative impacts for visitors who would prefer to walk dogs at the park
Beneficial impacts for visitors who would prefer not to have dog walking at the park, assuming compliance	Dog walking would no longer be allowed on the beach, allowing a no-dog experience	Beneficial cumulative impacts for visitors who would prefer not to have dog walking at the park
		Negligible to long-term minor adverse indirect impacts in adjacent lands

Rodeo Beach/South Rodeo Beach

Alternative A: No Action. Currently, dogs are allowed on leash or under voice control on Rodeo Beach and South Rodeo Beach, but are prohibited in Rodeo Lagoon for overall resource protection. On-leash dog walking is allowed on the wooden bridge over the lagoon. Rodeo Beach/South Rodeo Beach is a moderate to high use area for beachgoers, with low to moderate visitor use by dog walkers (table 9). Park staff have observed surfers leaving their dogs tied to their vehicles or roaming the beach unattended while the surfers are in the water (NPS 2009b). It is common for schoolchildren and GGNRA partner education groups, such as the Headlands Institute and the Young Men's Christian Association (YMCA) Point Bonita, to use the beach for educational purposes. Pet-related violation numbers are low (one dog bite/attack and one pet waste removal violation) at this site because the concentration of users is dispersed along the long beach (table 9).

There would be no impact on visitors who would prefer to walk dogs at this park site. Visitors would continue to have the opportunity to walk their dogs under voice control on both beaches. Having dogs off leash and playing throughout the area may add to the park experience for visitors with dogs. No change in visitation by this user group at Rodeo Beach/South Rodeo Beach would be expected.

Impacts on visitors who would prefer to visit the park without dogs would be long term, minor, and adverse. Visitors would continue to encounter dogs under voice control at this site. These visitors and parents with small children may be uncomfortable with dogs running around off leash while children are at play in the same area. Some visitors may find dogs urinating and defecating on the beach and in the water objectionable. Some trails throughout the site would remain areas where visitors could experience the site without the presence of dogs; however, a no-dog experience would not be available on either beach. Visitation by this user group at Rodeo Beach/South Rodeo Beach would have the potential to decrease due to the presence of dogs.

Under alternative A, no permit system exists for dog walking. At Rodeo Beach/South Rodeo Beach, commercial dog walking is uncommon. The impacts from commercial dog walkers to visitor experience are similar to the impacts discussed above for both visitors who would prefer to walk dogs at the park and visitors who would prefer not to have dog walking at this park site.

Cumulative Impacts. There are no known projects or actions that have had, are currently having, or will have effects on visitor use and experience in the vicinity of this park site and there is the potential for unknown or unidentified projects or actions to occur during the life of this plan. As a result, cumulative impacts are considered negligible because they cannot be accurately assessed for this site. Therefore, no alteration to the results of the impact assessment are expected for any of the alternative actions proposed for the site and the results of the impact analysis for alternative A will be the only contributing factor to the cumulative impact analysis for visitor use and experience under alternative A. As a result, there would continue to be no impact on visitors who would prefer to walk dogs at the park under alternative A. Impacts on the visitor use and experience of visitors who would prefer not to have dog walking at the park would be long term, minor, and adverse under alternative A.

Indirect Impacts on Adjacent Parks

In lands adjacent to GGNRA, there are 27 parks with dog use areas within about a 10-mile radius of Rodeo Beach/South Rodeo Beach and 9 parks within about a 5-mile radius; the closest park is Remington Dog Park in Sausalito (map 26). Remington Dog Park allows off-leash dog walking. No indirect impacts on visitor use in adjacent lands would be expected under alternative A since there would be no change in current conditions at the site.

RODEO BEACH/SOUTH RODEO BEACH ALTERNATIVE A CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
No impact for visitors who would prefer to walk dogs at the park	Off-leash dog walking would still be allowed on site and on both beaches	Negligible cumulative impacts for visitors who would prefer to walk dogs at the park
Long-term minor adverse impacts for visitors who would prefer not to have dog walking at the park	Visitors would still encounter dog walking off leash throughout the site	Long-term minor adverse cumulative impacts for visitors who would prefer not to have dog walking at the park
		No indirect impacts in adjacent lands

Alternative B: NPS Leash Regulations. Alternative B would allow on-leash dog walking on Rodeo Beach, the wooden bridge over the lagoon, and South Rodeo Beach. On-leash dog walking would be based on an allowed 6-foot dog leash. The lagoon is currently closed to people and dogs.

Impacts on visitors who would prefer to walk dogs at the park would be long term, minor, and adverse. Dogs would no longer be allowed to run off leash on the beaches, as dog walking would be required to be on leash. The amount of area available for dog walking would remain the same. Adverse impacts would be expected for visitors who enjoy watching and playing with dogs off leash. Dog owners may also feel that their pets are not receiving adequate exercise when restrained on a 6-foot leash. Some visitors in this user group may find a different park to exercise their dogs off leash. As a result, visitation by local residents may decrease slightly in this area.

Impacts on visitors who would prefer not to have dog walking at the park would be beneficial. Since dogs would be required to be on leash, visitors would no longer encounter dogs under voice control. Visitors who would prefer not to have dog walking at the park may feel more comfortable recreating at Rodeo Beach/South Rodeo Beach since dogs would now be restrained on leash. The beach may become more aesthetically pleasing to these visitors, as dog walkers would be more likely to clean up after their pets when walking them on leash. Visitation by this user group at Rodeo Beach/South Rodeo Beach would have the potential to increase.

Under alternative B, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs on leash per person with no permit required. Since commercial dog walking is not common at Rodeo Beach/South Rodeo Beach, it is likely that commercial dog walking would have negligible impacts on both visitors who would prefer to walk dogs at the park and visitors who would prefer not to have dog walking at the park.

Cumulative Impacts. There are no known projects or actions that have had, are currently having, or will have effects on visitor use and experience in the vicinity of this park site though there is the potential for unknown or unidentified projects or actions to occur during the life of this plan. As a result, cumulative impacts are considered negligible because they cannot be accurately assessed for this site. Therefore, no alteration to the results of the impact assessment are expected for any of the alternative actions proposed for the site and the results of the impact analysis for alternative B will be the only contributing factor to the cumulative impact analysis for visitor use and experience under alternative B. There would be long-term minor adverse impacts on the visitor use and experience of visitors who would prefer to walk dogs at the park and the impact on visitor use and experience of visitors who would prefer not to have dog walking at the park would be beneficial under alternative B.

Indirect Impacts on Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation under alternative B, particularly Remington Dog Park. Remington Dog Park is the closest area that would allow off-leash dog walking. Since on-leash dog walking would now be required at Rodeo Beach/South Rodeo Beach, some visitors may begin to use Remington Dog Park for off-leash dog walking activities. Visitors currently using Rodeo Beach/South Rodeo Beach for dog walking activity would likely remain if these visitors are looking for a dog walking experience at the beach. Indirect impacts on visitor use in adjacent lands due to increased visitor use would be expected, but only at a negligible level since dog walking at Rodeo Beach/South Rodeo Beach is considered a low to moderate use.

RODEO BEACH/SOUTH RODEO BEACH ALTERNATIVE B CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Long-term minor adverse impacts for visitors who would prefer to walk dogs at the park	Off-leash dog walking would no longer be allowed; dog walking use is low to moderate at this site	Long-term minor adverse cumulative impacts for visitors who would prefer to walk dogs at the park
Beneficial impacts for visitors who would prefer not to have dog walking at the park, assuming compliance	Off-leash dog walking would no longer be allowed; dog walking use is low to moderate at this site	Beneficial cumulative impacts for visitors who would prefer not to have dog walking at the park
		Negligible indirect impacts in adjacent lands

Alternative C: Emphasis on Multiple Use, Balanced by County. Alternative C would provide a ROLA on most of Rodeo Beach between the ocean and the proposed post-and-cable fence to be installed to protect the shoreline habitat at the western edge of Rodeo Lagoon, which is currently closed to people and dogs. The ROLA would extend to the ridge on the beach just north of South Rodeo Beach. On-leash dog walking would be required on the footbridge that leads to the beach. Dogs would be prohibited on South Rodeo Beach.

Impacts on visitors who would prefer to walk dogs at the park would be beneficial. Dogs would continue to be able to run off leash along Rodeo Beach. The area closed to dogs on South Rodeo Beach would be relatively small compared to the size of Rodeo Beach. Dogs would continue to receive adequate exercise by being off leash. Having dogs off leash and playing throughout the area may add to the park experience for visitors with dogs. Visitation by this user group at Rodeo Beach/South Rodeo Beach would likely remain the same.

Impacts on visitors who would prefer not to have dog walking at the park would be long term, minor, and adverse. Visitors would continue to encounter dogs under voice control on Rodeo Beach. Rodeo Beach is the most easily accessible beach at this site, only a 1-minute walk from the parking lot. These visitors, especially those with small children, may feel intimidated by dogs running along the beach. Dogs would be prohibited on South Rodeo Beach, which would provide a no-dog experience in a small portion of the site; however, gaining access to the site can be challenging since a long, steep hike from the parking lot is required. Visitation by this user group at Rodeo Beach/South Rodeo Beach would have the potential to decrease due to the presence of dogs under voice and sight control.

Under alternative C, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. Any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. In a ROLA, permit holders may have up to six dogs off-leash and the permit may restrict use by time and area. Permits would be allowed at Rodeo Beach/South Rodeo Beach. Since commercial dog walking at Rodeo Beach/South Rodeo Beach is not common, it is likely that commercial dog walking would have negligible impacts on both visitors who would prefer to walk dogs at the park and visitors who would prefer not to have dog walking at the park.

Cumulative Impacts. There are no known projects or actions that have had, are currently having, or will have effects on visitor use and experience in the vicinity of this park site and there is the potential for unknown or unidentified projects or actions to occur during the life of this plan. As a result, cumulative impacts are considered negligible because they cannot be accurately assessed for this site. Therefore, no alteration to the results of the impact assessment are expected for any of the alternative actions proposed for the site and the results of the impact analysis for alternative C will be the only contributing factor to the cumulative impact analysis for visitor use and experience under alternative C. Beneficial impacts on

visitor use and experience for visitors who would prefer to walk dogs at the park and the long-term minor adverse impacts on the visitor use and experience of visitors who would prefer not to have dog walking at the park are expected under alternative C.

Indirect Impacts on Adjacent Parks

The adjacent lands identified under alternative A would not likely receive an increase in visitation. Visitors who frequently use Rodeo Beach/South Rodeo Beach for dog walking would likely remain since the proposed ROLA would still allow off-leash dog walking. No indirect impacts on visitor experience in adjacent lands due to increased visitor use would be expected under this alternative.

RODEO BEACH/SOUTH RODEO BEACH ALTERNATIVE C CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Beneficial impacts for visitors who would prefer to walk dogs at the park	Dog walking would still be allowed on site and off leash in the ROLA	Beneficial cumulative impacts for visitors who would prefer to walk dogs at the park
Long-term minor adverse impacts for visitors who would prefer not to have dog walking at the park, assuming compliance	Visitors would still encounter dogs under voice and sight control along the beach	Long-term minor adverse cumulative impacts for visitors who would prefer not to have dog walking at the park
		No indirect impacts in adjacent lands

Alternative D: Overall Most Protective of Resources/Visitor Safety. Alternative D would allow on-leash dog walking on Rodeo Beach in areas north of the footbridge and on the footbridge to the beach. On-leash dog walking would be based on an allowed 6-foot dog leash. South Rodeo Beach would be closed to dogs. The lagoon is currently closed to people and dogs.

Impacts on visitors who would prefer to walk dogs at the park would be long term, moderate, and adverse. Dog walking under voice and control would no longer be allowed at this site. The area available for on-leash dog walking would be reduced to a small portion of Rodeo Beach. Adverse impacts would be expected for visitors who enjoy watching and playing with dogs off leash. Dog owners may also feel that their pets are not receiving adequate exercise when restrained on a 6-foot leash. Some visitors in this user group may find a different area in GGNRA or a local city or county park to exercise their dogs off leash. As a result, visitation by local residents may decrease slightly in this area.

Impacts on visitors who would prefer not to have dog walking at the park would be beneficial. A no-dog experience would be available on a long stretch of Rodeo Beach close to the parking area and on South Rodeo Beach. These visitors, especially those with small children, would feel more comfortable recreating at these areas without the presence of dogs. Children, school groups, and GGNRA partner education groups would be provided an area in which to play and receive educational experiences without the presence of dogs. In addition, pet waste on the beach would no longer occur in the dog-free areas. Visitation by this user group at Rodeo Beach/South Rodeo Beach would likely increase.

No commercial dog walking would be allowed under alternative D. Private dog walkers would be allowed up to three dogs. Since commercial dog walking is not common at Rodeo Beach/South Rodeo Beach, it is likely that prohibiting commercial dog walking from this site would have negligible impacts on both visitors who would prefer to walk dogs at the park and visitors who would prefer not to have dog walking at the park.

Cumulative Impacts. There are no known projects or actions that have had, are currently having, or will have effects on visitor use and experience in the vicinity of this park site and there is the potential for unknown or unidentified projects or actions to occur during the life of this plan. As a result, cumulative impacts are considered negligible because they cannot be accurately assessed for this site. Therefore, no alteration to the results of the impact assessment are expected for any of the alternative actions proposed for the site and the results of the impact analysis for alternative D will be the only contributing factor to the cumulative impact analysis for visitor use and experience under alternative D.

There would be long-term moderate adverse impacts on the visitor use and experience of visitors who would prefer to walk dogs at the park under alternative D. Impacts on the visitor use and experience of visitors who would prefer not to have dog walking at the park would be beneficial.

Indirect Impacts on Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation under alternative D, particularly Remington Dog Park. Remington Dog Park is the closest area that would allow off-leash dog walking. Since on-leash dog walking would be required at Rodeo Beach/South Rodeo Beach, some visitors may begin to use Remington Dog Park for dog walking activities. Visitors currently using Rodeo Beach/South Rodeo Beach for dog walking activities would likely remain if these visitors are looking for a dog walking experience at the beach. Indirect impacts on visitor use in adjacent lands due to increased visitor use would be expected, but only at a negligible level since dog walking at Rodeo Beach/South Rodeo Beach is considered a low to moderate use.

RODEO BEACH/SOUTH RODEO BEACH ALTERNATIVE D CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Long-term moderate adverse impacts for visitors who would prefer to walk dogs at the park	Dog walking would only be allowed on leash and in designated areas	Long-term moderate adverse cumulative impacts for visitors who would prefer to walk dogs at the park
Beneficial impacts for visitors who would prefer not to have dog walking at the park, assuming compliance	Off-leash dog walking would no longer be allowed; on-leash dog walking would be allowed only in restricted areas; a no-dog experience would be available	Beneficial cumulative impacts for visitors who would prefer not to have dog walking at the park
		Negligible indirect impacts in adjacent lands

Alternative E: Overall Most Dog Walking Access/Most Management Intensive. Under alternative E, dog walking under voice and sight control would be allowed in a ROLA on Rodeo Beach up to the crest of the beach. On-leash dog walking would be allowed beyond the crest of the beach, on the footbridge to the beach, and on South Rodeo Beach and its access trail. On-leash dog walking would be based on an allowed 6-foot dog leash. The lagoon is currently closed to people and dogs.

Impacts on visitors who would prefer to walk dogs at the park would be beneficial. Impacts would be beneficial since the majority of the beach would still be available to dog walking under voice and sight control. Visitors would be required to walk their dogs on leash until they reach the ROLA, where their dogs would be allowed to run, exercise, and socialize with other dogs. Visitation by this user group at Rodeo Beach/South Rodeo Beach would likely remain the same.

Impacts on visitors who would prefer not to have dog walking at the park would be long term, minor, and adverse. Visitors would not have the opportunity to have a no-dog experience on Rodeo Beach/South

Rodeo Beach and therefore may avoid Rodeo Beach/South Rodeo Beach due to the presence of off-leash dogs. In addition, some visitors would prefer not to recreate in an area where dogs are urinating or defecating on the beach. Impacts would be minor and adverse since dogs would continue to be present both on and off leash throughout the site. Visitation by this user group at Rodeo Beach/South Rodeo Beach would have the potential to decrease due to the presence of dogs.

Under alternative E, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. Any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. In a ROLA, permit holders may have up to six dogs off-leash and the permit may restrict use by time and area. Permits would be allowed at Rodeo Beach/South Rodeo Beach. Since commercial dog walking is not common at Rodeo Beach/South Rodeo Beach, it is likely that commercial dog walking would have negligible impacts on both visitors who would prefer to walk dogs at the park and visitors who would prefer not to have dog walking at the park.

Cumulative Impacts. There are no known projects or actions that have had, are currently having, or will have effects on visitor use and experience in the vicinity of this park site and there is the potential for unknown or unidentified projects or actions to occur during the life of this plan. As a result, cumulative impacts are considered negligible because they cannot be accurately assessed for this site. Therefore, no alteration to the results of the impact assessment are expected for any of the alternative actions proposed for the site and the results of the impact analysis for alternative E will be the only contributing factor to the cumulative impact analysis for visitor use and experience under alternative E.

Beneficial impacts on the visitor use and experience of visitors who would prefer to walk dogs at the park under alternative E and long-term, minor and adverse impacts on the visitor use and experience of visitors who would prefer not to have dog walking at the park are expected under alternative E.

Indirect Impacts on Adjacent Parks

The adjacent lands identified under alternative A would not likely receive an increase in visitation. Visitors who frequently use Rodeo Beach/South Rodeo Beach for dog walking would likely remain since the proposed ROLA would still allow off-leash dog walking. No indirect impacts on visitor experience in adjacent lands due to increased visitor use would be expected under this alternative.

RODEO BEACH/SOUTH RODEO BEACH ALTERNATIVE E CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Beneficial impacts for visitors who would prefer to walk dogs at the park	Dog walking would still be allowed on site, including under voice and sight control in a ROLA	Beneficial cumulative impacts for visitors who would prefer to walk dogs at the park
Long-term minor adverse impacts for visitors who would prefer not to have dog walking at the park, assuming compliance	Visitors would still encounter dog walking under voice and sight control along the beach	Long-term minor adverse cumulative impacts for visitors who would prefer not to have dog walking at the park
		No indirect impacts in adjacent lands

Preferred Alternative. Alternative C was selected as the preferred alternative for Rodeo Beach/South Rodeo Beach. The preferred alternative would provide a ROLA on most of Rodeo Beach between the ocean and the proposed post-and-cable fence to be installed to protect the shoreline habitat at the western edge of Rodeo Lagoon, which is currently closed to people and dogs. The ROLA would extend to the

ridge on the beach just north of South Rodeo Beach. On-leash dog walking would be required on the footbridge that leads to the beach. Dogs would be prohibited on South Rodeo Beach.

Impacts on visitors who would prefer to walk dogs at the park would be beneficial. Dogs would continue to be able to run off leash along Rodeo Beach. The area closed to dogs on South Rodeo Beach would be relatively small compared to the size of Rodeo Beach. Dogs would continue to receive adequate exercise by being off leash. Having dogs off leash and playing throughout the area may add to the park experience for visitors with dogs. Visitation by this user group at Rodeo Beach/South Rodeo Beach would likely remain the same.

Impacts on visitors who would prefer not to have dog walking at the park would be long term, minor, and adverse. Visitors would continue to encounter dogs under voice control on Rodeo Beach. Rodeo Beach is the most easily accessible beach at this site, only a 1-minute walk from the parking lot. These visitors, especially those with small children, may feel intimidated by dogs running along the beach. Dogs would be prohibited on South Rodeo Beach, which would provide a no-dog experience in a small portion of the site; however, gaining access to the site can be challenging since a long, steep hike from the parking lot is required. Visitation by this user group at Rodeo Beach/South Rodeo Beach would have the potential to decrease due to the presence of dogs under voice and sight control.

All dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. Any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. In a ROLA, permit holders may have up to six dogs off-leash and the permit may restrict use by time and area. Permits would be allowed at Rodeo Beach/South Rodeo Beach. Since commercial dog walking at Rodeo Beach/South Rodeo Beach is not common, it is likely that commercial dog walking would have negligible impacts on both visitors who would prefer to walk dogs at the park and visitors who would prefer not to have dog walking at the park.

Cumulative Impacts. There are no known projects or actions that have had, are currently having, or will have effects on visitor use and experience in the vicinity of this park site and there is the potential for unknown or unidentified projects or actions to occur during the life of this plan. As a result, cumulative impacts are considered negligible because they cannot be accurately assessed for this site. Therefore, no alteration to the results of the impact assessment are expected for any of the alternative actions proposed for the site and the results of the impact analysis for the preferred alternative will be the only contributing factor to the cumulative impact analysis for visitor use and experience under the preferred alternative. The beneficial impacts to visitor use and experience for visitors who prefer dogs at the park under the preferred alternative would be expected under the preferred alternative. Impacts to the visitor use and experience for visitors who do not prefer to have dog walking at the park would be long term, minor, and adverse under.

Indirect Impacts on Adjacent Parks

In lands adjacent to GGNRA, there are 27 parks with dog use areas within about a 10-mile radius of Rodeo Beach/South Rodeo Beach and 9 parks within about a 5-mile radius; the closest park is Remington Dog Park in Sausalito (map 26). Remington Dog Park allows off-leash dog walking. The adjacent lands would not likely receive an increase in visitation. Visitors who frequently use Rodeo Beach/South Rodeo Beach for dog walking would likely remain since the proposed ROLA would still allow off-leash dog walking. No indirect impacts on visitor experience in adjacent lands due to increased visitor use would be expected under this alternative.

RODEO BEACH/SOUTH RODEO BEACH PREFERRED ALTERNATIVE CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Beneficial impacts for visitors who would prefer to walk dogs at the park	Dog walking would still be allowed on site and off leash in the ROLA	Beneficial cumulative impacts for visitors who would prefer to walk dogs at the park
Long-term minor adverse impacts for visitors who would prefer not to have dog walking at the park, assuming compliance	Visitors would still encounter dogs under voice and sight control along the beach	Long-term minor adverse cumulative impacts for visitors who would prefer not to have dog walking at the park
		No indirect impacts in adjacent lands

Marin Headlands Trails

Alternative A: No Action. Currently, on-leash dog walking is allowed along portions of the Coastal Trail (Hill 88 to Muir Beach), the Battery Smith – Guthrie Fire Road Loop, North Miwok Trail, County View Road, and South Rodeo Beach Trail. Dog walking under voice control (or on leash) is allowed along other portions of the Coastal Trail (Golden Gate Bridge to Hill 88 and includes portions of the Lagoon Trail), the Coastal, Wolf, and Miwok Loop, and the Old Bunker Fire Road Loop. Visitation by multiple user groups, including hikers, runners, school groups, horseback riders, and bicyclists, is low to high and visitation by dog walkers is low to moderate at this park site (table 9). Pet-related violations included 47 for the leash law and 2 for dog bites/attacks (table 9). The number of citations, warnings, and reports related to areas closed to pets is high (109) in Tennessee Valley due to the relatively level 1.5-mile hike to Tennessee Beach (appendix G). Enforcement in this area is high since the current dog walking regulation is in a clearly delineated area and signs are present.

There would be no impacts on the visitor experience of those who would prefer to walk dogs at this park site under the no-action alternative. Dog walkers would continue to use this site to allow their dogs to exercise and play. A change in visitation by this user group at the Marin Headlands Trails would not be expected.

Impacts on visitors who would prefer not to have dog walking at the park would be long term, minor, and adverse. Pet-related violations would continue under this alternative. Visitors hiking or bicycling in the area may feel uneasy with off-leash dogs on the trails. Impacts would be expected to be minor, since the site is not heavily used by dog walkers. Visitation by this user group would likely remain the same.

Under alternative A, no permit system exists for dog walking. At the Marin Headlands Trails, commercial dog walking is uncommon. The impacts from commercial dog walkers to visitor experience are similar to the impacts discussed above for both visitors who would prefer to walk dogs at the park and visitors who would prefer not to have dog walking at this park site.

Cumulative Impacts. Projects and actions in and near the Marin Headlands Trails were considered for the cumulative impacts analysis (appendix K). The following is a discussion of projects that have had, are currently having, or will have effects on visitors at or in the vicinity of the Marin Headlands Trails.

The *Marin Headlands and Fort Baker Transportation Infrastructure Management Plan* provides planning and infrastructure improvements that would provide greater access to and within the Marin Headlands area for a variety of visitors in the park. The *San Francisco Bay Conservation and Development Commission's Tennessee Valley / Manzanita Connector Pathway Project* will upgrade the existing path to meet current ADA accessibility and design standards for a multi-use pathway and will encourage area

residents to use the trail as an alternative to vehicular travel to reach key destinations (San Francisco Bay Conservation and Development Commission 2009, 2). Beneficial impacts from these projects would be expected for all visitors at GGNRA; however, even though these projects will benefit visitors at the park by improving the infrastructure in and around this park site, these projects are not directly related to dog management or dog-related visitor use and would not significantly affect the cumulative analysis for alternative A. Therefore, cumulative effects would not be measurable or perceptible on alternative A and no change in impact level or intensity is expected on either user group: negligible for those who prefer to walk dogs and long-term, minor and adverse for those visitors who prefer not to have dogs at the site.

Indirect Impacts on Adjacent Parks

In lands adjacent to GGNRA, there are 28 parks with dog use areas within about a 10-mile radius of the Marin Headlands Trails and 18 parks within about a 5-mile radius; the closest parks are Remington Dog Park in Sausalito (map 26). Remington Dog Park allows off-leash dog walking. No indirect impacts on visitor experience in adjacent lands due to increased visitation would be expected under alternative A since there would be no change in current conditions at this site.

MARIN HEADLANDS TRAILS ALTERNATIVE A CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
No impact for visitors who would prefer to walk dogs at the park	Dog walking would still be allowed on site and off leash in some areas	No Impact cumulative impacts for visitors who would prefer to walk dogs at the park
Long-term minor adverse impacts for visitors who would prefer not to have dog walking at the park	Visitors would still encounter on-leash and off-leash dog walking along the trails	Long-term minor adverse cumulative impacts for visitors who would prefer not to have dog walking at the park
		No indirect impacts in adjacent lands

Alternative B: NPS Leash Regulations. Under alternative B, no dogs would be allowed on the Marin Headlands Trails.

Impacts on visitors who would prefer to walk dogs at the park would be long term, moderate, and adverse since dog walking would no longer be allowed at this site. Impacts would be moderate since this site has low to moderate use by dog walkers. Visitors would need to find other areas in the park for dog walking. Visitors would no longer be able to play, run, and socialize with their dogs at this park site. Visitation by this user group at the Marin Headlands Trails would decrease.

Impacts on visitors who would prefer not to have dog walking at the park would be beneficial. Hikers, bicyclists, runners, and horseback riders would now be able to use the entire site without the presence of dogs. Visitor incidents related to pet violations would no longer occur. Visitation by this user group would be expected to increase.

Since dogs would not be allowed at this site the impacts to commercial dog walkers are similar to the impacts discussed above for visitors who would prefer to walk dogs at the park.

Cumulative Impacts. Beneficial impacts from the infrastructure projects would be expected for all visitors at GGNRA; however, even though these projects will benefit visitors at the park by improving the infrastructure in and around this park site, these projects are not directly related to dog management or dog-related visitor use and would not significantly affect the cumulative analysis for alternative B.

Therefore, cumulative effects would not be measurable or perceptible on alternative B and no change in impact level or intensity is expected on either user group: long-term, moderate and adverse for those who prefer to walk dogs and beneficial for those visitors who prefer not to have dogs at the site.

Indirect Impacts on Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation under alternative B, particularly Remington Dog Park, because it is the closest dog use area. Long-term minor adverse indirect impacts on visitor experience in adjacent lands would be expected since dog walking would no longer be allowed at Marin Headlands Trails. Impacts would be minor since visitation by dog walkers is currently low to moderate at this site.

MARIN HEADLANDS TRAILS ALTERNATIVE B CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Long-term moderate adverse impacts for visitors who would prefer to walk dogs at the park	Visitors would no longer be allowed to walk dogs at this site	Long-term moderate adverse cumulative impacts for visitors who would prefer to walk dogs at the park
Beneficial impacts for visitors who would prefer not to have dog walking at the park, assuming compliance	Dog walking would not be allowed on site; a no-dog experience would be available	Beneficial cumulative impacts for visitors who would prefer not to have dog walking at the park
		Long-term minor adverse indirect impacts in adjacent lands

Alternative C: Emphasis on Multiple Use, Balanced by County. Under alternative C, on-leash dog walking would be allowed along the Lower Rodeo Valley Trail Corridor, several trails including the Lagoon Trail, Miwok Trail, and Rodeo Valley Trail, the Battery Smith-Guthrie Fire Road Loop, and the Old Bunker Fire Road Loop. Impacts on visitors who would prefer to walk dogs at the park would be long term, minor, and adverse. Dogs would no longer be allowed to run off leash and would be limited to the Lower Rodeo Valley Trail Corridor. Dog walking would be required to be on leash and the area available for dog walking would be reduced. Adverse impacts would be expected for visitors who enjoy watching and playing with dogs off leash. Dog owners may also feel that their pets are not receiving adequate exercise when restrained on a 6-foot leash. Some visitors in this user group may find a different park to exercise their dogs off leash. Visitation by this user group may decrease slightly.

Impacts on visitors who would prefer not to have dog walking at the park would be beneficial. Since dogs would be required to be on leash, visitors would no longer encounter dogs under voice control. Visitors who would prefer not to have dog walking at the park may feel more comfortable recreating at the Marin Headlands Trails since dogs would now be restrained on leash. In addition, dog walking would be restricted to the Lower Rodeo Valley Trail Corridor; therefore, numerous trails, including sections of the Coastal Trail, Wolf Ridge Trail, and Miwok Trail, would be available for a no-dog experience. Visitation by this user group at the Marin Headlands Trails would have the potential to increase.

Under alternative C, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be granted at Marin Headlands Trails, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking is not common at this site, it is likely that commercial dog walking would have negligible impacts on both visitors who would prefer to walk dogs at the park and visitors who would prefer not to have dog walking at the park.

Cumulative Impacts. Beneficial impacts from the infrastructure projects would be expected for all visitors at GGNRA; however, even though these projects will benefit visitors at the park by improving the infrastructure in and around this park site, these projects are not directly related to dog management or dog-related visitor use and would not significantly affect the cumulative analysis for alternative C. Therefore, cumulative effects would not be measurable or perceptible on alternative C and no change in impact level or intensity is expected on either user group: long-term, minor and adverse for those who prefer to walk dogs and beneficial for those visitors who prefer not to have dogs at the site.

Indirect Impacts on Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation under alternative C, particularly Remington Dog Park, because it is the closest dog use area that allows off-leash dog walking. Some visitors who currently use the Marin Headlands Trails for an off-leash experience may begin dog walking at Remington Dog Park. Indirect impacts on visitor use in adjacent lands due to increased visitor use would be expected, but only at a negligible level since dog walking at the Marin Headlands Trails is considered a low to moderate use activity.

MARIN HEADLANDS TRAILS ALTERNATIVE C CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Long-term minor adverse impacts for visitors who would prefer to walk dogs at the park	Off-leash dog walking would no longer be allowed; on-leash dog walking would be allowed only in designated areas	Long-term minor adverse cumulative impacts for visitors who would prefer to walk dogs at the park
Beneficial impacts for visitors who would prefer not to have dog walking at the park, assuming compliance	Off-leash dog walking would no longer be allowed; a no-dog experience would be available	Beneficial cumulative impacts for visitors who would prefer not to have dog walking at the park
		Negligible indirect impacts in adjacent lands

Alternative D: Overall Most Protective of Resources/Visitor Safety. Dog walking restrictions would be the same as alternative B and impacts on visitor use and experience would also be the same: long-term moderate adverse impacts on visitors who would prefer to walk dogs at the park and beneficial impacts on visitors who would prefer not to have dog walking at the park.

Since dogs would not be allowed at this site the impacts from commercial dog walkers are similar to the impacts discussed above in alternative B for visitors who would prefer to walk dogs at the park.

Cumulative Impacts. Beneficial impacts from the infrastructure projects would be expected for all visitors at GGNRA; however, even though these projects will benefit visitors at the park by improving the infrastructure in and around this park site, these projects are not directly related to dog management or dog-related visitor use and would not significantly affect the cumulative analysis for alternative D. Therefore, cumulative effects would not be measurable or perceptible on alternative D and no change in impact level or intensity is expected on either user group.

Indirect Impacts on Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation under alternative D, particularly Remington Dog Park, because it is the closest dog use area. Long-term minor adverse indirect impacts on visitor experience in adjacent lands would be expected since dog walking would no longer be

allowed at Marin Headlands Trails. Impacts would be minor since visitation by dog walkers is currently low to moderate at this site.

MARIN HEADLANDS TRAILS ALTERNATIVE D CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Long-term moderate adverse impacts for visitors who would prefer to walk dogs at the park	Visitors would no longer be allowed to walk dogs at this site	Long-term moderate adverse cumulative impacts for visitors who would prefer to walk dogs at the park
Beneficial impacts for visitors who would prefer not to have dog walking at the park, assuming compliance	Dog walking would not be allowed on site; a no-dog experience would be available	Beneficial cumulative impacts for visitors who would prefer not to have dog walking at the park
		Long-term minor adverse indirect impacts in adjacent lands

Alternative E: Overall Most Dog Walking Access/Most Management Intensive. Under alternative E, on-leash dog walking along the Lower Rodeo Valley Trail Corridor, the Old Bunker Fire Road Loop, the Battery Smith-Guthrie Fire Road Loop, and the Coastal Trail Bike Route. Impacts on visitors who would prefer to walk dogs at the park would be long term, minor, and adverse. Dog walking would be required to be on leash and the area available for dog walking would be reduced. Adverse impacts would be expected for visitors who enjoy watching and playing with dogs off leash. Dog owners may also feel that their pets are not receiving adequate exercise when restrained on a 6-foot leash. Some visitors in this user group may find a different park to exercise their dogs off leash. Visitation by this user group may decrease slightly.

Impacts on visitors who would prefer not to have dog walking at the park would be beneficial. Since dogs would be required to be on leash, visitors would no longer encounter dogs under voice control. Visitors who would prefer not to have dog walking at the park may feel more comfortable recreating at Marin Headlands Trails since dogs would be restrained on leash. In addition, dog walking would be restricted to a portion of the site, thus allowing for a no-dog experience on some trails. Visitation by this user group at the Marin Headlands Trails would have the potential to increase.

Under alternative E, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be granted at Marin Headlands Trails, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking is not common at Marin Headlands Trails, it is likely that commercial dog walking would have negligible impacts on both visitors who would prefer to walk dogs at the park and visitors who would prefer not to have dog walking at the park.

Cumulative Impacts. Beneficial impacts from infrastructure projects would be expected for all visitors at GGNRA; however, even though these projects will benefit visitors at the park by improving the infrastructure in and around this park site, these projects are not directly related to dog management or dog-related visitor use and would not significantly affect the cumulative analysis for alternative E. Therefore, cumulative effects would not be measurable or perceptible on alternative E and no change in impact level or intensity is expected on either user group: long-term, moderate and adverse for those who prefer to walk dogs and beneficial for those visitors who prefer not to have dogs at the site.

The long-term minor adverse impacts on the visitor use and experience of visitors who would prefer to walk dogs at the park under alternative E would result in long-term minor adverse cumulative impacts on this user group. The beneficial impacts on visitors who would prefer not to have dog walking at this park site under alternative E

Indirect Impacts on Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation under alternative E, particularly Remington Dog Park, because it is the closest dog use area that allows off-leash dog walking. Some visitors who currently use the Marin Headlands Trails for an off-leash experience may begin dog walking at Remington Dog Park. Indirect impacts on visitor use in adjacent lands due to increased visitor use would be expected, but only at a negligible level since dog walking at the Marin Headlands Trails is considered a low to moderate use activity.

MARIN HEADLANDS TRAILS ALTERNATIVE E CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Long-term minor adverse impacts for visitors who would prefer to walk dogs at the park	Off-leash dog walking would no longer be allowed; on-leash dog walking would be allowed only in designated areas	Long-term minor adverse cumulative impacts for visitors who would prefer to walk dogs at the park
Beneficial impacts for visitors who would prefer not to have dog walking at the park, assuming compliance	Off-leash dog walking would no longer be allowed; a no-dog experience would be available	Beneficial impacts for visitors who would prefer not to have dog walking at the park
		Negligible indirect impacts in adjacent lands

Preferred Alternative. Alternative C was selected as the preferred alternative for Marin Headlands Trails. On-leash dog walking would be allowed along the Lower Rodeo Valley Trail Corridor, several trails including the Lagoon Trail, Miwok Trail, and Rodeo Valley Trail, the Battery Smith-Guthrie Fire Road Loop, and the Old Bunker Fire Road Loop. Impacts on visitors who would prefer to walk dogs at the park would be long term, minor, and adverse. Dogs would no longer be allowed to run off leash and would be limited to the Lower Rodeo Valley Trail Corridor. Dog walking would be required to be on leash and the area available for dog walking would be reduced. Adverse impacts would be expected for visitors who enjoy watching and playing with dogs off leash. Dog owners may also feel that their pets are not receiving adequate exercise when restrained on a 6-foot leash. Some visitors in this user group may find a different park to exercise their dogs off leash. Visitation by this user group may decrease slightly.

Impacts on visitors who would prefer not to have dog walking at the park would be beneficial. Since dogs would be required to be on leash, visitors would no longer encounter dogs under voice control. Visitors who would prefer not to have dog walking at the park may feel more comfortable recreating at the Marin Headlands Trails since dogs would be restrained on leash. In addition, dog walking would be restricted to the Lower Rodeo Valley Trail Corridor; therefore, numerous trails, including sections of the Coastal Trail, Wolf Ridge Trail, and Miwok Trail, would be available for a no-dog experience. Visitation by this user group at the Marin Headlands Trails would have the potential to increase.

All dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be granted at Marin Headlands Trails, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking is not common at this site, it is likely that

commercial dog walking would have negligible impacts on both visitors who would prefer to walk dogs at the park and visitors who would prefer not to have dog walking at the park.

Cumulative Impacts. Projects and actions in and near the Marin Headlands Trails were considered for the cumulative impacts analysis (appendix K). The following is a discussion of projects that have had, are currently having, or will have effects on visitors at or in the vicinity of the Marin Headlands Trails.

The *Marin Headlands and Fort Baker Transportation Infrastructure Management Plan* provides planning and infrastructure improvements that would provide greater access to and within these areas for a variety of visitors in the park. The *San Francisco Bay Conservation and Development Commission's Tennessee Valley / Manzanita Connector Pathway Project* will upgrade the existing path to meet current ADA accessibility and design standards for a multi-use pathway and will encourage area residents to use the trail as an alternative to vehicular travel to reach key destinations (San Francisco Bay Conservation and Development Commission 2009, 2). Beneficial impacts from these projects would be expected for all visitors at GGNRA; however, even though these projects will benefit visitors at the park by improving the infrastructure in and around this park site, these projects are not directly related to dog management or dog-related visitor use and would not significantly affect the cumulative analysis for preferred alternative. Therefore, cumulative effects would not be measurable or perceptible on the preferred alternative and no change in impact level or intensity is expected on either user group: long-term, minor and adverse for those who prefer to walk dogs and beneficial for those visitors who prefer not to have dogs at the site.

Indirect Impacts on Adjacent Parks

In lands adjacent to GGNRA, there are 28 parks with dog use areas within about a 10-mile radius of the Marin Headlands Trails and 18 parks within about a 5-mile radius; the closest parks are Remington Dog Park in Sausalito (map 26). Remington Dog Park allows off-leash dog walking. The adjacent lands may experience increased visitation under the preferred alternative, particularly Remington Dog Park, because it is the closest dog use area that allows off-leash dog walking. Some visitors who currently use the Marin Headlands Trails for an off-leash experience may begin dog walking at Remington Dog Park. Indirect impacts on visitor use in adjacent lands due to increased visitor use would be expected, but only at a negligible level since dog walking at the Marin Headlands Trails is considered a low to moderate use activity.

MARIN HEADLANDS TRAILS PREFERRED ALTERNATIVE CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Long-term minor adverse impacts for visitors who would prefer to walk dogs at the park	Off-leash dog walking would no longer be allowed; on-leash dog walking would be allowed only in designated areas	Long-term minor adverse cumulative impacts for visitors who would prefer to walk dogs at the park
Beneficial impacts for visitors who would prefer not to have dog walking at the park, assuming compliance	Off-leash dog walking would no longer be allowed; a no-dog experience would be available	Beneficial cumulative impacts for visitors who would prefer not to have dog walking at the park
		Negligible indirect impacts in adjacent lands

Fort Baker

Alternative A: No Action. On-leash dog walking is currently allowed in the Fort Baker area except for the pier, closed for visitor safety, and the Chapel Trail, closed to protect adjacent mission blue butterfly habitat. Visitation at Fort Baker is considered moderate for multiple user groups, including guests with

dogs at the newly opened Cavallo Point Lodge at the Golden Gate and local residents who walk from Sausalito. Documented leash law violations at this site totaled 57 in 2007/2008 (table 9). Park staff members frequently observe visitors allowing their dogs off leash in this site. Staff observations of dog walkers have increased recently due to the increased presence of patrols since NPS offices are now located in Building 507 at Fort Baker. In addition, an increase in enforcement in the area is due to the higher phone call rate since the opening of the Cavallo Point Lodge, restaurant, and bar.

Under the no-action alternative, there would be no impact on visitors who would prefer to walk dogs at this park site. Visitors would continue to walk dogs on leash throughout the site and some visitors would continue to disregard the leash regulation by walking their dogs off leash. Having dogs off leash and playing throughout the area may add to the park experience for visitors with dogs. A change in visitation by this user group at Fort Baker would not be expected.

Impacts on visitors who would prefer not to have dog walking at this park site would be long term, minor, and adverse. Visitors would continue to encounter dogs both on and off leash at this park site and these visitors may avoid this area due to the presence of dogs. Monitoring by LE is regular at Fort Baker due to the location of an LE office at Fort Baker, yet compliance is low and park staff members estimate that about half the visits from visitors with dogs are in violation. Dogs off leash have been observed by park staff on the Parade Ground, Drown Fire Road, Battery Yates, and behind the Bay Area Discovery Museum, which are all on-leash dog walking sites. Under the no-action alternative, there would only be two areas in this park site, the pier and the Chapel Trail, for visitors to experience Fort Baker without the presence of dogs. Visitation by this user group at Fort Baker would have the potential to decrease due to the presence of dogs.

Under alternative A, no permit system exists for dog walking. At Fort Baker, commercial dog walking is uncommon. The impacts from commercial dog walkers to visitor experience are similar to the impacts discussed above for both visitors who would prefer to walk dogs at the park and visitors who would prefer not to have dog walking at this park site.

Cumulative Impacts. Projects and actions in and near Fort Baker were considered for the cumulative impacts analysis (appendix K). The following is a discussion of projects that have had, are currently having, or will have effects on visitor use and experience at or in the vicinity of Fort Baker.

At Fort Baker, the newly rehabilitated Cavallo Point Lodge, which houses the Institute at the Golden Gate, as well as infrastructure upgrades, waterfront improvements, and native habitat restoration, will attract additional visitors to this site (NPS 2008f, 1). Transportation infrastructure management in the Marin Headlands and Fort Baker area provides greater access to and within these areas for a variety of user groups in the park, resulting in enhanced visitor use and experience for all visitors to Fort Baker. As a result, visitation for either user group considered under the dog management alternative analysis could also increase. Cumulatively, a predicted increase in visitation could result in additional incidents of dog encounters for visitors who prefer not to have dog walking within GGNRA experiences under alternative A. Although, the projects mentioned are not directly related to dog management the benefit of improved access and new facilities at Fort Baker may increase visitation enough to alter the intensity of the expected impacts from the implementation of alternative A. For visitors preferring not to have dog walking at the site, their experience could result in a to long-term moderate adverse impact because the opportunity to encounter dogs within the Fort Baker site could increase even though dogs would be restricted to a leash and within designated areas. For those visitors who prefer to have dog walking within the site, the beneficial effects of the projects could provide impetus to visit the site, but would not provide any additional benefit to their visitor experience.

Indirect Impacts on Adjacent Parks

In lands adjacent to GGNRA, there are 26 parks with dog use areas within about a 10-mile radius of Fort Baker and 2 parks within about a 5-mile radius; the closest park is Remington Dog Park in Sausalito (map 26), which allows off-leash dog walking. No indirect impacts on visitor experience in adjacent lands would be expected under alternative A since there would be no change in current conditions at the site.

FORT BAKER ALTERNATIVE A CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
No impact for visitors who would prefer to walk dogs at the park	On-leash dog walking would still be allowed on site	Beneficial cumulative impacts for visitors who would prefer to walk dogs at the park
Long-term minor adverse impacts for visitors who would prefer not to have dog walking at the park	Visitors would still encounter dogs throughout the site	Negligible cumulative impacts for visitors who would prefer not to have dog walking at the park
		No indirect impacts in adjacent lands

Alternative B: NPS Leash Regulations. Alternative B would allow on-leash dog walking on Drown Fire Road, the Bay Trail (not including the Battery Yates Loop), the Lodge/Conference Center Grounds, and the Parade Ground. On-leash dog walking would be based on an allowed 6-foot dog leash.

Impacts on visitors who would prefer to walk dogs at this park site would be negligible. Visitors would continue to walk dogs on leash throughout the site, except for the Battery Yates Loop. The amount of area available for dog walking would be similar to current conditions. Since the Cavallo Point Lodge is a pet-friendly facility, visitors staying at the lodge would be allowed to walk their dogs throughout the site. Visitation by this user group at this park site would be expected to remain the same.

Impacts on visitors who would prefer not to have dog walking at this park site would be negligible. Visitors would continue to encounter on-leash dogs throughout most of the site. Impacts would be negligible since dog walking would be allowed in similar areas to the no-action alternative. Having dogs on leash at Fort Baker would provide visitor protection in an area of increasing visitation, both around the lodge and along the waterfront. A no-dog experience would be available along the Battery Yates Loop, on the pier, and on the Chapel Trail. Visitation by this user group would likely remain the same.

Under alternative B, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs on leash per person with no permit required. Since commercial dog walking is not common at Fort Baker, it is likely that commercial dog walking would have negligible impacts on both visitors who would prefer to walk dogs at the park and visitors who would prefer not to have dog walking at the park.

Cumulative Impacts. As a result, of the projects highlighted in alternative A, visitation for either user group considered under the dog management alternative analysis could increase. Cumulatively, a predicted increase in visitation could result in additional incidents of dog encounters for visitors who prefer not to have dog walking within GGNRA experiences under alternative B; however, available, designated dog walking areas are restricted in alternative B and it is unlikely that any increased visitation to Fort Baker resulting from the projects discussed would be significant enough to alter the level of intensity of impacts on visitor experience for either user group; overall, both groups would benefit from the enhancements at the site.

Indirect Impacts on Adjacent Parks

No indirect impacts on visitor experience in adjacent lands would be expected under alternative B since conditions at Fort Baker would be relatively similar to the no-action alternative.

FORT BAKER ALTERNATIVE B CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Negligible impacts for visitors who would prefer to walk dogs at the park	On-leash dog walking would still be allowed on site	Beneficial cumulative impacts for visitors who would prefer to walk dogs at the park
Negligible impacts for visitors who would prefer not to have dog walking at the park, assuming compliance	Visitors would still encounter dogs throughout the site	Beneficial cumulative impacts for visitors who would prefer not to have dog walking at the park
		No indirect impacts in adjacent lands

Alternative C: Emphasis on Multiple Use, Balanced by County. Alternative C would allow on-leash dog walking on Drown Fire Road, the Bay Trail including the Battery Yates Loop, the Lodge/Conference Center Grounds, and the Parade Ground. On-leash dog walking would be based on an allowed 6-foot dog leash.

Impacts on visitors who would prefer to walk dogs at this park site would be negligible. Visitors would continue to walk dogs on leash throughout the site. The amount of area available for dog walking would be similar to current conditions. Since the Cavallo Point Lodge is a pet-friendly facility, visitors staying at the lodge would be allowed to walk their dogs throughout the site. Visitation by this user group at this park site would be expected to remain the same.

Impacts on visitors who would prefer not to have dog walking at this park site would be negligible. Visitors would continue to encounter on-leash dogs throughout most of the site. Impacts would be negligible since dog walking would be allowed in similar areas to the no-action alternative. Having dogs on leash at Fort Baker would provide visitor protection in an area of increasing visitation, both around the lodge and along the waterfront. Visitation by this user group would likely remain the same.

Under alternative C, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. Any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs, and the permit may restrict use by time and area. Since commercial dog walking is not common at Fort Baker, it is likely that commercial dog walking would have negligible impacts on both visitors who would prefer to walk dogs at the park and visitors who would prefer not to have dog walking at the park.

Cumulative Impacts. As a result, of the projects highlighted in alternative A, visitation for either user group considered under the dog management alternative analysis could increase. Cumulatively, a predicted increase in visitation could result in additional incidents of dog encounters for visitors who prefer not to have dog walking within GGNRA experiences under alternative C; however, available, designated dog walking areas are restricted in alternative C and it is unlikely that any increased visitation to Fort Baker resulting from the projects discussed would be significant enough to alter the level of intensity of impacts on visitor experience for either user group; overall, both groups would benefit from the enhancements at the site.

Indirect Impacts on Adjacent Parks

No indirect impacts on visitor experience in adjacent lands would be expected under alternative C since conditions at Fort Baker would be relatively similar to the no-action alternative.

FORT BAKER ALTERNATIVE C CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Negligible impacts for visitors who would prefer to walk dogs at the park	On-leash dog walking would still be allowed on site	Beneficial cumulative impacts for visitors who would prefer to walk dogs at the park
Negligible impacts for visitors who would prefer not to have dog walking at the park, assuming compliance	Visitors would still encounter dogs throughout the site	Beneficial cumulative impacts for visitors who would prefer not to have dog walking at the park
		No indirect impacts in adjacent lands

Alternative D: Overall Most Protective of Resources/Visitor Safety. On-leash dog walking would be allowed on the grounds of the Lodge/Conference Center and on the Bay Trail. Dogs would no longer be allowed on the Battery Yates Loop, Parade Ground fronting the Lodge Ground or on Drown Fire Road.

Impacts on visitors who would prefer to walk dogs at the park would be long term, minor, and adverse as alternative D would be the most restrictive for dog walking. Impacts would be minor and adverse because the amount of area available to pets would be reduced; however, a good portion of the site would still be available for walking dogs. Visitation by this user group would be not expected to change.

Impacts on visitors who would prefer not to have dog walking at the park would be beneficial. This alternative would provide more areas in Fort Baker where dogs would not be allowed, which would benefit this user group's no-dog experience. Visitation by this user group would have the potential to increase at this park site.

No commercial dog walking would be allowed under alternative D. Private dog walkers would be allowed up to three dogs. Since commercial dog walking is not common at Fort Baker, it is likely that prohibiting commercial dog walking from this site would have negligible impacts on both visitors who would prefer to walk dogs at the park and visitors who would prefer not to have dog walking at the park.

Cumulative Impacts. Visitation for either user group considered under the dog management alternative analysis could increase as a result of the projects discussed under alternative A. However under alternative D, designated areas for visitors who prefer to walk dogs at Fort Baker would be at their most restrictive and visitation by this user group may not increase significantly. As a result, it is unlikely that any increased visitation to Fort Baker resulting from the projects discussed would be significant enough to affect visitors who prefer to walk dogs at Fort Baker; those visitors who prefer not to have dog walking at the site would likely benefit more from the enhancements at the site and the dog management options provided under alternative D.

Indirect Impacts on Adjacent Parks

It is likely that visitation in adjacent lands would not increase because there would still be a relatively large area for dog walkers to use at Fort Baker. No indirect impacts on visitor experience in adjacent lands would be expected under alternative D.

FORT BAKER ALTERNATIVE D CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Long-term minor adverse impacts for visitors who would prefer to walk dogs at the park	The area available to dogs would be reduced	Negligible cumulative impacts for visitors who would prefer to walk dogs at the park
Beneficial impacts for visitors who would prefer not to have dog walking at the park, assuming compliance	Some areas would prohibit dogs, allowing a no-dog experience	Beneficial cumulative impacts for visitors who would prefer not to have dog walking at the park
		No indirect impacts in adjacent lands

Alternative E: Overall Most Dog Walking Access/Most Management Intensive. Dog walking restrictions would be the same as alternative C and impacts on visitor use and experience would be the same as alternative C: negligible for visitors who would prefer to walk dogs at the park and negligible for visitors who would prefer not to have dog walking at this park site.

Under alternative E, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. Any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs, and the permit may restrict use by time and area. Since commercial dog walking is not common at Fort Baker, it is likely that commercial dog walking would have negligible impacts on both visitors who would prefer to walk dogs at the park and visitors who would prefer not to have dog walking at the park.

Cumulative Impacts. As a result, of the projects highlighted in alternative A, visitation for either user group considered under the dog management alternative analysis could increase. Cumulatively, a predicted increase in visitation could result in additional incidents of dog encounters for visitors who prefer not to have dog walking within GGNRA experiences under alternative E; however, available, designated dog walking areas are restricted in alternative E and it is unlikely that any increased visitation to Fort Baker resulting from the projects discussed would be significant enough to alter the level of intensity of impacts on visitor experience for either user group; overall, both groups would benefit from the enhancements at the site.

Indirect Impacts on Adjacent Parks

No indirect impacts on visitor experience in adjacent lands would be expected under alternative E since conditions at Fort Baker would be relatively similar to the no-action alternative.

FORT BAKER ALTERNATIVE E CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Negligible impacts for visitors who would prefer to walk dogs at the park	On-leash dog walking would still be allowed on site	Beneficial cumulative impacts for visitors who would prefer to walk dogs at the park
Negligible impacts for visitors who would prefer not to have dog walking at the park, assuming compliance	Visitors would still encounter dogs throughout the site	Beneficial cumulative impacts for visitors who would prefer not to have dog walking at the park
		No indirect impacts in adjacent lands

Preferred Alternative. Alternative C was selected as the preferred alternative for Fort Baker. The preferred alternative would allow on-leash dog walking on Drown Fire Road, the Bay Trail including the Battery Yates Loop Road, the Lodge/Conference Center Grounds, and the Parade Ground. On-leash dog walking would be based on an allowed 6-foot dog leash.

Impacts on visitors who would prefer to walk dogs at this park site would be negligible. Visitors would continue to walk dogs on leash throughout the site. The amount of area available for dog walking would be similar to current conditions. Since the Cavallo Point Lodge is a pet-friendly facility, visitors staying at the lodge would be allowed to walk their dogs throughout the site. Visitation by this user group at this park site would be expected to remain the same.

Impacts on visitors who would prefer not to have dog walking at this park site would be negligible. Visitors would continue to encounter on-leash dog walkers throughout most of the site. Impacts would be negligible since dog walking would be allowed in similar areas to the no-action alternative. Having dogs on leash at Fort Baker would provide visitor protection in an area of increasing visitation, both around the lodge and along the waterfront. A no-dog experience would be available along the Vista Point Loop, on the pier, and on the Chapel Trail. Visitation by this user group would likely remain the same.

All dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. Any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs, and the permit may restrict use by time and area. Since commercial dog walking is not common at Fort Baker, it is likely that commercial dog walking would have negligible impacts on both visitors who would prefer to walk dogs at the park and visitors who would prefer not to have dog walking at the park.

Cumulative Impacts. Projects and actions in and near Fort Baker were considered for the cumulative impacts analysis (appendix K). The following is a discussion of projects that have had, are currently having, or will have effects on visitor use and experience at or in the vicinity of Fort Baker.

At Fort Baker, the newly rehabilitated Cavallo Point Lodge, which also houses the Institute at the Golden Gate, as well as infrastructure upgrades, waterfront improvements, and native habitat restoration, will attract additional visitors to this site (NPS 2008f, 1). Transportation infrastructure management in the Marin Headlands and Fort Baker area provides greater access to and within these areas for a variety of user groups in the park, resulting in beneficial impacts on visitor use and experience.

Visitation for either user group considered under the dog management alternative analysis could increase. Cumulatively, a predicted increase in visitation could result in additional incidents of dog encounters for visitors who prefer not to have dog walking within GGNRA experiences under the preferred alternative; however, available, designated dog walking areas are restricted in the preferred alternative and it is unlikely that any increased visitation to Fort Baker resulting from the projects discussed would be significant enough to alter the level of intensity of impacts on visitor experience for either user group; overall, both groups would benefit from the enhancements at the site under the preferred alternative.

Indirect Impacts on Adjacent Parks

In lands adjacent to GGNRA, there are 26 parks with dog use areas within about a 10-mile radius of Fort Baker and 2 parks within about a 5-mile radius; the closest park is Remington Dog Park in Sausalito (map 26), which allows off-leash dog walking. No indirect impacts on visitor experience in adjacent lands would be expected under the preferred alternative since conditions at Fort Baker would be relatively similar to the no-action alternative.

FORT BAKER PREFERRED ALTERNATIVE CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Negligible impacts for visitors who would prefer to walk dogs at the park	On-leash dog walking would still be allowed on site	Beneficial cumulative impacts for visitors who would prefer to walk dogs at the park
Negligible impacts for visitors who would prefer not to have dog walking at the park, assuming compliance	Visitors would still encounter dogs throughout the site	Beneficial cumulative impacts for visitors who would prefer not to have dog walking at the park
		No indirect impacts in adjacent lands

SAN FRANCISCO COUNTY SITES

Upper and Lower Fort Mason

Alternative A: No Action. Currently, on-leash dog walking is allowed throughout Upper and Lower Fort Mason. This area is considered a low to moderate visitor use area, and dog walking is very popular with many of the local residents as well as with local commercial dog walking businesses. Dog walking, including commercial dog walking, is considered a low to moderate use at this site (table 9). The trail connecting San Francisco Maritime National Historical Park to Lower Fort Mason, and ultimately to Crissy Field, is heavily used by bicyclists, walkers, and runners. Leash law violations and dog bites/attacks totaled 15 and 2, respectively, at this site in 2007/2008 (table 9); however, park staff members regularly observe many owners walking their pets off leash throughout the site even though regulations require dogs to be walked on leash. Also, off-leash pets have occasionally needed to be rescued from the cliffs on the northern edge of Fort Mason (five rescues in 2007/2008) (table 9).

There would be no impact on the visitor experience of visitors who would prefer to walk dogs at the park. Visitors would continue to use the area for exercising, playing with, and socializing their pets. Some dog walkers would continue to walk their dogs off leash throughout the site even though this would not be allowed under alternative A. Commercial dog walkers would also continue to use the site and to walk four to six or more dogs at a time, sometimes off leash. A change in visitation by this user group would not be expected.

Impacts on visitors who would prefer not to have dog walking at the park would continue to be long term, minor to moderate, and adverse. Visitors would continue to encounter both on- and off-leash dogs at this site. Incidents with dogs, such as dog bites/attacks, would continue. Currently, visitors at this park site who would prefer not to have dog walking at the park are not able to have a no-dog experience. Some visitors may avoid this area due to the presence of dogs. Visitation by this user group at Upper and Lower Fort Mason would have the potential to decrease due to the presence of dogs.

Under alternative A, no permit system exists for dog walking; however, commercial dog walkers currently use Upper and Lower Fort Mason for dog walking. Under alternative A, there would be no impact from commercial dog walking on visitors who would prefer to walk dogs at the park. Some visitors would continue to walk more than three dogs per walker and some visitors would continue to enjoy the presence of multiple dogs. Impacts from commercial dog walking on visitors who would prefer not to have dog walking at the park would be long term, minor, and adverse. Some visitors may feel uncomfortable recreating in this area if multiple dog walkers have more than three dogs at one time, especially if the dogs are off leash.

Cumulative Impacts. Projects and actions in and near Upper and Lower Fort Mason were considered for the cumulative impacts analysis (appendix K). The following is a discussion of projects that have had, are currently having, or will have effects on visitor use and experience at or in the vicinity of Upper and Lower Fort Mason.

The improvement of the San Francisco Bay Trail at Laguna Street and Marina Boulevard at Upper and Lower Fort Mason is part of initiatives of Park Stewardship Programs, and includes efforts to improve pedestrian and bicycle traffic flow, and revegetate the landscape (GGNPC 2010a, 1–2). The proposed extension of the Municipal Railway’s Historic Streetcar Service would continue the F-line three blocks west from San Francisco Maritime NHP through the Fort Mason Tunnel to the Fort Mason Center at GGNRA, for a total additional distance of about 0.85 mile, benefiting public transportation in the area (NPS 2010b, 1). The restoration projects would enhance aesthetics, safety and recreational enjoyment for all visitors to Upper and Lower Fort Mason. Cumulatively, all visitors, including both user groups would enjoy the enhanced viewshed of restored habitat and improved trails and safety that results from the trail improvements. Improved public access would benefit visitors except those who would prefer to walk dogs at Upper and Lower Fort Mason. It is unlikely that dogs would be allowed on the streetcars and as a result, visitors who prefer to walk dogs at the site, would not benefit to the same degree as other visitors. The cumulative benefits from public access, trail and restoration projects when considered with the dog management proposed under alternative A would not result in any significant alteration of the impact intensity resulting from implementation of dog management under alternative A. All visitors would be provided with beneficial effects on their use and experience at Upper and Lower Fort Mason.

Indirect Impacts on Adjacent Parks

In lands adjacent to GGNRA, there are 35 parks with dog use areas within about a 10-mile radius of Fort Mason and 20 parks within about a 5-mile radius; the closest parks are Lafayette Park and Alta Plaza Park (map 27). Both of these adjacent parks allow off-leash dog walking. No indirect impacts on visitor experience in adjacent lands would be expected under alternative A since there would be no change in current conditions at the site.

UPPER AND LOWER FORT MASON ALTERNATIVE A CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
No impact for visitors who would prefer to walk dogs at the park	On-leash dog walking would still be allowed on site	Beneficial cumulative impacts for visitors who would prefer to walk dogs at the park
Long-term minor to moderate adverse impacts for visitors who would prefer not to have dog walking at the park	Visitors would still encounter dogs throughout the site	Long-term minor to moderate adverse cumulative impacts for visitors who would prefer not to have dog walking at the park
		No indirect impacts in adjacent lands

Alternative B: NPS Leash Regulations. Under alternative B, on-leash dog walking would be allowed at Upper and Lower Fort Mason in Great Meadow, Laguna Green, lawns, paved trails, parking lots, and housing areas, which is more restrictive than alternative A.

Impacts on visitors who would prefer to walk dogs at the park would be negligible because on-leash dog walking would be allowed in a more restricted area than for alternative A and the allowed number of dogs walked for visitors or commercial dog walkers would be restricted to three dogs. Visitors would continue

to use the area for exercising, playing with, and socializing their pets. A change in visitation by this user group would not be expected.

Impacts on visitors who would prefer not to have dog walking at the park would be long term, minor, and adverse. Visitors would continue to encounter on-leash dogs throughout the site. This site would not offer a no-dog experience for this user group. Some visitors may avoid this area due to the presence of dogs. Visitation by this user group at Upper and Lower Fort Mason would have the potential to decrease due to the presence of dogs.

Under alternative B, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs on leash per person with no permit required. Since commercial dog walking at Upper and Lower Fort Mason is common, it is likely that commercial dog walking would have long term minor adverse impacts on visitors who would prefer to walk dogs at the park. Adverse impacts would occur since dog walkers would not be able to walk more than three dogs. Visitor use by commercial dog walkers may decline in this area. Impacts on visitors who would prefer not to have dog walking at the park would be beneficial. This user group would no longer encounter dog walkers with four or more dogs.

Cumulative Impacts. The restoration projects discussed under alternative A would result in similar impacts under alternative B: enhance aesthetics, safety and recreational enjoyment for all visitors to Upper and Lower Fort Mason. Cumulatively, all visitors, including both user groups would enjoy the enhanced viewshed of restored habitat and improved trails and safety that results from the trail improvements. Improved public access would benefit visitors except those who would prefer to walk dogs at Upper and Lower Fort Mason. It is unlikely that dogs would be allowed on the streetcars and as a result, visitors who prefer to walk dogs at the site, would not benefit to the same degree as other visitors. The cumulative benefits from public access, trail and restoration projects when considered with the dog management proposed under alternative B would not result in any significant alteration of the impact intensity resulting from implementation of dog management under alternative B. All visitors would be provided with beneficial effects on their use and experience at Upper and Lower Fort Mason.

The negligible impacts on visitor use and experience for visitors who would prefer to walk dogs at the park under alternative B combined with the benefits of the projects mentioned above under alternative A would result in beneficial cumulative impacts on this user group. The benefits from the vegetation enhancements and transportation improvements at the site would add to the visitor experience at Upper and Lower Fort Mason for visitors who would prefer to walk dogs at the park. The long-term minor adverse impacts on visitors who would prefer not to have dog walking at this park site under alternative B combined with the beneficial effects of the improvement projects would result in long-term minor adverse cumulative impacts on the visitor experience of this user group. The benefits from the improvements at the site would not add enough to the visitor experience of visitors who would prefer not to have dog walking at the park site to reduce the minor adverse impacts on the experience of this user group.

Indirect Impacts on Adjacent Parks

Impacts in adjacent lands would be the same as alternative A. No indirect impacts on visitor experience in adjacent lands would occur since the dog walking regulation would remain similar under alternative B.

UPPER AND LOWER FORT MASON ALTERNATIVE B CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Negligible impacts for visitors who would prefer to walk dogs at the park	On-leash dog walking would still be allowed on site	Beneficial cumulative impacts for visitors who would prefer to walk dogs at the park
Long-term minor adverse impacts for visitors who would prefer not to have dog walking at the park, assuming compliance	Visitors would still encounter dogs throughout the site	Long-term minor adverse cumulative impacts for visitors who would prefer not to have dog walking at the park
		No indirect impacts in adjacent lands

Alternative C: Emphasis on Multiple Use, Balanced by County. Under alternative C, dog walking under voice and sight control would be allowed in two ROLAs established in the Great Meadow and Laguna Green, with physical barriers to separate these areas from other users. On-leash dog walking would be allowed on the sidewalks, roadways, paved trails, housing areas, parking lots, and the lawn area below the Laguna Street path.

Impacts on visitors who would prefer to walk dogs at the park would be beneficial. Although some areas currently available to dogs would be closed, establishing two ROLAs at the site would be beneficial to this user group. Upper and Lower Fort Mason is easily accessible from residential neighborhoods, and this would offer residents separate areas to allow dogs to be exercised and socialized. Visitors would have the opportunity to allow dogs to run and play with other dogs. Visitation by this user group would potentially increase in this area.

Impacts on visitors who would prefer not to have dog walking at this park site would be long term, moderate, and adverse. Because dogs would be allowed to be under voice and sight control in two separate ROLAs at the site, this group of visitors would likely avoid these areas. Although the ROLAs would be separated by a barrier from other users, visitor incidents related to dogs would be expected to continue to some degree as dog walkers have less control of their dogs when the dogs are not restrained on leash. Some areas of Upper and Lower Fort Mason would be available for a no-dog experience; however, these areas would be relatively small compared to the size of the ROLAs. Visitation by this user group at Upper and Lower Fort Mason would have the potential to decrease.

Under alternative C, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. Any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. In a ROLA, permit holders may walk one to six dogs under voice and sight control. The permit may restrict use by time and area. Permits would be allowed at Upper and Lower Fort Mason. Since commercial dog walking activity at Upper and Lower Fort Mason is common, it is likely that commercial dog walking would have beneficial impacts on visitors who would prefer to walk dogs at the park. Commercial dog walkers could continue to use the site for dog walking and would be able to have up to six dogs off leash in the ROLA. Impacts on visitors who would prefer not to have dog walking at the park would be long term, minor, and adverse. Visitors would continue to encounter dogs throughout the site and dog walkers with permits could have up to six dogs each.

Cumulative Impacts. The restoration projects discussed under alternative A would result in similar impacts under alternative C: enhance aesthetics, safety and recreational enjoyment for all visitors to Upper and Lower Fort Mason. Cumulatively, all visitors, including both user groups would enjoy the enhanced viewshed of restored habitat and improved trails and safety that results from the trail

improvements. Improved public access would benefit visitors except those who would prefer to walk dogs at Upper and Lower Fort Mason. It is unlikely that dogs would be allowed on the streetcars and as a result, visitors who prefer to walk dogs at the site, would not benefit to the same degree as other visitors. The cumulative benefits from public access, trail and restoration projects when considered with the dog management proposed under alternative C would not result in any significant alteration of the impact intensity resulting from implementation of dog management under alternative C. All visitors would be provided with beneficial effects on their use and experience at Upper and Lower Fort Mason.

The beneficial impacts on the visitor use and experience of visitors who would prefer to walk dogs at the park under alternative C combined with the benefits of the projects mentioned above under alternative A would result in beneficial cumulative impacts on this user group. The long-term moderate adverse impacts on visitors who would prefer not to have dog walking at this park site under alternative C combined with the beneficial effects of the improvement projects would result in long-term moderate adverse cumulative impacts on the visitor experience of this user group. The benefits from the improvements at the site would not add enough to the experience of visitors who would prefer not to have dog walking at the park to reduce the moderate adverse impacts on the experience of this user group.

Indirect Impacts on Adjacent Parks

It is unlikely that visitation at adjacent parks would increase, since the dog walking regulation at Upper and Lower Fort Mason under alternative C would allow dog walking under voice and sight control in two ROLAs. No indirect impacts on visitor experience in adjacent lands from increased visitor use would be expected.

UPPER AND LOWER FORT MASON ALTERNATIVE C CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Beneficial impacts for visitors who would prefer to walk dogs at the park	Dog walking under voice and sight control would be available in two ROLAs	Beneficial cumulative impacts for visitors who would prefer to walk dogs at the park
Long-term moderate adverse impacts for visitors who would prefer not to have dog walking at the park, assuming compliance	Visitors would encounter dogs under voice and sight control; a small area for a no-dog experience would be available	Long-term moderate adverse cumulative impacts for visitors who would prefer not to have dog walking at the park
		No indirect impacts in adjacent lands

Alternative D: Overall Most Protective of Resources/Visitor Safety. Dog walking under voice and sight control would be allowed in a ROLA in the Laguna Green area. On-leash dog walking would be allowed on the Great Meadow and on all public access pathways, roads, trails, housing areas, and parking lots.

Impacts on visitors who would prefer to walk dogs at the park would be beneficial. On-leash dog walking would be allowed in many areas, including the Great Meadow, sidewalks, roadways, paved trails, housing areas, parking lots, and the lawn area below the Laguna Street path. In addition to on-leash dog walking, visitors would be allowed to have their dogs under voice and sight control in the established ROLA. Dog owners would have an area for dogs to run and socialize with other dogs. Visitation by this user group may increase in this area.

Impacts on visitors who would prefer not to have dog walking at this park site would be long term, minor, and adverse. Dogs would still be present throughout the majority of the site and these visitors may avoid

using the Laguna Green area because of off-leash dogs. Visitor incidents related to dogs would be expected to continue. Areas available for a no-dog experience would be expanded, including the Parade Ground (near the hostel). Some visitors may continue to avoid this area due to use by dog walkers. Visitation by this user group at Upper and Lower Fort Mason may decrease.

No commercial dog walking would be allowed under alternative D. Impacts on visitors who would prefer to walk (includes commercial dog walkers) dogs at the site would be long term, minor, and adverse since commercial dog walking is common at this site. Visitation by commercial dog walkers would decrease. Impacts on visitors who would prefer not to have dog walking at the park would be beneficial. Visitors would no longer encounter dog walkers with four or more dogs.

Cumulative Impacts. The restoration projects discussed under alternative A would result in similar impacts under alternative D: enhance aesthetics, safety and recreational enjoyment for all visitors to Upper and Lower Fort Mason. Cumulatively, all visitors, including both user groups would enjoy the enhanced viewshed of restored habitat and improved trails and safety that results from the trail improvements. Improved public access would benefit visitors except those who would prefer to walk dogs at Upper and Lower Fort Mason. It is unlikely that dogs would be allowed on the streetcars and as a result, visitors who prefer to walk dogs at the site, would not benefit to the same degree as other visitors. The cumulative benefits from public access, trail and restoration projects when considered with the dog management proposed under alternative D would not result in any significant alteration of the impact intensity resulting from implementation of dog management under alternative D. All visitors would be provided with beneficial effects on their use and experience at Upper and Lower Fort Mason.

Indirect Impacts on Adjacent Parks

It is unlikely that visitation at adjacent parks would increase, since the dog walking regulation at Upper and Lower Fort Mason under alternative D would allow dog walking under voice and sight control in a ROLA. No indirect impacts on visitor experience in adjacent lands from increased visitor use would be expected.

UPPER AND LOWER FORT MASON ALTERNATIVE D CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Beneficial impacts for visitors who would prefer to walk dogs at the park	Dog walking under voice and sight control would be available in a ROLA	Beneficial cumulative impacts for visitors who would prefer to walk dogs at the park
Long-term minor adverse impacts for visitors who would prefer not to have dog walking at the park, assuming compliance	Visitors would encounter dogs throughout the site; a small area for a no-dog experience would be available	Long-term minor adverse cumulative impacts for visitors who would prefer not to have dog walking at the park
		No indirect impacts in adjacent lands

Alternative E: Overall Most Dog Walking Access/Most Management Intensive. Alternative E would provide the most area to park visitors for dog walking under voice and sight control. Two ROLAs would be established to include the entire Great Meadow and the Laguna Green area. On-leash dog walking would be allowed along the roads, sidewalks, trails, housing areas, the lawn below the Laguna Street path, and the parking lots in Upper and Lower Fort Mason.

Impacts on visitors who would prefer to walk dogs at the park would be beneficial. Although some areas currently available to dogs would be closed, establishing the two large ROLAs at the site would be

beneficial to this user group. Upper and Lower Fort Mason is easily accessible from residential neighborhoods, and this would offer residents separate areas to allow dogs to be exercised and socialized. Impacts would be beneficial since the area is currently available for on-leash dog walking only. Visitation by this user group would potentially increase in this area.

Impacts on visitors who would prefer not to encounter dogs at the park would be long term, moderate, and adverse. Impacts would be moderate because dogs would not only be present throughout most of the site, but dogs would now be allowed under voice and sight control in two large ROLAs. Visitor incidents related to dogs would be expected to increase. Some areas of Upper and Lower Fort Mason would be available for a no-dog experience; however, these areas would be relatively small compared to the size of the ROLAs. Visitation by this user group at Upper and Lower Fort Mason would have the potential to decrease.

Under alternative E, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. Any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. In a ROLA, permit holders may walk one to six dogs under voice and sight control. The permit may restrict use by time and area. Permits would be allowed at Upper and Lower Fort Mason. Since commercial dog walking is common at Upper and Lower Fort Mason, it is likely that commercial dog walking would have beneficial impacts on visitors who would prefer to walk dogs at the park. Commercial dog walkers could continue to use the site for dog walking and would be able to have up to six dogs off leash in the ROLAs. Impacts on visitors who would prefer not to have dog walking at the park would be long term, minor, and adverse. Visitors would continue to encounter dogs throughout the site and dog walkers could have up to six dogs each.

Cumulative Impacts. The restoration projects discussed under alternative A would result in similar impacts under alternative E: enhance aesthetics, safety and recreational enjoyment for all visitors to Upper and Lower Fort Mason. Cumulatively, all visitors, including both user groups would enjoy the enhanced viewshed of restored habitat and improved trails and safety that results from the trail improvements. Improved public access would benefit visitors except those who would prefer to walk dogs at Upper and Lower Fort Mason. It is unlikely that dogs would be allowed on the streetcars and as a result, visitors who prefer to walk dogs at the site, would not benefit to the same degree as other visitors. The cumulative benefits from public access, trail and restoration projects when considered with the dog management proposed under alternative E would not result in any significant alteration of the impact intensity resulting from implementation of dog management under alternative E. All visitors would be provided with beneficial effects on their use and experience at Upper and Lower Fort Mason.

Indirect Impacts on Adjacent Parks

It is unlikely that visitation in adjacent parks would increase since the dog walking regulation at Upper and Lower Fort Mason under alternative E would allow dog walking under voice and sight control in two large ROLAs. No indirect impacts on visitor experience in adjacent lands from increased visitor use would be expected under this alternative.

UPPER AND LOWER FORT MASON ALTERNATIVE E CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Beneficial impacts for visitors who would prefer to walk dogs at the park	Dog walking under voice and sight control would be available in two ROLAs	Beneficial cumulative impacts for visitors who would prefer to walk dogs at the park

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Long-term moderate adverse impacts for visitors who would prefer not to have dog walking at the park, assuming compliance	Visitors would encounter dogs throughout the site; visitor incidents related to dogs would be expected to increase due to large ROLA areas; limited areas for a no-dog experience would be available	Long-term moderate adverse cumulative impacts for visitors who would prefer not to have dog walking at the park
		No indirect impacts in adjacent lands

Preferred Alternative. Alternative B was selected as the preferred alternative for Upper and Lower Fort Mason. Under this alternative, on-leash dog walking would be allowed on Great Meadow, Laguna Green, lawns, sidewalks, paved trails, parking lots, and housing areas.

Impacts on visitors who would prefer to walk dogs at the park would be negligible because on-leash dog walking would be allowed in a more restricted area than for alternative A and the allowed number of dogs walked for visitors or commercial dog walkers would be restricted to three dogs. Visitors would continue to use the area for exercising, playing with, and socializing their pets. A change in visitation by this user group would not be expected.

Impacts on visitors who would prefer not to have dog walking at the park would be long term, minor, and adverse. Visitors would continue to encounter on-leash dogs throughout the site. This site would not offer a no-dog experience for this user group. Some visitors may avoid this area due to the presence of dogs. Visitation by this user group at Upper and Lower Fort Mason would have the potential to decrease due to the presence of dogs.

Alternative C was selected as the preferred alternative for permits at all sites. All dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. Any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. The permit may restrict use by time and area. Permits would be allowed at Upper and Lower Fort Mason. Since commercial dog walking at Upper and Lower Fort Mason is common, it is likely that commercial dog walking would have beneficial impacts on visitors who would prefer to walk dogs at the park. Commercial dog walkers could continue to use the site for dog walking and would be able to have up to six dogs. Impacts on visitors who would prefer to walk dogs at the site would be negligible, and impacts for visitors who would prefer not to have dog walking at the park would be long term, minor, and adverse. Visitors would continue to encounter dogs throughout the site and dog walkers with permits could have up to six dogs each.

Cumulative Impacts. Projects and actions in and near Upper and Lower Fort Mason were considered for the cumulative impacts analysis (appendix K). The following is a discussion of projects that have had, are currently having, or will have effects on visitor use and experience at or in the vicinity of Upper and Lower Fort Mason.

The improvement of the San Francisco Bay Trail at Laguna Street and Marina Boulevard at Upper and Lower Fort Mason is part of initiatives of Park Stewardship Programs, and includes efforts to enhance visitor safety and experience, improve pedestrian and bicycle traffic flow, and revegetate the landscape (GGNPC 2010a, 1–2). The proposed extension of the Municipal Railway's Historic Streetcar Service would continue the F-line three blocks west from San Francisco Maritime NHP through the Fort Mason Tunnel to the Fort Mason Center at GGNRA, for a total additional distance of about 0.85 mile, benefiting public transportation in the area (NPS 2010b, 1). These projects would benefit the visitor experience at Upper and Lower Fort Mason.

The restoration projects discussed under alternative A would result in similar impacts under the preferred alternative: enhance aesthetics, safety and recreational enjoyment for all visitors to Upper and Lower Fort Mason. Cumulatively, all visitors, including both user groups would enjoy the enhanced viewshed of restored habitat and improved trails and safety that results from the trail improvements. Improved public access would benefit visitors except those who would prefer to walk dogs at Upper and Lower Fort Mason. It is unlikely that dogs would be allowed on the streetcars and as a result, visitors who prefer to walk dogs at the site, would not benefit to the same degree as other visitors. The cumulative benefits from public access, trail and restoration projects when considered with the dog management proposed under the preferred alternative would not result in any significant alteration of the impact intensity resulting from implementation of dog management under the preferred alternative. All visitors would be provided with beneficial effects on their use and experience at Upper and Lower Fort Mason.

Indirect Impacts on Adjacent Parks

In lands adjacent to GGNRA, there are 35 parks with dog use areas within about a 10-mile radius of Fort Mason and 20 parks within about a 5-mile radius; the closest parks are Lafayette Park and Alta Plaza Park (map 27). Both of these adjacent parks allow off-leash dog walking. No indirect impacts on visitor experience in adjacent lands would occur since the dog walking regulation would remain the same.

UPPER AND LOWER FORT MASON PREFERRED ALTERNATIVE CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Negligible impacts for visitors who would prefer to walk dogs at the park	On-leash dog walking would still be allowed on site	Beneficial cumulative impacts for visitors who would prefer to walk dogs at the park
Long-term minor adverse impacts for visitors who would prefer not to have dog walking at the park, assuming compliance	Visitors would still encounter dogs throughout the site	Long-term minor adverse cumulative impacts for visitors who would prefer not to have dog walking at the park
		No indirect impacts in adjacent lands

Crissy Field

Common to All Alternatives. Impacts from dogs as a result of the two different definitions of the Crissy Field WPA (the 36 CFR 7.97(d) definition for alternative A and the Warming Hut to approximately 900 feet east of the former Coast Guard Pier definition for alternatives B–E) will be the same for all alternatives. Even though the WPA will be expanded for alternatives B–E, this change will not influence the overall impacts analysis at this site, because it will neither increase nor decrease the impacts described in the paragraphs that follow at Crissy Field. More explanation of these two definitions can be found in the “Current Regulations and Policies” section of chapter 2.

Alternative A: No Action. Dogs are currently allowed under voice control at Crissy Field except in the parking lots and picnic areas and in the WPA, where there is a seasonal restriction requiring on-leash dog walking. The Crissy Field tidal marsh and lagoon are currently closed to dog walking through the GGNRA Compendium (NPS 2009f). The two picnic areas at Crissy Field are large-capacity picnic areas and they are heavily used on good weather days and holidays. Picnic areas increase the length of stay by visitors at park sites. Visitor use at Crissy Field is moderate to high for multiple user groups, including individual dog walkers, commercial dog walkers, runners, bicyclists, inline skaters, windsurfers, kite boarders, families with children, picnickers, and others. Commercial use activity permits, such as for “Baby Boot Camp” and other outdoor exercise businesses, special events, and increased bicycle rentals in

the area also contribute to the high visitor use at Crissy Field. The beach and water areas at East Beach and the western edge of the WPA are popular with families and children, and East and Central beaches are popular with dog walkers, including those who let dogs swim in the water (NPS 2009b). Overall visitor use in the WPA is high and dog walking use in this area of Crissy Field is considered low to moderate (table 9). Seasonal leash law violations are high in the Crissy Field WPA, with 487 violations in 2007/2008 (table 9). Five dog bites/attacks were also documented in the Crissy Field WPA. The NPS installed new fencing, gates, and signs at the eastern boundary of the WPA in January 2010 to better define where dog walking restrictions start. Gates and signs were also installed at entry points to the WPA. Commercial dog walkers typically walk five to eight dogs off leash at a time, and the site usually has about 5 to 10 commercial dog walkers a day using areas in Crissy Field for dog walking activities (NPS 2009b).

There would be no impact on visitors who would prefer to walk dogs at the park under the no-action alternative. Visitors would continue to have the opportunity to exercise and socialize their pets off leash throughout the majority of the site. Having dogs off leash and playing throughout the area may add to the park experience for visitors with dogs. Commercial dog walkers would continue to walk dogs with no maximum or permit required at any time. Visitation by this user group at Crissy Field would remain high and would not be expected to change.

Impacts on visitors who would prefer not to have dog walking at this park site would continue to be long term, moderate, and adverse. Visitor incidents (i.e., bites, attacks, injuries) involving dogs would be expected to continue resulting in more injuries to people or dogs. This is a moderate to high use site for multiple user groups. Some dogs would continue to jump on, knock over, or intimidate visitors, especially small children. Seasonal leash law violations in the WPA would also continue and/or increase. Visitors would not be able to have a no-dog experience at this park site under alternative A. Some visitors may avoid this area due to the presence of dogs. Visitation by this user group at Crissy Field would have the potential to decrease due to the presence of dogs.

Under alternative A, no permit system exists for dog walking; however, commercial dog walkers frequently use Crissy Field for dog walking. Under alternative A, there would be no impact on visitors who would prefer to walk dogs at the park from commercial dog walking. Visitors would continue to walk any number of dogs and some visitors would continue to enjoy the presence of multiple dogs off leash. Impacts on visitors who would prefer not to have dog walking at the park from commercial dog walking would be long term, moderate, and adverse. Some visitors may feel uncomfortable recreating in this area if dog walkers have multiple of dogs under voice control at one time.

Cumulative Impacts. Projects and actions in and near Crissy Field were considered for the cumulative impacts analysis (appendix K). The following is a discussion of projects that have had, are currently having, or will have effects on visitor use and experience at or in the vicinity of Crissy Field.

The Crissy Field Restoration Project, which began in 1998, restored the Crissy Field tidal marsh and dune habitat and also incorporated a fully accessible shoreline promenade, trails, boardwalks, overlooks, picnic areas, seating areas, and bicycle and inline skating paths. Beneficial impacts on visitor use and experience have resulted from this project as improved recreational opportunities have occurred. The Doyle Drive replacement project will replace the 73-year-old Doyle Drive and make structural and seismic improvements that will take place on lands in Area B of the Presidio (USDOT 2009, 1; Presidio Parkway 2010, 1). This project has the potential to adversely affect visitor accessibility to Crissy Field during project construction in the short term, but it will improve accessibility between Presidio Trust lands and GGNRA lands once the project is complete, resulting in beneficial impacts on visitor use and experience for all visitors.

Restoration projects have enhanced aesthetics; improved trails, recreational paths, and visitor amenities would increase safety and recreational enjoyment for all visitors to Crissy Field. All visitors, including both user groups would enjoy the enhanced viewshed of restored habitat and improved trails and safety that results from the trail improvements. However, it is expected that the level of cumulative impact would not affect the existing level of intensity of adverse impacts on visitors who would prefer not to have dog walking within the site. As a result, those visitors who prefer not to have dog walking at Crissy Field would continue to experience long-term major adverse impacts while those that prefer to walk dogs at Crissy Field would continue to benefit from enhanced trails, and other visitor amenities. Improved infrastructure on Doyle Drive would improve accessibility for all visitors to Crissy Field but since it is not directly related to dog-related visitor use, it is not expected to significantly alter the intensity of impacts for either user group under alternative A.

Indirect Impacts on Adjacent Parks

In lands adjacent to GGNRA, there are 35 parks with dog use areas within about a 10-mile radius of Crissy Field and 22 parks within about a 5-mile radius; the closest park is Mountain Lake Park (map 27). In addition, Crissy Field is located directly north of Area B of the Presidio; Area B is subject to the Presidio Trust's regulations on dog walking, which do not allow dogs to be off-leash. Mountain Lake Park allows off-leash dog walking. No indirect impacts on visitor experience in adjacent lands, including Area B of the Presidio, would be expected under alternative A since there would be no change in current conditions at the site.

CRISSY FIELD ALTERNATIVE A CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
No impact for visitors who would prefer to walk dogs at the park	Dog walking would still be allowed on site and off leash	Beneficial cumulative impacts for visitors who would prefer to walk dogs at the park
Long-term moderate adverse impacts for visitors who would prefer not to have dog walking at the park	Visitors would still encounter off-leash dog walking in most areas of the site	Long-term moderate adverse cumulative impacts for visitors who would prefer not to have dog walking at the park
		No indirect impacts in adjacent lands

Alternative B: NPS Leash Regulations. No dogs would be allowed in the Crissy Field WPA, for the protection of wintering populations of the western snowy plover. On-leash dog walking would be allowed on the promenade, Crissy Airfield, East and Central beaches, paths leading to Central Beach, trails and grassy areas near East Beach, and the multi-use trail along Mason Street. The Crissy Field tidal marsh and lagoon are currently closed to dog walking through the GGNRA Compendium (NPS 2009f, 19).

Impacts on visitors who would prefer to walk dogs at the park would be long term, moderate, and adverse since off-leash dog walking would not be allowed. The amount of area available to dogs would remain the same; however, the park experience for visitors who prefer an off-leash dog walking experience would change. Adverse impacts would be expected for visitors who enjoy watching and playing with dogs off leash. Dog owners may also feel that their pets are not receiving adequate exercise when restrained on a 6-foot leash. Visitors looking for a voice and sight control area for their pets, particularly those looking for an off-leash beach area, would have to go to other park sites in San Francisco or adjacent counties. Visitation by visitors who would prefer to walk dogs at the park would decrease at this site as a result of alternative B.

Impacts on visitors who would prefer not to have dog walking at the park would be beneficial. Since dogs would be required to be on leash, visitors would no longer encounter dogs under voice control. Visitors who would prefer not to have dog walking at the park may feel more comfortable recreating at Crissy Field since dogs would be restrained on leash. Crissy Field is a multiple use area with moderate to high visitation, and visitor incidents with dogs have occurred at this site in the past. It is likely that visitor incidents with dogs would be minimized once this on-leash regulation is established. Visitation by this user group would be expected to increase.

Under alternative B, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs on leash per person with no permit required. Since commercial dog walking is common at Crissy Field, it is likely that commercial dog walking would have long-term minor adverse impacts on visitors who would prefer to walk dogs at the park. Visitation by commercial dog walkers would be expected to decrease. Impacts on visitors who would prefer not to have dog walking at the park would be beneficial. Visitors would no longer encounter multiple dogs off leash.

Cumulative Impacts. Restoration projects would enhance aesthetics; improved trails, recreational paths, and visitor amenities would increase safety and recreational enjoyment for all visitors to Crissy Field. All visitors, including both user groups would enjoy the enhanced viewshed of restored habitat and improved trails and safety that results from the trail improvements. As a result visitation to Crissy Field may increase and as a high use area, could provide the potential for incidents between both user groups: those that prefer to walk dogs within the site and those who prefer not to have dog walking within the site. As a result, additional adverse impacts could occur to those visitors who prefer not to have dog walking at Crissy Field. This user group would continue to experience long-term, moderate adverse impacts while those that prefer to walk dogs at Crissy Field would continue to benefit under alternative B.

Indirect Impacts on Adjacent Parks

Some increase in visitation by individual and commercial dog walkers is expected in adjacent lands identified under alternative A, especially parks that allow off-leash dog walking on beaches, since off-leash dog walking would no longer be allowed at Crissy Field; therefore, indirect impacts on visitor experience in adjacent lands from increased dog use would be long term, minor, and adverse. Impacts may reach minor and adverse because of the historical moderate to high use of the site by dog walkers. However, no indirect impacts on the visitor experience in Area B of the Presidio would be expected under alternative B, since this area does not have beaches and does not allow off-leash dog walking.

CRISSY FIELD ALTERNATIVE B CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Long-term moderate adverse impacts for visitors who would prefer to walk dogs at the park	Dog walking would be allowed on leash and in designated areas; off-leash dog walking would no longer be available	Long-term moderate adverse cumulative impacts for visitors who would prefer to walk dogs at the park
Beneficial impacts for visitors who would prefer not to have dog walking at the park, assuming compliance	Off-leash dog walking would no longer be allowed; visitor conflicts with dogs would be reduced	Beneficial cumulative impacts for visitors who would prefer not to have dog walking at the park
		Long-term minor adverse indirect impacts in adjacent lands

Alternative C: Emphasis on Multiple Use, Balanced by County. Dog walking under voice and sight control would be available in ROLAs on Central Beach and the center portion of Crissy Airfield. Crissy Airfield is approximately 27 acres and Central Beach is approximately 7 acres. On-leash dog walking

would be available along the promenade, the multi-use trail along Mason Street, trails and grassy areas near East Beach, picnic areas, and parking areas. Dogs would not be allowed in the Crissy Field WPA or on East Beach. The Crissy Field tidal marsh and lagoon are currently closed to dog walking through the GGNRA Compendium (NPS 2009f, 19).

Impacts on visitors who would prefer to walk dogs at the park would be long term, minor to moderate, and adverse. Adverse impacts would range from minor to moderate due to the high volume of dog walkers in this area and because visitors with dogs under voice and sight control would be allowed, although restricted to two ROLAs. Although the area would be more limited than under the no-action alternative, alternative C would provide an area separated from other user groups for exercising and socializing dogs and would provide the off-leash experience on the beach that most visitors with dogs come to this site for. Visitation by this user group would potentially remain the same.

Impacts on visitors who would prefer not to have dog walking at this park site would be beneficial. Dogs would no longer be allowed off leash throughout the entire site; however, they would still be present in most areas. Dogs under voice and sight control would be restricted to the ROLAs, which could be easily avoided by this user group. Incidents between other user groups and dogs would potentially be minimized. Visitors who would prefer not to have dog walking at this park site would feel more comfortable with dog walking on leash than under voice control. A no-dog experience would be available on East Beach, which would be beneficial for these visitors, especially those with small children. Some visitors may continue to avoid this area because of the presence of dogs; however, visitation by this user group may increase because some individuals that have avoided this area due to the presence of dogs in the past may begin to use the area since dog walking would be more controlled.

Under alternative C, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. Any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. In a ROLA, permit holders may walk one to six dogs under voice and sight control. The permit may restrict use by time and area. Permits would be allowed at Crissy Field. Since commercial dog walking at Crissy Field is common, it is likely that commercial dog walking would have beneficial impacts on visitors who would prefer to walk dogs at the park. Commercial dog walkers could continue to use the site for dog walking and would be able to walk one to six dogs in the ROLAs. Impacts on visitors who would prefer not to have dog walking at the park would be long term, minor, and adverse. Visitors would continue to encounter dog walkers with four or more dogs throughout the site.

Cumulative Impacts. Restoration projects would enhance aesthetics; improved trails, recreational paths, and visitor amenities would increase safety and recreational enjoyment for all visitors to Crissy Field. All visitors, including both user groups would enjoy the enhanced viewshed of restored habitat, improved trails and safer conditions that results from the trail improvements. Improvements to the infrastructure of Doyle Drive would benefit all visitors to Crissy Field by providing improved access; however, this project combined with the restoration and improvement projects at Crissy Field do not directly affect dog management or dog-related visitors and as a result, do not cumulatively add to or take away from the impacts expected from alternative C. As a result, beneficial impacts would occur for those visitors who prefer not to have dog walking at Crissy Field from implementation of designated and more restrictive dog management. Those visitors that prefer to walk dogs at Crissy Field would find a long-term minor adverse impact to their visitor use and experience as a result of alternative C.

Indirect Impacts on Adjacent Parks

It is unlikely that visitation by individual and commercial dog walkers in adjacent lands would increase as a result of the implementation of alternative C. Two ROLAs would be available for dog walking under

voice and sight control at the beach and on Crissy Airfield. Visitors who typically use this site would continue dog walking activities at Crissy Field even though the amount of off-leash area available would be reduced. No indirect impacts on visitor experience in adjacent lands, including Area B of the Presidio, due to increased visitor use would be expected.

CRISSY FIELD ALTERNATIVE C CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Long-term minor to moderate adverse impacts for visitors who would prefer to walk dogs at the park	Dog walking under voice and sight control would be limited to designated areas	Long-term minor to moderate adverse cumulative impacts for visitors who would prefer to walk dogs at the park
Beneficial impacts for visitors who would prefer not to have dog walking at the park, assuming compliance	Dog walking under voice and sight control would be restricted to designated areas	Beneficial cumulative impacts for visitors who would prefer not to have dog walking at the park
		No indirect impacts in adjacent lands

Alternative D: Overall Most Protective of Resources/Visitor Safety. Like alternatives B and C, dog walking would not be allowed in the Crissy Field WPA under alternative D. Dog walking under voice and sight control would be allowed in a ROLA on the western portion of Crissy Airfield. On-leash dog walking would be allowed on the promenade, the eastern portion of Crissy Airfield, the trails and grassy areas south of East Beach, and the multi-use path along Mason Street. Dog walking would not be allowed on any beach under this alternative. The Crissy Field tidal marsh and lagoon is currently closed to dog walking through the GGNRA Compendium (NPS 2009f, 19).

Impacts on visitors who would prefer to walk dogs at the park would be long term, moderate, and adverse. Impacts would be adverse since most of the areas previously open to dogs under voice control under the no-action alternative would be designated for on-leash dog walking under alternative D except for the ROLA. Dog walking under voice and sight control would be concentrated in one area; however, this area is very large—nearly 15 acres. Impacts would be moderate since off-leash dog walking would not be allowed on any beach area in Crissy Field. Even though visitors would no longer be able to walk dogs off leash throughout the entire site, an area would be available for dogs to exercise and socialize under voice and sight control without being restricted on leash. However, visitation by this user group could decrease since dog walkers would no longer have access to the beach. Dog owners who specifically look for the beach/water experience for exercise for their dogs would probably not come to this site under this alternative.

Impacts on visitors who would prefer not to have dog walking at this park site would be beneficial. On-leash dog walking would be allowed throughout the entire site except for the ROLA, which would be approximately half the size of the ROLA established in alternative C, but still a significant area (nearly 15 acres). It is likely that visitor incidents (bites/attacks) involving dogs would be minimized once this regulation is established. This user group may feel more comfortable accessing the site with on-leash dog walking required; therefore, visitation by this user group may have the potential to increase. This alternative would not allow many areas for a no-dog experience, so some visitors may avoid this park site.

No commercial dog walking would be allowed under alternative D. Impacts on visitors who would prefer to walk dogs at the site (includes commercial dog walkers) would be long term, minor, and adverse since commercial dog walking is common at this site. Visitation by commercial dog walkers would decrease. Impacts on visitors who would prefer not to have dog walking at the park would be beneficial. Visitors would no longer encounter dog walkers with four or more dogs.

Cumulative Impacts. Because restoration projects would enhance aesthetics; improved trails, recreational paths, and visitor amenities would increase safety and recreational enjoyment for all visitors to Crissy Field, all visitors, including both user groups would enjoy an improved visitor experience. Improvements to the infrastructure of Doyle Drive would benefit all visitors to Crissy Field by providing better accessibility; however, this project combined with the restoration and improvement projects at Crissy Field do not directly affect dog management or dog-related visitors and as a result, do not cumulatively add to or take away from the impacts expected from alternative D. As a result, the impacts expected from implementation of alternative D would occur unaffected by cumulative impacts for both user groups at Crissy Field.

Indirect Impacts on Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation by individual and commercial dog walkers under alternative D. Since dog walking under voice control would be limited and would no longer be available on the beaches, visitors looking for a dog walking experience on the beach would likely seek out other parks for this dog walking experience. Therefore, negligible indirect impacts to long-term minor adverse indirect impacts on visitor experience in adjacent lands would be expected due to increased visitor use. Impacts may reach minor and adverse because of the historical moderate to high use of the site by dog walkers. However, no indirect impacts on the visitor experience in Area B of the Presidio would be expected under alternative D, since this area does not have beaches and does allow off-leash dog walking.

CRISSY FIELD ALTERNATIVE D CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Long-term moderate adverse impacts for visitors who would prefer to walk dogs	Dog walking under voice and sight control would be limited to designated areas	Long-term moderate adverse cumulative impacts for visitors who would prefer to walk dogs at the park
Beneficial impacts for visitors who would prefer not to have dog walking at the park, assuming compliance	Dog walking under voice and sight control would be restricted to designated areas	Beneficial cumulative impacts for visitors who would prefer not to have dog walking at the park
		Negligible to long-term minor adverse indirect impacts in adjacent lands

Alternative E: Overall Most Dog Walking Access/Most Management Intensive. Alternative E would provide the greatest area for dog walking of all the action alternatives at Crissy Field. On-leash dog walking would be allowed in the Crissy Field WPA. Dog walking would be allowed under voice and sight control in two ROLAs: Central Beach and all of Crissy Airfield. The Crissy Field tidal marsh and lagoon is currently closed to dog walking through the GGNRA Compendium (NPS 2009f, 19).

Impacts on visitors who would prefer to walk dogs at the park would be long term, minor, and adverse. Impacts would be minor since visitors would still have an off-leash dog experience, although restricted to two ROLAs. Although the area would be more limited than under the no-action alternative, alternative E would provide an area separated from other user groups for exercising and socializing dogs and would provide the voice and sight control experience on the beach that most visitors with dogs come to this site for. Visitation by this user group would potentially remain the same.

Impacts on visitors who would prefer not to have dog walking at this park site would be beneficial. Dogs would no longer be allowed off leash throughout the entire site; however, they would still be allowed on leash in most areas. Dogs under voice and sight control would be restricted to the ROLAs, which could be

easily avoided by this user group. Incidents between other user groups and dogs would potentially be minimized. Visitors who would prefer not to have dog walking at this park site would feel more comfortable with some areas requiring on-leash dog walking. Dogs would be under more control when restrained by a leash. Some visitors may continue to avoid this area because of the presence of dogs; however, visitation by this user group may increase because some individuals who have avoided this high conflict area in the past may begin to use the area since dog walking would be more controlled.

Under alternative E, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. Any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. In a ROLA, permit holders may walk one to six dogs under voice and sight control. The permit may restrict use by time and area. Permits would be allowed at Crissy Field. Since commercial dog walking is common at Crissy Field, it is likely that commercial dog walking would have beneficial impacts on visitors who would prefer to walk dogs at the park. Commercial dog walkers could continue to use the site for dog walking and would be able to walk one to six dogs off-leash in the ROLA. Impacts on visitors who would prefer not to have dog walking at the park would be long term, minor, and adverse. Visitors would continue to encounter dog walkers with four or more dogs throughout the site.

Cumulative Impacts. Restoration projects would enhance aesthetics; improved trails, recreational paths, and visitor amenities would increase safety and recreational enjoyment for all visitors to Crissy Field. All visitors, including both user groups would enjoy the enhanced viewshed of restored habitat, improved trails and safer conditions that results from the trail improvements. Improvements to the infrastructure of Doyle Drive would benefit all visitors to Crissy Field by providing improved access; however, this project combined with the restoration and improvement projects at Crissy Field do not directly affect dog management or dog-related visitors and as a result, do not cumulatively add to or take away from the impacts expected from alternative E. As a result, beneficial impacts would occur for those visitors who prefer not to have dog walking at Crissy Field from implementation of designated and more restrictive dog management. Those visitors that prefer to walk dogs at Crissy Field would find a long-term minor adverse impact to their visitor use and experience as a result of alternative E.

Indirect Impacts on Adjacent Parks

It is unlikely that visitation in adjacent lands would increase as a result of the implementation of alternative E. Two ROLAs would be available for dog walking under voice and sight control at the beach and on Crissy Airfield. Visitors who typically use this site would continue dog walking activities at Crissy Field even though the amount of off-leash area available would be reduced. No indirect impacts on visitor experience in adjacent lands, including Area B of the Presidio, due to increased visitor use would be expected.

CRISSY FIELD ALTERNATIVE E CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Long-term minor adverse impacts for visitors who would prefer to walk dogs at the park	Dog walking under voice and sight control would be limited to designated areas	Long-term minor adverse cumulative impacts for visitors who would prefer to walk dogs at the park
Beneficial impacts for visitors who would prefer not to have dog walking at the park, assuming compliance	Dog walking under voice and sight control would be restricted to designated areas	Beneficial cumulative impacts for visitors who would prefer not to have dog walking at the park
		No indirect impacts in adjacent lands

Preferred Alternative. Alternative C was selected as the preferred alternative for Crissy Field. Dog walking under voice and sight control would be available in ROLAs on Crissy Airfield and Central Beach. Crissy Airfield is approximately 27 acres and Central Beach is approximately 7 acres. On-leash dog walking would be available along the promenade, the multi-use trail along Mason Street, the trails and grassy areas near East Beach, the picnic areas, and the parking areas. Dogs would not be allowed in the Crissy Field WPA or on East Beach. The Crissy Field tidal marsh and lagoon are currently closed to dog walking through the GGNRA Compendium (NPS 2009f, 19).

Impacts on visitors who would prefer to walk dogs at the park would be long term, minor to moderate, and adverse. Impacts would range from minor to moderate due to the high volume of dog walkers in this area and because visitors with dogs under voice and sight control would be allowed, although restricted to two ROLAs. Although the area would be more limited than under the no-action alternative, the preferred alternative would provide an area separated from other user groups for exercising and socializing dogs and would provide the off-leash experience on the beach that most visitors with dogs come to this site for. Visitation by this user group would potentially remain the same.

Impacts on visitors who would prefer not to have dog walking at this park site would be beneficial. Dogs would no longer be allowed off leash throughout the entire site; however, they would still be allowed on leash in most areas. Dogs under voice and sight control would be restricted to the ROLAs, which could be easily avoided by this user group. Incidents between other user groups and dogs would potentially be minimized. Visitors who would prefer not to have dog walking at this park site would feel more comfortable with dog walking on leash than under voice control. A no-dog experience would be available on East Beach, which would be beneficial for these visitors, especially those with small children. Some visitors may continue to avoid this area because of the presence of dogs; however, visitation by this user group may increase because some individuals who have avoided this area due to the presence of dogs in the past may begin to use the area since dog walking would be more controlled.

All dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. Any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. In a ROLA, permit holders may walk one to six dogs under voice and sight control. The permit may restrict use by time and area. Permits would be allowed at Crissy Field. Since commercial dog walking is common at Crissy Field, it is likely that commercial dog walking would have beneficial impacts on visitors who would prefer to walk dogs at the park. Commercial dog walkers could continue to use the site for dog walking and would be able to walk one to six dogs off-leash in the ROLA. Impacts on visitors who would prefer not to have dog walking at the park would be long term, minor, and adverse. Visitors would continue to encounter dog walkers with four or more dogs throughout the site.

Cumulative Impacts. Projects and actions in and near Crissy Field were considered for the cumulative impacts analysis (appendix K). The following is a discussion of projects that have had, are currently having, or will have effects on visitor use and experience at or in the vicinity of Crissy Field.

The Crissy Field Restoration Project, which began in 1998, restored the Crissy Field tidal marsh and dune habitat and also incorporated a fully accessible shoreline promenade, trails, boardwalks, overlooks, picnic areas, seating areas, and bicycle and inline skating paths. Beneficial impacts on visitor use and experience have resulted from this project. The Doyle Drive replacement project will replace the 73-year-old Doyle Drive and make structural and seismic improvements that will take place on lands in Area B of the Presidio (USDOT 2009, 1; Presidio Parkway 2010, 1). This project has the potential to adversely affect visitor accessibility to Crissy Field during project construction in the short term, but it will improve accessibility between Presidio Trust lands and GGNRA lands once the project is complete, resulting in beneficial impacts on visitor use.

Restoration projects would enhance aesthetics; improved trails, recreational paths, and visitor amenities would increase safety and recreational enjoyment for all visitors to Crissy Field. All visitors, including both user groups would enjoy the enhanced viewshed of restored habitat, improved trails and safer conditions that results from the trail improvements. Improvements to the infrastructure of Doyle Drive would benefit all visitors to Crissy Field by providing improved access; however, this project combined with the restoration and improvement projects at Crissy Field do not directly affect dog management or dog-related visitors and as a result, do not cumulatively add to or take away from the impacts expected from the preferred alternative. As a result, beneficial impacts would occur for those visitors who prefer not to have dog walking at Crissy Field from implementation of designated and more restrictive dog management. Those visitors that prefer to walk dogs at Crissy Field would find a long-term minor adverse impact to their visitor use and experience as a result of the preferred alternative.

Indirect Impacts on Adjacent Parks

In lands adjacent to GGNRA, there are 35 parks with dog use areas within about a 10-mile radius of Crissy Field and 22 parks within about a 5-mile radius; the closest park is Mountain Lake Park (map 27). In addition, Crissy Field is located directly north of Area B of the Presidio; Area B is subject to the Presidio Trust's regulations on dog walking, which do not allow dogs to be off-leash. Mountain Lake Park allows off-leash dog walking. It is unlikely that visitation by individual and commercial dog walkers in adjacent lands would increase as a result of the implementation of the preferred alternative. Two ROLAs would be available for dog walking under voice and sight control at the beach and on Crissy Airfield. Visitors who typically use this site would continue dog walking activities at Crissy Field even though the amount of off-leash area available would be reduced. No indirect impacts on visitor experience in adjacent lands, including Area B of the Presidio, due to increased visitor use would be expected.

CRISSY FIELD PREFERRED ALTERNATIVE CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Long-term minor to moderate adverse impacts for visitors who would prefer to walk dogs at the park	Dog walking under voice and sight control would be limited to designated areas	Long-term minor to moderate adverse cumulative impacts on visitors who would prefer to walk dogs at the park
Beneficial impacts for visitors who would prefer not to have dog walking at the park, assuming compliance	Dog walking under voice and sight control would be restricted to designated areas	Beneficial cumulative impacts for visitors who would prefer not to have dog walking at the park
		No indirect impacts in adjacent lands

Fort Point Promenade/Fort Point NHS Trails

Alternative A: No Action. Currently, on-leash dog walking is allowed at Fort Point on the grounds around the historic fort, but dogs are prohibited inside the fort and on the pier. On-leash dog walking is also allowed on the Fort Point Promenade, the Bay Trail, Andrews Road, the West Bluff picnic area and the Battery East Trail. Off-leash dog walking is allowed on the Promenade east of the Bay Trail. Leash law violations totaled 38 violations in 2007/2008 (table 9); park staff members frequently observe visitors walking their dogs off leash. Fort Point Promenade/Fort Point NHS Trails is a moderate to high use area for multiple user groups, including runners, walkers, and bicyclists along the Fort Point Promenade on the entrance road. Dog walking is considered a low to high use activity (table 9). There is also high to moderate use of the pier by fisherman. In addition, the Fort Point Promenade runs along a public roadway (Marine Drive), so the site is busy with motorists, including large tour vehicles.

Under the no-action alternative, there would be no impact on visitors who would prefer to walk dogs at the park. Visitors would continue to be able to walk dogs on leash throughout the site, although some visitors would continue to occasionally let their dogs run without a leash. Visitation by this user group would be expected to remain the same.

Impacts on visitors who would prefer not to have dog walking at this park site would continue to be long term, minor, and adverse. Multiple user groups would continue to use this site for recreation, including runners, walkers, dog walkers, and bicyclists. User groups such as runners and bicyclists may prefer to experience this site without the presence of dogs. There would be little opportunity for a no-dog experience on the grounds of Fort Point; however, most visitors to this site come to see the historic fort and the scenic views of the Golden Gate Bridge. Visitation by this user group would not be expected to change as tourism would continue unrelated to alternatives for dog management at GGNRA.

Under alternative A, no permit system exists for dog walking. At Fort Point, commercial dog walking is uncommon. The impacts from commercial dog walkers to visitor experience are similar to the impacts discussed above for both visitors who would prefer to walk dogs at the park and visitors who would prefer not to have dog walking at this park site.

Cumulative Impacts. Projects and actions in and near Fort Point Promenade/Fort Point NHS Trails were considered for the cumulative impacts analysis (appendix K). The following is a discussion of projects that have had, are currently having, or will have effects on visitor use and experience at or in the vicinity of Fort Point Promenade/Fort Point NHS Trails.

Improvements are being made to Fort Point facilities to improve visitor accessibility (NPS 2010c, 1). The Doyle Drive replacement project will replace the 73-year-old Doyle Drive and make structural and seismic improvements that will take place on lands in Area B of the Presidio (USDOT 2009, 1; Presidio Parkway 2010, 1). This project has the potential to adversely affect visitor accessibility to Fort Point Promenade/Fort Point NHS Trails during project construction in the short term, but it will improve accessibility between Presidio Trust lands and GGNRA lands once the project is complete, resulting in beneficial impacts on visitor use for all visitors to Fort Point. Better accessibility could potentially increase visitation to Fort Point for all visitors including both user groups and especially for tourists and other visitors who come to Fort Point for the viewshed and cultural resource. These visitors would be expected to visit Fort Point for short time periods and would not venture along trails to a great extent; however, an increase in encounters with dogs could be expected for this user group as well as for visitors who come to Fort Point and would prefer not to have dog walking at the site. Although dogs would be restricted to a leash on all trails at Fort Point, with an increase visitation, encounters with dogs for tourists and visitors who prefer not to have dog walking at the site could alter the intensity of impacts expected under alternative A to long-term minor to moderate and adverse for those visitors who would prefer not to have dog walking at the site, especially for those visitors who would use the trail system at the site. Those visitors who would prefer to walk dogs at the site would benefit from better access to the site.

Indirect Impacts on Adjacent Parks

In lands adjacent to GGNRA, there are 35 parks with dog use areas within about a 10-mile radius of Fort Point and 15 parks within about a 5-mile radius; the closest park is Mountain Lake Park (map 27). In addition, Fort Point is located directly north of Area B of the Presidio; Area B is subject to the Presidio Trust's regulations on dog walking, which do not allow dogs to be off-leash. Mountain Lake Park allows off-leash dog walking. No indirect impacts on visitor experience in adjacent lands, including Area B of the Presidio, would be expected under alternative A since there would be no change in current conditions at the site.

FORT POINT PROMENADE/FORT POINT NHS TRAILS ALTERNATIVE A CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
No impact for visitors who would prefer to walk dogs	On-leash dog walking would still be allowed on site	Beneficial cumulative impacts for visitors who would prefer to walk dogs at the park
Long-term minor adverse impacts for visitors who would prefer not to have dog walking at the park	Visitors would still encounter dogs throughout the site; little opportunity for a no-dog experience would exist	Long-term minor adverse cumulative impacts for visitors who would prefer not to have dog walking at the park
		No indirect impacts in adjacent lands

Alternative B: NPS Leash Regulations. Alternative B would be similar to alternative A. On-leash dog walking would be allowed at the Fort Point parking lot and West Bluff picnic area, as well as along the promenade, the Bay Trail, Andrews Road, and the Battery East Trail. No off-leash dog walking would be available under this alternative. On-leash dog walking would be based on a 6-foot dog leash.

Impacts on visitors who would prefer to walk dogs at the park would be negligible. The amount of area open to dog walking and the dog walking regulation would be similar to the no-action alternative. Visitors would continue to be able to walk dogs on leash throughout the site. Visitation by this user group would likely remain the same.

Impacts on visitors who would prefer not to have dog walking at the park would range from negligible to long term, minor, and adverse since this is a low to high use site for dog walkers. Visitors would continue to encounter dogs throughout the site. This site would continue to have little area offering a no-dog experience. Visitation by this user group at Fort Point Promenade/Fort Point NHS Trails would likely remain the same.

Under alternative B, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs on leash per person with no permit required. Since commercial dog walking at Fort Point Promenade/Fort Point NHS Trails is not common, it is likely that commercial dog walking would have negligible impacts on both visitors who would prefer to walk dogs at the park and visitors who would prefer not to have dog walking at the park.

Cumulative Impacts. Alternative B, would result in the same cumulative impact analysis as provided for alternative A. Better accessibility could potentially increase visitation to Fort Point for all visitors including both user groups and especially for tourists and other visitors who come to Fort Point for the viewshed and cultural resource. Although dogs would be restricted to a leash on all trails at Fort Point, with an increase visitation, encounters with dogs for tourists and visitors who prefer not to have dog walking at the site could alter the intensity of impacts expected under alternative A to long-term minor to moderate and adverse for those visitors who would prefer not to have dog walking at the site, especially for those visitors who would use the trail system at the site. Those visitors who would prefer to walk dogs at the site would benefit from better access to the site.

Indirect Impacts on Adjacent Parks

No indirect impacts on visitor experience in adjacent lands, including Area B of the Presidio, due to increased visitor use would be expected under alternative B since conditions would remain similar to the no-action alternative.

FORT POINT PROMENADE/FORT POINT NHS TRAILS ALTERNATIVE B CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Negligible impacts for visitors who would prefer to walk dogs in the park	On-leash dog walking would still be allowed on site	Negligible cumulative impacts for visitors who would prefer to walk dogs at the park
Negligible to long-term minor adverse impacts for visitors who would prefer not to have dog walking at the park, assuming compliance	Visitors would still encounter dogs throughout the site	Negligible to long-term minor adverse cumulative impacts for visitors who would prefer not to have dog walking at the park
		No indirect impacts in adjacent lands

Alternative C: Emphasis on Multiple Use, Balanced by County. Restrictions on dog walking under alternative C would be the same as under alternative B and impacts on visitor experience would also be the same: negligible for visitors who would prefer to walk dogs at the park and negligible to long term, minor, and adverse for visitors who would prefer not to have dog walking at this park site.

Under alternative C, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be granted at Fort Point Promenade/Fort Point NHS Trails, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking is not common at Fort Point Promenade/Fort Point NHS Trails, it is likely that commercial dog walking would have negligible impacts on both visitors who would prefer to walk dogs at the park and visitors who would prefer not to have dog walking at the park.

Cumulative Impacts. Impact on the visitor use and experience for both users groups at Fort Point under alternative C would be the same as for alternatives A and B. Better accessibility could potentially increase visitation to Fort Point for all visitors including both user groups and especially for tourists and other visitors who come to Fort Point for the viewshed and cultural resource. Although dogs would be restricted to a leash on all trails at Fort Point, with an increase visitation, encounters with dogs for tourists and visitors who prefer not to have dog walking at the site could alter the intensity of impacts expected under alternative A to long-term minor to moderate and adverse for those visitors who would prefer not to have dog walking at the site, especially for those visitors who would use the trail system at the site. Those visitors who would prefer to walk dogs at the site would benefit from better access to the site.

Indirect Impacts on Adjacent Parks

No indirect impacts on visitor experience in adjacent lands, including Area B of the Presidio, due to increased visitor use would be expected under alternative C since conditions would remain similar to the no-action alternative.

FORT POINT PROMENADE/FORT POINT NHS TRAILS ALTERNATIVE C CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Negligible impacts for visitors who would prefer to walk dogs at the park	On-leash dog walking would still be allowed on site	Beneficial cumulative impacts for visitors who would prefer to walk dogs at the park

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Negligible to long-term minor adverse impacts for visitors who would prefer not to have dog walking at the park, assuming compliance	Visitors would still encounter dog walking throughout the site	Negligible to long-term minor cumulative impacts for visitors who would prefer not to have dog walking at the park
		No indirect impacts in adjacent lands

Alternative D: Overall Most Protective of Resources/Visitor Safety. Under alternative D, on-leash dog walking would be allowed only along the Bay Trail, which allows dog walkers to travel from Crissy Field to the Golden Gate Bridge.

Impacts on visitors who would prefer to walk dogs at the park would be long term, minor, and adverse. The area available for on-leash dog walking would be reduced to only one trail. Dog owners may also feel that their pets are not receiving adequate exercise with the reduced acreage available. Although alternative D would restrict dog walking to one trail, the trail traverses the entire shoreline from the Crissy Field/Marina Gate to the Golden Gate Bridge. Some visitors may begin to access different parks due to the limited area for dog walking at this site. Visitation by this user group at Fort Point Promenade/Fort Point NHS Trails may decrease slightly.

Impacts on visitors who would prefer not to have dog walking at the park would be beneficial. Since dogs would be limited to only the Bay Trail, visitors would have the opportunity to experience many areas in the site without the presence of dogs, and visitor incidents between multiple user groups and dogs would not likely occur. This alternative would provide for the most visitor safety in areas highly congested with motor vehicle and bicycle traffic and multiple user groups. Visitation by this user group would be expected to increase at the site.

No commercial dog walking would be allowed under alternative D. Private dog walkers would be allowed up to three dogs. Since commercial dog walking is not common at the Fort Point Promenade/Fort Point NHS Trails, it is likely that prohibiting commercial dog walking from this site would have negligible impacts on both visitors who would prefer to walk dogs at the park and visitors who would prefer not to have dog walking at the park.

Cumulative Impacts. Better accessibility could potentially increase visitation to Fort Point for tourists and other visitors who come to Fort Point for the viewshed and cultural resources; however, because the designated area for dog walking is less under alternative D, it is likely that the use of the site for visitors who prefer to walk dogs at the site would remain the same or decrease. Encounters with dogs for tourists and visitors who prefer not to have dog walking at the site would be reduced resulting in beneficial impacts on their visitor experience. For those visitors who would prefer to walk dogs at Fort Point, the improved accessibility to the site would not provide enough additional benefit to ameliorate the long-term minor, adverse impacts from the implementation of alternative D.

Indirect Impacts on Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation under alternative D, particularly Area B of the Presidio and Mountain Lake Park, because they are the closest dog use areas. Since the amount of area available for on-leash dog walking would be reduced to one trail, some visitors may begin to use other parks for dog walking activities if more area is available. However, some visitors would continue to use Fort Point Promenade/Fort Point NHS Trails for dog walking; therefore, negligible indirect impacts on visitor experience in adjacent lands, including Area B of the Presidio, from increased visitor use would be expected.

FORT POINT PROMENADE/FORT POINT NHS TRAILS ALTERNATIVE D CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Long-term minor adverse impacts for visitors who would prefer to walk dogs at the park	Dog walking would be allowed on leash and in designated areas	Long-term minor adverse cumulative impacts for visitors who would prefer to walk dogs at the park
Beneficial impacts for visitors who would prefer not to have dog walking at the park, assuming compliance	Dog walking would be allowed on leash and in limited areas; a no-dog experience would be available	Beneficial cumulative impacts for visitors who would prefer not to have dog walking at the park
		Negligible indirect impacts in adjacent lands

Alternative E: Overall Most Dog Walking Access/Most Management Intensive. Dog walking restrictions under alternative E would be the same as under alternative B and impacts on visitor experience would also be the same: negligible impacts on visitors who would prefer to walk dogs at the park and negligible impacts to long-term minor adverse impacts on visitors who would prefer not to have dog walking at this park site.

Under alternative E, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be granted at Fort Point Promenade/Fort Point NHS Trails, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking is not common at Fort Point Promenade/Fort Point NHS Trails, it is likely that commercial dog walking would have negligible impacts on both visitors who would prefer to walk dogs at the park and visitors who would prefer not to have dog walking at the park.

Cumulative Impacts. Impact on the visitor use and experience for both users groups at Fort Point under alternative E would be the same as for alternatives A and B. Better accessibility could potentially increase visitation to Fort Point for all visitors including both user groups and especially for tourists and other visitors who come to Fort Point for the viewshed and cultural resource. Although dogs would be restricted to a leash on all trails at Fort Point, with an increase visitation, encounters with dogs for tourists and visitors who prefer not to have dog walking at the site could alter the intensity of impacts expected under alternative A to long-term minor to moderate and adverse for those visitors who would prefer not to have dog walking at the site, especially for those visitors who would use the trail system at the site. Those visitors who would prefer to walk dogs at the site would benefit from better access to the site.

Indirect Impacts on Adjacent Parks

No indirect impacts on visitor experience in adjacent lands, including area B of the Presidio, due to increased visitor use would be expected under alternative E since conditions would remain similar to the no-action alternative.

FORT POINT PROMENADE/FORT POINT NHS TRAILS ALTERNATIVE E CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Negligible impacts for visitors who would prefer to walk dogs at the park	On-leash dog walking would still be allowed on site	Beneficial cumulative impacts for visitors who would prefer to walk dogs at the park

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Negligible to long-term minor adverse impacts for visitors who would prefer not to have dog walking at the park, assuming compliance	Visitors would still encounter dog walking throughout the site	Negligible to long-term minor adverse cumulative impacts for visitors who would prefer not to have dog walking at the park
		No indirect impacts in adjacent lands

Preferred Alternative. Alternative B was selected as the preferred alternative for Fort Point Promenade/Fort Point NHS Trails. On-leash dog walking would be allowed at the Fort Point parking lot and West Bluff picnic area, as well as along the promenade, the Bay Trail, Andrews Road, and the Battery East Trail. Off-leash dog walking would not be available at the site under this alternative. On-leash dog walking would be based on a 6-foot dog leash.

Impacts on visitors who would prefer to walk dogs at the park would be negligible. The area open to dog walking and the dog walking regulation would be similar to the no-action alternative. Visitors would continue to be able to walk dogs on leash throughout the site. Visitation by this user group would likely remain the same.

Impacts on visitors who would prefer not to have dog walking at the park would range from negligible to long term, minor, and adverse since this is a low to high use site for dog walkers. Visitors would continue to encounter dogs throughout the site. This site would continue to have little area offering a no-dog experience. Visitation by this user group at Fort Point Promenade/Fort Point NHS Trails would likely remain the same.

Alternative C was selected as the preferred alternative for permits at all sites. All dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be granted at Fort Point Promenade/Fort Point NHS Trails, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking is not common at Fort Point Promenade/Fort Point NHS Trails, it is likely that commercial dog walking would have negligible impacts on visitors who would prefer to walk dogs at the park and on visitors who would prefer not to have dog walking at the park.

Cumulative Impacts. Projects and actions in and near Fort Point Promenade/Fort Point NHS Trails were considered for the cumulative impacts analysis (appendix K). The following is a discussion of projects that have had, are currently having, or will have effects on visitor use and experience at or in the vicinity of Fort Point Promenade/Fort Point NHS Trails.

Improvements are being made to Fort Point facilities to improve visitor accessibility (NPS 2010c, 1). The Doyle Drive replacement project will replace the 73-year-old Doyle Drive and make structural and seismic improvements that will take place on lands in area B of the Presidio (USDOT 2009, 1; Presidio Parkway 2010, 1). This project has the potential to adversely affect visitor accessibility to Fort Point Promenade/Fort Point NHS Trails during project construction in the short term, but it will improve accessibility between Presidio Trust lands and GGNRA lands once the project is complete, resulting in beneficial impacts on visitor use. Impact on the visitor use and experience for both users groups at Fort Point for the preferred alternative would provide better accessibility which could potentially increase visitation to Fort Point for all visitors including both user groups and especially for tourists and other visitors who come to Fort Point for the viewshed and cultural resources. Although dogs would be restricted to a leash on all trails at Fort Point, with an increase visitation, encounters with dogs for tourists and visitors who prefer not to have dog walking at the site could alter the intensity of impacts expected

under alternative A to long-term minor to moderate and adverse for those visitors who would prefer not to have dog walking at the site, especially for those visitors who would use the trail system at the site. Those visitors who would prefer to walk dogs at the site would benefit from better access to the site.

Indirect Impacts on Adjacent Parks

In lands adjacent to GGNRA, there are 35 parks with dog use areas within about a 10-mile radius of Fort Point and 15 parks within about a 5-mile radius; the closest park is Mountain Lake Park (map 27). In addition, Fort Point is located directly north of area B of the Presidio; area B is subject to the Presidio Trust's regulations on dog walking, which do not allow dogs to be off-leash. Mountain Lake Park allows off-leash dog walking. No indirect impacts on visitor experience in adjacent lands, including area B of the Presidio, due to increased visitor use would be expected under the preferred alternative since conditions would remain similar to the no-action alternative.

FORT POINT PROMENADE/FORT POINT NHS TRAILS PREFERRED ALTERNATIVE CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Negligible impacts for visitors who would prefer to walk dogs at the park	On-leash dog walking would still be allowed on site	Beneficial cumulative impacts for visitors who would prefer to walk dogs at the park
Negligible to long-term minor adverse impacts for visitors who would prefer not to have dog walking at the park, assuming compliance	Visitors would still encounter dogs throughout the site	Negligible to long-term minor adverse cumulative impacts for visitors who would prefer not to have dog walking at the park
		No indirect impacts in adjacent lands

Baker Beach and Bluffs to Golden Gate Bridge

Alternative A: No Action. Currently, dogs under voice control are allowed on Baker Beach and Bluffs to Golden Gate Bridge. On-leash dog walking is allowed in the picnic areas, the parking areas, and the trails to the beach except for the Batteries to Bluff Trail, which does not allow dogs. Visitor use in this area is low to moderate for dog walkers and low to high for beachgoers and picnickers on the weekends and holidays (table 9). One dog bite was reported at this site in 2007 (table 9).

There would be no impact on visitors who would prefer to walk dogs at the park under the no-action alternative. Visitors would continue to exercise, play with, and socialize their dogs under voice control along the beach and walk their dogs on leash in the picnic area and parking lots. Visitation by this user group would remain the same.

Impacts on visitors who would prefer not to have dog walking at this park site would be long term, minor to moderate, and adverse. Visitors would continue to encounter both on-leash dogs and dogs under voice control at this site. Although few visitor incidents between user groups such as beachgoers and picnickers and visitors with dogs have been documented, the potential for incidents to occur would remain. In addition, this is a low to moderate use site for visitors with dogs. The presence of dogs under voice control on the beach may frighten some visitors, especially those with small children. In addition, beachgoers and picnickers may prefer to experience these activities without the presence of dogs. Visitation by this user group at Baker Beach and Bluffs to Golden Gate Bridge could decrease.

Under alternative A, no permit system exists for dog walking. At Baker Beach, commercial dog walking is uncommon. The impacts from commercial dog walkers to visitor experience are similar to the impacts

discussed above for both visitors who would prefer to walk dogs at the park and visitors who would prefer not to have dog walking at this park site.

Cumulative Impacts. Projects and actions in and near Baker Beach and Bluffs to Golden Gate Bridge were considered for the cumulative impacts analysis (appendix K). The following is a discussion of projects that have had, are currently having, or will have effects on visitor use and experience at or in the vicinity of Baker Beach and Bluffs to Golden Gate Bridge.

Between August and November of 2007, 73,000 tons of landfill debris was unearthed by excavators at Baker Beach and conveyed to the top of the cliffs as part of a restoration effort (Presidio Trust 2010, 1). Additionally, in 2008 Park Stewardship Programs completed improvements on the Batteries to Bluffs Trail on the bluffs just north of Baker Beach. These projects have resulted in benefits from improved aesthetics for all visitors at Baker Beach. The restoration of habitat benefits the aesthetics of the Baker Beach area and results in beneficial impacts on visitor use and experience for all visitors to Baker Beach. However, since these projects are focused on habitat restoration and are not directly related to dog management or dog-related visitor use, the projects would not significantly affect the cumulative analysis for alternative A. Therefore, cumulative effects would not be measurable or perceptible on alternative A and no change in impact level or intensity is expected on either user group: negligible for those who prefer to walk dogs and long-term, minor to moderate and adverse for those visitors who prefer not to have dogs at the site.

Indirect Impacts on Adjacent Parks

In lands adjacent to GGNRA, there are 36 parks with dog use areas within about a 10-mile radius of Baker Beach and 20 parks within about a 5-mile radius; the closest park is Mountain Lake Park (map 27). In addition, Baker Beach is located directly west of area B of the Presidio; area B is subject to the Presidio Trust's regulations on dog walking, which do not allow dogs to be off-leash. Mountain Lake Park allows off-leash dog walking. No indirect impacts on visitor experience in adjacent lands, including area B of the Presidio, would be expected under alternative A since there would be no change in current conditions at the site.

BAKER BEACH AND BLUFFS TO GOLDEN GATE BRIDGE ALTERNATIVE A CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
No impact for visitors who would prefer to walk dogs at the park	Dog walking would still be allowed on site, both on leash and off leash	Negligible cumulative impacts for visitors who would prefer to walk dogs at the park
Long-term minor to moderate adverse impacts for visitors who would prefer not to have dog walking at the park	Visitors would still encounter dog walking throughout the site	Long-term minor to moderate adverse cumulative impacts for visitors who would prefer not to have dog walking at the park
		No indirect impacts in adjacent lands

Alternative B: NPS Leash Regulations. On-leash dog walking would be allowed on Baker Beach north of the north parking lot, in picnic and parking areas, and on all trails except for the Batteries to Bluffs Trail and the trail leading to the Batteries to Bluffs trail, where dogs would be prohibited.

Impacts on visitors who would prefer to walk dogs at this park site would be long term, minor, and adverse. Dogs would no longer be allowed to run off leash along the beach. Dog walking would be required to be on leash; however, the area available for dog walking would be the same as under the no-

action alternative. Adverse impacts would be expected for visitors who enjoy watching and playing with dogs off leash. Dog owners may also feel that their pets are not receiving adequate exercise when restrained on a 6-foot leash. Some visitors in this user group may find a different park to exercise their dogs off leash. As a result, visitation by local residents may decrease slightly in this area.

Impacts on visitors who would prefer not to have dog walking at this park site would be beneficial. Since dogs would be required to be on leash, visitors would no longer encounter dogs under voice control. Visitors who would prefer not to have dog walking at the park may feel more comfortable recreating at Baker Beach and Bluffs to Golden Gate Bridge since dogs would be restrained on leash. Visitation by this user group would have the potential to increase.

Under alternative B, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs on leash per person with no permit required. Since commercial dog walking is not common at Baker Beach and Bluffs to Golden Gate Bridge, it is likely that commercial dog walking would have negligible impacts on both visitors who would prefer to walk dogs at the park and visitors who would prefer not to have dog walking at the park.

Cumulative Impacts. As discussed in alternative A, the restoration of habitat benefits the aesthetics of the Baker Beach area and results in beneficial impacts on visitor use and experience for all visitors to Baker Beach. However, since these projects are focused on habitat restoration and are not directly related to dog management or dog-related visitor use, the projects would not significantly affect the cumulative analysis for alternative B. Therefore, cumulative effects would not be measurable or perceptible on alternative B and no change in impact level or intensity is expected on either user group: long-term, minor and adverse for those who prefer to walk dogs and beneficial for those visitors who prefer not to have dogs at the site.

Indirect Impacts on Adjacent Parks

Some increase in visitation by dog walkers is expected in adjacent lands, especially parks that allow off-leash dog walking on beaches, since off-leash dog walking would no longer be allowed at Baker Beach. However, some visitors may continue to use Baker Beach for dog walking activities even though leashes would be required, because some visitors enjoy the dog walking experience at the beach. In addition, dog walking is a low activity at Baker Beach. Therefore, indirect impacts on visitor experience in adjacent lands from increased visitor use would be negligible. However, no indirect impacts on visitor experience in area B of the Presidio would be expected under alternative B, since this area does not have beaches and does not allow off-leash dog walking.

BAKER BEACH AND BLUFFS TO GOLDEN GATE BRIDGE ALTERNATIVE B CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Long-term minor adverse impacts for visitors who would prefer to walk dogs at the park	Dog walking would be allowed on leash and in designated areas; no dog walking under voice control would be available	Long-term minor adverse cumulative impacts for visitors who would prefer to walk dogs
Beneficial impacts for visitors who would prefer not to have dog walking at the park, assuming compliance	Off-leash dog walking would no longer be allowed	Beneficial cumulative impacts for visitors who would prefer not to have dog walking at the park
		Negligible indirect impacts in adjacent lands

Alternative C: Emphasis on Multiple Use, Balanced by County. Dog walking restrictions under alternative C would be similar to those under alternative B. Impacts on visitor use and experience would be the same as under alternative B: long term, minor, and adverse for visitors who would prefer to walk dogs at the park and beneficial for visitors who would prefer not to have dog walking at this park site.

Under alternative C, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. Any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. Permits would be allowed at Baker Beach and Bluffs to Golden Gate Bridge. Impacts to visitor use and experience from permit holders with six dogs off-leash are expected to increase under this alternative; however, since commercial dog walking is not common at Baker Beach and Bluffs to Golden Gate Bridge, it is likely that commercial dog walking would have negligible impacts on both visitors who would prefer to walk dogs at the park and visitors who would prefer not to have dog walking at the park.

Cumulative Impacts. Because restoration projects in the vicinity of Baker Beach, would not directly or cumulatively affect the impacts on visitor use and experience at this park site, the impacts under alternative C would remain the same: long-term minor adverse impacts on visitors who would prefer to walk dogs at the park, beneficial impacts on visitors who would prefer not to have dog walking at the park. Indirect impacts in adjacent lands under alternative C would be the same as those under alternative B: negligible indirect impacts on visitor experience in adjacent lands.

BAKER BEACH AND BLUFFS TO GOLDEN GATE BRIDGE ALTERNATIVE C CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Long-term minor adverse impacts for visitors who would prefer to walk dogs at the park	Dog walking would be allowed on leash and in designated areas; no dog walking under voice control would be available	Long-term minor adverse cumulative impacts for visitors who would prefer to walk dogs at the park
Beneficial impacts for visitors who would prefer not to have dog walking at the park, assuming compliance	Off-leash dog walking would no longer be allowed	Beneficial cumulative impacts for visitors who would prefer not to have dog walking at the park
		Negligible indirect impacts in adjacent lands

Alternative D: Overall Most Protective of Resources/Visitor Safety. Alternative D would be the most restrictive alternative for dog walking at Baker Beach and Bluffs to Golden Gate Bridge. Dog walking would be prohibited on the beach north of the north parking lot. On-leash dog walking would be allowed on the beach south of the north parking lot, parking lots and picnic areas, and the trails to the southern beach area, and the Coastal Trail.

Impacts on visitors who would prefer to walk dogs at the park would be long term, moderate, and adverse. An area for dogs to be off leash would no longer exist at this site and the area available for dog walking would be reduced by a little over half compared to the no-action alternative. Adverse impacts would be expected for visitors who enjoy watching and playing with dogs off leash. Dog owners may also feel that their pets are not receiving adequate exercise when restrained on a 6-foot leash. Visitors may begin to use other parks in the city for off-leash dog walking. Visitation by this user group may decrease at this site.

Impacts on visitors who would prefer not to have dog walking at this park site would be beneficial. Since dogs would be required to be on leash, visitors would no longer encounter dogs under voice control. This alternative would give visitors an opportunity to experience a large section of the site without the

presence of dogs and would provide a second beach in GGNRA San Francisco lands that would be entirely available for a no-dog beach experience. Visitors may feel more comfortable in areas where on-leash dog walking would be required. It is likely that potential incidents between other user groups and dogs would be minimized. Visitation by this user group would be expected to increase at this site.

No commercial dog walking would be allowed under alternative D. Private dog walkers would be allowed up to three dogs. Since commercial dog walking is not common at Baker Beach and Bluffs to Golden Gate Bridge, it is likely that prohibiting commercial dog walking from this site would have negligible impacts on both visitors who would prefer to walk dogs at the park and visitors who would prefer not to have dog walking at the park.

Cumulative Impacts. As discussed in alternative A, the restoration of habitat benefits the aesthetics of the Baker Beach area and results in beneficial impacts on visitor use and experience for all visitors to Baker Beach. However, since these projects are focused on habitat restoration and are not directly related to dog management or dog-related visitor use, the projects would not significantly affect the cumulative analysis for alternative D. Therefore, cumulative effects would not be measurable or perceptible on alternative D and no change in impact level or intensity is expected on either user group: long-term, moderate and adverse for those who prefer to walk dogs and beneficial for those visitors who prefer not to have dogs at the site.

Indirect Impacts on Adjacent Parks

Some increase in visitation by dog walkers is expected in adjacent lands, especially parks that allow off-leash dog walking on beaches, since off-leash dog walking would no longer be allowed at Baker Beach. However, some visitors may continue to use Baker Beach for dog walking activities even though leashes would be required, because some visitors enjoy the dog walking experience at the beach. In addition, dog walking is a low activity at Baker Beach. Therefore, indirect impacts on visitor experience in adjacent lands due to increased visitor use would be negligible. However, no indirect impacts on visitor experience in area B of the Presidio would be expected under alternative D, since this area does not have beaches and does not allow off-leash dog walking.

BAKER BEACH AND BLUFFS TO GOLDEN GATE BRIDGE ALTERNATIVE D CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Long-term moderate adverse impacts for visitors who would prefer to walk dogs at the park	Dog walking would be allowed on leash and in designated areas; no dog walking under voice control would be available	Long-term moderate adverse cumulative impacts for visitors who would prefer to walk dogs at the park
Beneficial impacts for visitors who would prefer not to have dog walking at the park, assuming compliance	Off-leash dog walking would no longer be allowed; a no-dog experience would be available on the beach	Beneficial cumulative impacts for visitors who would prefer not to have dog walking at the park
		Negligible indirect impacts in adjacent lands

Alternative E: Overall Most Dog Walking Access/Most Management Intensive. Alternative E would provide the most dog walking access of all the alternatives. Dog walking under voice and sight control would be allowed in a ROLA on the portion of Baker Beach from the north parking lot south to the NPS boundary near Lobos Creek. On-leash dog walking would be allowed on the portion of Baker Beach north of the north parking lot, in picnic areas and parking lots, and on all trails except the Batteries to Bluffs Trail and the trail leading to the Batteries to Bluffs Trail.

Impacts on visitors who would prefer to walk dogs at the park would be negligible. Even though visitors would no longer be allowed to have dogs under voice control along the entire beach, the ROLA would still provide the opportunity for exercising and socializing under voice and sight control. Access to other portions of the site would be the same as the no-action alternative; however, dogs would be walked on leash on the northern section of the beach. Impacts would be negligible since this site is not considered a high use area for dog walking and dog walkers would have a ROLA on the beach. Visitation by this user group would be expected to remain the same.

Impacts on visitors who would prefer not to have dog walking at this park site would be long term, minor, and adverse. Impacts would be minor because dogs would still be allowed throughout the site and dogs would be off leash on the south portion of the beach. Visitors would still encounter both on-leash dogs and dogs under voice and sight control. A no-dog experience would not be available under alternative E. Visitation by this user group would have the potential to decrease.

Under alternative E, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. Any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. In a ROLA, permit holders may have up to six dogs off-leash, and the permit may restrict use by time and area. Permits allowing dog walkers to walk four to six dogs would be granted at Baker Beach and Bluffs to Golden Gate Bridge. Since commercial dog walking is not common at this site, it is likely that commercial dog walking would have negligible impacts on both visitors who would prefer to walk dogs at the park and visitors who would prefer not to have dog walking at the park.

Cumulative Impacts. As discussed in alternative A, the restoration of habitat benefits the aesthetics of the Baker Beach area and results in beneficial impacts on visitor use and experience for all visitors to Baker Beach. However, since these projects are focused on habitat restoration and are not directly related to dog management or dog-related visitor use, the projects would not significantly affect the cumulative analysis for alternative E. Therefore, cumulative effects would not be measurable or perceptible on alternative E and no change in impact level or intensity is expected on either user group: negligible for those who prefer to walk dogs and long-term minor and adverse for those visitors who prefer not to have dogs at the site.

Indirect Impacts on Adjacent Parks

Mountain Lake Park is the closest off-leash dog walking area to Baker Beach and Bluffs to Golden Gate Bridge. It is unlikely that visitation at Mountain Lake Park would increase under alternative E. Visitors would continue to use Baker Beach and Bluffs to Golden Gate Bridge for dog walking activities, since an off-leash experience would be available along a portion of the beach in the proposed ROLA and visitors would not receive the same beach dog walking experience at Mountain Lake Park. There would be no indirect impacts on visitor experience in adjacent lands, including area B of the Presidio, due to increased visitor use.

BAKER BEACH AND BLUFFS TO GOLDEN GATE BRIDGE ALTERNATIVE E CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Negligible impact for visitors who would prefer to walk dogs at the park	Dog walking would be allowed on most of the site; dog walking under voice and sight control would be available	Negligible cumulative impacts for visitors who would prefer to walk dogs at the beach

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Long-term minor adverse impacts for visitors who would prefer not to have dog walking at the park, assuming compliance	Visitors would still encounter dogs throughout the site; a no-dog experience would not be available	Long-term minor adverse cumulative impacts for visitors who would prefer not to have dog walking at the park
		No indirect impacts in adjacent lands

Preferred Alternative. Alternative D was selected as the preferred alternative for Baker Beach and Bluffs to Golden Gate Bridge. Dog walking would be prohibited on the beach north of the north parking lot. On-leash dog walking would be allowed on the beach south of the north parking lot, in picnic and parking areas, and on the trails to the southern beach area, and the Coastal Trail.

Impacts on visitors who would prefer to walk dogs at the park would be long term, moderate, and adverse. An area for dogs to be off leash would no longer exist at this site and the area available for dog walking would be reduced by a little over half. Adverse impacts would be expected for visitors who enjoy watching and playing with dogs off leash. Dog owners may also feel that their pets are not receiving adequate exercise when restrained on a 6-foot leash. Visitors may begin to use other parks in the city for off-leash dog walking. Visitation by this user group may decrease at this site.

Impacts on visitors who would prefer not to have dog walking at this park site would be beneficial. Since dogs would be required to be on leash, visitors would no longer encounter dogs under voice control. This alternative would give visitors an opportunity to experience a large section of the site without the presence of dogs and would provide a second beach in GGNRA San Francisco lands that would be entirely available for a no-dog beach experience. Visitors may feel more comfortable in areas where on-leash dog walking would be required. It is likely that potential incidents between other user groups and dogs would be minimized. Visitation by this user group would be expected to increase at this site.

Alternative C was selected as the preferred alternative for permits at all sites. All dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. Any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. Permits would be allowed at Baker Beach and Bluffs to Golden Gate Bridge. Since commercial dog walking is not common at Baker Beach and Bluffs to Golden Gate Bridge, it is likely that commercial dog walking would have negligible impacts on visitors who would prefer to walk dogs at the park and a negligible impact for visitors who would prefer not to have dog walking at the park.

Cumulative Impacts. Projects and actions in and near Baker Beach and Bluffs to Golden Gate Bridge were considered for the cumulative impacts analysis (appendix K). The following is a discussion of projects that have had, are currently having, or will have effects on visitor use and experience at or in the vicinity of Baker Beach and Bluffs to Golden Gate Bridge.

Between August and November of 2007, 73,000 tons of landfill debris was unearthed by excavators at Baker Beach and conveyed to the top of the cliffs as part of a restoration effort (Presidio Trust 2010, 1). Additionally, in 2008 Park Stewardship Programs completed improvements on the Batteries to Bluffs Trail on the bluffs just north of Baker Beach. The restoration of habitat benefits the aesthetics of the Baker Beach area and results in beneficial impacts on visitor use and experience for all visitors to Baker Beach. However, since these projects are focused on habitat restoration and are not directly related to dog management or dog-related visitor use, the projects would not significantly affect the cumulative analysis for the preferred alternative. Therefore, cumulative effects would not be measurable or perceptible on the preferred alternative and no change in impact level or intensity is expected on either user group: long-

term, moderate and adverse for those who prefer to walk dogs and beneficial for those visitors who prefer not to have dogs at the site.

Indirect Impacts on Adjacent Parks

In lands adjacent to GGNRA, there are 36 parks with dog use areas within about a 10-mile radius of Baker Beach and 20 parks within about a 5-mile radius; the closest park is Mountain Lake Park (map 27). In addition, Baker Beach is located directly west of area B of the Presidio; area B is subject to the Presidio Trust's regulations on dog walking, which do not allow dogs to be off-leash. Some increase in visitation by dog walkers is expected in adjacent lands, especially parks that allow off-leash dog walking on beaches, since off-leash dog walking would no longer be allowed at Baker Beach. However, some visitors may continue to use Baker Beach for dog walking activities even though leashes would be required, because some visitors enjoy the dog walking experience at the beach. In addition, dog walking is a low activity at Baker Beach. Therefore, indirect impacts on visitor experience in adjacent lands due to increased visitor use would be negligible. However, no indirect impacts on visitor experience in area B of the Presidio would be expected under the preferred alternative, since this area does not have beaches and does not allow off-leash dog walking.

**BAKER BEACH AND BLUFFS TO GOLDEN GATE BRIDGE PREFERRED ALTERNATIVE CONCLUSION
TABLE**

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Long-term moderate adverse impacts for visitors who would prefer to walk dogs at the park	Dog walking would be allowed on leash and in designated areas; no dog walking under voice control would be available	Long-term moderate adverse cumulative impacts for visitors who would prefer to walk dogs at the park
Beneficial impacts for visitors who would prefer not to have dog walking at the park, assuming compliance	Off-leash dog walking would no longer be allowed; a no-dog experience would be available on the beach	Beneficial cumulative impacts for visitors who would prefer not to have dog walking at the park
		Negligible indirect impacts in adjacent lands

Fort Miley

Alternative A: No Action. Currently, dogs under voice control are allowed at both East and West Fort Miley. Fort Miley is a low dog use area mostly used by local residents, and by bird-watchers, picnickers, and patients from the Veterans Administration (VA) Hospital. Fort Miley is located adjacent to the VA Hospital and has heavy pedestrian/vehicle traffic and construction traffic. No pet-related violations have been recently documented at Fort Miley (table 9).

No impact on visitors who would prefer to walk dogs at the park would be expected under the no-action alternative. Dog walkers would continue to have the opportunity to walk dogs off leash in East and West Fort Miley. This site would continue to be an easily accessed area for local residents to let their dogs run and socialize with other dogs. Having dogs off leash and playing throughout the area may add to the park experience for visitors with dogs. No change in visitation by this user group at Fort Miley would be expected.

Impacts on visitors who would prefer not to have dog walking at the park would be long term, minor, and adverse. Visitors would continue to encounter both on-leash dogs and dogs under voice control at this site. Impacts would be minor since the site is not a high use dog walking area and since there is no

documentation of pet-related violations at this site. Picnickers may prefer to experience this activity without the presence of dogs. VA hospital patients may also prefer to visit the site without the presence of dogs. Some visitors may continue to avoid this site due to the presence of dogs; however, visitation would likely remain the same.

Under alternative A, no permit system exists for dog walking. At Fort Miley, commercial dog walking is uncommon. The impacts from commercial dog walkers to visitor experience are similar to the impacts discussed above for both visitors who would prefer to walk dogs at the park and visitors who would prefer not to have dog walking at this park site.

Cumulative Impacts. There are no known projects or actions that have had, are currently having, or will have effects on visitor use and experience in the vicinity of this park site though there is the potential for unknown or unidentified projects or actions to occur during the life of this plan. As a result, cumulative impacts are considered negligible because they cannot be accurately assessed for this site. Therefore, no alteration to the results of the impact assessment are expected for any of the alternative actions proposed for the site and the results of the impact analysis for alternative A will be the only contributing factor to the cumulative impact analysis for visitor use and experience under alternative A.

Cumulative impacts on the visitor use and experience of visitors who would prefer to walk dogs at the park under alternative A, would result in negligible cumulative impacts on this user group. Impacts on the visitor use and experience of visitors who would prefer not to have dog walking at the park would be long term, minor, and adverse under alternative A.

Indirect Impacts on Adjacent Parks

In lands adjacent to GGNRA, there are 36 parks with dog use areas within about a 10-mile radius of East and West Fort Miley and 13 parks within about a 5-mile radius; the closest parks are Golden Gate Park—North Central Area and Golden Gate Park—South Central Area (map 27). Golden Gate Park’s North and South Central Areas allow off-leash dog walking. No indirect impacts on visitor experience in adjacent lands would be expected under alternative A due to increased visitor use since there would be no change in current conditions at the site.

FORT MILEY ALTERNATIVE A CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
No impact for visitors who would prefer to walk dogs at the park	Dog walking would still be allowed on site, both on leash and off leash	No cumulative impacts for visitors who would prefer to walk dogs
Long-term minor adverse impacts for visitors who would prefer not to have dog walking at the park	Visitors would still encounter dogs throughout the site	Long-term minor adverse cumulative impacts for visitors who would prefer not to have dog walking at the park
		No indirect impacts in adjacent lands

Alternative B: NPS Leash Regulations. Under alternative B, dogs would no longer be allowed at either East or West Fort Miley. Dogs would be prohibited for number of reasons, including conflicting uses with popular recreational pursuits such as bird-watching and picnicking. Due to the concrete bunkers edged by steep embankments at both East and West Fort Miley and the location of the VA Hospital directly adjacent to the site, safety is a concern at this location. This site typically has VA hospital patients using

the area and heavy pedestrian and vehicular traffic, which causes safety concerns for both visitors and dogs.

Impacts on visitors who would prefer to walk dogs at the park would be long term, minor, and adverse. Impacts would be minor since dog walking use at this site is not considered high. Visitors looking for an area to walk their dogs off leash would now have to go to one of the city dog parks. Visitation by this user group would be expected to decrease at this site.

Impacts on visitors who would prefer not to have dog walking at the park site would be beneficial. The entire Fort Miley site would be available for a no-dog experience. Picnickers, bird-watchers, and VA hospital patients who would prefer to experience the site without the presence of dogs would benefit under this alternative. Visitors who have avoided this site in the past due to the presence of dogs may begin to use this site for recreational purposes. Visitation by this user group would be expected to increase at this site.

Since dogs would not be allowed at this site the impacts to commercial dog walkers are similar to the impacts discussed above for visitors who would prefer to walk dogs at the park.

Cumulative Impacts. There are no known projects or actions that have had, are currently having, or will have effects on visitor use and experience in the vicinity of this park site and there is the potential for unknown or unidentified projects or actions to occur during the life of this plan. As a result, cumulative impacts are considered negligible because they cannot be accurately assessed for this site. Therefore, no alteration to the results of the impact assessment are expected for any of the alternative actions proposed for the site and the results of the impact analysis for alternative B will be the only contributing factor to the cumulative impact analysis for visitor use and experience under alternative B. Under alternative B it was determined that there would be long-term, minor, and adverse impacts to the visitor use and experience for visitors who prefer dogs at the park. Impacts to the visitor use and experience for visitors who do not prefer dogs at the park are beneficial under alternative B.

Indirect Impacts on Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation under alternative B, particularly Golden Gate Park's North and South Central Areas, because they are the closest dog use areas. All three sites allow off-leash dog walking. Since visitors would no longer be allowed at Fort Miley, some visitors who are looking for an off-leash experience may begin dog walking activities at one of the adjacent areas. Therefore, indirect impacts on visitor experience in adjacent lands would be expected due to increased visitor use. Indirect impacts would be negligible since Fort Miley is a low use site for dog walking.

FORT MILEY ALTERNATIVE B CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Long-term minor adverse impacts for visitors who would prefer to walk dogs at the park	No dog walking would be allowed; site is low use area for dog walkers	Long-term minor adverse cumulative impacts for visitors who would prefer to walk dogs at the park
Beneficial impacts for visitors who would prefer not to have dog walking at the park, assuming compliance	Dog walking would no longer be allowed on site; a no-dog experience would be available	Beneficial cumulative impacts for visitors who would prefer not to have dog walking at the park
		Negligible indirect impacts in adjacent lands

Alternative C: Emphasis on Multiple Use, Balanced by County. Under alternative C, on-leash dog walking would be allowed only in the trail corridor along the east edge of East Fort Miley.

Impacts on visitors who would prefer to walk dogs at the park would be long term, minor, and adverse. Dogs would no longer be allowed in West Fort Miley and on-leash dog walking would be restricted to a trail corridor in East Fort Miley. Dogs would no longer be allowed to run off leash throughout the entire site. Because dog walking would be required to be on leash and the area available for dog walking would be reduced, adverse impacts would be expected for visitors who enjoy watching and playing with dogs off leash. Dog owners may also feel that their pets are not receiving adequate exercise when restrained on a 6-foot leash. Visitors looking for a place to walk their dogs off leash would have to use other park sites. Impacts would be minor since the area is considered a low use area for dog walking. Visitation by this user group would likely remain the same at this site.

Impacts on visitors who would prefer not to have dog walking at this park site would be beneficial. Since dogs would be required to be on leash, visitors would no longer encounter off-leash dogs. This alternative would provide visitors the opportunity for recreational experiences without the presence of dogs in West Fort Miley. This alternative would separate dog walkers from other user groups such as ropes course users, school groups, and picnickers. A no-dog experience would be provided in the picnic areas at both East and West Fort Miley. Visitation by this user group would have the potential to increase, since visitors who previously avoided the site because of the presence of dogs may begin to use Fort Miley.

Under alternative C, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be granted at Fort Miley, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking activity is not common at this site, it is likely that commercial dog walking would have negligible impacts on both visitors who would prefer to walk dogs at the park and visitors who would prefer not to have dog walking at the park.

Cumulative Impacts. There are no known projects or actions that have had, are currently having, or will have effects on visitor use and experience in the vicinity of this park site and there is the potential for unknown or unidentified projects or actions to occur during the life of this plan. As a result, cumulative impacts are considered negligible because they cannot be accurately assessed for this site. Therefore, no alteration to the results of the impact assessment are expected for any of the alternative actions proposed for the site and the results of the impact analysis for alternative C will be the only contributing factor to the cumulative impact analysis for visitor use and experience under alternative C. There would be long-term minor adverse impacts on the visitor use and experience of visitors who would prefer to walk dogs at the park under alternative C. Impacts on the visitor use and experience of visitors who would prefer not to have dog walking at the park would be beneficial under alternative C.

Indirect Impacts on Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation under alternative C. Since visitors would no longer be allowed to walk dogs off leash and would be limited to one trail for on-leash dog walking, some visitors who are looking for an off-leash experience may begin dog walking activities at one of the adjacent areas. Therefore, indirect impacts on visitor experience in adjacent lands would be expected due to increased visitor use. Since this is a low use site for dog walkers, indirect impacts would be predicted to be negligible.

FORT MILEY ALTERNATIVE C CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Long-term minor adverse impacts for visitors who would prefer to walk dogs at the park	Off-leash dog walking would no longer be allowed; area for on-leash dog walking would be reduced	Long-term minor adverse cumulative impacts for visitors who would prefer to walk dogs at the park
Beneficial impacts for visitors who would prefer not to have dog walking at the park, assuming compliance	Dog walking under voice control would no longer be allowed; a no-dog experience would be available	Beneficial cumulative impacts for visitors who would prefer not to have dog walking at the park
		Negligible indirect impacts in adjacent lands

Alternative D: Overall Most Protective of Resources/Visitor Safety. Restrictions on dog walking under alternative D would be the same as under alternative B and impacts on visitor use and experience would also be the same: long term, minor, and adverse for visitors who would prefer to walk dogs at the park and beneficial for visitors who would prefer not to have dog walking at this park site.

Since dogs would not be allowed at this site the impacts to commercial dog walkers are similar to the impacts discussed above in alternative B for visitors who would prefer to walk dogs at the park.

Cumulative Impacts. There are no known projects or actions that have had, are currently having, or will have effects on visitor use and experience in the vicinity of this park site and there is the potential for unknown or unidentified projects or actions to occur during the life of this plan. As a result, cumulative impacts are considered negligible because they cannot be accurately assessed for this site. Therefore, no alteration to the results of the impact assessment are expected for any of the alternative actions proposed for the site and the results of the impact analysis for alternative D will be the only contributing factor to the cumulative impact analysis for visitor use and experience under alternative D.

The cumulative impacts on visitor use and experience at this park site and the indirect impacts in adjacent lands under alternative D would be the same as those under alternative B: long-term minor adverse cumulative impacts on visitors who would prefer to walk dogs at the park, beneficial impacts on visitors who would prefer not to have dog walking at the park. Negligible indirect impacts on visitor experience in adjacent lands are expected.

FORT MILEY ALTERNATIVE D CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Long-term minor adverse impacts for visitors who would prefer to walk dogs at the park	Dog walking would no longer be allowed on site; site is low use area for dog walking	Long-term minor adverse cumulative impacts for visitors who would prefer to walk dogs at the park
Beneficial impacts for visitors who would prefer not to have dog walking at the park, assuming compliance	Dog walking would no longer be allowed on site; a no-dog experience would be available	Beneficial cumulative impacts for visitors who would prefer not to have dog walking at the park
		Negligible indirect impacts in adjacent lands

Alternative E: Overall Most Dog Walking Access/Most Management Intensive. Under alternative E, dog walking under voice and sight control would be allowed in a ROLA in the trail corridor along the east

edge of East Fort Miley. On-leash dog walking would be allowed only on the trail through West Fort Miley.

Impacts on visitors who would prefer to walk dogs at this park site would be long term, minor, and adverse. Visitors with dogs would be restricted to a ROLA in the trail corridor along the east edge of East Fort Miley and could walk their dogs on leash along the trail in West Fort Miley. Dogs would still have the opportunity to exercise and socialize, but in a controlled area. The ROLA would be easily accessible by residents of the neighborhood surrounding Fort Miley. Although this alternative would provide more area for dog walking than alternatives B, C, and D, impacts would still be minor and adverse since the area available would be considerably smaller than the current conditions. Visitation by this user group may decrease at this site.

Impacts on visitors who would prefer not to have dog walking at this park site would be beneficial. Multiple areas in East and West Fort Miley would be available for a no-dog experience. Some visitors may feel more comfortable recreating at Fort Miley. Visitation by this user group may increase.

Under alternative E, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be granted at Fort Miley, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person, or under voice and sight control in the ROLA. Since commercial dog walking is not common at this site, it is likely that commercial dog walking would have negligible impacts on both visitors who would prefer to walk dogs at the park and visitors who would prefer not to have dog walking at the park.

Cumulative Impacts. There are no known projects or actions that have had, are currently having, or will have effects on visitor use and experience in the vicinity of this park site and there is the potential for unknown or unidentified projects or actions to occur during the life of this plan. As a result, cumulative impacts are considered negligible because they cannot be accurately assessed for this site. Therefore, no alteration to the results of the impact assessment are expected for any of the alternative actions proposed for the site and the results of the impact analysis for alternative E will be the only contributing factor to the cumulative impact analysis for visitor use and experience under alternative E. There would be long-term minor adverse impacts on the visitor use and experience of visitors who would prefer to walk dogs at the park under alternative E. Impacts on the visitor use and experience of visitors who would prefer not to have dog walking at the park would be beneficial under alternative E.

Indirect Impacts on Adjacent Parks

The adjacent lands identified under alternative A would not experience increased visitation under alternative E. Since a ROLA would be available for dog walking under voice and sight control, it is likely that visitors would continue dog walking at Fort Miley. There would be no indirect impacts on visitor experience in adjacent lands due to increased visitor use.

FORT MILEY ALTERNATIVE E CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Long-term minor adverse impacts for visitors who would prefer to walk dogs at the park	Dog walking under voice and sight control would be limited to one area	Long-term minor adverse cumulative impacts for visitors who would prefer to walk dogs at the park

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Beneficial impacts for visitors who would prefer not to have dog walking at the park, assuming compliance	Dog walking under voice and sight control would be limited to one area; a no-dog experience would be available	Beneficial cumulative impacts for visitors who would prefer not to have dog walking at the park
		No indirect impacts in adjacent lands

Preferred Alternative. Alternative C was selected as the preferred alternative for Fort Miley. On-leash dog walking would be allowed only in the trail corridor along the east edge of East Fort Miley.

Impacts on visitors who would prefer to walk dogs at the park would be long term, minor, and adverse. Dogs would no longer be allowed in West Fort Miley and on-leash dog walking would be restricted to a trail corridor in East Fort Miley. Dogs would no longer be allowed to run off leash throughout the entire site. Because dog walking would be required to be on leash and the area available for dog walking would be reduced, adverse impacts would be expected for visitors who enjoy watching and playing with dogs off leash. Dog owners may also feel that their pets are not receiving adequate exercise when restrained on a 6-foot leash. Visitors looking for a place to walk their dogs off leash would have to use other park sites. Impacts would be minor since the site is considered a low use area for dog walking. Visitation by this user group would likely remain the same at this site.

Impacts on visitors who would prefer not to have dog walking at this park site would be beneficial. Since dogs would be required to be on leash, visitors would no longer encounter off-leash dogs. This alternative would provide visitors the opportunity for recreational experiences without the presence of dogs in West Fort Miley. This alternative would separate dog walkers from other user groups, such as ropes course users, school groups, and picnickers. A no-dog experience would be provided in the picnic areas at both East and West Fort Miley. Visitation by this user group would have the potential to increase, since visitors who previously avoided the site because of the presence of dogs may begin to use Fort Miley.

All dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be granted at Fort Miley, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking is not common at this site, it is likely that commercial dog walking would have negligible impacts on both visitors who would prefer to walk dogs at the park and visitors who would prefer not to have dog walking at the park.

Cumulative Impacts. There are no known projects or actions that have had, are currently having, or will have effects on visitor use and experience in the vicinity of this park site and there is the potential for unknown or unidentified projects or actions to occur during the life of this plan. As a result, cumulative impacts are considered negligible because they cannot be accurately assessed for this site. Therefore, no alteration to the results of the impact assessment are expected for any of the alternative actions proposed for the site and the results of the impact analysis for the preferred alternative will be the only contributing factor to the cumulative impact analysis for visitor use and experience under the preferred alternative. There would be long-term minor adverse impacts on the visitor use and experience of visitors who would prefer to walk dogs at the park under the preferred alternative. Impacts on the visitor use and experience of visitors who would prefer not to have dog walking at the park would be beneficial under the preferred alternative.

Indirect Impacts on Adjacent Parks

In lands adjacent to GGNRA, there are 36 parks with dog use areas within about a 10-mile radius of East and West Fort Miley and 13 parks within about a 5-mile radius; the closest parks are Golden Gate Park—North Central Area and Golden Gate Park—South Central Area (map 27). Golden Gate Park’s North and South Central Areas allow off-leash dog walking. The adjacent lands may experience increased visitation under the preferred alternative. Since visitors would no longer be allowed to walk dogs off leash and would be limited to one trail for on-leash dog walking, some visitors who are looking for an off-leash experience may begin dog walking activities at one of the adjacent areas. Therefore, indirect impacts on visitor experience in adjacent lands would be expected due to increased visitor use. Since this is a low use site for dog walkers, indirect impacts would be predicted to be negligible.

FORT MILEY PREFERRED ALTERNATIVE CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Long-term minor adverse impacts for visitors who would prefer to walk dogs at the park	Off-leash dog walking would no longer be allowed; area for on-leash dog walking would be reduced	Long-term minor adverse cumulative impacts for visitors who would prefer to walk dogs at the park
Beneficial impacts for visitors who would prefer not to have dog walking at the park, assuming compliance	Dog walking under voice control would no longer be allowed; a no-dog experience would be available	Beneficial cumulative impacts for visitors who would prefer not to have dog walking at the park
		Negligible indirect impacts in adjacent lands

Lands End

Alternative A: No Action. Currently, dogs are allowed under voice control throughout Lands End. Visitation by dog walkers, hikers, and bicyclists is usually low to moderate at this site (table 9). Pet-related violations included two leash law violations and two dog bites/attacks (table 9). Because of safety concerns (steep cliffs, poison-oak, ticks) many dog walkers tend to keep their pets on leash. Four pet rescues occurred in 2007 (table 9). Visitor use in this area has increased since restoration activities and ADA-accessibility upgrades to the Coastal Trail were completed in 2008. Visitation at this park site would be expected to increase once the proposed visitor center is completed.

There would be no impact on visitors who would prefer to walk dogs at the park under the no-action alternative. Visitors would continue to walk dogs both on and off leash throughout the site. Dogs would continue to receive exercise and socialize with the other dogs and people throughout the area. Having dogs off leash and playing throughout the area may add to the park experience for visitors with dogs. No change in visitation by this user group at Lands End would be expected.

Impacts on visitors who would prefer not to have dog walking at this park site would be long term, minor, and adverse. Dog walking under voice control would continue throughout the site. Visitors would continue to encounter both on-leash dogs and dogs under voice control at this site. Impacts would be minor since the number of dogs in the area is typically low to moderate. This site would not offer visitors a no-dog experience under alternative A. Some pedestrians and hikers may prefer dogs to be walked on leash for safety reasons. Some visitors may feel uncomfortable around off-leash dogs and would prefer a no-dog experience, so they would continue to avoid the Lands End site. Visitation by this user group would have the potential to decrease.

Under alternative A, no permit system exists for dog walking. At Lands End, commercial dog walking is uncommon. The impacts from commercial dog walkers to visitor experience are similar to the impacts discussed above for both visitors who would prefer to walk dogs at the park and visitors who would prefer not to have dog walking at this park site.

Cumulative Impacts. Projects and actions in and near Lands End were considered for the cumulative impacts analysis (appendix K). Efforts by Park Stewardship Programs at Lands End included development of a new promenade and overlook as well as resurfacing and stabilizing segments of the trail, eliminating damaged social trails, replanting native species in the local forest and surrounding areas, and engaging the community in park stewardship (GGNPC 2010a, 1).

Park Stewardship Programs development and restoration efforts have created beneficial impacts on visitor experience this park site. In addition, a future visitor center is planned for Lands End. This would likely increase and enhance visitation in the future for all visitors including both user groups that are the focus of this plan/EIS.

Restoration projects at Lands End will result in enhanced aesthetics; improved trails and visitor amenities and recreational enjoyment for all visitors to Land End. All visitors, including both user groups would enjoy the enhanced viewshed of restored habitat and improved trails and safety that results from the trail improvements and would increase visitation to Lands End for all visitors including both user groups. Alternative A would allow dogs under voice control at Lands End and, with an increase visitation, encounters with dogs for visitors who prefer not to have dog walking at the site could alter the intensity of impacts expected under alternative A from long-term minor adverse to moderate and adverse, especially for visitors using the trail system at the site. Those visitors who would prefer to walk dogs at the site would benefit from the improved trails.

Indirect Impacts on Adjacent Parks

In lands adjacent to GGNRA, there are 35 parks with dog use areas within about a 10-mile radius of Lands End and 11 parks within about a 5-mile radius; the closest parks are Golden Gate Park—North Central Area and Golden Gate Park—South Central Area (map 27). Both parks allow off-leash dog walking. No indirect impacts on visitor experience in adjacent lands would be expected under alternative A since there would be no change in current conditions at the site.

LANDS END ALTERNATIVE A CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
No impact for visitors who would prefer to walk dogs at the park	Dog walking would still be allowed on site, both on leash and off leash	Beneficial cumulative impacts for visitors who would prefer to walk dogs
Long-term minor adverse impacts for visitors who would prefer not to have dog walking at the park	Visitors would still encounter dogs throughout the site	Negligible cumulative impacts for visitors who would prefer not to have dog walking at the park
		No indirect impacts in adjacent lands

Alternative B: NPS Leash Regulations. Under alternative B, on-leash dog walking would be allowed on the El Camino del Mar Trail and the Coastal Trail. On-leash dog walking would be based on an allowed 6-foot dog leash.

Impacts on visitors who would prefer to walk dogs at the park would be long term, minor, and adverse. Dogs would no longer be allowed to run off leash throughout the entire site. Because dog walking would be required to be on leash and the area available for dog walking would be reduced to two designated trails, adverse impacts would be expected for visitors who enjoy watching and playing with dogs off leash. Dog owners may also feel that their pets are not receiving adequate exercise when restrained on a 6-foot leash. Some visitors in this user group may find a different park to exercise their dogs off leash. As a result, visitation by local residents may decrease slightly in this area.

Impacts on visitors who would prefer not to have dog walking at the site would be beneficial. Since dogs would be required to be on leash, visitors would no longer encounter dogs under voice control. Since dogs would only be allowed on two trails, the opportunity for a no-dog experience would exist. Since dogs would no longer be off leash some visitors, especially bicyclists, may feel more comfortable using the trails at the site. Visitor incidents between user groups (dog bites/attacks) may decrease. Visitation by this user group would have the potential to increase.

Under alternative B, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs on leash per person with no permit required. Since commercial dog walking is not common at Lands End, it is likely that commercial dog walking would have negligible impacts on both visitors who would prefer to walk dogs at the park and visitors who would prefer not to have dog walking at the park.

Cumulative Impacts. Projects at Lands End will result in enhanced aesthetics; improved trails and visitor amenities and recreational enjoyment for all visitors to Land End. All visitors, including both user groups would enjoy the enhanced viewshed of restored habitat and improved trails and safety that results from the trail improvements and would increase visitation to Lands End for all visitors including both user groups. Alternative B would allow dogs on leash on specifically designated trails that with a predicted increase in visitation would continue to result in encounters with dogs for visitors who prefer not to have dog walking at the site; however, dogs would be restricted to designated areas and by a leash. As a result, visitors who prefer not to have dog walking at the site would continue to benefit under alternative B. Although visitors who would prefer to walk dogs at the site would benefit from the improved trails, they would be restricted to designated trails and to on-leash dog walking and as a result, any enhancements and resulting from the project at Lands End would not significantly alter their visitor experience; expected impacts would remain long-term, minor and adverse.

Indirect Impacts on Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation under alternative B, since dog walking under voice control would no longer be allowed at Lands End and some visitors looking for an off-leash experience may begin dog walking activities at the adjacent parks. Therefore, indirect impacts on visitor experience in adjacent lands would be expected due to increased visitor use. Indirect impacts would be predicted to be negligible, since dog walking would still be allowed at Lands End and dog walking is currently considered a low to moderate use.

LANDS END ALTERNATIVE B CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Long-term minor adverse impacts for visitors who would prefer to walk dogs at the park	Dog walking under voice control would no longer be allowed; on-leash dog walking would be limited to two trails	Negligible cumulative impacts for visitors who would prefer to walk dogs at the park

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Beneficial impacts for visitors who would prefer not to have dog walking at the park, assuming compliance	Dog walking under voice control would no longer be allowed; a no-dog experience would be available	Beneficial cumulative impacts for visitors who would prefer not to have dog walking at the park
		Negligible indirect impacts in adjacent lands

Alternative C: Emphasis on Multiple Use, Balanced by County. Dog walking under voice and sight control would be allowed only in a ROLA established along the El Camino del Mar Trail. On-leash dog walking would be allowed along the Coastal Trail and the steps connecting to the El Camino del Mar Trail. On-leash dog walking would be based on an allowed 6-foot dog leash.

Impacts on visitors who would prefer to walk dogs at the park would be negligible. The area for dog walking under voice control would be reduced to a ROLA along the El Camino del Mar Trail. Impacts would be negligible since this area is not heavily used by dog walkers. Visitation by this user group would likely remain the same.

Impacts on visitors who would prefer not to have dog walking at this park site would be beneficial. Dogs would be required to be on leash throughout most of the site. Therefore, visitors may feel more comfortable recreating at this site since dogs would be restrained. Dog walking under voice and sight control would be reduced to only one trail, which could easily be avoided by visitors who would prefer to be away from dogs. Additionally, alternative C would allow an opportunity for a no-dog experience in some areas. Visitation by this user group could increase.

Under alternative C, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be granted at Lands End, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person, or under voice and sight control in the ROLA. Since commercial dog walking at Lands End is not common, it is likely that commercial dog walking would have negligible impacts on both visitors who would prefer to walk dogs at the park and visitors who would prefer not to have dog walking at the park.

Cumulative Impacts. As stated previously, projects at Lands End will result in enhanced aesthetics; improved trails and visitor amenities and recreational enjoyment for all visitors to Land End and visitation could increase. Alternative C would allow dogs on leash on specifically designated trails and a ROLA on the El Camino del Mar Trail that with a predicted increase in visitation would continue to result in encounters with dogs for visitors who prefer not to have dog walking at the site; dogs would be restrained by a leash and the ROLA could be avoided; however; the visitor experience for visitors who prefer not to have dog walking at the park could be decreased. Impacts to this group could increase to long-term minor and adverse if noncompliance becomes problematic. Visitors who would prefer to walk dogs at the site would benefit from the improved trails, as well as the availability of a ROLA despite the restriction of on-leash dog walking in on designated trails.

Indirect Impacts on Adjacent Parks

Under alternative C, an increase in visitation at the adjacent parks identified under alternative A would not be expected. Since a ROLA would be established at Lands End, visitors would likely continue to use Lands End for dog walking activities. There would be no indirect impacts on visitor experience in adjacent lands due to increased visitor use.

LANDS END ALTERNATIVE C CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Negligible impacts for visitors who would prefer to walk dogs at the park	Dog walking would still be allowed on site; dog walking under voice and sight control would be allowed in one area	Beneficial cumulative impacts for visitors who would prefer to walk dogs at the park
Beneficial impacts for visitors who would prefer not to have dog walking at the park, assuming compliance	Dog walking under voice and sight control would be restricted to one area; a no-dog experience would be available	Beneficial cumulative impacts for visitors who would prefer not to have dog walking at the park
		No indirect impacts in adjacent lands

Alternative D: Overall Most Protective of Resources/Visitor Safety. Alternative D would be the most restrictive for dog walking in the site. On-leash dog walking would be available on the El Camino del Mar Trail and a portion of the Coastal Trail as well as the connector trail/steps leading to the El Camino del Mar Trail. No off-leash dog walking would be available.

Impacts on visitors who would prefer to walk dogs at the park would be long term, minor, and adverse. This alternative offers the least amount of area for dog walking. A large portion of the Coastal Trail would no longer be accessible to visitors with dogs. In addition, there would be no voice-control dog walking area for visitors to let their dogs run and socialize with other dogs. Adverse impacts would be expected for visitors who enjoy watching and playing with dogs off leash. Dog owners may also feel that their pets are not receiving adequate exercise when restrained on a 6-foot leash. Impacts would be minor since the area typically is not used by very many dog walkers. Some visitors in this user group may find a different park to exercise their dogs off leash. As a result, visitation by local residents may decrease slightly in this area.

Impacts on visitors who would prefer not to have dog walking at the park site would be beneficial. This alternative would provide most of the Coastal Trail as an area for recreation without the presence of dogs. In addition, dogs under voice control would no longer be present on the trails at this site and incidents between user groups would likely diminish. Visitation by this user group would likely increase.

No commercial dog walking would be allowed under alternative D. Private dog walkers would be allowed up to three dogs. Since commercial dog walking is not common at Land End, it is likely that prohibiting commercial dog walking from this site would have negligible impacts on both visitors who would prefer to walk dogs at the park and visitors who would prefer not to have dog walking at the park.

Cumulative Impacts. Projects at Lands End will result in enhanced aesthetics; improved trails and visitor amenities and recreational enjoyment for all visitors to Land End. All visitors, including both user groups would enjoy the enhanced viewshed of restored habitat and improved trails and safety that results from the trail improvements and would increase visitation to Lands End for all visitors including both user groups. Alternative D is the most restrictive of the dog management alternatives proposed at Lands End and would provide a benefit to visitors who prefer not to have dog walking at the park. This benefit would cumulatively be enhanced by the projects at Lands End. Visitors who would prefer to walk dogs at the site would benefit from the improved trails; however, they would be restricted to designated trails and to on-leash dog walking and as a result, enhancements resulting from the projects at Lands End would not significantly add to their visitor experience; expected impacts would remain long-term, minor and adverse.

Indirect Impacts on Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation under alternative D, since dog walking under voice control would no longer be allowed at Lands End and some visitors looking for an off-leash experience may begin dog walking activities at the adjacent parks. Therefore, indirect impacts on visitor experience in adjacent lands would be expected due to increased visitor use. Indirect impacts would be predicted to be negligible, since dog walking would still be allowed at Lands End and dog walking is currently considered a low to moderate use.

LANDS END ALTERNATIVE D CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Long-term minor adverse impacts for visitors who would prefer to walk dogs at the park	Dog walking under voice control would no longer be allowed; on-leash dog walking would be limited to designated areas	Long-term minor adverse cumulative impacts for visitors who would prefer to walk dogs at the park
Beneficial impacts for visitors who would prefer not to have dog walking at the park, assuming compliance	Dog walking under voice control would no longer be allowed; a no-dog experience would be available	Beneficial cumulative impacts for visitors who would prefer not to have dog walking at the park
		Negligible indirect impacts in adjacent lands

Alternative E: Overall Most Dog Walking Access/Most Management Intensive. Restrictions on dog walking under alternative E would be the same as under alternative C and impacts on visitor use and experience would also be the same: negligible for visitors who would prefer to walk dogs at the park and beneficial for visitors who would prefer not to have dog walking at Lands End.

Under alternative E, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be granted at Lands End, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person, or under voice and sight control in the ROLA. Since commercial dog walking activity at Lands End is not common, it is likely that commercial dog walking would have negligible impacts on both visitors who would prefer to walk dogs at the park and visitors who would prefer not to have dog walking at the park.

Cumulative Impacts. The cumulative impacts on visitor use and experience at this park site and the indirect impacts in adjacent lands under alternative E would be the same as those under alternative C: beneficial cumulative impacts on both user groups and no indirect impacts on visitor experience in adjacent lands.

LANDS END ALTERNATIVE E CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Negligible impacts for visitors who would prefer to walk dogs at the park	Dog walking would still be allowed on site; dog walking under voice and sight control would be allowed in one area	Beneficial cumulative impacts for visitors who would prefer to walk dogs at the park

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Beneficial impacts for visitors who would prefer not to have dog walking at the park, assuming compliance	Dog walking under voice and sight control would be restricted to one area; a no-dog experience would be available	Beneficial cumulative impacts for visitors who would prefer not to have dog walking at the park
		No indirect impacts in adjacent lands

Preferred Alternative. Alternative B was selected as the preferred alternative for Lands End. Under the preferred alternative, on-leash dog walking would be allowed on the El Camino del Mar Trail and the Coastal Trail. On-leash dog walking would be based on an allowed 6-foot dog leash.

Impacts on visitors who would prefer to walk dogs at the park would be long term, minor, and adverse. Dogs would no longer be allowed to run off leash throughout the entire site. Because dog walking would be required to be on leash and the area available for dog walking would be reduced to two designated trails, adverse impacts would be expected for visitors who enjoy watching and playing with dogs off leash. Dog owners may also feel that their pets are not receiving adequate exercise when restrained on a 6-foot leash. Some visitors in this user group may find a different park to exercise their dogs off leash. As a result, visitation by local residents may decrease slightly in this area.

Impacts on visitors who would prefer not to have dog walking at the site would be beneficial. Since dogs would be required to be on leash, visitors would no longer encounter dogs under voice control. Since dogs would only be allowed on two trails, the opportunity for a no-dog experience would exist. Since dogs would no longer be off leash some visitors, especially bicyclists, may feel more comfortable using the trails at the site. Visitor incidents between user groups (dog bites/attacks) may decrease. Visitation by this user group would have the potential to increase.

Alternative C was selected as the preferred alternative for permits at all sites. All dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be granted at Lands End, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking at Lands End is not common, it is likely that commercial dog walking would have a negligible impact on both visitors who would prefer to walk dogs at the park and visitors who would prefer not to have dog walking at the park.

Cumulative Impacts. Projects and actions in and near Lands End were considered for the cumulative impacts analysis (appendix K). The efforts of Park Stewardship Programs at Lands End included development of a new promenade and overlook as well as resurfacing and stabilizing segments of the trail, eliminating damaged social trails, replanting native species in the local forest and surrounding areas, and engaging the community in park stewardship (GGNPC 2010a, 1). The Park Stewardship Programs development and restoration efforts have created beneficial impacts on visitor experience this park site. In addition, a future visitor center is planned for Lands End.

Projects at Lands End will result in enhanced aesthetics; improved trails and visitor amenities and recreational enjoyment for all visitors to Land End. All visitors, including both user groups would enjoy the enhanced viewshed of restored habitat and improved trails and safety that results from the trail improvements and would increase visitation to Lands End for all visitors including both user groups. The preferred alternative would allow dogs on leash on specifically designated trails that with a predicted increase in visitation would continue to result in encounters with dogs for visitors who prefer not to have dog walking at the site; however, dogs would be restricted to designated areas and by a leash. As a result,

visitors who prefer not to have dog walking at the site would continue to benefit under the preferred alternative. Although visitors who would prefer to walk dogs at the site would benefit from the improved trails, they would be restricted to designated trails and to on-leash dog walking and as a result, any enhancements and resulting from the project at Lands End would not significantly alter their visitor experience; expected impacts would remain long-term, minor and adverse.

Indirect Impacts on Adjacent Parks

In lands adjacent to GGNRA, there are 35 parks with dog use areas within about a 10-mile radius of Lands End and 11 parks within about a 5-mile radius; the closest parks are Golden Gate Park—North Central Area and Golden Gate Park—South Central Area (map 27). Both parks allow off-leash dog walking. The adjacent lands may experience increased visitation under the preferred alternative, since dog walking under voice control would no longer be allowed at Lands End and some visitors looking for an off-leash experience may begin dog walking activities at the adjacent parks. Therefore, indirect impacts on visitor experience in adjacent lands would be expected due to increased visitor use. Indirect impacts would be predicted to be negligible, since dog walking would still be allowed at Lands End and dog walking is currently considered a low to moderate use.

LANDS END PREFERRED ALTERNATIVE CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Long-term minor adverse impacts for visitors who would prefer to walk dogs at the park	Dog walking under voice control would no longer be allowed; on-leash dog walking would be limited to two trails	Negligible cumulative impacts for visitors who would prefer to walk dogs at the park
Beneficial impacts for visitors who would prefer not to have dog walking at the park, assuming compliance	Dog walking under voice control would no longer be allowed; a no-dog experience would be available	Beneficial cumulative impacts for visitors who would prefer not to have dog walking at the park
		Negligible indirect impacts in adjacent lands

Sutro Heights Park

Alternative A: No Action. On-leash dog walking is required throughout Sutro Heights Park. This site is mainly used for formal events such as weddings and other special events due to the existing formal garden landscaping. Dog walking is considered a low visitor use at this site; however, noncompliance with the leash law does occur. Over 30 leash law violations were documented in 2007/2008 (table 9).

There would be no impact on visitors who would prefer to walk dogs at the park under the no-action alternative. Visitors would continue to have access to on-leash dog walking in many areas of the site, and some visitors would continue to ignore the leash law and walk their dogs off leash. Visitation by this user group would remain the same at this site.

Impacts on visitors who would prefer not to have dog walking at the park would be long term, minor, and adverse. Visitors would continue to encounter both on-leash dogs and dogs under voice control at this site, even though leashes would be required at the site. Dog waste could be an aesthetic issue at this site, especially during the formal events held at the park. Visitation by this user group could decrease.

Under alternative A, no permit system exists for dog walking. At Sutro Heights Park, commercial dog walking is uncommon. The impacts from commercial dog walkers to visitor experience are similar to the

impacts discussed above for both visitors who would prefer to walk dogs at the park and visitors who would prefer not to have dog walking at this park site.

Cumulative Impacts. Projects and actions in and near Sutro Heights Park were considered for the cumulative impacts analysis (appendix K). The only known project in the area is the restoration and dune stabilization efforts at Sutro Dunes, which involved the planting of native vegetation (San Francisco Examiner 2009, 1). The restoration of habitat benefits the aesthetics of Sutro Dunes results in beneficial impacts on visitor use and experience for all visitors to Sutro Heights Park; however, since this project was focused on habitat restoration and is not directly related to dog management or dog-related visitor use, the projects would not significantly affect the cumulative analysis for alternative A. Therefore, cumulative effects would not be measurable or perceptible on alternative A and no change in impact level or intensity is expected on either user group: negligible for those who prefer to walk dogs and long-term minor and adverse for those visitors who prefer not to have dogs at the site.

Indirect Impacts on Adjacent Parks

In lands adjacent to GGNRA, there are 36 parks with dog use areas within about a 10-mile radius of Sutro Heights Park and 10 parks within about a 5-mile radius; the closest parks are Golden Gate Park—North Central Area and Golden Gate Park—South Central Area (map 27). Both parks allow off-leash dog walking. No indirect impacts on visitor experience in adjacent lands would be expected due to increased visitor use under alternative A since there would be no change in current conditions at the site.

SUTRO HEIGHTS PARK ALTERNATIVE A CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
No impact for visitors who would prefer to walk dogs at the park	On-leash dog walking would still be allowed on site	Negligible cumulative impacts for visitors who would prefer to walk dogs at the park
Long-term minor adverse impacts for visitors who would prefer not to have dog walking at the park	Visitors would still encounter dogs throughout the site	Long-term minor adverse cumulative impacts for visitors who would prefer not to have dog walking at the park
		No indirect impacts in adjacent lands

Alternative B: NPS Leash Regulations. On-leash dog walking would be allowed only on the paths, and the parapet at Sutro Heights Park. Dogs would no longer be allowed on the lawns at the site.

Impacts on visitors who would prefer to walk dogs at the park would be long term, minor, and adverse. The amount of area available to dogs would be reduced to the parapet, and the paths at the site. Impacts would be minor since dogs would still be welcome at this park site and visitation by this user group is typically low. Visitation by this user group would not be expected to change.

Impacts on visitors who would prefer not to have dog walking at this park site would be beneficial. This alternative would provide many areas throughout the park site for visitors to experience the park without the presence of dogs. The amount of dog waste in the park would be expected to be reduced, especially in areas where dogs would no longer be allowed. Visitors would no longer encounter the occasional off-leash dog. Visitation by this user group may increase at this site under alternative B.

Under alternative B, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs on leash per person with no permit required. Since commercial dog walking at Sutro Heights

Park is not common, it is likely that commercial dog walking would have negligible impacts on both visitors who would prefer to walk dogs at the park and visitors who would prefer not to have dog walking at the park.

Cumulative Impacts. The restoration of habitat benefits the aesthetics of Sutro Dunes and results in beneficial impacts on visitor use and experience for all visitors to Sutro Heights Park; however, since this project was focused on habitat restoration and is not directly related to dog management or dog-related visitor use, the projects would not significantly affect the cumulative analysis for alternative B. Therefore, cumulative effects would not be measurable or perceptible on alternative B and no change in impact level or intensity is expected on either user group: long-term minor adverse for those who prefer to walk dogs and beneficial for those visitors who prefer not to have dogs at the site.

Indirect Impacts on Adjacent Parks

The adjacent lands identified under alternative A would not be expected to experience increased visitation under alternative B. Although less area would be available for on-leash dog walking, it is likely that visitors would still use Sutro Heights Park for dog walking activities. Therefore, no indirect impacts on visitor experience in adjacent lands due to increased visitor use would be expected.

SUTRO HEIGHTS PARK ALTERNATIVE B CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Long-term minor adverse impacts for visitors who would prefer to walk dogs at the park	Areas for dog walking would be limited to designated areas	Long-term minor adverse cumulative impacts for visitors who would prefer to walk dogs at the park
Beneficial impacts for visitors who would prefer not to have dog walking at the park, assuming compliance	A no-dog experience would be available	Beneficial cumulative impacts for visitors who would prefer not to have dog walking at the park
		No indirect impacts in adjacent lands

Alternative C: Emphasis on Multiple Use, Balanced by County. Restrictions on dog walking under alternative C would be similar to alternative B, and impacts on visitor use and experience would be the same: long term, minor, and adverse for visitors who would prefer to walk dogs at the park and beneficial for visitors who would prefer not to have dog walking at this park site.

Under alternative C, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be granted at Sutro Heights Park, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking is not common at this site, it is likely that commercial dog walking would have negligible impacts on both visitors who would prefer to walk dogs at the park and visitors who would prefer not to have dog walking at the park.

Cumulative Impacts Under alternative C, the cumulative impacts on visitor use and experience at this park site and the indirect impacts to adjacent lands would be the same those under alternative B: long-term, minor, adverse impacts to visitors who prefer dogs and beneficial impacts to visitors who do not prefer dogs, and no indirect impact to the visitor experience at adjacent lands.

SUTRO HEIGHTS PARK ALTERNATIVE C CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Long-term minor adverse impacts for visitors who would prefer to walk dogs at the park	On-leash dog walking would be limited	Long-term minor adverse cumulative impacts for visitors who would prefer to walk dogs at the park
Beneficial impacts for visitors who would prefer not to have dog walking at the park, assuming compliance	A no-dog experience would be available	Beneficial cumulative impacts for visitors who would prefer not to have dog walking at the park
		No indirect impacts in adjacent lands

Alternative D: Overall Most Protective of Resources/Visitor Safety. Under alternative D, dogs would no longer be allowed at Sutro Heights Park.

Impacts on visitors who would prefer to walk dogs at the park would be long term, minor, and adverse. Although this would be the most restrictive of the all alternatives, impacts would still be minor since dog walking is typically low at this site. In addition, visitors who have used the area for dog walking could use other immediately adjacent areas, such as Lands End and Ocean Beach. Visitation by this user group would no longer occur.

Impacts on visitors who would prefer not to have dog walking at the park would be beneficial. Visitors would no longer encounter dogs at this park site. The entire site would be available for a no-dog experience. Visitors who would prefer not to have dog walking at the park may feel more comfortable recreating at Sutro Heights Park since dogs would not be present. Dog waste would no longer be an aesthetic issue at this site. Visitation by this user group at Sutro Heights Park would have the potential to increase.

Since dogs would not be allowed at this site the impacts to commercial dog walkers are similar to the impacts discussed above for visitors who would prefer to walk dogs at the park.

Cumulative Impacts. The restoration of habitat benefits the aesthetics of Sutro Dunes and results in beneficial impacts on visitor use and experience for all visitors to Sutro Heights Park; however, since this project was focused on habitat restoration and is not directly related to dog management or dog-related visitor use, the projects would not significantly affect the cumulative analysis for alternative D. Therefore, cumulative effects would not be measurable or perceptible on alternative D and no change in impact level or intensity is expected on either user group: long-term minor adverse for those who prefer to walk dogs and beneficial for those visitors who prefer not to have dogs at the site.

Indirect Impacts on Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation under alternative D. Since no dogs would be allowed at Sutro Heights Park, visitors may begin using Golden Gate Park Dog Park for dog walking activities. Therefore, indirect impacts on visitor experience in adjacent lands due to increased visitor use would be expected. Impacts would only reach a negligible level since Sutro Heights Park is a low use site for dog walking.

SUTRO HEIGHTS PARK ALTERNATIVE D CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Long-term minor adverse impacts for visitors who would prefer to walk dogs at the park	No dog walking would be allowed on site	Long-term minor adverse cumulative impacts for visitors who would prefer to walk dogs at the park
Beneficial impacts for visitors who would prefer not to have dog walking at the park, assuming compliance	A no-dog experience would be available throughout the entire site	Beneficial cumulative impacts for visitors who would prefer not to have dog walking at the park
		Negligible indirect impacts in adjacent lands

Alternative E: Overall Most Dog Walking Access/Most Management Intensive. On-leash dog walking would be allowed on the paths, parapet, lawns, and parking area at Sutro Heights Park, allowing the most dog walking access among the action alternatives considered for the site.

Impacts on visitors who would prefer to walk dogs at the park would be negligible. On-leash dog walking would no longer be allowed throughout the entire site; however, most of the site would still be open to on-leash dog walking. Visitation by this user group would likely remain the same at this site.

Impacts on visitors who would prefer not to have dog walking at this park site would be negligible to long term, minor, and adverse. Visitors would continue to encounter on-leash dog walking throughout most areas of the site. However, some areas would become available for a no-dog experience. Dog waste could be an aesthetic issue at this site, especially during the formal events held at the park. In addition, visitors attending formal events, such as weddings, at this park site may prefer not to encounter dogs while they are enjoying this activity. Visitation by this user group would likely remain the same at this site.

Under alternative E, all dog walkers, including commercial dog walkers, would be allowed to walk one to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be granted at Sutro Heights Park, so individual and commercial dog walkers would only be allowed to walk one to walk one to three dogs on leash per person. Since commercial dog walking is not common at this site, it is likely that commercial dog walking would have negligible impacts on both visitors who would prefer to walk dogs at the park and visitors who would prefer not to have dog walking at the park.

Cumulative Impacts. The restoration of habitat benefits the aesthetics of Sutro Dunes and results in beneficial impacts on visitor use and experience for all visitors to Sutro Heights Park; however, since this project was focused on habitat restoration and is not directly related to dog management or dog-related visitor use, the projects would not significantly affect the cumulative analysis for alternative E. Therefore, cumulative effects would not be measurable or perceptible on alternative E and no change in impact level or intensity is expected on either user group: negligible for those visitors who prefer to walk dogs and long-term, minor and adverse for those visitors who prefer not to have dogs at the site.

Indirect Impacts on Adjacent Parks

The adjacent lands identified under alternative A would not be expected to experience increased visitation under alternative E. Although less area would be available for on-leash dog walking, it is likely that visitors would still use Sutro Heights Park for dog walking activities. Therefore, no indirect impacts on visitor experience in adjacent lands due to increased visitor use would be expected.

SUTRO HEIGHTS PARK ALTERNATIVE E CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Negligible impacts for visitors who would prefer to walk dogs at the park	Dog walking would still be allowed on leash throughout most of the site	Negligible cumulative impacts for visitors who would prefer to walk dogs at the park
Negligible to long-term minor adverse impacts for visitors who would prefer not to have dog walking at the park, assuming compliance	Visitors would still encounter dogs throughout the site	Negligible to long-term minor adverse cumulative impacts for visitors who would prefer not to have dog walking at the park
		No indirect impacts in adjacent lands

Preferred Alternative. Alternative E was selected as the preferred alternative for Sutro Heights Park. On-leash dog walking would be allowed on the paths, parapet, lawns, and parking area at Sutro Heights Park, allowing the most dog walking access among the action alternatives.

Impacts on visitors who would prefer to walk dogs at the park would be negligible. On-leash dog walking would no longer be allowed throughout the entire site; however, most of the site would still be open to on-leash dog walking. Visitation by this user group would likely remain the same at this site.

Impacts on visitors who would prefer not to have dog walking at this park site would be negligible to long term, minor, and adverse. Visitors would continue to encounter on-leash dog walking throughout most areas of the site. However, some areas would become available for a no-dog experience. Dog waste could be an aesthetic issue at this site, especially during the formal events held at the park. In addition, visitors attending formal events, such as weddings, at this park site may prefer not to encounter dogs while they are enjoying this activity. Visitation by this user group would likely remain the same at this site.

Alternative C was selected as the preferred alternative for permits at all sites. All dog walkers, including commercial dog walkers, would be allowed to walk one to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be granted at Sutro Heights Park, so individual and commercial dog walkers would only be allowed to walk one to walk one to three dogs on leash per person. Since commercial dog walking is not common at this site, it is likely that commercial dog walking would have negligible impacts on both visitors who would prefer to walk dogs at the park and visitors who would prefer not to have dog walking at the park.

Cumulative Impacts. Projects and actions in and near Sutro Heights Park were considered for the cumulative impacts analysis (appendix K). The only known project in the area is the restoration and dune stabilization efforts at Sutro Dunes, which involved the planting of native vegetation (San Francisco Examiner 2009, 1), improving the aesthetics of the visitor experience at this location.

The restoration of habitat benefits the aesthetics of Sutro Dunes and results in beneficial impacts on visitor use and experience for all visitors to Sutro Heights Park; however, since this project was focused on habitat restoration and is not directly related to dog management or dog-related visitor use, the projects would not significantly affect the cumulative analysis for the preferred alternative. Therefore, cumulative effects would not be measurable or perceptible on the preferred alternative and no change in impact level or intensity is expected on either user group: negligible for those visitors who prefer to walk dogs and long-term, minor and adverse for those visitors who prefer not to have dogs at the site.

Indirect Impacts on Adjacent Parks

In lands adjacent to GGNRA, there are 36 parks with dog use areas within about a 10-mile radius of Sutro Heights Park and 10 parks within about a 5-mile radius; the closest parks are Golden Gate Park—North Central Area and Golden Gate Park—South Central Area (map 27). Both parks allow off-leash dog walking. The adjacent lands identified would not be expected to experience increased visitation under the preferred alternative. Although less area would be available for on-leash dog walking, it is likely that visitors would still use Sutro Heights Park for dog walking activities. Therefore, no indirect impacts on visitor experience in adjacent lands due to increased visitor use would be expected.

SUTRO HEIGHTS PARK PREFERRED ALTERNATIVE CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Negligible impacts for visitors who would prefer to walk dogs at the park	Dog walking would still be allowed on leash throughout most of the site	Negligible cumulative impacts for visitors who would prefer to walk dogs at the park
Negligible to long-term minor adverse impacts for visitors who would prefer not to have dog walking at the park, assuming compliance	Visitors would still encounter dogs throughout the site	Negligible to long-term minor adverse cumulative impacts for visitors who would prefer not to have dog walking at the park
		No indirect impacts in adjacent lands

Ocean Beach

Alternative A: No Action. Dogs are currently allowed under voice control along the 3.3 miles of Ocean Beach, except that on-leash dog walking is required from July 1 to the following May 15 in the SPPA, from Stairwell 21 to Sloat Boulevard. Visitor use at this site is considered moderate to high by multiple user groups including dog walkers, beachgoers, runners, surfers, and picnickers (table 9). In 2007 and 2008 a total of 11 dog bites/attacks occurred in the SPPA. Compliance with the current dog policies in the SPPA is considered poor; in 2007 and 2008 a total of 845 warnings, citations, and reports were issued for leash law violations in the SPPA (table 9). In addition, two citations were issued and two reports were taken on pet waste removal violations (table 9).

There would be no impact on visitors who would prefer to walk dogs at the park under the no-action alternative. Visitors would continue dog walking under voice control throughout the entire Ocean Beach area except for the seasonal on-leash restriction in the SPPA. Dogs would have ample room to run, exercise, and play with other dogs and visitors. Compliance with the on-leash regulation in the SPPA would probably remain poor, as visitors would continue to allow their dogs off leash in this area during the seasonal leash restriction. Visitation by dog walkers would remain moderate to high at this site.

Impacts on visitors who would prefer not to have dog walking at the park would be long term, moderate, and adverse. Beachgoers, runners, surfers, and picnickers would continue to share the beach with off-leash dogs. Visitor incidents (dog bites/attacks) related to dogs in this area would continue; some dogs would continue to jump on, knock over, or intimidate visitors, especially small children. Beachgoers, runners, surfers, and picnickers would not have an area to experience the site without the presence of off-leash dogs. Visitation by this user group may decrease at this site due to the presence of dogs.

Under alternative A, no permit system exists for dog walking. At Ocean Beach, commercial dog walking is uncommon. The impacts from commercial dog walkers to visitor experience are similar to the impacts discussed above for both visitors who would prefer to walk dogs at the park and visitors who would prefer not to have dog walking at this park site.

Cumulative Impacts. Projects and actions in and near Ocean Beach were considered for the cumulative impacts analysis (appendix K). The following is a discussion of projects that have had, are currently having, or will have effects on visitor use and experience at or in the vicinity of Ocean Beach.

The Ocean Beach–Great Highway Erosion Control Project is developing long-term solutions to beach and coastal bluff erosion problems at Ocean Beach along the Great Highway (Highway 1) consistent with the enhancement of natural processes (City and County of San Francisco 2008, 3, 7). Additionally, a joint project with the park and the City of San Francisco may occur in the future that involves the improvement of the Esplanade at the north end of Ocean Beach.

In general, these projects would enhance visitor experience and it is possible that a future project to improve the Esplanade at Ocean Beach would increase visitation; however, there is no certainty that this project would occur. Since these projects are site improvement projects that would not directly affect visitor use at Ocean Beach would not significantly provide an effect to any alternatives considered for Ocean Beach. Therefore, the cumulative analysis for this park site would be considered negligible since any effect would not be measurable or perceptible. Impacts from the implementation of alternative A for either user group would not change significantly: negligible to no impact for those visitors who would prefer to walk dogs at the site and long-term, moderate and adverse for those visitors who prefer not to have dog walking at Ocean Beach.

Indirect Impacts on Adjacent Parks

In lands adjacent to GGNRA, there are 38 parks with dog use areas within about a 10-mile radius of Ocean Beach and 15 parks within about a 5-mile radius; the closest parks are Golden Gate Park—North Central Area and Golden Gate Park—South Central Area (map 27). Both of these areas would allow off-leash dog walking. No indirect impacts on visitor experience in adjacent lands due to increased visitor use would be expected under alternative A since there would be no change in current conditions at the site.

OCEAN BEACH ALTERNATIVE A CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
No impact for visitors who would prefer to walk dogs at the park	Off-leash dog walking would continue along the beach	Negligible cumulative impacts for visitors who would prefer to walk dogs at the park
Long-term moderate adverse impacts for visitors who would prefer not to have dog walking at the park	Visitors would still encounter dog walking throughout the site; site is moderate to high dog use area	Long-term moderate adverse cumulative impacts for visitors who would prefer not to have dog walking at the park
		No indirect impacts in adjacent lands

Alternative B: NPS Leash Regulations. On-leash dog walking would be allowed north of Stairwell 21 and south of Sloat Boulevard. Dogs would be prohibited in the SPPA, but on-leash dog walking would be allowed on the trail east of the dunes and adjacent to the Great Highway.

Impacts on visitors who would prefer to walk dogs in the park would be long term, moderate, and adverse. Since this area is heavily used by visitors walking their dogs under voice control, moderate impacts would be expected. Because dog walking would be required to be on leash and the area available for dog walking would be reduced by half, adverse impacts would be expected for visitors who enjoy watching and playing with dogs off leash. Dog owners may also feel that their pets are not receiving adequate exercise when restrained on a 6-foot leash. Some visitors in this user group may find a different

park to exercise their dogs off leash. As a result, visitation by local residents may decrease slightly in this area.

Impacts on visitors who would prefer not to have dog walking at this park site would be beneficial. Visitors would no longer encounter off-leash dogs throughout the site. Under alternative B, visitors would have the opportunity to use approximately 2.2 miles of Ocean Beach without the presence of dogs. Leash law violations would be expected to decrease since dogs would no longer be allowed in the SPPA. Visitor incidents (bites/attacks) related to dogs would also be expected to decrease. Since visitors who would prefer not to have dog walking at the park would feel more comfortable recreating at this site, visitation by this user group would increase.

Under alternative B, all dog walkers, including commercial dog walkers, would be allowed to walk one to walk one to three dogs on leash per person with no permit required. Since commercial dog walking at Ocean Beach is not common, it is likely that commercial dog walking would have negligible impacts on both visitors who would prefer to walk dogs at the park and visitors who would prefer not to have dog walking at the park.

Cumulative Impacts. In general, these projects would enhance visitor experience and it is possible that a future project to improve the Esplanade at Ocean Beach would increase visitation; however, there is no certainty that this project would occur. Since these projects are site improvement projects that would not directly affect visitor use at Ocean Beach would not significantly provide an effect to any alternatives considered for Ocean Beach. Therefore, the cumulative analysis for this park site would be considered negligible since any effect would not be measurable or perceptible. Impacts from the implementation of alternative B for either user group would not change: and long-term, moderate and adverse on those visitors who would prefer to walk dogs at the site and beneficial for those visitors who prefer not to have dog walking at Ocean Beach.

Indirect Impacts on Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation under alternative B, particularly Golden Gate Park's North and South Central Areas, because they are the closest dog use areas. These sites allow off-leash dog walking. These parks may experience an increase in visitation since off-leash dog walking would no longer be available at Ocean Beach. Therefore, indirect impacts on visitor experience in adjacent lands due to increased visitor use would be expected. Indirect impacts would be expected to be long term, minor, and adverse since Ocean Beach is a moderate to high use site for dog walkers.

OCEAN BEACH ALTERNATIVE B CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Long-term moderate adverse impacts for visitors who would prefer to walk dogs at the park	Dog walking under voice control would no longer be allowed on site; on-leash dog walking would be limited to a portion of the beach	Long-term moderate adverse cumulative impacts for visitors who would prefer to walk dogs at the park
Beneficial impacts for visitors who would prefer not to have dog walking at the park, assuming compliance	Dog walking under voice control would no longer be allowed on site; a no-dog experience would be available on a large part of the beach	Beneficial cumulative impacts for visitors who would prefer not to have dog walking at the park
		Long-term minor adverse indirect impacts in adjacent lands

Alternative C: Emphasis on Multiple Use, Balanced by County. Under alternative C, dog walking under voice and sight control would be allowed in a ROLA from Stairwell 21 to the northern end of the beach. The ROLA would be approximately 0.9 mile long. Dogs would be prohibited south of Stairwell 21 to the Fort Funston boundary, but would be allowed on leash on the trail east of the dunes adjacent to the Great Highway.

Impacts on visitors who would prefer to walk dogs at the park would be long term, minor to moderate, and adverse. The amount of area available to visitors with dogs would be greatly reduced; however, one area would still allow dog walking under voice control at this park site. Impacts would be minor to moderate since the opportunity for off-leash dog walking would still exist on the beach, although the area would be small. The number of visitors in the ROLA each day would be expected to be high. Dogs would still have the opportunity to run, swim, and socialize with other pets. Visitation by this user group would have the potential to decrease slightly.

Impacts on visitors who would prefer not to have dog walking at this park site would be beneficial. Under alternative C, visitors would have the opportunity to use approximately 2.4 miles of Ocean Beach without the presence of dogs. Visitor incidents (bites/attacks) related to dogs would be expected to decrease since visitors would now have use of a portion of the beach that would not allow dogs. Visitation by this user group would increase in this area, as many visitors who have avoided this area because of dogs would begin using this park site.

Under alternative C, all dog walkers, including commercial dog walkers, would be allowed to walk one to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be granted at Ocean Beach, so individual and commercial dog walkers would only be allowed to walk one to walk one to three dogs on leash per person, or under voice and sight control in the ROLA. Since commercial dog walking is not common at this site, it is likely that commercial dog walking would have negligible impacts on both visitors who would prefer to walk dogs at the park and visitors who would prefer not to have dog walking at the park.

Cumulative Impacts. As previously stated in alternative B, projects near Ocean Beach would enhance visitor experience and it is possible that a future project to improve the Esplanade at Ocean Beach would increase visitation; however, there is no certainty that this project would occur. Since these projects are site improvement projects that would not directly affect visitor use at Ocean Beach would not significantly provide an effect to any alternatives considered for Ocean Beach. Therefore, the cumulative analysis for this park site would be considered negligible since any effect would not be measurable or perceptible. Impacts from the implementation of alternative C for either user group would not change: and long-term, moderate and adverse on those visitors who would prefer to walk dogs at the site and beneficial for those visitors who prefer not to have dog walking at Ocean Beach.

Indirect Impacts on Adjacent Parks

The adjacent lands identified under alternative A would not likely experience increased visitation under alternative C. Since a ROLA would be available, visitors would continue to use Ocean Beach for dog walking. No indirect impacts on visitor experience in adjacent lands due to increased visitor use would be expected.

OCEAN BEACH ALTERNATIVE C CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Long-term minor to moderate adverse impacts for visitors who would prefer to walk dogs at the park	Dog walking under voice and sight control would be limited to a portion of the beach	Long-term minor to moderate adverse cumulative impacts for visitors who would prefer to walk dogs at the park
Beneficial impacts for visitors who would prefer not to have dog walking at the park, assuming compliance	Dog walking under voice and sight control would be limited; a no-dog experience would be available on a large part of the beach	Beneficial cumulative impacts for visitors who would prefer not to have dog walking at the park
		No indirect impacts in adjacent lands

Alternative D: Overall Most Protective of Resources/Visitor Safety. Alternative D would be the most restrictive of dog walking compared to the other alternatives. On-leash dog walking would be allowed only on the beach north of Stairwell 21 and along the trail east of the dunes adjacent to the Great Highway. Having on-leash dog walking would reduce visitor incidents related to dogs in the heavily visited area closest to the parking lot. No dogs would be allowed on the beach south of Stairwell 21, which includes the SPPA.

Long-term moderate adverse impacts on visitors who would prefer to walk dogs at the park would be expected. This site would no longer offer an area to allow dogs off leash to run and play. Impacts would be moderate since the area is currently a moderate to high use site for dog walking. Adverse impacts would be expected for visitors who enjoy watching and playing with dogs off leash. Dog owners may also feel that their pets are not receiving adequate exercise when restrained on a 6-foot leash. Some visitors may continue to use this site for dog walking; however, visitation would be expected to decrease. Most visitors looking for a voice-control dog walking area would likely move to the adjacent Fort Funston or to local dog parks outside GGNRA.

Impacts on visitors who would prefer not to have dog walking at the park would be beneficial. Visitors would no longer encounter off-leash dogs. A large portion of the beach would be available for visitors to experience the park without the presence of dogs. In addition, where dogs would be allowed they would be required to be walked on a leash. Leash law violations and visitor incidents (bites/attacks) related to dogs would be expected to decrease. Visitation would be expected to increase because those who have avoided the site in the past because of the presence of dogs would begin to use the site.

No commercial dog walking would be allowed under alternative D. Private dog walkers would be allowed up to three dogs. Since commercial dog walking is not common at Ocean Beach, it is likely that prohibiting commercial dog walking from this site would have negligible impacts on both visitors who would prefer to walk dogs at the park and visitors who would prefer not to have dog walking at the park.

Cumulative Impacts. As previously stated under alternative A, projects near Ocean Beach could enhance visitor experience and it is possible that a future project to improve the Esplanade at Ocean Beach would increase visitation; however, there is no certainty that this project would occur. Since these projects are site improvement projects that would not directly affect visitor use at Ocean Beach would not significantly provide an effect to any alternatives considered for Ocean Beach. Therefore, the cumulative analysis for this park site would be considered negligible since any effect would not be measurable or perceptible. Impacts from the implementation of alternative D for either user group would not change: and long-term, moderate and adverse on those visitors who would prefer to walk dogs at the site and beneficial for those visitors who prefer not to have dog walking at Ocean Beach.

Indirect Impacts on Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation under alternative D, particularly Golden Gate Park's North and South Central Areas, because they are the closest dog use areas. These sites allow off-leash dog walking. These parks may experience an increase in visitation since off-leash dog walking would no longer be available at Ocean Beach. Therefore, indirect impacts on visitor experience in adjacent lands due to increased visitor use would be expected. Indirect impacts would be expected to be long term, minor, and adverse since Ocean Beach is a moderate to high use site for dog walkers.

OCEAN BEACH ALTERNATIVE D CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Long-term moderate adverse impacts for visitors who would prefer to walk dogs at the park	Dog walking under voice control would no longer be allowed on site; on-leash dog walking would be limited to a portion of the beach	Long-term moderate adverse cumulative impacts for visitors who would prefer to walk dogs at the park
Beneficial impacts for visitors who would prefer not to have dog walking at the park, assuming compliance	Dog walking under voice control would no longer be allowed on site; a no-dog experience would be available on a large part of the beach	Beneficial cumulative impacts for visitors who would prefer not to have dog walking at the park
		Long-term minor adverse indirect impacts in adjacent lands

Alternative E: Overall Most Dog Walking Access/Most Management Intensive. Dog walking under voice and sight control would be allowed in a ROLA extending from Stairwell 21 to the northern end of the beach (approximately 0.9 mile). On-leash dog walking would be allowed on the beach south of Stairwell 21 to the Fort Funston boundary and along the trail east of the dunes adjacent to the Great Highway (approximately 2.4 miles).

Long-term minor adverse impacts on visitors who would prefer to walk dogs at the park would be anticipated. Impacts would be minor since the amount of area available for dog walking would be the same as current conditions; however, dog walking under voice and sight control would be restricted to the ROLA. This park site would continue to be a high use area for dog walking, with the majority of dog walking use in the ROLA, which may create crowded conditions. No change in visitation by this user group would be expected at this park site.

Impacts on visitors who would prefer not to have dog walking at the park would be beneficial. Dogs would still be present throughout the site, but on-leash dog walking would be required on the majority of the length of the beach. Visitors who would prefer not to be around off-leash dogs could easily avoid the ROLA. Visitors and other recreationists (e.g., horseback riders, sunbathers, and picnickers) may feel more comfortable on the beach if the dogs present are walked on leash. Leash law violations and visitor incidents (bites/attacks) related to dogs would be expected to decrease. Visitation by this user group may increase.

Under alternative E, all dog walkers, including commercial dog walkers, would be allowed to walk one to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be granted at Ocean Beach, so individual and commercial dog walkers would only be allowed to walk one to walk one to three dogs on leash per person, or under voice and sight control in the ROLA. Since commercial dog walking is not common at Ocean Beach, it is likely that commercial dog

walking would have negligible impacts on both visitors who would prefer to walk dogs at the park and visitors who would prefer not to have dog walking at the park.

Cumulative Impacts. As previously stated in alternative A, these projects would enhance visitor experience and it is possible that a future project to improve the Esplanade at Ocean Beach would increase visitation; however, there is no certainty that this project would occur. Since these projects are site improvement projects that would not directly affect visitor use at Ocean Beach would not significantly provide an effect to any alternatives considered for Ocean Beach. Therefore, the cumulative analysis for this park site would be considered negligible since any effect would not be measurable or perceptible. Impacts from the implementation of alternative E for either user group would not change: and long-term, moderate and adverse on those visitors who would prefer to walk dogs at the site and beneficial for those visitors who prefer not to have dog walking at Ocean Beach.

The cumulative analysis for this park site will focus on the results of the impact analysis for this alternative since the site improvements as presented under alternative A would not directly affect visitor use; therefore, they add little to the cumulative analysis.

The long-term minor adverse impacts on visitor use and experience for visitors who would prefer to walk dogs at the park under alternative E combined with the benefits of the restoration project would result in long-term minor adverse cumulative impacts on this user group. The benefits from the site improvements would not add enough to the experience of visitors who would prefer to walk dogs at Ocean Beach to reduce the minor adverse impacts on the experience of this user group. The beneficial impacts on visitors who would prefer not to have dog walking at this park site under alternative E combined with the beneficial effects of the site improvements would result in beneficial cumulative impacts on the visitor experience of this user group.

Indirect Impacts on Adjacent Parks

The adjacent lands identified under alternative A would not likely experience increased visitation under alternative E. Since a ROLA would be available, visitors would continue to use Ocean Beach for dog walking. No indirect impacts on visitor experience in adjacent lands due to increased visitor use would be expected.

OCEAN BEACH ALTERNATIVE E CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Long-term minor adverse impacts for visitors who would prefer to walk dogs at the park	Dog walking under voice and sight control would be limited to a portion of the beach	Long-term minor adverse cumulative impacts for visitors who would prefer to walk dogs at the beach
Beneficial impacts for visitors who would prefer not to have dog walking at the park, assuming compliance	Dog walking under voice and sight control would be limited in designated areas	Beneficial cumulative impacts for visitors who would prefer not to have dog walking at the park
		No indirect impacts in adjacent lands

Preferred Alternative. Alternative C was selected as the preferred alternative for Ocean Beach. Dog walking under voice and sight control would be allowed in a ROLA from Stairwell 21 to the northern end of the beach. The ROLA would be approximately 0.9 mile long. Dogs would be prohibited south of Stairwell 21 to the Fort Funston boundary but would be allowed on leash on the trail east of the dunes adjacent to the Great Highway.

Impacts on visitors who would prefer to walk dogs at the park would be long term, minor to moderate, and adverse. The amount of area available to visitors with dogs would be greatly reduced; however, one area would still allow dog walking under voice control at this park site. Impacts would be minor to moderate since the opportunity for off-leash dog walking would still exist on the beach, although the area would be small. The number of visitors in the ROLA each day would be expected to be high. Dogs would still have the opportunity to run, swim, and socialize with other pets. Visitation by this user group would have the potential to decrease slightly.

Impacts on visitors who would prefer not to have dog walking at this park site would be beneficial. Under the preferred alternative, visitors would have the opportunity to use approximately 2.4 miles of Ocean Beach without the presence of dogs. Visitor incidents (bites/attacks) related to dogs would be expected to decrease since visitors would now have use of a portion of the beach that would not allow dogs. Visitation by this user group would increase in this area, as many visitors who have avoided this area because of dogs would begin using this park site.

All dog walkers, including commercial dog walkers, would be allowed to walk one to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be granted at Ocean Beach, so individual and commercial dog walkers would only be allowed to walk one to walk one to three dogs on leash per person, or under voice and sight control in the ROLA. Since commercial dog walking is not common at this site, it is likely that commercial dog walking would have negligible impacts on both visitors who would prefer to walk dogs at the park and visitors who would prefer not to have dog walking at the park.

Cumulative Impacts. Projects and actions in and near Ocean Beach were considered for the cumulative impacts analysis (appendix K). The following is a discussion of projects that have had, are currently having, or will have effects on visitor use and experience at or in the vicinity of Ocean Beach.

The Ocean Beach–Great Highway Erosion Control Project is developing long-term solutions to beach and coastal bluff erosion problems at Ocean Beach along the Great Highway (Highway 1) consistent with the enhancement of natural processes (City and County of San Francisco 2008, 3, 7). Additionally, a joint project with the park and the City of San Francisco may occur in the future that involves the improvement of the Esplanade at the north end of Ocean Beach. In general, these projects would enhance visitor experience and it is possible that a future project to improve the Esplanade at Ocean Beach would increase visitation; however, there is no certainty that this project would occur. Since these projects are site improvement projects that would not directly affect visitor use at Ocean Beach would not significantly provide an effect to any alternatives considered for Ocean Beach. Therefore, the cumulative analysis for this park site would be considered negligible since any effect would not be measurable or perceptible. Impacts from the implementation of the preferred alternative for either user group would not change: and long-term, moderate and adverse on those visitors who would prefer to walk dogs at the site and beneficial for those visitors who prefer not to have dog walking at Ocean Beach.

Indirect Impacts on Adjacent Parks

In lands adjacent to GGNRA, there are 38 parks with dog use areas within about a 10-mile radius of Ocean Beach and 15 parks within about a 5-mile radius; the closest parks are Golden Gate Park—North Central Area and Golden Gate Park—South Central Area (map 27). Both of these areas would allow off-leash dog walking. The adjacent lands identified under alternative A would not likely experience increased visitation under the preferred alternative. Since a ROLA would be available, visitors would continue to use Ocean Beach for dog walking. No indirect impacts on visitor experience in adjacent lands due to increased visitor use would be expected.

OCEAN BEACH PREFERRED ALTERNATIVE CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Long-term minor to moderate adverse impacts for visitors who would prefer to walk dogs at the park	Dog walking under voice and sight control would be limited to a portion of the beach	Long-term minor to moderate adverse cumulative impacts for visitors who would prefer to walk dogs at the park
Beneficial impacts for visitors who would prefer not to have dog walking at the park, assuming compliance	Dog walking under voice and sight control would be limited to designated areas; a no-dog experience would be available on a large part of the beach	Beneficial cumulative impacts for visitors who would prefer not to have dog walking at the park
		No indirect impacts in adjacent lands

Fort Funston

Alternative A: No Action. Dogs are currently allowed under voice control at Fort Funston except in the 12-acre habitat protection area that restricts both visitors and dogs for the protection of native plant communities, the bluff area that has a voluntary seasonal closure (April 1 – August 15) for the protection of the bank swallow colony, and a section of trail closed for the prevention of erosion. Fort Funston is heavily used by dog walkers. Horseback riders, hikers, pedestrians, and hang gliders also use this site. In addition to individual dog walkers, increasing numbers of commercial dog walkers use this area daily, walking as many as 10 to 12 dogs off leash at a time. Fort Funston has a higher number (12) of reported and documented dog bites/attacks from dogs to humans and horses (while being ridden) than any other site (table 9). Several incidents involving dog bites to visitors and other visitor complaints included vehement confrontations with owners of the offending dogs. Confrontations included dog owners/walkers involved in the incidents and non-dog walking visitors (including some who had been bitten). Dog walkers stated that Fort Funston is only for dog walkers and advised the non-dog walkers to go to another park site for a no-dog experience (NPS 2009b). The high volume of dogs at this park site has also led to problems with aesthetic issues, including a strong odor of dog urine; the presence of dog waste throughout the site, especially near the parking lots, in spite of regular cleanup efforts by the local dog walking group; and areas completely denuded of vegetation. Hang gliding pilots have complained of dog bites during takeoff and of pet waste in the landing zones and that dog walkers are uncooperative when asked to remove the waste left by their dogs (NPS 2009b).

There would be no impact on visitors who would prefer to walk dogs at this park site under the no-action alternative. Individual dog owners and commercial dog walkers would continue dog walking under voice control throughout the entire Fort Funston site except for the restricted, fenced habitat protection area and the area designated for seasonal closure to protect the nesting bank swallows. Dogs would receive an ample amount of exercise and socialization since there are many dogs at the site at one time. Dog bites/attacks would be expected to continue. Visitation by dog walkers would remain high at this site.

Impacts on visitors who would prefer not to have dog walking at this site would remain long term, moderate to major, and adverse. Visitors would continue to encounter a high number of off-leash dogs throughout the site. Many visitors, especially those with small children, would continue to avoid the site due to feeling overwhelmed or frightened by dogs. Conflicts between dog walkers and other recreational users, including horseback riders and hang gliders, would continue. Dog bites/attacks would be expected to continue. If the current conditions continue, visitation by this user group would continue to decrease at this site.

Under alternative A, no permit system exists for dog walking; however, commercial dog walkers frequently use Fort Funston for dog walking. There would be no impact from commercial dog walking on visitors who would prefer to walk dogs at the park under alternative A. Visitors would continue to walk more than three dogs per walker and some visitors would continue to enjoy the presence of multiple dogs. Impacts from commercial dog walking on visitors who would prefer not to have dog walking at the park would be long term, moderate, and adverse. Some visitors may feel uncomfortable recreating in this area if multiple dog walkers have more than three dogs under voice control at one time.

Cumulative Impacts. Projects and actions in and near Fort Funston were considered for the cumulative impacts analysis (appendix K). The only known project is the planned construction of a new ADA-accessible restroom and maintenance facilities at Fort Funston (NPS 2010h, 1). No beneficial or adverse impacts would result on visitor use from the construction of maintenance facilities at Fort Funston. New restroom facilities at Fort Funston would enhance the visitor experience for all visitors at Fort Funston including both user groups that are the focus of this analysis; however, the benefit would not be significant enough to alter the analysis of impacts for either group. As a result, impacts expected for both user groups would be expected to remain the same: negligible for visitors who prefer to walk dogs at Fort Funston and long-term, moderate to major adverse for visitors who prefer not to have dog walking at this site.

Indirect Impacts on Adjacent Parks

In lands adjacent to GGNRA, there are 38 parks with dog use areas within about a 10-mile radius of Fort Funston and 16 parks within about a 5-mile radius; the closest park is Lake Merced (map 27). No indirect impacts on visitor use in adjacent lands due to increased visitor use would be expected under alternative A since there would be no change in current conditions at the site.

FORT FUNSTON ALTERNATIVE A CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
No impact for visitors who would prefer to walk dogs at the park	Dog walking under voice control would continue throughout the site	No cumulative impacts for visitors who would prefer to walk dogs at the park
Long-term moderate to major adverse impacts for visitors who would prefer not to have dog walking at the park	Visitors would encounter high numbers of dogs throughout the site, especially off leash; site is high dog use area	Long-term moderate to major adverse cumulative impacts for visitors who would prefer not to have dog walking at the park
		No indirect impacts in adjacent lands

Alternative B: NPS Leash Regulations. Under alternative B, on-leash dog walking would be allowed on the beach and trails that are not closed to dogs. Closed areas include a 12-acre habitat protection area that restricts both visitors and dogs for the protection of native plant communities, the bluff area that has a voluntary seasonal closure (April 1 – August 15) for the protection of the bank swallow colony, and a section of trail closed for the prevention of erosion. Dog walking under voice control would no longer be allowed under this alternative.

Impacts on visitors who would prefer to walk dogs at the park would be long term, moderate to major, and adverse. The majority of the visitors at this site, including commercial dog walkers, use the area for voice-control dog walking, which would no longer be allowed under alternative B. Impacts would be expected to be moderate to major since Fort Funston is an extremely popular area for voice-control dog walking, both locally and regionally. Adverse impacts would be expected for visitors who enjoy watching

and playing with dogs off leash. Dog owners may also feel that their pets are not receiving adequate exercise when restrained on a 6-foot leash. Visitation by this user group would be expected to decrease in this area.

Impacts on visitors who would prefer not to have dog walking at this park site would be negligible to long term, minor, and adverse. In general, conditions at Fort Funston would be better for this user group than the no-action alternative because on-leash dog walking would be required; however, it is anticipated that a large number of dogs would still be present throughout the site. Visitors may feel more comfortable if dogs are walked on leash and under better control by the owner. Visitor incidents (bites/attacks) would be expected to decrease once the new regulation begins. This alternative would be compatible with environmental education programs that the San Francisco Unified School District conducts in the southern area of Fort Funston: teacher workshops, summer school, and children's programs that include overnight outdoor stays. On-leash dog walking would reduce possible disturbance or safety concerns for school programs. All visitors and other recreationists (horseback riders and hang gliders), including other dog walkers and their pets, would be safer due to the reduced likelihood of dog bites, confrontations, and dogs running off cliffs. Visitation may increase at the site; however, some visitors would still avoid the site due to the number of dogs present at the site and because this alternative would not offer many opportunities for visitors to enjoy the park without the presence of dogs.

Under alternative B, all dog walkers, including commercial dog walkers, would be allowed to walk one to walk one to three dogs on leash per person with no permit required. Since commercial dog walking at Fort Funston is common, it is likely that commercial dog walking would have long-term moderate adverse impacts on visitors who would prefer to walk dogs at the park. Visitation by commercial dog walkers would be expected to decrease. Impacts on visitors who would prefer not to have dog walking at the park would be beneficial. Visitors would no longer encounter multiple dogs off leash.

Cumulative Impacts. New restroom facilities at Fort Funston would enhance the visitor experience for all visitors at Fort Funston including both user groups that are the focus of this analysis; however, the benefit would not be significant enough to alter the analysis of impacts for either group under alternative B. As a result, impacts expected for both user groups would be expected to remain the same: long-term, moderate to major adverse for visitors who prefer to walk dogs at Fort Funston and negligible to long-term, minor adverse for visitors who prefer not to have dog walking at this site.

Indirect Impacts on Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation by individual and commercial dog walkers under alternative B. An increase in visitation would be expected since dog walking under voice control would no longer be allowed at Fort Funston. Therefore, indirect impacts on visitor experience in adjacent lands due to increased visitor use would be expected. Indirect impacts would be expected to be long term, minor to moderate, and adverse since Fort Funston is a high use site for dog walkers.

FORT FUNSTON ALTERNATIVE B CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Long-term moderate to major adverse impacts for visitors who would prefer to walk dogs at the park	Dog walking under voice control would no longer be allowed; on-leash dog walking would be restricted to certain areas	Long-term moderate to major adverse cumulative impacts for visitors who would prefer to walk dogs at the park

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Negligible to long-term minor adverse impacts for visitors who would prefer not to have dog walking at the park, assuming compliance	Site experiences a high number of dog walkers; on-leash dog walking would be allowed on most of the trails and on the beach; off-leash dog walking would no longer be allowed	Negligible to long-term minor adverse cumulative impacts for visitors who would prefer not to have dog walking at the park
		Long-term minor to moderate adverse indirect impacts in adjacent lands

Alternative C: Emphasis on Multiple Use, Balanced by County. Dog walking under voice and sight control would be allowed in two designated ROLAs, one on the beach south of the Beach Access Trail and a second between the Chip Trail, Sunset Trail, and main parking lot. On-leash dog walking would be allowed on all trails north of the parking lot (except the Battery Davis and Horse trails, which would be closed to dogs), and on the Sand Ladder and ADA-Accessible trails south of the parking lot. Additional closed areas include a 12-acre habitat protection area that restricts both visitors and dogs for the protection of native plant communities and the bluff area that has a voluntary seasonal closure (April 1 – August 15) for the protection of the bank swallow colony, and the northern end of the Coastal Trail, which is closed due to erosion.

Impacts on visitors who would prefer to walk dogs at this park site would be long term, minor, and adverse. Impacts would be adverse since the area available to dog walking would be reduced and on-leash dog walking would be required along the trails open to dogs. Impacts would be minor since alternative C would provide a loop for dog walkers from either the main parking lot or the John Muir parking lot to the Beach Access Trail, then down to the beach and into the ROLA south of the Beach Access Trail. From the southern end of the beach ROLA, the Sand Ladder Trail would return dog walkers to the main parking lot and to the second, adjacent ROLA. Visitation by dog walkers in this area would likely remain the same and dog walkers would be concentrated in the ROLAs and on-leash areas.

Impacts on visitors who would prefer not to have dog walking at this park site would be long term, minor to moderate, and adverse. These visitors, especially those with small children, may feel more comfortable if dogs are walked on leash or, when not on leash, are in a ROLA where they would be under better control by their walkers. Dogs would no longer be allowed along the Horse Trail, which would help to reduce the number of incidents between dog walkers and horseback riders, although to reach the trail, riders would go through an on-leash area. Aesthetics would improve in the areas where dogs would no longer be present because dog waste and the odor of dog urine would be reduced. A no-dog experience would be available on the beach north of the Beach Access Trail. This alternative would be compatible with the activities of environmental education programs that the San Francisco Unified School District conducts at Fort Funston. Overall, the conditions at the site for this user group would be better than the no-action alternative; however, impacts would still be minor to moderate and adverse since there would still be a high number of dog walkers using the site and two large ROLA areas. Visitation by this user group could increase.

Under alternative C, all dog walkers, including commercial dog walkers, would be allowed to walk one to walk one to three dogs with no permit required. Any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. In a ROLA, permit holders may walk one to walk one to six dogs under voice and sight control. The permit may restrict use by time and area. Permits would be allowed at Fort Funston. Since commercial dog walking is common at Fort Funston, it is likely that commercial dog walking would have beneficial impacts on visitors who would prefer to walk dogs at the park. Commercial dog walkers could continue to use the site for dog walking and would be able to have dogs off leash in the ROLAs. Impacts on visitors who would prefer not to have

dog walking at the park would be long term, minor to moderate, and adverse. Visitors would continue to encounter dog walkers with four or more dogs throughout the site.

Cumulative Impacts. New restroom facilities at Fort Funston would enhance the visitor experience for all visitors at Fort Funston including both user groups that are the focus of this analysis; however, the benefit would not be significant enough to alter the analysis of impacts for either group under alternative B. As a result, impacts expected for both user groups would be expected to remain the same: long-term, minor adverse for visitors who prefer to walk dogs at Fort Funston and long-term, minor to moderate adverse for visitors who prefer not to have dog walking at this site.

Indirect Impacts on Adjacent Parks

An increase in visitation in the nearby parks identified in alternative A would not be likely, since two ROLAs would be established under alternative C. Therefore, no indirect impacts on visitor experience in adjacent lands due to increased visitation would be expected.

FORT FUNSTON ALTERNATIVE C CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Long-term minor adverse impacts for visitors who would prefer to walk dogs at the park	Dog walking under voice and sight control would be allowed, but only in two areas	Long-term minor adverse cumulative impacts for visitors who would prefer to walk dogs at the park
Long-term minor to moderate adverse impacts for visitors who would prefer not to have dog walking at the park, assuming compliance	Dog walking under voice and sight control would occur in two areas; site experiences high dog walking use, both on and off leash	Long-term minor to moderate adverse cumulative impacts for visitors who would prefer not to have dog walking at the park
		No indirect impacts in adjacent lands

Alternative D: Overall Most Protective of Resources/Visitor Safety. Dog walking would be allowed under voice and sight control in a ROLA established in a disturbed area adjacent to the Coastal Trail, across from the entrance to the Beach Access Trail. On-leash dog walking would be allowed on the beach south of the Beach Access Trail to the NPS southern boundary, and on all trails except for the northern end of the Coastal Trail (closed due to erosion) and the Horse Trail, where dog walking would be prohibited. Additional closed areas include a 12-acre habitat protection area that restricts both visitors and dogs for the protection of native plant communities and the bluff area that has a voluntary seasonal closure (April 1 – August 15) for the protection of the bank swallow colony.

Impacts on visitors who would prefer to walk dogs at Fort Funston would be long term, moderate, and adverse. This alternative would restrict the area for dog walking at Fort Funston more than any of the other action alternatives. Impacts would be moderate, since this site is currently a high use area for voice-control dog walking and the amount of area available for this activity would be limited to one ROLA. There would be no dog walking under voice and sight control on the beach. Adverse impacts would be expected for visitors who enjoy watching and playing with dogs off leash. Dog owners may also feel that their pets are not receiving adequate exercise when restrained on a 6-foot leash. Visitation by this visitor group may decrease at Fort Funston since visitors may begin using other areas outside the park as well as GGNRA sites with larger ROLAs, such as Ocean Beach.

Impacts on visitors who would prefer not to have dog walking at this park site would be long term, minor, and adverse. This alternative would provide for a no-dog experience; some of the trails and approximately

half of the beach would be closed to dogs. Aesthetics would improve in the areas where dogs would no longer be present since dog waste and the odor of dog urine would be eliminated or reduced. The remaining areas, except the ROLA, would require on-leash dog walking. Some visitors, especially horseback riders, hang gliders, and those with small children, may feel more comfortable in these areas since the dogs would be under better control by the owner. Visitor incidents (bites/attacks) with dogs would decrease. In general, conditions at Fort Funston would be better for this user group than the no-action alternative because of the no-dog experience available and the requirement of on-leash dog walking in most areas; however, it is anticipated that a large number of dogs would still be present throughout the site; therefore, impacts would be minor. This alternative would be compatible with the environmental education programs that the San Francisco Unified School District conducts in the southern area of Fort Funston. Visitation by this user group would likely increase.

No commercial dog walking would be allowed under alternative D. Impacts on visitors who would prefer to walk dogs at the site (includes commercial dog walkers) would be long term, minor to moderate, and adverse since commercial dog walking is common at this site. Visitation by commercial dog walkers would decrease and as a result, visitors would no longer encounter dog walkers with multiple dogs. As a result, impacts on visitors who would prefer not to have dog walking at the park would be beneficial.

Cumulative Impacts. New restroom facilities at Fort Funston would enhance the visitor experience for all visitors at Fort Funston including both user groups that are the focus of this analysis; however, the benefit would not be significant enough to alter the analysis of impacts for either group under alternative B. As a result, impacts expected for both user groups would be expected to remain the same: long-term, moderate adverse for visitors who prefer to walk dogs at Fort Funston and long-term, minor adverse for visitors who prefer not to have dog walking at this site.

Indirect Impacts on Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation by individual and commercial dog walkers under alternative D. One small ROLA would be available for dog walking under voice and sight control at Fort Funston. Some visitors may begin to use the other parks if more space is available. Since this is a high use site for dog walking, impacts may be minor to moderate. Long-term minor to moderate adverse indirect impacts on visitor experience in adjacent lands due to increased visitor use would be expected.

FORT FUNSTON ALTERNATIVE D CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Long-term moderate adverse impacts for visitors who would prefer to walk dogs at the park	Dog walking under voice and sight control would be allowed in one area; area for dog walking would be reduced	Long-term moderate adverse cumulative impacts for visitors who would prefer to walk dogs at the park
Long-term minor adverse impacts for visitors who would prefer not to have dog walking at the park, assuming compliance	Dog walking under voice and sight control would be limited to one area; site experiences a high number of dog walkers	Long-term minor adverse cumulative impacts for visitors who would prefer not to have dog walking at the park
		Long-term minor to moderate adverse indirect impacts in adjacent lands

Alternative E: Overall Most Dog Walking Access/Most Management Intensive. Dog walking would be allowed under voice and sight control in two ROLAs. One ROLA would be on the beach south of the

Beach Access Trail to the Fort Funston southern boundary. The second ROLA, extending north from the main parking lot, would be established between the Chip Trail and the western edge of the Horse Trail, north to the northern limit of the disturbed area across the Coastal Trail from the Beach Access Trail. On-leash dog walking would be allowed on the beach north of the Beach Access Trail with a voluntary seasonal closure at the base of the cliffs from April 1 to August 15 when bank swallows are nesting, all trails except the Horse Trail, which would be closed to dog walkers, and the northern end of the Coastal Trail, which is closed due to erosion. An additional closed area is the 12-acre habitat protection area that restricts both visitors and dogs for the protection of native plant communities.

Negligible impacts would be expected on the visitor experience of those who would prefer to walk dogs at Fort Funston. Alternative E offers the most area of all the action alternatives for walking dogs under voice and sight control by providing two ROLAs that would provide a large area for off-leash dog walking. On-leash dog walking would be required on the trails in the uplands area of Fort Funston and on the beach north of the Beach Access Trail. The Horse Trail would be closed to dogs. However, the established ROLAs would provide adequate room for dogs to receive a substantial amount of exercise and socialization while under voice and sight control. Use of the site by visitors who would prefer to walk dogs at this site would continue to be high.

Impacts on visitors who would prefer not to have dog walking at this park site would be long term, moderate, and adverse. Visitors would still encounter both on-leash dogs and dogs under voice and sight control throughout most of the site. Although dogs would still be allowed in most areas of the park site, some visitors may feel more comfortable in the areas where dogs would be walked on leash, and visitors could easily avoid the ROLAs. Since dogs would no longer be allowed on the Horse Trail, dog/horse incidents would be reduced; however, riders would still have to pass through dog walking areas to reach the no-dog trail. Although conditions at Fort Funston would be better for this user group than the no-action alternative, impacts would still be long term, moderate, and adverse because of the two large ROLAs at the site and the high number of dog walkers expected at the site. Visitors would still encounter off-leash dogs since the on-leash areas run adjacent to the ROLAs. In addition, this alternative offers only a small area for a no-dog experience. However, this alternative would be compatible with the environmental education programs that the San Francisco Unified School District conducts at Fort Funston. Visitation by this user group may increase slightly.

Under alternative E, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. Any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. In a ROLA, permit holders may walk one to six dogs under voice and sight control. The permit may restrict use by time and area. Permits would be allowed at Fort Funston. Since commercial dog walking at Fort Funston is common, it is likely that commercial dog walking would have beneficial impacts on visitors who would prefer to walk dogs at the park. Commercial dog walkers could continue to use the site for dog walking and would be able to have up to six dogs off leash in the ROLA. Impacts on visitors who would prefer not to have dog walking at the park would be long term, minor to moderate, and adverse. Visitors would continue to encounter dog walkers with four or more dogs throughout the site.

Cumulative Impacts. New restroom facilities at Fort Funston would enhance the visitor experience for all visitors at Fort Funston including both user groups that are the focus of this analysis; however, the benefit would not be significant enough to alter the analysis of impacts for either group under alternative B. As a result, impacts expected for both user groups would be expected to remain the same: negligible for visitors who prefer to walk dogs at Fort Funston and long-term, moderate adverse for visitors who prefer not to have dog walking at this site.

Indirect Impacts on Adjacent Parks

An increase in visitation in the nearby parks identified in alternative A would not be likely, since two ROLAs would be established under alternative E. Therefore, no indirect impacts on visitor experience in adjacent lands due to increased visitation would be expected.

FORT FUNSTON ALTERNATIVE E CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Negligible impacts for visitors who would prefer to walk dogs at the park	Dog walking under voice and sight control would be allowed in two areas	Negligible cumulative impacts for visitors who would prefer to walk dogs at the park
Long-term moderate adverse impacts for visitors who would prefer not to have dog walking at the park, assuming compliance	Dog walking under voice and sight control would be allowed in two large areas; site experiences a high number of dog walkers; dogs would be allowed on the entire beach	Long-term moderate adverse cumulative impacts for visitors who would prefer not to have dog walking at the park
		No indirect impacts in adjacent lands

Preferred Alternative. Alternative C was selected as the preferred alternative for Fort Funston. Dog walking under voice and sight control would be allowed in two designated ROLAs, one on the beach south of the Beach Access Trail and a second between the Chip Trail, Sunset Trail, and main parking lot. On-leash dog walking would be allowed on all trails north of the parking lot (except the Battery Davis and Horse trails, which would be closed to dogs,) and on the Sand Ladder and ADA-Accessible trails south of the parking lot. Additional closed areas include a 12-acre habitat protection area that restricts both visitors and dogs for the protection of native plant communities, the bluff area that has a voluntary seasonal closure (April 1 – August 15) for the protection of the bank swallow colony, and the northern end of the Coastal Trail, which is closed due to erosion.

Impacts on visitors who would prefer to walk dogs at this park site would be long term, minor, and adverse. Impacts would be adverse since the area available to dog walking would be reduced and since on-leash dog walking would be required along the trails open to dogs. Impacts would be minor since the preferred alternative would provide a loop for dog walkers from either the main parking lot or the John Muir parking lot to the Beach Access Trail, then down to the beach and into the ROLA south of the Beach Access Trail. From the southern end of the beach ROLA, the Sand Ladder Trail would return dog walkers to the main parking lot and to the second, adjacent ROLA. Visitation by dog walkers in this area would likely remain the same and dog walkers would be concentrated in the ROLAs and on-leash areas.

Impacts on visitors who would prefer not to have dog walking at this park site would be long term, minor to moderate, and adverse. These visitors, especially those with small children, may feel more comfortable if dogs are walked on leash or, when not on leash, are in a ROLA where they would be under better control by their walkers. Dogs would no longer be allowed along the Horse Trail, which would help to reduce the number of incidents between dog walkers and horseback riders, although to reach the trail, riders would go through an on-leash area. Aesthetics would improve in the areas where dogs would no longer be present because dog waste and the odor of dog urine would be reduced. A no-dog experience would be available on the beach north of the Beach Access Trail. This alternative would be compatible with the activities of environmental education programs that the San Francisco Unified School District conducts at Fort Funston. Overall, the conditions at the site would be better for this user group than the no-action alternative; however, impacts would still be minor to moderate and adverse since there would

still be a high number of dog walkers using the site and two large ROLA areas. Visitation by this user group could increase.

All dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. Any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. In a ROLA, permit holders may walk one to six dogs under voice and sight control. The permit may restrict use by time and area. Permits would be allowed at Fort Funston. Since commercial dog walking is common at Fort Funston, it is likely that commercial dog walking would have beneficial impacts on visitors who would prefer to walk dogs at the park. Commercial dog walkers could continue to use the site for dog walking and would be able to have dogs off leash in the ROLA. Impacts on visitors who would prefer not to have dog walking at the park would be long term, minor to moderate, and adverse. Visitors would continue to encounter dog walkers with four or more dogs throughout the site.

Cumulative Impacts. Projects and actions in and near Fort Funston were considered for the cumulative impacts analysis (appendix K). The only known project is the planned construction of a new ADA-accessible restroom and maintenance facilities at Fort Funston (NPS 2010h, 1). New maintenance facilities would not have any impact on visitor use or experience at Fort Funston. New restroom facilities would enhance the visitor experience for all visitors at Fort Funston including both user groups that are the focus of this analysis; however, the benefit would not be significant enough to alter the analysis of impacts for either group under the preferred alternative. As a result, impacts expected for both user groups would be expected to remain the same: long-term, moderate to major adverse for visitors who prefer to walk dogs at Fort Funston and negligible to long-term, minor adverse for visitors who prefer not to have dog walking at this site.

Indirect Impacts on Adjacent Parks

In lands adjacent to GGNRA, there are 38 parks with dog use areas within about a 10-mile radius of Fort Funston and 16 parks within about a 5-mile radius; the closest park is Lake Merced (map 27). An increase in visitation in the nearby parks is not likely, since two ROLAs would be established under the preferred alternative. Therefore, no indirect impacts on visitor experience in adjacent lands due to increased visitation would be expected.

FORT FUNSTON PREFERRED ALTERNATIVE CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Long-term minor adverse impacts for visitors who would prefer to walk dogs at the park	Dog walking under voice and sight control would be allowed, but only in two areas	Long-term minor adverse cumulative impacts for visitors who would prefer to walk dogs at the park
Long-term minor to moderate adverse impacts for visitors who would prefer not to have dog walking at the park, assuming compliance	Dog walking under voice and sight control would occur in two areas; site experiences high dog walking use, both on and off leash	Long-term minor to moderate adverse cumulative impacts for visitors who would prefer not to have dog walking at the park
		No indirect impacts in adjacent lands

SAN MATEO COUNTY SITES

Mori Point

Alternative A: No Action. On-leash dog walking is allowed on all trails at Mori Point. Visitor use in this area is considered high for walkers, runners, and bicyclists and moderate for dog walkers (table 9). Most people that use Mori Point for recreation are from the local residential neighborhoods, although the site is attracting more visitors from outside the City of Pacifica as the public learns about restoration activities conducted at the site. Some visitors are not complying with the leash law; violations totaled 54 in 2007/2008 (table 9).

There would be no impact on visitors who would prefer to walk dogs at the park under the no-action alternative. Visitors would continue to use the area for exercising, playing with, and socializing their pets throughout the site. Some visitors would continue to be noncompliant with the leash restrictions. Visitation by this user group would remain the same at this site.

Impacts on visitors who would prefer not to have dog walking at the park site would be long term, minor, and adverse. Visitors would continue to encounter on-leash dogs and the occasional dog walker allowing dogs off leash. Visitors would not be able to have a no-dog experience at this site. Some walkers, runners, and bicyclists may prefer to experience these activities without the presence of dogs. Some visitors may avoid this site due to the presence of dogs. Visitation by this user group would have the potential to decrease at this site.

Under alternative A, no permit system exists for dog walking. At Mori Point, commercial dog walking is uncommon. The impacts from commercial dog walkers to visitor experience are similar to the impacts discussed above for both visitors who would prefer to walk dogs at the park and visitors who would prefer not to have dog walking at this park site.

Cumulative Impacts. Projects and actions in and near Mori Point were considered for the cumulative impacts analysis (appendix K). The NPS recently completed the Mori Point Restoration and Trail Plan, which includes development of a safe and sustainable trail system to improve recreational experiences and guide visitors away from restoration areas, and endangered species habitat areas (NPS 2010j, 1). The Devil's Slide Tunnels Project will result in a bypass of Devil's Slide by two inland tunnels to provide a safe, dependable highway between Pacifica and Montara. This project may adversely affect visitor accessibility to Mori Point during project construction, but only in the short term. After construction, it is not expected that this project would have any effect on visitor use as or any of the dog management alternatives within this plan/EIS.

Restoration projects at Mori Point will result in enhanced aesthetics; improved trails and recreational enjoyment for all visitors to Mori Point. All visitors, including both user groups would enjoy the enhanced viewshed of restored habitat and improved trails and safety that result from trail improvements; however, it is not expected that overall, visitor use would increase at Mori Point as a result of the project improvements. Visitors originating from the neighboring residential area may increase but this would not be significant enough to alter the level or intensity of impacts for either visitor group. As a result, enhancements resulting from the projects at Mori Point would not significantly add to their visitor experience and expected impacts under alternative A would remain the same for both user groups: long-term, minor and adverse for visitors who would prefer not to have dog walking at this site; there would be no impacts to visitors who prefer to walk dogs at Mori Point.

Indirect Impacts on Adjacent Parks

In lands adjacent to GGNRA, there are 23 parks with dog use areas within about a 10-mile radius of Mori Point and 3 parks within about a 5-mile radius; the closest parks are Esplanade Beach in Pacifica and the San Bruno Dog Park (map 27). No indirect impacts on visitor experience in adjacent lands due to increased visitor use would be expected under alternative A since there would be no change in current conditions at the site.

MORI POINT ALTERNATIVE A CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
No impact for visitors who would prefer to walk dogs at the park	On-leash dog walking would continue throughout the site	Beneficial cumulative impacts for visitors who would prefer to walk dogs at the park
Long-term minor adverse impacts for visitors who would prefer not to have dog walking at the park	Visitors would still encounter dogs throughout the site	Negligible cumulative impacts for visitors who would prefer not to have dog walking at the park
		No indirect impacts in adjacent lands

Alternative B: NPS Leash Regulations. On-leash dog walking would be allowed along the Coastal Trail and the portion of beach within the park boundary. Dogs would no longer be allowed on Old Mori Road and the Pollywog Path that connects directly to the neighborhood, the trail with direct access from Highway 1, or the loop trail.

Impacts on visitors who would prefer to walk dogs at the park would be long term, minor, and adverse. The area available for dog walking would be reduced to one trail and the beach area. Visitors from the local community would no longer be allowed to use the direct connector trail to the park site. Impacts would be minor since this is a moderate use site for dog walkers. Visitation by this user group would likely decrease.

Impacts on visitors who would prefer not to have dog walking at Mori Point would be beneficial. Visitors would still encounter on-leash dogs on some trails at this site; however, many areas, including the Bootlegger's Steps, Bluff Trail, Lishumsha Trail, Pollywog Path, Old Mori Road, and Upper Trail, would be available for a no-dog experience. Visitation by this user group would have the potential to increase.

Under alternative B, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs on leash per person with no permit required. Since commercial dog walking is not common at Mori Point, it is likely that commercial dog walking would have negligible impacts on both visitors who would prefer to walk dogs at the park and visitors who would prefer not to have dog walking at the park.

Cumulative Impacts. Restoration projects at Mori Point will result in enhanced aesthetics; improved trails and recreational enjoyment for all visitors to Mori Point. All visitors, including both user groups would enjoy the enhanced viewshed of restored habitat and improved trails and safety that result from trail improvements; however, it is not expected that overall, visitor use would increase at Mori Point as a result of the project improvements. Visitors originating from the neighboring residential area may increase but this would not be significant enough to alter the level or intensity of impacts for either visitor group. As a result, enhancements resulting from the projects at Mori Point would not significantly add to their visitor experience and expected impacts under alternative B would remain the same for both user groups: long-term, minor and adverse for visitors who would prefer to have dog walking at this site; there would be beneficial impacts on visitors who prefer to walk dogs at Mori Point.

Indirect Impacts on Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation under alternative B since the area for dog walking would be reduced to one trail and visitors from the local community would not be allowed to use the direct connector trail to the park site. Therefore, some visitors may begin dog walking activities at one of the nearby parks. Indirect impacts on visitor experience in adjacent parks due to increased visitor use would be expected, but only at a negligible level.

MORI POINT ALTERNATIVE B CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Long-term minor adverse impacts for visitors who would prefer to walk dogs at the park	Dog walking would be limited to one trail	Long-term minor adverse cumulative impacts for visitors who would prefer to walk dogs at the park
Beneficial impacts for visitors who would prefer not to have dog walking at the park, assuming compliance	On-leash dog walking would be limited to one trail; a no-dog experience would be available	Beneficial cumulative impacts for visitors who would prefer not to have dog walking at the park
		Negligible indirect impacts in adjacent lands

Alternative C: Emphasis on Multiple Use, Balanced by County. On-leash dog walking would be allowed along the Coastal Trail, Old Mori Road, and the portion of beach within the park boundary. Dogs would no longer be allowed on the neighborhood connector trail (Pollywog Path), the trail with direct access from Highway 1, or the loop trail.

Impacts on visitors who would prefer to walk dogs at the park would be long term, minor, and adverse. The area available for dog walking would be reduced to two trails and the beach area. Most of the dog walking at this site is by done local residents, and if the neighborhood connector trail is closed to dogs, this would be an adverse impact on this user group. As a result, visitation to this site by local residents may decrease.

Impacts on visitors who would prefer not to have dog walking at Mori Point would be beneficial. Visitors would still encounter on-leash dogs on some trails at this site; however, many areas, including the Bootlegger Steps, Bluff Trail, Lishumsha Trail, and Upper Trail, would be available for a no-dog experience. Visitation by this user group would have the potential to increase.

Under alternative C, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be granted at Mori Point, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking is not common at Mori Point, it is likely that commercial dog walking would have negligible impacts on both visitors who would prefer to walk dogs at the park and visitors who would prefer not to have dog walking at the park.

Cumulative Impacts. Restoration projects at Mori Point will result in enhanced aesthetics; improved trails and recreational enjoyment for all visitors to Mori Point. All visitors, including both user groups would enjoy the enhanced viewshed of restored habitat and improved trails and safety that result from trail improvements; however, it is not expected that overall, visitor use would increase at Mori Point as a result of the project improvements. Visitors originating from the neighboring residential area may increase but this would not be significant enough to alter the level or intensity of impacts for either visitor group. As a result, enhancements resulting from the projects at Mori Point would not significantly add to

their visitor experience and expected impacts under alternative C would remain the same for both user groups: long-term, minor and adverse for visitors who would prefer to have dog walking at this site; there would be beneficial impacts on visitors who prefer to walk dogs at Mori Point.

Indirect Impacts on Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation under alternative C since the area for dog walking at Mori Point would be reduced and visitors from the local community would no longer be allowed to use the direct connector trail to the park site. Therefore, some visitors may begin dog walking activities at one of the nearby parks. Indirect impacts on visitor experience in adjacent parks due to increased visitor use would be expected, but only at a negligible level.

MORI POINT ALTERNATIVE C CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Long-term minor adverse impacts for visitors who would prefer to walk dogs at the park	Dog walking would be limited to two trails	Long-term minor adverse cumulative impacts for visitors who would prefer to walk dogs at the park
Beneficial impacts for visitors who would prefer not to have dog walking at the park, assuming compliance	Dog walking would be limited to two trails; a no-dog experience would be available	Beneficial cumulative impacts for visitors who would prefer not to have dog walking at the park
		Negligible indirect impacts in adjacent lands

Alternative D: Overall Most Protective of Resources/Visitor Safety. Under alternative D, dogs would be prohibited in the entire Mori Point park site.

Impacts on visitors who would prefer to walk dogs at the park would be long term, moderate, and adverse. Impacts would be moderate since dog walkers would be required to use a different area inside or outside GGNRA for dog walking. Dog walking is a popular activity at Mori Point, especially by the local residents; as a result, visitation by this user group would no longer occur at this site.

Impacts on visitors who would prefer not to have dog walking at the park would be beneficial. Visitors would no longer encounter dogs and would therefore have access to the entire site for a no-dog experience. Walkers, runners, and bicyclists who prefer to experience these activities without the presence of dogs would benefit from this alternative. Visitation by this user group would be expected to increase at this site.

Since dogs would not be allowed at this site the impacts to commercial dog walkers are similar to the impacts discussed above for visitors who would prefer to walk dogs at the park.

Cumulative Impacts. Restoration projects at Mori Point will result in enhanced aesthetics; improved trails and recreational enjoyment for all visitors to Mori Point. All visitors, including both user groups would enjoy the enhanced viewshed of restored habitat and improved trails and safety that result from trail improvements; however, it is not expected that overall, visitor use would increase at Mori Point as a result of the project improvements. Visitors originating from the neighboring residential area may increase but this would not be significant enough to alter the level or intensity of impacts for either visitor group. As a result, enhancements resulting from the projects at Mori Point would not significantly add to their visitor experience and expected impacts under alternative D would remain the same for both user groups: long-term, moderate and adverse for visitors who would prefer to have dog walking at this site; there would be beneficial impacts on visitors who prefer to walk dogs at Mori Point.

Indirect Impacts on Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation under alternative D since dogs would no longer be allowed at Mori Point. Long-term minor adverse indirect impacts on visitor experience in adjacent parks due to increased visitor use would be expected. Indirect impacts would be minor since Mori Point is a moderate use site for dog walkers.

MORI POINT ALTERNATIVE D CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Long-term moderate adverse impacts for visitors who would prefer to walk dogs at the park	No dog walking would be allowed	Long-term moderate adverse cumulative impacts for visitors who would prefer to walk dogs at the park
Beneficial impacts for visitors who would prefer not to have dog walking at the park, assuming compliance	No dog walking would be allowed; a no-dog experience would be available throughout the site	Beneficial cumulative impacts for visitors who would prefer not to have dog walking at the park
		Long-term minor adverse indirect impacts in adjacent lands

Alternative E: Overall Most Dog Walking Access/Most Management Intensive. On-leash dog walking would be allowed on the Coastal Trail, Old Mori Road, the Pollywog Path, and the portion of beach within the GGNRA boundary. No dog walking would be allowed on the trail with direct access from Highway 1 or the loop trail.

Impacts on visitors who would prefer to walk dogs at the park would be negligible. On-leash dog walking would be available on three trails and the section of beach at the site. Impacts would be negligible since a relatively large area would remain available for on-leash dog walking and the local community would have direct access to the site via the Pollywog Path. Visitation by this user group would be expected to remain the same at this site.

Impacts on visitors who would prefer not to have dog walking at Mori Point would be beneficial. Visitors would still encounter on-leash dogs on some trails at this site; however, many areas, including the Bootlegger's Steps, Bluff Trail, Lishumsha Trail, and Upper Trail, would be available for a no-dog experience. Visitation by this user group would have the potential to increase.

Under alternative E, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be granted at Mori Point, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking is not common at Mori Point, it is likely that commercial dog walking would have negligible impacts on both visitors who would prefer to walk dogs at the park and visitors who would prefer not to have dog walking at the park.

Cumulative Impacts. Restoration projects at Mori Point will result in enhanced aesthetics; improved trails and recreational enjoyment for all visitors to Mori Point. All visitors, including both user groups would enjoy the enhanced viewshed of restored habitat and improved trails and safety that result from trail improvements; however, it is not expected that overall, visitor use would increase at Mori Point as a result of the project improvements. Visitors originating from the neighboring residential area may increase but this would not be significant enough to alter the level or intensity of impacts for either visitor group. As a result, enhancements resulting from the projects at Mori Point would not significantly add to

their visitor experience and expected impacts under alternative E would remain the same for both user groups: negligible for visitors who would prefer to have dog walking at this site; there would be beneficial impacts on visitors who prefer to walk dogs at Mori Point.

Indirect Impacts on Adjacent Parks

The adjacent lands identified under alternative A would probably not experience any increased visitation under alternative E since visitors would be allowed to continue to walk dogs on many of the trails and on the beach at this site. Therefore, no indirect impacts on visitor experience in adjacent lands due to increased visitor use would be expected under alternative E.

MORI POINT ALTERNATIVE E CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Negligible impacts for visitors who would prefer to walk dogs at the park	Dog walking would be allowed on most trails and the beach	Beneficial cumulative impacts for visitors who would prefer to walk dogs at the park
Beneficial impacts for visitors who would prefer not to have dog walking at the park, assuming compliance	Some trails would prohibit dogs; a no-dog experience would be available	Beneficial cumulative impacts for visitors who would prefer not to have dog walking at the park
		No indirect impacts in adjacent lands

Preferred Alternative. Alternative C was selected as the preferred alternative for Mori Point. On-leash dog walking would be allowed along the Coastal Trail, Old Mori Road, and the portion of beach within the park boundary. Dogs would no longer be allowed on the neighborhood connector trail (Pollywog Path), the trail with direct access from Highway 1, or the loop trail.

Impacts on visitors who would prefer to walk dogs at the park would be long term, minor, and adverse. The area available for dog walking would be reduced to two trails and the beach area. Most of the dog walking at this site is by local residents, and if the neighborhood connector trail is closed to dogs, then this would be an adverse impact on this user group. As a result, visitation by local residents may decrease at this site.

Impacts on visitors who would prefer not to have dog walking at Mori Point would be beneficial. Visitors would still encounter on-leash dogs on some trails at this site; however, many areas, including the Bootlegger's Steps, Bluff Trail, Lishumsha Trail, and Upper Trail, would be available for a no-dog experience. Visitation by this user group would have the potential to increase.

All dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be granted at Mori Point, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking is not common at Mori Point, it is likely that commercial dog walking would have negligible impacts on both visitors who would prefer to walk dogs at the park and visitors who would prefer not to have dog walking at the park.

Cumulative Impacts. Projects and actions in and near Mori Point were considered for the cumulative impacts analysis (appendix K). The NPS recently completed the Mori Point Restoration and Trail Plan, which includes development of a safe and sustainable trail system to improve recreational experiences and guide visitors away from disturbed areas, restoration areas, and endangered species habitat areas.

(NPS 2010j, 1). The Devil's Slide Tunnels Project will result in a bypass of Devil's Slide by two inland tunnels to provide a safe, dependable highway between Pacifica and Montara. This project may adversely affect visitor accessibility to Mori Point during project construction, but only in the short term. After construction, it is unlikely that this project would have any impact on visitor use at Mori Point.

Restoration projects at Mori Point will result in enhanced aesthetics; improved trails and recreational enjoyment for all visitors to Mori Point. All visitors, including both user groups would enjoy the enhanced viewshed of restored habitat and improved trails and safety that result from trail improvements; however, it is not expected that overall, visitor use would increase at Mori Point as a result of the project improvements. Visitors originating from the neighboring residential area may increase but this would not be significant enough to alter the level or intensity of impacts for either visitor group. As a result, enhancements resulting from the projects at Mori Point would not significantly add to their visitor experience and expected impacts under the preferred alternative would remain the same for both user groups: long-term, minor and adverse for visitors who would prefer to have dog walking at this site; there would be beneficial impacts on visitors who prefer to walk dogs at Mori Point.

Indirect Impacts on Adjacent Parks

In lands adjacent to GGNRA, there are 23 parks with dog use areas within about a 10-mile radius of Mori Point and 3 parks within about a 5-mile radius; the closest parks are Esplanade Beach in Pacifica and the San Bruno Dog Park (map 27). The adjacent lands identified may experience increased visitation under the preferred alternative since the area for dog walking at Mori Point would be reduced and visitors from the local community would no longer be allowed to use the direct connector trail to the park site. Therefore, some visitors may begin dog walking activities at one of the nearby parks. Indirect impacts on visitor experience in adjacent parks due to increased visitor use would be expected, but only at a negligible level.

MORI POINT PREFERRED ALTERNATIVE CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Long-term minor adverse impacts for visitors who would prefer to walk dogs at the park	Dog walking would be limited to two trails	Long-term minor adverse cumulative impacts for visitors who would prefer to walk dogs at the park
Beneficial impacts for visitors who would prefer not to have dog walking at the park, assuming compliance	Dog walking would be limited to two trails; a no-dog experience would be available	Beneficial cumulative impacts for visitors who would prefer not to have dog walking at the park
		Negligible indirect impacts in adjacent lands

Milagra Ridge

Alternative A: No Action. On-leash dog walking is currently allowed on all trails and the fire road at this park site. Visitors (mostly locals) use the site for dog walking, hiking, and bicycling. Visitor use is considered moderate for hiking and bicycling and low to moderate for dog walking (table 9). Some visitors are not complying with the leash law; violations totaled 25 in 2007/2008 (table 9).

There would be no impact on visitors who would prefer to walk dogs at the park. On-leash dog walking would continue to be allowed throughout the site and some visitors would continue to be noncompliant with the leash restrictions. Visitation by this user group would remain the same.

Impacts on visitors who would prefer not to have dog walking at the park would be long term, minor, and adverse. Visitors would continue to encounter on-leash dogs and the occasional dog walker allowing dogs off leash. Visitors would not be able to have a no-dog experience at this park site. Visitation by this user group would have the potential to decrease.

Under alternative A, no permit system exists for dog walking. At Milagra Ridge, commercial dog walking is uncommon. The impacts from commercial dog walkers to visitor experience are similar to the impacts discussed above for both visitors who would prefer to walk dogs at the park and visitors who would prefer not to have dog walking at this park site.

Cumulative Impacts. There are no known projects or actions that have had, are currently having, or will have effects on visitor use and experience in the vicinity of this park site though there is the potential for unknown or unidentified projects or actions to occur during the life of this plan. As a result, cumulative impacts are considered negligible because they cannot be accurately assessed for this site. Therefore, no alteration to the results of the impact assessment are expected for any of the alternative actions proposed for the site and the results of the cumulative impact analysis for alternative A would remain the same: no impacts on visitors who would prefer to have dog walking in the park and long-term, minor and adverse for visitors who would prefer not to have dog walking at the park.

Indirect Impacts on Adjacent Parks

In lands adjacent to GGNRA, there are 36 parks with dog use areas within about a 10-mile radius of Milagra Ridge and 5 parks within about a 5-mile radius; the closest parks are Esplanade Beach in Pacifica and the San Bruno Dog Park (map 27). No indirect impacts on visitor experience in adjacent lands due to increased visitor use would be expected under alternative A since there would be no change in current conditions at the site.

MILAGRA RIDGE ALTERNATIVE A CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
No impact for visitors who would prefer to walk dogs at the park	On-leash dog walking would continue throughout the site	No cumulative impacts for visitors who would prefer to walk dogs at the park
Long-term minor adverse impacts for visitors who would prefer not to have dog walking at the park	Visitors would still encounter dogs throughout the site	Long-term minor adverse cumulative impacts for visitors who would prefer not to have dog walking at the park
		No indirect impacts in adjacent lands

Alternative B: NPS Leash Regulations. Under alternative B, on-leash dog walking would be allowed on the fire road, the trails to the westernmost overlook and WWII bunker, and the future Milagra Battery Trail. Dog walking would not be allowed on the trail to the top of the hill or the trail to the two southern overlooks.

Impacts on visitors who would prefer to walk dogs at Milagra Ridge would be long term, minor, and adverse. Dog walking would still be allowed at this site; however, some trails would now prohibit dogs. Impacts would be minor since this site experiences low to moderate use by dog walkers. Visitation by this user group would have the potential to decrease.

Impacts on visitors who would prefer not to have dog walking at the park would be beneficial. Some trails would now prohibit dogs, allowing visitors to hike or bicycle on these trails without the presence of dogs. Some visitors may feel more comfortable recreating at this site without the presence of dogs. Visitation by this user group may increase.

Under alternative B, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs on leash per person with no permit required. Since commercial dog walking is not common at Milagra Ridge, it is likely that commercial dog walking would have negligible impacts on both visitors who would prefer to walk dogs at the park and visitors who would prefer not to have dog walking at the park.

Cumulative Impacts. There are no known projects or actions that have had, are currently having, or will have effects on visitor use and experience in the vicinity of this park site though there is the potential for unknown or unidentified projects or actions to occur during the life of this plan. As a result, cumulative impacts are considered negligible because they cannot be accurately assessed for this site. Therefore, no alteration to the results of the impact assessment are expected for any of the alternative actions proposed for the site and the results of the cumulative impact analysis for alternative B would remain the same: long-term, minor adverse on visitors who would prefer to have dog walking in the park and beneficial impacts on visitors who would prefer not to have dog walking at the park.

Indirect Impacts on Adjacent Parks

No indirect impacts on visitor experience in adjacent lands due to increased visitor use would be expected under alternative B, since the fire road would still be open for dog walking.

MILAGRA RIDGE ALTERNATIVE B CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Long-term minor adverse impacts for visitors who would prefer to walk dogs at the park	Dog walking would be restricted to the fire road	Long-term minor adverse cumulative impacts for visitors who would prefer to walk dogs at the park
Beneficial impacts for visitors who would prefer not to have dog walking at the park, assuming compliance	Dog walking would be limited to the fire road; a no-dog experience would be available	Beneficial cumulative impacts for visitors who would prefer not to have dog walking at the park
		No indirect impacts in adjacent lands

Alternative C: Emphasis on Multiple Use, Balanced by County. Dog walking restrictions under alternative C would be the same as under alternative B and impacts on visitor use and experience would also be the same: long term, minor, and adverse for visitors who would prefer to walk dogs at Milagra Ridge and beneficial for visitors who would prefer not to have dog walking at Milagra Ridge.

Under alternative C, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be granted at Milagra Ridge, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking at Milagra Ridge is not common, it is likely that commercial dog walking would have negligible impacts on both visitors who would prefer to walk dogs at the park and visitors who would prefer not to have dog walking at the park.

Cumulative Impacts. There are no known projects or actions that have had, are currently having, or will have effects on visitor use and experience in the vicinity of this park site though there is the potential for unknown or unidentified projects or actions to occur during the life of this plan. As a result, cumulative impacts are considered negligible because they cannot be accurately assessed for this site. Therefore, no alteration to the results of the impact assessment are expected for any of the alternative actions proposed for the site and the results of the cumulative impact analysis for alternative C would not be affected. Impacts expected under alternative C, the cumulative impacts on visitor use and experience at this park site and the indirect impacts in adjacent lands would be the same as those under alternative B: long-term minor adverse impacts on visitors who would prefer to walk dogs at the park, beneficial impacts on visitors who would prefer not to have dog walking at the park, and no indirect impacts on visitor experience in adjacent lands.

MILAGRA RIDGE ALTERNATIVE C CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Long-term minor adverse impacts for visitors who would prefer to walk dogs at the park	Dog walking would be limited to the fire road	Long-term minor adverse cumulative impacts for visitors who would prefer to walk dogs at the park
Beneficial impacts for visitors who would prefer not to have dog walking at the park, assuming compliance	Dog walking would be limited to the fire road; a no-dog experience would be available	Beneficial cumulative impacts for visitors who would prefer not to have dog walking at the park
		No indirect impacts in adjacent lands

Alternative D: Overall Most Protective of Resources/Visitor Safety. Dogs would no longer be allowed in Milagra Ridge under alternative D.

Impacts on visitors who would prefer to walk dogs at this park site would be long term, minor, and adverse. Even though dog walking would no longer be allowed at this site, impacts would be minor since the Milagra Ridge area is not a heavily used area for dog walking. Visitors who would prefer to walk dogs at the park would need to visit other areas of GGNRA or nearby parks for dog walking. Visitation by this user group would no longer occur at this park site.

Impacts on visitors who would prefer not to have dog walking at the park would be beneficial. Visitors would no longer encounter dogs at this site. The entire Milagra Ridge site would be available for visitors to experience the park without the presence of dogs. These visitors may feel more comfortable recreating at the site without the presence of dogs. Visitation by this user group would be expected to increase.

Since dogs would not be allowed at this site the impacts to commercial dog walkers are similar to the impacts discussed above for visitors who would prefer to walk dogs at the park.

Cumulative Impacts. There are no known projects or actions that have had, are currently having, or will have effects on visitor use and experience in the vicinity of this park site though there is the potential for unknown or unidentified projects or actions to occur during the life of this plan. As a result, cumulative impacts are considered negligible because they cannot be accurately assessed for this site. Therefore, no alteration to the results of the impact assessment are expected for any of the alternative actions proposed for the site and the results of the cumulative impact analysis for alternative D would remain the same: long-term, minor adverse on visitors who would prefer to have dog walking in the park and beneficial impacts on visitors who would prefer not to have dog walking at the park.

Indirect Impacts on Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation under alternative D since dogs would no longer be allowed at Milagra Ridge. Long-term minor adverse indirect impacts on visitor experience in adjacent parks due to increased visitor use would be expected. Impacts would be minor since Milagra Ridge is a low to moderate use site for dog walkers.

MILAGRA RIDGE ALTERNATIVE D CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Long-term minor adverse impacts for visitors who would prefer to walk dogs at the park	No dog walking would be allowed throughout the site	Long-term minor adverse cumulative impacts for visitors who would prefer to walk dogs at the park
Beneficial impacts for visitors who would prefer not to have dog walking at the park, assuming compliance	No dog walking would be allowed; a no-dog experience would be available	Beneficial cumulative impacts for visitors who would prefer not to have dog walking at the park
		Long-term minor adverse indirect impacts in adjacent lands

Alternative E: Overall Most Dog Walking Access/Most Management Intensive. Dog walking regulations would be the same as those under alternative B, with the exception of an added on-leash dog walking portion of trail to the top of the hill opposite the WWII bunker, which would allow for additional trail mileage for dog walking under this alternative.

Impacts on visitors who would prefer to walk dogs at Milagra Ridge would be negligible. Dog walking would be allowed on most of the trails at this site. Visitors could continue to use most of the trails for exercising, playing with, and socializing their pets. Visitation by this user group would have the potential to decrease.

Impacts on visitors who would prefer not to have dog walking at the park would be beneficial. Allowing on-leash dog walking on some, but not all, trails at Milagra Ridge would allow visitors to experience some of the site without dogs. Visitation by this user group may increase.

Under alternative E, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be granted at Milagra Ridge, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking is not common at Milagra Ridge, it is likely that commercial dog walking would have negligible impacts on both visitors who would prefer to walk dogs at the park and visitors who would prefer not to have dog walking at the park.

Cumulative Impacts. There are no known projects or actions that have had, are currently having, or will have effects on visitor use and experience in the vicinity of this park site though there is the potential for unknown or unidentified projects or actions to occur during the life of this plan. As a result, cumulative impacts are considered negligible because they cannot be accurately assessed for this site. Therefore, no alteration to the results of the impact assessment are expected for any of the alternative actions proposed for the site and the results of the cumulative impact analysis for alternative E would remain the same: negligible impacts on visitors who would prefer to have dog walking in the park and beneficial impacts on visitors who would prefer not to have dog walking at the park.

Indirect Impacts on Adjacent Parks

No indirect impacts on visitor experience in adjacent lands due to increased visitor use would be expected under alternative E since dog walkers would have access to most of the trails at Milagra Ridge.

MILAGRA RIDGE ALTERNATIVE E CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Negligible impacts for visitors who would prefer to walk dogs at the park	Dog walking would be available on most trails	Negligible cumulative impacts for visitors who would prefer to walk dogs at the park
Beneficial impacts for visitors who would prefer not to have dog walking at the park, assuming compliance	A no-dog experience would be available; some trails would prohibit dogs	Beneficial cumulative impacts for visitors who would prefer not to have dog walking at the park
		No indirect impacts in adjacent lands

Preferred Alternative. Alternative C was selected as the preferred alternative for Milagra Ridge. On-leash dog walking would be allowed on the fire road, the trails to the westernmost overlook and WWII bunker, and a future Milagra Battery Trail. Dog walking would not be allowed on the trail to the top of the hill or the trail to the two southern overlooks.

Impacts on visitors who would prefer to walk dogs at Milagra Ridge would be long term, minor, and adverse. Dog walking would still be allowed at this site; however, some trails would now prohibit dogs. Impacts would be minor since this site experiences low to moderate use by dog walkers. Visitation by this user group would have the potential to decrease.

Impacts on visitors who would prefer not to have dog walking at the park would be beneficial. Some trails would now prohibit dogs, allowing visitors to hike or bicycle on these trails without the presence of dogs. Some visitors may feel more comfortable recreating at this site without the presence of dogs. Visitation by this user group may increase.

All dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be granted at Milagra Ridge, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking is not common at Milagra Ridge, it is likely that commercial dog walking would have negligible impacts on both visitors who would prefer to walk dogs at the park and visitors who would prefer not to have dog walking at the park.

Cumulative Impacts. There are no known projects or actions that have had, are currently having, or will have effects on visitor use and experience in the vicinity of this park site though there is the potential for unknown or unidentified projects or actions to occur during the life of this plan. As a result, cumulative impacts are considered negligible because they cannot be accurately assessed for this site. Therefore, no alteration to the results of the impact assessment are expected for any of the alternative actions proposed for the site and the results of the cumulative impact analysis for alternative E would remain the same: long-term, minor and adverse impacts on visitors who would prefer to have dog walking in the park and beneficial impacts on visitors who would prefer not to have dog walking at the park.

Indirect Impacts on Adjacent Parks

In lands adjacent to GGNRA, there are 36 parks with dog use areas within about a 10-mile radius of Milagra Ridge and 5 parks within about a 5-mile radius; the closest parks are Esplanade Beach in Pacifica and the San Bruno Dog Park (map 27). No indirect impacts on visitor experience in adjacent lands due to increased visitor use would be expected under the preferred alternative, since the fire road would still be open for dog walking.

MILAGRA RIDGE PREFERRED ALTERNATIVE CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Long-term minor adverse impacts for visitors who would prefer to walk dogs at the park	Dog walking would be restricted to the fire road	Long-term minor adverse cumulative impacts for visitors who would prefer to walk dogs at the park
Beneficial impacts for visitors who would prefer not to have dog walking at the park, assuming compliance	Dog walking would be limited to the fire road; a no-dog experience would be available	Beneficial cumulative impacts for visitors who would prefer not to have dog walking at the park
		No indirect impacts in adjacent lands

Sweeney Ridge/Cattle Hill

Alternative A: No Action. On-leash dog walking is currently allowed on all trails at Sweeney Ridge except the Notch Trail. Visitor use in this area is typically by dog walkers, bicyclists, and hikers. Visitation by dog walkers is considered low to moderate, and some visitors are not complying with the leash law; violations totaled 55 in 2007/2008 (table 9). Visitation by other user groups (e.g., bicyclists, hikers) is considered low. Cattle Hill is currently not part of GGNRA; however, some dog walking does take place at this site. Overall, visitation at these sites, especially Cattle Hill, would be expected to increase, especially once Cattle Hill is opened to visitors.

There would be no impact on visitors who would prefer to walk dogs at the park under the no-action alternative. Visitors would continue on-leash dog walking throughout the Sweeney Ridge area and some visitors would continue to be noncompliant with the leash restrictions. Dog walking would also continue at Cattle Hill. Visitation by this user group would remain the same.

Impacts on visitors who prefer to not have dog walking at the park would be long term, minor to moderate, and adverse. Visitors would continue to encounter both on-leash and off-leash dogs throughout the sites. Impacts would be minor to moderate since the site is not heavily used by dog walkers. The only area available for a no-dog experience is the Notch Trail at Sweeney Ridge. Some walkers, bicyclists, and hikers may prefer to recreate at this park site without the presence of dogs. Visitation by this user group could decrease.

Under alternative A, no permit system exists for dog walking. At Sweeney Ridge/Cattle Hill, commercial dog walking is uncommon. The impacts from commercial dog walkers to visitor experience are similar to the impacts discussed above for both visitors who would prefer to walk dogs at the park and visitors who would prefer not to have dog walking at these park sites.

Cumulative Impacts. There are no known projects or actions that have had, are currently having, or will have effects on visitor use and experience in the vicinity of this park site though there is the potential for unknown or unidentified projects or actions to occur during the life of this plan. As a result, cumulative

impacts are considered negligible because they cannot be accurately assessed for this site. Therefore, no alteration to the results of the impact assessment are expected for any of the alternative actions proposed for the site and the results of the cumulative impact analysis for alternative A would remain the same: no impacts to negligible impacts on visitors who would prefer to have dog walking in the park and long-term, minor to moderate adverse impacts on visitors who would prefer not to have dog walking at the park.

Indirect Impacts on Adjacent Parks

In lands adjacent to GGNRA, there are 24 parks with dog use areas within about a 10-mile radius of Sweeney Ridge and Cattle Hill and 4 parks within about a 5-mile radius; the closest parks are the San Bruno Dog Park and Esplanade Beach in Pacifica (map 27). No indirect impacts on visitor experience in adjacent lands due to increased visitor use would be expected under alternative A since there would be no change in current conditions at the site.

SWEENEY RIDGE/CATTLE HILL ALTERNATIVE A CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
No impact for visitors who would prefer to walk dogs at the park	On-leash dog walking would continue throughout the site	No cumulative impacts for visitors who would prefer to walk dogs at the park
Long-term minor to moderate adverse impacts for visitors who would prefer not to have dog walking at the park	Visitors would still encounter dogs throughout the site	Long-term minor to moderate adverse cumulative impacts for visitors who would prefer not to have dog walking at the park
		No indirect impacts in adjacent lands

Alternative B: NPS Leash Regulations. Under alternative B, no dogs would be allowed in the Sweeney Ridge or Cattle Hill areas of GGNRA. Changes to the dog walking regulation at Cattle Hill would not occur until the land is transferred to the NPS.

Impacts on visitors who would prefer to walk dogs at the park would be long term, minor to moderate, and adverse. Dog walking would no longer occur at these sites. Visitors who typically use these areas would now be required to find other sites within or outside GGNRA to walk their dogs. Impacts would be minor to moderate since these sites are not considered high use areas for dog walkers. Visitation by this user group would no longer occur.

Impacts on visitors who would prefer not to have dog walking at these park sites would be beneficial. Visitors would no longer encounter either on-leash or off-leash dogs. Both sites would be available for visitors to recreate without the presence of dogs. Visitation by this user group would likely increase.

Since dogs would not be allowed at these sites the impacts to commercial dog walkers are similar to the impacts discussed above for visitors who would prefer to walk dogs at the park.

Cumulative Impacts. There are no known projects or actions that have had, are currently having, or will have effects on visitor use and experience in the vicinity of this park site though there is the potential for unknown or unidentified projects or actions to occur during the life of this plan. As a result, cumulative impacts are considered negligible because they cannot be accurately assessed for this site. Therefore, no alteration to the results of the impact assessment are expected for any of the alternative actions proposed for the site and the results of the cumulative impact analysis for alternative B would remain the same:

long-term minor adverse impacts on visitors who would prefer to have dog walking in the park and beneficial impacts on visitors who would prefer not to have dog walking at the park.

Indirect Impacts on Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation under alternative B, particularly San Bruno Dog Park and Esplanade Beach, because they are the closest dog use areas. Long-term minor adverse indirect impacts on visitor experience in adjacent lands due to increased visitor use may occur. Since dogs would no longer be allowed at Sweeney Ridge/Cattle Hill, visitors with dogs may choose to visit other parks to walk their dogs. Indirect impacts would be minor, since this site is a low to moderate use site for dog walkers.

SWEENEY RIDGE/CATTLE HILL ALTERNATIVE B CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Long-term minor to moderate adverse impacts for visitors who would prefer to walk dogs at the park	No dog walking would be allowed throughout the site	Long-term minor to moderate adverse cumulative impacts for visitors who would prefer to walk dogs at the park
Beneficial impacts for visitors who would prefer not to have dog walking at the park, assuming compliance	No dog walking would be allowed; a no-dog experience would be available	Beneficial cumulative impacts for visitors who would prefer not to have dog walking at the park
		Long-term minor adverse indirect impacts in adjacent lands

Alternative C: Emphasis on Multiple Use, Balanced by County. Under alternative C, no dog walking would be allowed at Sweeney Ridge. On-leash dog walking would be allowed at Cattle Hill on the Baquiano Trail from Fassler Avenue up to and including the Farallons Trail. Changes to the dog walking regulation at Cattle Hill would not occur until the land is transferred to the NPS.

Impacts on visitors who would prefer to walk dogs at the park would be long term, minor, and adverse. Adverse impacts would occur since dog walkers would no longer be allowed in the Sweeney Ridge site. Visitors would no longer be able to enjoy exercising, socializing, and playing with their dogs at Sweeney Ridge. Impacts would be minor since this is a low to moderate use site for dog walkers. Some visitors in this user group may find a different area in GGNRA or a local city or county park to walk their dogs. As a result, visitation by local residents may decrease slightly in this area.

Impacts on visitors who would prefer not to have dog walking at the park would be beneficial. The entire site of Sweeney Ridge and portions of the Cattle Hill site would be available for a no-dog experience. Visitors who would prefer not to have dog walking at the park may feel more comfortable recreating at Sweeney Ridge since dogs would be absent from this site.

Under alternative C, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be granted at Cattle Hill or Sweeney Ridge so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking is not common at Cattle Hill, it is likely that commercial dog walking would have negligible impacts on both visitors who would prefer to walk dogs at the park and visitors who would prefer not to have dog walking at the park. Since dogs would not be allowed at Sweeney Ridge the impacts to commercial dog walkers are similar to the impacts discussed above for visitors who would prefer to walk dogs at the park.

Cumulative Impacts. There are no known projects or actions that have had, are currently having, or will have effects on visitor use and experience in the vicinity of this park site though there is the potential for unknown or unidentified projects or actions to occur during the life of this plan. As a result, cumulative impacts are considered negligible because they cannot be accurately assessed for this site. Therefore, no alteration to the results of the impact assessment are expected for any of the alternative actions proposed for the site and the results of the cumulative impact analysis for alternative C would remain the same: negligible impacts on visitors who would prefer to have dog walking in the park and beneficial impacts on visitors who would prefer not to have dog walking at the park.

Indirect Impacts on Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation under alternative C, since dogs would no longer be allowed at Sweeney Ridge. Visitors with dogs may choose to visit Cattle Hill or other parks outside GGNRA to walk their dogs. Indirect impacts on visitor experience in adjacent lands due to increased visitor use would be expected, but only at a negligible level. Visitors with dogs would be able to walk their dogs at Cattle Hill, so not all dog walkers would leave this area and visit adjacent lands to walk their dogs.

SWEENEY RIDGE/CATTLE HILL ALTERNATIVE C CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Long-term minor adverse impacts for visitors who would prefer to walk dogs at the park	No dog walking would be allowed at Sweeney Ridge; limited dog walking would be allowed at Cattle Hill	Long-term minor adverse cumulative impacts for visitors who would prefer to walk dogs at the park
Beneficial impacts for visitors who would prefer not to have dog walking at the park, assuming compliance	No dog walking would be allowed at Sweeney Ridge and limited dog walking would be allowed at Cattle Hill; a no-dog experience would be available	Beneficial cumulative impacts for visitors who would prefer not to have dog walking at the park
		Negligible indirect impacts in adjacent lands

Alternative D: Overall Most Protective of Resources/Visitor Safety. Dog walking restrictions under alternative D would be the same as under alternative B and impacts on visitor use and experience would also be the same: long term, minor to moderate, and adverse for visitors who would prefer to walk dogs at these park sites and beneficial for visitors who would prefer not to have dog walking at these park sites.

Since dogs would not be allowed at these sites the impacts to commercial dog walkers are similar to the impacts discussed above under alternative B for visitors who would prefer to walk dogs at the park.

Cumulative Impacts. The cumulative impacts on visitor use and experience at this park site and indirect impacts in adjacent lands under alternative D would be the same as those under alternative B: long-term minor to moderate adverse impacts for visitors who would prefer to walk dogs at the park, beneficial for visitors who would prefer not to have dog walking at the park, and long-term minor adverse indirect impacts on visitor experience in adjacent lands.

SWEENEY RIDGE/CATTLE HILL ALTERNATIVE D CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Long-term minor to moderate adverse impacts for visitors who would prefer to walk dogs at the park	No dog walking would be allowed throughout the site	Long-term minor to moderate adverse cumulative impacts for visitors who would prefer to walk dogs at the park
Beneficial impacts for visitors who would prefer not to have dog walking at the park, assuming compliance	No dog walking would be allowed; a no-dog experience would be available	Beneficial cumulative impacts for visitors who would prefer not to have dog walking at the park
		Long-term minor adverse indirect impacts in adjacent lands

Alternative E: Overall Most Dog Walking Access/Most Management Intensive. On-leash dog walking would be allowed on Sneath Lane, the Sweeney Ridge Trail from the Portola Discovery Site to the Notch Trail, and the Mori Ridge Trail. Dogs would be prohibited on the Notch Trail and the Baquiano Trail. At Cattle Hill, on-leash dog walking would be allowed on the Baquiano Trail from Fassler Avenue up to and including the Farallons View Trail. Changes to the dog walking regulation at Cattle Hill would not occur until the land is transferred to the NPS.

Impacts on visitors who would prefer to walk dogs at the park would be negligible. Impacts would be negligible since on-leash dog walking would still be allowed on the Mori Ridge Trail and Sweeney Ridge Trail at Sweeney Ridge and on the Farallons View Trail and a portion of the Baquiano Trail at Cattle Hill. Dog walking would be prohibited on the Notch Trail and Baquiano Trail in Sweeney Ridge. Visitors should feel that they have adequate trails to be able to enjoy exercising, socializing, and playing with their dogs. Visitation by this user group would likely remain the same.

Impacts on visitors who would prefer not to have dog walking at this park site would be long term, minor, and adverse. Visitors would continue to encounter on-leash dog walkers on many trails at Sweeney Ridge and dog walkers would be allowed at Cattle Hill once that site transfers to the NPS. Some walkers, bicyclists, and hikers may feel uncomfortable recreating in these areas due to the presence of dogs. However, visitors would have the opportunity to experience the park without the presence of dogs along the Notch Trail and Baquiano Trail at Sweeney Ridge. Visitation by this user group would have the potential to decrease.

Under alternative E, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be granted at Sweeney Ridge/Cattle Hill, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking is not common at Sweeney Ridge/Cattle Hill, it is likely that commercial dog walking would have negligible impacts on both visitors who would prefer to walk dogs at the park and visitors who would prefer not to have dog walking at the park.

Cumulative Impacts. There are no known projects or actions that have had, are currently having, or will have effects on visitor use and experience in the vicinity of this park site though there is the potential for unknown or unidentified projects or actions to occur during the life of this plan. As a result, cumulative impacts are considered negligible because they cannot be accurately assessed for this site. Therefore, no alteration to the results of the impact assessment are expected for any of the alternative actions proposed for the site and the results of the cumulative impact analysis for alternative E would remain the same: negligible impacts on visitors who would prefer to have dog walking in the park and long-term minor adverse impacts on visitors who would prefer not to have dog walking at the park.

Indirect Impacts on Adjacent Parks

No indirect impacts on visitor experience in adjacent lands due to increased visitor use would be expected under alternative E since dog walkers would have access to two of the main trails at Sweeney Ridge and the Farallons View Trail and a portion of the Baquiano Trail at Cattle Hill would be open to dog walkers.

SWEENEY RIDGE/CATTLE HILL ALTERNATIVE E CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Negligible impacts for visitors who would prefer to walk dogs at the park	On-leash dog walking would be available on trails at both sites	Negligible cumulative impacts for visitors who would prefer to walk dogs at the park
Long-term minor adverse impacts for visitors who would prefer not to have dog walking at the park, assuming compliance	On-leash dog walking would be available on most trails	Long-term minor adverse cumulative impacts for visitors who would prefer not to have dog walking at the park
		No indirect impacts in adjacent lands

Preferred Alternative. Alternative C was selected as the preferred alternative for Sweeney Ridge/Cattle Hill. No dog walking would be allowed at Sweeney Ridge. On-leash dog walking would be allowed at Cattle Hill on the Baquiano Trail from Fassler Avenue up to and including the Farallons Trail. Changes to the dog walking regulation at Cattle Hill would not occur until the land is transferred to the NPS.

Impacts on visitors who would prefer to walk dogs at the park would be long term, minor, and adverse. Adverse impacts would occur since dog walkers would no longer be allowed in the Sweeney Ridge site and would have limited access at Cattle Hill. Visitors would no longer be able to enjoy exercising, socializing, and playing with their dogs at Sweeney Ridge. Impacts would be minor since this is a low to moderate use site for dog walkers. Some visitors in this user group may find a different area in GGNRA or a local city or county park to walk their dogs. As a result, visitation by local residents may decrease slightly in this area.

Impacts on visitors who would prefer not to have dog walking at the park would be beneficial. The entire site of Sweeney Ridge and portions of the Cattle Hill site would be available for a no-dog experience. Visitors who would prefer not to have dog walking at the park may feel more comfortable recreating at Sweeney Ridge since dogs would be absent from this site.

Under the preferred alternative, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be granted at Cattle Hill or Sweeney Ridge, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking is not common at Cattle Hill, it is likely that commercial dog walking would have negligible impacts on both visitors who would prefer to walk dogs at the park and visitors who would prefer not to have dog walking at the park. Since dogs would not be allowed at Sweeney Ridge the impacts to commercial dog walkers are similar to the impacts discussed above for visitors who would prefer to walk dogs at the park.

Cumulative Impacts. There are no known projects or actions that have had, are currently having, or will have effects on visitor use and experience in the vicinity of this park site though there is the potential for unknown or unidentified projects or actions to occur during the life of this plan. As a result, cumulative impacts are considered negligible because they cannot be accurately assessed for this site. Therefore, no

alteration to the results of the impact assessment are expected for any of the alternative actions proposed for the site and the results of the cumulative impact analysis for the preferred alternative would remain the same: long-term minor and adverse impacts on visitors who would prefer to have dog walking in the park and beneficial impacts on visitors who would prefer not to have dog walking at the park.

Indirect Impacts on Adjacent Parks

In lands adjacent to GGNRA, there are 24 parks with dog use areas within about a 10-mile radius of Sweeney Ridge and Cattle Hill and 4 parks within about a 5-mile radius; the closest parks are the San Bruno Dog Park and Esplanade Beach in Pacifica (map 27). The adjacent lands may experience increased visitation under the preferred alternative, since dogs would no longer be allowed at Sweeney Ridge. Visitors with dogs may choose to visit Cattle Hill or other parks outside GGNRA to walk their dogs. Indirect impacts on visitor experience in adjacent lands due to increased visitor use would be expected, but only at a negligible level. Visitors with dogs would be able to walk their dogs at Cattle Hill, so not all dog walkers would leave this area and visit adjacent lands to walk their dogs.

SWEENEY RIDGE/CATTLE HILL PREFERRED ALTERNATIVE CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Long-term minor adverse impacts for visitors who would prefer to walk dogs at the park	No dog walking would be allowed at Sweeney Ridge; limited dog walking would be allowed at Cattle Hill	Long-term minor adverse cumulative impacts for visitors who would prefer to walk dogs at the park
Beneficial impacts for visitors who would prefer not to have dog walking at the park, assuming compliance	No dog walking would be allowed at Sweeney Ridge and limited dog walking would be allowed at Cattle Hill; a no-dog experience would be available	Beneficial cumulative impacts for visitors who would prefer not to have dog walking at the park
		Negligible indirect impacts in adjacent lands

Pedro Point Headlands

Alternative A: No Action. Pedro Point Headlands is currently not part of GGNRA; however, dog walking both on and off leash occurs at this site in low to moderate numbers (table 9). Other uses at this site include hiking and horseback riding, which are also considered low to moderate use activities at this site.

There would be no impact on visitors who would prefer to walk dogs at this site under the no-action alternative. Dog walking both on and off leash would continue at the Pedro Point Headlands. Visitors would continue to exercise, play, and socialize with their dogs at this site. Visitation by this user group would remain the same.

Impacts on visitors who would prefer to not have dog walking at the park would be long term, minor, and adverse. Visitors would continue to encounter both on-leash and off-leash dogs at the site. Impacts would be minor since the site is a low to moderate use area for dog walkers. Visitation by this user group could decrease.

Under alternative A, no permit system exists for dog walking. At the Pedro Point Headlands, commercial dog walking is uncommon. The impacts from commercial dog walkers to visitor experience are similar to the impacts discussed above for both visitors who would prefer to walk dogs at the park and visitors who would prefer not to have dog walking at this park site.

Cumulative Impacts. Projects and actions in and near the Pedro Point Headlands were considered for the cumulative impacts analysis (appendix K). Pedro Point Headlands would offer new opportunities and experiences to park visitors, resulting in benefits for visitor experience at this park site. The Pedro Point Headlands Stewardship Project aims to complete ecological conservation, habitat restoration, trail development, and to foster a community volunteer stewardship program at Pedro Point Headlands. These changes will improve the safety of trails, recreational opportunities, and the aesthetics of the area, which will benefit visitor experience (City College of San Francisco 2008, 1; Coastsider 2010, 1). The Devil's Slide Tunnels Project will result in a bypass of Devil's Slide by two inland tunnels to provide a safe, dependable highway between Pacifica and Montara. This area is expected to have a high level of visitor use with multiple recreational activities as a result of a planned recreation trail along the present U.S. Route 1 roadway, following the opening of the Devil's Slide Tunnel. As a result, it is expected that visitor use would increase for both user groups and both groups would also benefit from additional recreational opportunities and access to Pedro Point Headlands under alternative A. A potential for an increase in incidents between both user groups could be expected and could lead to long-term minor to moderate adverse impacts on visitors who would prefer not to have dog walking at this park site.

Indirect Impacts on Adjacent Parks

In lands adjacent to GGNRA, there are 14 parks with dog use areas within about a 10-mile radius of Pedro Point and 2 parks within about a 5-mile radius; the closest parks are Montara State Beach and Esplanade Beach in Pacifica (map 27). No indirect impacts on visitor experience in adjacent lands due to increased visitor use would be expected under alternative A since there would be no change in current conditions at the site.

PEDRO POINT HEADLANDS ALTERNATIVE A CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
No impact for visitors who would prefer to walk dogs at the park	Dog walking would continue at the site	Beneficial cumulative impacts for visitors who would prefer to walk dogs at the park
Long-term minor adverse impacts for visitors who would prefer not to have dog walking at the park	Dog walking would occur at the site; dog walking use is low to moderate at the site	Negligible cumulative impacts for visitors who would prefer not to have dog walking at the park
		No indirect impacts in adjacent lands

Alternative B: NPS Leash Regulations. On-leash dog walking would be allowed along the Coastal Trail. This area is expected to have a high level of visitor use with multiple recreational activities as a result of a planned recreation trail along the present U.S. Highway 1 roadway, following the opening of the Devil's Slide Tunnel. Implementation of the dog walking regulation at Pedro Point Headlands would not occur until the land is transferred to the NPS.

Impacts on visitors who would prefer to walk dogs at Pedro Point Headlands would be negligible. On-leash dog walking would be required and would be allowed on the Coastal Trail. Visitors should feel that they have an adequate area to be able to enjoy exercising, socializing, and playing with their dogs; however, visitors would no longer be able to walk their dogs off leash. Visitation by this user group would likely remain the same.

Impacts on visitors who would prefer not to have dog walking at this site would be beneficial. Dogs would be required to be on leash at this site. Visitors who would prefer not to have dog walking at the park may feel more comfortable recreating at the Pedro Point Headlands since dogs would be required to

be restrained on leash. Visitation by this user group at Pedro Point Headlands would have the potential to increase.

Under alternative B, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs on leash per person with no permit required. Since commercial dog walking is not common at the Pedro Point Headlands, it is likely that commercial dog walking would have negligible impacts on both visitors who would prefer to walk dogs at the park and visitors who would prefer not to have dog walking at the park.

Cumulative Impacts. Under alternative B, it is expected that visitor use would benefit from additional recreational opportunities and access to Pedro Point Headlands. For both visitors there would be beneficial cumulative impacts on visitor use and experience for visitors who would prefer to walk dogs at the park under alternative B despite the fact that dogs would be restricted to a leash. The addition of this site for dog-related recreation outweighs the restriction of requiring a leash for dog walking. Similarly, visitors who prefer not to have dog walking in the park would have the benefit of a new trail system and site to explore and dogs would be restricted to a leash and controlled. Overall, both user groups would benefit.

Indirect Impacts on Adjacent Parks

No indirect impacts on visitor experience in adjacent lands due to increased visitor use would be expected under alternative B, since on-leash dog walking would be allowed at Pedro Point Headlands.

PEDRO POINT HEADLANDS ALTERNATIVE B CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Negligible impacts for visitors who would prefer to walk dogs at the park	On-leash dog walking would be available at the site; no off-leash dog walking would be allowed	Beneficial cumulative impacts for visitors who would prefer to walk dogs at the park
Beneficial impacts for visitors who would prefer not to have dog walking at the park, assuming compliance	Dogs would be required to be on leash on the Coastal Trail	Beneficial cumulative impacts for visitors who would prefer not to have dog walking at the park
		No indirect impacts in adjacent lands

Alternative C: Emphasis on Multiple Use, Balanced by County. Dog walking restrictions under alternative C would be the same as under alternative B and impacts on visitor use and experience would also be the same: negligible for visitors who would prefer to walk dogs at this park site and beneficial for visitors who would prefer not to have dog walking at this park site.

Under alternative C, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be granted at the Pedro Point Headlands, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking activity is not common at this site, it is likely that commercial dog walking would have negligible impacts on both visitors who would prefer to walk dogs at the park and visitors who would prefer not to have dog walking at the park.

Cumulative Impacts. Under alternative C, the cumulative impacts on visitor use and experience at this park site and indirect impacts in adjacent lands would be the same as those under alternative B: beneficial cumulative impacts on both user groups and no indirect impacts on visitor experience in adjacent lands.

PEDRO POINT HEADLANDS ALTERNATIVE C CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Negligible impacts for visitors who would prefer to walk dogs at the park	On-leash dog walking would be available at the site; no off-leash dog walking would be allowed	Beneficial cumulative impacts for visitors who would prefer to walk dogs at the park
Beneficial impacts for visitors who would prefer not to have dog walking at the park, assuming compliance	Dogs would be required to be on leash on the Coastal Trail	Beneficial cumulative impacts for visitors who would prefer not to have dog walking at the park
		No indirect impacts in adjacent lands

Alternative D: Overall Most Protective of Resources/Visitor Safety. Under alternative D, no dogs would be allowed in Pedro Point Headlands. Implementation of the dog walking regulation at the Pedro Point Headlands would not occur until the land is transferred to the NPS.

Impacts on visitors who would prefer to walk dogs at this park site would be long term, minor, and adverse. Dog owners currently use this area to walk and exercise their dogs both on and off leash, but these activities would be prohibited under alternative D, which would not be consistent with regulations on adjacent sections of the Coastal Trail managed by other agencies. Impacts would be considered minor since this site has low to moderate visitor use. Visitors to this area would be required to visit a different park for dog walking activities. Visitation by dog walkers would no longer occur at this park site.

Impacts on visitors who would prefer not to have dog walking at this site would be beneficial. Once the NPS begins managing this area, the entire site would be available to visitors looking for a no-dog experience. Visitors would no longer encounter on-leash or off-leash dogs. Some visitors may feel more comfortable recreating at this site without the presence of dogs; therefore, visitation by this user group would likely increase.

Since dogs would not be allowed at the Pedro Point Headlands the impacts to commercial dog walkers are similar to the impacts discussed above for visitors who would prefer to walk dogs at the park.

Cumulative Impacts. Because a trail system is planned that would connect visitors to Pedro Point Headlands it is expected that visitor use would increase; however, dogs would not be permitted at Pedro Point under alternative D and visitors who prefer to walk dogs at the park would be prohibited from the site. Long-term, minor adverse impacts to that user group occurring with the implementation of alternative Headlands. Visitors who prefer not to have dog walking at the park who continue to benefit under alternative D.

Indirect Impacts on Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation under alternative D, since dogs would not be allowed at the Pedro Point Headlands. Visitors with dogs may choose to go to other parks outside GGNRA to walk their dogs. Indirect impacts on visitor experience in adjacent lands due to increased visitor use would be expected, but would be predicted to be long term, minor, and adverse since this is a low to moderate use site for dog walkers.

PEDRO POINT HEADLANDS ALTERNATIVE D CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Long-term minor adverse impacts for visitors who would prefer to walk dogs at the park	No dog walking would be allowed at the site	Negligible to long-term minor adverse cumulative impacts for visitors who would prefer to walk dogs at the park
Beneficial impacts for visitors who would prefer not to have dog walking at the park, assuming compliance	No dog walking would be allowed; a no-dog experience would be available	Beneficial cumulative impacts for visitors who would prefer not to have dog walking at the park
		Long-term minor adverse indirect impacts in adjacent lands

Alternative E: Overall Most Dog Walking Access/Most Management Intensive. Dog walking restrictions under alternative E would be the same as under alternative B and impacts on visitor use would also be the same: negligible for visitors who would prefer to walk dogs at the park and beneficial for visitors who would prefer not to have dog walking at this park site.

Under alternative E, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be granted at the Pedro Point Headlands, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking activity is not common at the Pedro Point Headlands, it is likely that commercial dog walking would have negligible impacts on both visitors who would prefer to walk dogs at the park and visitors who would prefer not to have dog walking at the park.

Cumulative Impacts. Under alternative E, it is expected that visitor use would benefit from additional recreational opportunities and access to Pedro Point Headlands. For both visitors there would be beneficial cumulative impacts on visitor use and experience for visitors who would prefer to walk dogs at the park under alternative E despite the fact that dogs would be restricted to a leash. The addition of this site for dog-related recreation outweighs the restriction of requiring a leash for dog walking. Similarly, visitors who prefer not to have dog walking in the park would have the benefit of a new trail system and site to explore and dogs would be restricted to a leash and controlled. Overall, both user groups would benefit.

Indirect Impacts on Adjacent Parks

No indirect impacts on visitor experience in adjacent lands due to increased visitor use would be expected under alternative E, since on-leash dog walking would be allowed at Pedro Point Headlands.

PEDRO POINT HEADLANDS ALTERNATIVE E CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Negligible impacts for visitors who would prefer to walk dogs at the park	On-leash dog walking would be available at the site; no off-leash dog walking would be allowed	Beneficial cumulative impacts for visitors who would prefer to walk dogs at the park
Beneficial impacts for visitors who would prefer not to have dog walking at the park, assuming compliance	Dogs would be required to be on leash on the Coastal Trail	Beneficial cumulative impacts for visitors who would prefer not to have dog walking at the park
		No indirect impacts in adjacent lands

Preferred Alternative. Alternative C was selected as the preferred alternative for Pedro Point Headlands. On-leash dog walking would be allowed along the Coastal Trail. This area is expected to have a high level of visitor use with multiple recreational activities as a result of a planned recreation trail along the present U.S. Highway 1 roadway, following the opening of the Devil's Slide Tunnel. Implementation of the dog walking regulation at Pedro Point Headlands would not occur until the land is transferred to the NPS.

Impacts on visitors who would prefer to walk dogs at Pedro Point Headlands would be negligible. On-leash dog walking would be required and would be allowed on the Coastal Trail. Visitors should feel that they have an adequate area to be able to enjoy exercising, socializing, and playing with their dogs; however, visitors would no longer be able to walk their dogs off leash. Visitation by this user group would likely remain the same.

Impacts on visitors who would prefer not to have dog walking at this site would be beneficial. Dogs would be required to be on leash at this site. Visitors who would prefer not to have dog walking at the park may feel more comfortable recreating at the Pedro Point Headlands since dogs would be required to be restrained on leash. Visitation by this user group at Pedro Point Headlands would have the potential to increase.

All dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be granted at the Pedro Point Headlands, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking is not common at the Pedro Point Headlands, it is likely that commercial dog walking would have negligible impacts on both visitors who would prefer to walk dogs at the park and visitors who would prefer not to have dog walking at the park.

Cumulative Impacts. Projects and actions in and near the Pedro Point Headlands were considered for the cumulative impacts analysis (appendix K). Pedro Point Headlands would offer new opportunities and experiences to the park visitors, resulting in benefits for visitor experience at this park site. The Pedro Point Headlands Stewardship Project aims to maintain and improve the ecological status of Pedro Point Headlands, and habitat restoration and trail development efforts include minimizing erosion (City College of San Francisco 2008, 1; Coastsider 2010, 1). The Devil's Slide Tunnels Project will result in a bypass of Devil's Slide by two inland tunnels to provide a safe, dependable highway between Pacifica and Montara. This area is expected to have a high level of visitor use with multiple recreational activities as a result of a planned recreation trail along the present U.S. Highway 1 roadway, following the opening of the Devil's Slide Tunnel. As a result, it is expected that visitor use would increase for both user groups and both groups would also benefit from additional recreational opportunities and access to Pedro Point Headlands under the preferred alternative. Under the preferred alternative, it is expected that visitor use would benefit from additional recreational opportunities and access to Pedro Point Headlands. For both visitors there would be beneficial cumulative impacts on visitor use and experience for visitors who would prefer to walk dogs at the park under alternative B despite the fact that dogs would be restricted to a leash. The addition of this site for dog-related recreation outweighs the restriction of requiring a leash for dog walking. Similarly, visitors who prefer not to have dog walking in the park would have the benefit of a new trail system and site to explore and dogs would be restricted to a leash and controlled. Overall, both user groups would benefit.

Indirect Impacts on Adjacent Parks

In lands adjacent to GGNRA, there are 14 parks with dog use areas within about a 10-mile radius of Pedro Point and 2 parks within about a 5-mile radius; the closest parks are Montara State Beach and

Esplanade Beach in Pacifica (map 27). No indirect impacts on visitor experience in adjacent lands due to increased visitor use would be expected under the preferred alternative, since on-leash dog walking would be allowed at Pedro Point Headlands.

PEDRO POINT HEADLANDS PREFERRED ALTERNATIVE CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Negligible impacts for visitors who would prefer to walk dogs at the park	On-leash dog walking would be available at the site; no off-leash dog walking would be allowed	Beneficial cumulative impacts for visitors who would prefer to walk dogs at the park
Beneficial impacts for visitors who would prefer not to have dog walking at the park, assuming compliance	Dogs would be required to be on leash on the Coastal Trail	Beneficial cumulative impacts for visitors who would prefer not to have dog walking at the park
		No indirect impacts in adjacent lands

New Lands

Alternative A: No Action. For new lands that come under the management of GGNRA, alternative A would manage these lands under existing NPS regulations as described in 36 CFR 2.15, which forbids possession of a pet in a public building, public transportation vehicle, location designated as a swimming beach, or any structure or area closed to pets by the superintendent. Therefore, on-leash dog walking would be allowed at new lands under alternative A.

Because it is unknown what types of lands and what locations may come under GGNRA management in the future, a conservative approach to the impact analysis was adopted. Alternative A could provide an option for visitors who want to have the experience of walking their dog on leash at new lands. Negligible impacts would therefore occur to visitors who would prefer to walk dogs at the park because on-leash dog walking would be allowed under alternative A. Visitors who want to experience new GGNRA sites without the presence of dogs would be restricted to areas where dogs are prohibited or would have to visit other nearby areas where dogs are prohibited. Conversely, at new lands where dog walking on leash is more restrictive than the prior condition (before acquisition by NPS), visitors may seek out an alternative dog walking area. Long-term, minor, adverse impacts would therefore occur to visitors who would not prefer dogs at the park because on-leash dog walking would be allowed under alternative A. However, it is also expected that effects to visitor use would be negligible because regulations would be made known prior to opening the site to visitors, and visitors from either group would be aware of the expected conditions.

Under alternative A, no permit system would exist for dog walking. At sites where commercial dog walking is not common, it is likely that the new regulation would have no impact on the number of dog walkers and alternative A would have a negligible impact on visitor use and experience. At sites where commercial dog walking is common, impacts to visitor use and experience from commercial dog walkers would be similar to impacts from other dog walkers. Overall impacts to visitor use and experience from dogs walked by both commercial and private individuals were summarized above.

Cumulative Impacts. Because it is unknown what new land locations may come under GGNRA management in the future, the cumulative impacts analysis for new lands would be similar to the cumulative impact analysis that was completed for park sites that are located in proximity to the new lands.

Indirect Impacts on Adjacent Parks

It is unknown what parks (including dog use areas) would be located adjacent to new lands not yet acquired by GGNRA. Therefore, a range of indirect impacts was developed to encompass the range of impact possibilities that could occur at lands located adjacent to these new lands that have not yet been acquired. Adjacent lands could range from urban lands previously developed to preserved lands. Since on-leash dog walking would be allowed at new lands under this alternative the overall indirect impacts to visitor use at adjacent lands as a result of alternative A would range from no impact to negligible.

ALTERNATIVE A CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Negligible impact for visitors who would prefer to walk dogs at the park	Provides an area for on-leash dog walking	Results would be similar to the cumulative impact analysis that was completed for park sites that are located in proximity to the new lands
Negligible to long-term minor adverse impacts for visitors who would prefer not to have dog walking at the park	Provides an area for on-leash dog walking. Visitors may not be able to have a no dog experience at the site	No indirect impact to negligible indirect impact at adjacent lands

Alternatives B and C. For new lands that come under the management of GGNRA, alternatives B and C would manage these lands under existing NPS regulations as described in 36 CFR 2.15, which forbids possession of a pet in a public building, public transportation vehicle, location designated as a swimming beach, or any structure or area closed to pets by the superintendent. Alternatives B and C would allow on-leash dog walking unless the following conditions were triggered:

- impedes the attainment of a park's desired future conditions for natural and cultural resources as identified through the park's planning process, or
- creates an unsafe or unhealthful environment for visitors or employees, or
- impedes or interferes with park programs or activities, or
- triggers the compliance-based management strategy's process for closure.

Under alternatives B and C, all dog walkers, including commercial dog walkers, would be allowed up to three dogs with no permit required. All dogs must be on a leash. At sites where commercial dog walking is not common, it is likely that the new regulation would not have an impact on the number of dog walkers resulting in a negligible impact on visitor use and experience. At sites where commercial dog walking is common, impacts to visitor use and experience from commercial dog walkers would be similar to impacts from other dog walkers. Overall impacts to visitor use and experience from dogs walked by both commercial and private individuals are summarized below.

Because it is unknown what types of lands and what locations may come under GGNRA management in the future, a conservative approach to the impact analysis was adopted. Alternatives B and C could provide an option for visitors who want to have the experience of walking their dog on leash at new lands. Negligible impacts would therefore occur to visitors who would prefer to walk dogs at the park because on-leash dog walking would be allowed under alternatives B and C and the on-leash restriction would be

strictly enforced. Visitors who want to experience new GGNRA sites without the presence of dogs would be restricted to areas where dogs are prohibited or would have to visit other nearby areas where dogs are prohibited. Conversely, at new lands where dog walking on leash is more restrictive than the prior condition (before acquisition by NPS), visitors may seek out an alternative dog walking area. Long-term, minor, adverse impacts would therefore occur to visitors who would not prefer dogs at the park because on-leash dog walking would be allowed under alternatives B and C. However, it is also expected that effects to visitor use would be negligible because regulations would be made known prior to opening the site to visitors, and visitors from either group would be aware of the expected conditions.

Cumulative Impacts. Because it is unknown what new land locations may come under GGNRA management in the future, the cumulative impacts analysis for new lands would be similar to the cumulative impact analysis that was completed for park sites that are located in proximately to the new lands.

Indirect Impacts on Adjacent Parks

As stated under alternative A, it is unknown what parks (including dog use areas) would be located adjacent to new lands not yet acquired by GGNRA. Therefore, a range of indirect impacts was developed to encompass the range of impact possibilities that could occur at lands located adjacent to these new lands that have not yet been acquired. Since on-leash dog walking would be allowed at new lands under these alternatives the overall indirect impacts to visitor experience at adjacent lands as a result of alternatives B and C would range from no impact to negligible.

ALTERNATIVES B AND C CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Negligible impact for visitors who would prefer to walk dogs at the park	Provides an area for on-leash dog walking, but on-leash restrictions would be strictly enforced	Results would be similar to the cumulative impact analysis that was completed for park sites that are located in proximately to the new lands
Negligible to long-term, minor, adverse impacts for visitors who would prefer not to have dog walking at the park, assuming compliance	Provides an area for on-leash dog walking. Visitors may not be able to have a no dog experience at the site	No indirect impact to negligible indirect impact at adjacent lands

Alternative D: Most Protective of Resources. New lands would be closed to dog walking unless opened by the GGNRA Compendium, as evaluated by criteria below. The “closed unless opened” approach is the reverse of 36 CFR 2.15. Only on-leash dog walking would be considered at new lands. New lands would not be considered for voice and sight control (ROLAs). Once open to on-leash, compliance-based management strategies apply. Areas could be opened to on-leash dog walking if opening the area would not:

- impede the attainment of a park’s desired future conditions for natural and cultural resources as identified through the park’s planning process, or
- create an unsafe or unhealthful environment for visitors or employees, or
- impede or interfere with park programs or activities.

Because it is unknown what types of lands and what locations may come under GGNRA management in the future, a conservative approach to the impact analysis was adopted. Alternative D could provide

visitors who want to have the experience of walking their dog(s) on leash in areas unless it triggers the conditions outlined above in 1-4 or as designated by the GGNRA Compendium. Negligible impacts would therefore occur to visitors who would prefer to walk dogs at the park because on-leash dog walking would be allowed under alternative D and the on-leash restriction would be strictly enforced. Long-term, minor, adverse impacts would occur to visitors who would not prefer dogs at the park because on-leash dog walking would be allowed under alternative D. However, it is also expected that effects to visitor use would be negligible because regulations would be made known prior to opening the site to visitors, and visitors from either group would be aware of the expected conditions.

No commercial dog walking would be allowed under alternative D. Private dog walkers would be allowed up to three dogs. If commercial dog walking is uncommon at new lands, it is likely that the new regulation would have a negligible impact on both visitors who would prefer to walk dogs at the park and visitors who would prefer not to have dog walking at the park. If commercial dog walking is common at new lands, impacts on visitors who would prefer to walk dogs at the site would be long term, minor, and adverse since commercial dog walking would not be allowed. Conversely, impacts on visitors who would prefer not to have dog walking at the park would be beneficial.

Alternative D could also close areas that allow on leash dog walking to areas that prohibit dogs if the presence of on leash dogs would impede attainment of the park's desired future conditions. If an area would be closed to on leash dog walking and assuming compliance, impacts to those visitors who would prefer not to have dog walking at the park would be beneficial. Since dogs would no longer be allowed at the closed area, this user group would have the opportunity to experience the area without the presence of dogs. Conversely, impacts associated with visitors who prefer to bring dogs to a park site would be long-term and range from a minor to a moderate, adverse impact, depending on the original use of the park site by dog walkers (low, moderate, or high use). Dog walkers would be required to use a different area inside or outside of GGNRA for dog walking.

Cumulative Impacts. Because it is unknown what new land locations may come under GGNRA management in the future, the cumulative impacts analysis for new lands would be similar to the cumulative impact analysis that was completed for park sites that are located in proximately to the new lands.

Indirect Impacts on Adjacent Parks

As stated under alternative A, it is unknown what parks (including dog use areas) would be located adjacent to new lands not yet acquired by GGNRA. Therefore, a range of indirect impacts was developed to encompass the range of impact possibilities that could occur at lands located adjacent to these new lands that have not yet been acquired. On-leash dog walking may be allowed at new lands if opened under the GGNRA Compendium; therefore, the overall indirect impacts to visitor use at adjacent lands as a result of alternative D would range from no impact to negligible.

ALTERNATIVE D CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Negligible to long-term, minor to moderate adverse impacts for visitors who would prefer to walk dogs at the park	No dog walking allowed unless opened by the compendium; may provides an area for on-leash dog walking if opened by the compendium; on-leash restrictions would be strictly enforced	Results would be similar to the cumulative impact analysis that was completed for park sites that are located in proximately to the new lands

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Beneficial impacts to long-term, minor, adverse impacts for visitors who would prefer not to have dog walking at the park, assuming compliance	Visitors would be able to have a no dog experience at the site. However, on-leash dog walking would be considered.	No indirect impact to negligible indirect impact at adjacent lands

Alternative E: Most Dog Walking Access/ Most Management Intensive. For new lands that come under the management of GGNRA, alternative E would initially manage these lands under existing NPS regulations as described in 36 CFR 2.15, which forbids possession of a pet in a public building, public transportation vehicle, location designated as a swimming beach, or any structure or area closed to pets by the superintendent. Alternative E would allow dog walking unless the following conditions were triggered:

- impedes the attainment of a park's desired future conditions for natural and cultural resources as identified through the park's planning process, or
- creates an unsafe or unhealthful environment for visitors or employees, or
- impedes or interferes with park programs or activities, or
- triggers the compliance-based management strategy's process for closure.

Additionally, new lands may be opened to voice and sight control if:

- Off-leash dog use existed before acquisition, and
- one year baseline data is collected through the compliance-based management strategy's monitoring program, and
- compliance-based management strategy not triggered (primary or secondary management responses).

Alternative E would allow on leash dog walking and potentially ROLAs at new lands managed by GGNRA as long as it would not impede attainment of the park's desired future conditions. Also, alternative E could close areas to on leash dog walking if it would impede attainment of the park's desired future conditions.

Under alternative E, all dog walkers, including commercial dog walkers, would be allowed up to three dogs with no permit required. All dogs must be on a leash. At sites where commercial dog walking is not common, it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking at these sites would have a negligible impact on visitor use and experience. At sites where commercial dog walking is common, impacts to visitor use and experience are expected and impacts would be similar to impacts from other dog walkers. Overall impacts to visitor use and experience from dogs walked by both commercial and private individuals are summarized below.

Alternative E could provide visitors who want to have the experience of walking their dog on leash or off leash in a ROLA at new lands. Dog walkers preferring an off leash dog experience may be allowed to have this experience if a ROLA is designated at the park site. Beneficial impacts would therefore occur to visitors who would prefer to walk dogs at the park because on-leash and off-leash dog walking would be allowed under alternative E and the on-leash restriction and ROLA designation would be strictly enforced. Visitors who want to experience new GGNRA sites without the presence of dogs would be restricted to areas where dogs are prohibited or would have to visit other nearby areas where dogs are prohibited. In addition, visitors would now encounter off leash dogs in ROLAs. Therefore, long-term,

minor to moderate, adverse impacts to visitors who would prefer not to encounter dogs at a park site would occur under this alternative because these visitors could not enjoy park areas without dogs, would be encountering dogs off-leash, and may avoid park areas due to the presence of dogs. Conversely, at new lands where dog walking on leash is more restrictive than the prior condition (before acquisition by NPS), visitors may seek out an alternative dog walking area. It is expected that any new regulations would be made known prior to opening the site to visitors, and visitors from either group would be aware of the expected conditions.

Cumulative Impacts. Because it is unknown what new land locations may come under GGNRA management in the future, the cumulative impacts analysis for new lands would be similar to the cumulative impact analysis that was completed for park sites that are located in proximately to the new lands.

Indirect Impacts on Adjacent Parks

As stated under alternative A, it is unknown what parks (including dog use areas) would be located adjacent to new lands not yet acquired by GGNRA. Therefore, a range of indirect impacts was developed to encompass the range of impact possibilities that could occur at lands located adjacent to these new lands that have not yet been acquired. On-leash dog walking would be allowed at new lands under this alternative. In addition, voice and sight control may be allowed at new lands under this alternative; therefore, the overall indirect impacts to visitor use and experience at adjacent lands as a result of alternative E would range from no impact to negligible.

ALTERNATIVE E CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Beneficial impacts for visitors who would prefer to walk dogs at the park	On-leash and off-leash dog walking would be allowed; the on-leash restriction and ROLA designation would be strictly enforced	Results would be similar to the cumulative impact analysis that was completed for park sites that are located in proximately to the new lands
Long-term, minor to moderate, adverse impacts for visitors who would prefer not to have dog walking at the park, assuming compliance	Provides an area for on-leash dog walking and new lands may be opened to voice and sight control; These visitors could not enjoy park areas without dogs and may avoid park areas due to the presence of dogs	No indirect impact to negligible indirect impact at adjacent lands

Preferred Alternative. Alternative D was chosen as the preferred alternative. New lands would be closed to dog walking unless opened by the GGNRA Compendium, as evaluated by criteria below. The “closed unless opened” approach is the reverse of 36 CFR 2.15. Only on-leash dog walking would be considered at new lands. New lands would not be considered for voice and sight control (ROLAs). Once open to on-leash, compliance-based management strategies apply. Areas could be opened to on-leash dog walking if opening the area would not:

- impede the attainment of a park’s desired future conditions for natural and cultural resources as identified through the park’s planning process, or
- create an unsafe or unhealthful environment for visitors or employees, or
- impede or interfere with park programs or activities.

Because it is unknown what types of lands and what locations may come under GGNRA management in the future, a conservative approach to the impact analysis was adopted. The preferred alternative could provide visitors who want to have the experience of walking their dog(s) on leash in areas unless it triggers the conditions outlined above in 1-4 or as designated by the GGNRA Compendium. Negligible impacts would therefore occur to visitors who would prefer to walk dogs at the park because on-leash dog walking would be allowed under the preferred alternative and the on-leash restriction would be strictly enforced. Long-term, minor, adverse impacts would occur to visitors who would not prefer dogs at the park because on-leash dog walking would be allowed under the preferred alternative. However, it is also expected that effects to visitor use would be negligible because regulations would be made known prior to opening the site to visitors, and visitors from either group would be aware of the expected conditions.

Alternative C was selected as the preferred alternative for permits at all sites including new lands. All dog walkers, including commercial dog walkers, would be allowed up to three dogs with no permit required. All dogs must be on a leash. At sites where commercial dog walking is not common, it is likely that commercial dog walking would have negligible impact on both visitors who would prefer to walk dogs at the park and visitors who would prefer not to have dog walking at the park. At sites where commercial dog walking is common, impacts on visitors who would prefer to walk dogs at the site would be long term, minor, and adverse since commercial dog walking would not be allowed. Conversely, impacts on visitors who would prefer not to have dog walking at the park would be beneficial.

The preferred alternative could also close areas that allow on leash dog walking to areas that prohibit dogs if the presence of on leash dogs would impede attainment of the park's desired future conditions. If an area would be closed to on leash dog walking and assuming compliance, impacts to those visitors who would prefer not to have dog walking at the park would be beneficial. Since dogs would no longer be allowed at the closed area, this user group would have the opportunity to experience the area without the presence of dogs. Conversely, impacts associated with visitors who prefer to bring dogs to a park site would be long-term and range from a minor to a moderate, adverse impact, depending on the original use of the park site by dog walkers (low, moderate, or high use). Dog walkers would be required to use a different area inside or outside of GGNRA for dog walking.

Cumulative Impacts. Because it is unknown what new land locations may come under GGNRA management in the future, the cumulative impacts analysis for new lands would be similar to the cumulative impact analysis that was completed for park sites that are located in proximately to the new lands.

Indirect Impacts on Adjacent Parks

It is unknown what parks (including dog use areas) would be located adjacent to new lands not yet acquired by GGNRA. Therefore, a range of indirect impacts was developed to encompass the range of impact possibilities that could occur at lands located adjacent to these new lands that have not yet been acquired. Adjacent lands could range from urban lands previously developed to preserved lands. Since on-leash dog walking would be allowed at new lands under this alternative the overall indirect impacts to visitor experience at adjacent lands as a result of the preferred alternative would range from no impact to negligible.

PREFERRED ALTERNATIVE CONCLUSION TABLE

Visitor Use and Experience Impacts	Rationale	Cumulative Impacts
Negligible to long-term, minor to moderate adverse impacts for visitors who would prefer to walk dogs at the park	No dog walking allowed unless opened by the compendium; may provides an area for on-leash dog walking if opened by the compendium; on-leash restrictions would be strictly enforced	Results would be similar to the cumulative impact analysis that was completed for park sites that are located in proximately to the new lands
Beneficial impacts to long-term, minor, adverse impacts for visitors who would prefer not to have dog walking at the park, assuming compliance	Visitors would be able to have a no dog experience at the site. However, on-leash dog walking would be considered.	No indirect impact to negligible indirect impact at adjacent lands

PARK OPERATIONS

GUIDING POLICIES AND REGULATIONS

“Park operations” refers to the current staff, including volunteers, required to adequately protect and preserve GGNRA resources and provide for a safe and effective visitor experience. This topic also includes the operating budget necessary to conduct GGNRA operations.

As a unit of the national park system, GGNRA is charged with the conservation and preservation of public lands and determination of their public use in accordance with federal law and regulations. The GMP (NPS 1980), its subsequent amendments, and more detailed implementation plans continue to serve as the basis for the park’s planning and preservation decisions. The 1980 GMP is currently undergoing revisions, along a timeline that is similar to that of this dog management plan/EIS.

NPS Management Policies 2006 states that the NPS “will monitor new or changing patterns of use or trends in recreational activities and assess their potential impacts on park resources” and “ensure that recreational uses and activities in the park are consistent with its authorizing legislation or proclamation and do not cause unacceptable impacts on park resources or values” (NPS 2006b, 101).

STUDY AREA

The geographic study area for park operations is all of the GGNRA sites under consideration for the dog management plan/EIS including new lands. There are 21 individual sites relevant to this project, which have been described in detail in chapter 3.

DURATION OF IMPACT

Duration describes the length of time an effect would occur, either short term or long term. Long-term impacts to park operations are described as those persisting for the life of the plan/EIS (the next 20 years). After the implementation of the plan, a 1- to 3-month period of public education would occur to implement the proposed action followed by a 1- to 3-month period testing the compliance-based management strategy. At the beginning of the education and enforcement period, short-term impacts on park operations would occur, regardless of the alternative chosen and would be similar to the current conditions. Following the education period, monitoring for compliance would begin and it is expected that compliance with the dog walking regulations and associated adverse impacts would improve gradually and the impacts on park operations would decrease and become long term, as described below for each alternative.

ASSESSMENT METHODOLOGY

Impacts on park operations and management are assessed with regard to staffing and annual operating budget.

Elements of the alternatives could change the park’s existing staff requirements. The evaluation considers whether or not additional workload would be added or contracted services would be required in order to accomplish a larger workload on an ongoing basis. This includes changes that may occur in all divisions of the park, including those detailed below.

Law Enforcement. LE is responsible for providing law enforcement and emergency services, including resolving conflicts between dog walkers and other user groups and issuing written citations and verbal or

written warnings to dog walkers not complying with regulations. In addition to enforcement, other LE duties are preparing incident reports and citations; conducting investigations, dispatching, and records management; providing court testimony related to criminal cases, including dog violations; conducting search and rescue, including cliff rescues; providing emergency medical services and wildland fire fighting; and educating the public on resource protection and other regulatory requirements as a means to garner park support and deter illegal and unsafe activities. Dog management enforcement duties are currently less than 10 percent of the park's public safety emphasis related to overall crime prevention, criminal apprehension, and prosecutorial responsibilities, but that percentage may change following implementation of a new regulation. A local file of dog management data based on field contacts was developed to provide LE personnel with information regarding violation contacts, including warnings and citations issued. The local file is compared to the federal district court log record of open cases related to dog violations to identify repeat offenders who have failed to pay fines or failed to appear in court. The GGNRA is in the process of developing warrant service for those individuals cited for pet violations who have repeatedly failed to appear before the federal court. The U.S. Magistrate 2010 fine schedule now includes progressive fines for first, second, and third offenses relative to 36 CFR 2.15.

LE also includes significant administrative functions related to dog management. Record management and responses to various park administrative needs such as *Freedom of Information Act* requests, data collection, annual reporting, and statistical records are also addressed by LE staff. In addition, internal investigations and determinations in response to visitor phoned and written complaints regarding law enforcement contacts are conducted. LE also develops and provides training for patrol staff on dog management policies. LE staff members review and comment on a variety of public use management functions, such as educational and outreach materials, regulatory signs, and wayside exhibits developed by the park for the dog management program, to ensure compliance with federal and state regulations and the local GGNRA Compendium.

Interpretation, Public Affairs, Planning, and Business Management (Administration). The park currently incurs significant administrative and planning expenses related to dog management. The administrative staff oversees the dog management planning process. They respond to and, wherever possible, resolve all media and public inquiries and complaints involving dog management and interact with other park divisions regarding park projects or actions with the potential to affect areas used by dog walkers. The staff maintains and updates the park's web site with site-specific dog walking information and manages a dog management information line that provides the current status of the dog management processes and allows visitors to leave messages (NPS staff members respond to visitor messages daily). NPS staff members from division groups such as interpretation, natural resources (NR), and public affairs cooperatively coordinate outreach and education, including developing products such as signs, guides/brochures explaining dog walking at GGNRA, and web site information to educate visitors on dog walking policies. Staff members host public workshops, formulate media outreach on the dog management program, and respond and provide information to congressional representatives and NPS regional and Washington, D.C., staff on the status of the park's dog management policies and programs. The NPS Special Park Uses Group would be responsible for the development and management of the permit system for walking more than three dogs for individual and commercial dog walkers should a permit program be implemented as part of dog management at GGNRA.

Natural Resource Management. NR staff members conduct many ongoing planning efforts related to dog management. Some of their tasks include ensuring that habitat is protected from recreational uses, participating with LE in handling complaints, preparing outreach material (i.e., maps, brochures, web site information), and reviewing signs, all of which are conducted either fully or in part as a result of dog use, impacts, or restrictions. In addition, NR staff members conduct and oversee monitoring efforts, analyze resulting data, and produce reports summarizing monitoring efforts. The staff hydrologist is involved with erosion issues associated with dogs, and staff ecologists are responsible for identifying and protecting

restoration areas and ensuring that protective fencing is in place. A shorebird docent program for Ocean Beach and Crissy Field adds coordination and training time to NR staff schedules and necessitates scheduling of volunteer hours for volunteers conducting citizen science projects, monitoring, and environmental stewardship activities.

Maintenance. Maintenance requirements related to dog management include collection of garbage containing dog waste and the repair and maintenance of park furnishings (i.e., trash receptacles) that have been corroded due to dog urine, use by visitors, and exposure to the weather elements of a coastal ecosystem (marine air, sea fog, and rain). Maintenance workers construct, install and repair signs informing the public of dog management policies throughout the park. Maintenance staff also constructs and installs protective fencing for the SPPA as well as other wildlife protection areas. Maintenance staff would be responsible for the construction and installation of boundary demarcations along ROLA boundaries when and if ROLAs are established for dog management. Due to their high visibility in the field, maintenance staff members frequently participate in public education by responding to questions from the public on the dog management rules.

The impacts of the proposed alternatives on the park's annual operating budget and funding sources are evaluated for each alternative. The evaluation considers the financial requirements for each alternative and the availability of existing or new funding sources to meet additional operating and capital costs.

Short-term impacts would occur during the initial public education period and the initiation of law enforcement once the final dog management plan begins the implementation of a new regulation. Long-term impacts would include the permanent effects on park operations from the alternatives after the initial public education and introductory law enforcement periods have passed.

IMPACT THRESHOLDS

Park Operation impacts were determined by examining the potential effects of dog walking activities on park operations within a park site. The intensity of each adverse impact is judged as having a minor, moderate, or major effect. A beneficial impact would be a positive change in park operations. Negligible impacts are neither adverse nor beneficial, nor long-term or short-term. The following impact thresholds were established to describe the relative changes in park operations under the various alternatives being considered:

- Beneficial* A beneficial impact is a beneficial change from the current condition and is a relative indicator of progress compared to the no action alternative. In general, a beneficial impact would include reduced staffing needs and financial balances between operating costs and revenue sources.
- Negligible* There would be no discernible change in park operations or financial balance between revenue sources and operating costs.
- Adverse*
 - Minor.** There would be slight but detectable changes in park operations requiring slight changes or reallocations in current staffing arrangements or existing funding streams.
 - Moderate.** There would be readily apparent changes that would require adjustments in park operations, such as administrative reorganization, or a financial imbalance between available funding streams and annual operating costs.

Major. There would be substantial changes in park operations, requiring new administrative structures, or a financial imbalance between available funding streams and annual operating costs.

COMPLIANCE-BASED MANAGEMENT STRATEGY

In order to ensure protection of park resources, health and safety, and visitor experience from dog walking activities, the dog walking regulations defined in action alternatives B, C, D, and E would be regularly enforced by park law enforcement, and compliance monitored by park staff. A compliance-based management strategy would be implemented to address noncompliance and would apply to all action alternatives. Noncompliance would include dog walking within restricted areas, dog walking under voice and sight control in designated on-leash dog walking areas, and dog walking under voice and sight control outside of established ROLAs. If noncompliance occurs, impacts to park operations have the potential to increase and become short-term and long-term minor to moderate adverse. When noncompliance is observed in an area, park staff and law enforcement would respond with a suite of actions including focused enforcement of regulations, additional education including signs, brochures, and public meetings, and implementation of time/use restrictions. Additionally, an increase in the frequency of monitoring at sites with low compliance would be needed. These actions would require more time and effort by park staff including law enforcement, administrative staff, resource staff, and maintenance staff, which would ultimately create short-term and possibly long-term minor to moderate impacts to park and division budgets. Once noncompliance is brought to an acceptable level, impacts to park operations would be reduced to the levels described below in the impact analysis.

ALTERNATIVE A: NO ACTION

Under the no-action alternative, dog management related to park operations would continue as currently conducted throughout the park. The park would continue to post or update signs with current dog walking regulations and maintain a list of all areas available or restricted to dogs on the GGNRA web site. Park staff would continue to maintain a dog management information line and continue to provide information on the current regulatory status of dog walking policies, particularly regarding the seasonal leash regulations at Ocean Beach and Crissy Field.

Visitors in the park find dog walking regulations at GGNRA to be confusing, which has led to difficulty enforcing the regulations. The local file that tracks prior law enforcement contacts and warnings related to dog management substantiates that although some local residents or returning visitors claim to be confused, they do know the regulations but continue to refuse to comply because they disagree with the established regulations. This extends the duration of the law enforcement contact and sometimes generates an escalated law enforcement action (i.e., citation or arrest). Under alternative A, the regulations would not change and because of that the confusion would likely decrease. LE responsibilities include reducing harm to natural and cultural resources and minimizing visitor conflicts to ultimately create a safe park environment. These responsibilities would continue in alternative A and would include the minimization of conflicts between dog walkers and other visitors; citations would be issued when applicable. Failure to pay fines or appear in court may result in warrants being issued. Visitation is predicted to continue to increase over the next 20 years, and it is likely that the number of dog walking noncompliance citations and visitor conflicts would continue to increase even under the no action alternative, resulting in increasing labor for LE officials related to dog management.

The NR staff performs numerous tasks related to dog management. The hydrologist monitors water quality regularly in water bodies throughout GGNRA and documents water quality and soil erosion issues associated with dog activities. In addition to regular tasks, the GIS specialist provides mapping needs

associated with dog management planning for brochures, web site, etc. The Crissy Field ecologist incurs significant time spent on dog management because Crissy Field is a high dog use area with many infractions of seasonal restrictions and other dog management regulations. Time is spent working on keeping dogs from restoration areas, ensuring that fencing is in place and repaired, coordinating regular water quality monitoring, and tracking dog complaints for the Crissy Field area. The NR management staff coordinates with other NPS staff (administration, maintenance, and LE) so that current dog management policies are available on outreach materials (signs, brochures, etc.) and that fencing and enforcement related to dog use/impacts and restrictions are in place.

Under the no-action alternative, current maintenance responsibilities would continue, including removal of dog waste, the repair/replacement of vandalized or outdated signs, repair or addition of fences required related to dog walking, and response to questions from the public. Annual budget costs would reflect regular budgetary staffing. If dog walkers continue to increase over the next 20 years, maintenance requirements would likely increase under this alternative.

Under the no-action alternative, no permit system exists for dog walking. However, commercial dog walking frequently occurs at the following sites: Alta Trail/Orchard Fire Road/Pacheco Fire Road, Upper and Lower Fort Mason, Crissy Field, and Fort Funston. Commercial dog walking would continue to have a negligible impact on park operations. There would be no additional tasks for park staff associated with commercial dog walking. There is no permit system currently in effect.

Current Staffing and Non-Personnel Costs (all Divisions). Table 11 provides the total estimated costs associated with personnel and labor currently expended for dog management. Personnel costs include labor related to resource monitoring, education and public affairs, enforcement, record keeping and data management, maintenance, and contract labor. Non-personnel costs may include equipment, vehicles, computers, etc., necessary to perform duties associated with dog management.

TABLE 11. CURRENT (ALTERNATIVE A) ESTIMATED PERSONNEL COSTS

Personnel	Alternative A: No Action
U.S. Park Police	—
Interpretive (includes Park Rangers)	\$16,177
Visitor and Resource Protection	\$33,577
Natural Resources	\$87,435
Public Affairs	—
Business Management	\$42,290
Maintenance	\$8,942
Total Non-Personnel costs (all Divisions)	\$15,000
Estimated Total Cost	\$203,422

Overall, there would be long-term minor adverse impacts on park operations at GGNRA from dog management activities under alternative A.

Cumulative Impacts. It is likely that dog walking in GGNRA would continue to increase over the next 20 years, which would ultimately increase the amount of time and money spent on dog management at the park. Park staff, including maintenance staff, park rangers, administrative staff, and LE officials, would continue to be distracted from their daily work assignments and other protection concerns to deal with dog management issues such as vandalized signs, visitor conflicts, and visitor complaints, resulting in an inability to achieve the overall goal of professional resource and visitor protection consistent with the

NPS mission. The amount of time spent on dog management would incrementally decrease the amount of time and money available for other projects and safety efforts throughout the park.

In addition to dog management effects on park operations, there are other projects that would likely increase staffing and budget demands (appendix K). Numerous rehabilitation and improvement projects throughout the park also affect park operations due to management, staffing, and budgeting requirements and the need to coordinate with entities that may be managing those efforts. For example, the proposed extension of the Municipal Railway's Historic Streetcar Service would continue the F-line three blocks west to San Francisco Maritime NHP and then on through the Fort Mason Tunnel to the Fort Mason Center at GGNRA (NPS 2010b, 1). Additionally, the Doyle Drive replacement project will replace the 73-year-old Doyle Drive, making structural and seismic improvements to this roadway running through area B lands of the Presidio (USDOT 2009, 1; Presidio Parkway 2010, 1). As a result of acts of terrorism perpetrated against the United States on September 11, 2001, the NPS and its conservation and preservation mission have become a part of Homeland Security's anti-terrorism enforcement. This has increased demand for police and other public safety services to provide protection of sites identified as critical infrastructure and American icons against terrorism. At GGNRA the LE staff, working with other local law enforcement agencies, provides heightened security and critical incident response to the Golden Gate Bridge; elevated threat levels require closures in and around Fort Point, the Coastal Trail, and Fort Baker. These closures may preclude dog walking in those areas, and additional staff to enforce these security closures would also address dog walking violations resulting from the closures; however, redirecting LE staff to closure and terrorism threat duties also results in a reduction of the time LE personnel have for other aspects of enforcement (e.g., patrol and dog management regulations). These demands have created an additional workload for the park's LE program. In general, based on recent trends park operation costs would be expected to increase.

Cumulatively, long-term minor adverse impacts on park operations would be expected from alternative A when added to other past, present, or foreseeable future actions.

ALL SITES ALTERNATIVE A CONCLUSION TABLE

Park Operations Impacts	Rationale	Cumulative Impacts
Conclusion: Long-term minor adverse impacts	Additional park operations staff and labor efforts would be needed to accomplish tasks related to dog management in addition to other job responsibilities	Long-term minor adverse cumulative impacts

COMMON TO ALL ACTION ALTERNATIVES (B, C, D, AND E)

Crissy Field

There will be no impacts on park operations as a result of the two different definitions of the Crissy Field WPA (the 36 CFR 7.97(d) definition for alternative A and the Warming Hut to approximately 900 feet east of the former Coast Guard Pier definition for alternatives B–E). Even though the WPA will be expanded for alternatives B–E, this change will not affect park operations. More explanation of these two definitions can be found in the “Current Regulations and Policies” section of chapter 2.

Long-Term Impacts—Staffing and Non-Personnel Costs (all Divisions)

To implement the dog management plan, the NPS would hire part-time and seasonal employees and full-time permanent employees in addition to the current staff at the park. Additional personnel would need to be hired in several divisions under all alternatives. Table 12 provides the total estimated costs associated with personnel and labor (including new employees) to complete tasks necessary for implementation of the dog management plan. Personnel costs include labor related to compliance monitoring, education and public affairs, enforcement, record keeping and data management, maintenance, and contract labor. Non-personnel costs may include equipment, vehicles, computers, etc., necessary to perform duties associated with each alternative and are also provided. Overall, there is little difference in total costs for each action alternative due to the efforts associated with compliance-based management strategies and the variety of dog management under each alternative. The addition of new employees would create long-term minor adverse impacts on the current park budget. Division budgets would also increase beyond the cost of new personnel to cover increases in current staff workloads and field and equipment costs, including vehicles, computers, etc., creating negligible impacts to long-term minor adverse impacts on current division budgets. If new funding becomes available, impacts would be minimized.

Impacts to Park Operations are further analyzed by alternatives that propose no dogs, alternatives that propose dogs on a leash, and alternatives that propose a ROLA. This detailed analysis is presented in the remainder of this section.

TABLE 12. ESTIMATED PERSONNEL COSTS (ALTERNATIVES B, C, D, AND E)

Personnel	Alternative B: NPS Leash Regulation	Alternative C: Emphasis on Multiple Use, Balanced by County	Alternative D: Most Protective of Resources/ Visitor Safety	Alternative E: Overall Most Dog Walking Access/Most Management Intensive
U.S. Park Police	\$135,200	\$135,200	\$135,200	\$135,200
Interpretive (includes Park Rangers)	\$148,601	\$148,601	\$158,694	\$148,601
Visitor and Resource Protection	\$13,676	\$207,576	\$282,393	\$207,576
Natural Resources	\$454,155	\$454,155	\$454,155	\$454,155
Public Affairs	\$62,156	\$95,902	\$95,902	\$95,902
Business Management	\$110,470	\$174,810	\$140,712	\$174,810
Maintenance	\$82,015	\$132,016	\$82,016	\$132,015
Total Non-Personnel costs (all Divisions)	\$78,896	\$163,010	\$163,010	\$163,010
Estimated Total Cost*	\$1,085,169	\$1,511,270	\$1,512,082	\$1,511,269

* Total costs are short-to-medium term costs, assuming compliance. Costs could continue into the long-term if noncompliance occurs.

Short-Term Impacts—Concentrated Education and Law Enforcement

To educate park visitors on the new dog walking regulations, the park would hold public meetings and media interviews, update information on the park web site, place ads in the local newspapers and dog walking magazines, develop new signs, and develop and distribute dog walking guides/brochures with updated maps that explain the new regulations. Although local organized dog walking groups would be asked to assist the park in disseminating the new dog walking regulatory information, labor spent on dog-related activities by current park staff would significantly increase during this period and one new

employee would be hired in the interpretation division to work specifically on dog-related activities. Short-term moderate adverse impacts on park operations would result from the actions mentioned above.

Additional labor, including an increase in NPS LE staffing, would be required to successfully implement new dog management regulations. It is likely that staff would spend more time in areas where historically there have been a high number of pet-related case reports, such as Fort Funston, Crissy Field, and Ocean Beach. After the initial education period, LE staff members would increase their presence throughout the park, resulting in a concentration of enforcement as necessary. During this time, LE staff members would increase contact with park visitors walking dogs in areas closed to dogs and visitors who have their dogs off leash outside designated ROLAs, and would issue warnings and/or citations to visitors not in compliance with the new regulations. In addition to the current staff, eight additional staff members would be hired for these responsibilities: two employees would be hired for LE and six employees would be hired for compliance monitoring. Data entry into the LE database file on dog violations and records management of incident reports would increase. This is currently assigned to rangers or officers on light duty; however, the park would need to hire a new records assistant to maintain and manage incident reports. If violators challenge citations and demand trials in the U.S. District Court, an increase in workload in prosecutorial efforts for LE personnel, U.S. Attorney's Office, and Department of the Interior Solicitor's Office would occur. In addition, an increase in administrative response by the records management office and public affairs division to *Freedom of Information Act* and defendant discovery requests would occur. The number of phone calls, emails, and letters regarding pet policies and dog complaints is also expected to increase during the initial education and enforcement period, which would impact LE and administrative staff time to process inquiries and complaints. An additional communications dispatcher would also be required to receive and organize responses by LE staff to incidents, complaints, and emergencies. Regardless of the dog management policy adopted, the need for public education will be strong. Visitor education expenses would be expected to remain constant or increase to ensure that the public understands the park's dog use regulations. During this period, park staff would be needed to continually monitor the sites, issue citations, resolve conflicts, and educate the public. Impacts on park operations would be short term, moderate, and adverse until visitors begin to comply with the new regulations.

Short- and Long-term Impacts from New Dog Walking Regulations

After the period of concentrated education and law enforcement has concluded, it is anticipated that compliance with the new leash regulations would improve. Over the next 20 years, the percentage of time required by park staff working on dog management-related activities would likely decline and become part of a routine. The number of citations and other tasks associated with citations would eventually decrease, as would the number of visitor conflicts, complaints, and phone calls. The need for regular monitoring of citations and case incident reports related to dog regulations would be reduced. Labor requirements, expenditures, and administrative tasks related to dog management would benefit from a more predictable schedule and budget than under current conditions.

Long-term impacts for each park site are analyzed below.

Alternatives That Propose No Dogs

Negligible impacts on park operations would be expected at sites where current dog walking would change from allowing on-leash or voice-control dog walking to prohibiting dog walking. Enforcing a "no dogs" regulation would require law enforcement documentation of violations in sites where dogs would be prohibited; however, visitors with dogs in prohibited areas would be clearly in violation of the regulation and would receive a citation. Violators would quickly learn the consequences of their actions and, over the long term, compliance would result in fewer infractions. Alternative B proposes 6 sites that

would completely prohibit dog walking, alternative C proposes 5, and alternative D, the most protective of resources, proposes 14. None of the sites in alternative E would prohibit dogs completely, and at sites where portions of the areas would be closed, park visitors could obtain a GGNRA dog walking guides/brochures identifying nearby areas that allow the particular dog walking experience they are seeking. Initially, the number of citations could increase due to visitor disagreement with and resistance to the new dog walking regulations; however, as compliance increases, the number of citations and incident reports would decline. This would reflect a similar situation to the period after the initiation of the special regulation requiring a seasonal leash restriction at the Crissy Field WPA, where 487 warnings and citations were given out in 2007/08 (table 9). The number of phone calls, emails, and letters regarding pet policies, personal complaints, and dog-related incident complaints is also expected to decrease after the initial education and enforcement period, which would benefit the administrative staff time and could benefit the administrative staff budget by reducing the number of staff and/or staff labor hours necessary to track incidents and maintain records. During this initial period, park staff would be needed to monitor many of the park sites, issue warnings or citations and document law enforcement contacts, resolve conflicts, and educate the public. Impacts on park operations would be short term, moderate, and adverse until visitors comply with the new regulations. If park visitors do not comply with the new regulations, compliance-based management strategies would be implemented as previously described.

Alternatives That Propose On-Leash Dog Walking

Park sites where dog walking activities would remain on leash under the new regulations generally provide less area in each site than under current conditions but would otherwise be consistent with current conditions. GGNRA dog walking brochures identifying nearby areas and GGNRA sites that allow dog walking under voice and sight control would be available for park visitors to allow them the option of relocating voice and sight control dog walking activities to another location. There are seven sites where dog management would not change in alternative B, six in alternative C, two in alternative D, and eight in alternative E. The sites proposed for on-leash dog walking generally have few documented dog-related incidents and the level of law enforcement needed under the new management regulations would not be expected to change over the long term, resulting in a negligible impact on LE. Sites where on-leash dog walking would continue but where current conditions include adverse impacts on LE because of incidents, complaints, and citations resulting from noncompliance would be expected to improve after the initial education and enforcement period. On-leash dog walking at these sites would result in a gradual improvement for park operations, especially LE staffing and budget. In the short term, minor to moderate adverse impacts as a result of a need for adequate staffing to manage education and outreach, respond to incidents, deliver citations, maintain records, and appear in court would occur, as it is expected that potential visitor disagreement with and resistance to the new dog walking regulations would increase the number of case incident reports and citations related to dog walking at these sites. However, in the long term, as visitors learn to comply with new regulations, the labor and staffing efforts initially needed would decline.

Changing dog walking activities from “on leash or voice control” to only “on leash” is proposed at 10 sites for alternative B and at 6 sites for alternatives C, D, and E. As discussed for other sites and dog management options above, the new on-leash restrictions for former “on-leash or voice-control” sites would result in an overall beneficial impact on park operations (compared to current conditions) after the initial education and enforcement period, which would result in short-term moderate adverse impacts on staffing, labor, budgets, record maintenance, etc., since regulations would be enforceable. Though the number of citations may increase initially due to potential visitor disagreement with and resistance to the new dog walking regulations, in the long term the number of case incident reports and citations related to dog walking at these sites would decline, especially at historically problematic sites such as Crissy Field, Fort Funston, and Ocean Beach. In 2007/2008 487 warnings and citations were issued at the Crissy Field WPA and 845 were issued at Ocean Beach SPPA (table 9). Compliance-based management strategies,

which would require monitoring of the sites, would also decrease the number of incident reports and citations. A beneficial impact on park operations is expected at Ocean Beach south of Sloat Boulevard under alternatives B and E and north of Stairwell 21 under alternatives B and D; at the Crissy Field WPA under alternative E; and at the Marin Headlands Trails under alternatives C and E. The remaining park sites under the category “on leash or voice control to on leash” currently have low numbers of pet-related case reports; those sites would be expected to continue to have a low rate of incident reports and would not be problematic for GGNRA NPS staff, resulting in a negligible impact on park operations.

Portions of Lands End (alternatives B and D) and Fort Miley (alternatives C and E) would have on-leash dog walking where dog walking was previously allowed under voice control. No recent reports document pet-related incidents at either Lands End or Fort Miley; on-leash dog walking at these sites is expected to result in negligible impacts on park operations, assuming continued compliance, as it is not expected that these sites would require additional targeted education or enforcement.

Alternatives That Propose ROLAs

ROLAs would be established at 7 sites under alternative C, 3 sites under alternative D, and 10 sites under alternative E. No ROLAs would exist under alternative B. The discussion of proposed ROLAs has been grouped by the existing conditions, visitor use, and compliance with existing regulations at each site. Currently, the existing condition at many sites is the 1979 Pet Policy (appendix A), which allows dog walking under voice control. Although this is the status quo, the park has no authority to enforce control since the existing conditions are the result of a policy and court order and is not a federal regulation (see chapter 2). The ROLAs described below have defined areas and specific guidelines.

ROLAs are proposed in alternatives C, D, or E at sites currently open to voice control that have low numbers of dog-related citations and incident reports: Oakwood Valley (alternatives C and E), Muir Beach (alternative E), Rodeo Beach/South Rodeo Beach (alternatives C and E), Baker Beach and Bluffs to Golden Gate Bridge (alternative E), Fort Miley (alternative E), and Lands End (alternatives C and E). Establishing ROLAs in these sites would be similar to current conditions; as a result, impacts on park operations for these sites would be negligible since it is not expected that ROLAs at any of these sites would result in significant additional labor, staffing, record keeping/management, maintenance, etc.

ROLAs are also proposed for a number of sites currently allowing voice control where visitor use is high and a moderate to high number of dog-related incidents currently occur. Crissy Field and Fort Funston have ROLAs proposed in alternatives C, D, and E, and Ocean Beach has a ROLA proposed in alternatives C and E. In addition, Crissy Field and Fort Funston are high-use commercial dog walking areas. Impacts on park operations for these sites in alternatives C, D, and E or alternatives C and E (at Ocean Beach) would be short term, moderate, and adverse during the initial education and enforcement period because of a need for additional labor, staffing, record keeping/management, maintenance, etc. ROLAs at these sites could require continued additional LE presence and maintenance because of the significant, heavy visitor use and remaining potential for multiple-use conflicts.

The only alternatives that would change a site from on-leash dog walking to provide one or more ROLAs are alternatives C, D, and E at Upper and Lower Fort Mason. Visitor use is moderate at this site and there have been anecdotal reports of commercial dog walking (NPS 2010b). There were 15 leash law violations, 2 dog bites/attacks, and 5 pet rescues at this site in 2007/2008 (table 9). Currently, park personnel monitor this site because visitors are uncertain whether or not dogs are required to be on leash. Since ROLAs proposed for this site would be defined and have specific use guidelines, impacts on park operations should be negligible for alternatives C, D, and E after the initial education and enforcement period because it is not expected that significant additional staffing, labor, maintenances, etc., would be

required. The initial education and enforcement period would result in short-term moderate adverse impacts on park operations (staffing, labor, etc.).

When ROLAs have unfenced boundaries delineated by signs, such as “crest of the dunes” at Rodeo Beach or north/south boundaries at Baker Beach and Fort Funston, short-term minor to moderate adverse impacts on park operations would occur due to the initial need for education and enforcement. This would also occur in areas where a ROLA is directly adjacent to on-leash or no-dog areas, such as Ocean Beach or Fort Funston. It is expected that over the long term, impacts on park operations would be minor and adverse because of the continued need for education and enforcement of the ROLA boundaries.

If park visitors do not comply with the new regulations, compliance-based management strategies would be implemented. During this period park staff would be needed to continually monitor the sites, issue citations, resolve conflicts, and educate the public. Impacts on park operations would be short term, moderate, and adverse until visitors begin to comply with the new regulations.

Commercial Dog Walking

Impacts on park operations would result from the implementation of the commercial dog walking regulations.

Under alternative B, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs per person. All dogs must be walked on leash and no permit would be required. Alternative B would have negligible impacts on park operations. Because permits would not be allocated under alternative B, no additional time would be needed by park staff to issue permits. Park staff would be needed to monitor and enforce the new regulations, including issuing warnings and citations for private and commercial dog walkers walking more than three dogs; however, this would be incorporated with daily monitoring and implementation of the new dog walking regulations. In addition, Alta Trail in the Marin Headlands Trails, Crissy Field, and Fort Funston are high use commercial dog walking areas, with typically 5 to 12 dogs under voice control per walker. Because of the reduction in the number of dogs walked by commercial dog walkers and the on-leash dog walking requirement in alternative B, dog-related visitor incidents reported at these locations would be reduced.

Under alternatives C and E, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites, any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. In a ROLA, permit holders may have up to six dogs off leash. Permits would restrict use by time and area. Long-term minor adverse impacts on park operations would result from the implementation of commercial dog walking regulations under alternatives C and E. Park staff would be needed for the development, implementation, monitoring, and enforcement of the new permit system for commercial and private dog walkers wanting to walk more than three dogs at a time. The following sites would allow permits for commercial or private dog walkers to walk four to six dogs: Alta Trail/Orchard Fire Road/Pacheco Fire Road, Rodeo Beach/South Rodeo Beach, Fort Baker, Upper and Lower Fort Mason, Crissy Field, Baker Beach and Bluffs to Golden Gate Bridge, and Fort Funston.

Under alternative D, no commercial dog walking would be allowed. Therefore, individuals would be allowed to walk one to three dogs per person on leash. Impacts on park operations would be negligible because permits would not be allocated under alternative D, no additional time would be needed by park staff to issue permits. Park staff would be needed to monitor and enforce new regulations for dog walkers, both private and commercial, walking more than three dogs; however, this would be incorporated with daily monitoring and implementation of the new dog walking regulations.

Cumulative Impacts. Initial increases in labor expenditures for dog-related activities by current park staff would be expected due to education and enforcement needs; however, it is expected that compliance with the new leash regulations would improve over time, and the percentage of time required by park staff working on dog management–related activities would likely decrease over the next 20 years as dog management–related activities become routine. In addition to dog management and its effects on park operations, there are other projects that have the potential to affect park operations due to staffing and budgeting requirements and the need to coordinate with entities managing those efforts. A list of these projects can be found in appendix K. For example, the proposed extension of the Municipal Railway’s Historic Streetcar Service would continue the F-line three blocks west to San Francisco Maritime NHP and then on through the Fort Mason Tunnel to the Fort Mason Center at GGNRA (NPS 2010b, 1). Additionally, the Doyle Drive replacement project will replace the 73-year-old Doyle Drive, which runs through area B lands of the Presidio, and will make structural and seismic improvements (USDOT 2009, 1; Presidio Parkway 2010, 1). In general, based on recent trends park operation costs would be expected to increase.

Overall, projects and critical public safety tasks other than dog management activities would have a greater adverse effect on park operations at GGNRA park sites than dog management under alternatives B, C, D, and E. Therefore, after the introductory educational and enforcement period related to dog management—during which cumulative impacts on park operations would be short term, minor to moderate, and adverse—there would be additional long-term minor adverse impacts on park operations as a result of dog management efforts.

ALL SITES ALTERNATIVES B, C, D, AND E CONCLUSION TABLE

Park Operations Impacts	Rationale	Cumulative Impacts
Long-term minor adverse impacts on park budget	Addition of new employees would be necessary	Short-term minor to moderate adverse cumulative impacts during the initial education period
Negligible impacts to long-term minor adverse impacts on division budgets	Addition of field and equipment costs would occur due to new employees	Long-term minor adverse cumulative impacts after the initial education period
Short-term moderate adverse impacts on park operations: staffing, labor, enforcement, maintenance, monitoring, records keeping/management	Hiring of additional employees for dog management and a temporary increase in education and law enforcement activities, maintenance (sign placement, fencing, etc.), records management, court appearances, etc. would occur to enforce new dog management regulations during the initial education period	Short-term minor adverse cumulative impacts, then negligible impacts as education, understanding, and compliance become the norm
Negligible impacts on park operations for alternatives that propose no dogs assuming compliance	Enforcement would be easy since visitors with dogs would be clearly in violation	
Beneficial impact for alternatives that propose on-leash dog walking assuming compliance	Park labor and staffing efforts would decrease	

Park Operations Impacts	Rationale	Cumulative Impacts
Negligible impacts on park operations for ROLAs proposed at Alta Trail, Rodeo Beach/South Rodeo Beach, Muir Beach, Baker Beach and Bluffs to Golden Gate Bridge, Lands End, Upper and Lower Fort Mason, and Fort Miley assuming compliance	No significant additional labor or staffing would be needed at sites where voice control was previously allowed and usage is low to moderate	
Short- to long-term minor to moderate adverse impacts on park operations for ROLAs proposed at Crissy Field, Fort Funston, and Ocean Beach assuming compliance	Continued need for enforcement activities, monitoring for compliance, sites with unfenced boundaries for ROLAs, and history of frequent incidents of noncompliance would affect park operations	
Short-term minor to moderate adverse impacts on park operations assuming compliance	Continued development, implementation, management, and enforcement of the permit program for commercial dog walking would be necessary	

Preferred Alternative

Alternative A: No Action. Alternative A was not selected as the preferred alternative for any of the 21 sites considered in his plan.

Alternative B: NPS Leash Regulation. Alternative B was selected as the preferred alternative for the following sites:

- Upper and Lower Fort Mason
- Fort Point Promenade/Fort Point NHS Trails
- Lands End

Long-term minor adverse impacts on the current park budget would be expected at Upper and Lower Fort Mason, Fort Point Promenade/Fort Point NHS Trails, and Lands End due to the increased costs associated with new staffing, equipment, vehicles, field equipment, and computers. Division budgets would also increase, creating negligible impacts to long-term minor adverse impacts on individual division budgets. Short-term moderate adverse impacts on park operations would be expected due to education regarding the new dog walking regulations. Impacts would be due to the costs associated with holding public meetings and media interviews, creating and publishing web site announcements and newspaper and magazine advertisements, developing and placing new signs, developing guides/brochures to explain walking dogs within GGNRA, and hiring one new employee in the interpretation division. Impacts on LE would also be short term, moderate, and adverse, due to an increase in staffing and time required to successfully implement the new dog management regulations.

On-leash dog walking would be allowed in selected areas at Upper and Lower Fort Mason and Fort Point Promenade/Fort Point NHS Trails. Under the current conditions, on-leash dog walking is available at these sites; therefore, impacts on park operations would be negligible. The level of law enforcement needed at the site under the new management regulations would likely remain the same. Lands End would allow on-leash dog walking on the El Camino del Mar Trail and the Coastal Trail. Under current conditions, dog walking is allowed under voice control. Since there are relatively few dog-related

incidents at Lands End, impacts on park operations would also be negligible even though the dog walking regulation would change at the site.

Alternative C was selected as the preferred alternative for permits at all sites. All dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. Any dog walker, commercial or private, could obtain a permit to walk more than three dogs, with a limit of six dogs. Permits would restrict use by time and area. Long-term minor adverse impacts on park operations would result from implementation of the commercial dog walking regulations. Park staff would be needed for the development, implementation, monitoring, and enforcement of the new permit system for commercial and private dog walkers wanting to walk more than three dogs at a time. Permits for commercial or private dog walkers to walk four to six dogs would be granted at Upper and Lower Fort Mason. No permits would be granted at Fort Point or Lands End.

Cumulative Impacts. Initial increases in labor expenditures for dog-related activities by current park staff would be expected due to education and enforcement needs; however, it is expected that compliance with the new leash regulations would improve over time, and the percentage of time required by park staff working on dog management–related activities would likely decrease over the next 20 years as dog management–related activities become routine. In addition to dog management and its effects on park operations, there are other projects that have the potential to affect park operations due to staffing and budgeting requirements and the need to coordinate with entities managing those efforts. A list of these projects can be found in appendix K. For example, the proposed extension of the Municipal Railway’s Historic Streetcar Service would continue the F-line three blocks west to San Francisco Maritime NHP and then on through the Fort Mason Tunnel to the Fort Mason Center at GGNRA (NPS 2010b, 1). Additionally, the Doyle Drive replacement project will replace the 73-year-old Doyle Drive, which runs through area B lands of the Presidio, and will make structural and seismic improvements (USDOT 2009, 1; Presidio Parkway 2010, 1). In general, based on recent trends park operation costs would be expected to increase.

Overall, projects and critical public safety tasks other than dog management activities would have a greater adverse effect on park operations at these GGNRA park sites than dog management under the preferred alternative. Therefore, after the introductory educational and enforcement period related to dog management—during which cumulative impacts on park operations would be short term, minor to moderate, and adverse—there would be additional long-term minor adverse impacts on park operations as a result of dog management efforts.

UPPER AND LOWER FORT MASON, FORT POINT PROMENADE/FORT POINT NHS TRAILS, AND LANDS END PREFERRED ALTERNATIVE CONCLUSION TABLE

Park Operations Impacts	Rationale	Cumulative Impacts
Conclusion: Long-term minor adverse impacts on park and division budgets	Increased costs associated with new staffing and equipment would occur	Short-term minor to moderate adverse cumulative impacts during the education phase
Short-term moderate adverse impacts	Education regarding new dog walking regulation and increased staffing of LE would be necessary	Long-term minor adverse cumulative impacts as a result of dog management efforts
Negligible impacts during implementation assuming compliance	Level of enforcement at sites would remain the same since conditions would be similar and there are few dog-related incidents occurring currently	

Alternative C: Emphasis on Multiple Use, Balanced by County. Alternative C was selected as the preferred alternative for the following sites:

- Stinson Beach
- Homestead Valley
- Alta Trail/Orchard Fire Road/Pacheco Fire Road
- Oakwood Valley
- Rodeo Beach/South Rodeo Beach
- Marin Headlands Trails
- Fort Baker
- Crissy Field
- Fort Miley
- Ocean Beach
- Fort Funston
- Mori Point
- Milagra Ridge
- Sweeney Ridge/Cattle Hill
- Pedro Point Headlands

Long-term minor adverse impacts on the current park budget would be expected at the sites listed above due to the increased costs associated with new staffing, equipment, vehicles, field equipment, and computers. Division budgets would also increase, creating negligible impacts to long-term minor adverse impacts on individual division budgets. Short-term moderate adverse impacts on park operations would be expected due to education regarding the new dog walking regulations. Impacts would be due to the costs associated with holding public meetings and media interviews, creating and publishing web site announcements and newspaper and magazine advertisements, developing and placing new signs, developing guides/brochures to walking dogs at GGNRA, and hiring one new employee in the interpretation division. Impacts on LE would also be short term, moderate, and adverse, due to an increase in staffing and time required to successfully implement the new dog management regulations. It is likely that LE staff would spend more time in areas where historically there have been a high number of dog-related incidents, such as Crissy Field, Ocean Beach, and Fort Funston.

Crissy Field WPA, West Fort Miley, Ocean Beach south of Sloat Boulevard, and Sweeney Ridge would not allow dog walking under the preferred alternative. Current conditions at Crissy Field, Fort Miley, and Ocean Beach allow dog walking under voice control, and on-leash dog walking is allowed at Sweeney Ridge. Negligible impacts on park operations would be expected at these sites. Enforcing a “no dogs” regulation would require law enforcement documentation of violations in sites where dogs would be prohibited; however, visitors with dogs in prohibited areas would be clearly in violation of the regulation and would receive a citation. Violators would quickly learn the consequences of their actions and, over the long term, compliance would result in fewer infractions. Initially, the number of citations could increase due to visitor disagreement with and resistance to the new dog walking regulations; however, as compliance increases, the number of citations and incident reports would decline. The number of phone calls, emails, and letters regarding pet policies; personal complaints; and dog incident complaints is also

expected to decrease after the initial education and enforcement period, which would benefit the administrative staff time and could benefit the administrative staff budget by reducing the number of staff members and/or staff labor hours necessary to track incidents and maintain records.

Stinson Beach, Fort Baker, Mori Point, Milagra Ridge, Cattle Hill, and Pedro Point Headlands would allow on-leash dog walking. Under the current conditions, on-leash dog walking is available at these sites; therefore, impacts on park operations would be negligible. The level of law enforcement needed at the site under the new management regulations would likely remain the same.

On-leash dog walking would also be allowed along portions of Homestead Valley, Alta Trail/Orchard Fire Road/Pacheco Fire Road, Marin Headlands Trails, Crissy Field promenade and trails, Fort Miley, Ocean Beach SPPA, and Fort Funston south of the parking lot. Under current conditions, dog walking under voice control is allowed in the areas listed above. The new on-leash restrictions for former “on-leash or voice-control” sites would result in an overall beneficial impact on park operations (compared to current conditions) after the initial education and enforcement period, since regulations would be enforceable. Beneficial impacts would occur at Marin Headlands Trails, Crissy Field promenade and trails, Ocean Beach SPPA, and Fort Funston south of the parking lot. Though the number of citations may increase initially due to potential visitor disagreement with and resistance to the new dog walking regulations, in the long term the number of case incident reports and citations related to dog walking at these sites would decline, especially at historically problematic sites such as Crissy Field, Ocean Beach SPPA, and Fort Funston. The remaining park sites (Homestead Valley, Alta Trail/Orchard Fire Road/Pacheco Fire Road, and Fort Miley) currently have low numbers of pet-related case reports; these sites would be expected to continue to have a low rate of incident reports and would not be problematic for GGNRA NPS staff, resulting in a negligible impact on park operations.

Portions of Oakwood Valley, Rodeo Beach, Crissy Airfield, Crissy Field beaches, Ocean Beach north of Stairwell 21, and Fort Funston beach and area north of the parking lot would have ROLAs established under the preferred alternative. Under current conditions, dog walking under voice and sight control is allowed. Establishing ROLAs in these sites would be similar to current conditions and as a result, impacts on park operations for these sites would be negligible, since it is not expected that ROLAs at any of these sites would result in significant additional labor, staffing, record keeping/management, maintenance, etc. for park operations. When ROLAs have unfenced boundaries delineated by signs, such as “crest of the dunes” at Rodeo Beach or north/south boundaries at Fort Funston, short-term minor to moderate adverse impacts on park operations would occur due to the initial need for education and enforcement. This would also occur in areas where a ROLA is directly adjacent to on-leash or no-dog areas, such as Ocean Beach or Fort Funston. It is expected that over the long term, impacts on park operations would be minor and adverse because of the continued need for education and enforcement of the ROLA boundaries.

Alternative C was selected as the preferred alternative for permits at all sites. All dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. Any dog walker, commercial or private, could obtain a permit to walk more than three dogs, with a limit of six dogs. In a ROLA, permit holders may have up to six dogs off leash. Permits would restrict use by time and area. Long-term minor adverse impacts on park operations would result from implementation of the commercial dog walking regulations. Park staff would be needed for the development, implementation, monitoring, and enforcement of the new permit system for commercial and private dog walkers wanting to walk more than three dogs at a time. The following sites would allow permits for commercial or private dog walkers to walk four to six dogs under the preferred alternative: Alta Trail/Orchard Fire Road/Pacheco Fire Road, Rodeo Beach/South Rodeo Beach, Crissy Field, and Fort Funston.

Permits would not be allocated at Stinson Beach, Homestead Valley, Oakwood Valley, Marin Headlands Trails, Fort Baker, Fort Miley, Mori Point, Milagra Ridge, Sweeney Ridge/Cattle Hill, or Pedro Point

Headlands. Therefore, all dog walkers, including commercial would only be allowed to walk one to three dogs per person. Implementation of commercial dog walking regulations would have negligible impacts on park operations. No additional time would be needed by park staff to issue permits. Park staff would be needed to monitor and enforce the new regulations, including issuing warnings and citations for both private and commercial dog walkers walking more than three dogs; however, this would be incorporated with daily monitoring and implementation of the new dog walking regulations.

Cumulative Impacts. Initial increases in labor expenditures for dog-related activities by current park staff would be expected due to education and enforcement needs; however, it is expected that compliance with the new leash regulations would improve over time, and the percentage of time required by park staff working on dog management–related activities would likely decrease over the next 20 years as dog management–related activities become routine. In addition to dog management and its effects on park operations, there are other projects that have the potential to affect park operations due to staffing and budgeting requirements and the need to coordinate with entities managing those efforts. A list of these projects can be found in appendix K. For example, the proposed extension of the Municipal Railway’s Historic Streetcar Service would continue the F-line three blocks west to San Francisco Maritime NHP and then on through the Fort Mason Tunnel to the Fort Mason Center at GGNRA (NPS 2010b, 1). Additionally, the Doyle Drive replacement project will replace the 73-year-old Doyle Drive, which runs through area B lands of the Presidio, and will make structural and seismic improvements (USDOT 2009, 1; Presidio Parkway 2010, 1). In general, based on recent trends park operation costs would be expected to increase.

Overall, projects and critical public safety tasks other than dog management activities would have a greater adverse effect on park operations at these GGNRA park sites than dog management under the preferred alternative. Therefore, after the introductory educational and enforcement period related to dog management—during which cumulative impacts on park operations would be short term, minor to moderate, and adverse—there would be additional long-term minor adverse impacts on park operations as a result of dog management efforts.

STINSON BEACH, HOMESTEAD VALLEY, ALTA TRAIL/ORCHARD FIRE ROAD/PACHECO FIRE ROAD, OAKWOOD VALLEY, RODEO BEACH/SOUTH RODEO BEACH, MARIN HEADLANDS TRAILS, FORT BAKER, CRISSY FIELD, FORT MILEY, OCEAN BEACH, FORT FUNSTON, MORI POINT, MILAGRA RIDGE, AND SWEENEY RIDGE/CATTLE HILL PREFERRED ALTERNATIVE CONCLUSION TABLE

Park Operations Impacts	Rationale	Cumulative Impacts
Conclusion: Long-term minor adverse impacts on park and division budgets	Increased costs associated with new staffing and equipment would occur	Short-term minor to moderate cumulative adverse impacts during the education phase Long-term minor adverse cumulative impacts as a result of dog management efforts
Short-term moderate adverse impacts	Education regarding new dog walking regulation and increased staffing of LE would be necessary	
Negligible impacts during implementation in no-dog areas assuming compliance	Level of enforcement at sites would be low since the regulation would be clear	
Negligible impacts in on-leash dog walking areas assuming compliance	Level of enforcement at sites would remain the same since conditions would be similar and there are few dog-related incidents occurring currently	

Park Operations Impacts	Rationale	Cumulative Impacts
Beneficial impacts in areas that change from voice control to on-leash assuming compliance	Regulation would be easily enforceable and the number of citations would decline	
Negligible impacts in areas with ROLAs assuming compliance	Level of enforcement at the sites would remain the same since conditions would be similar	
Long-term minor adverse impacts in ROLAs adjacent to no-dog areas and on-leash areas assuming compliance	Continued need for education and enforcement would exist	

Alternative D: Most Protective of Resources/Visitor Safety. Alternative D was selected as the preferred alternative for the following sites:

- Muir Beach
- Baker Beach and Bluffs to Golden Gate Bridge

Long-term minor adverse impacts on the current park budget would be expected at Muir Beach and Baker Beach and Bluffs to Golden Gate Bridge due to the increased costs associated with new staffing, equipment, vehicles, field equipment, and computers. Division budgets would also increase, creating negligible impacts to long-term minor adverse impacts on individual division budgets. Short-term moderate adverse impacts on park operations would be expected due to education of the new dog walking regulations. Impacts would be due to the costs associated with holding public meetings and media interviews, creating and publishing web site announcements and newspaper and magazine advertisements, developing and placing new signs, developing guides/brochures to walking dogs at GGNRA, and hiring one new employee in the interpretation division. Impacts on LE would also be short term, moderate, and adverse, due to an increase in staffing and time required to successfully implement the new dog management regulations.

On-leash dog walking would be allowed on the Pacific Way Trail at Muir Beach, and on the beach and trails to the beach south of the main parking lot and on the Coastal Trail at Baker Beach. Under current conditions, dog walking under voice control is allowed on Muir Beach and Baker Beach. These park sites currently have low numbers of pet-related case reports and would be expected to continue to have a low rate of incident reports and not to be problematic for GGNRA NPS staff, resulting in a negligible impact on park operations.

Alternative C was selected as the preferred alternative for permits at all sites. All dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. Any dog walker, commercial or private, could obtain a permit to walk more than three dogs, with a limit of six dogs. Permits would restrict use by time and area. Long-term minor adverse impacts on park operations would result from implementation of the commercial dog walking regulations. Park staff would be needed for the development, implementation, monitoring, and enforcement of the new permit system for commercial and private dog walkers wanting to walk more than three dogs at a time. Permits for commercial or private dog walkers to walk four to six dogs would be granted at Baker Beach. No permits would be granted at Muir Beach.

Under the preferred alternative, no commercial dog walking would be allowed and no permits for walking four to six dogs would be issued. Therefore, individuals would only be allowed to walk one to three dogs per person on leash. Impacts on park operations would be negligible. No additional time would be needed by park staff to issue permits. Park staff would be needed to monitor and enforce the new regulations,

including issuing warnings and citations for both private and commercial dog walkers walking more than three dogs; however, this would be incorporated with daily monitoring and implementation of the new dog walking regulations.

Cumulative Impacts. Initial increases in labor expenditures for dog-related activities by current park staff would be expected due to education and enforcement needs; however, it is expected that compliance with the new leash regulations would improve over time, and the percentage of time required by park staff working on dog management-related activities would likely decrease over the next 20 years as dog management-related activities become routine. In addition to dog management and its effects on park operations, there are other projects that have the potential to affect park operations due to staffing and budgeting requirements and the need to coordinate with entities managing those efforts. A list of these projects can be found in appendix K. For example, the proposed extension of the Municipal Railway's Historic Streetcar Service would continue the F-line three blocks west to San Francisco Maritime NHP and then on through the Fort Mason Tunnel to the Fort Mason Center at GGNRA (NPS 2010b, 1). Additionally, the Doyle Drive replacement project will replace the 73-year-old Doyle Drive, which runs through area B lands of the Presidio, and will make structural and seismic improvements (USDOT 2009, 1; Presidio Parkway 2010, 1). In general, based on recent trends park operation costs would be expected to increase.

Overall, projects and critical public safety tasks other than dog management activities would have a greater adverse effect on park operations at these GGNRA park sites than dog management under the preferred alternative. Therefore, after the introductory educational and enforcement period related to dog management—during which cumulative impacts on park operations would be short term, minor to moderate, and adverse—there would be additional long-term minor adverse impacts on park operations as a result of dog management efforts.

MUIR BEACH AND BAKER BEACH AND BLUFFS TO GOLDEN GATE BRIDGE PREFERRED ALTERNATIVE CONCLUSION TABLE

Park Operations Impacts	Rationale	Cumulative Impacts
Conclusion: Long-term minor adverse impacts on park and division budgets	Increased costs associated with new staffing and equipment would occur	Short-term minor to moderate adverse cumulative impacts during the education phase Long-term minor adverse cumulative impacts as a result of dog management efforts
Short-term moderate adverse impacts	Education regarding new dog walking regulation and increased staffing of LE would be necessary	
Negligible impacts during implementation assuming compliance	Low levels of dog-related incidents currently occur and would not be problematic for park staff to enforce	

Alternative E: Overall Most Dog Walking Access/Most Management Intensive. Alternative E was selected as the preferred alternative for the following site:

- Sutro Heights Park

Long-term minor adverse impacts on the current park budget would be expected at Sutro Heights Park due to the increased costs associated with new staffing, equipment, vehicles, field equipment, and computers. Division budgets would also increase, creating negligible impacts to long-term minor adverse impacts on individual division budgets. Short-term moderate adverse impacts on park operations would be expected due to education regarding the new dog walking regulations. Impacts would be due to the

costs associated with holding public meetings and media interviews, creating and publishing web site announcements and newspaper and magazine advertisements, developing and placing new signs, developing guides/brochures to walking dogs at GGNRA, and hiring one new employee in the interpretation division. Impacts on LE would also be short term, moderate, and adverse, due to an increase in staffing and time required to successfully implement the new dog management regulations.

On-leash dog walking would be allowed on the paths, parapet, and lawns at Sutro Heights Park. Current conditions at the site are similar in that on-leash dog walking is allowed throughout the site; therefore, impacts on park operations would be negligible. The level of law enforcement needed at the site under the new management regulations would likely remain the same.

Alternative C was selected as the preferred alternative for permits at all sites. All dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. Any dog walker, commercial or private, could obtain a permit to walk more than three dogs, with a limit of six dogs; however, no permits would be allocated at Sutro Heights Park, so all dog walkers, including commercial dog walkers, would only be allowed to walk one to three dogs per person. Implementation of the commercial dog walking regulations would have negligible impacts on park operations. No additional time would be needed by park staff to issue permits. Park staff would be needed to monitor and enforce the new regulations, including issuing warnings and citations for both private and commercial dog walkers walking more than three dogs; however, this would be incorporated with daily monitoring and implementation of the new dog walking regulations.

Cumulative Impacts. Initial increases in labor expenditures for dog-related activities by current park staff would be expected due to education and enforcement needs; however, it is expected that compliance with the new leash regulations would improve over time, and the percentage of time required by park staff working on dog management–related activities would likely decrease over the next 20 years as dog management–related activities become routine. In addition to dog management and its effects on park operations, there are other projects that have the potential to affect park operations due to staffing and budgeting requirements and the need to coordinate with entities managing those efforts. A list of these projects can be found in appendix K. For example, the proposed extension of the Municipal Railway’s Historic Streetcar Service would continue the F-line three blocks west to San Francisco Maritime NHP and then on through the Fort Mason Tunnel to the Fort Mason Center at GGNRA (NPS 2010b, 1). Additionally, the Doyle Drive replacement project will replace the 73-year-old Doyle Drive, which runs through area B lands of the Presidio, and will make structural and seismic improvements (USDOT 2009, 1; Presidio Parkway 2010, 1). In general, based on recent trends park operation costs would be expected to increase.

Overall, projects and critical public safety tasks other than dog management activities would have a greater adverse effect on park operations at this GGNRA park site than dog management under the preferred alternative. Therefore, after the introductory educational and enforcement period related to dog management—during which cumulative impacts on park operations would be short term, minor to moderate, and adverse—there would be additional long-term minor adverse impacts on park operations as a result of dog management efforts.

SUTRO HEIGHTS PARK PREFERRED ALTERNATIVE CONCLUSION TABLE

Park Operations Impacts	Rationale	Cumulative Impacts
Conclusion: Long-term minor adverse impacts on park and division budgets	Increased costs associated with new staffing and equipment would occur	Short-term minor to moderate adverse cumulative impacts during the education phase

Park Operations Impacts	Rationale	Cumulative Impacts
Short-term moderate adverse impacts	Education regarding new dog walking regulation and increased staffing of LE would be necessary	Long-term minor adverse cumulative impacts as a result of dog management efforts
Negligible impacts during implementation assuming compliance	Level of enforcement at sites would remain the same since conditions would be similar and there are few dog-related incidents occurring currently	

New Lands

For all alternatives, Park Operations would be affected from the addition of dog management regulations under all alternatives as a result of additional enforcement, administrative and maintenance responsibilities as discussed in previous sections. The level of impact on Park Operations varies by alternative; however, because it is unknown what types of lands and what locations may come under GGNRA management in the future, a conservative approach to the impact analysis was adopted to encompass the range of possibilities. It is expected that all new lands would be surveyed prior to designating an area either open or closed to dogs to determine if sensitive resources exist at the site and surveys would result in dog management regulations that affect Park Operations.

Alternative A: No Action. For new lands that come under the management of GGNRA, alternative A would manage these lands under existing NPS regulations as described in 36 CFR 2.15, which forbids possession of a pet in a public building, public transportation vehicle, location designated as a swimming beach, or any structure or area closed to pets by the superintendent. Therefore, on-leash dog walking would be allowed at new lands under alternative A.

Under alternative A, dog management related to park operations would continue as currently conducted. The park would continue to post or update signs with current dog walking regulations and maintain a list of all areas available or restricted to dogs on the GGNRA web site. Park staff would continue to maintain a dog management information line and continue to provide information on the current regulatory status of dog walking policies. Therefore, long-term minor adverse impacts to park operations would occur as a result of alternative A because additional park operations staff and labor efforts would be needed to accomplish tasks related to dog management in addition to other job responsibilities.

Under alternative a, no permit system would exist for dog walking at new lands. It is likely that commercial dog walking would have a negligible impact on park operations. There would be no additional tasks for park staff associated with commercial dog walking since there would be no permit system in effect.

Cumulative Impacts. It is likely that dog walking in GGNRA would continue to increase over the next 20 years, which would ultimately increase the amount of time and money spent on dog management at the park. Park staff, including maintenance staff, park rangers, administrative staff, and LE officials, would continue to be distracted from their daily work assignments and other protection concerns to deal with dog management issues such as vandalized signs, visitor conflicts, and visitor complaints, resulting in an inability to achieve the overall goal of professional resource and visitor protection consistent with the NPS mission. The amount of time spent on dog management would incrementally decrease the amount of time and money available for other projects and safety efforts throughout the park.

In addition to dog management effects on park operations, there are other projects that would likely increase staffing and budget demands (appendix K). Numerous rehabilitation and improvement projects throughout the park also affect park operations due to management, staffing, and budgeting requirements

and the need to coordinate with entities that may be managing those efforts. For example, the proposed extension of the Municipal Railway's Historic Streetcar Service would continue the F-line three blocks west to San Francisco Maritime NHP and then on through the Fort Mason Tunnel to the Fort Mason Center at GGNRA (NPS 2010b, 1). Additionally, the Doyle Drive replacement project will replace the 73-year-old Doyle Drive, making structural and seismic improvements to this roadway running through area B lands of the Presidio (USDOT 2009, 1; Presidio Parkway 2010, 1). As a result of acts of terrorism perpetrated against the United States on September 11, 2001, the NPS and its conservation and preservation mission have become a part of Homeland Security's anti-terrorism enforcement. This has increased demand for police and other public safety services to provide protection of sites identified as critical infrastructure and American icons against terrorism. At GGNRA the LE staff, working with other local law enforcement agencies, provides heightened security and critical incident response to the Golden Gate Bridge; elevated threat levels require closures in and around Fort Point, the Coastal Trail, and Fort Baker. These closures may preclude dog walking in those areas, and additional staff to enforce these security closures would also address dog walking violations resulting from the closures; however, redirecting LE staff to closure and terrorism threat duties also results in a reduction of the time LE personnel have for other aspects of enforcement (e.g., patrol and dog management regulations). These demands have created an additional workload for the park's LE program. In general, based on recent trends park operation costs would be expected to increase.

Cumulatively, long-term minor to moderate adverse impacts on park operations at new lands would be expected from alternative A when added to other past, present, or foreseeable future actions.

NEW LANDS ALTERNATIVE A CONCLUSION TABLE

Park Operations Impacts	Rationale	Cumulative Impacts
Long-term minor adverse impacts	Additional park operations staff and labor efforts would be needed to accomplish tasks related to dog management in addition to other job responsibilities	Long-term minor to moderate adverse cumulative impacts as a result of dog management efforts

Alternatives B and C. For new lands that come under the management of GGNRA, alternatives B and C would manage these lands under existing NPS regulations as described in 36 CFR 2.15, which forbids possession of a pet in a public building, public transportation vehicle, location designated as a swimming beach, or any structure or area closed to pets by the superintendent. Alternatives B and C would allow on-leash dog walking unless the following conditions were triggered:

- impedes the attainment of a park's desired future conditions for natural and cultural resources as identified through the park's planning process, or
- creates an unsafe or unhealthful environment for visitors or employees, or
- impedes or interferes with park programs or activities, or
- triggers the compliance-based management strategy's process for closure.

Under Alternatives B and C, all dog walkers, including commercial dog walkers, would be allowed up to three dogs with no permit required. At sites where commercial dog walking is not common, it is likely that the new regulation would not have an impact on the number of dog walkers resulting in a negligible impact on park operations. At sites where commercial dog walking is common, impacts to park operations from commercial dog walkers would be similar to impacts from other dog walkers. Overall impacts to park operations from dogs walked by both commercial and private individuals are summarized below.

At most new lands, the impacts from allowing on-leash dog walking would be long-term, minor and adverse because new lands acquired by GGNRA would require the oversight and enforcement of the regulation for on leash dog walking and any other regulations provided through the GGNRA Compendium. There would be an increase in the need for LE monitoring and enforcement of regulations as well as a corresponding increase in effort for administrative staff (logging complaints, warnings, citations, etc.) and maintenance staff as previously described. Therefore, assuming compliance, impacts to Park Operations as a result of alternatives B and C would be long-term, minor, and adverse.

It is important to note that Park Operations would be expected to incur impacts even if sites are proposed for closure to dogs because monitoring and enforcement requiring administrative staff support would still occur as would a need for maintenance. Impacts would be expected to range from negligible to long-term minor, and adverse depending on the site and conditions of use.

Cumulative Impacts. Initial increases in labor expenditures for dog-related activities by current park staff would be expected due to education and enforcement needs; however, it is expected that compliance with the new leash regulations would improve over time, and the percentage of time required by park staff working on dog management–related activities would likely decrease over the next 20 years as dog management–related activities become routine. In addition to dog management and its effects on park operations, there are other projects that have the potential to affect park operations due to staffing and budgeting requirements and the need to coordinate with entities managing those efforts. A list of these projects can be found in appendix K. In general, based on recent trends park operation costs would be expected to increase.

Overall, projects and critical public safety tasks other than dog management activities would have an adverse effect on park operations. Cumulatively, long-term minor to moderate adverse impacts on park operations at new lands would be expected from alternatives B and C when added to other past, present, or foreseeable future actions.

NEW LANDS ALTERNATIVES B AND C CONCLUSION TABLE

Park Operations Impacts	Rationale	Cumulative Impacts
Conclusion: Negligible to long-term, minor, adverse impact assuming compliance	Increase in need for LE, administrative, and maintenance staff for enforcement and oversight of new regulations; increase even if dogs are prohibited at site	Long-term minor to moderate adverse cumulative impacts

Alternative D: Most Protective of Resources. New lands would be closed to dog walking unless opened by compendium, as evaluated by criteria below. The “closed unless opened” approach is the reverse of 36 CFR 2.15. Only on-leash dog walking would be considered at new lands. New lands would not be considered for voice and sight control (ROLAs). Once open to on-leash, compliance-based management strategies apply. Areas could be opened to on-leash dog walking if opening the area would not:

- impede the attainment of a park’s desired future conditions for natural and cultural resources as identified through the park’s planning process, or
- create an unsafe or unhealthful environment for visitors or employees, or
- impede or interfere with park programs or activities.

If the new lands allow on leash dog walking, these areas would be defined and specific regulations would be established. At most new lands, the impacts from allowing on-leash dog walking would be long-term, minor and adverse because new lands acquired by GGNRA would require the oversight and enforcement of the regulation for on leash dog walking and any other regulations provided through the GGNRA Compendium. There would be an increase in the need for LE monitoring and enforcement of regulations as well as a corresponding increase in effort for administrative staff (logging complaints, warnings, citations, etc.) and maintenance staff as previously described. Therefore, assuming compliance, impacts to Park Operations as a result of alternative D would be long-term minor, and adverse.

Under alternative D, no commercial dog walking would be allowed. However, individuals would be allowed to walk one to three dogs per person on leash. Impacts on park operations would be negligible because permits would not be allocated under alternative D, no additional time would be needed by park staff to issue permits. Park staff would be needed to monitor and enforce new regulations for dog walkers, both private and commercial, walking more than three dogs; however, this would be incorporated with daily monitoring and implementation of the new dog walking regulations.

Negligible impacts to park operations would be expected at sites where current dog walking would change from on leash dog walking to prohibiting dog walking. However, if park visitors do not comply with the new regulations, enforcement and administrative impacts would result.

It is important to note that Park Operations would be expected to incur impacts even if sites are proposed for closure to dogs because monitoring and enforcement requiring administrative staff support would still occur as would a need for maintenance. Impacts would be expected to range from negligible to long-term minor, and adverse depending on the site and conditions of use.

Cumulative Impacts. Initial increases in labor expenditures for dog-related activities by current park staff would be expected due to education and enforcement needs; however, it is expected that compliance with the new leash regulations would improve over time, and the percentage of time required by park staff working on dog management-related activities would likely decrease over the next 20 years as dog management-related activities become routine. In addition to dog management and its effects on park operations, there are other projects that have the potential to affect park operations due to staffing and budgeting requirements and the need to coordinate with entities managing those efforts. A list of these projects can be found in appendix K. In general, based on recent trends park operation costs would be expected to increase.

Overall, projects and critical public safety tasks other than dog management activities would have a adverse effect on park operations at GGNRA park sites. Cumulatively, long-term minor to moderate adverse impacts on park operations at new lands would be expected from alternative D when added to other past, present, or foreseeable future actions.

NEW LANDS ALTERNATIVE D CONCLUSION TABLE

Park Operations Impacts	Rationale	Cumulative Impacts
Conclusion: Long-term, minor, adverse impact assuming compliance	Increase in need for LE, administrative, and maintenance staff for enforcement and oversight of new regulations; increase even if dogs are prohibited at site	Long-term minor to moderate adverse cumulative impacts

Alternative E: Most Dog Walking Access/ Most Management Intensive. For new lands that come under the management of GGNRA, alternative E would initially manage these lands under existing NPS

regulations as described in 36 CFR 2.15, which forbids possession of a pet in a public building, public transportation vehicle, location designated as a swimming beach, or any structure or area closed to pets by the superintendent. Alternative E would allow dog walking unless the following conditions were triggered:

- impedes the attainment of a park's desired future conditions for natural and cultural resources as identified through the park's planning process, or
- creates an unsafe or unhealthful environment for visitors or employees, or
- impedes or interferes with park programs or activities, or
- triggers the compliance-based management strategy's process for closure.

Additionally, new lands may be opened to voice and sight control if:

- Off-leash dog use existed before acquisition, and
- one year baseline data is collected through the compliance-based management strategy's monitoring program, and
- compliance-based management strategy not triggered (primary or secondary management responses).

Alternative E would allow on leash dog walking and potentially voice and sight control dog walking at new lands managed by GGNRA as long as it would not impede attainment of the park's desired future conditions. Also, alternative E could close areas to on leash dog walking if it would impede attainment of the park's desired future conditions.

Under alternative E, all dog walkers, including commercial dog walkers, would be allowed up to three dogs with no permit required. At sites where commercial dog walking is not common, it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking at these sites under alternative E would have a negligible impact on park operations. At sites where commercial dog walking is common, impacts to park operations are expected. Impacts to park operations from commercial dog walkers would be similar to impacts from other dog walkers. Overall impacts to park operations from dogs walked by both commercial and private individuals are summarized below.

At most new lands, the impacts from allowing on-leash dog walking would be long-term, minor and adverse because new lands acquired by GGNRA would require the oversight and enforcement of the regulation for on leash dog walking and any other regulations provided through the GGNRA Compendium. There would be an increase in the need for LE monitoring and enforcement of regulations as well as a corresponding increase in effort for administrative staff (logging complaints, warnings, citations, etc.) and maintenance staff as previously described.

If the new lands allow dog walking under voice and sight control, these areas would be defined and specific regulations would be established. Impacts to park operations would be similar to impacts from on-leash dog walking; however, impacts would increase slightly to long-term, minor to moderate, and adverse since it is unknown what the current dog walking status is at new lands. Since ROLA(s) have invisible boundaries, short-term, minor, to moderate, adverse impacts could occur to park operations due to the continual need for education and enforcement. This would also occur in areas where the dog walking use changes to "on leash" or "no dogs" immediately adjacent to a ROLA.

It is important to note that Park Operations would be expected to incur impacts even if sites are proposed for closure to dogs because monitoring and enforcement requiring administrative staff support would still occur as would a need for maintenance. Impacts would be expected to range from negligible to long-term moderate, and adverse depending on the site and conditions of use. If park visitors do not comply with the new regulations, compliance-based management strategies would be implemented. During this period park staff would be needed to continually monitor the sites, issue citations, resolve conflicts, and educate the public. Impacts to park operations would be long-term, moderate, and adverse until visitors comply with the new regulations. Impacts would then be expected to return to a long-term, minor adverse level.

Cumulative Impacts. Initial increases in labor expenditures for dog-related activities by current park staff would be expected due to education and enforcement needs; however, it is expected that compliance with the new leash regulations would improve over time, and the percentage of time required by park staff working on dog management–related activities would likely decrease over the next 20 years as dog management–related activities become routine. In addition to dog management and its effects on park operations, there are other projects that have the potential to affect park operations due to staffing and budgeting requirements and the need to coordinate with entities managing those efforts. A list of these projects can be found in appendix K. In general, based on recent trends park operation costs would be expected to increase.

Overall, projects and critical public safety tasks other than dog management activities would have a adverse effect on park operations at GGNRA park sites. Cumulatively, long-term minor to moderate adverse impacts on park operations at new lands would be expected from alternative E when added to other past, present, or foreseeable future actions.

NEW LANDS ALTERNATIVE E CONCLUSION TABLE

Park Operations Impacts	Rationale	Cumulative Impacts
Short to long-term, minor to moderate, adverse impact assuming compliance	Oversight and enforcement of the regulation for on leash and ROLA dog walking; Increase in need for LE, administrative, and maintenance staff for enforcement and oversight of new regulations	Long-term minor to moderate adverse cumulative impacts

New Lands Preferred Alternative. Alternative D was selected as the preferred alternative. New lands would be closed to dog walking unless opened by compendium, as evaluated by criteria below. The “closed unless opened” approach is the reverse of 36 CFR 2.15. Only on-leash dog walking would be considered at new lands. New lands would not be considered for voice and sight control (ROLAs). Once open to on-leash, compliance-based management strategies apply. Areas could be opened to on-leash dog walking if opening the area would not:

- impede the attainment of a park’s desired future conditions for natural and cultural resources as identified through the park’s planning process, or
- create an unsafe or unhealthful environment for visitors or employees, or
- impede or interfere with park programs or activities.

Negligible impacts to park operations would be expected at sites where current dog walking would change from on leash dog walking to prohibiting dog walking. However, if park visitors do not comply with the new regulations, Enforcement and administrative impacts would result.

It is important to note that Park Operations would be expected to incur impacts even if sites are proposed for closure to dogs because monitoring and enforcement requiring administrative staff support would still occur as would a need for maintenance. Impacts would be expected to range from negligible to long-term moderate, and adverse depending on the site and conditions of use.

Alternative C was selected as the preferred alternative for permits at all sites including new lands. All dog walkers, including commercial dog walkers, would be allowed up to three dogs with no permit required. All dogs must be on a leash. At sites where commercial dog walking is not common, it is likely that the new regulation would not have an impact on the number of dog walkers resulting in a negligible impact on park operations. At sites where commercial dog walking is common, impacts to park operations from commercial dog walkers would be similar to impacts from other dog walkers. Overall impacts to park operations from dogs walked by both commercial and private individuals are summarized above.

Staffing and Non-Personnel Costs (all Divisions) for the New Lands Preferred Alternative

To implement the dog management plan, the NPS would hire part-time and seasonal employees and full-time permanent employees in addition to the current staff at the park. Additional personnel would need to be hired in several divisions. Table 13 provides the total estimated costs associated with personnel and labor (including new employees) to complete tasks necessary for implementation of the dog management plan under the Preferred Alternative. Personnel costs include labor related to compliance monitoring, education and public affairs, enforcement, record keeping and data management, maintenance, and contract labor. Non-personnel costs may include equipment, vehicles, computers, etc., necessary to perform duties associated with each alternative and are also provided. The addition of new employees would create long-term minor adverse impacts on the current park budget. Division budgets would also increase beyond the cost of new personnel to cover increases in current staff workloads and field and equipment costs, including vehicles, computers, etc., creating negligible impacts to long-term minor adverse impacts on current division budgets. If new funding becomes available, impacts would be minimized.

TABLE 13. ESTIMATED PERSONNEL COSTS FOR THE NEW LANDS PREFERRED ALTERNATIVE

Personnel	New Lands Preferred Alternative
U.S. Park Police	\$135,200
Interpretive (includes Park Rangers)	\$148,601
Visitor and Resource Protection	\$207,576
Natural Resources	\$454,155
Public Affairs	\$95,902
Business Management	\$174,810
Maintenance	\$132,016
Total Non-Personnel costs (all Divisions)	\$163,010
Estimated Total Cost*	\$1,511,270

* Total costs are short-to-medium term costs, assuming compliance. Costs could continue into the long-term if noncompliance occurs.

Cumulative Impacts. Initial increases in labor expenditures for dog-related activities by current park staff would be expected due to education and enforcement needs; however, it is expected that compliance with the new leash regulations would improve over time, and the percentage of time required by park staff working on dog management-related activities would likely decrease over the next 20 years as dog management-related activities become routine. In addition to dog management and its effects on park

operations, there are other projects that have the potential to affect park operations due to staffing and budgeting requirements and the need to coordinate with entities managing those efforts. A list of these projects can be found in appendix K. In general, based on recent trends park operation costs would be expected to increase.

Overall, projects and critical public safety tasks other than dog management activities would have a adverse effect on park operations at GGNRA park sites. Cumulatively, long-term minor to moderate adverse impacts on park operations at new lands would be expected from the preferred alternative when added to other past, present, or foreseeable future actions.

NEW LANDS PREFERRED ALTERNATIVE CONCLUSION TABLE

Park Operations Impacts	Rationale	Cumulative Impacts
Conclusion: Negligible to long-term, minor, adverse impact assuming compliance	Increase in need for LE, administrative, and maintenance staff for enforcement and oversight of new regulations; increase even if dogs are prohibited at site	Long-term minor to moderate adverse cumulative impacts

HUMAN HEALTH AND SAFETY

GUIDING POLICIES AND REGULATIONS

NPS Management Policies 2006

The NPS has designated management policies related to human health and safety for park facilities as outlined below or as discussed in the *NPS Management Policies 2006*.

8.2.5.1 Visitor Safety – The NPS will seek to provide a safe and healthful environment for visitors and employees by working cooperatively with other federal, tribal, state, and local agencies, organizations, and individuals. Nationally accepted codes, standards, engineering principles, and NPS guidance will be applied to protect against threats to human health and safety (NPS 2006b, Section 8.2.5.1).

Director's Order #83

It is the policy of the NPS to protect the health and well-being of NPS employees and park visitors through the elimination or control of disease agents and the various modes of their transmission to humans and to ensure compliance with applicable federal, state, and local public health laws, regulations, and ordinances (NPS 2004b, 2).

Code of Federal Regulations

36 CFR 1.5(a)(1) through (a)(3) provide authority for superintendents to manage areas and specific uses/activities for the maintenance of public health and safety, protection of environmental or scenic values, protection of natural resources, implementation of management responsibilities, equitable allocation and use of facilities, or avoidance of conflict among visitor use activities.

36 CFR 2.15(a)(1) prohibits dogs on designated swimming beaches.

36 CFR 2.15(a)(5) protects visitor health and safety by providing regulations as authorized by the superintendent under 36 CFR 1.5(a)(1) through (a)(3) for failure to comply with the disposal of pet waste.

36 CFR 2.15(c) and (d) provide regulations on dealing with pets running at large, including those observed in the act of killing, injuring, or molesting humans, by an authorized person.

36 CFR 2.34 defines disorderly conduct and prohibited acts such as fighting, threatening or violent behavior, inflicting injury, inciting breach of the peace, and creating or maintaining hazardous or physically offensive conditions.

36 CFR 5.13 prohibits commercial or private operations from creating or maintaining a nuisance (undefined).

STUDY AREA

The geographic study area for health and safety includes the sites of GGNRA included in this dog management plan/EIS, as well as adjacent areas that could be impacted by dog management activities including new lands. There are 21 individual sites relevant to this project, which have been previously described in detail in chapter 3.

DURATION OF IMPACT

Duration describes the length of time an effect would occur, either short term or long term. Long term impacts to human health and safety are described as those persisting for the life of the plan/EIS (the next 20 years). After the implementation of the plan, a 1- to 3-month period of public education would occur to implement the proposed action followed by a 1- to 3-month period testing the compliance-based management strategy. At the beginning of the education and enforcement period, short-term impacts on human health and safety would occur, regardless of the alternative chosen and would be similar to the current conditions. Following the education period, monitoring for compliance would begin and it is expected that compliance with the dog walking regulations and associated adverse impacts would improve gradually and the impacts on human health and safety would then become long term, as described below for each alternative.

ASSESSMENT METHODOLOGY

The analysis of effects on human health and safety considered conflicts between dogs and various user groups of the park. The presence of dog waste at park sites was also included in the analysis. Impacts on both park visitors and park employees were analyzed quantitatively using the park's LE database on pet-related citations, warnings, and reports taken in 2007/2008, which is summarized in table 9. Qualitative analysis considered the LE database along with information from relevant studies, personal communication, and professional judgment to predict changes in human health and safety over the next 20 years.

IMPACT THRESHOLDS

Health and safety impacts were determined by examining the potential effects of dog walking activities on the health and safety of park visitor and staff within a park site. The intensity of each adverse impact is judged as having a minor, moderate, or major effect. A beneficial impact would be a positive change in the condition or appearance of the resource. Negligible impacts are neither adverse nor beneficial, nor long-term or short-term. No impacts to the health and safety of park visitors and staff may also be applicable for some alternatives and sites if dogs are prohibited. The following impact thresholds were established to describe the effects to the health and safety of park visitors and staff under the various alternatives being considered:

- Beneficial* A beneficial impact is a beneficial change from the current condition and is a relative indicator of progress compared to the no action alternative. In general, a beneficial impact would be a decrease in the number of dog-related confrontations, injuries, and illnesses.
- Negligible* The health and safety of both park visitors and park employees would not be affected, or the effects would be at such low levels of detection that no appreciable effect on human health or safety would be measurable.
- Adverse* **Minor.** Effects on the health and safety of both park visitors and park employees would be detectable but would not be large enough to be quantified.
Moderate. Effects would be readily apparent and would result in substantial, noticeable effects on the health and safety of both park visitors and park employees on a local scale. Revision of park policies could be required to ensure human health and safety.

Major. Effects would be readily apparent and long term, and would result in substantial, noticeable effects on human health and safety for both park visitors and park employees on a regional scale. Revision of park policies would be required to ensure human health and safety.

COMMON TO ALL ALTERNATIVES

Visitor Health and Safety Impacts

Encounters with Unruly/Aggressive Dogs. Many of the issues related to the health and safety of visitors at the park are related to the nature of their encounters with unruly or aggressive dogs. Reported incidents include those of being knocked down, intimidated, and bitten by dogs. In 2007/2008 a total of 52 violations were given for dog bites or attacks at the GGNRA park sites included in this plan/EIS (table 9). Serious dog bites can result in injury/disease to the individual, medical insurance and worker's compensation claims, lost wages, and sick leave (AVMA 2001, 1733). Over 130 disease-causing microbes have been isolated from dog wounds (LSU 2009, 1). The three most common bacteria associated with infections from dog bites include *Pasteurella*, *Streptococcus*, and *Staphylococcus*. Risks to visitors of incurring injuries secondary to a bite or attempted bite also exist. For instance, a jogger may trip and break an arm or a bicyclist may fall off their bike while avoiding a threatening dog. Dog-on-dog bites and dog-on-horse bites often involve visitors who could be injured during these conflicts (e.g., attempts to separate dogs, horses bolting).

In general, children are the most common victims of serious dog bites in the United States, with 70 percent of fatal dog attacks and more than half of serious bite wounds involving children, whose natural behaviors (running, yelling, grabbing, hitting) put them at elevated risk for dog bite injuries (AVMA 2001, 1741). The most vulnerable children are young boys between the ages of 5 and 9. The elderly are also considered at higher risk of dog bite injury/disease due to thinning skin (increased risk of bruising, serious lacerations). Decreased sensory perception (diminished eye sight, hearing) and motor skills can result in elderly people not seeing or hearing a threatening or unruly dog or being unable to physically protect themselves or escape from an aggressive dog (AVMA 2001, 1742).

The potential for encountering unruly dog behavior (biting, knocking visitors down, and being aggressive) is elevated in certain portions of the park where visitor use is high and dogs are under voice control. In 2007 and 2008 violations were given for a total of 5 dog bites or attacks at Crissy Field, 11 dog bites or attacks at Ocean Beach, and 12 dog bites or attacks at Fort Funston (table 9). Most of the health and safety effects from dogs are short term, though serious, permanent injury from unruly dogs would result in long-term impacts on the health and safety of visitors. In addition, although each individual incident would be short term in nature, the impacts would continue to occur over the lifetime of the plan/EIS.

Pathogens. Pet waste contains pathogens, such as *Giardia*, roundworms, *Salmonella*, parvovirus, and many other microorganisms that can be harmful to human health (CRCCD 2009, 1). Evidence shows that pets and urban wildlife can be significant bacterial sources. A single gram of dog feces can contain 23 million fecal coliform bacteria (Stormwater Center 2009, 1). It was also noted in a 1982 study of Baltimore, Maryland, catchments that dog feces were the single greatest contributor of fecal coliform and fecal strep bacteria (Stormwater Center 2009, 1). This evidence points to a need for enforcement and education to raise resident awareness regarding the water quality impacts of this urban pollutant source (Stormwater Center 2009, 1). Leaving pet waste anywhere on the ground may expose children, adults, and other pets to these potential pathogens and bacteria (CRCCD 2009, 1). There is also a risk of getting sick from drinking or swimming in waters contaminated by pet waste (CRCCD 2009, 1). The San

Francisco Public Utilities Commission maintains a website that provides a community outreach and education page on pet waste pollution prevention (San Francisco PUC 2010).

The U.S. Food and Drug Administration (USFDA) reported that roundworms and hookworms can infect dogs and can also infect people if they ingest the organisms, or, in the case of hookworms (which can penetrate the skin), if they walk barefoot on infected soil (USFDA 2009, 1). As intestinal parasites, worms live in the intestines of animals, including humans, and are expelled in the stool. If waste from infected dogs is left on the ground, the surrounding soil can become contaminated with eggs that are passed in animal feces and hatch in the soil. Touching contaminated stool or soil and then touching the mouth or handling food are common routes of transmission of worms to humans (USFDA 2009, 1). Children are at risk of acquiring worms if they walk barefoot or play in the soil where an infected dog has defecated or on the floor where a dog may have tracked in dirt or feces. Roundworms may cause serious health problems for children: Between 5 and 20 percent of children have been infected by dog roundworm at some time in their lives (USFDA 2009, 1). Left untreated, just one roundworm larva has been known to damage the retina of the human eye and cause blindness (USFDA 2009, 1). The Center for Disease Control and Prevention reports 10,000 cases of roundworm infection annually (PR Newswire Association 2009, 1); however, many pet owners are unaware that intestinal roundworms and hookworms pose serious health threats to their pets and human family members (PR Newswire Association 2009, 1).

Pet waste collection programs alleviate the potential contribution of pollutants resulting from pet waste. However, the effectiveness of waste removal programs in maintaining water quality is unknown because despite removal of pet waste, there is no way to ensure that all waste is collected. There is ample evidence that programs such as these are necessary in urban areas (Stormwater Center 2009, 1). For example, in the 20-square-mile Four Mile Run watershed in Northern Virginia, a dog population of 11,400 has been identified as a major contributor of bacteria in the watershed. It is estimated that the dogs contribute over 5,000 pounds of solid fecal waste every day into the watershed (NVPDC 1998a, 4). Approximately 500 fecal coliform samples have been taken from Four Mile Run and its tributaries since 1990, and about 50 percent of these samples have exceeded Virginia water quality standards for fecal coliform bacteria (NVPDC 1998a, 2).

Currently, impacts on visitor human health and safety from dog-related pathogens exist at all park sites considered in this plan/EIS. Sites such as Fort Funston, which is heavily used by dog walkers, and sites with beaches, where visitors may be barefoot or where children play, such as Crissy Field, may have more of a health and safety risk from dog-related pathogens than sites that are not as heavily used by dog walkers, are not beaches, and are not sites where children generally play. Citations can only be issued when LE staff members witness improper removal of pet waste. In 2007 and 2008, 11 violations were issued for improper removal of pet excrement on park property. Violations were issued at Stinson Beach, Rodeo Beach, Fort Baker, and Ocean Beach (table 9). Prohibiting dogs from sites would result in the elimination of dog waste, thereby eliminating the risk to visitors from the presence of dog-related pathogens.

Dog Health. Canine distemper is a highly contagious, multi-systemic viral disease found in dogs. Uninfected dogs may contract canine distemper virus through contact with respiratory secretions, fecal material, or urine of infected dogs (Hines 2009, 1). Dogs may contract other illnesses, including dog flu, kennel cough, and parvovirus, from other infected dogs. Other diseases, such as rabies, leptospirosis, and Lyme disease, can be contracted from infected wildlife. Dogs can also get sick from drinking water that has high algae counts (algal blooms) or by ingesting toxic plants. The majority of dogs are vaccinated for diseases such as canine distemper, rabies, and parvovirus. Other illnesses can be easily treatable by local veterinarians.

Park Staff Health and Safety Impacts

Confrontations between visitors/dog owners and LE staff at the park occurred more frequently in the past as a result of the enforcement of the NPS leash regulation, 36 CFR 2.15, parkwide from 2001 to 2005. When the court decision in 2005 resulted in the GGNRA reestablishing the 1979 Pet Policy, enforcement emphasis changed, resulting in fewer confrontations. Conflicts typically occur when contact with a dog owner is initiated regarding a pet regulation violation (unleashed dogs, failure to pick up waste, aggressive dogs, dogs chasing wildlife, dogs in closed areas, etc.). Conflicts typically involve verbal abuse, though physical assaults on staff have occurred (Veeck, pers. comm. 2006). Rangers and officers have also been threatened when encircled by other dog walkers with off-leash dogs while making an enforcement contact at sites including Fort Funston, Ocean Beach, and Crissy Field (table 9). Conflicts may result from disagreement or confusion with the regulations and policies by both LE staff (primarily new personnel) and the public. These conflicts have also resulted in increased specific personal complaints about staff members or the park in general. Some complaints were in the third party or written on blogs or dog association websites. Complaints typically were not centered on whether the owner was in violation of the regulation, but rather on the conduct of the ranger or officer and the enforcement position of the park. Consequently, park policy now places LE staff in pairs when such enforcement contacts are necessary. Such conflicts have been more frequent in park areas with high use and elevated conflict levels (e.g., Fort Funston, Crissy Field, and Ocean Beach).

Rescues of both humans and dogs have been necessary at a number of sites throughout the park. Dogs and, at times, their owners have gone over cliff edges and required rescue, putting them and staff rescuers at elevated safety risk; each rescue required a minimum of three staff members. At Fort Funston in 2007 and 2008, a total of 35 violations were issued for hazardous conditions and pet rescues (table 9). Rescues are occasionally necessary at other park sites (e.g., Ocean Beach and Marin Headlands Trails) due to dangerous bluffs and rocks. Most rescues result in short-term effects on health and safety for the public and NPS rescue staff, but the potential for more serious, long-term injury is a possibility. Continuing potential for risk to NPS staff (and visitors) during such rescue operations (falls, bone breaks/sprains, etc.) would pose a risk to health and safety. Overall, health and safety issues for park staff related to dog management in the park include visitor contacts related to pet regulation compliance and potential risks posed by rescues (human and dogs).

Education and Enforcement. During the implementation of an initial education and enforcement period, park Interpretation and LE staff would increase contact with park visitors walking dogs in all areas in this plan/EIS. The new regulations would be explained, and after the initial education period, warnings or citations would be issued by the LE staff to visitors not in compliance with the new regulations. It is expected that some park visitors would disagree with the new dog management regulations and would argue with NPS staff, resulting in confrontation and possible risk to the safety of park Interpretation and LE staff. Unless otherwise stated below, impacts on the health and safety of park staff during this period due to park visitors' potential disagreement with the new regulations would be short term, minor to moderate, and adverse, but would be attenuated as familiarity and compliance with the new regulations occur.

Cumulative Impacts to Health and Safety that are Common to All Alternatives

Influences on health and safety in GGNRA could result in alterations of condition in the park, which could influence the health, safety, and accessibility for visitors and staff in the park and surrounding communities. Alterations to health and safety include encounters with unruly and aggressive dogs, pathogens, and health impacts to dogs and humans.

Encounters with aggressive dogs can occur in areas where dogs are allowed in the parks. These encounters can include aggressive actions that result in injury to health and wellbeing by intimidation, being knocked over, scratches or bites. In the case of bites, many serious microbes can be introduced through dog wounds. Aggressive acts by dogs can lessen the health and safety of park visitors and staff. The introduction of pathogens from dog waste is another serious concern to health and safety that can introduce many significant bacterial sources. Introduction of waste into water is another risk to health and safety, and swimming in contaminated water can cause illness. Pathogens and bacteria are also a problem associated with urban wildlife waste. Dog health is at risk through the transmission of the highly contagious dog distemper from dog to dog within the park. Other diseases can be transmitted to dogs from contact with infected wildlife. Algae and toxic plants can also pose health risks to dogs.

In addition to the health risks described above, oil spills have occurred and will likely occur in the Pacific Ocean and in San Francisco Bay and have the potential to impact the health and safety of park visitors and staff. On November 7, 2007, approximately 58,000 gallons of bunker fuel spilled from a container ship into the bay, resulting in the largest oil spill in the San Francisco Bay since the Cape Mohican incident in 1996. The health and safety impacts from this spill lasted only a few weeks, especially on the sandy beaches of the park. Impacts to the health and safety of park visitors was mitigated by closing the park beaches during this time and any park staff involved in monitoring the beaches was trained in Hazardous Waste Operations and Emergency Response. Therefore, impacts to the health and safety of park visitors and staff from the oil spill were considered negligible.

Current and reasonably foreseeable future actions positively affecting health and safety in the park are activities that restore and enhance trails and habitats, and provide safe access to resources. These projects include updating and maintaining infrastructure, improvement of trails and walkways, and reestablishment of native plant communities, and fire management plans. These efforts have direct benefits to health and safety. Potentially adverse impacts could occur from at Stinson Beach, a swimming beach where nutrients are discharged into groundwater from the septic system providing a risk to human health, as well as other potential health risks in the park. However, efforts to identify mitigations would reduce the potential for impacts. Completed, current, and future projects that will have a beneficial impact on health and safety within the GGNRA sites are listed below and discussed under each alternative as applicable:

- Park Stewardship Programs that have worked with GGNRA since 2003 on trail rehabilitation and non-native plant removal programs that have resulted in safer and more accessible trails.
- The park *Fire Management Plan* (NPS 2005a) provides benefits to health and safety by the reduction of fire loads, creation of better fire access and egress roads, reduction of overgrown non-native forests, and detailed fire management plans.
- Trail improvements at Homestead Valley have made the paths safer.
- The Lower Redwood Creek Floodplain and Salminoid Habitat Restoration restored channel function, which reduced flooding and reconnected the creek to its floodplain. The project also increased riparian vegetation. The reduction of flooding provided safer conditions for visitors.
- Trail segments are being realigned and degraded areas are being restored near Muir Beach as part of the *Dias Ridge Restoration and Trail Improvement Project*, which will provide safer trail access.
- The Muir Beach Wetland and Creek Restoration Project is restoring and enhancing ecological processes, improving habitat and reducing flooding, which will improve the safety of the area for visitors.
- At the Marin Headlands, transportation infrastructure has provided safer access to the park.

- The Fort Baker Transportation Plan is improving access and trails, which will improve safety.
- The San Francisco Bay Conservation and Development Commission's Tennessee Valley / Manzanita Connector Pathway Project will upgrade paths to current ADA standards as a multi-use path, and will encourage use of the trail as an alternative to vehicular travel.
- The Cavallo Point Lodge at Fort Baker has provided upgrades to infrastructure, the waterfront, and native habitats, providing greater and safer access to the site.
- The Crissy Field restoration of marshes and dunes has improved habitat and provided better access on beaches, boardwalks, and trails.
- The Doyle Drive replacement is making structural and seismic improvements to increase the safety of access to Crissy Field and other sites.
- 73,000 tons of landfill debris was unearthed and conveyed to the top of the cliffs at Baker Beach in 2007 as part of restoration and remediation efforts. This improved the safety of the area through bluff restoration and trail enhancement.
- The Ocean Beach Erosion Control Project is working on long-term solutions for beach and bluff erosion over Route 1 that will also enhance natural processes and provide safer access for visitors to the site.
- The City of San Francisco and the Park are working together for improvements of the esplanade on the northern part of Ocean Beach. These improvements would create a safe boardwalk.
- A plan for the addition of an ADA approved restroom and maintenance facilities at Fort Funston will improve safety and access to areas of the site.
- The Mori Point Restoration and Trail Plan is reducing threats to native plants and natural processes to preserve and restore habitat, and creating a sustainable trail system that will be safer for visitors.
- The Devil's Slide Tunnels Project is creating inland tunnels to bypass Devil's Slide, which will provide much safer access to San Mateo sites.
- The Pedro Point Headland Stewardship Project is minimizing erosion through habitat restoration and trail development.

Conclusion. Overall, these past, current, and future projects, whether short-term or long-term, would have a beneficial impact on health and safety for visitors and staff in the park. Dog management alternatives that prohibit dogs or restricts dog walking to on-leash or within a designated ROLA, together with the benefits derived to health and safety by the various restoration and enhancement projects listed above would provide a cumulative benefit to health and safety in GGNRA. Sites and proposed actions within alternatives that may have a different cumulative impact to health and safety are discussed below.

COMPLIANCE-BASED MANAGEMENT STRATEGY

In order to ensure protection of human health and safety from dog walking activities, the dog walking regulations defined in action alternatives B, C, D, and E would be regularly enforced by park law enforcement, and compliance monitored by park staff. A compliance-based management strategy would be implemented to address noncompliance and would apply to all action alternatives. Noncompliance would include dog walking within restricted areas, dog walking under voice and sight control in designated on-leash dog walking areas, and dog walking under voice and sight control outside of established ROLAs. If noncompliance occurs, impacts to human health and safety have the potential to increase and become short-term negligible to moderate adverse. Noncompliant dogs would increase the

risk of dog-related injuries to occur. Impacts would include an increase in dog bites, dogs knocking down visitors, dog fights, and visitors encountering aggressive dogs. In addition, unkempt pet waste may expose children, adults, and other pets to potential pathogens and bacteria. To prevent these impacts from increasing or occurring outside of the designated dog walking areas the NPS would regularly monitor all sites. When noncompliance is observed in an area, park staff would focus on enforcing the regulations, educating dog walkers, and establishing buffer zones, time and use restrictions, and SUP restrictions. If noncompliance continues and compliance falls below 75 percent (measured as the percentage of total dogs / dog walkers observed during the previous 12 months not in compliance with the regulations) the area's management would be changed to the next more restrictive level of dog management. In this case, ROLAs would be changed to on-leash dog walking areas and on-leash dog walking areas would be changed to no dog walking areas. Impacts from noncompliance could reach short-term negligible to moderate adverse, but the compliance-based management strategy is designed to return impacts to a level that assumes compliance, as described in the overall impacts analysis, or provide beneficial impacts where dog walking is reduced or eliminated.

MARIN COUNTY SITES

Stinson Beach

Alternative A: No Action. Dogs are currently allowed on leash in the parking lots and picnic areas at Stinson Beach. Dogs are not allowed on the beach itself, because it is a designated swimming beach. Visitor use in this area is considered high at the beach (swimmers and beachgoers) and moderate to high in the parking lot and picnic areas. In 2007 and 2008, a total of 302 warnings and 9 citations were issued by LE staff for visitors walking dogs in closed areas at this site (the beach) (appendix G). Pet-related violations at this site included 5 leash law violations, 17 dog bites or attacks, 1 hazardous conditions or pet rescue, and 8 pet excrement violations (table 9). Many of these violations occurred on the beach and were reported to LE staff by the Stinson Beach lifeguards.

Under alternative A, current conditions would continue. Impacts on the health and safety of park visitors and staff would be long term, moderate, and adverse. Some visitors would continue to walk their dogs under voice control along the busy beach area. Unruly or aggressive dogs would cause a threat to beachgoers and also to park staff present at the beach. The chance of dogs jumping up on or knocking down small children would still exist. The number of dog bites or attacks at this site would remain high. The presence of pet excrement in the picnic area where people are cooking and eating, may also contribute to adverse impacts on human health and safety.

Under alternative A, no permit system exists for dog walking. At Stinson Beach, commercial dog walking is uncommon. As a result, commercial dog walking under alternative A is expected to have a negligible impact on human health and safety because the change from current conditions would not be significantly measurable.

Cumulative Impacts. Projects and actions in and near Stinson Beach were considered for the cumulative impacts analysis (appendix K). The following is a discussion of projects that have had, are currently having, or will have effects on human health and safety at or in the vicinity of Stinson Beach.

Currently, nutrients are discharged into groundwater at Stinson Beach from septic tanks, with tidal variations affecting this discharge (Sieyes et al. 2008, 1). Since Stinson Beach is used as a swimming beach, the addition of nutrients could create adverse impacts on human health and safety. The impacts resulting from the past oil spill would add little to the cumulative impacts on health and safety since those impacts were found to be negligible. Actions proposed in the park's *Fire Management Plan* would improve personal safety at Stinson Beach by reducing fuel loads between the park and adjacent

communities and by providing for safe fire road access and egress routes (NPS 2005a, 62). This action would result in beneficial impacts on human health and safety.

Under alternative A, the long-term, moderate, adverse impacts to the health and safety of staff and visitors from dogs at Stinson Beach, together with effects of the projects mentioned above were considered. There are a combination of adverse and beneficial actions in and around Stinson Beach, when combined together these actions would balance out resulting in negligible impacts. Therefore, the cumulative analysis for this park site will basically focus on the results of the impact analysis for each alternative. Cumulative impacts to the health and safety of staff and visitors from dogs under this alternative are expected to be long-term, moderate, and adverse.

Indirect Impacts on Adjacent Parks

In lands adjacent to GGNRA, there are 33 parks with dog use areas within an approximate 10-mile radius of Stinson Beach and 3 parks within a 5-mile radius; the closest park is Mt. Tamalpais State Park (map 26). No impacts in adjacent lands would be expected under alternative A, since there would be no change in current conditions at this site.

STINSON BEACH ALTERNATIVE A CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Long-term moderate adverse impacts	Continued threat to health and safety from uncontrolled dogs and confrontational events would exist	Long-term moderate adverse cumulative impacts No indirect impacts in adjacent lands	N/A

N/A = not applicable.

Alternative B: NPS Leash Regulations. Alternative B would have the same dog walking restrictions as alternative A: on-leash dog walking would be allowed in the parking lots and picnic areas. Dogs are not allowed on the beach itself, because it is a designated swimming beach.

An improvement to human health and safety would occur at this site due to the initial increased education and enforcement period after the new dog regulation becomes effective; however, the chance of visitors or staff encountering an unruly or aggressive leashed dog would still exist. The risk of dog bites or physical injuries would still exist; therefore, impacts on human health and safety would be long term, minor, and adverse.

Under alternative B, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs per person with no permit required and all dogs must be on a leash. Since commercial dog walking is not common at Stinson Beach is likely that commercial dog walkers would have negligible impacts on human health and safety.

Cumulative Impacts. Under alternative B, the long-term, minor, adverse impacts to the health and safety of staff and visitors from dogs at Stinson Beach, together with effects of the projects mentioned above under alternative A were considered. There are a combination of adverse and beneficial actions in and around Stinson Beach, when combined together these actions would balance out resulting in negligible impacts. Therefore, the cumulative analysis for this park site will basically focus on the results of the

impact analysis for this alternative. Cumulative impacts to the health and safety of staff and visitors from dogs under this alternative are expected to be long-term, minor, and adverse.

Indirect Impacts on Adjacent Parks

No impacts on the health and safety of visitors and staff in adjacent lands would be expected under alternative B, since dog walking regulations would remain the same at this site.

STINSON BEACH ALTERNATIVE B CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Long-term minor adverse impacts, assuming compliance	Contact with unruly or aggressive dogs would still be possible; risk of dog bites or other injuries could occur	Long-term, minor, and adverse cumulative impacts No indirect impacts in adjacent lands	Beneficial, assuming compliance

Alternative C: Emphasis on Multiple Use, Balanced by County. Alternative C would have the same dog walking restrictions as alternatives A and B: on-leash dog walking would be allowed in the parking lots and picnic areas. Dogs are not allowed on the beach itself, because it is a designated swimming beach.

Impacts on human health and safety would be the same as alternative B: long term, minor, and adverse.

Under alternative C, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. No permits allowing dog walkers, commercial or private to walk more than three dogs on leash would be granted at Stinson Beach. As a result, individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking at Stinson Beach is not common and all dog walkers would be limited to three dogs on a leash, it is likely that commercial dog walking would have negligible impacts on human health and safety.

Cumulative Impacts. Cumulative impacts would be the same as alternative B: long-term, minor, and adverse.

Indirect Impacts on Adjacent Parks

Indirect impacts on the health and safety of visitors and staff in adjacent lands would be the same as alternative B: no impact.

STINSON BEACH ALTERNATIVE C CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Long-term minor adverse impacts, assuming compliance	Contact with unruly or aggressive dogs is still possible; risk of dog bites or other injuries could occur	Long-term, minor, and adverse cumulative impacts No indirect impacts in adjacent lands	Beneficial, assuming compliance

Alternative D: Overall Most Protective of Resources/Visitor Safety. Under alternative D, no dog walking would be allowed in the parking lot and picnic areas at Stinson Beach. Dogs are not allowed on the beach itself, because it is a designated swimming beach.

No impacts on the health and safety of park staff and visitors from dogs would occur under this alternative. The elimination of dogs from this site would reduce the chances of dog bites or injuries occurring. The chance of visitors or park staff coming into contact with an unruly or aggressive dog would not exist. Additionally, restricting dogs from the site would eliminate the risk of exposure to pathogens or diseases associated with dog waste.

Since dogs would not be allowed at this site, there would be no impact from commercial dog walkers on human health and safety.

Cumulative Impacts. Under alternative D, the lack of impacts to the health and safety of staff and visitors from dogs at Stinson Beach, together with effects of the projects mentioned above were considered. There are a combination of adverse and beneficial actions in and around Stinson Beach, when combined together these actions would balance out resulting in negligible impacts. These negligible impacts along with the lack of impacts to the health and safety of staff and visitors from dogs under alternative D would result in negligible cumulative impacts.

Indirect Impacts on Adjacent Parks

Mount Tamalpais is the closest area to Stinson Beach for dog walking outside GGNRA; this park located in the Marin Municipal Water District and allows on-leash dog walking. Adjacent lands may experience increased visitation under alternative D since dogs would no longer be allowed at Stinson Beach. Therefore, negligible indirect impacts on human health and safety in adjacent lands may occur.

STINSON BEACH ALTERNATIVE D CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: No impact, assuming compliance	Dogs would be prohibited in picnic areas and parking lots	Negligible cumulative impacts Negligible indirect impacts in adjacent lands	Beneficial, assuming compliance

Alternative E: Overall Most Dog Walking Access/Most Management Intensive. Alternative E would have the same dog walking restrictions as alternatives A, B, and C: on-leash dog walking would be allowed in the parking lots and picnic areas. Dogs are not allowed on the beach itself, because it is a designated swimming beach.

Impacts on human health and safety would be the same as alternatives B and C: long term, minor, and adverse.

Under alternative E, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be granted at Stinson Beach, so individual and commercial dog walkers would only be allowed to walk one

to three dogs on leash per person. Since commercial dog walking is not common at Stinson Beach, it is expected that the new permit regulation would have negligible impacts on human health and safety.

Cumulative Impacts. Cumulative impacts would be the same as alternative B: Long-term, minor, and adverse.

Indirect Impacts on Adjacent Parks

Indirect impacts on the health and safety of visitors and staff in adjacent lands would be the same as alternative B: no impact.

STINSON BEACH ALTERNATIVE E CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Long-term minor adverse impacts, assuming compliance	Contact with unruly or aggressive dogs would still be possible; risk of dog bites or other injuries could exist	Long-term, minor, and adverse cumulative impacts No indirect impacts in adjacent lands	Beneficial, assuming compliance

Preferred Alternative. Alternative C was selected as the preferred alternative for Stinson Beach. On-leash dog walking would be allowed in the parking lots and picnic areas. Dogs are not allowed on the beach itself, because it is a designated swimming beach.

An improvement to human health and safety would occur at this site due to the initial increased education and enforcement period after the new dog regulation becomes effective; however, the chance of visitors or staff encountering an unruly or aggressive leashed dog would still exist. The risk of dog bites or physical injuries would still exist; therefore, impacts on human health and safety would be long term, minor, and adverse.

All dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be granted at Stinson Beach, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking is not common at Stinson Beach, it is expected that the new permit regulation would have negligible impacts on human health and safety.

Cumulative Impacts. Projects and actions in and near Stinson Beach were considered for the cumulative impacts analysis (appendix K). The following is a discussion of projects that have had, are currently having, or will have effects on human health and safety at or in the vicinity of Stinson Beach.

Currently, nutrients are discharged into groundwater at Stinson Beach from septic tanks, with tidal variations affecting this discharge (Sieyes et al. 2008, 1). Since Stinson Beach is used as a swimming beach, the addition of nutrients could create adverse impacts on human health and safety. The impacts resulting from the past oil spill would add little to the cumulative impacts on health and safety since those impacts were found to be negligible. Actions proposed in the park's *Fire Management Plan* would improve personal safety at Stinson Beach by reducing fuel loads between the park and adjacent communities and by providing for safe fire road access and egress routes (NPS 2005a, 62). This action would result in beneficial impacts on human health and safety.

Under alternative C, the long-term, minor, adverse impacts to the health and safety of staff and visitors from dogs at Stinson Beach, together with effects of the projects mentioned above under alternative A were considered. There are a combination of adverse and beneficial actions in and around Stinson Beach, when combined together these actions would balance out resulting in negligible impacts. Therefore, the cumulative analysis for this park site will basically focus on the results of the impact analysis for this alternative. Cumulative impacts to the health and safety of staff and visitors from dogs under this alternative are expected to be long-term, minor, and adverse.

Indirect Impacts on Adjacent Parks

In lands adjacent to GGNRA, there are 33 parks with dog use areas within an approximate 10-mile radius of Stinson Beach and 3 parks within a 5-mile radius; the closest park is Mt. Tamalpais State Park, where on-leash dog walking is allowed (map 26). No impacts on the health and safety of visitors and staff in adjacent lands would be expected under the preferred alternative, since dog walking regulations would remain the same at this site.

STINSON BEACH PREFERRED ALTERNATIVE CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Long-term minor adverse impacts, assuming compliance	Contact with unruly or aggressive dogs would still be possible; risk of dog bites or other injuries could exist	Long-term, minor, and adverse cumulative impacts No indirect impacts in adjacent lands	Beneficial, assuming compliance

Homestead Valley

Alternative A: No Action. Dogs are currently allowed on leash or under voice control throughout the entire Homestead Valley site. Visitor use at this site is considered low, and the site is mainly used by local residents; dog walking use is also considered low at this site (table 9). In addition, in 2007 and 2008 there were no pet-related violations issued at this site (table 9).

Under the no-action alternative, conditions would remain the same at Homestead Valley. Since the site is a low use area and there have been no pet-related violations, negligible impacts on the health and safety of park visitors and staff would occur under this alternative. However, the chances of an individual being injured in a dog-related incident would still exist.

Under alternative A, no permit system exists for dog walking. At Homestead Valley, commercial dog walking is uncommon. Therefore, commercial dog walking would have negligible impact to human health and safety.

Cumulative Impacts. Projects and actions in and near Homestead Valley were considered for the cumulative impacts analysis (appendix K). The following is a discussion of projects that have had, are currently having, or will have effects on human health and safety at or in the vicinity of Homestead Valley.

In Homestead Valley, the park is planning trail improvements in the future to formalize and designate some trails to connect to the existing neighborhood trails, and beneficial impacts on human health and safety would be expected due to the establishment of these new, safe trails. Actions proposed in the park's

Fire Management Plan would improve personal safety at Homestead Valley by reducing the amount of hazardous fuel buildup in close proximity to residential neighborhoods, also benefiting human health and safety (NPS 2005a, 61). No actions have been identified that are currently having, or have the potential to have, adverse impacts on human health and safety at or in the vicinity of Homestead Valley.

Under alternative A, the negligible impacts to the health and safety of park staff and visitors from dogs at Homestead Valley, together with effects of the projects mentioned above were considered. The beneficial effects from the trail improvements at the site and from actions proposed in the park's *Fire Management Plan* (NPS 2005a) along with the negligible impacts from alternative A would result in negligible cumulative impact.

Indirect Impacts on Adjacent Parks

In lands adjacent to GGNRA, there are 38 parks with dog use areas within a 10-mile radius of Homestead Valley and 26 parks within a 5-mile radius; the closest parks are Old Mill Park and Plaza, which are part of the City of Mill Valley (map 26). The closest parks with off-leash dog use areas are Bayfront Park in Mill Valley and Camino Alto Open Space Preserve (fire roads in the latter location permit off-leash access). No impacts on the health and safety of visitors and staff in adjacent lands would be expected under alternative A, since there would be no change in current conditions at this site.

HOMESTEAD VALLEY ALTERNATIVE A CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Negligible impacts	Site experiences low use; no pet-related violations or incidents would occur	Negligible cumulative impacts No indirect impacts in adjacent lands	N/A

N/A = not applicable.

Alternative B: NPS Leash Regulations. Under alternative B, on-leash dog walking would be allowed along the Homestead Fire Road and along the neighborhood connector trails that would be designated in the future.

Impacts on the health and safety of park visitors and staff would be expected to be negligible. No pet-related violations have been recorded at the site; however, the chances of an individual being injured in a dog-related incident would still exist. Requiring dogs to be walked on leash would reduce the chances of incidents occurring, since dog walkers would have more control over their dogs.

Under alternative B, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs per person with no permit required. Since dog walking activity at Homestead Valley is low and commercial dog walking is not common at this site, it is likely that the new permit regulation would have negligible impacts on human health and safety.

Cumulative Impacts. Under alternative B, the negligible impacts to the health and safety of park staff and visitors from dogs at Homestead Valley, together with effects of the projects mentioned above under alternative A were considered. The beneficial effects from the trail improvements at the site and from actions included in the park's *Fire Management Plan* (NPS 2005a) along with the negligible impacts from alternative B would result in negligible cumulative impact.

Indirect Impacts on Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation under alternative B. Visitation to these sites may increase since dog walking would be limited to a few trails or fire roads and no dog walking under voice and sight control would be available at Homestead Valley. However, impacts on human health and safety in adjacent lands would not be expected to rise above negligible.

HOMESTEAD VALLEY ALTERNATIVE B CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Negligible impacts, assuming compliance	Site experiences low use; no pet-related violations or incidents would occur	Negligible cumulative impacts Negligible indirect impacts in adjacent lands	No change, assuming compliance

Alternative C: Emphasis on Multiple Use, Balanced by County. Under alternative C, dog walking restrictions would be the same as alternative B: on-leash dog walking would be allowed along the Homestead Fire Road and along the neighborhood connector trails that would be designated in the future.

Impacts on human health and safety would be the same as alternative B: negligible.

Under alternative C, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be granted at Homestead Valley, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking activity at Homestead Valley is not common, it is expected that the new regulation would have a negligible impact on human health and safety.

Cumulative Impacts. Cumulative impacts would be the same as alternative B: negligible

Indirect Impacts on Adjacent Parks

Indirect impacts on adjacent lands would be the same as alternative B: negligible.

HOMESTEAD VALLEY ALTERNATIVE C CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Negligible impacts, assuming compliance	Site experiences low use; no pet-related violations or incidents would occur	Negligible cumulative impacts Negligible indirect impacts in adjacent lands	No change, assuming compliance

Alternative D: Overall Most Protective of Resources/Visitor Safety. Under alternative D, on-leash dog walking would be allowed along the Homestead Fire Road. No dogs would be allowed on neighborhood connector trails.

Negligible impacts on the health and safety of park visitors and staff would be expected. The chance of an individual being injured in a dog-related incident would still exist; however, it would be unlikely to happen since no incidents have been recorded in the past.

No commercial dog walking would be allowed under alternative D. There would be no impact on human health and safety from commercial dog walking.

Cumulative Impacts. Under alternative D, the negligible impacts to the health and safety of park staff and visitors from dogs at Homestead Valley, together with effects of the projects mentioned above in alternative A were considered. The beneficial effects from the trail improvements at the site and from actions included in the park's *Fire Management Plan* (NPS 2005a) along with the negligible impacts from alternative D would result in negligible cumulative impact.

Indirect Impacts on Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation under alternative D. Visitation to these sites may increase since dog walking would be limited to a few trails or fire roads and no dog walking under voice and sight control would be available at Homestead Valley. Impacts on human health and safety in the adjacent lands may occur, but would not be expected to rise above a negligible level.

HOMESTEAD VALLEY ALTERNATIVE D CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Negligible impacts, assuming compliance	Site experiences low use; no pet-related violations or incidents would occur	Negligible cumulative impacts Negligible indirect impacts in adjacent lands	No change, assuming compliance

Alternative E: Overall Most Dog Walking Access/Most Management Intensive. Under alternative E, dog walking restrictions would be the same as alternatives B and C: on-leash dog walking would be allowed along the Homestead Fire Road and along the neighborhood connector trails that may be designated in the future. Impacts on human health and safety would be the same as alternative B and C: negligible.

Under alternative E, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be granted at Homestead Valley, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking activity at Homestead Valley is not common, it is likely that the new regulation would have negligible impacts on human health and safety.

Cumulative Impacts. Cumulative impacts would be the same as alternative B and C: negligible.

Indirect Impacts on Adjacent Parks

Indirect impacts in adjacent lands would be the same as alternative B and C: negligible.

HOMESTEAD VALLEY ALTERNATIVE E CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Negligible impacts, assuming compliance	Site experiences low use; no pet-related violations or incidents would occur	Negligible cumulative impacts Negligible indirect impacts in adjacent lands	No change, assuming compliance

Preferred Alternative. Alternative C was selected as the preferred alternative for Homestead Valley. On-leash dog walking would be allowed along the Homestead Fire Road and along the neighborhood connector trails that would be designated in the future.

Impacts on the health and safety of park visitors and staff would be expected to be negligible. No pet-related violations have been recorded at the site; however, the chance of an individual being injured in a dog-related incident would still exist. Requiring dogs to be walked on leash would reduce the chances of incidents occurring, since dog walkers would have more control over their dogs.

Under the preferred alternative, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be granted at Homestead Valley, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking activity at Homestead Valley is not common, it is likely that the new regulation would have a negligible impact on human health and safety.

Cumulative Impacts. Projects and actions in and near Homestead Valley were considered for the cumulative impacts analysis (appendix K). The following is a discussion of projects that have had, are currently having, or will have effects on human health and safety at or in the vicinity of Homestead Valley.

In Homestead Valley, the park is planning trail improvements in the future to formalize and designate some trails to connect to the existing neighborhood trails, and beneficial impacts would be expected on human health and safety due to the establishment of these new, safe trails. Actions proposed in the park's *Fire Management Plan* would improve personal safety at Homestead Valley by reducing the amount of hazardous fuel buildup in close proximity to residential neighborhoods, also benefiting human health and safety (NPS 2005a, 61). No actions have been identified that are currently having, or have the potential to have, adverse impacts on human health and safety at or in the vicinity of Homestead Valley.

Under the preferred alternative, the negligible impacts to the health and safety of park staff and visitors from dogs at Homestead Valley, together with effects of the projects mentioned above were considered. The beneficial effects from the trail improvements at the site and from actions proposed in the park's *Fire Management Plan* (NPS 2005a) along with the negligible impacts from the preferred alternative would result in negligible cumulative impact.

Indirect Impacts on Adjacent Parks

In lands adjacent to GGNRA, there are 38 parks with dog use areas within a 10-mile radius of Homestead Valley and 26 parks within a 5-mile radius; the closest parks are Old Mill Park and Plaza, which are part of the City of Mill Valley (map 26). The closest parks with off-leash dog use areas are Bayfront Park in Mill Valley and Camino Alto Open Space Preserve (fire roads in the latter location permit off-leash access). The adjacent lands may experience increased visitation under the preferred alternative. Visitation to these sites may increase since dog walking would be limited to a few trails or fire roads and no dog walking under voice and sight control would be available at Homestead Valley. However, impacts on human health and safety in adjacent lands would not be expected to rise above negligible.

HOMESTEAD VALLEY PREFERRED ALTERNATIVE CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Negligible impacts, assuming compliance	Site experiences low use; no pet-related violations or incidents would occur	Negligible cumulative impacts Negligible indirect impacts in adjacent lands	No change, assuming compliance

Alta Trail/Orchard Fire Road/Pacheco Fire Road

Alternative A: No Action. Dogs are currently allowed on leash or under voice control from Marin City to Oakwood Valley on Alta Trail, Orchard Fire Road, Pacheco Fire Road and NPS easement. This site has high use by dog walkers, particularly commercial dog walkers. Other uses, such as running, bicycling, and hiking, are considered low to moderate at the site (table 9). In 2007 and 2008, a total of nine citations and nine reports were taken for visitors walking dogs in closed areas at this site (appendix G). Pet-related violations at this site included eight leash law violations and three hazardous conditions/pet rescues (table 9). No dog bites or attacks were recorded during the same period of time.

Under alternative A, impacts on the health and safety of park visitors and park staff would be long term, minor, and adverse. Dog walking under voice control in a heavily used area could create unsafe conditions. Dog-related accidents, including dog bites and attacks, have the potential to occur under these conditions. Dogs walked under voice and sight control could also jump up on other visitors and potentially knock them down. Contributing to the impact conclusion of long term, minor, and adverse would be the three hazardous conditions/pet rescues that occurred at this site in 2007/2008.

Under alternative A, no permit system exists for dog walking. However, at Alta Trail, Orchard Fire Road, and Pacheco Fire Road, commercial dog walking is a high use activity. Impacts on human health and safety from commercial dog walkers would continue to be long term, minor, and adverse, since this is a high use site and there is typically a high number of dogs walked per person.

Cumulative Impacts. Projects and actions in and near Alta Trail, Orchard Fire Road, and Pacheco Fire Road were considered for the cumulative impacts analysis (appendix K). Mainly, actions included in the park's *Fire Management Plan* would improve personal safety throughout the park by reducing fuel conditions along access roads and reducing the extensive stands of non-native evergreen forest in close proximity to developed and populated areas (NPS 2005a, 61). This action would result in beneficial impacts on human health and safety.

Under alternative A, the long-term minor adverse impacts to the health and safety of park staff and visitors from dogs at Alta Trail, Orchard Fire Road, and Pacheco Fire Road, together with effects of the action mentioned above were considered. The benefits to the health and safety of park staff and visitors from actions included in the park's *Fire Management Plan* (NPS 2005a) are not expected to reduce the adverse impact of this alternative; therefore the cumulative analysis for this park site will focus on the results of the impact analysis for each alternative. The beneficial effects from actions included in the park's *Fire Management Plan* along with the long-term minor adverse impacts from the preferred alternative would result in a negligible to long-term minor and adverse cumulative impacts.

Indirect Impacts on Adjacent Parks

In lands adjacent to GGNRA, there are 31 parks with dog use areas within about a 10-mile radius of Alta Trail, Orchard Fire Road, and Pacheco Fire Road and 19 parks within about a 5-mile radius; the closest park is Remington Dog Park in Sausalito, which permits off-leash dog use (map 26). No impacts in adjacent lands would be expected under alternative A since there would be no change in current conditions at the site.

ALTA TRAIL/ORCHARD FIRE ROAD/PACHECO FIRE ROAD ALTERNATIVE A CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Long-term minor adverse impacts	Heavy use by visitors walking dogs would provide opportunity for pet-related incidents	Negligible to long-term, minor, adverse cumulative impacts No indirect impacts in adjacent lands	N/A

N/A = not applicable.

Alternative B: NPS Leash Regulations. Under alternative B, on-leash dog walking would be allowed on the Alta Trail to the Orchard Fire Road, and on the Orchard and Pacheco fire roads that connect to Marin City.

Impacts on human health and safety would be negligible. Since dogs would no longer be under voice control, the chances of dog-related injuries occurring would be minimized, but would still exist. Individuals may encounter leashed unruly or aggressive dogs.

Under alternative B, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs per person with no permit required. Since commercial dog walking activities at this site is common, allowing only three dogs per walker and requiring dogs to be on leash may benefit human health and safety by reducing the number of dog-related injuries. Commercial dog walkers would have fewer dogs and would have more control of their dogs.

Cumulative Impacts. Under alternative B, the negligible impacts to the health and safety of park staff and visitors from dogs at Alta Trail, Orchard Fire Road, and Pacheco Fire Road, together with effects of the action mentioned above under alternative A were considered. The beneficial effects from actions included in the park's *Fire Management Plan* (NPS 2005a) along with the negligible impacts from alternative B would result in negligible cumulative impacts.

Indirect Impacts on Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation by individual and commercial dog walkers under alternative B, particularly Remington Dog Park, because it is the closest dog use area that would allow off-leash dog walking. If dog walking at this site increases, it is likely that there would be an increase in impacts on human health and safety in adjacent lands. More dogs in these lands could result in the potential for dog-related injuries to occur. Impacts on the health and safety of visitors and staff in adjacent lands would be expected to range from negligible to long term, minor, and adverse. It is unknown how many visitors would leave the Alta Trail/Orchard Fire Road/Pacheco Fire Road area and travel to adjacent lands to walk their dogs off leash.

ALTA TRAIL/ORCHARD FIRE ROAD/PACHECO FIRE ROAD ALTERNATIVE B CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Negligible impacts, assuming compliance	Pets on leash would be restricted and controllable, reducing the risk for pet-related incidents with visitors and park staff	Negligible cumulative impacts Negligible impacts to long-term minor adverse indirect impacts in adjacent lands	Beneficial, assuming compliance

Alternative C: Emphasis on Multiple Use, Balanced by County. Under alternative C, restrictions on dog walking would be the same as alternative B: on-leash dog walking would be allowed on the Alta Trail to the Orchard Fire Road, and on the Orchard and Pacheco fire roads that connect to Marin City.

Impacts on human health and safety would be similar to alternative B; however, due to the change in the requirements for commercial dog walking under alternative C as discussed below, impacts would range from negligible to long term, minor, and adverse.

Under alternative C, all dog walkers, including commercial dog walkers, would be allowed up to three dogs with no permit required. Any dog walker, commercial or private, can obtain a permit to walk more than three dogs with a limit of six dogs on leash and the permit may restrict use by time and area. Permits would be allowed at Alta Trail, Orchard Fire Road, and Pacheco Fire Road. Adverse impacts to health and safety from permit holders are expected to increase under this alternative due to the increase to six dogs. Since commercial dog walking is high at this site impacts to health and safety would be long-term, minor, and adverse.

Cumulative Impacts. Under alternative C, the negligible to long-term, minor, adverse impacts to the health and safety of park staff and visitors from dogs at Alta Trail, Orchard Fire Road, and Pacheco Fire Road, together with effects of the action mentioned above under alternative A were considered. The benefits to the health and safety of park staff and visitors from actions included in the park's *Fire Management Plan* (NPS 2005a) is not expected to reduce the adverse impact of this alternative; therefore the cumulative analysis for this park site will focus on the results of the impact analysis for this alternative. The beneficial effects from actions included in the park's *Fire Management Plan* along with the negligible to long-term, minor, and adverse impacts from alternative C would result in negligible to long-term, minor, and adverse cumulative impacts.

Indirect Impacts on Adjacent Parks

Impacts in adjacent lands would be the same as alternative B: negligible.

ALTA TRAIL/ORCHARD FIRE ROAD/PACHECO FIRE ROAD ALTERNATIVE C CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Negligible to long-term minor adverse impacts, assuming compliance	Pets on leash would be restricted and controllable, reducing the risk for pet-related incidents with visitors and park staff; more dogs would be allowed under commercial dog walking	Negligible to long-term, minor, adverse cumulative impacts Negligible indirect impacts in adjacent lands.	Beneficial to no change, assuming compliance

Alternative D: Overall Most Protective of Resources/Visitor Safety. Under alternative D, dogs would no longer be allowed on the Alta Trail, Orchard Fire Road, or Pacheco Fire Road.

No impact on the health and safety of park staff and visitors would occur under this alternative since the chance of dog-related incidents occurring would not exist. Additionally, restricting dogs from the site would eliminate the risk of exposure to pathogens or diseases associated with dog waste.

Since dogs would not be allowed at Alta Trail, Orchard Fire Road, or Pacheco Fire Road, there would be no impact from commercial dog walkers on human health and safety.

Cumulative Impacts. Under alternative D, the lack of impacts to the health and safety of park staff and visitors from dogs at Alta Trail, Orchard Fire Road, and Pacheco Fire Road, together with effects of the action mentioned above under alternative A were considered. The beneficial effects from actions included in the park's *Fire Management Plan* (NPS 2005a) along with the lack of impacts from alternative D would result in negligible cumulative impacts.

Indirect Impacts on Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation by individual and commercial dog walkers under alternative D, particularly Remington Dog Park, since dog walking would no longer be allowed under alternative D and this is typically a high use dog walking area. If dog walking in this adjacent area increases, it is likely that there would be an increase in adverse impacts on human health and safety. More dogs at the site could result in the potential for dog-related injuries to occur. Impacts on the health and safety of visitors and staff in adjacent lands may rise to long term, minor, and adverse; however, it is unknown what adjacent lands these dog walkers would visit and it is unknown how many dog walkers would visit these adjacent lands.

ALTA TRAIL/ORCHARD FIRE ROAD/PACHECO FIRE ROAD ALTERNATIVE D CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: No impact, assuming compliance	Dogs would be prohibited on trails and fire roads at the site	Negligible cumulative impacts Long-term minor adverse indirect impacts in adjacent lands	Beneficial, assuming compliance

Alternative E: Overall Most Dog Walking Access/Most Management Intensive. Under alternative E, restrictions on dog walking would be the same as alternatives B and C: on-leash dog walking would be allowed on the Alta Trail to the Orchard Fire Road, and on the Orchard and Pacheco fire roads that connect to Marin City.

Impacts on human health and safety would be similar to those for alternative B and the same as alternative C. The change in the requirements for commercial dog walking under alternative E as discussed below, impacts would range from negligible to long term, minor, and adverse.

Under alternative E, all dog walkers, including commercial dog walkers, would be allowed up to three dogs with no permit required. Any dog walker, commercial or private, can obtain a permit to walk more than three dogs with a limit of six dogs on leash and the permit may restrict use by time and area. Permits would be allowed at Alta Trail, Orchard Fire Road, and Pacheco Fire Road. Adverse impacts to health and safety from permit holders are expected to increase under this alternative due to the increase to six dogs. Since commercial dog walking is high at this site impacts to health and safety would be long-term, minor, and adverse.

Cumulative Impacts. Under alternative E, the negligible to long-term, minor, adverse impacts to the health and safety of park staff and visitors from dogs at Alta Trail, Orchard Fire Road, and Pacheco Fire Road, together with effects of the action mentioned above under alternative A were considered. The benefits to the health and safety of park staff and visitors from actions included in the park's *Fire Management Plan* (NPS 2005a) is not expected to reduce the adverse impact of this alternative; therefore the cumulative analysis for this park site will focus on the results of the impact analysis for this alternative. The beneficial effects from actions included in the park's *Fire Management Plan* along with the negligible to long-term, minor, and adverse impacts from alternative E would result in negligible to long-term, minor, and adverse cumulative impacts.

Indirect Impacts on Adjacent Parks

Impacts in adjacent lands would be the same as alternative B: negligible.

ALTA TRAIL/ORCHARD FIRE ROAD/PACHECO FIRE ROAD ALTERNATIVE E CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Negligible impacts to long-term minor adverse impacts, assuming compliance	Pets on leash would be restricted and controllable, reducing the risk for pet-related incidents with visitors and park staff; commercial dog walking would contribute to adverse impacts	Negligible to long-term, minor, adverse cumulative impacts Negligible indirect impacts in adjacent lands	Beneficial to no change, assuming compliance

Preferred Alternative. Alternative C was selected as the preferred alternative for Alta Trail, Orchard Fire Road, and Pacheco Fire Road. On-leash dog walking would be allowed on the Alta Trail to the Orchard Fire Road, and on the Orchard and Pacheco fire roads that connect to Marin City.

Impacts on human health and safety would range from negligible to long term, minor, and adverse. Since dogs would no longer be under voice control, the chance of dog-related injuries occurring would be minimized, but would still exist. Individuals may encounter leashed unruly or aggressive dogs.

Under the preferred alternative, all dog walkers, including commercial dog walkers, would be allowed up to three dogs with no permit required. Any dog walker, commercial or private, can obtain a permit to walk more than three dogs with a limit of six dogs on leash and the permit may restrict use by time and area. Permits would be allowed at Alta Trail, Orchard Fire Road, and Pacheco Fire Road. Adverse impacts to health and safety from permit holders are expected to increase under this alternative due to the increase to six dogs. Since commercial dog walking is high at this site impacts to health and safety would be long-term, minor, and adverse.

Cumulative Impacts. Projects and actions in and near Alta Trail, Orchard Fire Road, and Pacheco Fire Road were considered for the cumulative impacts analysis (appendix K). Mainly, actions included in the park's *Fire Management Plan* would improve personal safety at Alta Trail, Orchard Fire Road, and Pacheco Fire Road by reducing fuel conditions along access roads and the extensive stands of non-native evergreen forest in close proximity to developed and populated areas (NPS 2005a, 61). This action would result in beneficial impacts on human health and safety.

Under the preferred alternative, the negligible to long-term, minor, adverse impacts to the health and safety of park staff and visitors from dogs at Alta Trail, Orchard Fire Road, and Pacheco Fire Road, together with effects of the action mentioned above were considered. The benefits to the health and safety of park staff and visitors from actions included in the park's *Fire Management Plan* (NPS 2005a) is not expected to reduce the adverse impact of this alternative; therefore the cumulative analysis for this park site will focus on the results of the impact analysis for this alternative. The beneficial effects from actions included in the park's *Fire Management Plan* along with the negligible to long-term, minor, and adverse impacts from the preferred alternative would result in negligible to long-term, minor, and adverse cumulative impacts.

Indirect Impacts on Adjacent Parks

In lands adjacent to GGNRA, there are 31 parks with dog use areas within about a 10-mile radius of Alta Trail, Orchard Fire Road, and Pacheco Fire Road and 19 parks within about a 5-mile radius; the closest park is Remington Dog Park in Sausalito, which permits off-leash dog use (map 26). The adjacent lands may experience increased visitation by individual and commercial dog walkers under the preferred alternative, particularly Remington Dog Park, because it is the closest dog use area that allows off-leash dog walking. If dog walking at this site increases, it is likely that there would be an increase in impacts on human health and safety in adjacent lands. More dogs in these lands could result in the potential for dog-related injuries to occur. Impacts on the health and safety of visitors and staff in adjacent lands would be expected to range from negligible to long term, minor, and adverse. It is unknown how many visitors would leave the Alta Trail/Orchard Fire Road/Pacheco Fire Road area and travel to adjacent lands to walk their dogs off leash.

**ALTA TRAIL/ORCHARD FIRE ROAD/PACHECO FIRE ROAD PREFERRED ALTERNATIVE CONCLUSION
TABLE**

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Negligible impacts to long-term minor adverse impacts, assuming compliance	Pets on leash would be restricted and controllable, reducing the risk for pet-related incidents with visitors and park staff; more dogs would be allowed under commercial dog walking	Negligible to long-term, minor, and adverse cumulative impacts Negligible indirect impacts in adjacent lands	Beneficial to no change, assuming compliance

Oakwood Valley

Alternative A: No Action. Under alternative A, dogs are currently allowed under voice control or on leash on the Oakwood Valley Fire Road and Oakwood Valley Trail from junction with Fire Road to junction with Alta Trail, and on leash on the Oakwood Valley Trail from trailhead to junction with Oakwood Valley Fire Road. Visitors in this area are mostly local hikers, runners, and dog walkers, and dog walking is considered a moderate use activity at this site (table 9). In 2007 and 2008, no violations were issued for leash laws, dog bites/attacks, pet rescues, or dog excrement (table 9).

Even though this site has moderate use by dog walkers (primarily by local dog walkers), due to the lack of violations at this site, impacts on the health and safety of visitors and staff under alternative A would be expected to be negligible. There is a chance that visitors or staff might encounter an unruly or aggressive dog, even though no violations occurred in 2007/2008. Health and safety conditions at the site would likely remain the same.

Under alternative A, no permit system exists for dog walking. At Oakwood Valley, commercial dog walking is uncommon. Therefore, commercial dog walking would have a negligible impact on human health and safety.

Cumulative Impacts. Projects and actions in and near Oakwood Valley were considered for the cumulative impacts analysis (appendix K). Mainly, the actions included in park's *Fire Management Plan* would improve personal safety at Oakwood Valley by maintaining low fuel conditions and adequate fire roads access and egress particularly along the residential community interface (NPS 2005a, 62). This action would result in beneficial impacts on human health and safety.

Under alternative A, the negligible impacts to the health and safety of park staff and visitors from dogs at Oakwood Valley, together with effects of the action mentioned above were considered. The beneficial effects from actions included in the park's *Fire Management Plan* (NPS 2005a) along with the negligible impacts from alternative A would result in negligible cumulative impacts.

Indirect Impacts on Adjacent Parks

In lands adjacent to GGNRA, there are 31 parks with dog use areas within about a 10-mile radius of Oakwood Valley and 22 parks within about a 5-mile radius; the closest park is Remington Dog Park in Sausalito (map 26). Remington Dog Park allows off-leash dog walking throughout the site. No impacts on the health and safety of visitors and staff in adjacent lands would be expected under alternative A since there would be no change in current conditions at the site.

OAKWOOD VALLEY ALTERNATIVE A CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Negligible impacts	Site experiences low and local use; no pet-related violations or incidents would be likely	Negligible cumulative impacts No indirect impacts in adjacent lands	N/A

N/A = not applicable.

Alternative B: NPS Leash Regulations. Under alternative B, on-leash dog walking would be allowed on Oakwood Valley Fire Road and on the Oakwood Valley Trail to the junction of the trail and fire road.

Negligible impacts on the health and safety of park visitors and staff would be expected. This site is not highly used, and most use is by local dog walkers. The chance of visitors or staff encountering an unruly or aggressive dog could exist; however, since no violations have been recently documented effects on health and safety would be insignificant in comparison to current conditions. As a result, effects on human health and safety under alternative B are expected to be negligible.

Under alternative B, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs per person with no permit required. Since commercial dog walking is not common at Oakwood Valley, it is likely that alternative B would have negligible impacts on human health and safety.

Cumulative Impacts. Under alternative B, the negligible impacts to the health and safety of park staff and visitors from dogs at Oakwood Valley, together with effects of the action mentioned above in alternative A were considered. The beneficial effects from actions included in the park's *Fire Management Plan* (NPS 2005a) along with the negligible impacts from alternative B would result in negligible cumulative impacts.

Indirect Impacts on Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation under alternative B, particularly Remington Dog Park, because it is the closest dog use area that allows off-leash dog walking. If dog walking in this adjacent area increases, it is likely that there would be an increase in adverse impacts on human health and safety. More dogs at the site could result in the potential for dog-related injuries to occur; however, impacts in adjacent lands would be expected to be negligible since it is unknown how many dog walkers would leave Oakwood Valley and visit another park site.

OAKWOOD VALLEY ALTERNATIVE B CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Negligible impacts, assuming compliance	No pet-related violations or incidents would be expected	Negligible cumulative impacts Negligible indirect impacts in adjacent lands	No change, assuming compliance

Alternative C: Emphasis on Multiple Use, Balanced by County. For alternative C, a ROLA is proposed for walking under voice control or on leash on the Oakwood Valley Fire Road to the junction with Oakwood Valley Trail. The ROLA would include double gates at both ends (to separate this use from other users of the site) and continuous fencing to protect sensitive habitat. On-leash dog walking is proposed on Oakwood Valley Trail from the junction with the Oakwood Valley Fire Road to a new gate at Alta Trail.

Impacts on the health and safety of park staff and visitors would be negligible. This site is moderately used by dog walkers, and mostly by local dog walkers. Even though having dogs under voice and sight control in a portion of the site (ROLA) may increase the risk of pet-related incidents occurring, impacts would be expected to be negligible, based on past data.

Under alternative C, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. Any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. The permit would restrict use by time and area.

Permits would be allowed at Oakwood Valley. Since commercial dog walking activity at Oakwood Valley is not common, it is likely that the new regulation would have negligible impacts on human health and safety.

Cumulative Impacts. Under alternative C, the negligible impacts to the health and safety of park staff and visitors from dogs at Oakwood Valley, together with effects of the action mentioned above in alternative A were considered. The beneficial effects from actions included in the park's *Fire Management Plan* (NPS 2005a) along with the negligible impacts from alternative C would result in negligible cumulative impacts.

Indirect Impacts on Adjacent Parks

The adjacent lands identified under alternative A would not be likely to experience increased visitation under alternative C. Since a ROLA would be established under this alternative, most visitors would continue dog walking activities in Oakwood Valley. There would be no impact in adjacent lands.

OAKWOOD VALLEY ALTERNATIVE C CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Negligible impacts, assuming compliance	Site experiences low and local use; no pet-related violations or incidents would be likely	Negligible cumulative impacts No indirect impacts in adjacent lands	No change, assuming compliance

Alternative D: Overall Most Protective of Resources/Visitor Safety. Under alternative D, on-leash dog walking would be allowed on Oakwood Valley Fire Road to the junction with the Oakwood Valley Trail.

Negligible impacts on the health and safety of park visitors and staff would be expected. This site is primarily used by local dog walkers and does not receive high use. The chance of visitors or staff encountering an unruly or aggressive dog would still exist; however, the possibility of this occurring would be unlikely, based on past data.

No commercial dog walking would be allowed under alternative D. There would be no impact on human health and safety from commercial dog walking.

Cumulative Impacts. Under alternative D, the negligible impacts to the health and safety of park staff and visitors from dogs at Oakwood Valley, together with effects of the action mentioned above in alternative A were considered. The beneficial effects from actions included in the park's *Fire Management Plan* (NPS 2005a) along with the negligible impacts from alternative D would result in negligible cumulative impacts.

Indirect Impacts on Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation under alternative D, particularly Remington Dog Park, because it is the closest dog use area that allows off-leash dog walking. If dog walking at this site increases, it is likely that there would be an increase in adverse impacts on human health and safety. More dogs at the site could result in the potential for dog-related injuries to occur; however, impacts on the health and safety of visitors and staff in adjacent lands would be expected

to be negligible since it is unknown how many dog walkers would leave Oakwood Valley and visit another park site.

OAKWOOD VALLEY ALTERNATIVE D CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Negligible impacts, assuming compliance	Site experiences low and local use; no pet-related violations or incidents would be likely	Negligible cumulative impacts Negligible indirect impacts in adjacent lands	No change, assuming compliance

Alternative E: Overall Most Dog Walking Access/Most Management Intensive. Alternative E would allow on-leash dog walking in the same areas as alternative C, which includes a ROLA for walking under voice and on leash along Oakwood Valley Fire Road to the junction with Oakwood Valley Trail. The ROLA would have double gates at both ends (to separate this use from other visitors to the site), but unlike alternative C would have non-continuous fencing only where needed to protect sensitive habitat.

Impacts on human health and safety would be the same as alternative C: negligible.

Under alternative E, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. Any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. The permit would restrict use by time and area. Permits would be allowed at Oakwood Valley. Since commercial dog walking activity at Oakwood Valley is not common, it is likely that the new regulation would have negligible impacts on human health and safety.

Cumulative Impacts. Cumulative impacts would be the same as alternative C: negligible.

Indirect Impacts on Adjacent Parks

Indirect impacts in adjacent lands would be the same as alternative C: no impact.

OAKWOOD VALLEY ALTERNATIVE E CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Negligible impacts, assuming compliance	Site experiences low and local use; no pet-related violations or incidents would be likely	Negligible cumulative impacts No indirect impacts in adjacent lands	No change, assuming compliance

Preferred Alternative. For alternative C, a ROLA is proposed for walking under voice control or on leash on the Oakwood Valley Fire Road to the junction with Oakwood Valley Trail. The ROLA would include double gates at both ends (to separate this use from other users of the site) and continuous fencing to protect sensitive habitat. On-leash dog walking is proposed on Oakwood Valley Trail from the junction with the Oakwood Valley Fire Road to a new gate at Alta Trail.

Impacts on the health and safety of park staff and visitors would be negligible. This site is moderately used by dog walkers, and mostly by local dog walkers. Even though having dogs under voice and sight control in a portion of the site (ROLA) may increase the risk of pet-related incidents occurring, impacts would be expected to be negligible, based on past data.

All dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. Any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. The permit would restrict use by time and area. Permits would be allowed at Oakwood Valley. Since commercial dog walking activity at Oakwood Valley is not common, it is likely that the new regulation would have negligible impacts on human health and safety.

Cumulative Impacts. Projects and actions in and near Oakwood Valley were considered for the cumulative impacts analysis (appendix K). Mainly, the park's *Fire Management Plan* would improve personal safety at Oakwood Valley by maintaining low fuel conditions and adequate fire road access and egress, particularly along the residential community interface (NPS 2005a, 62). This action would result in beneficial impacts on human health and safety.

Under the preferred alternative, the negligible impacts to the health and safety of park staff and visitors from dogs at Oakwood Valley, together with effects of the action mentioned above were considered. The beneficial effects from actions included in the park's *Fire Management Plan* (NPS 2005a) along with the negligible impacts from the preferred alternative would result in negligible cumulative impacts.

Indirect Impacts on Adjacent Parks

In lands adjacent to GGNRA, there are 31 parks with dog use areas within about a 10-mile radius of Oakwood Valley and 22 parks within about a 5-mile radius; the closest park is Remington Dog Park in Sausalito (map 26). Remington Dog Park allows off-leash dog walking throughout the site. The adjacent lands would not be likely to experience increased visitation under the preferred alternative. Since a ROLA would be established under this alternative, most visitors would continue dog walking activities in Oakwood Valley. There would be no indirect impact to the health and safety of visitors and staff in adjacent lands.

OAKWOOD VALLEY PREFERRED ALTERNATIVE CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Negligible impacts, assuming compliance	Site experiences low and local use; no pet-related violations or incidents would be likely	Negligible cumulative impacts No indirect impacts in adjacent lands	No change, assuming compliance

Muir Beach

Alternative A: No Action. Currently, dogs are allowed on leash or under voice control along the beach and on the path/boardwalk to the beach. Dogs are restricted to being on-leash in the parking area. The lagoon and creek are currently closed to dogs. Visitor use at this site is considered moderate to high, with the majority of visitors being local beachgoers or hikers. In 2007 and 2008, one warning, one citation, and one report were issued by LE for dogs in closed areas (appendix G). Pet-related violations at this site included three leash law violations and two hazardous conditions/pet rescues (table 9). No dog bites/attacks and no pet excrement violations were documented at this site in 2007/2008 (table 9).

Under the no-action alternative, dogs would continue to be allowed on leash or under voice control on the beach and on the path/boardwalk to the beach. Dogs would be restricted to a leash in the parking area. Impacts on visitor and staff human health and safety would be long term, minor, and adverse. The percentage of visitors walking dogs at this site ranges from low to high. Staff and visitors have been involved in two hazardous conditions/pet rescues at this site. This type of violation would be expected to continue under this alternative. In addition, there would be a chance of visitors and staff encountering uncontrolled aggressive or unruly dogs, even though no dog bites/attacks have been recently documented (table 9).

Under alternative A, no permit system exists for dog walking. At Muir Beach, commercial dog walking is uncommon. Therefore, commercial dog walking would have negligible impacts on human health and safety.

Cumulative Impacts. Projects and actions in and near Muir Beach were considered for the cumulative impacts analysis (appendix K). The following is a discussion of projects that have had, are currently having, or will have effects on health and safety at or in the vicinity of Muir Beach.

The *Dias Ridge Restoration and Trail Improvement Project* is currently realigning trail segments and restoring degraded areas on the ridge above Muir Beach (NPS 2009q, 1). At Muir Beach, the *Lower Redwood Creek Interim Flood Reduction Measures and Floodplain Channel Restoration Project* was completed in July 2007 to help reduce flooding on Pacific Way. Another project planned at this site, the *Muir Beach Wetland and Creek Restoration*, includes wetland and creek restoration at the tidal lagoon (NPS 2009r). The project will restore a functional, self-sustaining ecosystem that will re-create habitat for special-status species and reduce flooding on Pacific Way. The park's *Fire Management Plan* would reduce the overgrowth of non-native evergreens and other fuel loads along critical access or egress routes and developed areas (NPS 2005a, 62). These actions would result in beneficial impacts on human health and safety at this site. The impacts resulting from the past oil spill would add little to the cumulative impacts on health and safety since those impacts were found to be negligible.

The long-term, minor, adverse impacts to the health and safety of park staff and visitors under alternative A were considered together with effects of the projects mentioned above. The beneficial effects from the restoration projects and the actions from actions included in the park's *Fire Management Plan* (NPS 2005a) should reduce some of the adverse impacts from alternative A. Therefore, cumulative impacts to the health and safety of park staff and visitors under this alternative are expected to be negligible.

Indirect Impacts on Adjacent Parks

In lands adjacent to GGNRA, there are 30 parks with dog use areas within about a 10-mile radius of Muir Beach and 21 parks within about a 5-mile radius; the closest park is Mt. Tamalpais State Park (map 26). Mt. Tamalpais State Park allows on-leash dog walking. No impacts in adjacent lands would be expected under alternative A since there would be no change in current conditions at the site.

MUIR BEACH ALTERNATIVE A CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Long-term minor adverse impacts	Hazardous conditions/pet rescues would be expected to continue putting dogs, pet owners/ walkers, and NPS staff at risk	Negligible cumulative impacts No indirect impacts in adjacent lands	N/A

N/A = not applicable.

Alternative B: NPS Leash Regulations. Under alternative B, on-leash dog walking would be allowed on the beach, on the boardwalk/path to the beach, in the parking area, and on the Pacific Way Trail. The lagoon and creek are currently closed to dogs. Negligible impacts on the health and safety of park visitors and staff would be expected to occur. The chance of individuals encountering uncontrolled aggressive or unruly dogs would exist; however, the chance of this occurring would be negligible since dogs would be required to be on leash. Having dogs on leash would also minimize the number of pet rescues needed.

Under alternative B, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs per person with no permit required. Since commercial dog walking is not common at Muir Beach, it is likely that the new regulation would have negligible impacts on human health and safety.

Cumulative Impacts. The negligible impacts to the health and safety of park staff and visitors under alternative B were considered together with effects of the projects mentioned above under alternative A. The beneficial effects from the restoration projects and the actions from actions included in the park's *Fire Management Plan* (NPS 2005a) along with the negligible impacts from alternative B would result in beneficial impacts to the health and safety of park staff and visitor.

Indirect Impacts on Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation under alternative B. Although Mt. Tamalpais State Park is the closest dog use area to Muir Beach, it does not allow off-leash dog walking; therefore, this park is not expected to have an increase in visitation. Voice-control dog walking would no longer be allowed at Muir Beach under this alternative; however, dogs would still be allowed on the site on leash. Therefore, indirect impacts on the health and safety of visitors and staff in adjacent lands from increased dog use would be expected to occur, but only at a negligible level.

MUIR BEACH ALTERNATIVE B CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Negligible impacts, assuming compliance	Limitation in the number of dogs allowed and the leash requirement would minimize the chance of pet-related incidents	Beneficial cumulative impacts Negligible indirect impacts in adjacent lands	Beneficial, assuming compliance

Alternative C: Emphasis on Multiple Use, Balanced by County. Under alternative C, dog walking restrictions would be the same as alternative B: on-leash dog walking would be allowed on the beach, on

the boardwalk/path to the beach, in the parking area, and on the Pacific Way Trail. The lagoon and creek are currently closed to dogs.

Impacts on human health and safety would be the same as alternative B: negligible.

Under alternative C, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be granted at Muir Beach, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking activity at Muir Beach is not common, it is likely that the new regulation would have negligible impacts on human health and safety.

Cumulative Impacts. Cumulative impacts would be the same as alternative B: beneficial.

Indirect Impacts on Adjacent Parks

Indirect impacts in adjacent lands would be the same as alternative B: negligible.

MUIR BEACH ALTERNATIVE C CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Negligible impacts, assuming compliance	The leash requirement would minimize the chance of pet-related incidents	Beneficial cumulative impacts Negligible indirect impacts in adjacent lands	Beneficial, assuming compliance

Alternative D: Overall Most Protective of Resources/Visitor Safety. Under alternative D, on-leash dog walking would be allowed only in the parking area and on the Pacific Way Trail. Dogs would not be allowed on the beach or the boardwalk/path to beach. The lagoon and creek are currently closed to dogs.

Negligible impacts on the health and safety of park visitors and staff would be expected because dogs would be restricted by leash and limited to one trail and the likelihood of encountering an uncontrolled aggressive or unruly dog would be small. In addition, the chances of dog hazardous conditions/pet rescues would be reduced.

No commercial dog walking would be allowed under alternative D. There would be no impact on human health and safety from commercial dog walking.

Cumulative Impacts. The negligible impacts to the health and safety of park staff and visitors under alternative D were considered together with effects of the projects mentioned above under alternative A. The beneficial effects from the restoration projects and the actions from actions included in the park's *Fire Management Plan* (NPS 2005a) along with the negligible impacts from alternative D would result in beneficial impacts to the health and safety of park staff and visitor.

Indirect Impacts on Adjacent Parks

Adjacent lands identified under alternative A would likely receive an increase in visitation. Since dog walking would no longer be allowed on the beach, visitors wanting a beach experience would likely use adjacent parks for on-leash dog walking. The indirect impacts on human health and safety in adjacent

lands would be at least negligible, since an increase in the risk of dog-related incidents would be expected.

MUIR BEACH ALTERNATIVE D CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Negligible impacts, assuming compliance	Limitation in the number of dogs allowed and the leash requirement would minimize the chance of pet-related incidents	Beneficial cumulative impacts Negligible indirect impacts in adjacent lands	Beneficial, assuming compliance

Alternative E: Overall Most Dog Walking Access/Most Management Intensive. Under alternative E, on-leash dog walking would be allowed on the Pacific Way Trail, in the parking area, and on the boardwalk/path to the beach. The lagoon and creek are currently closed to dogs. A ROLA would be established on the beach south of the entrance path/boardwalk from the parking lot.

Long-term minor adverse impacts on the health and safety of park staff and visitors would occur. Having dogs under voice and sight control in the ROLA would create adverse impacts because the likelihood of individuals encountering an uncontrolled aggressive or unruly dog would increase with off-leash dogs. In addition, staff and visitors would be more likely to be involved in a hazardous conditions/pet rescue incident.

Under alternative E, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be granted at Muir Beach, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking activity at Muir Beach is not common, it is likely that alternative E would have negligible impacts on human health and safety.

Cumulative Impacts. The long-term, minor, adverse impacts to the health and safety of park staff and visitors under alternative E were considered together with effects of the projects mentioned above in alternative A. The beneficial effects from the restoration projects and the actions from actions included in the park's *Fire Management Plan* (NPS 2005a) should reduce some of the adverse impacts from alternative E. Therefore, cumulative impacts to the health and safety of park staff and visitors under this alternative are expected to be negligible.

Indirect Impacts on Adjacent Parks

Adjacent lands identified under alternative A would not likely experience an increase in visitation. Since a ROLA would be available under this alternative, visitors would continue dog walking activities at Muir Beach. Therefore, there would be no indirect impacts on human health and safety in adjacent lands.

MUIR BEACH ALTERNATIVE E CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Long-term minor adverse impacts, assuming compliance	Conditions would still provide the potential for encountering unruly or aggressive dogs and for the occurrence of pet-related incidents	Negligible cumulative impacts No indirect impacts in adjacent lands	No change, assuming compliance

Preferred Alternative. Alternative D was selected as the preferred alternative for Muir Beach. On-leash dog walking would be allowed only in the parking area and on the Pacific Way Trail. Dogs would not be allowed on the beach or the boardwalk/path to beach. The lagoon is currently closed to dogs and people.

Negligible impacts on the health and safety of park visitors and staff would be expected. Since dogs would be restricted by a leash and limited to one trail, the likelihood of individuals encountering an uncontrolled aggressive or unruly dog would be small. In addition, the chances of dog hazardous conditions/pet rescues would be reduced.

Alternative C was selected as the preferred alternative for permits at all sites. All dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be granted at Muir Beach, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking is not common at Muir Beach, it is likely that the new permit regulation would have negligible impacts on human health and safety.

Cumulative Impacts. Projects and actions in and near Muir Beach were considered for the cumulative impacts analysis (appendix K). The following is a discussion of projects that have had, are currently having, or will have effects on health and safety at or in the vicinity of Muir Beach.

The *Dias Ridge Restoration and Trail Improvement Project* is currently realigning trail segments and restoring degraded areas on the ridge above Muir Beach (NPS 2009q, 1). At Muir Beach, the *Lower Redwood Creek Interim Flood Reduction Measures and Floodplain Channel Restoration Project* was completed in July 2007 to help reduce flooding on Pacific Way. Another project planned at this site, the *Muir Beach Wetland and Creek Restoration*, includes wetland and creek restoration at the tidal lagoon (NPS 2009r). The project will restore a functional, self-sustaining ecosystem that will re-create habitat for special-status species and reduce flooding on Pacific Way. The park's *Fire Management Plan* would reduce the overgrowth of non-native evergreens and other fuel loads along critical access or egress routes and developed areas (NPS 2005a, 62). These actions would result in beneficial impacts on human health and safety at this site.

The negligible impacts to the health and safety of park staff and visitors under the preferred alternative were considered together with effects of the projects mentioned above. The beneficial effects from the restoration projects and the actions from actions included in the park's *Fire Management Plan* (NPS 2005a) along with the negligible impacts from the preferred alternative would result in beneficial impacts to the health and safety of park staff and visitor.

Indirect Impacts on Adjacent Parks

In lands adjacent to GGNRA, there are 30 parks with dog use areas within about a 10-mile radius of Muir Beach and 21 parks within about a 5-mile radius; the closest park is Mt. Tamalpais State Park (map 26). Mt. Tamalpais State Park allows on-leash dog walking. Adjacent lands would likely receive an increase in visitation. The indirect impacts on human health and safety in adjacent lands would be at least negligible, since an increase in the risk of dog-related incidents would be expected.

MUIR BEACH PREFERRED ALTERNATIVE CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Negligible impacts, assuming compliance	Limitation in the number of dogs allowed and the leash requirement would minimize the chance of pet-related incidents	Beneficial cumulative impacts Negligible indirect impacts in adjacent lands	Beneficial, assuming compliance

Rodeo Beach/South Rodeo Beach

Alternative A: No Action. Currently, dogs are allowed on leash or under voice control on Rodeo Beach/South Rodeo Beach. The lagoon is currently closed to people and dogs. Visitor use in this area is considered moderate to high, with the majority of users being beachgoers; the percentage of visitors walking dogs is low to moderate (table 9). In 2007 and 2008, one citation was issued for dogs in closed areas and two citations and two reports were taken and issued for dogs disturbing wildlife (appendix G). Pet-related violations at this site included one dog bite/attack and one pet excrement (table 9).

Under alternative A, on-leash dog walking impacts on human health and safety would be long term, minor, and adverse. The chance of visitors and park staff interacting with an uncontrolled aggressive or unruly dog would exist, continuing the possibility of the risk of dog bites or other physical injury. The likelihood of dog-related incidents occurring would be minor, since only one dog bite occurred recently (2007).

At Rodeo Beach/South Rodeo Beach, commercial dog walking is uncommon. Therefore, commercial dog walking would have negligible impacts on human health and safety.

Cumulative Impacts. Projects and actions in and near Rodeo Beach/South Rodeo Beach were considered for the cumulative impacts analysis (appendix K). Only one past action was found to contribute to the cumulative effects on health and safety at or in the vicinity of Rodeo Beach/South Rodeo Beach.

Oil spills have occurred and will likely occur in the Pacific Ocean and in San Francisco Bay and have the potential to impact the health and safety of park visitors and staff. On November 7, 2007, approximately 58,000 gallons of bunker fuel spilled from a container ship into the bay, resulting in the largest oil spill in the San Francisco Bay since the Cape Mohican incident in 1996. The health and safety impacts from this spill lasted only a few weeks, especially on the sandy beaches of the park. Impacts to the health and safety of park visitors was mitigated by closing the park beaches during this time and any park staff involved in monitoring the beaches was trained in Hazardous Waste Operations and Emergency Response. Therefore, impacts to the health and safety of park visitors and staff from the oil spill was considered negligible.

The long-term, minor, adverse impacts to the health and safety of park staff and visitors under alternative A were considered together with effects of the action mentioned above. The negligible impacts from the oil spill along with the long-term, minor, adverse impacts from alternative A would result in long-term, minor, adverse cumulative impacts to the health and safety of park staff and visitor.

Indirect Impacts on Adjacent Parks

In lands adjacent to GGNRA, there are 27 parks with dog use areas within about a 10-mile radius of Rodeo Beach/South Rodeo Beach and 9 parks within about a 5-mile radius; the closest park is Remington Dog Park in Sausalito (map 26). Remington Dog Park allows off-leash dog walking. No impacts on health and safety in adjacent lands would be expected under alternative A since there would be no change in current conditions at this site.

RODEO BEACH/SOUTH RODEO BEACH ALTERNATIVE A CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Long-term minor adverse impacts	Conditions would still exist for pet-related incidents involving unruly or aggressive dogs	Long-term, minor, adverse cumulative impacts No indirect impacts in adjacent lands	N/A

N/A = not applicable.

Alternative B: NPS Leash Regulations. Under alternative B, all beach areas, access trails, and bridges to the beach would be open to on-leash dog walking. The lagoon is currently closed to people and dogs.

Impacts on the health and safety of park visitors and staff would be negligible. Requiring dogs to be on leash would minimize the impacts on human health and safety. The chance of park visitors and staff encountering uncontrolled aggressive or unruly dogs would still exist; however, dog-related incidents would be unlikely.

Under alternative B, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs per person with no permit required. Since commercial dog walking is not common at Rodeo Beach/South Rodeo Beach, it is likely that the new regulation would have negligible impacts on human health and safety.

Cumulative Impacts. The negligible impact to the health and safety of park staff and visitors under alternative B were considered together with effects of the action mentioned above in alternative A. The negligible impacts from the oil spill along with the negligible impact from alternative B would result in negligible cumulative impacts to the health and safety of park staff and visitor.

Indirect Impacts on Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation under alternative B, particularly Remington Dog Park. Remington Dog Park is the closest area that allows off-leash dog walking. Since on-leash dog walking would be required at Rodeo Beach/South Rodeo Beach, some visitors may begin to use Remington Dog Park for dog walking activities. Visitors currently using Rodeo Beach/South Rodeo Beach for dog walking activities would likely remain if they are looking for a dog

walking experience at the beach. Indirect impacts on human health and safety in adjacent lands would be expected, but only at a negligible level.

RODEO BEACH/SOUTH RODEO BEACH ALTERNATIVE B CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Negligible impacts, assuming compliance	Limitation in the number of dogs allowed and the leash requirement would minimize the chance of pet-related incidents	Negligible cumulative impacts Negligible indirect impacts in adjacent lands	Beneficial, assuming compliance

Alternative C: Emphasis on Multiple Use, Balanced by County. Under alternative C, on-leash dog walking would be allowed on the bridge to the beach. The lagoon is currently closed to people and dogs. A ROLA would be established on Rodeo Beach. The ROLA would extend to the ridge on the beach just north of South Rodeo Beach.

Impacts on the health and safety of park visitors and staff would be expected to be long term, minor, and adverse. Allowing dogs under voice and sight control would increase the risk of pet-related incidents or injuries because of the increased chances of encountering an unruly or aggressive dog. The risk of dog bites or other physical injury would exist but would be minor.

Under alternative C, all dog walkers, including commercial dog walkers, would be allowed up to three dogs with no permit required. Any dog walker, commercial or private, can obtain a permit to walk more than three dogs with a limit of six dogs on leash. In a ROLA, permit holders may have up to six dogs off-leash and the permit may restrict use by time and area. Permits would be allowed at Rodeo Beach. Impacts to health and safety from permit holders with six dogs off-leash are expected to increase under this alternative; however, impacts are not expected to increase enough to cause a change in the threshold level. Since commercial dog walking is not common at Rodeo Beach, it is likely that alternative C would result in a change to commercial dog walking at Rodeo Beach/South Rodeo Beach. Therefore, commercial dog walking under alternative C would have a negligible impact on health and safety.

Cumulative Impacts. The long-term, minor, adverse impact to the health and safety of park staff and visitors under alternative C were considered together with effects of the action mentioned above in alternative A. The negligible impacts from the oil spill along with the long-term, minor, adverse impacts from alternative C would result in long-term, minor, adverse cumulative impacts to the health and safety of park staff and visitor.

Indirect Impacts on Adjacent Parks

The adjacent lands identified under alternative A would not likely experience an increase in visitation. Visitors who frequently use Rodeo Beach/South Rodeo Beach for dog walking would likely remain since the proposed ROLA would still allow for dog walking under voice and sight control. Although the area would be smaller, visitors would be unlikely to move to Remington Dog Park, where a beach experience is unavailable. No indirect impacts on human health and safety would be expected in adjacent lands.

RODEO BEACH/SOUTH RODEO BEACH ALTERNATIVE C CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Long-term minor adverse impacts, assuming compliance	Chance of pet-related incidents involving unruly or aggressive dogs would exist	Long-term, minor, adverse cumulative impacts No indirect impacts in adjacent lands	No change, assuming compliance

Alternative D: Overall Most Protective of Resources/Visitor Safety. Under alternative D, on-leash dog walking would be allowed on Rodeo Beach north of the footbridge, on the bridge to the beach. The lagoon is currently closed to people and dogs.

Negligible impacts on health and safety would be expected. Although the risk of park visitors and staff encountering an uncontrolled aggressive or unruly dog would exist, pet-related incidents would be unlikely since dogs would be required to be on leash.

No commercial dog walking would be allowed under alternative D. There would be no impact on human health and safety from commercial dog walking.

Cumulative Impacts. The negligible impact to the health and safety of park staff and visitors under alternative D were considered together with effects of the action mentioned above in alternative A. The negligible impacts from the oil spill along with the negligible impact from alternative D would result in negligible cumulative impacts to the health and safety of park staff and visitor.

Indirect Impacts on Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation under alternative D, particularly Remington Dog Park. Remington Dog Park is the closest area that allows off-leash dog walking. Since on-leash dog walking would be required at Rodeo Beach, some visitors may begin to use Remington Dog Park for dog walking activities. Visitors currently using Rodeo Beach for dog walking activities would likely remain if they are looking for a dog walking experience at the beach. Indirect impacts on human health and safety would be expected in adjacent lands, but only at a negligible level.

RODEO BEACH/SOUTH RODEO BEACH ALTERNATIVE D CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Negligible impacts, assuming compliance	Dogs being restricted to on-leash walking would minimize the chance of unruly or aggressive dog encounters; risk to safety and health of visitors and staff from aggressive dogs would still remain	Negligible cumulative impacts Negligible indirect impacts in adjacent lands	Beneficial, assuming compliance

Alternative E: Overall Most Dog Walking Access/Most Management Intensive. Under alternative E, on-leash dog walking would be allowed on the beach from the crest of the beach to the fence along Rodeo

Lagoon, on South Rodeo Beach, on the trail to the South Rodeo Beach, and on the bridge to the beach. A ROLA would be established on Rodeo Beach to the crest of the beach. The lagoon is currently closed to people and dogs.

Impacts on the health and safety of park visitors and staff would be long term, minor, and adverse. Impacts would be adverse since having dogs under voice and sight control may increase the risk of dog-related incidents. There would be an increased chance of encounters with uncontrolled aggressive dogs, although this chance would be minor.

Under alternative E, all dog walkers, including commercial dog walkers, would be allowed up to three dogs with no permit required. Any dog walker, commercial or private, can obtain a permit to walk more than three dogs with a limit of six dogs on leash. In a ROLA, permit holders may have up to six dogs off-leash and the permit may restrict use by time and area. Permits would be allowed at Rodeo Beach. Impacts to health and safety from permit holders with six dogs off-leash are expected to increase under this alternative; however, impacts are not expected to increase enough to cause a change in the threshold level. Since commercial dog walking is not common at Rodeo Beach, it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking under alternative E would have a negligible impact on health and safety.

Cumulative Impacts. The long-term, minor, adverse impact to the health and safety of park staff and visitors under alternative E were considered together with effects of the action mentioned above in alternative A. The negligible impacts from the oil spill along with the long-term, minor, adverse impacts from alternative E would result in long-term, minor, adverse cumulative impacts to the health and safety of park staff and visitor.

Indirect Impacts on Adjacent Parks

The adjacent lands identified under alternative A would not likely receive an increase in visitation. Visitors who frequently use Rodeo Beach/South Rodeo Beach for dog walking would likely remain since the proposed ROLA would still allow dog walking under voice and sight control. Although the area would be smaller, visitors would be unlikely to move to Remington Dog Park, where a beach experience is unavailable. No indirect impacts on human health and safety in adjacent lands would be expected.

RODEO BEACH/SOUTH RODEO BEACH ALTERNATIVE E CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Long-term minor adverse impacts, assuming compliance	Conditions would still allow the possibility of pet-related incidents involving unruly or aggressive dogs	Long-term, minor adverse cumulative impacts No indirect impacts in adjacent lands	No change, assuming compliance

Preferred Alternative. Alternative C was selected as the preferred alternative for Rodeo Beach/South Rodeo Beach. On-leash dog walking would be allowed on the bridge to the beach. The lagoon is currently closed to people and dogs. A ROLA would be established on Rodeo Beach. The ROLA would extend to the ridge on the beach just north of South Rodeo Beach.

Impacts on the health and safety of park visitors and staff would be expected to be long term, minor, and adverse. Allowing dogs under voice and sight control would increase the risk of pet-related incidents or

injuries because of the increased chances of encountering an unruly or aggressive dog. The risk of dog bites or other physical injury occurring would exist but would be minor.

Under alternative C, all dog walkers, including commercial dog walkers, would be allowed up to three dogs with no permit required. Any dog walker, commercial or private, can obtain a permit to walk more than three dogs with a limit of six dogs on leash. In a ROLA, permit holders may have up to six dogs off-leash and the permit may restrict use by time and area. Permits would be allowed at Rodeo Beach. Impacts to health and safety from permit holders with six dogs off-leash are expected to increase under this alternative; however, impacts are not expected to increase enough to cause a change in the threshold level. Since commercial dog walking is not common at Rodeo Beach, it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking under alternative C would have a negligible impact on health and safety.

Cumulative Impacts. Projects and actions in and near Rodeo Beach/South Rodeo Beach were considered for the cumulative impacts analysis (appendix K). Only one past action was found to contribute to the cumulative effects on health and safety at or in the vicinity of Rodeo Beach/South Rodeo Beach.

Oil spills have occurred and will likely occur in the Pacific Ocean and in San Francisco Bay and have the potential to impact the health and safety of park visitors and staff. On November 7, 2007, approximately 58,000 gallons of bunker fuel spilled from a container ship into the bay, resulting in the largest oil spill in the San Francisco Bay since the Cape Mohican incident in 1996. The health and safety impacts from this spill lasted only a few weeks, especially on the sandy beaches of the park. Impacts to the health and safety of park visitors was mitigated by closing the park beaches during this time and any park staff involved in monitoring the beaches was trained in Hazardous Waste Operations and Emergency Response. Therefore, impacts to the health and safety of park visitors and staff from the oil spill was considered negligible.

The long-term, minor, adverse impacts to the health and safety of park staff and visitors under the preferred alternative were considered together with effects of the action mentioned above. The negligible impacts from the oil spill along with the long-term, minor, adverse impacts from the preferred alternative would result in long-term, minor, adverse cumulative impacts to the health and safety of park staff and visitor.

Indirect Impacts on Adjacent Parks

In lands adjacent to GGNRA, there are 27 parks with dog use areas within about a 10-mile radius of Rodeo Beach/South Rodeo Beach and 9 parks within about a 5-mile radius; the closest park is Remington Dog Park in Sausalito (map 26). Remington Dog Park allows off-leash dog walking. The adjacent lands would not likely receive an increase in visitation. Visitors who frequently use Rodeo Beach/South Rodeo Beach for dog walking would likely remain, since the proposed ROLA would still allow dog walking under voice and sight control. Although the area would be smaller, visitors would be unlikely to move to Remington Dog Park, where a beach experience is unavailable. No indirect impacts on human health and safety would be expected in adjacent lands.

RODEO BEACH/SOUTH RODEO BEACH PREFERRED ALTERNATIVE CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Long-term minor adverse impacts, assuming compliance	Chance of pet-related incidents involving unruly or aggressive dogs would exist	Long-term, minor, adverse cumulative impacts No indirect impacts in adjacent lands	No change, assuming compliance

Marin Headlands Trails

Alternative A: No Action. Under the no-action alternative, on-leash dog walking is allowed along portions of the Coastal Trail (Hill 88 to Muir Beach), the Battery Smith – Guthrie Fire Road Loop, North Miwok Trail, County View Road, and South Rodeo Beach Trail. Dog walking under voice control (or on leash) is allowed along other portions of the Coastal Trail (Golden Gate Bridge to Hill 88 and includes portions of the Lagoon Trail), the Coastal, Wolf, and Miwok Loop, and the Old Bunker Fire Road Loop. Visitor use at this site is considered low to high, with multiple uses including hiking, biking, and horseback riding. The percentage of visitors walking dogs is low to moderate (table 9). In 2007 and 2008, 20 warnings, 63 citations, and 54 reports were taken or issued for dogs in closed areas in the Marin Headlands Trails, including Tennessee Valley (appendix G). Pet-related violations in the Marin Headlands Trails, including Tennessee Valley, included 47 leash law violations, 2 dog bites/attacks, and 3 hazardous conditions/pet rescues (table 9).

Long-term moderate adverse impacts on human health and safety would occur at this site under the no-action alternative. The risk of dog-related incidents would continue because there would still be opportunities for park visitors and staff to encounter uncontrolled aggressive dogs, especially for park staff when issuing warnings and citations and assisting in hazardous pet rescues.

Under alternative A, no permit system exists for dog walking. At Marin Headlands Trails, commercial dog walking is uncommon. Therefore, commercial dog walking would have negligible impacts on human health and safety.

Cumulative Impacts. Projects and actions in and near the Marin Headlands Trails were considered for the cumulative impacts analysis (appendix K). The following is a discussion of projects that have had, are currently having, or will have effects on health and safety at or in the vicinity of the Marin Headlands Trails.

Transportation infrastructure management in the Marin Headlands Trails and the Fort Baker Transportation Plan provides greater access to and within these areas for a variety of user groups in the park. The *San Francisco Bay Conservation and Development Commission's Tennessee Valley / Manzanita Connector Pathway Project* will upgrade the existing path to meet current ADA accessibility and design standards for a multi-use pathway and will encourage area residents to use the trail as an alternative to vehicular travel to reach key destinations (San Francisco Bay Conservation and Development Commission 2009, 2). The park's *Fire Management Plan* would reduce the buildup of hazardous fuels adjacent to historic structures, nearby residential areas, and popular visitor destinations where access is limited (NPS 2005a, 61). These projects would result in beneficial impacts on human health and safety.

Under alternative A, the long-term, moderate, adverse impacts to the health and safety of park staff and visitors from dogs at the Marin Headlands Trails, together with effects of the projects mentioned above were considered. The benefits to the health and safety of park staff and visitors from the pathway project and the park's *Fire Management Plan* (NPS 2005a) is not expected to reduce the adverse impact of this alternative; therefore the cumulative analysis for this park site will focus on the results of the impact analysis for this alternative. The beneficial effects from the pathway project and the park's *Fire Management Plan* along with the long-term, moderate, and adverse impacts from alternative A would result in long-term, moderate, and adverse cumulative impacts.

Indirect Impacts on Adjacent Parks

In lands adjacent to GGNRA, there are 28 parks with dog use areas within about a 10-mile radius of the Marin Headlands Trails and 18 parks within about a 5-mile radius; the closest parks are Remington Dog Park in Sausalito, which allows off-leash dog walking (map 26). No indirect impacts on the health and safety of visitors and staff in adjacent lands would be expected under alternative A since there would be no change in current conditions at this site.

MARIN HEADLANDS TRAILS ALTERNATIVE A CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Long-term moderate adverse impacts	Conditions would exist for continued encounters with unruly or aggressive dogs for visitors and park staff	Long-term moderate adverse cumulative impacts No indirect impacts in adjacent lands	N/A

N/A = not applicable.

Alternative B: NPS Leash Regulations. Under alternative B, no dog walking would be allowed at the Marin Headlands Trails site.

No impacts on the health and safety of park visitors and staff would be expected. Assuming compliance, the chance of individuals encountering uncontrolled aggressive dogs would no longer exist. Additionally, restricting dogs from the site would eliminate the risk of exposure to pathogens or diseases associated with dog waste. During the initial education and enforcement period, impacts on park staff would be adverse. Due to the history of citations and warnings given for visitors neglecting the current regulations, confrontations between visitors and staff would be expected due to the restriction of all dogs from the site. It is anticipated that confrontations would be intense, which would place staff at a greater risk of injury. Due to the history of noncompliance and confrontation at this site, impacts on park staff during the initial education and enforcement period would be short term, moderate, and adverse.

Since dogs would not be allowed at the Marin Headlands Trails, there would be no impact from commercial dog walkers on human health and safety.

Cumulative Impacts. Under alternative B, the lack of impacts to the health and safety of staff and visitors from dogs at the Marin Headlands Trails, together with beneficial effects of the projects mentioned above in alternative A were considered. These beneficial impacts along with the lack of impacts to the health and safety of staff and visitors from dogs under alternative B would result in beneficial cumulative impacts.

Indirect Impacts on Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation under alternative B, particularly Remington Dog Park. Long-term minor adverse impacts on the health and safety of visitors and staff in adjacent lands would be expected since dog walking would no longer be allowed at the Marin Headlands Trails. Indirect impacts would be minor since visitation by dog walkers is currently low to moderate.

MARIN HEADLANDS TRAILS ALTERNATIVE B CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: No impacts, assuming compliance; short term moderate and adverse to staff during the initial education and enforcement period	Dogs would be prohibited; Increased conflicts during education period could occur	Beneficial cumulative impacts Long-term minor adverse indirect impacts in adjacent lands	Beneficial, assuming compliance

Alternative C: Emphasis on Multiple Use, Balanced by County. Under alternative C, on-leash dog walking would be allowed along the Lower Rodeo Valley Trail Corridor, several trails including the Lagoon Trail, Miwok Trail, and Rodeo Valley Trail, the Battery Smith-Guthrie Fire Road Loop, and the Old Bunker Fire Road Loop.

Impacts on human health and safety would be long term, minor, and adverse. Requiring dogs to be on leash in designated areas would minimize the risk of dog-related incidents. However, based on the history of incidents and violations in the past, the chance of individuals interacting with an unruly or aggressive dog would exist, resulting in the risk of dog bites or other physical injuries.

Under alternative C, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be granted at Marin Headlands Trails, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking activity at Marin Headlands Trails is not common, it is likely that alternative C would have negligible impacts on human health and safety.

Cumulative Impacts. Under alternative C, the long-term, minor, adverse impacts to the health and safety of park staff and visitors from dogs at the Marin Headlands Trails, together with effects of the projects mentioned above in alternative A were considered. The benefits to the health and safety of park staff and visitors from the pathway project and the park's *Fire Management Plan* (NPS 2005a) is not expected to reduce the adverse impact of this alternative; therefore the cumulative analysis for this park site will focus on the results of the impact analysis for this alternative. The beneficial effects from the pathway project and the park's *Fire Management Plan* along with the long-term, minor, and adverse impacts from alternative C would result in long-term, minor, and adverse cumulative impacts.

Indirect Impacts on Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation under alternative C, particularly Remington Dog Park, because it is the closest dog use area that allows off-leash dog walking. Some visitors who currently use Marin Headlands Trails for an off-leash experience may begin dog

walking at Remington Dog Park. Negligible to long-term minor adverse indirect impacts on the health and safety of visitors and staff in adjacent lands would be expected.

MARIN HEADLANDS TRAILS ALTERNATIVE C CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Long-term minor adverse impacts, assuming compliance; short term moderate and adverse to staff during the initial education and enforcement period	Site has history of dog-related confrontations and incidents that put visitors and park staff health and safety at risk	Long-term, minor, adverse cumulative impacts Negligible indirect impacts to long-term minor adverse indirect impacts in adjacent lands	Beneficial, assuming compliance

Alternative D: Overall Most Protective of Resources/Visitor Safety. Under alternative D, dog walking restrictions would be the same as alternative B: no dog walking would be allowed at the Marin Headlands Trails site.

Impacts on human health and safety would be the same as alternative B. No impacts on the health and safety of park visitors and staff would be expected. During the initial education and enforcement period, impacts on park staff would be short-term moderate and adverse.

Since dogs would not be allowed at Marin Headlands Trails, there would be no impact from commercial dog walkers on human health and safety.

Cumulative Impacts. Cumulative impacts would be the same as alternative B: beneficial.

Indirect Impacts on Adjacent Parks

Indirect impacts in adjacent lands would be the same as alternative B: long term, minor, and adverse.

MARIN HEADLANDS TRAILS ALTERNATIVE D CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: No impacts, assuming compliance; short term moderate and adverse to staff during the initial education and enforcement period	Dogs would be prohibited; Increased conflicts during education period could occur	Beneficial cumulative impacts Long-term minor adverse indirect impacts in adjacent lands	Beneficial, assuming compliance

Alternative E: Overall Most Dog Walking Access/Most Management Intensive. Under alternative E, on-leash dog walking would be allowed along the Lower Rodeo Valley Trail Corridor, the Old Bunker Fire Road Loop, the Battery Smith-Guthrie Fire Road Loop, and the Coastal Trail Bike Route.

Impacts on human health and safety would be long term, minor, and adverse. Requiring dogs to be on leash in designated areas would minimize the risk of dog-related incidents and violations. However, due to the history of incidents in the past, the chance of individuals interacting with an unruly or aggressive

dog would exist, resulting in the risk of dog bites or other physical injuries. Due to the history of noncompliance and confrontation at this site, impacts on park staff during the initial education and enforcement period would be short-term, moderate, and adverse. It would be anticipated that confrontations between visitors and staff may increase due to visitors disagreeing with the new dog management regulations.

Under alternative E, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be granted at Marin Headlands Trails, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking activity at Marin Headlands Trails is not common, it is likely that alternative E would have negligible impacts on human health and safety.

Cumulative Impacts. Under alternative E, the long-term, moderate, adverse impacts to the health and safety of park staff and visitors from dogs at the Marin Headlands Trails, together with effects of the projects mentioned above were considered. The benefits to the health and safety of park staff and visitors from the pathway project and the park's *Fire Management Plan* (NPS 2005a) is not expected to reduce the adverse impact of this alternative; therefore the cumulative analysis for this park site will focus on the results of the impact analysis for this alternative. The beneficial effects from the pathway project and the park's *Fire Management Plan* along with the long-term, moderate, and adverse impacts from alternative E would result in long-term, moderate, and adverse cumulative impacts.

Indirect Impacts on Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation under alternative E, particularly Remington Dog Park, because it is the closest dog use area that allows off-leash dog walking. Some visitors who currently use Marin Headlands Trails for an off-leash experience may begin dog walking at Remington Dog Park. Indirect impacts on the health and safety of visitors and staff in adjacent lands would be expected, but not above a negligible level.

MARIN HEADLANDS TRAILS ALTERNATIVE E CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Long-term minor adverse impacts, assuming compliance; short term moderate and adverse to staff during the initial education and enforcement period	Site has history of dog-related confrontations and incidents that put visitors and park staff health and safety at risk	Long-term, minor, adverse cumulative impacts Negligible indirect impacts in adjacent lands	Beneficial, assuming compliance

Preferred Alternative. Alternative C was selected as the preferred alternative for Marin Headlands. On-leash dog walking would be allowed along the Lower Rodeo Valley Trail Corridor, several trails including the Lagoon Trail, Miwok Trail, and Rodeo Valley Trail, the Battery Smith-Guthrie Fire Road Loop, and the Old Bunker Fire Road Loop.

Impacts on human health and safety would be long term, minor, and adverse. Requiring dogs to be on leash in designated areas would minimize the risk of dog-related incidents. However, based on the history

of incidents and violations at this site, the chance of individuals interacting with an unruly or aggressive dog would still exist, resulting in the risk of dog bites or other physical injuries.

All dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be granted at Marin Headlands Trails, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking activity at Marin Headlands Trails is not common, it is likely that the new regulation would have negligible impacts on human health and safety.

Cumulative Impacts. Projects and actions in and near the Marin Headlands Trails were considered for the cumulative impacts analysis (appendix K). The following is a discussion of projects that have had, are currently having, or will have effects on health and safety at or in the vicinity of the Marin Headlands Trails.

Transportation infrastructure management in the Marin Headlands Trails and the Fort Baker Transportation Plan provides greater access to and in these areas for a variety of user groups in the park. The *San Francisco Bay Conservation and Development Commission's Tennessee Valley / Manzanita Connector Pathway Project* will upgrade the existing path to meet current ADA accessibility and design standards for a multi-use pathway and will encourage area residents to use the trail as an alternative to vehicular travel to reach key destinations (San Francisco Bay Conservation and Development Commission 2009, 2). The park's *Fire Management Plan* would reduce the buildup of hazardous fuels adjacent to historic structures, nearby residential areas, and popular visitor destinations where access is limited (NPS 2005a, 61). These projects would result in beneficial impacts on human health and safety.

Under the preferred alternative, the long-term, minor, adverse impacts to the health and safety of park staff and visitors from dogs at the Marin Headlands Trails, together with effects of the projects mentioned above were considered. The benefits to the health and safety of park staff and visitors from the pathway project and the park's *Fire Management Plan* (NPS 2005a) is not expected to reduce the adverse impact of this alternative; therefore the cumulative analysis for this park site will focus on the results of the impact analysis for this alternative. The beneficial effects from the pathway project and the park's *Fire Management Plan* along with the long-term, moderate, and adverse impacts from the preferred alternative would result in long-term, minor, and adverse cumulative impacts.

Indirect Impacts on Adjacent Parks

In lands adjacent to GGNRA, there are 28 parks with dog use areas within about a 10-mile radius of the Marin Headlands Trails and 18 parks within about a 5-mile radius; the closest parks are Remington Dog Park in Sausalito, which allows off-leash dog walking (map 26). The adjacent lands may experience increased visitation under the preferred alternative, particularly Remington Dog Park, because it is the closest dog use area that allows off-leash dog walking. Some visitors who currently use the Marin Headlands Trails for an off-leash experience may begin dog walking at Remington Dog Park. Negligible indirect impacts to long-term minor adverse indirect impacts on the health and safety of visitors and staff in adjacent lands would be expected.

MARIN HEADLANDS TRAILS PREFERRED ALTERNATIVE CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Long-term minor adverse impacts, assuming compliance	Site has history of dog-related confrontations and incidents that put visitors and park staff health and safety at risk	Long-term, minor, adverse cumulative impacts Negligible indirect impacts to long-term minor adverse indirect impacts in adjacent lands	Beneficial, assuming compliance

Fort Baker

Alternative A: No Action. Currently, dogs are allowed on leash in designated areas throughout Fort Baker. Visitor use at this site is considered moderate, and the percentage of visitors walking dogs is low (table 9). In 2007 and 2008, 1 report was taken for a dog in a closed area (appendix G). Pet-related violations included 57 leash law violations and 2 pet excrement violations (table 9). No dog bites/attacks are on record at this site for 2007/2008.

Under the no-action alternative, on-leash dog walking impacts on the health and safety of park visitors and staff would be negligible. Some visitors would continue to walk their dogs under voice control even though leashes would be required. The chance of visitors and staff encountering unruly or aggressive dogs would exist, which could result in a dog-related incident; however, this is unlikely, based on the history at this site.

Under alternative A, no permit system exists for dog walking. At Fort Baker, commercial dog walking is uncommon. Therefore, commercial dog walking would have negligible impacts on human health and safety.

Cumulative Impacts. Projects and actions in and near Fort Baker were considered for the cumulative impacts analysis (appendix K). The following is a discussion of projects that have had, are currently having, or will have effects on human health and safety at or in the vicinity of Fort Baker.

At Fort Baker, the newly constructed Cavallo Point Lodge, which also houses the Institute at the Golden Gate; infrastructure upgrades; waterfront improvements; and native habitat restoration will attract additional visitors to this site (NPS 2008f, p. 1). Transportation infrastructure management in the Marin Headlands Trails and Fort Baker provides greater access to and within these areas for a variety of user groups in the park. The park's *Fire Management Plan* would include (1) the management of dense overgrowth of non-native evergreen trees, which have expanded beyond the historic bounds and create fire hazards to nearby historic structures; (2) the reduction of hazards along the Highway 101 and Alexander Avenue corridors; and (3) the improvement of the defensible space around buildings and below the High Vista neighborhood (NPS 2005a, 61). Beneficial impacts on human health and safety would be expected from the projects mentioned above. The impacts resulting from the past oil spill would add little to the cumulative impacts on health and safety since those impacts were found to be negligible.

The negligible impacts on human health and safety under alternative A were considered together with the beneficial effects of the projects and actions mentioned above. Cumulatively, there would be beneficial impacts on health and safety at this park site under this alternative.

Indirect Impacts on Adjacent Parks

In lands adjacent to GGNRA, there are 26 parks with dog use areas within about a 10-mile radius of Fort Baker and 2 parks within about a 5-mile radius; the closest park is Remington Dog Park in Sausalito (map 26). Remington Dog Park allows off-leash dog walking. No indirect impacts on the health and safety of visitors and staff in adjacent lands would be expected under alternative A since there would be no change in current conditions at this site.

FORT BAKER ALTERNATIVE A CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Negligible impacts	Risk of encounters with unruly or aggressive dogs would still exist	Beneficial cumulative impacts No indirect impacts in adjacent lands	N/A

N/A = not applicable.

Alternative B: NPS Leash Regulations. Under alternative B, on-leash dog walking would be allowed on Drown Fire Road, the Bay Trail (not including the Battery Yates Loop), the Lodge and Conference Center grounds, and the Parade Ground.

Some uncontrolled aggressive or unruly dogs may be present at the site, resulting in the possibility of a pet-related incident; however, the chance of such incidents would be slight, based on the history of this site. Having dogs on leash in designated areas would benefit health and safety at this site. Impacts on human health and safety under alternative B would be negligible.

Under alternative B, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs per person with no permit required. Since commercial dog walking is not common at Fort Baker, it is likely that the new regulation would have negligible impacts on human health and safety.

Cumulative Impacts. The negligible impacts on human health and safety under alternative B were considered together with the beneficial effects of the projects and actions mentioned above under alternative A. Cumulatively, there would be beneficial impacts on health and safety at this park site under this alternative.

Indirect Impacts on Adjacent Parks

No indirect impacts on the health and safety of visitors and staff in adjacent lands would be expected under alternative B since conditions at Fort Baker would be relatively similar to the no-action alternative.

FORT BAKER ALTERNATIVE B CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Negligible impacts, assuming compliance	Risk of encounters with unruly or aggressive dogs would exist but would be minimized by leash requirements	Beneficial cumulative impacts No indirect impacts in adjacent lands	No change, assuming compliance

Alternative C: Emphasis on Multiple Use, Balanced by County. Under alternative C, on-leash dog walking would be allowed on Drown Fire Road, the Bay Trail including the Battery Yates Loop, the Lodge and Conference Center grounds, and the Parade Ground.

Some uncontrolled aggressive or unruly dogs may be present at the site, resulting in the possibility of a pet-related incident; however, the chance of such incidents would be slight, based on the history of this site. Having dogs on leash in designated areas would benefit health and safety at this site. Impacts on human health and safety under alternative C would be negligible.

Under alternative C, all dog walkers, including commercial dog walkers, would be allowed up to three dogs with no permit required. Any dog walker, commercial or private, can obtain a permit to walk more than three dogs with a limit of six dogs on leash and the permit may restrict use by time and area. Permits would be allowed at Fort Baker. Impacts to health and safety from permit holders with six dogs are expected to increase under this alternative; however, impacts are not expected to increase enough to cause a change in the threshold level. Since commercial dog walking is not common at Fort Baker, it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking under alternative C would have a negligible impact on health and safety.

Cumulative Impacts. The negligible impacts on human health and safety under alternative C were considered together with the beneficial effects of the projects and actions mentioned above under alternative A. Cumulatively, there would be beneficial impacts on health and safety at this park site under this alternative.

Indirect Impacts on Adjacent Parks

No indirect impacts on the health and safety of visitors and staff in adjacent lands would be expected under alternative c since conditions at Fort Baker would be relatively similar to the no-action alternative.

FORT BAKER ALTERNATIVE C CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Negligible impacts, assuming compliance	Risk of encounters with unruly or aggressive dogs would exist but would be minimized by leash requirements	Beneficial cumulative impacts No indirect impacts in adjacent lands	No change, assuming compliance

Alternative D: Overall Most Protective of Resources/Visitor Safety. Under alternative D, on-leash dog walking would be allowed at the Lodge and Conference Center grounds and the Bay Trail (not including the Battery Yates Loop).

Since the available data show that no previous dog bite/attack violations have occurred in recent years, impacts on the health and safety of park visitors and staff would be negligible. The chance of visitors and staff encountering an unruly or aggressive dog would still exist; however, it would be less likely at this site.

No commercial dog walking would be allowed under alternative D. There would be no impact on human health and safety from commercial dog walking.

Cumulative Impacts. The negligible impacts on human health and safety under alternative D were considered together with the beneficial effects of the projects and actions mentioned above. Cumulatively, there would be beneficial impacts on health and safety at this park site under this alternative.

Indirect Impacts on Adjacent Parks

It is not likely that visitation at the adjacent lands would increase because there would still be a relatively large area for dog walkers to use at Fort Baker. No indirect impacts on the health and safety of visitors and staff in adjacent lands would be expected under alternative D.

FORT BAKER ALTERNATIVE D CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Negligible impacts, assuming compliance	Risk of encounters with unruly or aggressive dogs would still exist but would be minimized by leash requirements	Beneficial cumulative impacts No indirect impacts in adjacent lands	No change, assuming compliance

Alternative E: Overall Most Dog Walking Access/Most Management Intensive. Under alternative E, on-leash dog walking would be allowed in the same areas as designated under alternative C: As a result, impacts on human health and safety would be the same as alternative C: negligible.

Under alternative E, all dog walkers, including commercial dog walkers, would be allowed up to three dogs with no permit required. Any dog walker, commercial or private, can obtain a permit to walk more than three dogs with a limit of six dogs on leash and the permit may restrict use by time and area. Permits would be allowed at Fort Baker. Impacts to health and safety from permit holders with six dogs are expected to increase under this alternative; however, impacts are not expected to increase enough to cause a change in the threshold level. Since commercial dog walking is not common at Fort Baker, it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking under alternative E would have a negligible impact on health and safety.

Cumulative Impacts. Cumulative impacts would be the same as alternative C: beneficial.

Indirect Impacts on Adjacent Parks

Indirect impacts on the health and safety of visitors in adjacent lands would be the same as alternative C: no indirect impacts.

FORT BAKER ALTERNATIVE E CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Negligible impacts, assuming compliance	Risk of encounters with unruly or aggressive dogs would still exist but would be minimized by leash requirements	Beneficial cumulative impacts No indirect impacts in adjacent lands	No change, assuming compliance

Preferred Alternative. Alternative C was selected as the preferred alternative for Fort Baker. On-leash dog walking would be allowed on Drown Fire Road, the Bay Trail including the Battery Yates Loop, the Lodge and Conference Center grounds, and the Parade Ground.

Some uncontrolled aggressive or unruly dogs may be present at the site, resulting in the possibility of a pet-related incident; however, the chance of such incidents would be slight, based on the history of this site. Having dogs on leash in designated areas would benefit health and safety at this site. Impacts on human health and safety under the preferred alternative would be negligible.

Under alternative C, all dog walkers, including commercial dog walkers, would be allowed up to three dogs with no permit required. Any dog walker, commercial or private, can obtain a permit to walk more than three dogs with a limit of six dogs on leash and the permit may restrict use by time and area. Permits would be allowed at Fort Baker. Impacts to health and safety from permit holders with six dogs are expected to increase under this alternative; however, impacts are not expected to increase enough to cause a change in the threshold level. Since commercial dog walking is not common at Fort Baker, it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking under alternative C would have a negligible impact on health and safety.

Cumulative Impacts. Projects and actions in and near Fort Baker were considered for the cumulative impacts analysis (appendix K). The following is a discussion of projects that have had, are currently having, or will have effects on human health and safety at or in the vicinity of Fort Baker.

At Fort Baker, the newly constructed Cavallo Point Lodge, which also houses the Institute at the Golden Gate; infrastructure upgrades; waterfront improvements; and native habitat restoration will attract additional visitors to this site (NPS 2008f, 1). Transportation infrastructure management in the Marin Headlands Trails and Fort Baker provides greater access to and within these areas for a variety of user groups in the park. The park's *Fire Management Plan* would include (1) the management of dense overgrowth of non-native evergreen trees, which have expanded beyond the historic bounds and create fire hazards to nearby historic structures; (2) the reduction of hazards along the Highway 101 and Alexander Avenue corridors; and (3) the improvement of the defensible space around buildings and below the High Vista neighborhood (NPS 2005a, 61). Beneficial impacts on human health and safety would be expected from the projects mentioned above.

The negligible impacts on human health and safety under the preferred alternative were considered together with the beneficial effects of the projects and actions mentioned above. Cumulatively, there would be beneficial impacts on health and safety at this park site under this alternative.

Indirect Impacts on Adjacent Parks

In lands adjacent to GGNRA, there are 26 parks with dog use areas within about a 10-mile radius of Fort Baker and 2 parks within about a 5-mile radius; the closest park is Remington Dog Park in Sausalito (map 26). Remington Dog Park allows off-leash dog walking. No indirect impacts on the health and safety of visitors and staff in adjacent lands would be expected under the preferred alternative since conditions at Fort Baker would be relatively similar to the no-action alternative.

FORT BAKER PREFERRED ALTERNATIVE CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Negligible impacts, assuming compliance	Risk of encounters with unruly or aggressive dogs would exist but would be minimized by leash requirements	Beneficial cumulative impacts No indirect impacts in adjacent lands	No change, assuming compliance

SAN FRANCISCO COUNTY SITES

Upper and Lower Fort Mason

Alternative A: No Action. On-leash dog walking is currently allowed in all of Upper and Lower Fort Mason. Visitor use at this site is considered low to moderate, with multiple uses including walking and bicycling; dog walking and commercial dog walking are also considered a low to moderate use activity at this site (table 9). Pet-related violations included 15 leash law violations, 2 dog bites/attacks, and 5 hazardous conditions/pet rescues (table 9).

Under the no-action alternative, on-leash dog walking would continue at Upper and Lower Fort Mason. Impacts on the health and safety of park visitors and staff would continue to be long term, moderate, and adverse. In 2007/2008, violations were issued for dog bites/attacks, hazardous conditions/pet rescues, and for noncompliance with leash regulations. The chance of pet-related injuries and rescues occurring would continue under the no-action alternative. Visitors and staff would continue to be at risk.

Under alternative A, no permit system exists for dog walking. However, at Fort Mason, commercial dog walking is considered a low to moderate use. Therefore, commercial dog walking would contribute long-term minor adverse impacts to human health and safety due to the increased risk of dog-related incidents.

Cumulative Impacts. Projects and actions in and near Upper and Lower Fort Mason were considered for the cumulative impacts analysis (appendix K). The following is a discussion of projects that have had, are currently having, or will have effects on health and safety at or in the vicinity of Fort Mason.

The improvement of the San Francisco Bay Trail at Laguna Street and Marina Boulevard at Fort Mason is part of Park Stewardship Programs and includes efforts to enhance visitor safety and experience, improve pedestrian and bicyclist traffic flow, and revegetate the landscape (GGNPC 2010a, 1–2). The proposed extension of the Municipal Railway’s Historic Streetcar Service would continue the F-line three blocks west from San Francisco Maritime NHP through the Fort Mason Tunnel to the Fort Mason Center at GGNRA, for a total additional distance of about 0.85 mile (NPS 2010b, 1). The park’s *Fire Management Plan* would create defensible space around buildings that adjoin wildland fuels and would require the park to work closely with the Presidio Fire Department in wildlife planning and management actions (NPS 2005a, 63). Beneficial impacts on human health and safety would occur from these projects.

Under alternative A, the long-term, moderate, adverse impacts to the health and safety of park staff and visitors from dogs at Fort Mason, together with effects of the projects mentioned above were considered. The benefits to the health and safety of park staff and visitors from the park’s Park Stewardship Programs and *Fire Management Plan* (NPS 2005a) is expected to reduce some of the adverse impacts of this alternative. Therefore, the cumulative impacts to the health and safety of park staff and visitors from dogs at Fort Mason are expected to be long-term, minor, and adverse.

Indirect Impacts on Adjacent Parks

In lands adjacent to GGNRA, there are 35 parks with dog use areas within about a 10-mile radius of Upper Fort Mason and 20 parks within about a 5-mile radius; the closest parks are Lafayette Park and Alta Plaza Park (map 27). Both of these adjacent parks allow off-leash dog walking. No indirect impacts in adjacent lands would be expected under alternative A since there would be no change in current conditions at this site.

FORT MASON ALTERNATIVE A CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Long-term moderate adverse impacts	Incidents related to unruly or aggressive dogs that may place visitors and park staff health or safety at risk would continue; site has history of dog bites/attacks, pet rescues, and noncompliance with the leash law; commercial dog walking would contribute to adverse impacts	Long-term minor adverse cumulative impacts No indirect impacts in adjacent lands	N/A

N/A = not applicable.

Alternative B: NPS Leash Regulations. Under alternative B, on-leash dog walking would be allowed in all areas not closed to dog walking (listed in the GGNRA Compendium each year).

The chance of park visitors and staff encountering uncontrolled aggressive or unruly dogs would exist, resulting in the risk of dog bites/attacks. In addition, rescues may also occur, resulting in risk to park staff, visitors, and dogs. Long-term minor adverse impacts on human health and safety would be anticipated. Impacts would be expected based on the multiple uses of the site and the historical conditions present at the site.

Under alternative B, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs per person with no permit required. Since commercial dog walking is common at Fort Mason, the new regulation would have beneficial impacts on human health and safety. There would be a restriction limiting the number of dogs allowed per dog walker, which should result in reducing the number of dog-related injuries. Commercial dog walkers would have fewer dogs and would have more control of their dogs.

Cumulative Impacts. Under alternative B, the long-term, minor, adverse impacts to the health and safety of park staff and visitors from dogs at Fort Mason, together with effects of the projects mentioned above in alternative A were considered. The benefits to the health and safety of park staff and visitors from the park's Park Stewardship Programs and *Fire Management Plan* (NPS 2005a) is expected to reduce some of the adverse impacts of this alternative. Therefore, the cumulative impacts to the health and safety of park staff and visitors from dogs at Fort Mason are expected to be negligible.

Indirect Impacts on Adjacent Parks

No indirect impacts in adjacent lands would be expected under alternative B since there would be no change in the dog walking regulations at this site.

FORT MASON ALTERNATIVE B CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Long-term minor adverse impacts, assuming compliance	Incidents related to unruly or aggressive dogs that may place visitors and park staff health or safety at risk would continue; site has history of dog bites/attacks, pet rescues, and noncompliance with the leash law.	Negligible cumulative impacts No indirect impacts in adjacent lands	Beneficial, assuming compliance

Alternative C: Emphasis on Multiple Use, Balanced by County. Under alternative C, on-leash dog walking would be allowed on all sidewalks, paved trails, housing areas, and the lawn below the Laguna Street path. Two ROLAs would be established in the inner Great Meadow and Laguna Green. The ROLAs would have barriers to separate the ROLAs from other uses.

Although this alternative would separate the multiple uses of the area, impacts would be expected to be long term, minor to moderate, and adverse. Having dogs under voice and sight control would increase the risk of dog bites/attacks since dog owners would not have the control of a leash. An additional risk from dog-to-dog interaction could result from people trying to separate dogs, which could increase the chances of injuries occurring.

Under alternative C, all dog walkers, including commercial dog walkers, would be allowed up to three dogs with no permit required. Any dog walker, commercial or private, can obtain a permit to walk more than three dogs with a limit of six dogs on leash. In a ROLA, permit holders may have up to six dogs off-leash and the permit may restrict use by time and area. Permits would be allowed at Fort Mason. Impacts to health and safety from permit holders with six dogs off-leash are expected to increase under this alternative; however, impacts are not expected to increase enough to cause a change in the threshold level since the percentage of commercial dog walkers is considered low to moderate at Fort Mason. Impacts to health and safety from commercial dog walkers would be similar to impacts from other dog walkers as summarized previously, therefore impacts from commercial dog walking would be long-term minor to moderate, and adverse.

Cumulative Impacts. Under alternative C, the long-term, minor to moderate, adverse impacts to the health and safety of park staff and visitors from dogs at Fort Mason, together with effects of the projects mentioned above in alternative A were considered. The benefits to the health and safety of park staff and visitors from the park's Park Stewardship Programs and *Fire Management Plan* (NPS 2005a) is expected to reduce some of the adverse impacts of this alternative. Therefore, the cumulative impacts to the health and safety of park staff and visitors from dogs at Fort Mason are expected to be negligible to long-term, minor, and adverse.

Indirect Impacts on Adjacent Parks

The closest parks to Fort Mason are Lafayette Park and Alta Plaza Park (map 27). Both of these adjacent parks allow off-leash dog walking. It is likely that visitation to these parks would not increase since the dog walking regulation at Fort Mason would now allow dog walking under voice and sight control in ROLAs. No indirect impact on human health and safety in adjacent lands would be expected.

FORT MASON ALTERNATIVE C CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Long-term minor to moderate adverse impacts, assuming compliance	Incidents related to unruly or aggressive dogs that may place visitors and park staff health or safety at risk would continue	Negligible impacts to long-term minor adverse cumulative impacts No indirect impacts in adjacent lands	Beneficial to no change, assuming compliance

Alternative D: Overall Most Protective of Resources/Visitor Safety. Under alternative D, on-leash dog walking would be allowed at the Great Meadow, sidewalks, paved trails, housing areas, and on the lawn below the Laguna Street path. A ROLA would be established in the Laguna Green area.

Impacts on the health and safety of park visitors and staff would be expected to be long term, minor to moderate, and adverse. Having dogs under voice and sight control would increase the risk of dog bites/attacks since dog owners would not have the control of a leash. An additional risk from dog-to-dog interaction could result from people trying to separate dogs, which could increase the chances of injuries occurring.

No commercial dog walking would be allowed under alternative D. There would be no impact on human health and safety from commercial dog walking.

Cumulative Impacts. Under alternative D, the long-term, minor to moderate, adverse impacts to the health and safety of park staff and visitors from dogs at Fort Mason, together with effects of the projects mentioned above in alternative A were considered. The benefits to the health and safety of park staff and visitors from the park's Park Stewardship Programs and *Fire Management Plan* (NPS 2005a) is expected to reduce some of the adverse impacts of this alternative. Therefore, the cumulative impacts to the health and safety of park staff and visitors from dogs at Fort Mason are expected to be negligible to long-term, minor, and adverse.

Indirect Impacts on Adjacent Parks

It is not likely that visitation to adjacent lands would increase since the dog walking regulation at Fort Mason would allow dog walking under voice and sight control in a ROLA. No indirect impact on human health and safety in adjacent lands would be expected.

FORT MASON ALTERNATIVE D CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Long-term minor to moderate adverse impacts, assuming compliance	Incidents related to unruly or aggressive dogs that may place visitors and park staff health or safety at risk would continue	Negligible to long-term, minor, adverse cumulative impacts No indirect impacts in adjacent lands	Beneficial to no change, assuming compliance

Alternative E: Overall Most Dog Walking Access/Most Management Intensive. Under alternative E, on-leash dog walking would be allowed on all sidewalks, paved trails, and housing areas, and on the lawn below the Laguna Street path. Two ROLAs would be established on the Great Meadow and Laguna Green.

Long-term minor to moderate adverse impacts on the health and safety of park visitors and staff would be anticipated. Having dogs under voice and sight control would increase the risk of dog bites/attacks since dog owners would not have the control of a leash. An additional risk from dog-to-dog interaction could result from people trying to separate dogs, which could increase the chances of injuries occurring.

Under alternative E, all dog walkers, including commercial dog walkers, would be allowed up to three dogs with no permit required. Any dog walker, commercial or private, can obtain a permit to walk more than three dogs with a limit of six dogs on leash. In a ROLA, permit holders may have up to six dogs off-leash and the permit may restrict use by time and area. Permits would be allowed at Fort Mason. Impacts to health and safety from permit holders with six dogs off-leash are expected to increase under this alternative; however, impacts are not expected to increase enough to cause a change in the threshold level since the percentage of commercial dog walkers is considered low to moderate at Fort Mason. Impacts to health and safety from commercial dog walkers would be similar to impacts from other dog walkers as summarized previously, therefore impacts from commercial dog walking would be long-term minor to moderate, and adverse.

Cumulative Impacts. Under alternative E, the long-term, minor to moderate, adverse impacts to the health and safety of park staff and visitors from dogs at Fort Mason, together with effects of the projects mentioned above in alternative A were considered. The benefits to the health and safety of park staff and visitors from the park's Park Stewardship Programs and *Fire Management Plan* (NPS 2005a) is expected to reduce some of the adverse impacts of this alternative. Therefore, the cumulative impacts to the health and safety of park staff and visitors from dogs at Fort Mason are expected to be negligible to long-term, minor, and adverse.

Indirect Impacts on Adjacent Parks

It is not likely that visitation to adjacent lands would increase since the dog walking regulation at Fort Mason would allow dog walking under voice and sight control in ROLAs. No indirect impact on human health and safety in adjacent lands would be expected.

FORT MASON ALTERNATIVE E CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Long-term minor to moderate adverse impacts, assuming compliance	Incidents related to unruly or aggressive dogs that may place visitors and park staff health or safety at risk would continue; commercial dog walking would contribute to adverse impacts	Negligible to long-term, minor, adverse cumulative impacts No indirect impacts in adjacent lands	Beneficial to no change, assuming compliance

Preferred Alternative. Alternative B was selected as the preferred alternative for Upper Fort Mason. On-leash dog walking would be allowed in all areas not closed to dog walking (listed in the GGNRA Compendium each year).

The chance of park visitors and staff encountering uncontrolled aggressive or unruly dogs would exist, resulting in the risk of dog bites/attacks. In addition, rescues may also occur, resulting in risk to park staff, visitors, and dogs. Long-term minor adverse impacts on human health and safety would be anticipated. Impacts would be expected based on the multiple uses of the site and the historical conditions at the site.

Alternative C was selected as the preferred alternative for permits at all sites. All dog walkers, including commercial dog walkers, would be allowed up to three dogs with no permit required. Any dog walker, commercial or private, can obtain a permit to walk more than three dogs with a limit of six dogs on leash. Permits would be allowed at Fort Mason. Impacts to health and safety from permit holders with six dogs off-leash are expected to increase under this alternative; however, impacts are not expected to increase enough to cause a change in the threshold level since the percentage of commercial dog walkers at Fort Mason is considered low to moderate. Impacts to health and safety from commercial dog walkers would be similar to impacts from other dog walkers as summarized previously, therefore impacts from commercial dog walking would be long-term minor and adverse.

Cumulative Impacts. Projects and actions in and near Fort Mason were considered for the cumulative impacts analysis (appendix K). The following is a discussion of projects that have had, are currently having, or will have effects on health and safety at or in the vicinity of Fort Mason.

The improvement of the San Francisco Bay Trail at Laguna Street and Marina Boulevard at Fort Mason is part of Park Stewardship Programs, and includes efforts to enhance visitor safety and experience, improve pedestrian and bicyclist traffic flow, and revegetate the landscape (GGNPC 2010a, 1–2). The proposed extension of the Municipal Railway’s Historic Streetcar Service would continue the F-line three blocks west from San Francisco Maritime NHP through the Fort Mason Tunnel to the Fort Mason Center at GGNRA, for a total additional distance of about 0.85 mile (NPS 2010b, 1). The park’s *Fire Management Plan* would create defensible space around buildings that adjoin wildland fuels and would require the park to work closely with the Presidio Fire Department in wildlife planning and management actions (NPS 2005a, 63). Beneficial impacts on human health and safety would occur from these projects.

Under the preferred alternative, the long-term, minor, adverse impacts to the health and safety of park staff and visitors from dogs at Fort Mason, together with effects of the projects mentioned above were considered. The benefits to the health and safety of park staff and visitors from the park’s Park Stewardship Programs and *Fire Management Plan* (NPS 2005a) is expected to reduce some of the

adverse impacts of this alternative. Therefore, the cumulative impacts to the health and safety of park staff and visitors from dogs at Fort Mason are expected to be negligible.

Indirect Impacts on Adjacent Parks

In lands adjacent to GGNRA, there are 35 parks with dog use areas within about a 10-mile radius of Upper Fort Mason and 20 parks within about a 5-mile radius; the closest parks are Lafayette Park and Alta Plaza Park (map 27). Both of these adjacent parks allow off-leash dog walking. No indirect impacts in adjacent lands would be expected under the preferred alternative since there would be no change in the dog walking regulations at this site.

UPPER AND LOWER FORT MASON PREFERRED ALTERNATIVE CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Long-term minor adverse impacts, assuming compliance	Incidents related to unruly or aggressive dogs that may place visitors and park staff health or safety at risk would continue; site has history of dog bites/attacks, pet rescues, and noncompliance with the leash law	Negligible cumulative impacts No indirect impacts in adjacent lands	Beneficial, assuming compliance

Crissy Field

Common to All Alternatives. Analysis of impacts from dog regulations proposed for Crissy Field would be the same for all alternatives despite two different definitions of the Crissy Field WPA (alternative A: the definition found in 36 CFR 7.97(d); for alternatives B-E defined as: the Warming Hut to approximately 900 feet east of the former Coast Guard Pier). Even though the WPA would be expanded for alternatives B–E, this change would not influence the overall impacts analysis at this site because it would neither increase nor decrease the impacts at Crissy Field described in the paragraphs that follow. Further explanation of these two definitions can be found in the “Current Regulations and Policies” section of chapter 2.

Alternative A: No Action. Dogs are currently allowed on leash or under voice control throughout the Crissy Field site (WPA, promenade, Crissy Airfield, trails, grassy areas and east and central beaches). Crissy Marsh is currently closed to dogs. Visitor use at Crissy Field is considered moderate to high for walkers, bicyclists, runners, dog walkers, and commercial dog walkers. Visitor use in the WPA is considered high for beachgoers, walkers, and runners, and low to moderate for dog walkers (table 9). In 2007 and 2008, 13 warnings, 3 citations, and 1 report were issued for dogs in closed areas and 1 warning and 2 reports were issued for dogs disturbing wildlife in the Crissy Field WPA (appendix G). Pet-related violations included 487 leash law violations, 5 dog bites/attacks, and 10 hazardous conditions/pet rescues in 2007/2008 (table 9). NPS recently installed new fencing, gates, and signs at the eastern boundary of the WPA at Crissy Field to better mark where dog walking restrictions start. Gates and signs were also installed at trail entry points to the WPA.

Under the no-action alternative, on-leash dog walking impacts on the health and safety of park visitors would continue to be long term, moderate, and adverse. Impacts would be moderate since the number of

violations, pet-related incidents, and pet rescues has been high in past years. The chance of dog bites/attacks, conflicts between dogs and visitors, and rescues would continue to exist.

Under alternative A, no permit system exists for dog walking. However, at Crissy Field, commercial dog walking is considered a moderate to high use activity. Therefore, commercial dog walking would contribute to the long-term minor to moderate adverse impacts on human health and safety due to the increased risk of dog-related incidents.

Cumulative Impacts. Projects and actions in and near Crissy Field were considered for the cumulative impacts analysis (appendix K). The following is a discussion of projects that have had, are currently having, or will have effects on human health and safety at or in the vicinity of Crissy Field.

The Crissy Field Restoration Project, which began in 1998, restored the Crissy Field tidal marsh and dune habitat and also incorporated fully accessible shoreline promenade, trails, boardwalks, overlooks, picnic areas, seating areas, and bike and inline skate paths. The Doyle Drive replacement project will replace the 73-year-old Doyle Drive and make structural and seismic improvements that will take place on lands in area B of the Presidio (USDOT 2009, 1; Presidio Parkway 2010, 1). The park's *Fire Management Plan* would create defensible space around buildings that adjoin wildland fuels and would require the park to work closely with the Presidio Fire Department in wildlife planning and management actions. Beneficial impacts on human health and safety would occur from these projects (NPS 2005a, 63). The impacts resulting from the past oil spill would add little to the cumulative impacts on health and safety since those impacts were found to be negligible.

Under alternative A, the long-term, moderate, adverse impacts to the health and safety of park staff and visitors from dogs at Crissy Field, together with effects of the projects mentioned above were considered. The benefits to the health and safety of park staff and visitors from the Crissy Field Restoration Project, Doyle Drive replacement project, and the park's *Fire Management Plan* (NPS 2005a) is not expected to reduce the adverse impact of this alternative; therefore the cumulative analysis for this park site will focus on the results of the impact analysis for this alternative. The beneficial effects from the above actions along with the long-term, moderate, and adverse impacts from alternative A would result in long-term, moderate, and adverse cumulative impacts.

Indirect Impacts on Adjacent Parks

In lands adjacent to GGNRA, there are 35 parks with dog use areas within about a 10-mile radius of Crissy Field and 22 parks within about a 5-mile radius; the closest park is Mountain Lake Park (map 27). In addition, Crissy Field is located directly north of area B of the Presidio; area B is subject to the Presidio Trust's regulations on dog walking, which do not allow dogs to be off-leash. Mountain Lake Park allows off-leash dog walking. No indirect impacts on health and safety in adjacent lands, including area B of the Presidio, would be expected under alternative A since there would be no change in current conditions at this site.

CRISSY FIELD ALTERNATIVE A CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Long-term moderate adverse impacts	Incidents related to unruly or aggressive dogs that may place visitors and park staff health or safety at risk would continue; history of incidents is high	Long-term moderate adverse cumulative impacts No indirect impacts in adjacent lands	N/A

N/A = not applicable.

Alternative B: NPS Leash Regulations. Under alternative B, no dog walking would be allowed in the WPA. Crissy marsh is currently closed to dogs. Therefore, assuming compliance, no impacts on health and safety would occur in the WPA since the chance of dog-related incidents would no longer exist. Additionally, prohibiting dogs in this area would eliminate the risk of exposure to pathogens or diseases associated with dog waste. Along the promenade, Crissy Airfield, East Beach, Central Beach, the paths to Central Beach, the trails and grassy areas near East Beach, and the multi-use trail along Mason Street, on-leash dog walking would be allowed.

In these other areas, long-term minor adverse impacts on the health and safety of park visitors and staff would be anticipated. Having dogs on leash would minimize the risk of dog bites/attacks; however, the chance of individuals encountering unruly or aggressive dogs would still exist. Impacts on the health and safety of park staff during the initial education and enforcement phase at these sites would result from the potential for visitors knowledgeable of the former regulations confronting and possibly challenging park staff. Compliance has been a challenge in this area in the past and there has been a history of confrontations between visitors and park staff. Impacts on the health and safety of park staff would be short term, moderate, and adverse.

Under alternative B, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs per person with no permit required. Since commercial dog walking is common at Crissy Field, the new regulation would have beneficial impacts on human health and safety. There would be a limit on the number of dogs allowed per person, which should result in a reduction of dog-related injuries. Commercial dog walkers would have fewer dogs and would have more control of their dogs.

Cumulative Impacts. Under alternative B, the long-term, minor, adverse impacts to the health and safety of park staff and visitors from dogs at Crissy Field, together with effects of the projects mentioned above under alternative A were considered. The benefits to the health and safety of park staff and visitors from the Crissy Field Restoration Project, Doyle Drive replacement project, and the park's *Fire Management Plan* (NPS 2005a) is not expected to reduce the adverse impact of this alternative; therefore the cumulative analysis for this park site will focus on the results of the impact analysis for this alternative. The beneficial effects from the above actions along with the long-term, minor, and adverse impacts from alternative B would result in long-term, minor, and adverse cumulative impacts.

Indirect Impacts on Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation by individual and commercial dog walkers under alternative B, particularly Mountain Lake Park, because it is the closest dog use area that allows off-leash dog walking. Since dog walking under voice and sight control would no longer be available at Crissy Field, visitors looking for an off-leash experience would likely begin using

Mountain Lake Park for dog walking activities; however, Mountain Lake Park does not have a beach. Therefore, negligible impacts to long-term minor adverse impacts on adjacent lands would be expected. Impacts may reach minor and adverse in adjacent lands because of the historic moderate to high use of Crissy Field by dog walkers. However, no indirect impacts on the health and safety of staff and visitors in area B of the Presidio would be expected under alternative D, since this area does not have beaches and does not allow off-leash dog walking.

CRISSY FIELD ALTERNATIVE B CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion:			
No impact in WPA, assuming compliance	Dogs would be prohibited	Long-term minor adverse cumulative impacts	Beneficial, assuming compliance in the WPA
Long-term minor adverse impacts in other areas under dog management, assuming compliance	Continued risk to safety and health of visitors and park staff from potential incidents resulting from unruly or aggressive dogs would exist; however, leash requirements would reduce opportunity by providing more control over dogs; area experiences high use	Negligible indirect impacts to long-term minor indirect adverse impacts on health and safety in adjacent lands	Beneficial assuming compliance in other areas
Short-term moderate adverse impacts on park staff during education and enforcement period	Increased confrontations with visitors/dogs could occur		

Alternative C: Emphasis on Multiple Use, Balanced by County. Under alternative C, no dog walking would be allowed in the WPA. Assuming compliance, no impacts on health and safety in this area would occur and the chance of dog-related incidents would no longer exist. Additionally, restricting dogs from this area would eliminate the risk of exposure to pathogens or diseases associated with dog waste. On-leash dog walking would be allowed along the promenade, the paths to Central Beach, the trails and grassy areas near East Beach, and the multi-use trail along Mason Street. Crissy marsh is currently closed to dogs. ROLAs would be established on the Crissy Airfield and Central Beach.

Long-term minor to moderate impacts on human health and safety would be expected in areas other than the WPA. Having dogs under voice and sight control at the site would increase the risk for dog bites/attacks and user conflicts. Crissy Field is a high use, multiple use area, which also increases the chance of dog-related incidents occurring. Dog-to-dog interactions could result in additional risk from people trying to separate dogs, which could increase the chances of injuries. During the initial education and enforcement period, short-term moderate adverse impacts on the health and safety of park staff would be expected based on the documented history of confrontation between visitors with dogs and park staff at the site and the expectation of confrontations resulting from the new dog management regulations.

Under alternative C, all dog walkers, including commercial dog walkers, would be allowed up to three dogs with no permit required. Any dog walker, commercial or private, can obtain a permit to walk more than three dogs with a limit of six dogs on leash. In a ROLA, permit holders may have up to six dogs off-leash and the permit may restrict use by time and area. Permits would be allowed at Crissy Field. Adverse impacts to health and safety from permit holders are expected to increase under this alternative due to the

increase to six dogs off-leash. Since commercial dog walking is moderate to high at this site impacts to health and safety would be long-term, moderate, and adverse.

Cumulative Impacts. Under alternative C, the long-term, minor to moderate, adverse impacts to the health and safety of park staff and visitors from dogs at Crissy Field, together with effects of the projects mentioned above under alternative A were considered. The benefits to the health and safety of park staff and visitors from the Crissy Field Restoration Project, Doyle Drive replacement project, and the park's *Fire Management Plan* (NPS 2005a) is not expected to reduce the adverse impact of this alternative; therefore the cumulative analysis for this park site will focus on the results of the impact analysis for this alternative. The beneficial effects from the above actions along with the long-term, minor to moderate, and adverse impacts from alternative C would result in long-term, minor to moderate, and adverse cumulative impacts.

Indirect Impacts on Adjacent Parks

Mountain Lake Park is the closest off-leash dog walking area to Crissy Field. It is unlikely that visitation to this park would increase as a result of the implementation of alternative C. Two ROLAs would be available for dog walking under voice and sight control at the beach and on Crissy Airfield. Visitors who typically use this site would continue dog walking activities at Crissy Field even though the amount of area available would be reduced. No indirect impacts on the health and safety of visitors and staff in adjacent lands, including area B of the Presidio, would be expected.

CRISSY FIELD ALTERNATIVE C CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: No impacts in the WPA, assuming compliance	Dogs would be prohibited	Long-term minor to moderate adverse cumulative impacts	Beneficial, assuming compliance in WPA
Long-term minor to moderate adverse impacts in other areas under dog management, assuming compliance	Continued risk to safety and health of visitors and park staff from potential incidents resulting from unruly or aggressive dogs would exist; however, leash requirements would reduce opportunity by providing more control over dogs; area experiences high use; commercial dog walking would contribute to adverse impacts	No indirect impacts in adjacent lands	Beneficial to no change assuming compliance in other areas
Short-term moderate adverse impacts on park staff during education and enforcement period	Increased confrontations involving visitors/dogs could occur		

Alternative D: Overall Most Protective of Resources/Visitor Safety. Under alternative D, no dog walking would be allowed in the WPA or on the east and central beaches. Crissy marsh is currently closed to dogs. No impacts on health and safety would occur on the beaches since the chance of dog-related incidents would no longer exist. Additionally, restricting dogs from this area would eliminate the

risk of exposure to pathogens or diseases associated with dog waste. On-leash dog walking would be allowed along the promenade, the eastern section of Crissy Airfield, and the trails and grassy areas near East Beach. No dog walking would be allowed in the West Bluff picnic area. A ROLA would be established on Crissy Airfield west of the easternmost north–south path.

Impacts on human health and safety would be expected to be long term, minor to moderate, and adverse in other areas than the WPA. Requiring dogs to be on leash in most areas would reduce the number of dog-related incidents (bites/attacks and rescues). However, since Crissy Field is a heavily used multiple-use site, especially for dog walkers, and dog walking would be allowed under voice and sight control without the control of a leash, the chance of dog bites and other physical injuries occurring would exist. Short-term moderate adverse impacts on park staff would be expected during the initial education and enforcement period. Based on the history of confrontations between visitors and staff it is likely that some visitors may challenge the new dog management regulations in this area.

No commercial dog walking would be allowed under alternative D; therefore there would be no impact on human health and safety from commercial dog walking.

Cumulative Impacts. Under alternative D, the long-term, minor to moderate, adverse impacts to the health and safety of park staff and visitors from dogs at Crissy Field, together with effects of the projects mentioned above under alternative A were considered. The benefits to the health and safety of park staff and visitors from the Crissy Field Restoration Project, Doyle Drive replacement project, and the park’s *Fire Management Plan* (NPS 2005a) is not expected to reduce the adverse impact of this alternative; therefore the cumulative analysis for this park site will focus on the results of the impact analysis for this alternative. The beneficial effects from the above actions along with the long-term, minor to moderate, and adverse impacts from alternative D would result in long-term, minor to moderate, and adverse cumulative impacts.

Indirect Impacts on Adjacent Parks

Mountain Lake Park is the closest off-leash dog walking area to Crissy Field beyond GGNRA park boundaries. It is unlikely that visitation to this park would increase as a result of the implementation of alternative D. A ROLA would be available for dog walking under voice and sight control on a portion of Crissy Airfield. Visitors who typically use this site would continue dog walking activities at Crissy Field even though the amount of area available would be reduced. No indirect impacts on health and safety in adjacent lands, including area B of the Presidio, would be expected.

CRISSY FIELD ALTERNATIVE D CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: No impact in the WPA, assuming compliance	Dogs would be prohibited	Long-term minor to moderate adverse cumulative impacts	Beneficial, assuming compliance in the WPA

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Long-term minor to moderate adverse impacts in other areas under dog management	Continued risk to safety and health of visitors and park staff from potential incidents resulting from unruly or aggressive dogs would exist; however, leash requirements would reduce opportunity by providing more control over dogs; site experiences high use	No indirect impacts in adjacent lands	Beneficial to no change assuming compliance in other areas
Short-term moderate adverse impacts on park staff during education period	Increased confrontations involving visitors/dogs could occur		

Alternative E: Overall Most Dog Walking Access/Most Management Intensive. Under alternative E, on-leash dog walking would be allowed along the promenade, the WPA, East Beach, the trails and grassy areas near East Beach, and the multi-use trail along Mason Street. Crissy marsh is currently closed to dogs. ROLAs would be established on Crissy Airfield and Central Beach.

Long-term minor to moderate adverse impacts on the health and safety of park visitors and staff would be anticipated at Crissy Field and the WPA. The chance of visitors and staff encountering uncontrolled aggressive or unruly dogs would exist, especially in the ROLAs. Having dogs under voice and sight control would increase the risk of dog bites and other dog-related injuries. In the past few years, dog-related incidents have been recorded at this site. An additional risk from dog-to-dog interaction could result from people trying to separate dogs, which could increase the chances of injuries occurring. Based on the history of confrontations between visitors and staff it is likely that some visitors may challenge the new dog management regulations in this area. Therefore, impacts on park staff during the initial education and enforcement period would be short-term, moderate, and adverse.

Under alternative E, all dog walkers, including commercial dog walkers, would be allowed up to three dogs with no permit required. Any dog walker, commercial or private, can obtain a permit to walk more than three dogs with a limit of six dogs on leash. In a ROLA, permit holders may have up to six dogs off-leash and the permit may restrict use by time and area. Permits would be allowed at Crissy Field. Adverse impacts to health and safety from permit holders are expected to increase under this alternative due to the increase to six dogs off-leash. Since commercial dog walking is moderate to high at this site impacts to health and safety would be long-term, moderate, and adverse.

Cumulative Impacts. Under alternative E, the long-term, minor to moderate, adverse impacts to the health and safety of park staff and visitors from dogs at Crissy Field, together with effects of the projects mentioned above under alternative A were considered. The benefits to the health and safety of park staff and visitors from the Crissy Field Restoration Project, Doyle Drive replacement project, and the park's *Fire Management Plan* (NPS 2005a) is not expected to reduce the adverse impact of this alternative; therefore the cumulative analysis for this park site will focus on the results of the impact analysis for this alternative. The beneficial effects from the above actions along with the long-term, minor to moderate, and adverse impacts from alternative E would result in long-term, minor to moderate, and adverse cumulative impacts.

Indirect Impacts on Adjacent Parks

Mountain Lake Park is the closest off-leash dog walking area to Crissy Field. It is unlikely that visitation to this park would increase as a result of the implementation of alternative E. Two ROLAs would be available for dog walking under voice and sight control at the beach and on Crissy Airfield. Visitors who typically use this site would continue dog walking activities at Crissy Field even though the amount of area available would be reduced. No indirect impacts on health and safety in adjacent lands, including area B of the Presidio, would be expected.

CRISSY FIELD ALTERNATIVE E CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Long-term minor to moderate adverse impacts in WPA and other areas under dog management	Continued risk to safety and health of visitors and park staff from potential incidents resulting from unruly or aggressive dogs would exist; however, leash requirements would reduce opportunity by providing more control over dogs; site experiences high use; commercial dog walkers would contribute to adverse impacts	Long-term minor to moderate adverse cumulative impacts No indirect impacts in adjacent lands	Beneficial to no change, assuming compliance in the WPA and other areas
Short-term moderate adverse impacts on park staff during education period	Increased confrontations between visitors and dogs could occur		

Preferred Alternative. Alternative C was selected as the preferred alternative for Crissy Field. No dog walking would be allowed in the WPA. Crissy marsh is currently closed to dogs. Assuming compliance, no impacts on health and safety in this area would occur and the chance of dog-related incidents would no longer exist. Additionally, restricting dogs from this area would eliminate the risk of exposure to pathogens or diseases associated with dog waste. On-leash dog walking would be allowed along the promenade, the paths to Central Beach, the trails and grassy areas near East Beach, and the multi-use trail along Mason Street. ROLAs would be established on the Crissy Airfield and Central Beach.

Long-term minor to moderate impacts on human health and safety would be expected in areas other than the WPA. Having dogs under voice and sight control at the site would increase the risk for dog bites/attacks and user conflicts. Crissy Field is a high use, multiple use area, which also increases the chance of dog-related incidents occurring. In addition, risk from dog-to-dog interactions could result from people trying to separate dogs, which would increase the chance of injuries. During the initial education and enforcement period, short-term moderate adverse impacts on the health and safety of park staff would be expected as a result of the history of confrontations between visitors with dogs and park staff at the site and the probability of additional confrontations from challenging the new dog management regulations.

Under alternative C, all dog walkers, including commercial dog walkers, would be allowed up to three dogs with no permit required. Any dog walker, commercial or private, can obtain a permit to walk more than three dogs with a limit of six dogs on leash. In a ROLA, permit holders may have up to six dogs off-

leash and the permit may restrict use by time and area. Permits would be allowed at Crissy Field. Adverse impacts to health and safety from permit holders are expected to increase under this alternative due to the increase to six dogs off-leash. Since commercial dog walking is moderate to high at this site impacts to health and safety would be long-term, moderate, and adverse.

Cumulative Impacts. Projects and actions in and near Crissy Field were considered for the cumulative impacts analysis (appendix K). The following is a discussion of projects that have had, are currently having, or will have effects on human health and safety at or in the vicinity of Crissy Field.

The Crissy Field Restoration Project, which began in 1998, restored the Crissy Field tidal marsh and dune habitat and also incorporated a fully accessible shoreline promenade, trails, boardwalks, overlooks, picnic areas, seating areas, and bike and inline skate paths. The Doyle Drive replacement project will replace the 73-year-old Doyle Drive and make structural and seismic improvements that will take place on lands in area B of the Presidio (USDOT 2009, 1; Presidio Parkway 2010, 1). The park's *Fire Management Plan* would create defensible space around buildings that adjoin wildland fuels and would require the park to work closely with the Presidio Fire Department in wildlife planning and management actions. Beneficial impacts on human health and safety would occur from these projects (NPS 2005a, 63). The impacts resulting from the past oil spill would add little to the cumulative impacts on health and safety since those impacts were found to be negligible.

Under the preferred alternative, the long-term, minor to moderate, adverse impacts to the health and safety of park staff and visitors from dogs at Crissy Field, together with effects of the projects mentioned above were considered. The benefits to the health and safety of park staff and visitors from the Crissy Field Restoration Project, Doyle Drive replacement project, and the park's *Fire Management Plan* (NPS 2005a) is not expected to reduce the adverse impact of this alternative; therefore the cumulative analysis for this park site will focus on the results of the impact analysis for this alternative. The beneficial effects from the above actions along with the long-term, minor to moderate, and adverse impacts from the preferred alternative would result in long-term, minor to moderate, and adverse cumulative impacts.

Indirect Impacts on Adjacent Parks

In lands adjacent to GGNRA, there are 35 parks with dog use areas within about a 10-mile radius of Crissy Field and 22 parks within about a 5-mile radius; the closest park is Mountain Lake Park (map 27). In addition, Crissy Field is located directly north of area B of the Presidio; area B is subject to the Presidio Trust's regulations on dog walking, which do not allow dogs to be off-leash. Mountain Lake Park allows off-leash dog walking. It is unlikely that visitation to this park would increase as a result of the implementation of the preferred alternative. Two ROLAs would be available for dog walking under voice and sight control at the beach and on Crissy Airfield. Visitors who typically use this site would continue dog walking activities at Crissy Field even though the amount of area available would be reduced. No indirect impacts on the health and safety of visitors and staff in adjacent lands, including area B of the Presidio, would be expected.

CRISSY FIELD PREFERRED ALTERNATIVE CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: No impacts in the WPA, assuming compliance	Dogs would be prohibited	Long-term minor to moderate adverse cumulative impacts	Beneficial, assuming compliance in WPA
Long-term minor to moderate adverse impacts in other areas under dog management, assuming compliance	Continued risk to safety and health of visitors and park staff from potential incidents resulting from unruly or aggressive dogs would exist; however, leash requirements would reduce opportunity by providing more control over dogs; site experiences high use; commercial dog walking would contribute to adverse impacts	No indirect impacts in adjacent lands	Beneficial to no change assuming compliance in other areas
Short-term moderate adverse impacts on park staff during education and enforcement period	Increased confrontations involving visitors/dogs could occur		

Fort Point Promenade/Fort Point NHS Trails

Alternative A: No Action. Under alternative A, on-leash dog walking would be allowed on the Fort Point Promenade, the Bay Trail, Andrews Road, and the Battery East Trail. Visitor use in this area is considered moderate to high, with mostly runners, bicyclists, walkers, and dog walkers using the area. Dog walking is considered a low to high use activity (table 9). In 2007 and 2008, one warning and one report were issued for dogs in closed areas (appendix G). Pet-related violations included 38 leash law violations and one hazardous conditions/pet rescue (table 9).

Under the no-action alternative, on-leash dog walking impacts on human health and safety would continue to be long term, minor to moderate, and adverse. In past years, violations have been issued for pet rescues and for noncompliance with the leash regulations. The risk of injury would continue for staff rescuing dogs under the no-action alternative. Visitors and staff would also be at risk if they encounter an uncontrolled aggressive dog.

Under alternative A, no permit system exists for dog walking. At Fort Point, commercial dog walking is uncommon. Therefore, commercial dog walking would have negligible impacts on human health and safety.

Cumulative Impacts. Projects and actions in and near Fort Point Promenade/Fort Point NHS Trails were considered for the cumulative impacts analysis (appendix K). The following is a discussion of projects that have had, are currently having, or will have effects on health and safety at or in the vicinity of Fort Point.

Improvements are being made to Fort Point facilities to improve visitor accessibility (NPS 2010c, 1). The Doyle Drive replacement project will replace the 73-year-old Doyle Drive and make structural and

seismic improvements that will take place on lands in area B of the Presidio (USDOT 2009, 1; Presidio Parkway 2010, 1). The park's *Fire Management Plan* would create defensible space around buildings that adjoin wildland fuels and would require the park to work closely with the Presidio Fire Department in wildlife planning and management actions (NPS 2005a, 63). Beneficial impacts on human health and safety would occur from these projects.

Under alternative A, the long-term, minor to moderate, adverse impacts to the health and safety of park staff and visitors from dogs at Fort Point, together with effects of the projects mentioned above were considered. The benefits to the health and safety of park staff and visitors from the site improvements and the park's *Fire Management Plan* (NPS 2005a) is not expected to reduce the adverse impact of this alternative; therefore the cumulative analysis for this park site will focus on the results of the impact analysis for this alternative. The beneficial effects from the above actions along with the long-term, minor to moderate, and adverse impacts from alternative A would result in long-term, minor to moderate, and adverse cumulative impacts.

Indirect Impacts on Adjacent Parks

In lands adjacent to GGNRA, there are 35 parks with dog use areas within about a 10-mile radius of Fort Point and 15 parks within about a 5-mile radius; the closest park is Mountain Lake Park (map 27). In addition, Fort Point is located directly north of area B of the Presidio; area B is subject to the Presidio Trust's regulations on dog walking, which do not allow dogs to be off-leash. Mountain Lake Park allows off-leash dog walking. No indirect impacts in adjacent lands, including area B of the Presidio, would be expected under alternative A since there would be no change in current conditions at this site.

FORT POINT PROMENADE/FORT POINT NHS TRAILS ALTERNATIVE A CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Long-term minor to moderate adverse impacts	Leash law violations and pet-related safety incidents (rescues) would continue to occur; site experiences low to high dog walking use	Long-term, minor to moderate adverse cumulative impacts No indirect impacts in adjacent lands	N/A

N/A = not applicable.

Alternative B: NPS Leash Regulations. Under alternative B, on-leash dog walking would be allowed along the Fort Point Promenade, the Bay Trail, Andrews Road, and the Battery East Trail.

The chance of park visitors and staff encountering uncontrolled aggressive dogs would exist. Although dogs would be on leash, there would still be the chance of dog bites and other physical injuries occurring. Long-term minor adverse impacts on health and safety would be anticipated due to the moderate to high use of the site, its multiple-use nature, and the past dog-related violations that have occurred. Dog rescues may also be needed at this site under this alternative, resulting in safety risks to park staff, visitors, and dogs.

Under alternative B, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs per person with no permit required. Since commercial dog walking is not common at Fort Point, it is likely that the new permit regulation would have negligible impacts on human health and safety.

Cumulative Impacts. Under alternative B, the long-term, minor, adverse impacts to the health and safety of park staff and visitors from dogs at Fort Point, together with effects of the projects mentioned above in alternative A were considered. The benefits to the health and safety of park staff and visitors from the site improvements and the park's *Fire Management Plan* is not expected to reduce the adverse impact of this alternative; therefore the cumulative analysis for this park site will focus on the results of the impact analysis for this alternative (NPS 2005a, 63). The beneficial effects from the above actions along with the long-term, minor, and adverse impacts from alternative B would result in long-term, minor, and adverse cumulative impacts.

Indirect Impacts on Adjacent Parks

No indirect impacts in adjacent lands, including area B of the Presidio, would be expected under alternative B since dog management regulations would remain similar to the no-action alternative.

FORT POINT PROMENADE/FORT POINT NHS TRAILS ALTERNATIVE B CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Long-term minor adverse impacts, assuming compliance	Continued risk to safety and health of visitors and park staff from potential incidents resulting from unruly or aggressive dogs would exist; however, leash requirements would reduce opportunity by providing more control over dogs	Long-term, minor, adverse cumulative impacts No indirect impacts in adjacent lands	Beneficial to no change, assuming compliance

Alternative C: Emphasis on Multiple Use, Balanced by County. Under alternative C, dog walking restrictions would be the same as alternative B: on-leash dog walking would be allowed along the Fort Point Promenade, the Bay Trail, Andrews Road, and the Battery East Trail.

Impacts on human health and safety would be the same as alternative B: long term, minor, and adverse.

Under alternative C, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be granted at Fort Point, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking is not common at Fort Point, it is likely that the new regulation would have negligible impacts on human health and safety.

Cumulative Impacts. Cumulative impacts would be the same as alternative B: long-term, minor, and adverse.

Indirect Impacts on Adjacent Parks

Indirect impacts on the health and safety of visitors and staff in adjacent lands would be the same as alternative B: no indirect impact.

FORT POINT PROMENADE/FORT POINT NHS TRAILS ALTERNATIVE C CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Long-term minor adverse impacts, assuming compliance	Continued risk to safety and health of visitors and park staff from potential incidents resulting from unruly or aggressive dogs would exist; however, leash requirements would reduce opportunity by providing more control over dogs	Long-term, minor, and adverse cumulative impacts No indirect impacts in adjacent lands	Beneficial to no change, assuming compliance

Alternative D: Overall Most Protective of Resources/Visitor Safety. Under alternative D, on-leash dog walking would be allowed only along the Bay Trail. Limiting the area available to dog walking would minimize the risk of dog-related incidents. However, impacts would be long term, minor, and adverse, since the chance of park visitors and staff encountering uncontrolled aggressive or unruly dogs would still exist.

No commercial dog walking would be allowed under alternative D; therefore there would be no impact on human health and safety from commercial dog walking.

Cumulative Impacts. Under alternative D, the long-term, minor, adverse impacts to the health and safety of park staff and visitors from dogs at Fort Point, together with effects of the projects mentioned above under alternative A were considered. The benefits to the health and safety of park staff and visitors from the site improvements and the park's *Fire Management Plan* (NPS 2005a) is not expected to reduce the adverse impact of this alternative; therefore the cumulative analysis for this park site will focus on the results of the impact analysis for this alternative. The beneficial effects from the above actions along with the long-term, minor and adverse impacts from alternative D would result in long-term, minor, and adverse cumulative impacts.

Indirect Impacts on Adjacent Parks

Since the amount of area available for on-leash dog walking would be reduced to one trail and part of the promenade under this alternative, some visitors may begin to use area B of the Presidio and Mountain Lake Park for dog walking activities. However, some visitors may continue to use Fort Point; therefore, negligible indirect impacts on the health and safety of visitors and staff in adjacent lands, including area B of the Presidio, would be expected.

FORT POINT PROMENADE/FORT POINT NHS TRAILS ALTERNATIVE D CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Long-term minor adverse impacts, assuming compliance	Continued risk to safety and health of visitors and park staff from potential incidents resulting from unruly or aggressive dogs would exist; however, leash requirements would reduce opportunity by providing more control over dogs	Long-term, minor, and adverse cumulative impacts Negligible indirect impacts in adjacent lands	Beneficial to no change, assuming compliance

Alternative E: Overall Most Dog Walking Access/Most Management Intensive. Under alternative E, dog walking restrictions would be the same as alternative B and C: on-leash dog walking would be allowed along the Fort Point Promenade, the Bay Trail, Andrews Road, and the Battery East Trail.

Impacts on human health and safety would be the same as alternative B and C: long term, minor, and adverse.

Under alternative E, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be granted at Fort Point, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking is not common at Fort Point, it is likely that the new permit regulation would have negligible impacts on human health and safety.

Cumulative Impacts. Cumulative impacts would be the same as alternative B: long-term, minor, and adverse.

Indirect Impacts on Adjacent Parks

Indirect impacts on the health and safety of visitors and staff in adjacent lands would be the same as alternative B: no indirect impact.

FORT POINT PROMENADE/FORT POINT NHS TRAILS ALTERNATIVE E CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Long-term minor adverse impacts, assuming compliance	Continued risk to safety and health of visitors and park staff from potential incidents resulting from unruly or aggressive dogs would exist; however, leash requirements would reduce opportunity by providing more control over dogs	Long-term, minor, and adverse cumulative impacts No indirect impacts in adjacent lands	Beneficial to no change, assuming compliance

Preferred Alternative. Alternative B was selected as the preferred alternative for Fort Point Promenade/Fort Point NHS Trails. On-leash dog walking would be allowed along the Fort Point Promenade, the Bay Trail, Andrews Road, and the Battery East Trail.

The chance of park visitors and staff encountering uncontrolled aggressive dogs would exist. Although dogs would be on leash, there would still be the chance of dog bites and other physical injuries occurring. Long-term minor adverse impacts on health and safety would be anticipated due to the moderate to high use of the site, its multiple-use nature, and the past dog-related violations that have occurred. Dog rescues may also be needed at this site under this alternative, resulting in safety risks to park staff, visitors, and dogs.

Alternative C was selected as the preferred alternative for permits at all sites. All dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be granted at Fort Point, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking is not common at Fort Point, it is likely that the new permit regulation would have negligible impacts on human health and safety.

Cumulative Impacts. Projects and actions in and near Fort Point Promenade/Fort Point NHS Trails were considered for the cumulative impacts analysis (appendix K). The following is a discussion of projects that have had, are currently having, or will have effects on health and safety at or in the vicinity of Fort Point.

Improvements are being made to Fort Point facilities to improve visitor accessibility (NPS 2010c, 1). The Doyle Drive replacement project will replace the 73-year-old Doyle Drive and make structural and seismic improvements that will take place on lands in area B of the Presidio (USDOT 2009, 1; Presidio Parkway 2010, 1). The park's *Fire Management Plan* would create defensible space around buildings that adjoin wildland fuels and would require the park to work closely with the Presidio Fire Department in wildlife planning and management actions (NPS 2005a, 63). Beneficial impacts on human health and safety would occur from these projects.

Under the preferred alternative, the long-term, minor, adverse impacts to the health and safety of park staff and visitors from dogs at Fort Point, together with effects of the projects mentioned above were considered. The benefits to the health and safety of park staff and visitors from the site improvements and the park's *Fire Management Plan* (NPS 2005a) is not expected to reduce the adverse impact of this alternative; therefore the cumulative analysis for this park site will focus on the results of the impact analysis for this alternative. The beneficial effects from the above actions along with the long-term, minor and adverse impacts from the preferred alternative would result in long-term, minor, and adverse cumulative impacts.

Indirect Impacts on Adjacent Parks

In lands adjacent to GGNRA, there are 35 parks with dog use areas within about a 10-mile radius of Fort Point and 15 parks within about a 5-mile radius; the closest park is Mountain Lake Park (map 27). In addition, Fort Point is located directly north of area B of the Presidio; area B is subject to the Presidio Trust's regulations on dog walking, which do not allow dogs to be off-leash. Mountain Lake Park allows off-leash dog walking. No indirect impacts in adjacent lands, including area B of the Presidio, would be expected under the preferred alternative since dog management regulations would remain similar to the no-action alternative.

FORT POINT PROMENADE/FORT POINT NHS TRAILS PREFERRED ALTERNATIVE CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Long-term minor adverse impacts, assuming compliance	Continued risk to safety and health of visitors and park staff from potential incidents resulting from unruly or aggressive dogs would exist; however, leash requirements would reduce opportunity by providing more control over dogs	Long-term, minor, adverse cumulative impacts No indirect impacts in adjacent lands	Beneficial to no change, assuming compliance

Baker Beach and Bluffs to Golden Gate Bridge

Alternative A: No Action. Currently, on-leash dog walking is allowed on all trails except the Batteries to Bluffs Trail, and dog walking under voice control is allowed on the beach north of Lobos Creek. Visitor use in this area is considered low to moderate for beachgoers and picnickers, and low to moderate for dog walkers (table 9). In 2007 and 2008, pet-related violations included three leash law violations and one dog bite/attack (table 9).

Under the no-action alternative, long-term minor to moderate adverse impacts on health and safety from on-leash dog walking would continue. Having dogs under voice control would continue to increase the risk of dog bites and other dog/visitor conflicts. Dog walkers do not have as much control of their dogs when they are off leash. In addition, the percentage of dog walkers at Baker Beach and Bluffs to Golden Gate Bridge is low to moderate. The large size of the beach reduces contact among visitors and dogs by allowing visitors to spread out.

Under alternative A, no permit system exists for dog walking. At Baker Beach, commercial dog walking is uncommon. Therefore, it is likely that commercial dog walking has a negligible impact on human health and safety at this site.

Cumulative Impacts. Projects and actions in and near Baker Beach and Bluffs to Golden Gate Bridge were considered for the cumulative impacts analysis. The following is a discussion of projects that have had, are currently having, or will have effects on human health and safety at or in the vicinity of Baker Beach.

Between August and November of 2007, 73,000 tons of landfill debris was unearthed by excavators at Baker Beach and conveyed to the top of the cliffs as part of a restoration effort (Presidio Trust 2010, 1). Additionally, in 2008, Park Stewardship Programs completed improvements on the Batteries to Bluffs Trail on the bluffs just north of Baker Beach. The park's *Fire Management Plan* would create defensible space around buildings that adjoin wildland fuels and would require the park to work closely with the Presidio Fire Department in wildlife planning and management actions. Beneficial impacts on human health and safety would occur from these projects (NPS 2005a, 63). The impacts resulting from the past oil spill would add little to the cumulative impacts on health and safety since those impacts were found to be negligible.

Under alternative A, the long-term, minor to moderate, adverse impacts to the health and safety of park staff and visitors from dogs at Baker Beach together with effects of the projects mentioned above were considered. The benefits to the health and safety of park staff and visitors from the site improvements and

the park's *Fire Management Plan* (NPS 2005a) is not expected to reduce the adverse impact of this alternative; therefore the cumulative analysis for this park site will focus on the results of the impact analysis for this alternative. The beneficial effects from the above actions along with the long-term, minor to moderate and adverse impacts from alternative A would result in long-term, minor to moderate, and adverse cumulative impacts.

Indirect Impacts on Adjacent Parks

In lands adjacent to GGNRA, there are 36 parks with dog use areas within about a 10-mile radius of Baker Beach and 20 parks within about a 5-mile radius; the closest park is Mountain Lake Park, which allows off-leash dog walking (map 27). In addition, Baker Beach is located directly west of area B of the Presidio; area B is subject to the Presidio Trust's regulations on dog walking, which do not allow dogs to be off-leash. No indirect impacts on the health and safety of visitors and staff in adjacent lands, including area B of the Presidio, would be expected under alternative A since there would be no change in current conditions at this site.

BAKER BEACH AND BLUFFS TO GOLDEN GATE BRIDGE ALTERNATIVE A CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Long-term minor to moderate adverse impacts	Dog walking under voice control would continue to add risk to safety and health of visitors and park staff from encounters with unruly or aggressive dogs	Long-term, minor to moderate adverse cumulative impacts No indirect impacts in adjacent lands	N/A

N/A = not applicable.

Alternative B: NPS Leash Regulations. Under alternative B, on-leash dog walking would be allowed on the beach and on all trails except the Batteries to Bluffs Trail and the trail leading to the Batteries to Bluffs Trail.

Although the chance of a visitor or staff person encountering an unruly dog and sustaining an injury still exists, requiring leashes would minimize impacts on health and safety. As a result, negligible impacts on health and safety would be anticipated. In addition, the large extent of the beach allows visitors to spread out, which further reduces the chance of conflicts between visitors and dogs.

Under alternative B, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs per person with no permit required. Since commercial dog walking is not common at Baker Beach, it is likely that the new permit regulation would have negligible impacts on human health and safety.

Cumulative Impacts. Under alternative B, the negligible impacts to the health and safety of park staff and visitors from dogs at Baker Beach together with effects of the projects mentioned above under alternative A were considered. The benefits to the health and safety of park staff and visitors from the site improvements and the park's *Fire Management Plan* (NPS 2005a) along with the negligible impacts from alternative B would result in negligible cumulative impacts.

Indirect Impacts on Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation under alternative B, particularly Mountain Lake Park, because it is the closest dog use area that allows off-leash dog walking. Since dog walking under voice control would no longer be allowed at Baker Beach, some visitors may begin dog walking activities at the nearby Mountain Lake Park. However, some visitors may continue to use Baker Beach and Bluffs to Golden Gate Bridge for dog walking activities even though leashes would be required, because some visitors enjoy the dog walking experience at the beach. Therefore, impacts on human health and safety in adjacent lands would be negligible. However, no indirect impacts on the health and safety of staff and visitors in area B of the Presidio would be expected under alternative B, since this area does not have beaches and does not allow off-leash dog walking.

BAKER BEACH AND BLUFFS TO GOLDEN GATE BRIDGE ALTERNATIVE B CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Negligible impacts, assuming compliance	Leash restrictions and limitations on the number of dogs would reduce risk to safety and health of visitors and park staff	Negligible cumulative impacts Negligible indirect impacts in adjacent lands	Beneficial, assuming compliance

Alternative C: Emphasis on Multiple Use, Balanced by County. Under alternative C, on-leash dog walking would be allowed on north and south Baker Beach and on all trails except the Batteries to Bluffs Trail and the trail leading to the Batteries to Bluffs Trail.

Although the chance of a visitor or staff person encountering an unruly dog and sustaining an injury still exists, requiring leashes would minimize impacts on health and safety. As a result, negligible impacts on health and safety would be anticipated. In addition, the large extent of the beach allows visitors to spread out, which further reduces the chance of conflicts between visitors and dogs.

Under alternative C, all dog walkers, including commercial dog walkers, would be allowed up to three dogs with no permit required. Any dog walker, commercial or private, can obtain a permit to walk more than three dogs with a limit of six dogs on leash and permits would restrict use by time and area. Permits would be allowed at Baker Beach. Impacts to health and safety from permit holders with six dogs are expected to increase under this alternative; however, impacts are not expected to increase enough to cause a change in the threshold level. Since commercial dog walking is not common at Baker Beach, it is likely that the new permit regulation would have no impact on the number of dog walkers. Therefore, commercial dog walking under alternative C would have a negligible impact on health and safety.

Cumulative Impacts. Cumulative impacts and indirect impacts in adjacent lands would be the same as alternative B: negligible.

BAKER BEACH AND BLUFFS TO GOLDEN GATE BRIDGE ALTERNATIVE C CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Negligible impacts, assuming compliance	Leash restrictions and limitations on the number of dogs would reduce risk to safety and health of visitors and park staff	Negligible cumulative impacts Negligible indirect impacts in adjacent lands	Beneficial, assuming compliance

Alternative D: Overall Most Protective of Resources/Visitor Safety. Under alternative D, on-leash dog walking would be allowed on the beach south of the north parking lot, on the trails to the beach south of the north parking lot, and on the multi-use Coastal Trail.

Impacts on the health and safety of park visitors and staff would be negligible. Requiring dogs to be walked on leash would minimize impacts. The chance of an individual being injured in a dog-related incident would still exist, but the large size of the beach allows visitors to spread out, which reduces the chances of conflicts between visitors and dogs.

No commercial dog walking would be allowed under alternative D. Therefore there would be no impact on human health and safety from commercial dog walking.

Cumulative Impacts. Under alternative D, the negligible impacts to the health and safety of park staff and visitors from dogs at Baker Beach together with effects of the projects mentioned above under alternative A were considered. The benefits to the health and safety of park staff and visitors from the site improvements and the park's *Fire Management Plan* (NPS 2005a) along with the negligible impacts from alternative D would result in negligible cumulative impacts.

Indirect Impacts on Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation under alternative B, particularly Mountain Lake Park, because it is the closest dog use area that allows off-leash dog walking. Since dog walking under voice and sight control would no longer be allowed at Baker Beach and Bluffs to Golden Gate Bridge, some visitors may begin dog walking activities at the nearby Mountain Lake Park. However, some visitors may continue to use Baker Beach for dog walking activities even though leashes would be required, because some visitors enjoy the dog walking experience at the beach. Therefore, human health and safety impacts in adjacent lands would be negligible. However, no indirect impacts on the health and safety of staff and visitors in area B of the Presidio would be expected under alternative D, since this area does not have beaches and does not allow off-leash dog walking.

BAKER BEACH AND BLUFFS TO GOLDEN GATE BRIDGE ALTERNATIVE D CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Negligible impacts, assuming compliance	Leash restrictions would reduce risk to safety and health of visitors and park staff	Negligible cumulative impacts Negligible indirect impacts in adjacent lands	Beneficial, assuming compliance

Alternative E: Overall Most Dog Walking Access/Most Management Intensive. Under alternative E, on-leash dog walking would be allowed on the beach north of the north parking lot and on all trails except the Batteries to Bluffs Trail and the trail leading to the Batteries to Bluffs Trail. In addition, a ROLA would be allowed on the beach south of the north parking lot.

Long-term minor adverse impacts on health and safety would be expected under this alternative. Having dogs under voice and sight control would increase the risk of dog bites and other pet-related injuries. However, the large size of the beach allows visitors to spread out, which also reduces the chances of conflicts between visitors and dogs.

Under alternative E, all dog walkers, including commercial dog walkers, would be allowed up to three dogs with no permit required. Any dog walker, commercial or private, can obtain a permit to walk more than three dogs with a limit of six dogs on leash. In a ROLA, permit holders may have up to six dogs off-leash and the permit may restrict use by time and area. Permits would be allowed at Baker Beach. Impacts to health and safety from permit holders with six dogs off-leash are expected to increase under this alternative; however, impacts are not expected to increase enough to cause a change in the threshold level. Since commercial dog walking is not common at Baker Beach, it is likely that the new permit regulation would have no impact on the number of dog walkers. Therefore, commercial dog walking under alternative E would have a negligible impact on health and safety.

Cumulative Impacts. Under alternative E, the long-term, minor, adverse impacts to the health and safety of park staff and visitors from dogs at Baker Beach together with effects of the projects mentioned above in alternative A were considered. The benefits to the health and safety of park staff and visitors from the site improvements and the park's *Fire Management Plan* (NPS 2005a) is not expected to reduce the adverse impact of this alternative; therefore the cumulative analysis for this park site will focus on the results of the impact analysis for this alternative. The beneficial effects from the above actions along with the long-term, minor, adverse impacts from alternative E would result in long-term, minor, and adverse cumulative impacts.

Indirect Impacts on Adjacent Parks

Mountain Lake Park is the closest off-leash dog walking area to Baker Beach and Bluffs to Golden Gate Bridge. It is not likely that visitation to Mountain Lake Park would increase under alternative E, because visitors would continue to use Baker Beach for dog walking activities. An off-leash experience would be available along a portion of the beach in the proposed ROLA. Visitors would not receive the same beach experience from dog walking at Mountain Lake Park. There would be no indirect impact on health and safety in adjacent lands, including area B of the Presidio.

BAKER BEACH AND BLUFFS TO GOLDEN GATE BRIDGE ALTERNATIVE E CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Long-term minor adverse impacts, assuming compliance	Voice and sight control in the ROLA would add risk to safety and health of visitors and park staff from encounters with unruly or aggressive dogs	Long-term, minor, adverse cumulative impacts No indirect impacts in adjacent lands	Beneficial to no change, assuming compliance

Preferred Alternative. Alternative D was selected as the preferred alternative for Baker Beach and Bluffs to Golden Gate Bridge. On-leash dog walking would be allowed on the beach south of the north parking lot, on the trails to the beach south of the north parking lot, and on the multi-use Coastal Trail.

Impacts on the health and safety of park visitors and staff would be negligible. Requiring dogs to be walked on leash would minimize impacts. The chance of an individual being injured in a dog-related incident would still exist, but the large size of the beach allows visitors to spread out, which reduces the chances of conflicts between visitors and dogs.

Alternative C was selected as the preferred alternative for permits at all sites. All dog walkers, including commercial dog walkers, would be allowed up to three dogs with no permit required. Any dog walker, commercial or private, can obtain a permit to walk more than three dogs with a limit of six dogs on leash and permits would restrict use by time and area. Permits would be allowed at Baker Beach. Impacts to health and safety from permit holders with six dogs are expected to increase under this alternative; however, impacts are not expected to increase enough to cause a change in the threshold level. Since commercial dog walking is not common at Baker Beach, it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking under the preferred alternative would have a negligible impact on health and safety.

Cumulative Impacts. Projects and actions in and near Baker Beach and Bluffs to Golden Gate Bridge were considered for the cumulative impacts analysis. The following is a discussion of projects that have had, are currently having, or will have effects on health and safety at or in the vicinity of Baker Beach.

Between August and November of 2007, 73,000 tons of landfill debris was unearthed by excavators at Baker Beach and conveyed to the top of the cliffs as part of a restoration effort (Presidio Trust 2010, 1). Additionally, in 2008, Park Stewardship Programs completed improvements on the Batteries to Bluffs Trail on the bluffs just north of Baker Beach. The park's *Fire Management Plan* would create defensible space around buildings that adjoin wildland fuels and would require the park to work closely with the Presidio Fire Department in wildlife planning and management actions (NPS 2005a, 63). Beneficial impacts on human health and safety would occur from these projects. The impacts resulting from the past oil spill would add little to the cumulative impacts on health and safety since those impacts were found to be negligible.

Under the preferred alternative, the negligible impacts to the health and safety of park staff and visitors from dogs at Baker Beach together with effects of the projects mentioned above were considered. The benefits to the health and safety of park staff and visitors from the site improvements and the park's *Fire Management Plan* (NPS 2005a) along with the negligible impacts from the preferred alternative would result in negligible cumulative impacts.

Indirect Impacts on Adjacent Parks

In lands adjacent to GGNRA, there are 36 parks with dog use areas within about a 10-mile radius of Baker Beach and 20 parks within about a 5-mile radius; the closest park is Mountain Lake Park, which allows off-leash dog walking (map 27). In addition, Baker Beach is located directly west of area B of the Presidio; area B is subject to the Presidio Trust's regulations on dog walking, which do not allow dogs to be off-leash. The adjacent lands identified under alternative A may experience increased visitation under the preferred alternative, particularly Mountain Lake Park, because it is the closest dog use area that allows off-leash dog walking. Since dog walking under voice and sight control would no longer be allowed at Baker Beach, some visitors may begin dog walking activities at the nearby Mountain Lake Park. However, some visitors may continue to use Baker Beach for dog walking activities even though leashes would be required, because some visitors enjoy the dog walking experience at the beach.

Therefore, health and safety impacts on adjacent lands would be negligible. However, no indirect impacts on the health and safety of staff and visitors in area B of the Presidio would be expected under the preferred alternative, since this area does not have beaches and does not allow off-leash dog walking.

BAKER BEACH AND BLUFFS TO GOLDEN GATE BRIDGE PREFERRED ALTERNATIVE CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Negligible impacts, assuming compliance	Leash restrictions would reduce risk to safety and health of visitors and park staff	Negligible cumulative impacts Negligible indirect impacts in adjacent lands	Beneficial, assuming compliance

Fort Miley

Alternative A: No Action. Currently, dog walking on leash or under voice control is allowed throughout East and West Fort Miley. Visitor use in this area is considered moderate to high for picnickers and low for dog walkers. In 2007 and 2008, no pet violations were issued for leash laws, dog bites/rescues, or pet waste (table 9).

Impacts on health and safety under alternative A would be negligible. Although there have been no recorded pet incidents, having dogs under voice control at the site would increase the risk of pet-related incidents.

Under alternative A, no permit system exists for dog walking. At Fort Miley, commercial dog walking is uncommon. Therefore, commercial dog walking would have negligible impacts on human health and safety.

Cumulative Impacts. Projects and actions in and near Fort Miley were considered for the cumulative impacts analysis (appendix K). Mainly, the park's *Fire Management Plan* (NPS 2005a) would create defensible space around buildings that adjoin wildland fuels and would require the park to work closely with the Presidio Fire Department in wildlife planning and management actions. Beneficial impacts on human health and safety would occur from this project.

Under alternative A, the negligible impacts to the health and safety of park staff and visitors from dogs at Fort Miley together with effects of the action mentioned above were considered. The benefits to the health and safety of park staff and visitors from actions included in the park's *Fire Management Plan* (NPS 2005a) along with the negligible impacts from alternative A would result in negligible cumulative impacts.

Indirect Impacts on Adjacent Parks

In lands adjacent to GGNRA, there are 36 parks with dog use areas within about a 10-mile radius of East and West Fort Miley and 13 parks within about a 5-mile radius; the closest parks are Golden Gate Park—North Central Area and Golden Gate Park—South Central Area (map 27). These areas of Golden Gate Parks allow off-leash dog walking. No indirect impacts on human health and safety in adjacent lands would be expected under alternative A since there would be no change in current conditions at this site.

FORT MILEY ALTERNATIVE A CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Negligible impacts	Dog walking under voice control would continue to potentially be a risk to the safety and health of visitors and park staff	Negligible cumulative impacts No indirect impacts in adjacent lands	N/A

N/A = not applicable.

Alternative B: NPS Leash Regulations. Under alternative B, no dog walking would be allowed at the Fort Miley site.

No impact on the health and safety of park visitors and staff would occur. The chance of dogs creating a risk to visitors and staff would no longer exist. Additionally, restricting dogs from this area would eliminate the risk of exposure to pathogens or diseases associated with dog waste.

Since dogs would not be allowed at Fort Miley, there would be no impact from commercial dog walkers to the health and safety of visitors and staff.

Cumulative Impacts. Under alternative B, the lack of impact to the health and safety of park staff and visitors from dogs at Fort Miley together with effects of the action mentioned above under alternative A were considered. The benefits to the health and safety of park staff and visitors from actions included in the park's *Fire Management Plan* (NPS 2005a) along with the lack of impacts from alternative B would result in negligible cumulative impacts.

Indirect Impacts on Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation under alternative B, particularly Golden Gate Park— North Central and South Central Areas, because they are the closest dog use areas and both sites allow off-leash dog walking. Since dogs would no longer be allowed at Fort Miley, some visitors may begin dog walking activities at one of the adjacent areas. Therefore, health and safety indirect impacts on visitors and staff in adjacent lands would be expected, but not above a negligible level.

FORT MILEY ALTERNATIVE B CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: No impacts, assuming compliance	Dogs would be prohibited	Negligible cumulative impacts Negligible indirect impacts in adjacent lands	Beneficial, assuming compliance

Alternative C: Emphasis on Multiple Use, Balanced by County. Under alternative C, on-leash dog walking would be allowed in East Fort Miley along the east side of the trail corridor.

Impacts on the health and safety of park visitors and staff would be negligible. Requiring dogs to be walked on leash would make adverse impacts on health and safety unlikely. However, the chance of an individual being injured in a dog-related incident would exist.

Under alternative C, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be granted at Fort Miley, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking activity at Fort Miley is not common, it is likely that the new regulation would have negligible impacts on human health and safety.

Cumulative Impacts. Under alternative C, the negligible impacts to the health and safety of park staff and visitors from dogs at Fort Miley together with effects of the action mentioned above under alternative A were considered. The benefits to the health and safety of park staff and visitors from actions included in the park's *Fire Management Plan* (NPS 2005a) along with the negligible impacts from alternative C would result in negligible cumulative impacts.

Indirect Impacts on Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation under alternative C, particularly Golden Gate Park—North Central and South Central Areas, because they are the closest dog use areas. Both sites allow off-leash dog walking. Since visitors would no longer be allowed to walk dogs under voice control and would be limited to one trail for on-leash dog walking, some visitors who are looking for an off-leash experience may begin dog walking activities at one of the adjacent areas. Therefore, negligible indirect impacts on the health and safety of visitors and staff in adjacent lands would be expected.

FORT MILEY ALTERNATIVE C CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Negligible impacts, assuming compliance	Risk to safety and health of visitors and park staff would be reduced by leash restrictions; no recorded incidents have occurred in recent years	Negligible cumulative impacts Negligible indirect impacts in adjacent lands	No change, assuming compliance

Alternative D: Overall Most Protective of Resources/Visitor Safety. Under alternative D, no dog walking would be allowed at the Fort Miley site.

Impacts on health and safety would be the same as alternative B: no impact.

Since dogs would not be allowed at Fort Miley, there would be no impact from commercial dog walkers to the health and safety of visitors and staff.

Cumulative Impacts. Cumulative impacts would be the same as alternative B: negligible cumulative impacts.

Indirect Impacts on Adjacent Parks

Indirect impacts on the health and safety of visitors and staff in adjacent lands would be the same as alternative B: negligible.

FORT MILEY ALTERNATIVE D CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: No impacts, assuming compliance	Dogs would be prohibited	Negligible cumulative impacts Negligible indirect impacts in adjacent lands	Beneficial, assuming compliance

Alternative E: Overall Most Dog Walking Access/Most Management Intensive. Under alternative E, on-leash dog walking would be allowed in West Fort Miley on the road only. A ROLA would be established in East Fort Miley on the trail corridor on the east side of the site.

Impacts on the health and safety of park visitors and staff would be negligible. Although dogs under voice and sight control in the ROLA may increase the risk of pet-related injuries, impacts would be expected to be negligible since no violations have been documented in the past.

Under alternative E, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be granted at Fort Miley, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking activity at Fort Miley is not common, it is likely that the new regulation would have negligible impacts on human health and safety.

Cumulative Impacts. Under alternative E, the negligible impacts to the health and safety of park staff and visitors from dogs at Fort Miley together with effects of the action mentioned above under alternative A were considered. The benefits to the health and safety of park staff and visitors from actions included in the park's *Fire Management Plan* (NPS 2005a) along with the negligible impacts from alternative E would result in negligible cumulative impacts.

Indirect Impacts on Adjacent Parks

The adjacent lands identified under alternative A would not experience increased visitation under alternative E. Since a ROLA would be available for dog walking, it is likely that visitors would continue dog walking at Fort Miley. There would be no indirect impact on health and safety in adjacent lands that allow off-leash dog walking, including Golden Gate Park—North Central and South Central Areas.

FORT MILEY ALTERNATIVE E CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Negligible impacts, assuming compliance	Risk to safety and health of visitors and park staff would be reduced by leash restrictions; no recorded incidents have occurred in recent years	Negligible cumulative impacts No indirect impacts on adjacent lands	No change, assuming compliance

Preferred Alternative. Alternative C was selected as the preferred alternative for Fort Miley. On-leash dog walking would be allowed in East Fort Miley along the east side of the trail corridor.

Impacts on the health and safety of park visitors and staff would be negligible. Requiring dogs to be walked on leash would make adverse impacts on health and safety unlikely. However, the chance of an individual being injured in a dog-related incident would exist.

All dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be granted at Fort Miley, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking activity at Fort Miley is not common, it is likely that the new regulation would have negligible impacts on human health and safety.

Cumulative Impacts. Projects and actions in and near Fort Miley were considered for the cumulative impacts analysis (appendix K). Mainly, the park's *Fire Management Plan* would create defensible space around buildings that adjoin wildland fuels and would require the park to work closely with the Presidio Fire Department in wildlife planning and management actions (NPS 2005a, 63). Beneficial impacts on human health and safety would occur from this project.

Under the preferred alternative, the negligible impacts to the health and safety of park staff and visitors from dogs at Fort Miley together with effects of the action mentioned above under alternative A were considered. The benefits to the health and safety of park staff and visitors from actions included in the park's *Fire Management Plan* (NPS 2005a) along with the negligible impacts from the preferred alternative would result in negligible cumulative impacts.

Indirect Impacts on Adjacent Parks

In lands adjacent to GGNRA, there are 36 parks with dog use areas within about a 10-mile radius of East and West Fort Miley and 13 parks within about a 5-mile radius; the closest parks are Golden Gate Park—North Central Area and Golden Gate Park—South Central Area (map 27). Golden Gate Park—North Central Area and Golden Gate Park—South Central Area allow off-leash dog walking. Since visitors would no longer be allowed to walk dogs under voice control and would be limited to one trail for on-leash dog walking, some visitors who are looking for an off-leash experience may begin dog walking activities at one of the adjacent areas. Therefore, negligible indirect impacts on the health and safety of visitors and staff in adjacent lands would be expected.

FORT MILEY PREFERRED ALTERNATIVE CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Negligible impacts, assuming compliance	Risk to safety and health of visitors and park staff would be reduced by leash restrictions; no recorded incidents have occurred in recent years	Negligible cumulative impacts Negligible indirect impacts in adjacent lands	No change, assuming compliance

Lands End

Alternative A: No Action. Currently, dogs are allowed on leash or under voice control throughout the Lands End site. Visitor use in the area is considered low to moderate for hikers and bicyclists and low to moderate for dog walking (table 9). In 2007 and 2008, one warning and one report were issued for dogs in closed areas (appendix G). Violations issued included two for leash law violations, two for dog bites/attacks, and four for hazardous conditions/pet rescues (table 9).

Under the no-action alternative, impacts on the health and safety of park visitors and staff would continue to be long term, minor to moderate, and adverse. Having dogs under voice control would continue to increase the risk of potential dog-related incidents (bites/attacks, pet rescues). The health and safety of park visitors and staff has been compromised in the past at this park site, with two dog bites/attacks and four hazardous conditions/pet rescues occurring in 2007/2008. In addition, this is considered a moderate use site for dog walkers.

Under alternative A, no permit system exists for dog walking. At Lands End, commercial dog walking is uncommon. Therefore, it is likely that commercial dog walking would have a negligible impact on human health and safety.

Cumulative Impacts. Projects and actions in and near Lands End were considered for the cumulative impacts analysis (appendix K). Park Stewardship Programs at Lands End includes development of a new promenade and overlook as well as resurfacing and stabilizing segments of the trail, eliminating damaged social trails, replanting native species in the local forest and surrounding areas, and engaging the community in park stewardship (GGNPC 2010a, 1). The park's *Fire Management Plan* would create defensible space around buildings that adjoin wildland fuels and would require the park to work closely with the Presidio Fire Department in wildlife planning and management actions (NPS 2005a, 63). Projects under the Park Stewardship Programs and *Fire Management Plan* (NPS 2005a) would create beneficial impacts on human health and safety. The impacts resulting from the past oil spill would add little to the cumulative impacts on health and safety since those impacts were found to be negligible.

Under alternative A, the long-term, minor to moderate, adverse impacts to the health and safety of park staff and visitors from dogs at Lands End, together with effects of the projects mentioned above were considered. The benefits to the health and safety of park staff and visitors from the Park Stewardship Programs and the *Fire Management Plan* (NPS 2005a) are expected to reduce some of the adverse impacts of this alternative. The beneficial effects from these projects along with the long-term, minor to moderate, and adverse impacts from alternative A would result in negligible to long-term, minor, and adverse cumulative impacts.

Indirect Impacts on Adjacent Parks

In lands adjacent to GGNRA, there are 35 parks with dog use areas within about a 10-mile radius of Lands End and 11 parks within about a 5-mile radius; the closest parks are Golden Gate Park—North Central Area and Golden Gate Park—South Central Area (map 27). Both parks would allow off-leash dog walking. No indirect impacts on the health and safety of visitors and staff in adjacent lands would be expected under alternative A since there would be no change in current conditions at this site.

LANDS END ALTERNATIVE A CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Long-term minor to moderate adverse impacts	Pet rescues and unruly or aggressive dogs encounters could continue to occur, placing visitors and park staff safety at risk; site experiences moderate use by dog walkers	Negligible to long-term minor adverse cumulative impacts No indirect impacts in adjacent lands	N/A

N/A = not applicable.

Alternative B: NPS Leash Regulations. Under alternative B, on-leash dog walking would be available on the El Camino del Mar Trail and the Coastal Trail.

The leash requirement would reduce the incidents at the site (bites/attacks, pet rescues), creating negligible impacts at this park site. However, the chance of visitors and staff encountering an uncontrolled or aggressive dog could still exist, resulting in possible visitor and dog conflicts.

Under alternative B, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs per person with no permit required. Since commercial dog walking is not common at Lands End, it is likely that the new regulation would have negligible impacts on human health and safety.

Cumulative Impacts. The negligible impacts on human health and safety under alternative B were considered together with the beneficial effects of the projects mentioned above under alternative A. Cumulatively, there would be beneficial impacts to the health and safety of staff and visitors at this site under this alternative.

Indirect Impacts on Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation under alternative B, particularly Golden Gate Park—North Central Area and Golden Gate Park—South Central Area, because they are the closest dog use areas. Since dog walking under voice control would no longer be allowed at Lands End, some visitors looking for an off-leash experience may begin dog walking activities at the adjacent parks. Therefore, indirect impacts in adjacent lands would be expected, but only at a negligible level.

LANDS END ALTERNATIVE B CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Negligible impacts, assuming compliance	Risk to safety and health of visitors and park staff would be reduced by leash restrictions and limitation on number of dogs	Beneficial cumulative impacts Negligible indirect impacts in adjacent lands	Beneficial, assuming compliance

Alternative C: Emphasis on Multiple Use, Balanced by County. Under alternative C, on-leash dog walking would be allowed on the Coastal Trail and on the steps leading to the El Camino del Mar Trail. A ROLA would be established along the El Camino del Mar Trail.

Long-term minor adverse impacts on the health and safety of park staff and visitors would be anticipated. Having dogs under voice and sight control in the ROLA would increase the risk of potential pet-related injuries and pet rescues. The chance of visitors and staff encountering an uncontrolled aggressive dog would also exist. An additional risk from dog-to-dog interaction could result from people trying to separate dogs, which could increase the chances of injuries occurring.

Under alternative C, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be granted at Lands End, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking is not common at Lands End, it is likely that the new permit regulation would have negligible impacts on human health and safety.

Cumulative Impacts. Under alternative C, the long-term, minor, adverse impacts to the health and safety of park staff and visitors from dogs at Lands End, together with effects of the projects mentioned above in alternative A were considered. The benefits to the health and safety of park staff and visitors from the Park Stewardship Programs and the *Fire Management Plan* (NPS 2005a) are expected to reduce some of the adverse impacts of this alternative. The beneficial effects from these projects along with the long-term, minor, adverse impacts from alternative C would result in negligible cumulative impacts.

Indirect Impacts on Adjacent Parks

Under alternative C, no increase in visitation to the adjacent parks identified under alternative A would be expected. Since a ROLA would be established at Lands End, visitors would likely continue to use Lands End for dog walking activities. There would be no indirect impacts on the health and safety of visitors and staff in adjacent lands.

LANDS END ALTERNATIVE C CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Long-term minor adverse impacts, assuming compliance	Pet rescues and unruly or aggressive dogs encounters could continue to occur when dogs are under voice control and would continue to place visitors and park staff safety at risk	Negligible cumulative impacts No indirect impacts in adjacent lands	Beneficial to no change, assuming compliance

Alternative D: Overall Most Protective of Resources/Visitor Safety. Under alternative D, on-leash dog walking would be allowed on the El Camino del Mar Trail and on the Coastal Trail up to and on the connector trail/steps leading to the El Camino del Mar Trail.

Requiring dogs to be on leash would reduce the potential for dog-related incidents to occur. However, the chance of park visitors and staff encountering uncontrolled aggressive dogs would still exist, creating a risk of dog bites or other physical injuries. Impacts on health and safety would be negligible since dogs would be required to be walked on leash.

No commercial dog walking would be allowed under alternative D. Therefore there would be no impact on human health and safety from commercial dog walking.

Cumulative Impacts. The negligible impacts on human health and safety under alternative D were considered together with the beneficial effects of the projects mentioned above under alternative A. Cumulatively, there would be beneficial impacts to the health and safety of staff and visitors at this site under this alternative.

Indirect Impacts on Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation under alternative D, particularly Golden Gate Park—North Central Area and Golden Gate Park—South Central Area, because they are the closest dog use areas. Since dog walking under voice control would no longer be allowed at Lands End, some visitors looking for an off-leash experience may begin dog walking activities at the adjacent parks. Therefore, indirect impacts in adjacent lands would be expected, but not above a negligible level.

LANDS END ALTERNATIVE D CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Negligible impacts, assuming compliance	Risk to safety and health of visitors and park staff would be reduced by leash restrictions	Beneficial cumulative impacts Negligible indirect impacts in adjacent lands	Beneficial, assuming compliance

Alternative E: Overall Most Dog Walking Access/Most Management Intensive. Under alternative E, dog walking restrictions would be the same as alternative C: on-leash dog walking would be allowed on

the Coastal Trail and on the steps leading to the El Camino del Mar Trail, and a ROLA would be established along the El Camino del Mar Trail.

Impacts on health and safety would be the same as alternative C: long term, minor, and adverse. Having dogs under voice and sight control in the ROLA would increase the risk of potential pet-related injuries and pet rescues. The chance of visitors and staff encountering an uncontrolled aggressive dog would also exist.

Under alternative E, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be granted at Lands End, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking is not common at Lands End, it is likely that the new permit regulation would have negligible impacts on human health and safety.

Cumulative Impacts. Cumulative impacts would be the same as alternative C: negligible.

Indirect Impacts on Adjacent Parks

Indirect impacts on the health and safety of visitors and staff in adjacent lands would be the same as alternative C: no indirect impact.

LANDS END ALTERNATIVE E CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Long-term minor adverse impacts, assuming compliance	Pet rescues and unruly or aggressive dogs encounters could continue to occur when dogs are under voice and sight control and would continue to place visitors and park staff safety at risk	Negligible cumulative impacts No indirect impacts in adjacent lands	Beneficial to no change, assuming compliance

Preferred Alternative. Alternative B was selected as the preferred alternative for Lands End. On-leash dog walking would be available on the El Camino del Mar Trail and the Coastal Trail.

The leash requirement would reduce the incidents at the site (bites/attacks, pet rescues), creating negligible impacts at this park site. However, the chance of visitors and staff encountering an uncontrolled or aggressive dog could still exist, resulting in possible visitor and dog conflicts.

Alternative C was selected as the preferred alternative for permits at all sites. All dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be granted at Lands End, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking activity is not common at Lands End, it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking under the preferred alternative would have a negligible impact on health and safety.

Cumulative Impacts. Projects and actions in and near Lands End were considered for the cumulative impacts analysis (appendix K). Park Stewardship Programs at Lands End includes development of a new promenade and overlook as well as resurfacing and stabilizing segments of the trail, eliminating damaged “social” trails, replanting native species in the local forest and surrounding areas, and engaging the community in park stewardship (GGNPC 2010a, 1). The park’s *Fire Management Plan* would create defensible space around buildings that adjoin wildland fuels and would require the park to work closely with the Presidio Fire Department in wildlife planning and management actions (NPS 2005a, 63). Projects under Park Stewardship Programs and *Fire Management Plan* would create beneficial impacts on human health and safety. The impacts resulting from the past oil spill would add little to the cumulative impacts on health and safety since those impacts were found to be negligible.

The negligible impacts on human health and safety under the preferred alternative were considered together with the beneficial effects of the projects mentioned above under alternative A. Cumulatively, there would be beneficial impacts to the health and safety of staff and visitors at this site under this alternative.

Indirect Impacts on Adjacent Parks

In lands adjacent to GGNRA, there are 35 parks with dog use areas within about a 10-mile radius of Lands End and 11 parks within about a 5-mile radius; the closest parks are Golden Gate Park—North Central Area and Golden Gate Park—South Central Area (map 27). Both parks would allow off-leash dog walking. These GGNRA areas may experience increased visitation because they are the closest dog use areas. Since dog walking under voice control would no longer be allowed at Lands End, some visitors looking for an off-leash experience may begin dog walking activities at the adjacent parks. Therefore, indirect impacts on adjacent lands would be expected, but only at a negligible level.

LANDS END PREFERRED ALTERNATIVE CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Negligible impacts, assuming compliance	Risk to safety and health of visitors and park staff would be reduced by leash restrictions and limitation on number of dogs	Beneficial cumulative impacts Negligible indirect impacts in adjacent lands	Beneficial, assuming compliance

Sutro Heights Park

Alternative A: No Action. Currently, dogs are allowed on leash at Sutro Heights Park. Visitor use at this site is considered moderate and the percentage of visitors walking dogs is low (table 9). Visitors in this area are typically in the garden or attending a wedding or other event. In 2007 and 2008, 1 warning and 1 report were issued for dogs in closed areas (appendix G). Violations included 31 leash law violations and 1 hazardous conditions/pet rescue (table 9).

Under the no-action alternative, impacts on the health and safety of park visitors and staff would continue to be negligible. The chance of visitors or staff encountering an unruly or aggressive dog would exist, creating a safety issue. In addition, pet rescues would be expected to continue, potentially creating a safety risk for staff.

Under alternative A, no permit system exists for dog walking. At Sutro Heights Park, commercial dog walking is uncommon. Therefore, it is likely that commercial dog walking would have a negligible impact on human health and safety.

Cumulative Impacts. Projects and actions in and near Sutro Heights Park were considered for the cumulative impacts analysis (appendix K). Mainly, the park's *Fire Management Plan* (NPS 2005a) would create defensible space around buildings that adjoin wildland fuels and would require the park to work closely with the Presidio Fire Department in wildlife planning and management actions. Beneficial impacts on human health and safety would occur from this project.

The negligible impacts to the health and safety of park staff and visitors under alternative A were considered together with effects of the action mentioned above. The beneficial effects from actions included in the park's *Fire Management Plan* (NPS 2005a) along with the negligible impacts from alternative A would result in negligible impacts to the health and safety of park staff and visitor.

Indirect Impacts on Adjacent Parks

In lands adjacent to GGNRA, there are 36 parks with dog use areas within about a 10-mile radius of Sutro Heights Park and 10 parks within about a 5-mile radius; the closest parks are Golden Gate Park—North Central Area and Golden Gate Park—South Central Area (map 27). No indirect impacts on the health and safety of visitors and staff in adjacent lands would be expected under alternative A since there would be no change in current conditions at this site.

SUTRO HEIGHTS PARK ALTERNATIVE A CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Negligible impacts	Risk to safety and health of visitors and park staff would be low due to low use by dog walkers; visitors and staff may encounter an unruly or aggressive dog	Negligible cumulative impacts No indirect impacts in adjacent lands	N/A

N/A = not applicable.

Alternative B: NPS Leash Regulations. Under alternative B, on-leash dog walking would be allowed on the paths and parapet.

The chance of visitors or staff encountering unruly or aggressive dogs would exist even with dogs on leash and the reduced dog walking areas. Since this site receives low visitation by dog walkers, impacts on the health and safety of park visitors would be expected to reach only a negligible level.

Under alternative B, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs per person with no permit required. Since commercial dog walking is not common at Sutro Heights Park, it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking under alternative B would have a negligible impact on health and safety.

Cumulative Impacts. The negligible impacts to the health and safety of park staff and visitors under alternative B were considered together with effects of the action mentioned above in alternative A. The

beneficial effects from actions included in the park's *Fire Management Plan* (NPS 2005a) along with the negligible impacts from alternative B would result in negligible impacts to the health and safety of park staff and visitor.

Indirect Impacts on Adjacent Parks

The adjacent lands identified under alternative A would not experience increased visitation under alternative B; although less area would be available for on-leash dog walking, it is likely that visitors would still use Sutro Heights Park for dog walking activities. Therefore, no indirect impact on the health and safety of visitors and staff in adjacent lands would be expected.

SUTRO HEIGHTS PARK ALTERNATIVE B CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Negligible impacts, assuming compliance	Risk to safety and health of visitors and park staff would be low due to low use by dog walkers; visitors and staff may encounter an unruly or aggressive dog	Negligible cumulative impacts No indirect impacts in adjacent lands	No change, assuming compliance

Alternative C: Emphasis on Multiple Use, Balanced by County. Under alternative C, on-leash dog walking would be allowed on the paths and parapet.

Impacts on human health and safety would be the same as alternative B: negligible.

Under alternative C, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be granted at Sutro Heights Park, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking is not common at Sutro Heights Park, it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking under alternative C would have a negligible impact on health and safety.

Cumulative Impacts. Cumulative impacts would be the same as alternative B: negligible.

Indirect Impacts on Adjacent Parks

Indirect impacts on human health and safety in adjacent lands would be the same as alternative B: no indirect impact.

SUTRO HEIGHTS PARK ALTERNATIVE C CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Negligible impacts, assuming compliance	Risk to safety and health of visitors and park staff would be low due to low use by dog walkers; visitors and staff may encounter an unruly or aggressive dog	Negligible cumulative impacts No indirect impacts in adjacent lands	No change, assuming compliance

Alternative D: Overall Most Protective of Resources/Visitor Safety. Under alternative D, no dog walking would be allowed in Sutro Heights Park.

No impacts on the health and safety of park staff and visitors would occur under this alternative. The chance of dog-related incidents occurring would no longer exist. Additionally, restricting dogs from this area would eliminate the risk of exposure to pathogens or diseases associated with dog waste.

Since dogs would not be allowed at Sutro Heights Park, there would be no impact from commercial dog walkers to the health and safety of visitors and staff.

Cumulative Impacts. The lack of impacts to the health and safety of park staff and visitors under alternative D were considered together with effects of the action mentioned above in alternative A. The beneficial effects from actions included in the park's *Fire Management Plan* (NPS 2005a) along with the lack of impacts from alternative D would result in negligible impacts to the health and safety of park staff and visitor.

Indirect Impacts on Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation under alternative D. Since no dog walking would be allowed at Sutro Heights Park, visitors may begin using Golden Gate Park for dog walking activities. Therefore, indirect impacts on the health and safety of visitors and staff in adjacent lands would be expected, but only at a negligible level.

SUTRO HEIGHTS PARK ALTERNATIVE D CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: No impacts, assuming compliance	Dogs would be prohibited at the site	Negligible cumulative impacts Negligible indirect impacts in adjacent lands	Beneficial, assuming compliance

Alternative E: Overall Most Dog Walking Access/Most Management Intensive. Under alternative E, on-leash dog walking would be allowed on the paths, parapet, and lawns.

The chance of visitors and staff encountering an unruly or aggressive dog would exist even with dogs on leash. Since this site receives low visitation by dog walkers, impacts on the health and safety of park visitors would be expected to reach only a negligible level.

Under alternative E, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be granted at Sutro Heights Park, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking is not common at Sutro Heights Park, it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking under alternative E would have a negligible impact on health and safety.

Cumulative Impacts. The negligible impacts to the health and safety of park staff and visitors under alternative E were considered together with effects of the action mentioned above in alternative A. The beneficial effects from actions included in the park's *Fire Management Plan* (NPS 2005a) along with the negligible impacts from alternative E would result in negligible impacts to the health and safety of park staff and visitor.

Indirect Impacts on Adjacent Parks

The adjacent lands identified under alternative A would not experience increased visitation under alternative E; although less area would be available for on-leash dog walking, it is likely that visitors would still use Sutro Heights Park for dog walking activities. Therefore, no indirect impact on the health and safety of visitors and staff in adjacent lands would be expected.

SUTRO HEIGHTS PARK ALTERNATIVE E CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Negligible impacts, assuming compliance	Risk to safety and health of visitors and park staff would be low due to low dog walking use; visitors and staff may encounter an unruly or aggressive dog	Negligible cumulative impacts No indirect impacts in adjacent lands	No change, assuming compliance

Preferred Alternative. Alternative E was selected as the preferred alternative for Sutro Heights Park. On-leash dog walking would be allowed on the paths, parapet, and lawns.

The chance of visitors and staff encountering an unruly or aggressive dog would exist even with dogs on leash. Since this site receives low visitation by dog walkers, impacts on the health and safety of park visitors would be expected to reach only a negligible level.

Alternative C was selected as the preferred alternative for permits at all sites. All dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be granted at Sutro Heights Park, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking is not common at Sutro Heights Park, it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking under the preferred alternative would have a negligible impact on health and safety.

Cumulative Impacts. Projects and actions in and near Sutro Heights Park were considered for the cumulative impacts analysis (appendix K). Mainly, the park's *Fire Management Plan* would create

defensible space around buildings that adjoin wildland fuels and would require the park to work closely with the Presidio Fire Department in wildlife planning and management actions (NPS 2005a, 63). Beneficial impacts on human health and safety would occur from this project.

The negligible impacts to the health and safety of park staff and visitors under the preferred alternative were considered together with effects of the action mentioned above. The beneficial effects from actions included in the park's *Fire Management Plan* (NPS 2005a) along with the negligible impacts from the preferred alternative would result in negligible impacts to the health and safety of park staff and visitor.

Indirect Impacts on Adjacent Parks

In lands adjacent to GGNRA, there are 36 parks with dog use areas within about a 10-mile radius of Sutro Heights Park and 10 parks within about a 5-mile radius; the closest parks are Golden Gate Park—North Central Area and Golden Gate Park—South Central Area (map 27). The adjacent lands would not experience increased visitation under the preferred alternative; although less area would be available for on-leash dog walking, it is likely that visitors would still use Sutro Heights Park for dog walking activities. Therefore, no indirect impact on the health and safety of visitors and staff in adjacent lands would be expected.

SUTRO HEIGHTS PARK PREFERRED ALTERNATIVE CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Negligible impacts, assuming compliance	Risk to safety and health of visitors and park staff would be low due to low dog walking use; visitors and staff may encounter an unruly or aggressive dog	Negligible cumulative impacts No indirect impacts in adjacent lands	No change, assuming compliance

Ocean Beach

Alternative A: No Action. Currently, dogs are allowed under voice control (with a seasonal leash restriction) in the SPPA, which stretches from Stairwell 21 to Sloat Boulevard. Dog walking under voice control is also allowed north of Stairwell 21 and south of Sloat Boulevard. Visitor use at Ocean Beach is considered high overall (mostly beachgoers, runners, surfers, and picnickers) and moderate in the SPPA (mostly beachgoers and runners) (table 9). Dog walking is considered a moderate to high use activity at Ocean Beach and moderate in the SPPA. In 2007 and 2008, 1 warning and 1 report were issued for dogs in closed areas and a total of 2 warnings, 11 citations, and 19 reports were issued for dogs disturbing wildlife (appendix G). Pet violations issued included 845 leash law violations, 11 dog bites/attacks, 6 hazardous conditions/pet rescues, and 4 pet excrement violations (table 9).

Under the no-action alternative, long-term moderate adverse impacts on the health and safety of park visitors and staff would be expected to continue. The number of dog bites/attacks and pet rescues would be expected to continue to be high at this site, resulting in adverse impacts on the health and safety of visitors and staff.

Under alternative A, no permit system exists for dog walking. At Ocean Beach, commercial dog walking is uncommon. Therefore, commercial dog walking would have negligible impact on human health and safety.

Cumulative Impacts. Projects and actions in and near Ocean Beach were considered for the cumulative impacts analysis (appendix K). The following is a discussion of projects that have had, are currently having, or will have effects on health and safety at or in the vicinity of Ocean Beach.

The *Ocean Beach–Great Highway Erosion Control Project* is developing long-term solutions to beach and coastal bluff erosion problems at Ocean Beach along the Great Highway (Highway 1) consistent with the enhancement of natural processes (City and County of San Francisco 2008, 3, 7). Additionally, a joint project with the park and the City of San Francisco may occur in the future that involves the improvement of the Esplanade at the north end of Ocean Beach. The park's *Fire Management Plan* would create defensible space around buildings that adjoin wildland fuels and would require the park to work closely with the Presidio Fire Department in wildlife planning and management actions (NPS 2005a, 63). Beneficial impacts on human health and safety would occur from these projects. The impacts resulting from the past oil spill would add little to the cumulative impacts on health and safety since those impacts were found to be negligible.

Under alternative A, the long-term, moderate, adverse impacts to the health and safety of park staff and visitors from dogs at Ocean Beach, together with effects of the projects mentioned above were considered. The benefits to the health and safety of park staff and visitors from the site improvements and the park's *Fire Management Plan* (NPS 2005a) is not expected to reduce the adverse impact of this alternative; therefore the cumulative analysis for this park site will focus on the results of the impact analysis for this alternative. The beneficial effects from the site improvements and the park's *Fire Management Plan* (NPS 2005a) along with the long-term, moderate, and adverse impacts from alternative A would result in long-term, moderate, adverse cumulative impacts.

Indirect Impacts on Adjacent Parks

In lands adjacent to GGNRA, there are 38 parks with dog use areas within about a 10-mile radius of Ocean Beach and 15 parks within about a 5-mile radius; the closest parks are Golden Gate Park—North Central Area and Golden Gate Park—South Central Area (map 27). No indirect impacts on the health and safety of visitors and staff in adjacent lands would be expected under alternative A since there would be no change in current conditions at this site.

OCEAN BEACH ALTERNATIVE A CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Long-term moderate adverse impacts	Site experiences high use; a large number of violations, including dog bites/attacks and pet rescues, have been recorded	Long-term moderate adverse cumulative impacts No indirect impacts in adjacent lands	Beneficial to no change assuming compliance

Alternative B: NPS Leash Regulations. Under alternative B, on-leash dog walking would be allowed on the trail parallel to the SPPA, east of the dunes and adjacent to the Great Highway. On-leash dog walking would also be allowed north of Stairwell 21 and south of Sloat Boulevard.

Requiring on-leash dog walking would reduce impacts on the health and safety of park visitors and staff; however, the chance of individuals encountering unruly or aggressive dogs would still exist and there would still be the risk of dog bites or other physical injuries occurring. In addition, this is a moderate to high use site for dog walkers. Impacts on health and safety would be long term, minor, and adverse.

Impacts on the health and safety of park staff during the initial education and enforcement phase at these sites would result from the potential for visitors knowledgeable of the former regulations confronting and possibly challenging park staff. Compliance has been a challenge at this site in the past and there has been a history of confrontations between visitors and park staff. With education and enforcement expected to result in compliance with the new regulations, impacts on the health and safety of park staff would be short term, moderate, and adverse. However, requiring dogs to be on leash would result in minimizing the risks park staff members take when responding to occasional dog/human rescues. Impacts on staff from participating in rescues would still exist if a rescue is needed but would not be expected to occur above normal park operations expected risks.

Under alternative B, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs per person with no permit required. Since commercial dog walking is not common at Ocean Beach, it is likely that the new regulation would have negligible impacts on human health and safety.

Cumulative Impacts. Under alternative B, the long-term, minor, adverse impacts to the health and safety of park staff and visitors from dogs at Ocean Beach, together with effects of the projects mentioned above in alternative A were considered. The benefits to the health and safety of park staff and visitors from the site improvements and the park's *Fire Management Plan* (NPS 2005a) is not expected to reduce the adverse impact of this alternative; therefore the cumulative analysis for this park site will focus on the results of the impact analysis for this alternative. The beneficial effects from the site improvements and the park's *Fire Management Plan* (NPS 2005a) along with the long-term, minor, and adverse impacts from alternative B would result in long-term, minor, adverse cumulative impacts.

Indirect Impacts on Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation under alternative B, particularly Golden Gate Park—North Central Area and Golden Gate Park—South Central Area, because they are the closest dog use areas. Under alternative B, dogs would no longer be allowed under voice control at Ocean Beach. Indirect impacts on the health and safety of visitors and staff in adjacent lands from increased dog use would be expected to be long term, minor, and adverse, since dog walking at Ocean Beach is considered a moderate to high use activity.

OCEAN BEACH ALTERNATIVE B CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Short-term moderate adverse impacts on park staff during initial education and enforcement period	Site has history of confrontations and violations of regulations	Long-term, minor, adverse cumulative impacts	Beneficial, assuming compliance
Long-term minor adverse impacts, assuming compliance	Continued opportunity would exist for visitors and park staff to encounter unruly or aggressive dogs, placing their health and safety at risk	Long-term minor adverse indirect impacts in adjacent lands	

Alternative C: Emphasis on Multiple Use, Balanced by County. Under alternative C, on-leash dog walking would be allowed on the trail parallel to the SPPA, east of the dunes and adjacent to the Great Highway. A ROLA would be established on the beach north of Stairwell 21. No dog walking would be allowed on the beach south of Sloat Boulevard.

Impacts on the health and safety of park visitors and staff would be long term, minor to moderate, and adverse. The risk of dog bites or other physical injuries would be elevated since dogs would be under voice and sight control in a ROLA. This is a high multiple use area and the site has a history of violations. In addition, dog-to-dog interaction could result in people trying to separate dogs, which could increase the chances of injuries occurring. Impacts on the health and safety of park staff during the initial education and enforcement phase at these sites could result from visitors confronting and possibly challenging park staff due to their knowledge of the former regulations. Compliance has been a challenge at this site in the past and there has been a history of confrontations between visitors and park staff. With education and enforcement expected to result in compliance with the new regulations, impacts on park staff would be short term, moderate, and adverse. Staff would still be at risk of injury from participating in rescues but the risk would not be above that expected during regular park operations if a rescue is needed.

Under alternative C, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be granted at Ocean Beach, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking activity at Ocean Beach is not common, it is likely that the new regulation would have negligible impacts on human health and safety.

Cumulative Impacts. Under alternative C, the long-term, minor to moderate, adverse impacts to the health and safety of park staff and visitors from dogs at Ocean Beach, together with effects of the projects mentioned above in alternative A were considered. The benefits to the health and safety of park staff and visitors from the site improvements and the park's *Fire Management Plan* (NPS 2005a) is not expected to reduce the adverse impact of this alternative; therefore the cumulative analysis for this park site will focus on the results of the impact analysis for this alternative. The beneficial effects from the site improvements and the park's *Fire Management Plan* (NPS 2005a) along with the long-term, minor to moderate, and adverse impacts from alternative C would result in long-term, minor to moderate, adverse cumulative impacts.

Indirect Impacts on Adjacent Parks

The adjacent lands identified under alternative A would not likely experience increased visitation since off-leash dog walking would be available. There would be no indirect impact on the health and safety of visitors and staff in adjacent lands under alternative C.

OCEAN BEACH ALTERNATIVE C CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Short-term moderate adverse impacts on park staff during initial education and enforcement period	Site has history of confrontations and violations of regulations		
Long-term minor to moderate adverse impacts, assuming compliance	Chance of encounters with unruly or aggressive dogs would continue to place visitors and park staff at risk; site is moderate to high use, multiple use area	Long-term, minor to moderate adverse cumulative impacts No indirect impacts in adjacent lands	Beneficial change, assuming compliance

Alternative D: Overall Most Protective of Resources/Visitor Safety. Under alternative D, on-leash dog walking would be allowed on the trail parallel to the SPPA, east of the dunes and adjacent to the Great Highway. On-leash dog walking would also be allowed north of Stairwell 21.

Requiring on-leash dog walking would reduce impacts on the health and safety of park visitors and staff; however, the chance of individuals encountering unruly or aggressive dogs would still exist and there would still be the risk of dog bites or other physical injuries occurring. In addition, this is a moderate to high use site for dog walkers. Impacts on health and safety would be long term, minor, and adverse. Impacts on the health and safety of park staff during the initial education and enforcement phase at these sites would result from the potential for visitors knowledgeable of the former regulations confronting and possibly challenging park staff. Compliance has been a challenge at this site in the past and there has been a history of confrontations between visitors and park staff. With education and enforcement expected to result in compliance with the new regulations, impacts on the health and safety of park staff would be short term, moderate, and adverse. However, requiring dogs to be on leash would result in minimizing the risks park staff take when responding to occasional dog/human rescues. Risk of injury to park staff from participating in rescues would still exist; however, the risk would not be above that expected during regular park operations if a rescue is needed.

No commercial dog walking would be allowed under alternative D. There would be no impact on human health and safety from commercial dog walking.

Cumulative Impacts. Under alternative D, the long-term, minor, adverse impacts to the health and safety of park staff and visitors from dogs at Ocean Beach, together with effects of the projects mentioned above in alternative A were considered. The benefits to the health and safety of park staff and visitors from the site improvements and the park's *Fire Management Plan* (NPS 2005a) is not expected to reduce the adverse impact of this alternative; therefore the cumulative analysis for this park site will focus on the results of the impact analysis for this alternative. The beneficial effects from the site improvements and the park's *Fire Management Plan* (NPS 2005a) along with the long-term, minor, and adverse impacts from alternative D would result in long-term, minor, adverse cumulative impacts.

Indirect Impacts on Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation under alternative D, particularly Golden Gate Park—North Central Area and Golden Gate Park—South Central Area, because they are the closest dog use areas. Under alternative D, dogs would no longer be allowed under voice control at Ocean Beach. Indirect impacts on the health and safety of visitors and staff in adjacent lands from increased dog use would be expected to be long term, minor, and adverse, since dog walking at Ocean Beach is considered a moderate to high use activity.

OCEAN BEACH ALTERNATIVE D CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Short-term moderate adverse impacts on park staff during initial education and enforcement period	Site has history of confrontations and violations of regulations	Long-term, minor, adverse cumulative impacts	Beneficial, assuming compliance

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Long-term minor adverse impacts, assuming compliance	Opportunity would continue for visitors and park staff to encounter unruly or aggressive dogs, placing their health and safety at risk	Long-term minor adverse indirect impacts in adjacent lands	

Alternative E: Overall Most Dog Walking Access/Most Management Intensive. Under alternative E, on-leash dog walking would be allowed on the beach in the SPPA, on the beach south of Sloat Boulevard, and on the trail adjacent to the Great Highway in the SPPA. A ROLA would be established on the beach north of Stairwell 21.

Long-term minor to moderate adverse impacts on the health and safety of park visitors and staff would be anticipated. The chance of visitors and staff encountering uncontrolled aggressive or unruly dogs would exist, especially in the ROLA. Having dogs under voice and sight control would increase the risk of dog bites and other dog-related injuries occurring. In the past few years, dog-related incidents have been recorded at this site. An additional risk from dog-to-dog interaction could result from people trying to separate dogs, which could increase the chances of injuries occurring. Based on the history of confrontations between visitors and staff, it is likely that some visitors may challenge the new dog management regulations in this area. Therefore, impacts on park staff during the initial education and enforcement period would be short term, moderate, and adverse. Requiring dogs to be on leash would result in minimizing the risks park staff take when responding to occasional dog/human rescues. Impacts on staff from participating in rescues would still exist; however, the risk would not be expected to be greater than the regular level of risk to park operations if a rescue is needed.

Under alternative E, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be granted at Ocean Beach, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking activity at Ocean Beach is not common, it is likely that the new regulation would have negligible impacts on human health and safety.

Cumulative Impacts. Under alternative E, the long-term, minor to moderate adverse impacts to the health and safety of park staff and visitors from dogs at Ocean Beach, together with effects of the projects mentioned above in alternative A were considered. The benefits to the health and safety of park staff and visitors from the site improvements and the park's *Fire Management Plan* (NPS 2005a) is not expected to reduce the adverse impact of this alternative; therefore the cumulative analysis for this park site will focus on the results of the impact analysis for this alternative. The beneficial effects from the site improvements and the park's *Fire Management Plan* (NPS 2005a) along with the long-term, minor, and adverse impacts from alternative E would result in long-term, minor to moderate, adverse cumulative impacts.

Indirect Impacts on Adjacent Parks

The adjacent lands identified under alternative A would not likely experience increased visitation since off-leash dog walking would be available. There would be no indirect impact on the health and safety of visitors and staff in adjacent lands under alternative E.

OCEAN BEACH ALTERNATIVE E CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Short-term moderate adverse impacts on park staff during initial education and enforcement period	Site has history of confrontations and violations of regulations		
Long-term minor to moderate adverse impacts, assuming compliance	Chance of encounters with unruly or aggressive dogs would continue to place visitors and park staff at risk; site is high use, multiple use area	Long-term, minor to moderate cumulative impacts No indirect impacts in adjacent lands	Beneficial change, assuming compliance

Preferred Alternative. Alternative C was selected as the preferred alternative for Ocean Beach. On-leash dog walking would be allowed on the trail parallel to the SPPA, east of the dunes and adjacent to the Great Highway. A ROLA would be established on the beach north of Stairwell 21. No dog walking would be allowed on the beach south of Sloat Boulevard.

Impacts on the health and safety of park visitors and staff would be long term, minor to moderate, and adverse. The risk of dog bites or other physical injuries would be elevated since dogs would be under voice and sight control in a ROLA. This is a high use, multiple use area, and the site has a history of violations. In addition, dog-to-dog interaction could result in people trying to separate dogs, which would increase the chances of injuries occurring. Impacts on the health and safety of park staff during the initial education and enforcement phase at these sites could result from visitors confronting and possibly challenging park staff due to their knowledge of the former regulations. Compliance has been a challenge at this site in the past and there has been a history of confrontations between visitors and park staff. With education and enforcement expected to result in compliance with the new regulations, impacts on park staff would be short term, moderate, and adverse. Impacts on staff from participating in rescues would still exist; however, the risk would not be expected to be greater than the regular level of risk to park operations if a rescue is needed.

All dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be granted at Ocean Beach, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking activity at Ocean Beach is not common, it is likely that the new regulation would have negligible impacts on human health and safety.

Cumulative Impacts. Projects and actions in and near Ocean Beach were considered for the cumulative impacts analysis (appendix K). The following is a discussion of projects that have had, are currently having, or will have effects on health and safety at or in the vicinity of Ocean Beach.

The *Ocean Beach–Great Highway Erosion Control Project* is developing long-term solutions to beach and coastal bluff erosion problems at Ocean Beach along the Great Highway (Highway 1) consistent with the enhancement of natural processes (City and County of San Francisco 2008, 3, 7). Additionally, a joint project with the park and the City of San Francisco may occur in the future that involves the improvement of the Esplanade at the north end of Ocean Beach. The park's *Fire Management Plan* would create defensible space around buildings that adjoin wildland fuels and would require the park to work closely

with the Presidio Fire Department in wildlife planning and management actions (NPS 2005a, 63). Beneficial impacts on human health and safety would occur from these projects. The impacts resulting from the past oil spill would add little to the cumulative impacts on health and safety since those impacts were found to be negligible.

Under the preferred alternative, the long-term, minor to moderate, adverse impacts to the health and safety of park staff and visitors from dogs at Ocean Beach, together with effects of the projects mentioned above were considered. The benefits to the health and safety of park staff and visitors from the site improvements and actions included in the park's *Fire Management Plan* (NPS 2005a) is not expected to reduce the adverse impact of this alternative; therefore the cumulative analysis for this park site will focus on the results of the impact analysis for this alternative. The beneficial effects from the site improvements and actions included in the park's *Fire Management Plan* (NPS 2005a) along with the long-term, minor, and adverse impacts from the preferred alternative would result in long-term, minor to moderate, adverse cumulative impacts.

Indirect Impacts on Adjacent Parks

In lands adjacent to GGNRA, there are 38 parks with dog use areas within about a 10-mile radius of Ocean Beach and 15 parks within about a 5-mile radius; the closest parks are Golden Gate Park—North Central Area and Golden Gate Park—South Central Area (map 27). The adjacent lands would not likely experience increased visitation, since off-leash dog walking would be available. There would be no indirect impact on the health and safety of visitors and staff in adjacent lands under the preferred alternative.

OCEAN BEACH PREFERRED ALTERNATIVE CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Short-term moderate adverse impacts on park staff during initial education and enforcement period	Site has history of confrontations and violations of regulations		
Long-term minor to moderate adverse impacts, assuming compliance	Chance of encounters with unruly or aggressive dogs would continue to place visitors and park staff at risk; site is moderate to high use, multiple use area	Long-term, minor to moderate adverse cumulative impacts No indirect impacts in adjacent lands	Beneficial change, assuming compliance

Fort Funston

Alternative A: No Action. Currently, dog walking under voice control is allowed throughout Fort Funston except for the 12-acre fenced Habitat Protection Area, which is closed to visitors and dogs for the protection of resources and visitor safety, a voluntary seasonal closure on the beach at the foot of the northernmost bluffs to protect nesting bank swallows, and the north end of the Coastal Trail due to erosion. At Fort Funston, visitor use by dog walkers, including commercial dog walkers, is considered high (table 9). Other visitors to this site include horseback riders, surfers, hang gliders, bird-watchers, whale watchers, and environmental center participants. In 2007 and 2008, violations were issued for 12 dog bites/attacks and 35 hazardous conditions/pet rescues (table 9).

Under alternative A, impacts on the health and safety of park visitors and staff would continue to be long term, moderate, and adverse. Conflicts between multiple-use visitor types in this area would remain high. The high number of dog bites/attacks and risk from rescues would also continue. Horseback riders and/or their horses could be injured if horses react to aggressive dogs by bucking or running.

Under alternative A, no permit system exists for dog walking. However, at Fort Funston, commercial dog walking is common. Since commercial dog walking is considered a high use activity at Fort Funston, it would have long-term moderate adverse impacts on human health and safety, based on the history of dog-related incidents occurring at this site.

Cumulative Impacts. Projects and actions in and near Fort Funston were considered for the cumulative impacts analysis (appendix K). The NPS is planning to construct a new ADA-accessible restroom and maintenance facilities at Fort Funston (NPS 2010h, 1). The park's *Fire Management Plan* would create defensible space around buildings that adjoin wildland fuels and would require the park to work closely with the Presidio Fire Department in wildlife planning and management actions (NPS 2005a, 63). Beneficial impacts on human health and safety would occur from these projects. The impacts resulting from the past oil spill would add little to the cumulative impacts on health and safety since those impacts were found to be negligible.

Under alternative A, the long-term, moderate, adverse impacts to the health and safety of park staff and visitors from dogs at Fort Funston, together with effects of the projects mentioned above were considered. The benefits to the health and safety of park staff and visitors from the site improvements and actions included in the park's *Fire Management Plan* (NPS 2005a) is not expected to reduce the adverse impact of this alternative; therefore the cumulative analysis for this park site will focus on the results of the impact analysis for this alternative. The beneficial effects from the site improvements and actions included in the park's *Fire Management Plan* (NPS 2005a) along with the long-term, moderate, and adverse impacts from alternative A would result in long-term, moderate, adverse cumulative impacts.

Indirect Impacts on Adjacent Parks

In lands adjacent to GGNRA, there are 38 parks with dog use areas within about a 10-mile radius of Fort Funston and 16 parks within about a 5-mile radius; the closest park is Lake Merced (map 27). No indirect impacts in adjacent lands would be expected under alternative A since there would be no change in current conditions at the site.

FORT FUNSTON ALTERNATIVE A CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Long-term moderate adverse impacts	High use by a variety of user groups would continue; site experiences high use by dog walkers, including commercial dog walkers; site experiences high number of dog-related incidents and conflicts	Long-term moderate adverse cumulative impacts No indirect impacts in adjacent lands	N/A

N/A = not applicable.

Alternative B: NPS Leash Regulations. Under alternative B, on-leash dog walking would be allowed on the beach and on all trails north and south of the main parking lot not closed to dogs through the GGNRA Compendium. A voluntary seasonal closure to dog walking (April 1–August 15) currently exists at the foot of the northernmost coastal bluffs when bank swallows are nesting.

Requiring dogs to be on leash would reduce the impact on the health and safety of park visitors and staff. Impacts on health and safety would be expected to be long term, minor, and adverse, since the chance of visitors coming into contact with an unruly or aggressive dog would exist, resulting in a risk of dog bites or other injury. Impacts on the health and safety of park staff during the initial education and enforcement phase at this site may result from visitors knowledgeable of the former regulations confronting and possibly challenging park staff. Compliance has been a challenge at this site in the past and there has been a history of confrontations between visitors and park staff. With education and enforcement expected to result in compliance with the new regulations, initial impacts on park staff would be short term, moderate, and adverse. In addition, requiring dogs to be on leash would result in minimizing the risks park staff take when responding to occasional dog/human rescues that have occurred in the past on the cliffs at Fort Funston. Impacts on staff from participating in rescues under this alternative would be expected to be short term, minor, and adverse after the implementation of this alternative, as the risk of injury would still exist if a rescue is needed.

Under alternative B, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs per person with no permit required. Since commercial dog walking is common at Fort Funston, the new regulation would have beneficial impacts on human health and safety. The number of dogs per person would be limited, which should result in a reduced number of dog-related injuries. Commercial dog walkers would have fewer dogs and would have more control of their dogs.

Cumulative Impacts. Under alternative B, the long-term, minor, adverse impacts to the health and safety of park staff and visitors from dogs at Fort Funston, together with effects of the projects mentioned above under alternative A were considered. The benefits to the health and safety of park staff and visitors from the site improvements and the park's *Fire Management Plan* (NPS 2005a) is not expected to reduce the adverse impact of this alternative; therefore the cumulative analysis for this park site will focus on the results of the impact analysis for this alternative. The beneficial effects from the site improvements and the park's *Fire Management Plan* (NPS 2005a) along with the long-term, minor, and adverse impacts from alternative B would result in long-term, minor, adverse cumulative impacts.

Indirect Impacts on Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation by individual and commercial dog walkers under alternative B since dog walking under voice control would no longer be allowed at Fort Funston. The closest park that allows off-leash dog walking is Lake Merced. Therefore, indirect impacts on the health and safety of visitors and staff in adjacent lands from increased dog use would be long term, minor to moderate, and adverse, since Fort Funston is a high use site for dog walking.

FORT FUNSTON ALTERNATIVE B CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Short-term minor to moderate adverse impacts on park staff during initial education and enforcement period	Site has history of confrontations and violations of regulations; continued rescues would be expected	Long-term, minor, adverse cumulative impacts	Beneficial, assuming compliance
Long-term minor adverse impacts, assuming compliance	Opportunity would continue for visitors and park staff to encounter unruly or aggressive dogs, placing health and safety at risk	Long-term minor to moderate adverse indirect impacts in adjacent lands	

Alternative C: Emphasis on Multiple Use, Balanced by County. Under alternative C, on-leash dog walking would be allowed south of the main parking lot on the Sand Ladder, the ADA Accessible Trail, and all trails north of the main parking lot except the Sunset, Battery Davis, and Horse trails. Two ROLAs would be established: one on the beach south of the main access trail and a second between the Chip Trail and Sunset Trail north of the main parking lot.

Long-term minor to moderate adverse impacts on health and safety would occur due to the potential for dog-related incidents and injuries involving unruly or aggressive dogs. This would mainly be anticipated to occur in the ROLAs, since dog walkers would have less control over off-leash dogs. Visitors and staff may come into contact with unruly or aggressive dogs. Impacts would be minor to moderate since this is a high use site for dog walkers and there is a history of confrontations and dog bites/attacks at the site. An additional risk from dog-to-dog interaction could result from people trying to separate dogs, which could increase the chances of injuries occurring. Impacts on the health and safety of park staff during the initial education and enforcement phase at this site could result from visitors knowledgeable of the former regulations confronting and possibly challenging the park staff. Compliance has been a challenge at this site in the past and there has been a history of confrontations between visitors and park staff. With education and enforcement expected to result in compliance with the new regulations, initial impacts on park staff would be short term, moderate, and adverse. Impacts on staff from participating in rescues would be expected to be short term, minor, and adverse after the implementation of this alternative, as the risk of injury would still exist if a rescue is needed.

Under alternative C, all dog walkers, including commercial dog walkers, would be allowed up to three dogs with no permit required. Any dog walker, commercial or private, can obtain a permit to walk more than three dogs with a limit of six dogs on leash. In a ROLA, permit holders may have up to six dogs off-leash and the permit may restrict use by time and area. Permits would be allowed at Fort Funston. Adverse impacts to health and safety from permit holders are expected to increase under this alternative due to the increase to six dogs off-leash. Since commercial dog walking is high at this site impacts to health and safety would be long-term, moderate, and adverse.

Cumulative Impacts. Under alternative C, the long-term, minor to moderate, adverse impacts to the health and safety of park staff and visitors from dogs at Fort Funston, together with effects of the projects mentioned above under alternative A were considered. The benefits to the health and safety of park staff and visitors from the site improvements and the park's *Fire Management Plan* (NPS 2005a) is not expected to reduce the adverse impact of this alternative; therefore the cumulative analysis for this park site will focus on the results of the impact analysis for this alternative. The beneficial effects from the site

improvements and the park's *Fire Management Plan* (NPS 2005a) along with the long-term, minor to moderate, and adverse impacts from alternative C would result in long-term, minor to moderate, adverse cumulative impacts.

Indirect Impacts on Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation by individual and commercial dog walkers under alternative C since dog walking under voice and sight control at Fort Funston would be limited to two ROLAs. In addition, interior portions of Fort Funston would no longer be open to dogs. The closest park that allows off-leash dog walking is Lake Merced. Therefore, indirect impacts on the health and safety of visitors and staff in adjacent lands from increased dog use would be long term, minor, and adverse. Even though Fort Funston is high use site for dog walking, not all dog walkers would start visiting parks other than Fort Funston once the new regulation is implemented.

FORT FUNSTON ALTERNATIVE C CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Short-term minor to moderate adverse impacts on park staff during initial education and enforcement period	Site has history of confrontations and violations of regulations; site is high use area for dog walkers	Long-term minor to moderate adverse cumulative impacts	Beneficial to no change, assuming compliance
Long-term minor to moderate adverse impacts, assuming compliance	Opportunity would continue for visitors and park staff to encounter unruly or aggressive dogs, placing their health and safety at risk; site is high use area for dog walkers	Long-term minor adverse indirect impacts in adjacent lands	

Alternative D: Overall Most Protective of Resources/Visitor Safety. Under alternative D, on-leash dog walking would be allowed on the beach south of the main access trail and on the Sand Ladder, ADA Accessible Trail, and all trails north of the main parking lot except the Horse Trail and the northern end of the Coastal Trail. A ROLA would be established north of the main parking lot in the disturbed area adjacent to the Coastal Trail and across the Coastal Trail from the Beach Access Trail.

Limiting the amount of area for dog walking under voice and sight control in a ROLA would minimize the impacts on health and safety; however, impacts would be anticipated to be long term, minor to moderate, and adverse. Having dogs under voice and sight control in smaller area could result in an increased risk of dog bites and other physical injuries due to the concentration of dogs in this area. Visitors and staff may encounter unruly or aggressive dogs. An additional risk from dog-to-dog interaction could result from people trying to separate dogs, which would increase the chances of injuries occurring. Impacts on the health and safety of park staff during the initial education and enforcement phase at this site could result from visitors knowledgeable of the former regulations confronting and possibly challenging park staff on the new regulations. Compliance has been a challenge at this site in the past and there has been a history of confrontations between visitors and park staff. With education and enforcement expected to result in compliance with the new regulations, initial impacts on park staff would be short term, moderate, and adverse. In addition, requiring dogs to be on leash near the cliffs would result in minimizing the risks park staff take when responding to occasional dog/human rescues that have occurred in the past on the cliffs at Fort Funston. Impacts on staff from participating in rescues would be

expected to be short term, minor, and adverse after the implementation of this alternative, as the risk of injury would still exist if a rescue is needed.

No commercial dog walking would be allowed under alternative D. There would be no impact on human health and safety from commercial dog walking.

Cumulative Impacts. Under alternative D, the long-term, minor to moderate, adverse impacts to the health and safety of park staff and visitors from dogs at Fort Funston, together with effects of the projects mentioned above under alternative A were considered. The benefits to the health and safety of park staff and visitors from the site improvements and the park's *Fire Management Plan* (NPS 2005a) is not expected to reduce the adverse impact of this alternative; therefore the cumulative analysis for this park site will focus on the results of the impact analysis for this alternative. The beneficial effects from the site improvements and the park's *Fire Management Plan* (NPS 2005a) along with the long-term, minor to moderate, and adverse impacts from alternative D would result in long-term, minor to moderate, adverse cumulative impacts.

Indirect Impacts on Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation by individual and commercial dog walkers under alternative D since dog walking under voice and sight control at Fort Funston would be limited to a ROLA. In addition, some interior portions of Fort Funston would no longer be open to dogs. The closest park that allows off-leash dog walking is Lake Merced. Therefore, indirect impacts on the health and safety of visitors and staff in adjacent lands from increased dog use would be long term, minor, and adverse. Even though Fort Funston is high use site for dog walking, not all dog walkers would start visiting parks other than Fort Funston once the new regulation is implemented.

FORT FUNSTON ALTERNATIVE D CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Short-term minor to moderate adverse impacts on park staff during initial education and enforcement period	Site has history of confrontations and violations of regulations; site is high use area for dog walkers	Long-term minor to moderate adverse cumulative impacts	Beneficial to no change, assuming compliance
Long-term minor to moderate adverse impacts, assuming compliance	Opportunity would continue for visitors and park staff to encounter unruly or aggressive dogs, placing their health and safety at risk	Long-term minor adverse indirect impacts in adjacent lands	

Alternative E: Overall Most Dog Walking Access/Most Management Intensive. Under alternative E, on-leash dog walking would be available on the Sand Ladder, the ADA Accessible Trail, the beach north of the main beach access trail, in a corridor between the cliffs and western edge of the Chip Trail, and on designated trails in the Battery Davis area. Two ROLAs would be established: one on the beach south of the Beach Access Trail and a second between the Chip and Coastal Trails and the western boundary of the Habitat Corridor and the Horse Trail. This ROLA corridor would include the Chip Trail to the junction with the Sunset Trail.

Impacts on human health and safety would be expected to be long term, minor to moderate, and adverse, due to the presence of dogs under voice and sight control in the ROLAs and based on the history of

confrontations and dog bites at the site. The chance of visitors and staff encountering an unruly or aggressive dog, placing visitors and staff at risk for injuries and dog bites, may exist under this alternative. An additional risk from dog-to-dog interaction could result from people trying to separate dogs, which would increase the chances of injuries occurring. Impacts on the health and safety of park staff during the initial education and enforcement phase at this site could result due to visitors knowledgeable of the former regulations confronting and possibly challenging the park staff on the new regulation. Compliance has been a challenge at this site in the past and there has been a history of confrontations between visitors and park staff. With education and enforcement expected to result in compliance with the new regulations, initial impacts on park staff would be short term, moderate, and adverse. Impacts on staff from participating in rescues would be expected to be short term, minor, and adverse after the implementation of this alternative, as the risk of injury would still exist if a rescue is needed.

Under alternative E, all dog walkers, including commercial dog walkers, would be allowed up to three dogs with no permit required. Any dog walker, commercial or private, can obtain a permit to walk more than three dogs with a limit of six dogs on leash. In a ROLA, permit holders may have up to six dogs off-leash and the permit may restrict use by time and area. Permits would be allowed at Fort Funston. Adverse impacts to health and safety from permit holders are expected to increase under this alternative due to the increase to six dogs off-leash. Since commercial dog walking is high at this site impacts to health and safety would be long-term, moderate, and adverse.

Cumulative Impacts. Under alternative E, the long-term, minor to moderate, adverse impacts to the health and safety of park staff and visitors from dogs at Fort Funston, together with effects of the projects mentioned above under alternative A were considered. The benefits to the health and safety of park staff and visitors from the site improvements and the park's *Fire Management Plan* (NPS 2005a) is not expected to reduce the adverse impact of this alternative; therefore the cumulative analysis for this park site will focus on the results of the impact analysis for this alternative. The beneficial effects from the site improvements and the park's *Fire Management Plan* (NPS 2005a) along with the long-term, minor to moderate, and adverse impacts from alternative E would result in long-term, minor to moderate, adverse cumulative impacts.

Indirect Impacts on Adjacent Parks

The adjacent lands identified under alternative A would not be expected to experience increased visitation under alternative E since dog walking under voice and sight control at Fort Funston would be offered in two ROLAs, which would include the interior portion of Fort Funston and more than half of the beach. Therefore, no indirect impacts on human health and safety in adjacent lands from increased dog use would occur.

FORT FUNSTON ALTERNATIVE E CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Short-term minor to moderate adverse impacts on park staff during education and enforcement period	Site has history of confrontations and violations of regulations	Long-term minor to moderate cumulative impacts	Beneficial to no change, assuming compliance

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Long-term minor to moderate adverse impacts, assuming compliance	Opportunity would continue for visitors and park staff to encounter unruly or aggressive dogs, placing their health and safety at risk; site is high use area for dog walkers	No indirect impacts in adjacent lands	

Preferred Alternative. Alternative C was selected as the preferred alternative for Fort Funston. On-leash dog walking would be allowed south of the main parking lot on the Sand Ladder, the ADA Accessible Trail, and all trails north of the main parking lot except the Sunset, Battery Davis, and Horse trails. Two ROLAs would be established: one on the beach south of the main access trail and a second between the Chip Trail and Sunset Trail north of the main parking lot.

Long-term minor to moderate adverse impacts on health and safety would occur due to the potential for dog-related incidents and injuries to occur from unruly or aggressive dogs. This is mainly anticipated to occur in the ROLAs, since dog walkers would have less control over off-leash dogs. Visitors and staff may come into contact with unruly or aggressive dogs. Impacts would be minor to moderate since this is a high use site for dog walkers and there is a history of confrontations and dog bites/attacks at the site. An additional risk from dog-to-dog interaction could result from people trying to separate dogs, which would increase the chances of injuries occurring. Impacts on the health and safety of park staff during the initial education and enforcement phase at this site could result from visitors knowledgeable of the former regulations confronting and possibly challenging the park staff. Compliance has been a challenge at this site in the past and there has been a history of confrontations between visitors and park staff. With education and enforcement expected to result in compliance with the new regulations, initial impacts on park staff would be short term, moderate, and adverse. Impacts on staff from participating in rescues would be expected to be short term, minor, and adverse after the implementation of this alternative, as the risk of injury would still exist if a rescue is needed.

Under alternative C, all dog walkers, including commercial dog walkers, would be allowed up to three dogs with no permit required. Any dog walker, commercial or private, can obtain a permit to walk more than three dogs with a limit of six dogs on leash. In a ROLA, permit holders may have up to six dogs off-leash and the permit may restrict use by time and area. Permits would be allowed at Fort Funston. Adverse impacts to health and safety from permit holders are expected to increase under this alternative due to the increase to six dogs off-leash. Since commercial dog walking is high at this site impacts to health and safety would be long-term, moderate, and adverse.

Cumulative Impacts. Projects and actions in and near Fort Funston were considered for the cumulative impacts analysis (appendix K). The NPS is planning to construct a new ADA-accessible restroom and maintenance facilities at Fort Funston (NPS 2010h, 1). The park's *Fire Management Plan* would create defensible space around buildings that adjoin wildland fuels and would require the park to work closely with the Presidio Fire Department in wildlife planning and management actions (NPS 2005a, 63). Beneficial impacts on human health and safety would occur from these projects. The impacts resulting from the past oil spill would add little to the cumulative impacts on health and safety since those impacts were found to be negligible.

Under the preferred alternative, the long-term, minor to moderate, adverse impacts to the health and safety of park staff and visitors from dogs at Fort Funston, together with effects of the projects mentioned above under alternative A were considered. The benefits to the health and safety of park staff and visitors from the site improvements and the park's *Fire Management Plan* (NPS 2005a) is not expected to reduce

the adverse impact of this alternative; therefore the cumulative analysis for this park site will focus on the results of the impact analysis for this alternative. The beneficial effects from the site improvements and the park's *Fire Management Plan* (NPS 2005a) along with the long-term, minor to moderate, and adverse impacts from the preferred alternative would result in long-term, minor to moderate, adverse cumulative impacts.

Indirect Impacts on Adjacent Parks

In lands adjacent to GGNRA, there are 38 parks with dog use areas within about a 10-mile radius of Fort Funston and 16 parks within about a 5-mile radius; the closest park is Lake Merced (map 27). The adjacent lands may experience increased visitation by individual and commercial dog walkers under the preferred alternative since dog walking under voice and sight control at Fort Funston would be limited to two ROLAs. In addition, interior portions of Fort Funston would no longer be open to dogs. The closest park that allows off-leash dog walking is Lake Merced. Therefore, indirect impacts on the health and safety of visitors and staff in adjacent lands from increased dog use would be long term, minor, and adverse. Even though Fort Funston is a high use site for dog walking, not all dog walkers would start visiting parks other than Fort Funston once the new regulation is implemented.

FORT FUNSTON PREFERRED ALTERNATIVE CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Short-term minor to moderate adverse impacts on park staff during initial education and enforcement period	Site has history of confrontations and violations of regulations; site is high use area for dog walkers	Long-term minor to moderate adverse cumulative impacts	Beneficial to no change, assuming compliance
Long-term minor to moderate adverse impacts, assuming compliance	Opportunity would continue for visitors and park staff to encounter unruly or aggressive dogs, placing their health and safety at risk; site is high use area for dog walkers	Long-term minor adverse indirect impacts in adjacent lands	

SAN MATEO COUNTY SITES

Mori Point

Alternative A: No Action. Currently, on-leash dog walking is allowed on all trails at Mori Point. Visitor use in this area is considered high for walkers, runners, and bicyclists and moderate for dog walkers (table 9). In 2007 and 2008 pet violations included 54 leash law violations and 1 hazardous conditions/pet rescue (table 9). No dog bites/attacks were documented in 2007/2008.

Under the no-action alternative, on-leash dog walking impacts on the health and safety of park visitors and staff would continue to be negligible. Even though no dog/bite attacks were documented recently at this site, the chance of an individual being injured in a dog-related incident would still exist. In addition, the safety of staff could be at risk when performing rescues from hazardous areas.

Under alternative A, no permit system exists for dog walking. At Mori Point, commercial dog walking is uncommon. Therefore, commercial dog walking would have negligible impacts on human health and safety.

Cumulative Impacts. Projects and actions in and near Mori Point were considered for the cumulative impacts analysis (appendix K). NPS recently completed the *Mori Point Restoration and Trail Plan*, which includes development of a safe and sustainable trail system to improve recreational experiences and guide visitors away from disturbed areas, restoration areas, and endangered species habitat areas (NPS 2010j, 1). The Devil's Slide Tunnels Project will result in a bypass of Devil's Slide by two inland tunnels to provide a safe, dependable highway between Pacifica and Montara. The park's *Fire Management Plan* would reduce hazardous fuel load in the area. Beneficial impacts on human health and safety would occur from these projects (NPS 2005a, 64). The impacts resulting from the past oil spill would add little to the cumulative impacts on health and safety since those impacts were found to be negligible.

The negligible impacts on health and safety under alternative A were considered together with the beneficial effects of the projects mentioned above. Cumulatively, there would be beneficial impacts on health and safety of park staff and visitors under this alternative at this park site.

Indirect Impacts on Adjacent Parks

In lands adjacent to GGNRA, there are 23 parks with dog use areas within about a 10-mile radius of Mori Point and 3 parks within about a 5-mile radius; the closest parks are Esplanade Beach in Pacifica and the San Bruno Dog Park (map 27). No indirect impacts on the health and safety of visitors and staff in adjacent lands would be expected under alternative A since there would be no change in current conditions at this site.

MORI POINT ALTERNATIVE A CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Negligible impacts	Chance of pet-related incidents from unruly or aggressive dogs would continue to exist; site experiences a high number of leash law violations	Beneficial cumulative impacts No indirect impacts in adjacent lands	N/A

N/A = not applicable.

Alternative B: NPS Leash Regulations. Under alternative B, on-leash dog walking would be allowed on the Coastal Trail and the beach within the GGNRA boundary.

Impacts on the health and safety of park visitors and staff would be considered negligible. The chance of visitors coming into contact with an unruly or aggressive dog would exist. The safety of staff could be at risk when performing rescues from hazardous areas.

Under alternative B, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs per person with no permit required. Since commercial dog walking activity is not common at Mori Point, it is likely that the new regulation would have negligible impacts on human health and safety.

Cumulative Impacts. The negligible impacts on health and safety under alternative B were considered together with the beneficial effects of the projects mentioned above under alternative A. Cumulatively, there would be beneficial impacts on health and safety of park staff and visitors under this alternative at this park site.

Indirect Impacts on Adjacent Parks

In lands adjacent to Mori Point the closest parks are Esplanade Beach in Pacifica and the San Bruno Dog Park (map 27). These parks may experience some increased visitation under alternative B since the Old Mori Road and Pollywog Path would be closed to dogs, resulting in negligible indirect impacts on the health and safety of visitors and staff in adjacent lands. Some visitors with dogs may choose to visit a different park due to this closure.

MORI POINT ALTERNATIVE B CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Negligible impacts, assuming compliance	Site receives moderate use by dog walkers; on-leash regulation would reduce opportunity for pet-related incidents	Beneficial cumulative impacts Negligible indirect impacts in adjacent lands	No change, assuming compliance

Alternative C: Emphasis on Multiple Use, Balanced by County. Under alternative C, on-leash dog walking would be allowed on the Coastal Trail, on Old Mori Road, and on the beach within the GGNRA boundary.

Reducing the amount of area available for on-leash dog walking would result in impacts on the health and safety of park visitors and staff, but only at a negligible level. The chance of visitors coming into contact with an unruly or aggressive dog would exist, and the safety of staff could be at risk when performing rescues from hazardous areas.

Under alternative C at Mori Point, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. Any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be granted at Mori Point, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking activity at Mori Point is not common, it is likely that the new regulation would have negligible impacts on human health and safety.

Cumulative Impacts. The negligible impacts on health and safety under alternative C were considered together with the beneficial effects of the projects mentioned above under alternative A. Cumulatively, there would be beneficial impacts on health and safety of park staff and visitors under this alternative at this park site.

Indirect Impacts on Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation under alternative B, particularly Esplanade Beach in Pacifica and the San Bruno Dog Park, because they are the closest dog use areas. These parks may experience some increased visitation under alternative C since the Pollywog Path would be closed to dogs, resulting in negligible indirect impacts on the health and safety of visitors

and staff in adjacent lands. Some visitors with dogs may choose to visit a different park due to this closure.

MORI POINT ALTERNATIVE C CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Negligible impacts, assuming compliance	Site receives moderate use; on-leash regulation would reduce opportunity for pet-related incidents	Beneficial cumulative impacts Negligible indirect impacts in adjacent lands	No change, assuming compliance

Alternative D: Overall Most Protective of Resources/Visitor Safety. Under alternative D, no dog walking would be allowed at Mori Point.

No impacts on the health and safety of park visitors and staff would occur. The chance of individuals encountering unruly or aggressive dogs would no longer exist. Additionally, restricting dogs from this area would eliminate the risk of exposure to pathogens or diseases associated with dog waste.

Since dogs would not be allowed at Mori Point, there would be no impact from commercial dog walkers to the health and safety of visitors and staff.

Cumulative Impacts. The lack of impacts on health and safety under alternative D were considered together with the beneficial effects of the projects mentioned above under alternative A. Cumulatively, there would be beneficial impacts on health and safety of park staff and visitors under this alternative at this park site.

Indirect Impacts on Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation under alternative D since this alternative would not allow dogs. Indirect impacts on health and safety in adjacent lands from increased dog use would be expected to range from negligible to long term, minor, and adverse, since dog walking is currently considered a moderate use activity at Mori Point.

MORI POINT ALTERNATIVE D CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: No impacts, assuming compliance	Dogs would be prohibited at the site	Beneficial cumulative impacts Negligible impacts to long-term minor adverse indirect impacts in adjacent lands	Beneficial, assuming compliance

Alternative E: Overall Most Dog Walking Access/Most Management Intensive. Under alternative E, on-leash dog walking would be allowed on the Coastal Trail, Old Mori Road, Pollywog Path, and the beach within the GGNRA boundary.

Impacts on the health and safety of park visitors and staff would be considered negligible. The chance of visitors coming into contact with an unruly or aggressive dog would exist. The safety of staff could be at risk when performing rescues from hazardous areas.

Under alternative E, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. Any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be granted at Mori Point, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking activity at Mori Point is not common, it is likely that the new regulation would have negligible impacts on human health and safety.

Cumulative Impacts. The negligible impacts on health and safety under alternative E were considered together with the beneficial effects of the projects mentioned above under alternative A. Cumulatively, there would be beneficial impacts on health and safety of park staff and visitors under this alternative at this park site.

Indirect Impacts on Adjacent Parks

The adjacent lands identified under alternative A would probably not experience any increased visitation under alternative E since visitors would be allowed to continue to walk dogs at this site. Therefore, no indirect impacts on human health and safety in adjacent lands would be expected.

MORI POINT ALTERNATIVE E CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Negligible impacts, assuming compliance	Site receives moderate use; on-leash regulation would reduce opportunity for pet-related incidents	Beneficial cumulative impacts No indirect impacts in adjacent lands	No change, assuming compliance

Preferred Alternative. Alternative C was selected as the preferred alternative for Mori Point. On-leash dog walking would be allowed on the Coastal Trail, on Old Mori Road, and on the beach within the GGNRA boundary.

Reducing the amount of area available for on-leash dog walking would result in impacts on the health and safety of park visitors and staff, but only at a negligible level. The chance of visitors coming into contact with an unruly or aggressive dog would exist, and the safety of staff could be at risk when performing rescues from hazardous areas.

All dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. Any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. The permit would restrict use by time and area. However, no permits would be granted at Mori Point, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking activity at Mori Point is not common, it is likely that the new regulation would have negligible impacts on human health and safety.

Cumulative Impacts. Projects and actions in and near Mori Point were considered for the cumulative impacts analysis (appendix K). NPS recently completed the *Mori Point Restoration and Trail Plan*, which

includes development of a safe and sustainable trail system to improve recreational experiences and guide visitors away from disturbed areas, restoration areas, and endangered species habitat areas (NPS 2010j, 1). The Devil's Slide Tunnels Project will result in a bypass of Devil's Slide by two inland tunnels to provide a safe, dependable highway between Pacifica and Montara. The park's *Fire Management Plan* would reduce hazardous fuel load in the area. Beneficial impacts on human health and safety would occur from these projects (NPS 2005a, 64). The impacts resulting from the past oil spill would add little to the cumulative impacts on health and safety since those impacts were found to be negligible.

The negligible impacts on health and safety under the preferred alternative were considered together with the beneficial effects of the projects mentioned above under alternative A. Cumulatively, there would be beneficial impacts on health and safety of park staff and visitors under this alternative at this park site.

Indirect Impacts on Adjacent Parks

In lands adjacent to GGNRA, there are 23 parks with dog use areas within about a 10-mile radius of Mori Point and 3 parks within about a 5-mile radius; the closest parks are Esplanade Beach in Pacifica and the San Bruno Dog Park (map 27). The adjacent lands may experience increased visitation under alternative B, particularly Esplanade Beach and the San Bruno Dog Park, because they are the closest dog use areas. These parks may experience some increased visitation under the preferred alternative since the Pollywog Path would be closed to dogs, resulting in negligible indirect impacts on the health and safety of visitors and staff in adjacent lands. Some visitors with dogs may choose to visit a different park due to this closure.

MORI POINT PREFERRED ALTERNATIVE CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Negligible impacts, assuming compliance	Site receives moderate use; on-leash regulation would reduce opportunity for pet-related incidents	Beneficial cumulative impacts Negligible indirect impacts in adjacent lands	No change, assuming compliance

Milagra Ridge

Alternative A: No Action. Currently, on-leash dog walking is allowed on all trails throughout Milagra Ridge. Visitor use at this site is considered moderate for bicyclists, walkers, and hikers and low to moderate for local dog walkers (table 9). In 2007 and 2008, pet violations were issued for 25 leash law violations; however, no dog bites/attacks were documented (table 9).

Under the no-action alternative, impacts on the health and safety of park visitors and staff would continue to be negligible to long term, minor, and adverse. Even though no dog bites/attacks were documented recently at this site, the chance of an individual being injured in a dog-related incident would exist; 25 leash law violations have been documented at Milagra Ridge.

Under alternative A, no permit system exists for dog walking. At Milagra Ridge, commercial dog walking is uncommon. Therefore, commercial dog walking would have negligible impacts on human health and safety.

Cumulative Impacts. Projects and actions in and near Milagra Ridge were considered for the cumulative impacts analysis (appendix K). Long-term parkwide projects such as trail rehabilitation performed as part

of Park Stewardship Programs provide trail safety improvements at park sites such as Milagra Ridge. The park's *Fire Management Plan* would reduce hazardous fuel loads in areas adjacent to developed communities (NPS 2005a, 64). Beneficial impacts on human health and safety would occur from these projects.

Under alternative A, the negligible to long-term, minor, adverse impacts to the health and safety of park staff and visitors from dogs at Milagra Ridge, together with effects of the projects mentioned above were considered. The benefits to the health and safety of park staff and visitors from the Park Stewardship Programs and *Fire Management Plan* is not expected to reduce the adverse impact of this alternative; therefore the cumulative analysis for this park site will focus on the results of the impact analysis for this alternative (NPS 2005a). The beneficial effects from these projects along with the negligible to long-term, minor, and adverse impacts from alternative A would result in negligible to long-term, minor, and adverse cumulative impacts.

Indirect Impacts on Adjacent Parks

In lands adjacent to GGNRA, there are 36 parks with dog use areas within about a 10-mile radius of Milagra Ridge and 5 parks within about a 5-mile radius; the closest parks are Esplanade Beach in Pacifica and the San Bruno Dog Park (map 27). No indirect impacts on the health and safety of visitors and staff in adjacent lands would be expected under alternative A since there would be no change in current conditions at the site.

MILAGRA RIDGE ALTERNATIVE A CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Negligible impacts to long-term minor adverse impacts	Site receives low to moderate dog use; no pet-related incidents have been recorded in recent years	Negligible to long-term, minor, and adverse cumulative impacts No indirect impacts in adjacent lands	N/A

N/A = not applicable.

Alternative B: NPS Leash Regulations. Alternative B would also allow dogs on leash on the fire road and the trail to the westernmost overlook and WWII bunker, as well as on the future Milagra Battery Trail. However, the trail loop to the top of the hill would not be open to dog walking in this alternative.

Impacts on the health and safety of park staff and visitors would be negligible. The chance of individuals encountering an aggressive or unruly dog would exist. The limitation on the number of dogs walked per person and the reduced area for on-leash dog walking should reduce adverse impacts on human health and safety.

Under alternative B, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs per person with no permit required. Since commercial dog walking is not common at Milagra Ridge, it is likely that the new regulation would have negligible impacts on human health and safety.

Cumulative Impacts. The negligible impacts on human health and safety under alternative B were considered together with the beneficial effects of the projects mentioned above under alternative A. Cumulatively, there would be negligible impacts on the human health and safety of park staff and visitors under this alternative at this park site.

Indirect Impacts on Adjacent Parks

No indirect impacts on health and safety in adjacent lands would be expected under alternative B since the fire road would still be open for dog walking.

MILAGRA RIDGE ALTERNATIVE B CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Negligible impacts, assuming compliance	Site receives low to moderate use by dog walkers; access to portions of the site would be limited; no pet-related incidents have been recorded in recent years	Negligible cumulative impacts No indirect impacts in adjacent lands	No change, assuming compliance

Alternative C: Emphasis on Multiple Use, Balanced by County. Alternative C would allow on-leash dog walking in the same areas as alternative B (on the fire road and the trail to the westernmost overlook and WWII bunker, as well as on the future Milagra Battery Trail).

Impacts under alternative C would be the same as alternative B: negligible.

Under alternative C, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be granted at Milagra Ridge, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking activity at Milagra Ridge is not common, it is likely that the new regulation would have negligible impacts on human health and safety.

Cumulative Impacts. Under alternative C, the cumulative impacts on health and safety at this park site and indirect impacts on health and safety in adjacent lands would be the same those under alternative B: negligible cumulative impacts and no indirect impacts on health and safety in adjacent lands.

MILAGRA RIDGE ALTERNATIVE C CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Negligible impacts, assuming compliance	Site receives low to moderate use by dog walkers; access to portions of the site would be limited; no pet-related incidents have been recorded in recent years	Negligible cumulative impacts No indirect impacts in adjacent lands	No change, assuming compliance

Alternative D: Overall Most Protective of Resources/Visitor Safety. Under alternative D, no dog walking would be allowed at Milagra Ridge.

No impacts on the health and safety of park visitors and staff would occur. The chance of individuals encountering unruly or aggressive dogs would no longer exist. Additionally, restricting dogs from this area would eliminate the risk of exposure to pathogens or diseases associated with dog waste.

Since dogs would not be allowed at Milagra Ridge, there would be no impact from commercial dog walkers to the health and safety of visitors and staff.

Cumulative Impacts. The lack of impacts on human health and safety under alternative D were considered together with the beneficial effects of the projects mentioned above under alternative A. Cumulatively, there would be beneficial impacts on the human health and safety of park staff and visitors under this alternative at this park site.

Indirect Impacts on Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation under alternative D since this alternative would not allow dogs. Indirect impacts on health and safety in adjacent lands from increased dog use would be expected to range from negligible to long term, minor, and adverse, since dog walking is considered a low to moderate use activity at Milagra Ridge.

MILAGRA RIDGE ALTERNATIVE D CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: No impacts, assuming compliance	Dogs would be prohibited	Beneficial cumulative impacts Negligible impacts to long-term minor adverse impacts in adjacent lands	Beneficial, assuming compliance

Alternative E: Overall Most Dog Walking Access/Most Management Intensive. Under alternative E, on-leash dog walking would be allowed on the Fire Road, on the trail to the westernmost overlook and WWII bunker, along the future Milagra Ridge Connector Trail, and on the loop trail at the top of the hill.

Impacts on human health and safety would be anticipated to be negligible. The chance of individuals encountering an aggressive or unruly dog would exist, resulting in possible injuries to park visitors or staff.

Under alternative E, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be granted at Milagra Ridge, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking activity at Milagra Ridge is not common, it is likely that the new regulation would have negligible impacts on human health and safety.

Cumulative Impacts. The negligible impacts on human health and safety under alternative E were considered together with the beneficial effects of the projects mentioned above under alternative A. Cumulatively, there would be negligible impacts on the human health and safety of park staff and visitors under this alternative at this park site.

Indirect Impacts on Adjacent Parks

No indirect impacts on the health and safety of visitors and staff in adjacent lands would be expected under alternative E since dog walking on leash would still be allowed at Milagra Ridge.

MILAGRA RIDGE ALTERNATIVE E CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Negligible impacts, assuming compliance	Site receives low to moderate use by dog walkers; no pet-related incidents have been recorded in recent years	Negligible cumulative impacts No indirect impacts in adjacent lands	No change, assuming compliance

Preferred Alternative. Alternative C was selected as the preferred alternative for Milagra Ridge. The preferred alternative allows dogs on leash on the fire road and the trail to the westernmost overlook and WWII bunker, as well as on the future Milagra Battery Trail. However, the trail loop to the top of the hill would not be open for dog walking in this alternative.

Impacts on the health and safety of park staff and visitors would be negligible. The chance of individuals encountering an aggressive or unruly dog would exist. The limitation on the number of dogs walked per person and the reduced area for on-leash dog walking should reduce adverse impacts on human health and safety.

All dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be granted at Milagra Ridge, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking activity at Milagra Ridge is not common, it is likely that the new regulation would have negligible impacts on human health and safety.

Cumulative Impacts. Projects and actions in and near Milagra Ridge were considered for the cumulative impacts analysis (appendix K). Long-term parkwide projects such as trail rehabilitation performed as part of Park Stewardship Programs provide trail safety improvements at park sites such as Milagra Ridge. The park's *Fire Management Plan* would reduce hazardous fuel loads in areas adjacent to developed communities (NPS 2005a, 64). Beneficial impacts on human health and safety would occur from these projects.

The negligible impacts on human health and safety under the preferred alternative were considered together with the beneficial effects of the projects mentioned above. Cumulatively, there would be negligible impacts on the human health and safety of park staff and visitors under this alternative at this park site.

Indirect Impacts on Adjacent Parks

In lands adjacent to GGNRA, there are 36 parks with dog use areas within about a 10-mile radius of Milagra Ridge and 5 parks within about a 5-mile radius; the closest parks are Esplanade Beach in Pacifica and the San Bruno Dog Park (map 27). No indirect impacts on health and safety in adjacent lands would be expected under the preferred alternative since the fire road would still be open for dog walking.

MILAGRA RIDGE PREFERRED ALTERNATIVE CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Negligible impacts, assuming compliance	Site receives low to moderate use by dog walkers; access to portions of the site would be limited; no pet-related incidents have been recorded in recent years	Negligible cumulative impacts No indirect impacts in adjacent lands	No change, assuming compliance

Sweeney Ridge/Cattle Hill

Alternative A: No Action. Currently, on-leash dog walking is allowed on all trails at Sweeney Ridge except the Notch Trail. Cattle Hill is not currently part of GGNRA, but unrestricted dog walking occurs at this site. Visitor use (mainly hikers and bicyclists) at these sites is low and dog walking is considered a low to moderate use activity (table 9). In 2007 and 2008, pet violations were issued for 55 leash law violations at Sweeney Ridge; however, no dog bites/attacks were documented (table 9).

Under alternative A, on-leash dog walking impacts on the health and safety of park visitors at Sweeney Ridge/Cattle Hill would be negligible. Even though no dog bite/attack violations were documented recently at the Sweeney Ridge, the chance of an individual being injured in a dog-related incident would exist. In addition, 55 leash law violations were documented at this site, increasing the chances that visitors could be injured by an off-leash dog.

Under alternative A, no permit system exists for dog walking. At Sweeney Ridge/Cattle Hill, commercial dog walking is uncommon. Therefore, commercial dog walking would have negligible impacts on human health and safety at Sweeney Ridge/Cattle Hill.

Cumulative Impacts. Projects and actions in and near Sweeney Ridge/Cattle Hill were considered for the cumulative impacts analysis (appendix K). Mainly, the park's *Fire Management Plan* would reduce hazardous fire hazards adjacent to the Vallemar neighborhood and maintain adequate fire road access (NPS 2005a, 64). Beneficial impacts on human health and safety would occur from this project.

The negligible impacts on human health and safety under alternative A were considered together with the beneficial effects of the project mentioned above. Cumulatively, there would be negligible impacts on the human health and safety of park staff and visitors under this alternative at this park site.

Indirect Impacts on Adjacent Parks

In lands adjacent to GGNRA, there are 24 parks with dog use areas within about a 10-mile radius of Sweeney Ridge and Cattle Hill and 4 parks within about a 5-mile radius; the closest parks are the San Bruno Dog Park and Esplanade Beach in Pacifica (map 27). No indirect impacts on the health and safety of visitors and staff in adjacent lands would be expected under alternative A since there would be no change in current conditions at these sites.

SWEENEY RIDGE/CATTLE HILL ALTERNATIVE A CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Negligible impacts	Site receives low visitor use; no pet-related incidents have been recorded in recent years, though leash law violations have been documented	Negligible cumulative impacts No indirect impacts in adjacent lands	N/A

N/A = not applicable.

Alternative B: NPS Leash Regulations. Under alternative B, no dog walking would be allowed at Sweeney Ridge and Cattle Hill.

No impacts on human health and safety related to dog walking would result under this alternative. The chance of individuals encountering unruly or aggressive dogs would no longer exist. Additionally, restricting dogs from this area would eliminate the risk of exposure to pathogens or diseases associated with dog waste.

Since dogs would not be allowed at Sweeney Ridge and Cattle Hill, there would be no impact from commercial dog walkers to the health and safety of visitors and staff.

Cumulative Impacts. The range of impacts (lack of impacts to negligible) on human health and safety under alternative B were considered together with the beneficial effect of the park's *Fire Management Plan* (NPS 2005a). Cumulatively, there would be negligible impacts on the human health and safety of park staff and visitors under this alternative at this park site.

Indirect Impacts on Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation under alternative B, particularly the San Bruno Dog Park and Esplanade Beach, because they are the closest dog use areas. Indirect impacts on the health and safety of visitors and staff in adjacent lands from increased dog use would be expected to occur, but only at a negligible level, since dog walking is considered a low to moderate use activity at Sweeney Ridge/Cattle Hill.

SWEENEY RIDGE/CATTLE HILL ALTERNATIVE B CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: No impacts, assuming compliance	Dogs would be prohibited	Negligible cumulative impacts Negligible indirect impacts in adjacent lands	Beneficial, assuming compliance

Alternative C: Emphasis on Multiple Use, Balanced by County. Under alternative C, no dog walking would be allowed at Sweeney Ridge. On-leash dog walking would be allowed at Cattle Hill on the Baquiano Trail from Fassler Avenue up to and including the Farallons Trail. Changes to the dog walking regulation at Cattle Hill would not occur until the land is transferred to the NPS. There would be no

impact on human health and safety at Sweeney Ridge. The chance of individuals encountering unruly or aggressive dogs would no longer exist. Additionally, restricting dogs from this area would eliminate the risk of exposure to pathogens or diseases associated with dog waste. Impacts on the health and safety of park visitors at Cattle Hill would be negligible. Even though no dog bites/attacks were documented recently at this site, the chance of an individual being injured in a dog-related incident would exist.

Under alternative C, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be allocated at Sweeney Ridge/Cattle Hill, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since dogs would not be allowed at Sweeney Ridge, there would be no impact at Sweeney Ridge from commercial dog walkers. Since commercial dog walking is not common at Cattle Hill, it is likely that the new regulation would have negligible impacts on human health and safety at Cattle Hill.

Cumulative Impacts. The range of impacts (lack of impacts to negligible) on human health and safety under alternative C were considered together with the beneficial effect of actions included in the park's *Fire Management Plan* (NPS 2005a). Cumulatively, there would be negligible impacts on the human health and safety of park staff and visitors under this alternative at this park site.

Indirect Impacts on Adjacent Parks

At Cattle Hill, no indirect impacts on the health and safety of visitors and staff in adjacent lands would be expected under alternative C, since on-leash dog walking would be allowed. In lands adjacent to Sweeney Ridge, indirect impacts on the health and safety of visitors and staff in from increased dog use would be negligible since dog walking is considered a low to moderate use activity at Sweeney Ridge.

SWEENEY RIDGE/CATTLE HILL ALTERNATIVE C CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: No impacts at Sweeney Ridge, assuming compliance	Dogs would be prohibited	Negligible cumulative impacts	Sweeney Ridge: Beneficial, assuming compliance Cattle Hill: No change, assuming compliance
Negligible impacts at Cattle Hill, assuming compliance	Site receives low use; no pet-related incidents have been recorded in recent years, though leash law violations have been documented	No indirect impacts to negligible indirect impacts in adjacent lands	

Alternative D: Overall Most Protective of Resources/Visitor Safety. Under alternative D, dog walking restrictions would be the same as alternative B: no dog walking would be allowed at Sweeney Ridge and Cattle Hill.

Impacts on health and safety would be the same as alternative B: no impact.

Since dogs would not be allowed at Sweeney Ridge and Cattle Hill, there would be no impact from commercial dog walkers to the health and safety of visitors and staff.

Cumulative Impacts. Cumulative impacts would be the same as alternative B: negligible

Indirect Impacts on Adjacent Parks

Indirect impacts in adjacent lands would be the same as alternative B: negligible.

SWEENEY RIDGE/CATTLE HILL ALTERNATIVE D CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: No impact, assuming compliance	Dogs would be prohibited	Negligible cumulative impacts Negligible indirect impacts in adjacent lands	Beneficial, assuming compliance

Alternative E: Overall Most Dog Walking Access/Most Management Intensive. Under alternative E, on-leash dog walking would be allowed on Sneath Lane, Sweeney Ridge Trail from the Portola Discovery site to the Notch Trail, and on the Mori Ridge Trail at the Sweeney Ridge site. At Cattle Hill, on-leash dog walking would be allowed on the Baquiano Trail from Fassler Trail up to and including the Farallons View Trail.

The chance of park visitors and staff encountering an unruly or aggressive dog at Sweeney Ridge/Cattle Hill would exist. Impacts would be expected to be negligible based on the history at the site—no dog bite/attack violations were documented recently at Sweeney Ridge.

Under alternative E, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be granted at Sweeney Ridge/Cattle Hill, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking activity at Sweeney Ridge/Cattle Hill is not common, it is likely that the new regulation would have negligible impacts on human health and safety.

Cumulative Impacts. The negligible impacts on human health and safety under alternative E were considered together with the beneficial effect of the park's *Fire Management Plan* (NPS 2005a). Cumulatively, there would be negligible impacts on the human health and safety of park staff and visitors under this alternative at this park site.

Indirect Impacts on Adjacent Parks

The adjacent lands identified under alternative A would not likely experience an increase in visitation since on-leash dog walking would still be available at Sweeney Ridge/Cattle Hill. No indirect impacts on health and safety in adjacent lands would be expected.

SWEENEY RIDGE/CATTLE HILL ALTERNATIVE E CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Negligible impacts, assuming compliance	Site receives low use; no pet-related incidents have been recorded in recent years, though leash law violations have been documented	Negligible cumulative impacts No indirect impacts in adjacent lands	No change, assuming compliance

Preferred Alternative. Alternative C was selected as the preferred alternative for Sweeney Ridge and Cattle Hill. No dog walking would be allowed at Sweeney Ridge. On-leash dog walking would be allowed at Cattle Hill on the Baquiano Trail from Fassler Avenue up to and including the Farallons Trail. Changes to the dog walking regulation at Cattle Hill would not occur until the land is transferred to the NPS. There would be no impact on human health and safety at Sweeney Ridge. The chance of individuals encountering unruly or aggressive dogs would no longer exist. Additionally, restricting dogs from this area would eliminate the risk of exposure to pathogens or diseases associated with dog waste. Impacts on the health and safety of park visitors and staff at Cattle Hill would be negligible. Even though no dog bites/attacks were documented recently at this site, the chance of an individual being injured in a dog-related incident would exist.

Under the preferred alternative, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be allocated at Sweeney Ridge/Cattle Hill, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since dogs would not be allowed at Sweeney Ridge, there would be no impact at Sweeney Ridge from commercial dog walkers. Since commercial dog walking is not common at Cattle Hill, it is likely that the new regulation would have negligible impacts on human health and safety at Cattle Hill.

Cumulative Impacts. Projects and actions in and near Sweeney Ridge/Cattle Hill were considered for the cumulative impacts analysis (appendix K). Mainly, the park's *Fire Management Plan* would reduce hazardous fire hazards adjacent to the Vallemar neighborhood and maintain adequate fire road access (NPS 2005a, 64). Beneficial impacts on human health and safety would occur from this project.

The range of impacts (lack of impacts to negligible) on human health and safety under the preferred alternative were considered together with the beneficial effect of the park's *Fire Management Plan* (NPS 2005a). Cumulatively, there would be negligible impacts on the human health and safety of park staff and visitors under this alternative at this park site.

Indirect Impacts on Adjacent Parks

In lands adjacent to GGNRA, there are 24 parks with dog use areas within about a 10-mile radius of Sweeney Ridge and Cattle Hill and 4 parks within about a 5-mile radius; the closest parks are the San Bruno Dog Park and Esplanade Beach in Pacifica (map 27). At Cattle Hill, no indirect impacts on the health and safety of visitors and staff in adjacent lands would be expected under the preferred alternative, since on-leash dog walking would be allowed. In lands adjacent to Sweeney Ridge, indirect impacts on the health and safety of visitors and staff in from increased dog use would be negligible since dog walking is considered a low to moderate use activity at Sweeney Ridge.

SWEENEY RIDGE/CATTLE HILL PREFERRED ALTERNATIVE CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: No impacts at Sweeney Ridge, assuming compliance	Dogs would be prohibited	Negligible cumulative impacts	Sweeney Ridge: Beneficial, assuming compliance Cattle Hill: No change, assuming compliance
Negligible impacts at Cattle Hill, assuming compliance	Site receives low use; no pet-related incidents have been recorded in recent years, though leash law violations have been documented	No indirect impacts to negligible indirect impacts in adjacent lands	

Pedro Point Headlands

Alternative A: No Action. Currently, Pedro Point Headlands is not part of GGNRA; therefore, dog walking regulations have not been established at this site. Use at this site is considered low to moderate for dog walkers (table 9). Since the site is not part of GGNRA, no pet-related violation data are available.

A high level of visitor use would be expected in the future due to a proposed multi-use Coastal Trail that would connect to the existing trail on the site, potentially resulting in an increase in dog walkers at the site and therefore an increase in safety concerns associated with dog walking activities. The chance of park visitors and staff encountering an unruly or aggressive dog would exist. Negligible impacts to long-term minor adverse impacts on human health and safety would be expected.

Under alternative A, no permit system exists for dog walking. At Pedro Point Headlands, commercial dog walking is uncommon. Therefore, commercial dog walking would have negligible impacts on human health and safety.

Cumulative Impacts. Projects and actions in and near Pedro Point were considered for the cumulative impacts analysis (appendix K). Pedro Point Headlands would offer new opportunities and experiences to the park visitors. The *Pedro Point Headland Stewardship Project* aims to maintain and improve the ecological status of Pedro Point Headlands, and habitat restoration and trail development efforts include minimizing erosion (City College of San Francisco 2008, 1; Coastsider 2010, 1). The Devil's Slide Tunnels Project will result in a bypass of Devil's Slide by two inland tunnels to provide a safe, dependable highway between Pacifica and Montara. The park's *Fire Management Plan* would reduce hazardous fire hazards adjacent to the Highway 1 corridor and other built-up areas (NPS 2005a, 64). Beneficial impacts on human health and safety would occur from these projects.

The negligible to long-term, minor, adverse impacts to the health and safety of park staff and visitors from dogs at the Pedro Point Headlands under alternative A were considered together with effects of the projects mentioned above. The beneficial effects from the stewardship project, transportation project, and *Fire Management Plan* (NPS 2005a) is not expected to reduce the adverse impacts on health and safety from alternative A. Therefore, cumulative impacts to health and safety under this alternative are expected to be negligible to long-term, minor, and adverse.

Indirect Impacts on Adjacent Parks

In lands adjacent to GGNRA, there are 14 parks with dog use areas within about a 10-mile radius of Pedro Point and 2 parks within about a 5-mile radius; the closest parks are Montara State Beach and Esplanade Beach in Pacifica (map 27). No indirect impacts on health and safety in adjacent lands would be expected under alternative A since there would be no change in current conditions at the site.

PEDRO POINT HEADLANDS ALTERNATIVE A CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Negligible impacts to long-term minor adverse impacts	There would be safety concerns in the future due to predicted high use; site currently receives low to moderate local use; chance of park visitors and staff encountering an unruly or aggressive dog would exist	Negligible to long-term, minor, and adverse cumulative impacts No indirect impacts in adjacent lands	N/A

N/A = not applicable.

Alternative B: NPS Leash Regulations. Under alternative B, on-leash dog walking would be allowed along the proposed Coastal Trail.

Impacts on the health and safety of park visitors and staff would be negligible. The chance of visitors and staff encountering unruly or aggressive dogs would exist even with dogs on leash.

Under alternative B, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs per person with no permit required. Since commercial dog walking is not common at the Pedro Point Headlands, it is likely that the new regulation would have negligible impacts on human health and safety.

Cumulative Impacts. The negligible impacts on human health and safety under alternative B were considered together with the beneficial effects of the projects mentioned above under alternative A. Cumulatively, there would be negligible impacts on health and safety at this park site under this alternative.

Indirect Impacts on Adjacent Parks

No indirect impacts on health and safety in adjacent lands would be expected under alternative B since on-leash dog walking would be allowed at Pedro Point Headlands.

PEDRO POINT HEADLANDS ALTERNATIVE B CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Negligible impacts, assuming compliance	On-leash walking would be required, which would minimize opportunity for encountering an unruly or aggressive dog	Negligible cumulative impacts No indirect impacts in adjacent lands	Beneficial to no change assuming compliance

Alternative C: Emphasis on Multiple Use, Balanced by County. Under alternative C, dog walking restrictions would be the same as alternative B: on-leash dog walking would be allowed along the proposed Coastal Trail.

Impacts on health and safety would be the same as alternative B: negligible.

Under alternative C, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be granted at Pedro Point, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking activity at Pedro Point Headlands is not common, it is likely that the new regulation would have negligible impacts on human health and safety.

Cumulative Impacts. Cumulative impacts would be the same as alternative B: negligible.

Indirect Impacts on Adjacent Parks

Indirect impacts in adjacent lands would be the same as alternative B: no indirect impact.

PEDRO POINT HEADLANDS ALTERNATIVE C CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Negligible impacts, assuming compliance	Limiting number of dogs walked per walker/owner and regulating on-leash walking would minimize opportunity for encountering an unruly or aggressive dog	Negligible cumulative impacts No indirect impacts in adjacent lands	Beneficial to no change assuming compliance

Alternative D: Overall Most Protective of Resources/Visitor Safety. Under alternative D, no dog walking would be allowed at the Pedro Point Headlands.

No impacts on health and safety would occur. There would be no chance of individuals encountering unruly or aggressive dogs. Additionally, restricting dogs from this area would eliminate the risk of exposure to pathogens or diseases associated with dog waste.

Since dogs would not be allowed at Pedro Point Headlands, there would be no impact from commercial dog walkers to the health and safety of visitors and staff.

Cumulative Impacts. The lack of impacts on human health and safety under alternative D were considered together with the beneficial effects of the projects mentioned above under alternative A. Cumulatively, there would be beneficial impacts on health and safety at this park site under this alternative.

Indirect Impacts on Adjacent Parks

The adjacent lands identified under alternative A may experience increased visitation under alternative D, particularly Montara State Beach and Esplanade Beach in Pacifica, because they are the closest dog use areas. Indirect impacts on the health and safety of staff and visitors in adjacent lands from increased dog use would range from negligible to long term, minor, and adverse, since dog walking is considered a low to moderate use activity at Pedro Point Headlands.

PEDRO POINT HEADLANDS ALTERNATIVE D CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: No impact, assuming compliance	Dogs would be prohibited	Beneficial cumulative impacts Negligible impacts to long-term minor adverse indirect impacts in adjacent lands	Beneficial, assuming compliance

Alternative E: Overall Most Dog Walking Access/Most Management Intensive. Under alternative E, restrictions on dog walking would be the same as alternative B: on-leash dog walking would be allowed along the proposed Coastal Trail.

Impacts on health and safety would be the same as alternative B: negligible.

Under alternative E, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be granted at Pedro Point, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking activity at Pedro Point Headlands is not common, it is likely that the new regulation would have negligible impacts on human health and safety.

Cumulative Impacts. Cumulative impacts would be the same as alternative B: negligible.

Indirect Impacts on Adjacent Parks

Indirect impacts in adjacent lands would be the same as alternative B: no indirect impacts on human health and safety in adjacent lands.

PEDRO POINT HEADLANDS ALTERNATIVE E CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Negligible impacts, assuming compliance	Limiting number of dogs walked per walker/owner and regulating on-leash walking would minimize opportunity for encountering an unruly or aggressive dog	Negligible cumulative impacts No indirect impacts in adjacent lands	Beneficial to no change assuming compliance

Preferred Alternative. Alternative C was selected as the preferred alternative for Pedro Point Headlands. On-leash dog walking would be allowed along the proposed Coastal Trail.

Impacts on the health and safety of park visitors and staff would be negligible. The chance of visitors and staff encountering unruly or aggressive dogs would exist even with dogs on leash.

All dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs with no permit required. At some sites any dog walker, commercial or private, could obtain a permit to walk more than three dogs on leash, with a limit of six dogs. However, no permits would be granted at Pedro Point, so individual and commercial dog walkers would only be allowed to walk one to three dogs on leash per person. Since commercial dog walking activity at Pedro Point Headlands is not common, it is likely that the new regulation would have negligible impacts on human health and safety.

Cumulative Impacts. Projects and actions in and near Pedro Point were considered for the cumulative impacts analysis (appendix K). Pedro Point Headlands would offer new opportunities and experiences to the park visitors. The *Pedro Point Headland Stewardship Project* aims to maintain and improve the ecological status of Pedro Point Headlands, and habitat restoration and trail development efforts include minimizing erosion (City College of San Francisco 2008, 1; Coastsider 2010, 1). The Devil's Slide Tunnels Project will result in a bypass of Devil's Slide by two inland tunnels to provide a safe, dependable highway between Pacifica and Montara. The park's *Fire Management Plan* would reduce hazardous fire hazards adjacent to the Highway 1 corridor and other built-up areas (NPS 2005a, 64). Beneficial impacts on human health and safety would occur from these projects.

The negligible impacts on human health and safety under the preferred alternative were considered together with the beneficial effects of the projects mentioned above under alternative A. Cumulatively, there would be negligible impacts on health and safety at this park site under this alternative.

Indirect Impacts on Adjacent Parks

In lands adjacent to GGNRA, there are 14 parks with dog use areas within about a 10-mile radius of Pedro Point and 2 parks within about a 5-mile radius; the closest parks are Montara State Beach and Esplanade Beach in Pacifica (map 27). No indirect impacts on health and safety in adjacent lands would be expected under the preferred alternative since on-leash dog walking would be allowed at Pedro Point Headlands.

PEDRO POINT HEADLANDS PREFERRED ALTERNATIVE CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Negligible impacts, assuming compliance	Requiring on-leash dog walking would minimize opportunity for encountering an unruly or aggressive dog	Negligible cumulative impacts No indirect impacts in adjacent lands	No change, assuming compliance

Alternative A: No Action. For new lands that come under the management of GGNRA, alternative A would manage these lands under existing NPS regulations as described in 36 CFR 2.15, which forbids possession of a pet in a public building, public transportation vehicle, location designated as a swimming beach, or any structure or area closed to pets by the superintendent. Therefore, on-leash dog walking would be allowed at new lands under alternative A.

At most new lands, the impacts to health and safety from allowing on-leash dog walking would be negligible because dog management regulations would be determined for each site prior to visitor (with or without dogs) access at the site and visitors would become immediately familiar with dog management regulations. Therefore, impacts to health and safety as a result of alternative A would be negligible.

Under alternative A, no permit system would exist for dog walking. At sites where commercial dog walking is not common, it is likely that this alternative would not have an impact on the number of dog walkers resulting in a negligible impact on health and safety. At sites where commercial dog walking is common, impacts to health and safety from commercial dog walkers would be similar to impacts from other dog walkers and would be negligible.

Cumulative Impacts. Because it is unknown what new land locations may come under GGNRA management in the future, the cumulative impacts analysis for new lands would be similar to the cumulative impact analysis that was completed for park sites that are located in proximately to the new lands.

Indirect Impacts on Adjacent Parks

It is unknown what parks (including dog use areas) would be located adjacent to new lands not yet acquired by GGNRA. Therefore, a range of indirect impacts was developed to encompass the range of impact possibilities that could occur at lands located adjacent to these new lands that have not yet been acquired. Adjacent lands could range from urban lands previously developed to preserved lands. Since on-leash dog walking would be allowed at new lands under this alternative the overall indirect impacts to the health and safety of staff and visitors at adjacent lands as a result of alternative A would range from no impact to negligible.

ALTERNATIVE A CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Negligible impact	Dog management regulations would be determined for each site prior to visitor access at the site and visitors would become immediately familiar with dog management regulations	Results would be similar to the cumulative impact analysis that was completed for park sites that are located in proximity to the new lands No indirect impact to negligible indirect impact at adjacent lands	N/A

N/A = not applicable.

Alternatives B and C. For new lands that come under the management of GGNRA, alternatives B and C would manage these lands under existing NPS regulations as described in 36 CFR 2.15, which forbids possession of a pet in a public building, public transportation vehicle, location designated as a swimming beach, or any structure or area closed to pets by the superintendent. Alternatives B and C would allow on-leash dog walking unless the following conditions were triggered:

- impedes the attainment of a park's desired future conditions for natural and cultural resources as identified through the park's planning process, or
- creates an unsafe or unhealthful environment for visitors or employees, or
- impedes or interferes with park programs or activities, or
- triggers the compliance-based management strategy's process for closure.

Because it is unknown what types of lands and what locations may come under GGNRA management in the future, a conservative approach to the impact analysis was adopted to encompass the range of possibilities.

Under alternatives B and C, all dog walkers, including commercial dog walkers, would be allowed up to three dogs with no permit required. At sites where commercial dog walking is not common, it is likely that the new regulation would not have an impact on the number of dog walkers resulting in a negligible impact on health and safety. At sites where commercial dog walking is common, impacts to health and safety from commercial dog walkers would be similar to impacts from other dog walkers. Overall impacts to health and safety from dogs walked by both commercial and private individuals are summarized below.

At most new lands, the impacts to health and safety from allowing on-leash dog walking would be negligible because dog management regulations would be determined for each site prior to visitor (with or without dogs) access at the site and visitors would become immediately familiar with dog management regulations. Therefore, assuming compliance, overall impacts to health and safety from private and commercial dog walking as a result of alternatives B and C would be negligible.

Cumulative Impacts. Because it is unknown what new land locations may come under GGNRA management in the future, the cumulative impacts analysis for new lands would be similar to the cumulative impact analysis that was completed for park sites that are located in proximity to the new lands.

Indirect Impacts on Adjacent Parks

As stated under alternative A, it is unknown what parks (including dog use areas) would be located adjacent to new lands not yet acquired by GGNRA. Therefore, a range of indirect impacts was developed to encompass the range of impact possibilities that could occur at lands located adjacent to these new lands that have not yet been acquired. Since on-leash dog walking would be allowed at new lands under these alternatives the overall indirect impacts to health and safety at adjacent lands as a result of alternatives B and C would range from no impact to negligible.

ALTERNATIVES B AND C CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Negligible impact assuming compliance	Dog management regulations would be determined for each site prior to visitor access at the site and visitors would become immediately familiar with dog management regulations	Results would be similar to the cumulative impact analysis that was completed for park sites that are located in proximately to the new lands No indirect impact to negligible indirect impact at adjacent lands	N/A

N/A = not applicable.

Alternative D: Most Protective of Resources. New lands would be closed to dog walking unless opened by the GGNRA Compendium, as evaluated by criteria below. The “closed unless opened” approach is the reverse of 36 CFR 2.15. Only on-leash dog walking would be considered at new lands. New lands would not be considered for voice and sight control (ROLAs). Once open to on-leash, compliance-based management strategies apply. Areas could be opened to on-leash dog walking if opening the area would not:

- impede the attainment of a park’s desired future conditions for natural and cultural resources as identified through the park’s planning process, or
- create an unsafe or unhealthful environment for visitors or employees, or
- impede or interfere with park programs or activities.

Alternative D could close areas that allow on leash dog walking to areas that prohibit dogs if the presence of on leash dogs would impede attainment of the park’s desired future conditions.

No commercial dog walking would be allowed under alternative D; therefore commercial dog walking would have no impact on health and safety.

At most new lands, the impacts to health and safety from allowing on-leash dog walking would be negligible because dog management regulations would be determined for each site prior to visitor (with or without dogs) access at the site and visitors would become immediately familiar with dog management regulations. Therefore, assuming compliance, overall impacts to health and safety from dog walking as a result of alternative D would be negligible.

Cumulative Impacts. Because it is unknown what new land locations may come under GGNRA management in the future, the cumulative impacts analysis for new lands would be similar to the

cumulative impact analysis that was completed for park sites that are located in proximately to the new lands.

Indirect Impacts on Adjacent Parks

As stated under alternative A, it is unknown what parks (including dog use areas) would be located adjacent to new lands not yet acquired by GGNRA. Therefore, a range of indirect impacts was developed to encompass the range of impact possibilities that could occur at lands located adjacent to these new lands that have not yet been acquired. On-leash dog walking may be allowed at new lands if opened under the GGNRA Compendium; therefore, the overall indirect impacts to health and safety at adjacent lands as a result of alternative D would range from no impact to negligible.

ALTERNATIVE D CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Negligible impact assuming compliance	Dog management regulations would be determined for each site prior to visitor access at the site and visitors would become immediately familiar with dog management regulations	Results would be similar to the cumulative impact analysis that was completed for park sites that are located in proximately to the new lands No indirect impact to negligible indirect impact at adjacent lands	N/A

N/A = not applicable.

Alternative E: Most Dog Walking Access/ Most Management Intensive. For new lands that come under the management of GGNRA, alternative E would initially manage these lands under existing NPS regulations as described in 36 CFR 2.15, which forbids possession of a pet in a public building, public transportation vehicle, location designated as a swimming beach, or any structure or area closed to pets by the superintendent. Alternative E would allow dog walking unless the following conditions were triggered:

- impedes the attainment of a park's desired future conditions for natural and cultural resources as identified through the park's planning process, or
- creates an unsafe or unhealthful environment for visitors or employees, or
- impedes or interferes with park programs or activities, or
- triggers the compliance-based management strategy's process for closure.

Additionally, new lands may be opened to voice and sight control if:

- Off-leash dog use existed before acquisition, and
- one year baseline data is collected through the compliance-based management strategy's monitoring program, and
- compliance-based management strategy not triggered (primary or secondary management responses).

Alternative E would allow on leash dog walking and potentially voice and sight control dog walking in ROLAs at new lands managed by GGNRA as long as it would not impede attainment of the park's desired future conditions. Also, alternative E could close areas to on leash dog walking if it would impede attainment of the park's desired future conditions.

Under alternative E, all dog walkers, including commercial dog walkers, would be allowed up to three dogs with no permit required. At sites where commercial dog walking is not common, it is likely that the new regulation would not have an impact on the number of dog walkers. Therefore, commercial dog walking at these sites would result in a negligible impact on health and safety. At sites where commercial dog walking is common, impacts to health and safety are expected. Impacts to health and safety from commercial dog walkers would be similar to impacts from other dog walkers. Overall impacts to health and safety from dogs walked by both commercial and private individuals are summarized below

If dogs are allowed on leash, the chance of dog related incidents expected to occur would be unlikely. However, there would still be the chance for individuals to encounter leashed unruly or aggressive dogs resulting in negligible impacts to health and safety. If a ROLA is established at new lands managed by GGNRA, long-term, minor, adverse impacts to the health and safety of park staff and visitors would occur. Having dogs under voice and sight control creates the potential for adverse impacts because the likelihood of individuals encountering an uncontrolled aggressive or unruly dog increases. In addition, staff and visitors are more likely to be involved in a hazardous condition incident or pet/owner rescue.

If the new lands would prohibit dogs from the site, and assuming compliance there would be no impacts to human health and safety under this alternative. The chance for individuals to encounter unruly or aggressive dogs would no longer exist. Additionally, restricting dogs from an area would eliminate the risk of exposure to pathogens or diseases associated with dog waste.

Cumulative Impacts. Because it is unknown what new land locations may come under GGNRA management in the future, the cumulative impacts analysis for new lands would be similar to the cumulative impact analysis that was completed for park sites that are located in proximity to the new lands.

Indirect Impacts on Adjacent Parks

As stated under alternative A, it is unknown what parks (including dog use areas) would be located adjacent to new lands not yet acquired by GGNRA. Therefore, a range of indirect impacts was developed to encompass the range of impact possibilities that could occur at lands located adjacent to these new lands that have not yet been acquired. On-leash dog walking would be allowed at new lands under this alternative. In addition, voice and sight control dog walking may be allowed at new lands under this alternative; therefore, the overall indirect impacts to health and safety at adjacent lands as a result of alternative E would range from no impact to long-term minor, and adverse.

ALTERNATIVE E CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Negligible impact for on-leash dog walking; long-term, minor, adverse impact in ROLA assuming compliance	Visitors could encounter unruly or aggressive dogs on or off-leash; having dogs off-leash could increase occurrence of incidents, and hazardous conditions like pet/owner rescue	Results would be similar to the cumulative impact analysis that was completed for park sites that are located in proximity to the new lands No indirect impact to long-term, minor, and adverse at adjacent lands	N/A

N/A = not applicable.

Preferred Alternative. Alternative D was selected as the preferred alternative. New lands would be closed to dog walking unless opened by the GGNRA Compendium, as evaluated by criteria below. The “closed unless opened” approach is the reverse of 36 CFR 2.15. Only on-leash dog walking would be considered at new lands. New lands would not be considered for voice and sight control (ROLAs). Once open to on-leash, compliance-based management strategies apply. Areas could be opened to on-leash dog walking if opening the area would not:

- impede the attainment of a park’s desired future conditions for natural and cultural resources as identified through the park’s planning process, or
- create an unsafe or unhealthful environment for visitors or employees, or
- impede or interfere with park programs or activities.

The preferred alternative could close areas that allow on leash dog walking to areas that prohibit dogs if the presence of on leash dogs would impede attainment of the park’s desired future conditions.

Alternative C was selected as the preferred alternative for permits at all sites including new lands. All dog walkers, including commercial dog walkers, would be allowed up to three dogs with no permit required. All dogs must be on a leash. At sites where commercial dog walking is not common, it is likely that the new regulation would not have an impact on the number of dog walkers resulting in a negligible impact on health and safety. At sites where commercial dog walking is common, impacts to health and safety from commercial dog walkers would be similar to impacts from other dog walkers. Overall impacts to health and safety from dogs walked by both commercial and private individuals are summarized below.

At most new lands, the impacts to health and safety from allowing on-leash dog walking would be negligible because dog management regulations would be determined for each site prior to visitor (with or without dogs) access at the site and visitors would become immediately familiar with dog management regulations. Therefore, assuming compliance, overall impacts to health and safety private and commercial dog walking as a result of alternative D would be negligible.

Cumulative Impacts. Because it is unknown what new land locations may come under GGNRA management in the future, the cumulative impacts analysis for new lands would be similar to the cumulative impact analysis that was completed for park sites that are located in proximity to the new lands.

Indirect Impacts on Adjacent Parks

It is unknown what parks (including dog use areas) would be located adjacent to new lands not yet acquired by GGNRA. Therefore, a range of indirect impacts was developed to encompass the range of impact possibilities that could occur at lands located adjacent to these new lands that have not yet been acquired. Adjacent lands could range from urban lands previously developed to preserved lands. On-leash dog walking may be allowed at new lands if opened under the GGNRA Compendium; therefore, the overall indirect impacts to health and safety at adjacent lands as a result of the preferred alternative would range from no impact to negligible.

NEW LANDS PREFERRED ALTERNATIVE CONCLUSION TABLE

Health and Safety Impacts	Rationale	Cumulative Impacts	Impact Change Compared to Current Conditions
Conclusion: Negligible impact assuming compliance	Dog management regulations would be determined for each site prior to visitor access at the site and visitors would become immediately familiar with dog management regulations	Results would be similar to the cumulative impact analysis that was completed for park sites that are located in proximity to the new lands No indirect impact to negligible indirect impact at adjacent lands	N/A

N/A = not applicable.

SUSTAINABILITY AND LONG TERM MANAGEMENT

In accordance with NEPA and as further explained in NPS *DO #12*, consideration of long-term impacts and the effects of foreclosing future options should pervade a plan/EIS. According to *DO #12* and as defined by the World Commission on Environmental Development, “sustainable development is that which meets the need of the present without compromising the ability of future generations to meet their needs.” For each alternative considered for this dog management plan/EIS, considerations of sustainability that demonstrate the relationship between local short-term uses of the environment and the maintenance and enhancement of long-term productivity are described in the following section. This section also discusses the irreversible (permanent loss or non-renewable resource) or irretrievable (short-term loss or loss of renewable resource) commitments of resources as alternatives would require as well as adverse impacts that will be mitigated or avoided by the implementation of compliance-based management strategy. This project is unique in that adverse affects to natural resources are currently occurring as a result of the no action alternative (alternative A), which is documented by numerous pet-related incident reports and citations. Therefore, the proposed action alternatives (B-E) have been developed to reduce adverse affects to natural resources.

COMPLIANCE-BASED MANAGEMENT STRATEGY

As stated previously in chapter 2, the compliance-based management strategy is an important and effective tool to manage uncertainty when proposing new actions. The compliance-based management strategy has been created to ensure that the purpose, need, and objectives of the dog management plan are successfully achieved, for the sustainability and long-term management of park resources, and to protect park resources, visitors, and staff. Compliance-based management strategy would be implemented to address noncompliance and would apply to all action alternatives. Noncompliance would include dog walking within restricted areas, dog walking under voice and sight control in designated on-leash dog walking areas, and dog walking under voice and sight control outside of established ROLAs. Beginning with the implementation of the dog management plan, a 3-month public education period would occur followed by an additional 3 months of testing the monitoring strategy. The following 12 months would be used to collect baseline noncompliance data that would be used to prioritize monitoring efforts. Monitoring for compliance would continue for four years. If noncompliance continues and compliance falls below 75 percent (measured as the percentage of total dogs / dog walkers observed during the previous 12 months not in compliance with the regulations) the area’s management would be changed to the next more restrictive level of dog management. In this case, ROLAs would be changed to on-leash dog walking areas and on-leash dog walking areas would be changed to no dog walking areas.

SHORT-TERM USES VERSUS LONG-TERM ENHANCEMENT OF RESOURCES

The proposed project would be focused on promoting sustainability and long-term resource enhancement with minimal short-term resource damage or use. Compliance-based management strategies would reduce or eliminate the potential for most of the short-term impacts. However, NPS must consider if the effects of the project alternatives involve tradeoffs of the long-term productivity and sustainability of park resources for the immediate short-term use of those resources. It must also consider if the effects of the alternatives are sustainable over the long term without causing adverse environmental effects for future generations (NEPA section 102(c)(iv)) as described in more detail by alternative in the paragraphs that follow.

Alternative A is the no-action alternative; current dog walking management and conditions would remain the same, which would include 36 CFR 2.15, 36 CFR 7.97(d), the 1979 Pet Policy, and the GGNRA Compendium. The NPS currently cannot enforce the NPS-wide regulation requiring pets to be on leash

(36 CFR 2.15(a)(2)) in areas that were included in the 1979 Pet Policy. Under alternative A, undefined and contradictory rules for dog activities within the park compromise the natural resources of the park as well as the ability of future generations to enjoy the park. Alternative A would threaten both short-term use of park resources as well as the long-term sustainability of these resources. Dog walking activities would continue within the park as they have under the 1979 Pet Policy, and 36 CFR 2.15 and 7.97 (d) resulting in long-term impacts; degradation of soil, vegetation and water resources; disturbance to native wildlife and their habitat as well as listed species; detracting from visitor experience; disruption of cultural resources; and compromising visitor health and safety within the park would continue to occur. For example, alternative A fails to provide a long-term solution for balancing dog walking opportunities at Crissy Field and Ocean Beach with the protection of the federally-listed western snowy plover. The no action alternative only provides for temporary protection of this species under the current Final Rule (36 CFR 7) implemented October 20, 2007. Dog activities under the no action alternative continue to threaten other special status species and their habitat as well, including the tidewater goby, coho salmon, steelhead trout, bank swallow, and many others. Listed vegetation, including the Presidio manzanita, Marin western flax and San Francisco lessingia are a few of the federally-listed species that would continue to be adversely affected by the no action alternative. The no-action alternative does not provide protection for these listed species from dogs, nor is it consistent with the Recovery Plans for these species, including the San Bruno elfin, mission blue butterfly, northern spotted owl, western snowy plover, San Francisco garter snake, tidewater goby, and California red-legged frog. Additionally, the dog management policy that would continue as a result of the no action alternative would be inconsistent with NPS regulations and would increase controversy and conflict and could potentially lead to future litigation. Therefore, alternative A would trade off the short-term use of park resources for long-term productivity. Existing dog walking opportunities would be allowed in the short-term; however, dogs would continue to degrade the natural resources at the park, thus compromising the long-term productivity of soils, water resources, vegetation, wildlife, and listed species at the park.

Alternative B is defined as management conditions regulated by 36 CFR 2.15(a)(2) that require on leash dog walking in national parks where allowed. All dog walkers, including commercial dog walkers, are allowed up to three dogs per person and no permit is required. This alternative was specifically developed to follow the NPS Service-wide approach to dog walking as defined in NPS Leash Regulation. Alternative B is different from alternative A because it does not allow off leash dog walking at any of the sites but does provide short- and long-term dog walking opportunities for this and future generations. Under alternative B, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs per person with no permit required. Assuming compliance with proposed regulations, this alternative would generally improve the long-term sustainability of natural resources within the park, although some short-term impacts are unavoidable. However, these impacts are not greater than the impacts described above for alternative A, but are either the same or reduced in duration and/or intensity. Additionally, alternative B would apply the compliance-based management strategy to offset any impacts associated with noncompliance. Compared to alternative A, alternative B would help conserve natural resources at the park over the long term because it proposes on leash dog walking and enforcement of these regulations. Alternative B would therefore be more sustainable than alternative A and would provide for greater long-term enhancement and long-term protection of park resources. However, in order to be sustainable, education and enforcement would require long-term management, including compliance monitoring. These actions would require periodic commitment of funds and personnel for the foreseeable future to ensure protection of park resources. The result of this alternative would include the long-term productivity and sustainable use of the natural resources in the park.

Alternative C emphasizes the multiple users of GGNRA sites and apportions dog walking geographically across Marin, San Francisco, and San Mateo counties by allowing a variety of options in each county, including on leash dog walking and ROLAs; alternative C is different from alternative B because it would allow off-leash areas (ROLAs) for dogs. In addition, alternative C would allow all dog walkers, including

commercial dog walkers, to walk one to three dogs per person with no permit required. At some sites, any dog walker, commercial or private, can obtain a permit to walk more than three dogs on leash, with a limit of six dogs. In a ROLA, permit holders may have up to six dogs off-leash. This alternative was specifically developed to emphasize recreation opportunities and experiences for multiple user groups, including dog walkers, while considering visitor and dog safety and minimizing conflict between dog walkers and other visitors. Alternative C would provide a no-dog experience for visitors at some sites and would also protect cultural and natural resources at the park. Similar to alternative B, assuming compliance with proposed regulations, this alternative would generally improve the long-term sustainability of natural resources within the park, although some short-term impacts are unavoidable. This alternative was developed to reduce adverse affects to natural resources and to balance recreation and health/safety with the protection of natural resources, although some short-term impacts are unavoidable. However, these impacts are not greater than the impacts described above for alternative A, but are either the same or reduced in duration and/or intensity. Alternative C would also apply the compliance-based management strategy to offset any impacts associated with noncompliance. Alternative C is expected to minimize potential conflict, reduce potential health and safety issues, and protect natural and cultural resources, while providing dog walkers with recreational options, including off leash dog walking. Similar to alternative B, in order to be sustainable, this alternative would require long-term management, including compliance monitoring. These actions would require periodic commitment of funds and personnel for the foreseeable future to ensure protection of park resources. The result of this alternative would include the long-term productivity and sustainable use of the natural resources in the park.

Alternative D provides the highest level of protection for natural and cultural resources and the highest level of visitor safety. Alternative D allows options for dogs to be exercised on leash and in a limited number of ROLAs (compared to alternatives C and E), but would be more protective in areas where natural resources (plant and wildlife species) and cultural resources are located. In addition, no permits for more than three dogs would be issued under alternative D. The more protective dog management elements offered in alternative D would also provide a stronger measure of visitor protection for both dog walkers and other park visitors and assuming compliance with proposed regulations, would improve the long-term sustainability of natural resources within the park. Alternative D is different from alternative B because it would allow off-leash areas (ROLAs) for dogs but no commercial dog walking would be allowed under this alternative. This alternative was specifically developed to reduce adverse affects to natural resources and to balance recreation and health/safety with the protection of natural resources, although some short-term impacts are unavoidable. However, these impacts are not greater than the impacts described for alternative A, but are either the same and in many cases are reduced in duration and/or intensity. Alternative D would also apply the compliance-based management strategy to offset any impacts associated with noncompliance. Similar to alternative B, in order to be sustainable, this alternative would require long-term management, including compliance monitoring. These actions would require periodic commitment of funds and personnel for the foreseeable future to ensure protection of park resources. The result of this alternative would include the long-term productivity and sustainable use of the natural resources in the park.

Alternative E would provide the greatest level of access for dog walkers throughout GGNRA but would also require the most intensive management to ensure that greater access for dog walkers did not impact natural and cultural resources, visitor safety, and visitor experience. Similar to alternatives C and D, alternative E allows options for dogs to be exercised on leash and in ROLAs while still providing protection for natural and cultural resources, including listed species. Under alternative E, all dog walkers, including commercial dog walkers, would be allowed to walk one to three dogs per person with no permit required. At some sites, any dog walker can obtain a permit to walk more than three dogs on leash, with a limit of six dogs. In a ROLA, permit holders may have up to six dogs off leash. This alternative was developed to reduce adverse affects to natural resources and to balance recreation and health/safety with

the protection of natural resources. Similar to alternative B, assuming compliance with proposed regulations, this alternative would generally improve the long-term sustainability of natural resources within the park, although some short-term impacts are unavoidable. However, these impacts are not greater than the impacts described for alternative A, but are either the same or are reduced in duration and/or intensity. Alternative E would also apply the compliance-based management strategy to offset any impacts associated with noncompliance. Similar to alternative B, in order to be sustainable, this alternative would require long-term management, including compliance monitoring. These actions would require periodic commitment of funds and personnel for the foreseeable future to ensure protection of park resources. The result of this alternative would include the long-term productivity and sustainable use of the natural resources in the park.

ADVERSE IMPACTS THAT COULD NOT BE AVOIDED

The NPS is required to consider if the alternative actions would result in impacts that could not be fully mitigated or avoided (NEPA section 101(c)(ii)). It is important to note that negligible impacts occur to park resources for alternatives A through E at a number of park sites, but since negligible impacts are neither adverse nor beneficial, these impacts are not included in the paragraphs that follow. It is also noteworthy to mention that the impact analysis for “Visitor Use and Experience” in chapter 4 described different user groups at GGNRA, including visitors who prefer to walk dogs on GGNRA lands and visitors who would prefer not to have dogs walked on GGNRA lands. Because these two user groups have opposing views on dogs in the park, the impacts to each of the user groups as a result of each alternative are conflicting. For example, if dogs are allowed at a site within the park, an adverse impact to the user group of visitors who prefer not to have dogs at the park would occur; contrastingly, this same alternative would create a beneficial impact to visitors who prefer to bring dogs to the park. Therefore, for each site and alternative, both a beneficial and adverse impact will occur to visitor use and experience, depending on the user group. This resource is not discussed further in this section to simplify the paragraphs that follow due to the opposing views of visitor groups at the park.

This project is unique in that adverse impacts to park resources are currently occurring as a result of alternative A and are therefore, described as “continued” because they are occurring and will continue to occur. Alternative A would continue to have adverse impacts that could not be mitigated or avoided, including the degradation of soils, vegetation and water resources; disturbance to native wildlife and their habitat as well as listed species; detracting from visitor experience; disturbance of cultural resources; and compromise of visitor health and safety within the park. Specific adverse impacts vary by sites within the park but general conclusions can be made and ranges are presented in the following sentences. As a result of alternative A, long-term minor to moderate, adverse impacts occur to natural resources at sites within the park, including soils and geology, water quality, vegetation, wildlife, and species of special concern. Similarly, impacts to cultural resources, including cultural landscapes, archeological resources, and historic resources would occur as a result of alternative A; however, the impacts would have no adverse effects. Finally, long-term minor to moderate, adverse impacts as a result of alternative A would occur to park operations as well as health and safety. These adverse impacts cannot be avoided and would continue to occur for the life of this plan/EIS.

Assuming compliance, unavoidable adverse impacts under alternative B are either the same as alternative A or are reduced in duration and/or intensity. Also, there are fewer adverse impacts to natural resources associated with alternative B because dogs are prohibited at some of the park sites, resulting in no impacts. Assuming compliance, with the exception of “Visitor Use and Experience,” the only moderate, adverse impact as a result of alternative B occurs to “Park Operations,” at some park sites. An increase in the cost of park operations due to the implementation, education and enforcement of regulations cannot be avoided under this alternative. All other adverse impacts as a result of alternative B are reduced to minor, adverse impacts to natural resources. However, with clear regulations, and enforcement, adverse impacts

due to dog incidences will be minimized in the future. The impacts described for alternative B assume compliance with proposed regulations (on leash dog walking). Impacts from noncompliance could reach short-term adverse, but the compliance-based management strategy is designed to return impacts to a level that assumes compliance, as described in the overall impacts analysis, or provide beneficial impacts where dog walking is reduced or eliminated.

Similar to alternative B, unavoidable adverse impacts under alternative C are either the same as alternative A or are reduced in duration and/or intensity when compliance is assumed. Also, there are fewer adverse impacts to natural resources associated with alternative B because dogs are prohibited at some of the park sites, resulting in no impacts. With the exception of “Visitor Use and Experience,” the only moderate, adverse impact as a result of alternative C occurs to “Park Operations,” at some of the park sites and to “Health and Safety” at a few of the park sites. All other adverse impacts as a result of alternative C are reduced to minor, adverse impacts to natural resources. An increase in the cost of park operations due to the implementation, education and enforcement of regulations cannot be avoided under this alternative. However, with clear regulations, and enforcement, adverse impacts due to dog incidences will be minimized in the future. The impacts described for alternative C assume compliance with proposed regulations (on leash dog walking). Impacts from noncompliance could reach short-term adverse, but the compliance-based management strategy is designed to return impacts to a level that assumes compliance, as described in the overall impacts analysis, or provide beneficial impacts where dog walking is reduced or eliminated.

Similar to alternative B, unavoidable adverse impacts under alternative D are either the same as alternative A or are reduced in duration and/or intensity when compliance is assumed. Also, alternative D has the fewest adverse impacts to natural resources because dogs are prohibited from many of the park sites, resulting in no impacts. With the exception of “Visitor Use and Experience,” the only moderate, adverse impact as a result of alternative D occurs to “Park Operations” at some of the park sites and to “Health and Safety” at a few of the park sites. All other adverse impacts as a result of alternative C are reduced to minor, adverse impacts to natural resources. An increase in the cost of park operations due to the implementation, education and enforcement of regulations cannot be avoided under this alternative. However, with clear regulations, and enforcement, adverse impacts due to dog incidences will be minimized in the future. The impacts described for alternative D assume compliance with proposed regulations. Impacts from noncompliance could reach short-term adverse, but the compliance-based management strategy is designed to return impacts to a level that assumes compliance, as described in the overall impacts analysis, or provide beneficial impacts where dog walking is reduced or eliminated.

Similar to alternative B, unavoidable adverse impacts under alternative E are either the same as alternative A or are reduced in duration and/or intensity when compliance is assumed. As a result of alternative E, long-term moderate, adverse impacts occur to natural resources at some of the sites within the park, including soils and geology, vegetation, wildlife. However, the majority of the adverse impacts to natural resources are minor and not moderate. Similarly, at some sites, impacts to cultural resources, including cultural landscapes, archeological resources, and historic resources would occur as a result of alternative E; however resulting in no adverse effects. Finally, at some sites a long-term minor to moderate, adverse impacts as a result of alternative E would occur to “Park Operations as well as “Health and Safety.” An increase in the cost of park operations due to the implementation, education and enforcement of regulations cannot be avoided under this alternative. However, with clear regulations, and enforcement, adverse impacts due to dog incidences will be minimized in the future. The impacts described for alternative E assume compliance with proposed regulations. Impacts from noncompliance could reach short-term adverse, but the compliance-based management strategy is designed to return impacts to a level that assumes compliance, as described in the overall impacts analysis, or provide beneficial impacts where dog walking is reduced or eliminated.

IRREVERSIBLE/IRRETRIEVABLE COMMITMENTS OF RESOURCES

This section discusses irreversible and irretrievable commitments of resources. A resource commitment is considered irreversible when primary or secondary impacts from its use limit future options. Irreversible commitment applies primarily to nonrenewable resources, such as minerals or cultural resources, and to those resources that are only renewable over long time spans, such as soil productivity. Irreversible commitments are those that cannot be reversed, except perhaps in the extreme long term. A resource commitment is considered irretrievable when the use or consumption of the resource is neither renewable nor recoverable for use by future generations and that, once gone, cannot be replaced. The NPS must consider if the effects of the alternatives cannot be changed or are permanent (that is, the impacts are irreversible) and must also consider if the impacts on park resources would mean that once gone, the resource could not be replaced; in other words, the resource would not be restored, replaced or otherwise retrieved (NEPA section 102(c)(v)).

Dog use can damage resources that cannot easily be restored. Due to the rapid growth of San Francisco's population, there is the potential that dog activities will escalate and irreversibly or irretrievably impacts resources in the park. Overuse by dogs can change the character of soils, vegetation, wildlife habitat, and the species of wildlife themselves. If these areas are affected by intense use over a long period of time, or if natural resources are particularly vulnerable to change or damage, the impacts caused by dogs can preclude restoration. Irreversible/irretrievable commitments of resources would occur only under alternative A, if no action is taken to reverse the degrading quality of soils, water quality, wildlife, vegetation, cultural resources, visitor experience and park operations as a result of current dog activities. Additionally, the current relaxed regulations at GGNRA, as compared to other regional parks, which would continue to amplify the negative effects of dogs and their owners on the park.

As a result of alternative A, moderate, adverse impacts would occur to listed plant species, including sensitive coastal vegetation such as San Francisco lessingia, Presidio (raven's) Manzanita, Marin dwarf-flax. Due to the sensitive nature of these already declining plants, some of these species may not be restored or replaced. Therefore, alternative A has the greatest potential to result in irreversible or irretrievable commitments of resources. Irreversible/irretrievable commitments of resources would not occur as a result of alternatives B through E due to the implementation of compliance-based management strategies. Compliance-based management strategies have been developed to endure protection of park resources, visitors, and staff. Compliance-based management strategies would maintain long-term impacts at or below acceptable levels. Triggers and management responses will be based on the rolling 12-month average for compliance in the management zones. NPS will prepare annual reports documenting monitoring data collected and consequent management actions, which will be made available to the public.



Consultation &
Coordination

CHAPTER 5: CONSULTATION AND COORDINATION

THE SCOPING PROCESS

The following section documents the scoping process and the public involvement activities required by NEPA and *Director's Order #12* for the preparation of the GGNRA Dog Management Plan/EIS.

Scoping is an effort to involve agencies and the general public in determining the scope of issues to be addressed in the environmental document. Scoping includes consultation with all interested parties or any agency with jurisdiction by law or expertise to obtain early input. Among other tasks, scoping determines important issues and eliminates issues determined to be unimportant; allocates assignments among the interdisciplinary team members and/or participating agents; identifies related projects and associated documents; identifies other permits, surveys, consultations, etc. required by other agencies, and helps to determine a schedule that allows for adequate time to prepare and distribute the environmental document for all interested parties to review before a final decision is made.

NPS divides the scoping process into two parts: internal scoping and external (public) scoping. Internal scoping for this plan/EIS involved discussions among NPS personnel regarding issues, management alternatives, compliance-based management measures, areas of the park to be analyzed, appropriate level of documentation, lead and cooperating agency roles, available references and guidance, defining the purpose and need for management actions, and other related dialogue.

PUBLIC SCOPING

Public scoping is the early involvement of the interested and affected public in the environmental analysis process. The public scoping process helps ensure that people have been given the opportunity to comment and contribute early in the decision-making process. For this plan/EIS, project information was distributed to individuals, agencies, and organizations early in the scoping process, and people were given opportunities to express concerns or views and identify important issues or even other alternatives.

Together, internal and public scoping are essential elements of the NEPA planning process. The following sections describe the various methods used by NPS at GGNRA when conducting internal and public scoping.

As detailed in chapter 1, the implementation of the “1979 Pet Policy,” increasing use of the park by dog walkers and increasing conflicts among users of the park particularly due to off leash dogs, resulted in area closures to dogs at Fort Funston. A lawsuit was filed and the resulting court ruling determined that NPS had not adequately obtained public input on the closure. A public comment period was initiated and resulted in an overwhelming response against closure, including 1,100 letter and 5,000 signatures on petitions opposing the closure, and 400 pre-printed postcards and letters supporting the closure. Ultimately the court ruled that the voice control policy in effect at Fort Funston was contrary to NPS policies. The Commission held a public meeting in January 2001, attended by hundreds of people in favor of the 1979 Pet Policy and significant comment was received in support of voice control dog walking though complaints regarding conflicts between dogs under voice control and other park users continued.

In January 2002, the NPS published an Advanced Notice of Proposed Rulemaking (ANPR) in the Federal Register asking for comment on potential options for future dog management at GGNRA that could include a special regulation for dog walking. The advanced notice and public meetings asked to consider a range of dog management questions and put forth two management options for comment. Two

informational public meetings were held in March 2002 explaining the rulemaking process and a public meeting providing an opportunity for the public to comment was held in April 2002. After the 90-day comment period was closed, approximately 8,580 comments had been received by the park as well as a petition with over 10,000 signatures. In August 2002, the analysis summary for the public comments was published (Social Research Laboratory 2002a). Additional public input was obtained between May and July 2002 through a random phone survey of 1,600 residents in the four counties surrounding GGNRA: Marin, San Francisco, San Mateo and Alameda (Social Research Laboratory 2002b).

As a result of the public comment and other internal discussions, GGNRA chose to pursue negotiated rulemaking under the *Negotiated Rulemaking Act*. A Notice of Intent (NOI) to establish the Negotiated Rulemaking Committee was published in the Federal Register on June 28, 2005. The NOI invited the public to comment on the proposal to create the Committee, as well as apply for nomination or nominate another person for membership on the Committee if they believed they would be significantly affected by the special regulation and that their interests would not be represented adequately by the persons identified in the NOI. Following analysis of public comments to the NOI, The Secretary of the Interior appointed the Negotiated Rulemaking Committee to represent the diverse public interests likely to be affected by a dog management plan/EIS. The committee was comprised of 9 primary representatives and 9 alternates from three informal caucuses. A Notice of Establishment was published in the Federal Register on February 17, 2006. The Notice of Establishment provided responses to both substantive and non-substantive comments and included a list of the committee members.

The EIS process formally began February 22, 2006 when NPS published the Notice of Intent to prepare a dog management plan and EIS and begin the public scoping process. The public was asked to submit comments within the following 30 days. However on March 29, 2006, a Notice of Extension of Comment Period was published to the Federal Register to allow the public to comment on the scope of the planning process and potential alternatives through April 24, 2006. The public was also able to comment on the Public Scoping Brochure that was posted on Planning, Environment, and Public Comment (PEPC) on March 7, 2006 and mailed out in mid March to the names on the park's dog management plan mailing list developed through previous public comment periods as well as GGNRA general mailing list. During this scoping period, two public scoping workshops were held April 4-5, 2006. Existing GGNRA dog management as well as potential alternatives, planning, and negotiated rule making process information was presented at the meeting. Park staff and NPS specialists were available to address attendee questions and provide additional information. Meeting materials, including maps and handouts that were distributed during the meeting were also posted to the PEPC website. Throughout the entire scoping period, 543 pieces of correspondence were entered into PEPC by NPS staff. Correspondence received included direct entries by the commenter into PEPC, responses on park-developed forms, emails, one fax, and hard copy letters. A summary report of public comments received during this public scoping phase was prepared in August 2006 and posted on the PEPC website September 19, 2006.

Following the NOI to prepare a dog management plan and EIS in February 2006, the Negotiated Rulemaking Committee held seven meetings from March 2006 to October 2007. Each meeting was preceded by the publication of a notice of the upcoming meeting and followed by a posting on PEPC of the information presented at each meeting. The public was provided the opportunity to attend Committee meetings and provide input. A report summarizing the Negotiated Rulemaking process, products and outcomes, negotiation structures, strategies and approaches, and dynamics was prepared by the Facilitation Team of the Negotiated Rulemaking Committee (Bourne and Harty 2008). These documents were posted on the PEPC website.

In addition to the brochure and public workshops, the public was kept up to date on the project by way of information posted on the NPS PEPC web site, <http://parkplanning.nps.gov/goga> and the park's web site www.nps.gov/goga in addition to a designated project telephone information line.

INTERNAL SCOPING

Subsequent to the ANPR in 2002, a panel of senior NPS officials from outside GGNRA was convened to review the public comments and other technical information and make a recommendation to the Superintendent of GGNRA that the park should proceed to rulemaking and comprehensive planning for pet management to address suitable locations and proper management strategies.

In late January 2005, GGNRA park staff held an internal scoping meeting setting goals for effective public involvement activities that were implemented as previously discussed.

Concurrent with the formation of the Negotiated Rulemaking Committee in 2005, NPS at GGNRA began to hold internal meetings with park staff, consultants, and the NEPA team from NPS Environmental Quality Division (EQD) to begin drafting the purpose, need and objective statements, and conceptual alternatives. This internal scoping resulted in the NOI to prepare a dog management plan/EIS in February 2006. GGNRA staff committed to continued internal scoping concurrent with the Negotiated Rulemaking process, which lasted until October 2007.

Many internal alternatives development meetings were held with park staff, consultants, and EQD from 2006 to early 2008 to develop, refine, and modify the dog plan/EIS alternatives to address risk factors and associated criteria. The planning team also took into consideration the discussions of the Negotiated Rulemaking Committee, which after a year and a half of discussions reached consensus in October 2007.

Internal meetings were conducted to arrive at compliance-based management strategies to be implemented as part of the dog management plan/EIS. The meetings were held in December 2009.

AGENCY AND STAKEHOLDER CONSULTATION

During the Negotiated Rulemaking process, the Committee sent invitations to selected agencies to meet with a Technical Subcommittee to share resource and management information related to dog walking and to better inform the Committee members in regard to the many aspects of dog management.

Consultation letters regarding the dog plan/EIS were mailed on June 28, 2006 to the U.S. Fish and Wildlife Service (USFWS), U.S. Environmental Protection Agency (EPA), and National Oceanic and Atmospheric Administration (NOAA) - National Marine Fisheries Service.

In addition to the federal agencies listed above, NPS mailed consultation letters to the following state agencies: California Department of Parks and Recreation- Marin Sector; Muir Beach Community Services District; Farallones Marine Sanctuary Association; Marin Municipal Water District; and Marin County Parks and Open Space Commission. All agencies were also invited to attend a meeting with NPS at GGNRA to discuss the purpose, need, and objectives, the concurrent negotiated rulemaking process, as well as the schedule and process for preparation of the plan/EIS. Agencies were also allowed to submit written comments; responses were received from California Department of Parks and Recreation, Marin Municipal Water District, and Marin Parks and Open Space Commission (appendix L).

COOPERATING AGENCY

In July 2005 the Presidio Trust requested cooperating agency status with the NPS on this plan/EIS. The NPS granted the Presidio Trust cooperating agency status based on the Trust's special expertise in the Presidio Area B and the potential for spillover effects onto Trust lands from adjacent GGNRA areas. Area B is defined as the interior area of the Presidio whereas Area A is the NPS coastal lands. The Trust's participation as a cooperating agency in this plan/EIS is thus limited to those areas adjacent to Area B.

For this plan/EIS those areas include Crissy Field, Fort Point, and Baker Beach. The letter from the Presidio Trust to the NPS requesting cooperating agency status can be found in appendix L.

ENDANGERED SPECIES ACT SECTION 7 CONSULTATION

Consultation with the USFWS and NOAA–National Marine Fisheries has been implemented as required by the *Endangered Species Act* (ESA) and the *Magnuson-Stevens Fishery Conservation and Management Act*.

NPS has engaged with USFWS on the dog management issue via informal consultation throughout the project planning process. Consultation began with the initial consultation letter and agency scoping meeting. Following the agency scoping meeting, a meeting with a USFWS Senior Biologist was held on August 1, 2006. After the initial informal consultation meetings, informal consultation took place concurrently with the negotiated rulemaking committee meetings. At the request of the USFWS, a list of federally listed endangered, threatened and candidate species known to occur within the park was sent to USFWS for review (appendix H). NPS parameters developed for determining which areas of the park were to be included in the negotiated rulemaking process were also included with the list of species.

USFWS was also invited to consult during internal meetings conducted to arrive at compliance-based management strategies to be implemented as part of the dog management plan/EIS. The USFWS attended the meetings held in December 2009.

In preparation of the plan/EIS the park analyzed the potential impacts of six alternatives including a No Action and Preferred Alternative on listed aquatic and marine species occurring and potentially present within the sites and new lands of GGNRA selected for dog management. Habitat used by federally threatened or endangered species may be vulnerable to impacts from intensive use of public areas by humans and dogs. GGNRA contains more federally protected endangered and threatened species than any other unit of the national park system in continental North America. There are over 80 rare or special-status wildlife and plant species currently identified as permanent or seasonal residents of the park or dependent on park lands and waters for migration. Although habitats at GGNRA support many species with special status, only those species potentially affected by this plan/EIS were discussed in this document. Of the 80 listed wildlife and plant species, 15 are state and/or federally listed and have a detailed impacts analysis in this plan/EIS. Table 14 includes a list of the 15 species.

The park has concluded that the preferred alternative, for the selected sites included in this plan/EIS is “not likely to adversely affect” the 15 species listed in table 14. Therefore the park does not believe that formal Section 7 consultation is required. Letters requesting concurrence with the parks assessment were sent to the Section 7 Coordinator at USFWS and NOAA-Fisheries. Copies of the letters can be found in appendix L.

If, based on comments received during public review of the draft plan/EIS, NPS determines that the preferred alternative should be altered or amended in anyway, NPS will submit a revised analysis to the USFWS and NOAA – Fisheries with a new recommendation based on the new preferred alternative and associated impacts.

TABLE 14. FEDERALLY AND STATE-LISTED SPECIES CONSIDERED IN DETAIL IN THE DOG MANAGEMENT PLAN/EIS

Group	Scientific Name	Common Name	Federal Status ^a	State Status ^a	GGNRA Location
Invertebrate	<i>Callophrys mossii bayensis</i>	San Bruno elfin butterfly	FE	—	Milagra Ridge
Invertebrate	<i>Icaricia icarioides</i> ssp. <i>missionensis</i>	Mission blue butterfly	FE	—	Marin Headlands Trails, Oakwood Valley, Milagra Ridge, Sweeney Ridge, Fort Baker
Fish	<i>Eucyclogobius newberryi</i>	Tidewater goby	FE, CH	—	Marin Headlands (Rodeo Lagoon)
Fish	<i>Oncorhynchus kisutch</i>	Coho salmon—central California coast	FE, CH	SE	Muir Beach (Redwood Creek)
Fish	<i>Oncorhynchus mykiss</i>	Steelhead—central California coast	FT, CH	—	Muir Beach (Redwood Creek)
Amphibian	<i>Rana aurora draytonii</i>	California red-legged frog	FT, CH	—	Marin Headlands (Tennessee Valley Pond), Muir Beach (lagoon), Rodeo Beach (lagoon and lake), Mori Point, Milagra Ridge, Sweeney Ridge
Reptile	<i>Thamnophis sirtalis tetrataenia</i>	San Francisco garter snake	FE	SE	Mori Point, Milagra Ridge, Sweeney Ridge, Pedro Point
Bird	<i>Charadrius alexandrinus nivosus</i>	Western snowy plover	FT, CH ^b	—	Crissy Field, Ocean Beach
Bird	<i>Riparia riparia</i>	Bank swallow	—	ST	Fort Funston
Bird	<i>Strix occidentalis caurina</i>	Northern spotted owl	FT	—	Homestead Valley, Oakwood Valley
Plant	<i>Arctostaphylos hookeri</i> ssp. <i>ravenii</i>	Presidio (Raven's) Manzanita	FE	SE	Baker Beach
Plant	<i>Hesperolinon congestum</i>	Marin dwarf-flax (Marin western flax)	FT	ST	Baker Beach
Plant	<i>Lessingia germanorum</i>	San Francisco lessingia	FE	SE	Fort Funston, Baker Beach
Plant	<i>Suaeda californica</i>	California seablite	FE	—	Crissy Field
Plant	<i>Potentilla hickmanii</i>	Hickman's potentilla (Hickman's cinquefoil)	FE	SE	Mori Point, Pedro Point

^a FE = federally endangered, FT = federally threatened, CH = critical habitat, SE = state endangered, ST = state threatened.

^b Critical habitat has been designated for this species, but it does not occur in GGNRA.

SECTION 106 OF THE NATIONAL HISTORIC PRESERVATION ACT CONSULTATION

Federal agencies are responsible for the impact of their actions on historic properties and are publicly accountable for their decisions. Cultural resources, (archeological, architectural, and historic) are protected as required by Section 106 of the *National Historic Preservation Act of 1966*, as amended (16 USC 270, et seq.) (NHPA).

In accordance with 36 CFR 800.4(a)(1) the area of potential effects (APE) was established by the park. Seven non-contiguous areas within San Francisco and Marin Counties were defined as part of the overall APE. As dog activity in an area can negatively affect sensitive cultural resources (i.e., trampling, digging, etc.), the APE boundaries were delineated by using the presence of dogs in plan areas where historic properties exist. In other words, where dogs are allowed in proximity to the locations of historic properties, or allowances for dogs are proposed for the future, these areas are included within the APE. The locations of historic properties were identified through review of GGNRA records by its cultural resource staff.

Much of the area included in the APE is encompassed within large historic district boundaries including the Fort Miley Military Reservation; the Presidio National Historic Landmark (NHL); the Fort Mason Historic District; and the Forts Baker, Barry and Cronkhite Historic District. In addition, specific historic structures located within these larger districts, as well as at Fort Funston, were analyzed including permanent seacoast fortifications and their integral earthworks and Crissy Airfield. Three prehistoric archeological sites were also included in the analysis (appendix I contains a list of historic properties analyzed in this the plan/EIS). All resources are either listed in or eligible for listing in the National Register of Historic Places (NRHP) and are briefly described below.

Archeological Resources

Three archeological resources that could be affected by the plan/EIS are indigenous in nature. One is located in Marin County; two are located in San Francisco County. They are characterized in general as representing subsistence activities in the area--food procurement and preparation, tool production, etc.

Historic Structures

Historic structures with the potential to be affected by the plan include:

- 16 permanent seacoast fortifications and their integral earthworks (sometimes referred to as batteries).
- Crissy Airfield, established in 1919, functioned as the center of West Coast military aviation operations from 1921 to 1936.

Historic Districts

Historic districts included in the analysis are related to the military history of the park, which dates from Spanish settlement in 1776 through the 20th century and include:

- The Presidio National Historic Landmark
- The Fort Mason Historic District
- The Fort Miley Military Reservation
- The Forts Baker, Barry, and Cronkhite Historic District.

Finding of Effect

NEPA analysis and Section 106 findings have been completed for all cultural resources (three archeological resources; 17 historic structures; four historic districts) that could be potentially affected as a result of implementation of the dog management plan/EIS. Application of the Criteria of Adverse Effect (36 CFR 800.5) has resulted in the determination that the preferred alternative would have an effect on historic properties within the APE, but the effect is “not adverse.”

The park has initiated *National Historic Preservation Act* Section 106 consultation under 36 CFR 800 for this plan/EIS as documented in a letter to the State Historic Preservation Officer (SHPO). A copy of the Section 106 consultation letter can be found in appendix L.

As the park completes its public review/comment period for the draft plan/EIS, the park will update the SHPO if the preferred alternative selected for implementation should be altered or amended in anyway, as well as on the associated effects to historic resources that may be caused by this altered alternative. At that point in time, the park will send a letter to the SHPO requesting concurrence with a final finding of effect.

Coastal Zone Management Act Consistency

The *Coastal Zone Management Act of 1972* (CZMA) was enacted by Congress to encourage states to protect, preserve, develop, and, when possible, restore or enhance valuable natural coastal resources. Participation in the CZMA is a voluntary partnership between the federal government and the U.S. coastal states. If a proposed project is a federal action requiring NEPA review and the project is located in the coastal zone, then a CZMA consistency certification must be prepared.

The California Coastal program was approved as part of a National Coastal Zone Management Program authorized by the CZMA of 1972. As The California Coastal Commission was established through the adoption of the *California Coastal Act of 1976* and is an independent state agency whose mission is to: “protect, conserve, restore, and enhance environmental and human-based resources of the California coast and ocean for environmentally sustainable and prudent use by current and future generations” (CCC 2010 p.1). In keeping with their mission, the California Coastal Commission is an independent state agency responsible for planning and review of activities within the coastal zone through specific policies outlined in the *California Coastal Act* such as shoreline public access and recreation, lower cost visitor accommodations, terrestrial and marine habitat protection, visual resources, landform alteration, agricultural lands, commercial fisheries, industrial uses, water quality, offshore oil and gas development, transportation, development design, power plants, ports, and public works” (CCC 2010 p.1). Although federally owned lands within the coastal zone are exempt from the CZMA, federal agencies are encouraged to coordinate and cooperate with the State to meet the purposes of the *California Coastal Act* and be consistent with the policies of the *California Coastal Act*.

Based on the analysis within this plan/EIS, the preferred alternative should, over the long term, provide beneficial effects to coastal resources by: (1) minimizing access to the surface waters of San Francisco Bay and the Pacific Ocean adjacent to the applicable GGNRA sites; (2) reducing opportunities for soil disturbance and erosion that could impact water quality and aquatic habitats; (3) protect and conserve sensitive species and habitats by providing access to sensitive areas; (4) require control of dogs by owners at all times; and (5) increase compliance with waste removal.

Based on the anticipated benefits to coastal resources the NPS is confident the preferred alternative presented in this dog management plan is consistent with the CZMA and therefore does not require a Consistency Determination. A letter stating the parks assessment was sent to the Federal Consistency

Coordinator at the California Coastal Commission. A copy of the letter can be found in appendix L. After the Federal Consistency Coordinator reviews the plan/EIS, the NPS will submit to the Federal Consistency Coordinator for concurrence a “Negative Determination” (15 CFR 930.35(d)) for this plan/EIS.

Since some of the sites within this plan/EIS are within the San Francisco Bay (i.e., Crissy Field) and likely fall under the ‘park priority use areas’ of the San Francisco Bay Plan a letter stating the parks assessment was also sent to the San Francisco Bay Conservation and Development Commission. Based on the anticipated benefits to coastal resources the park is confident the preferred alternative is consistent with the CZMA and the San Francisco Bay Plan. A copy of the letter can be found in appendix L.

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A copy of this draft plan/EIS has been provided to the following agencies and organizations. A notice of availability of the environmental impact statement has been sent to attendees of the public meetings, park partners, and others listed on the project mailing list.

ELECTED OFFICIALS AND COMMITTEES

- Office of Senator Barbara Boxer
- Office of Senator Dianne Feinstein
- Office of Representative Nancy Pelosi
- Office of Representative Jackie Speier
- United States House of Representatives Committee on Resources
- Office of Mayor Gavin Newsome

FEDERAL AGENCIES

- Biological Resources Discipline/Western Ecological Research Center
- Federal Emergency Management Agency Region 9
- National Oceanic and Atmospheric Administration
- National Park Service
- Presidio Trust
- U.S. Army Corps of Engineers
- U.S. Department of Interior Office of the Solicitor
 - Oakland Regional Field Office
- U.S. Department of Justice
 - Environment and Natural Resources Division
 - California Northern District U.S. Attorneys Office
- U.S. Environmental Protection Agency
 - Region 9
 - Washington Office
- U.S. Fish & Wildlife Service
 - Sector 7
- U.S. Geological Survey

CALIFORNIA STATE AGENCIES

- California Coastal Commission
- California Coastal Conservancy
- California Department of Fish & Game
- California Department of Forestry
- California Department of Water Resources
- California Environmental Protection Agency
- California Native American Heritage Commission
- California State Clearinghouse
- California State Parks
 - Angel Island State Park
 - Mt. Tamalpais State Park
 - Office of Historic Preservation
- State of California
 - Water Resources Control Board

REGIONAL AND LOCAL AGENCIES

- Bay Area Air Quality Management District
- Bolinas Public Utility District
- City and County of San Francisco
- East Bay Regional Park District
- Golden Gate Bridge Highway & Transportation District
- Marin County
- Marin Municipal Water District
- Marin Municipal Water District - Sly Oaks Headquarters
- Midpeninsula Regional Open Space District
- Montara Sanitary District
- Muir Beach Community Services District
- San Francisco Bay Conservation and Development Commission
- San Francisco Bay Regional Water Quality Control Board
- San Mateo County Resource Conservation District
- San Mateo County Parks
- San Mateo County Planning and Building Department
- San Mateo County Transit District
- Santa Clara County
- Sausalito/Marin City Sanitary District
- Stinson Beach County Water District
- Tamalpais Community Services District

CITIES

- City of Belmont
- City of Belvedere
- City of Burlingame
- City of Foster City
- City of Half Moon Bay
- City of Larkspur
- City of Mill Valley
- City of Millbrae
- City of Novato
- City of Pacifica
- City of San Bruno
- City of San Rafael
- City of Sausalito
- City of South San Francisco
- Daly City

ORGANIZATIONS

- California League of Conservation Voters
- California Native Plant Society
- Center for Biological Diversity
- City College of San Francisco
- Coleman Advocates for Youth
- Crissy Field Dog Group
- Farallones Marine Sanctuary Association
- Fort Funston Dog Walkers
- Gulf of the Farallones National Marine Sanctuary
- Mar Vista Stables
- Marin Humane Society
- Marine Mammal Center
- Marinwatch
- Pro Dog
- San Francisco League of Conservation Voters
- San Francisco Society for the Prevention of Cruelty to Animals
- San Francisco Dog Owners Group
- Senior Action Network
- Sierra Club
- Wild Equity Institute



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- 2010d Email Response dated 12 January and titled: "Ch4 Comment 308--MBB habitat MAHE trails."
- 2010e Email Response dated Friday, January 15, 2010 and titled: "Comment #340 Fw dogs in Crissy Marsh."
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References



Glossary

GLOSSARY

1979 Pet Policy—A policy developed by the Citizens' Advisory Commission which provided guidance in the form of suitable locations for on leash dog walking areas and off leash or "voice control" areas in lands owned and managed by GGNRA, even though it did not abide by the federal regulation regarding dog walking in national parks (36 CFR 2.15).

1995 Service-wide Programmatic Agreement—An agreement between the NPS, the Advisory Council on Historic Preservation, and the National Conference of State Historic Preservation Officers, which set forth the stipulations in accordance with which the NPS was to carry out its Section 106 responsibilities for management of the parks system.

36 CFR Part 7, Final Rule—This rulemaking provides temporary protection for western snowy plovers in the Crissy Field and Ocean Beach protection areas until a permanent determination is made through the dog management planning process for the entire park.

abundance—Relative degree of plentifulness. For contrast, see **diversity**.

accelerated erosion—An increased rate of soil erosion caused by humans or human-related factors (such as dogs). See **soil erosion**.

ADA accessible—Meeting the requirements set forth in 28 CFR Part 36, revised July 1, 1994 (appendix A). The newly restored Coastal Trail, a highly used area at GGNRA, is ADA accessible.

adaptability—Capacity to become modified based on changing circumstances.

adherence—Compliance (as with NPS leash requirements).

Advance Notice of Proposed Rulemaking (ANPR)—Published in the Federal Register in January 2002, the GGNRA dog management ANPR requested public comment on potential alternatives for future dog management in GGNRA. Suggestions received could then be incorporated into the plan/EIS, proposed rule, and final rule. Starting from the date of publication of the ANPR in January 2002 and extending for 90 days, the public was asked to comment on options, questions, and ideas for the proposed rule for future dog management in the GGNRA or to present options of their own.

aestivate—To pass the summer in a state of torpor; similar to hibernate (in winter). On the California coast, federally and state-endangered San Francisco garter snakes hibernate during the winter, and adults may aestivate in rodent burrows during months when ponds dry.

aggressive dogs—Most of the organized groups that support off leash dog recreation at GGNRA sites advocate responsible dog ownership, which includes leashing aggressive dogs. Encounters with aggressive dogs can cause injury and adversely affect visitor experience at the park.

Alameda Wildlife Refuge—The proposed Alameda National Wildlife Refuge, located at the western end of Alameda, is home to one of the California least tern's most critical nesting colonies. The tern colony at the old naval base has grown from 10 nests in 1976 to 440 in 2004. Since the Refuge is the California least tern's nearest breeding site, this species is not included in the plan/EIS for further analysis.

algal bloom—Rapid and excessive growth of a plankton population.

algal photosynthesis and respiration—Harmful effects of algal blooms, which occur as a result of increased nutrients in waterbodies. These effects can cause fluctuations in pH and dissolved oxygen levels.

Americans with Disabilities Act (ADA)—The ADA prohibits discrimination against people with disabilities in employment, transportation, public accommodation, communications, and governmental activities. On leash dog walking at Lands End would be allowed only on the Coastal Trail, which is heavily used and ADA accessible. Use of the Coastal Trail is projected to increase because of its ADA compatibility.

amphibian egg mass—Group of eggs laid for fertilization, consisting of clumps of gelatinous envelopes (each jelly-like envelope forming an egg capsule).

amphibian—Any of a class (Amphibia) of cold-blooded vertebrates intermediate between fishes and reptiles and having gilled aquatic young and air-breathing adults.

anadromous fish—Fish living mostly in the ocean and breeding in freshwater (e.g., steelhead trout, coho salmon). The ESA and the Organic Act require special protection for the anadromous fish found in areas of GGNRA.

Animal Care and Control Agreement—As well as a permit, commercial dog walkers must agree to comply with the Animal Care and Control Guidelines in order to be recognized as a professional dog walker in San Francisco (county and city).

APE—See **Area of Potential Effects (APE)**.

aquatic environment—Marine, estuarine, or freshwater resources that support animal and plant species and can be affected by dog waste or trampling.

aquatic invertebrate—An organism without a spine (insect, crustacean, etc.) that lives for all or most of its life in a body of water. Often of special concern to conservationists because of the fragility of its environment.

aquatic resources—Waterbodies and the flora and fauna within them.

aquatic vegetation—Plants that have adapted to living in or on aquatic environments. Because living on or under the water surface requires numerous special adaptations, aquatic plants can only grow in water or permanently saturated soil.

archeological resources—Material remains of past human life and activities, and the records documenting the scientific analysis of these remains. The three archeological resources in San Francisco and Marin counties addressed in this plan are indigenous in nature and are either listed on or considered eligible for the NRHP.

Area of Potential Effects (APE)—The “geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties” (36 CFR 800.16[d]). The APE at GGNRA was determined prior to resource analysis and includes multiple areas in both Marin and San Francisco counties.

armature—A structure for offense or defense. Armatures constitute one of the internal hardened features masked by the battery earthworks.

artifact—An object created by humans, usually for a practical purpose, that remains from a particular period. Numerous prehistoric shell mounds and other artifacts have been identified in coastline areas from prehistoric Native American villages.

artillery emplacement—A prepared position for heavy, usually large-bore, military weaponry. Artillery emplacements constitute one of the internal hardened features masked by the battery earthworks.

Bald and Golden Eagle Protection Act—The Act, enacted for bald eagles in 1940 and amended in 1962 to include golden eagles, prohibits the take, transport, sale, barter, trade, import and export, and possession of eagles, making it illegal for anyone to collect eagles and eagle parts, nests, or eggs without a permit.

bare rock escarpments—Long rocky cliffs or steep rocky slopes with limited vegetation separating comparatively level areas. These make up Rock-outcrop-Orthents complex at 30 to 75 percent slopes, and are found at many sites in GGNRA.

Barnabe soils—Shallow, well-drained soils that are found on hills and mountainous uplands and have a slope of 9 to 75 percent.

barracks—Housing for soldiers/airmen. Crissy Airfield is the only Air Coast Defense Station airfield in the country that retains the majority of its original buildings, including the barracks.

basalt—A dark grey to black igneous rock. See **igneous rock**.

battery earthworks—Earth placed over and around fortifications of brick, stone, and concrete (batteries) that were used as defensive structures, with features and equipment necessary to support a variety of artillery. Designed not only to absorb artillery impact but also to camouflage fortifications from the air and sea.

bedrock parent material—Bedrock is the solid rock that underlies all soil, and the material from which soil forms is called its parent material. When bedrock is worn or weathered away and creates soil, bedrock is the parent material that forms this residual soil. As a result of grinding movement along the many faults throughout GGNRA, bedrock parent materials within the park are jumbled, and a mixture of sandstone, basalt, and metamorphic rocks is present.

benthic fauna—Vertebrate and invertebrate organisms that inhabit the bottom of a body of water. These species are vulnerable to disturbance by trampling and fouling of their habitat by dogs.

benthic invertebrate—An organism without a spine that lives in the bottom of a body of water. Includes crustaceans, flatworms, and other species, many of which are vital food sources for birds. See **benthic fauna**.

biochemical oxygen demand—The uptake rate of dissolved oxygen by the biological organisms in a body of water. It is listed as a conventional pollutant in the U.S. Clean Water Act and widely used as an indication of water quality.

biological diversity—Also called biodiversity. Refers to the variation of life forms found within a particular ecosystem. Often used as a measure of the health of biological systems. GGNRA is recognized as one of the most biologically diverse areas on the California coast.

biosphere—The complex formed by living organisms together with their environment. See **Golden Gate Biosphere Reserve**.

brackish lagoons—A brackish lagoon is a body of comparatively shallow water separated from the deeper sea by a shallow or exposed barrier beach, sandbank of marine origin, coral reef, or similar feature. Its water has more salinity than freshwater, but not as much as seawater.

breeding burrows—The burrows that tidewater goby males dig for egg-laying and fertilizing and for hatching their young (USFWS Tidewater Goby Recovery Plan). These burrows are dug in lagoons in the spring after they have closed to the ocean, and are susceptible to being crushed by dogs.

buried cultural resources—Historic or prehistoric structures that have not yet been unearthed. These buried resources can be damaged by being dug up by dogs or by the accelerated erosion that may occur due to dog- and human-related activity; such damage is considered unlikely within GGNRA.

California Department of Fish and Game (DFG)—A California government department under the California Natural Resources Agency. The DFG manages and protects the state's fish, wildlife, plant resources, and native habitats, maintaining an informal list of plant and wildlife species of special concern.

California Endangered Species Act (ESA)—The California ESA is intended to provide additional protection to threatened and endangered species in California. The state ESA does not supersede the federal ESA, but operates in conjunction with it.

California Fish and Game Code—One of the 29 codes codifying the California statutes enacted by the California State Legislature and the governor. Although federal agencies are not required to comply with California's Fish and Game Code, the NPS makes every reasonable effort to conduct its actions in a manner consistent with relevant state laws and regulations.

California Native Plant Society (CNPS)—A not-for-profit organization formed in 1965 that seeks to increase understanding of California's native flora and to preserve that flora. The CNPS developed the *Inventory of Rare and Endangered Vascular Plants of California* which is published every 3 to 5 years and is used by the state and federal government for conservation planning.

canids—Any of the family Canidae of carnivorous animals that includes domestic dogs, wolves, coyotes, and foxes. Alternative C would reduce the possibility of interactions between off leash dogs and other canids in the area, such as coyotes.

canine distemper virus—An acute, highly contagious disease affecting domestic and wild carnivores. The disease is caused by a paramyxovirus, and is usually fatal if untreated. Transmission can easily occur between dogs and wild carnivores upon casual contact, even just sniffing excrement.

cantonment—Quarters for troops (usually temporary). In Marin County, there are field fortifications associated with Fort Cronkhite north of the cantonment area.

cellulose—A polysaccharide of glucose units that constitutes a large part of the cell walls of plants. Dissolved oxygen in park waterbodies is a concern in the fall because the leaves that fall in the water are coated by a microbial biofilm of bacteria and fungi, which use oxygen in their metabolic cycles as they feed on the cellulose in the leaves.

channelization—The channelization of a waterway by straightening it (also usually by dredging/widening the natural streambed and/or building up high embankments on either side). Prevents the water from changing directions randomly, reducing net erosion. However, it can also cause wetland loss; downstream flooding; and loss of fish diversity and abundance because of reduction in habitat, elimination of riffles and pools, greater fluctuation of stream levels and water temperature, and shifting substrates. At GGNRA, the habitats of the tidewater goby and the bank swallow are both threatened by channelization.

chaparral—An ecological community consisting of shrubby, drought-resistant plants found primarily in California and the northern portion of the Baja California peninsula. Chaparral within the GGNRA provides habitat for federally endangered plant species.

chert—A resistant rock material found in the Franciscan Complex, resembling flint and consisting mostly of fibrous chalcedony. See **Mélange areas**.

Citizens' Advisory Commission—Coordinated public involvement in the park. Its charter stated that the commission could make recommendations on various policy issues from the citizens' point of view, in compliance with NPS policies.

clay loam—Soil containing a relatively high percentage of clay, about the same amount of sand, and the remaining portion silt.

cliff erosion—The wearing away of cliff faces due to natural and human- and dog-caused effects. A portion of Fort Funston is restricted to both visitors and dogs in order to prevent cliff erosion and to protect bank swallow habitat and native plant communities.

closed-cone coniferous forest—One of the habitats where the federally and state-endangered Hickman's potentilla can be found.

Coast Miwoks—The second largest group of Miwok Native American people. The Coast Miwoks inhabited the general area of modern Marin County and southern Sonoma County in northern California, from the Golden Gate north to Duncans Point and eastward to Sonoma Creek.

coastal batteries—Artillery emplacements along the California coast. The historic structures analyzed in this plan/EIS include battery earthworks and other field fortifications associated with a number of coastal batteries within Marin and San Francisco counties.

Coastal Zone Management Act (CZMA)—A federal statute which encourages state, local, regional, and federal agencies to cooperate when implementing their coastal zone programs.

Code of Federal Regulations—The codification of the general and permanent rules published in the Federal Register by the executive departments and agencies of the federal government.

coho salmon—A federally threatened salmonid inhabiting the streams and lagoons in GGNRA.

coliform—Of or related to the rod-shaped bacteria (as *E. coli*) normally present in the intestine. See **E. coli**.

colonial nesting—Refers to large aggregations of individuals of one or more species of bird that nest in close proximity at a particular location. Most colonial nesters tend to be birds that feed in wetland

habitats, such as seabirds, although colonially nesting birds also include groups such as the swifts, swallows, and martins.

commercial dog walking—An activity where an individual or business entity is compensated for walking dogs. Commercial dog walking is only allowed in certain areas of GGNRA; in many areas, there are restrictions on the number of dogs allowed per dog walker and permit requirements for commercial dog walkers. Commercial dog walking be prohibited throughout GGNRA only under alternative D; all other alternatives would allow commercial dog walking.

Compliance-Based Management Strategy—A program designed to encourage compliance with sections of the Code of Federal Regulations (CFR) applicable to dog management, and ensure protection of park resources, visitors and staff. It provides the framework for monitoring and recording observed noncompliance with the applicable sections of the CFR, including the new 36 CFR Part 7 special regulation, and will guide use of park resources to address those violations. Noncompliance with federal regulations related to dog management will be met with a range of management responses.

concession revenues—Monies received from businesses in return for permission to operate on park lands. One source of GGNRA non-operational funding.

conditional use permit—Required for commercial dog walkers in Marin County Open Space. Allows up to six dogs to be walked, with three of them on leash at all times.

contiguous habitat—Unfragmented habitat. Particularly important for those species who have difficulty crossing from one chunk of habitat to another; e.g., the federally listed mission blue butterfly, which is found in GGNRA.

contravention—Violation (as the 1979 pet policy violated the terms of NPS policy). See **1979 Pet Policy**.

Council on Environmental Quality—As provided by NEPA, the Council on Environmental Quality (CEQ) was established in the executive office of the President. CEQ is composed of three members appointed by the President with the advice and consent of the Senate. The council is to “analyze and interpret environmental trends and information of all kinds; to appraise programs and activities of the Federal Government in the light of the policy set forth in subchapter I of this chapter; to be conscious of and responsive to the environmental, economic, social, esthetic, and cultural needs and interests of the Nation; and to formulate and recommend national policies to promote the improvement of the quality of the environment.”

Cronkhite soils—Deep, moderately well-drained soils that are found on hills with slopes of 9 to 75 percent.

cultural landscapes—Combinations of elements including vegetation, earthworks, roads, paths, buildings, views, and other man-made and natural features that truly represent or suggest a particular event or time period.

cultural resource specialist—Cultural resource specialists monitor projects and perform research to ensure the stabilization, preservation, and restoration of historic structures and landscapes and archeological resources.

cultural resources—Archeological, traditional, and built environment resources, including cultural landscapes. In GGNRA, many of the cultural resources are centered around the historic airfield at Crissy Field.

Department of Commerce—The Cabinet department of the U.S. government concerned with promoting economic growth. The mission of the department is to “promote job creation and improved living standards for all Americans by creating an infrastructure that promotes economic growth, technological competitiveness, and sustainable development.” It administers NOAA and NMFS. See **National Oceanic and Atmospheric Association (NOAA)** and **National Marine Fisheries Service (NMFS)**.

depletable resources—Nonrenewable resources. Natural resources that exist in a fixed amount or are consumed much faster than nature can re-create them.

designated on leash areas—Specific areas identified as open to on leash dog walking, as opposed to ROLAs; under all action alternatives (B through E), all areas of the park not designated as on leash or under voice and sight control areas (ROLAs) would be closed to dogs. See **regulated off leash areas (ROLAs)**.

deterrence—Inhibition from an unlawful act through fear of punishment. Along with education, a method of gaining compliance with leash laws in GGNRA.

detract—Take away from; diminish. Some visitors to GGNRA find that off leash dogs detract from their experience of the park.

Director’s Order (DO)—A source of detailed written guidance issued by the NPS director to help managers make day-to-day decisions. Director’s Orders supplement and may amend Management Policies. See **Management Policies**.

dislocating—Moving or removing a species from its habitat (e.g., detaching amphibian egg masses from their position in the water).

dissolved oxygen—Oxygen saturation; a relative measure of the amount of oxygen dissolved or carried in water.

diversity—See **biological diversity**.

dog management—The policies governing the permissible use of GGNRA lands by dogs and dog walkers.

Dog Management Information line—The park maintains a Dog Management Information line with the current status of the dog management process, where the public can leave messages for park staff. The line is monitored and calls are responded to daily.

dog management regulations—Regulations governing the permissible use of GGNRA lands by dogs and dog walkers. It was suggested during the negotiated rulemaking discussion and the federal panel recommendations that dog-walking groups take an active part in disseminating accurate information to constituents regarding dog management regulations.

dog park—A facility set aside for dogs to exercise and play off leash in a controlled environment under the supervision of their owners.

dog run—An enclosed area where dogs can stay without a leash. It is usually gated and locked so that other animals cannot enter and so that dogs cannot escape. See **dog park**.

dog urination—May affect some cultural resources; for example, it may have detrimental effects on character-defining features, such as vegetation, associated with historic districts and structures.

dog voice-and-sight video and tag program—A video education and tag program required of all dog “guardians” wishing to use voice-and-sight control privileges in the City of Boulder, Colorado. Upon completion of the course, high-visibility tags are worn by dogs under voice and sight control.

dog walkers—Private (individual) and commercial dog walkers.

dog/human technical cliff rescues—Technical rescue is the application of special knowledge, skills, and equipment to safely resolve unique or complex rescue situations; e.g., vertical rescue situations. Alternative B would require on leash dog walking on the Fort Funston trails that have a high incidence of dog/human technical cliff rescues, reducing risks to dogs and dog owners due to the hazardous cliffs.

dog-walker compliance—Compliance of dog owners and commercial dog walkers with posted and published leash regulations.

dog-walking groups—Citizens’ interest groups formed to promote dogwalking access.

dog-walking regulation—A federal rule promulgated pursuant to the Administrative Procedures Act, governing the use of GGNRA lands by dogs and dog owners.

dune ponds—Generally shallow ponds, often ephemeral in nature. Some are formed when sand is blown from low-lying areas, while others form in swales between small former spits. These areas became water filled when the groundwater is lifted by the saltwater beneath it. Most are not more than two or three feet deep.

E. coli—Causes diarrhea and abdominal gas; has been the source of disease outbreaks in several states. An indicator organism often used to determine water purity (through coliform bacteria testing), its presence indicates fecal contamination. See **enterococcus**.

earthflow—A downslope viscous flow of fine-grained materials that have been saturated with water and are moving under the pull of gravity. An intermediate type of mass wasting, between downhill creep and mudflow.

earthworks—An embankment or other construction made of earth, especially one used as a field fortification. The earthworks at Battery Townsend in the Marin Headlands constitute one of GGNRA’s important cultural resources.

ecologist—One who studies the interrelationship of organisms and their environment. The ecologists at GGNRA fulfill key roles in natural resource management activities, including tracking dog-related complaints and monitoring restoration areas, fencing, and water quality.

ecology—The pattern of relations between organisms and their environment.

ecosystem—The complex of a community of organisms and its environment functioning as an ecological unit.

educational outreach—Efforts by NPS staff to educate the public regarding dog walking rules. Educational outreach can be accomplished using pamphlets, newsletters, signs, law enforcement and other techniques.

egrets—Wading birds, usually white, that bear long plumes during the mating season. The long feathers distinguish egrets from herons, a distinction based more on appearance than on biology. Although egrets have the same build as the larger herons, they tend to be smaller. See **herons**.

emergent aquatic vegetation—Emergent aquatic plants are rooted in the lake bottom, but their leaves and stems extend out of the water. This vegetation along the edge of watercourses and wetlands provides critical habitat for some listed species, and disturbance of this vegetation from dogs could compromise its value to wildlife. See **aquatic vegetation**.

encroachment—Invasion of natural habitat by non-native, invasive vegetation.

Endangered Species Act of 1973 (ESA)—Provides for the conservation of threatened and endangered species of fish, wildlife and plants, and the critical habitat upon which threatened and endangered species depend.

endangered species—Any species that is in danger of extinction throughout all or a significant portion of its range, other than pests whose protection would present a risk to man (ESA of 1973, Public Law 93–205).

enterococcus—A genus of lactic acid bacteria commonly found in intestines. In bodies of water, the acceptable level of enterococcal contamination is very low, and in 2004, *Enterococcus* spp. took the place of fecal coliform as the new federal standard for water quality at public beaches. See **coliform**.

estuarine fauna—Organisms that live or forage in estuaries. Estuarine fauna in GGNRA include the coho salmon, steelhead trout, and tidewater goby, all of which can be affected by increased turbidity, increased nutrients, and trampling of vegetation and benthic invertebrates from dog play in the water.

estuarine—Of, formed in, or relating to an estuary (a water passage where a tide meets a river current; especially an arm of the sea at the lower end of a river).

ethnographic resources—Resources that would inform the scientific description of the customs of individual peoples and cultures in the GGNRA area, or such descriptive works themselves. It is not expected that ethnographic resources will be affected by this plan and they are not included for analysis in the plan/EIS.

eutrophication—An increase in the concentration of chemical nutrients in an ecosystem (often caused by humans or dogs) to an extent that increases the production of organic compounds by photosynthesis. Depending on the degree of eutrophication, subsequent negative environmental effects such as oxygen depletion and severe reductions in water quality, fish, and other animal populations may occur. Rodeo Lagoon in GGNRA exhibits signs of eutrophication.

exclosure fencing—Fencing around an area (e.g., a western snowy plover nesting area) to exclude humans, dogs, and other animals in order to protect the species within the exclosure.

Executive Order 11988, Floodplain Management—States that an action class and applicable regulatory floodplain must be identified for any proposed action that may be harmed by flooding or has the potential for adverse floodplain impacts. Applying the guidelines in the NPS Procedural Manual 77-2: Floodplain

Management (NPS 2003b), dog management actions are not expected to affect GGNRA's floodplains or to be affected by possible floods.

exotic plant seeds—Non-native and/or invasive plant seeds. Dogs can spread non-native plant seeds brought in from outside the park or spread plant seeds from one area of the park to another through shedding and waste elimination, leading to native plants being crowded out by non-native, invasive plants.

exotic weeds—Non-native, invasive plant, which can crowd out native plants that may have important habitat value to other native species. See **exotic plant seeds**.

Facilitation Team of the Negotiated Rulemaking Committee—A team contracted through the Institute for Environmental Conflict Resolution that facilitated the negotiated rulemaking meetings, prepared multiple meeting reports, and a final report summarizing the negotiated rulemaking process, products, and outcomes; negotiation structures, strategies, and approaches; and dynamics following the Committee's meetings between March 2006 and October 2007.

fault—A fracture in the Earth's crust accompanied by a displacement of one side of the fracture with respect to the other. Large faults are the result of differential or shear motion, and active fault zones are the causal locations of most earthquakes. The major fault in the GGNRA area is the San Andreas Fault, but there are also many smaller faults in the area.

feces—Eliminated animal waste. Dog feces can alter the chemical makeup of habitats such as estuarine waters and can distribute plant seeds from outside the park or from one area to another. Disease can also be spread directly or indirectly through dog and wild animal feces. See **exotic plant seeds**, **E. coli**.

Federal Register—Published by the Office of the Federal Register, National Archives and Records Administration (NARA), the Federal Register is the official daily publication for rules, proposed rules, and notices of federal agencies and organizations, as well as executive orders and other presidential documents (<http://www.gpoaccess.gov/fr/>).

federally listed endangered species—An endangered species is one that is in danger of extinction throughout all or a significant portion of its range. Before a species can receive protection under the ESA, it must first be placed on the federal list of endangered species. All actions leading up to and including listing of a species as endangered are published in the Federal Register (USFWS Endangered Species Program).

Felton Variant soils—Deep, well-drained soils located on uplands that have a slope of 30 to 50 percent.

field fortifications—Military earthwork features such as foxholes, trenches, etc., generally temporary in nature. The locations of the World War II era field fortifications at GGNRA are generally indicated only by suspicious landforms or gun mounts sticking up from the sand. See **landform**, **gun mount**.

fire roads—Periodically maintained and bladed roads, classified as driveable firebreaks, which are opened prior to the fire season to provide administrative and emergency access to strategic or remote locations. Public vehicular access is not allowed. The fire roads in GGNRA are used as trails by hikers, dog walkers, horseback riders, and others. In Marin County, dogs are allowed off leash on fire roads.

Fish and Wildlife Coordination Act of 1934 (as amended)—A federal regulation enacted in 1934 to protect fish and wildlife when federal actions result in the control or modification of a natural stream or body of water. The Act provides the basic authority for the involvement of the USFWS in evaluating impacts to fish and wildlife from proposed water resource development projects.

flora—Plant life characteristic of a region.

flush distance—The distance from a given disturbance (e.g., human pedestrians or dogs) at which wildlife will flee, possibly resulting in danger to abandoned young or negative effects on foraging or nesting behaviors. A study by Miller et al. found that flush distance varied greatly depending on the type of disturbance (dogs alone, dogs walked on leash, or humans alone) and the animal in question.

flushing wildlife—Intentionally or unintentionally causing animals to flee because of noise or other disturbance.

forage—*n* Plant material (mainly plant leaves and stems) eaten by browsing animals.

forage—*vb* To search (as animal) for food; browse.

foraging—Searching for food, especially by browsing or grazing. When foraging sites are compromised or disturbed by dog and human activities, important wildlife foraging behaviors can be altered.

forb—An herbaceous flowering plant other than grass.

foredune community—The complex of plants that thrive on the angled side of a coastal dune that faces the ocean.

fortification—See **field fortification**.

foxholes—Fighting positions measuring about 6 to 8 feet long and 2 feet deep, where one or two men could provide defensive fire with rifles. These positions could be quickly dug with the simplest hand tools, and only provided minimal protection. See **field fortification**.

fragile habitats—Natural communities that provide habitat for plant or animal species and that are particularly susceptible to human- and dog-related impacts. Species dependent on these habitats may suffer direct impacts from trampling and off-trail use of dunes and other fragile habitats. For example, the rare San Francisco Bay spineflower and San Francisco wallflower may require or benefit from the protection offered by a substrate undisturbed by humans and dogs.

fragmentation of habitat—Breaking up an organism's habitat into discontinuous chunks, particularly for organisms that have difficulty moving from one of those chunks to another. Dogs and humans may fragment habitat by creating informal trails, for instance, and such habitat impacts have been documented at GGNRA sites such as Fort Funston.

fragmented landscape—Discontinuous habitat. See **fragmentation of habitat**.

Franciscan complex—See **Franciscan Mélange**.

Franciscan Mélange—Also Franciscan complex. A landscape of easily eroded, sheared, and crushed sandstone and shale. The bedrock to the north of the Tennessee Valley is composed of this erodible assemblage. See **Mélange areas**.

fungi—Fungus: A member of a large group of organisms that includes microorganisms such as yeasts and molds, as well as mushrooms. Fungi are classified as a kingdom separate from plants, animals, and bacteria.

garrisoned—Occupied with troops.

geographic information system (GIS)—Any system that captures, stores, analyzes, manages, and presents data that are linked to location.

geological resources—A naturally occurring solid, liquid, or gas that is known or thought to exist in or on the Earth's crust in concentrations that make extraction economically feasible, either at present or at some time in the future. In 2006 NPS closed part of Fort Funston in part to protect geological resources, including the bluff top and interior dunes, which had been subjected to accelerated erosion due to human- and dog-related activities.

geometrical contours—Sharp edges and straight lines easily distinguishable by enemy surveillance; to be avoided in the exterior slopes of coastal defenses and further concealed by planting of the slopes.

gleaners—Insectivores (insect eaters). Gleaning is the catching of insects and other invertebrates by plucking them from within foliage, or sometimes from the ground—It may also be applied to where prey is picked off, or from within, natural and man-made surfaces such as rock faces and under the eaves of houses.

goby—See **tidewater goby**.

Golden Gate Biosphere Reserve—A biosphere reserve in Northern California created by UNESCO in 1988, which encompasses thirteen protected areas in the San Francisco Bay Area. It includes a diverse range of marine, coastal, and upland habitats.

Golden Gate National Recreation Area Enabling Legislation—GGNRA was established by Congress in 1972 (PL 92-589). Based on the record, making national park resources and programs available to a wide variety of visitors was clearly intended by Congress and the administration to be a major purpose of GGNRA (NPS 1980), along with the legislation's direction to observe sound principles of land use planning and management and preserve the scenic beauty and natural character of the area.

Golden Gate National Recreation Area Strategic Plan—The park's Strategic Plan (NPS 1997), currently under revision, includes several policy statements relevant to dog management planning. These relate to preserving and enhancing the natural environment and cultural resources, protecting the integrity of the park's fragile resources, bringing national parks to the people, and strengthening the park's relevance to its metropolitan neighbors.

Golden Gate National Recreation Area Superintendent's Compendium (NPS 2001b)—The format wherein each park, as allowed by the CFR, can publish park-specific actions to protect cultural or natural resources, enhance public health or safety, or avoid conflict among visitor use activities.

gravelly loam—Soil containing 7 to 27 percent clay, 28 to 50 percent silt, and 15 to 35 percent gravel by volume.

grebe—A member of a widely distributed order of freshwater diving birds (Podicipediformes), some of which visit the sea when migrating and in winter.

gross domestic product (GDP)—The total value of the goods and services produced by the residents of a socioeconomic entity during a specified period (generally a year), excluding net income earned abroad. The GDP of the San Francisco metropolitan statistical area, part of the area potentially affected by GGNRA dog management actions, was approximately \$268 billion in 2005.

guardhouse—Building used as a headquarters by soldiers on guard duty. Crissy Airfield retains the majority of its original buildings, including the guardhouse.

gulls—Laridae; some of the birds for which the shoreline of San Francisco Bay provides feeding, breeding, roosting, and wintering habitat.

gully—A trench formed by soil erosion caused by running water.

gun mount—A weapon component used to secure an armament, which permits the operator to rest the weapon on the mount, steadying the weapon and increasing accuracy.

habitat alteration—Alteration of habitat occupied by unique or sensitive species can include trampled vegetation, altered or eroded soils, inadvertently introduced non-native species of plants, and increased potential for predators. Intensive human or dog use can result in any or all of these effects. Some wildlife species are highly vulnerable to even slight changes in habitat.

habitat corridor—A strip of land that aids in the movement of species between disconnected areas of their natural habitat. Habitat fragmentation due to human development is an ever-increasing threat to biodiversity, and habitat corridors are a possible solution. The equestrian trail in Fort Funston is within a habitat corridor.

habitat protection closure violation—One of the violations for which Rangers and U.S. Park Police will contact dog walkers.

habitat—The place or environment where a plant or animal naturally lives. Can be classified as nesting habitat, foraging habitat, wintering habitat, and other life-cycle divisions.

hangar—A covered area, usually enclosed, for housing and servicing aircraft. Crissy Airfield retains the majority of its original buildings, including the hangars.

harassment—Creating the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns, including breeding, feeding, or sheltering (ESA, 50 CFR 17.3). There have been documented cases of dogs and humans harassing western snowy plovers and other protected species in GGNRA; one of the objectives of the GGNRA dog management plan is to avoid harassment of wildlife, which can constitute “take” under the ESA. See **take**.

herons—Wading birds in the Ardeidae family, some of which are called egrets or bitterns instead of herons. Egrets are not biologically distinct from the herons, and tend to be named differently because they are mainly white and/or have decorative plumes. See **egrets**.

historic structures—Buildings or other man-made structures representative of a particular period in history. The historic structures in GGNRA, including field fortifications and other remnants of the coastal batteries of World War II, are cultural resources.

human factors—Park visitors, dogs—trampling, digging.

hummocky—Characterized by rounded knolls or small hills.

hydric soil—A soil formed under conditions of flooding, saturation, or ponding long enough to develop anaerobic conditions.

hydrologist—One who studies the movement, distribution, and quality of water throughout the Earth, thus addressing both the hydrologic cycle and water resources. Hydrologists work in the fields of either earth or environmental science, physical geography, geology, or civil and environmental engineering.

igneous rocks—One of the three main rock types (the others being sedimentary and metamorphic rock). Igneous rock is formed by molten rock (magma) cooling and becoming solid, and makes up approximately 90 percent of the upper part of the Earth's crust. Igneous rocks include basalt, granite, diorite, rhyolite, and others.

impede—Hinder; discourage; prevent.

imperceptible—Extremely slight (as in effects), and therefore not significant and not treated further in this plan/EIS.

implementation—Carrying out, putting into practice (as a rule or alternative). An EIS is required prior to implementation of a rule that would establish a new dog management plan for GGNRA.

incubation—The act or process of hatching eggs with the adults warming and protecting them by sitting on them (brooding). Interruption of the incubation process can negatively affect reproductive success, and dogs have been documented harassing brooding western snowy plovers at GGNRA.

Indian Trust Resources—Indian trust assets are owned by Native Americans but held in trust by the United States. Since the lands within the park boundaries are not held in trust by the Secretary of the Interior for the benefit of Indians, this topic was dismissed from discussion in this plan/EIS.

infrastructure—System of public works (e.g., roads, sanitation, water); one of the socioeconomic links shared by GGNRA and the community.

insecticide—Chemicals used to kill insects regarded as pests; pesticide. Nearly all insecticides have the potential to significantly alter ecosystems. An insecticide, Fipronil, has been detected in surface waters at Nyhan Creek at GGNRA.

interdisciplinary team—Composed of a project manager from the NPS EQD and GGNRA staff members from a wide range of disciplines, this team was organized to develop a set of alternatives based upon the purpose, need, and objectives contained in this plan/EIS.

interior dunes—Coastal dunes, both frontal and interior, are part of the equilibrium of barrier beach systems. Interior dunes, behind the frontal dunes, provide high ground and protection against penetration of overwash and the damaging effects of storm-surge ebb scour. Interior dunes at Fort Funston have been subjected to accelerated erosion caused by human and dog activity, leading to temporary closure of the area.

internal scoping—The process wherein GGNRA park staff and consultant specialists met with the NEPA team from the NPS Environmental Quality Division to draft the purpose, need, and objective statements to identify existing dog management problems and begin drafting possible solutions. This process can take many months and usually ends with publication in the Federal Register of a Notice of Intent to

prepare an EIS and to hold meetings to gather public comment. The internal scoping for this project began in late January 2005, and the GGNRA Notice of Intent to prepare an EIS was published February 22, 2006.

Interpretation Budget—A past source of funding for visitor education about dog regulations at GGNRA.

interpretative—Using a teaching technique that combines factual information with stimulating explanatory content. Part of the range of experiences a visitor might have is using a park's interpretative or educational services via internet access, library, or at a park site.

interspersed—Separated by others, not continuous. The disconnected nature of GGNRA park sites, which are interspersed with other public lands managed by county, state, or regional agencies, complicates enforcement of leash laws. Each area has its own set of rules and regulations regarding dog walking, some of which differ from NPS regulations, and geographical boundaries between agency jurisdictions are not always obvious.

invasive plant species—See **invasive species**.

invasive species—Usually non-native species, which can outcompete native species for habitat and resources. Dog-related disturbance of soils may influence native plant propagation, establishment, and viability and promote colonization by non-native, invasive species.

irreplaceable natural resources—See **depletable resources**.

knoll—A small, rounded hill.

laceration—A scratch or shallow cut.

lagoons—Shallow sounds, channels, or ponds near or communicating with a larger body of water (in this case, the Pacific Ocean). Dogs playing in lagoons can increase turbidity, which can disrupt fish feeding. Dog waste can increase nutrient levels in lagoons, which can alter the type and growth of vegetation and the ability of wildlife to continue to use the area for habitat. Potential impacts include those from increased nutrient impacts on coho, steelhead, or other fish nurseries, and on critical reproductive habitat for the federally endangered tidewater goby known to occupy Rodeo Lagoon. Dog feces may also transmit a variety of pathogens to aquatic species via water contamination.

landform—A natural feature of a land surface. Where unnatural landforms occur, they can indicate the presence of buried cultural resources.

landmark designation—Nationally significant historic places may be designated as landmarks by the Secretary of the Interior because they possess exceptional value or quality in illustrating or interpreting the heritage of the United States.

leash laws—Many visitors use GGNRA for dog walking because of the leash laws in the surrounding counties. Violation of leash laws is one of the reasons Rangers and U.S. Park Police will contact dog walkers. See **1979 Pet Policy**, **NPS Service-wide Dog Regulation**, **leash required**, **seasonal leash restrictions**.

leash required—On posted signs at GGNRA, this indicates that dogs must be walked on leash. GGNRA has removed “leash required” signs in areas that had been selected for voice and sight control in the 1979 pet policy until completion of the required notice and comment rulemaking under Section 1.5(b).

legislated boundary—GGNRA’s legislated boundary now encompasses approximately 80,000 acres in San Francisco, Marin, and San Mateo counties. Within the legislated boundary, GGNRA manages approximately 16,000 acres.

levee area—The area inland of the embankment (levee) separating the beach area from the wetlands and ponds at Mori Point GGNRA, south of Sharp Park Golf Course. There is a boardwalk to allow visitors to walk through the wetlands and past the ponds without disturbing the environment.

line item construction—The construction, rehabilitation, and replacement of those facilities needed to accomplish the management objectives approved for each park.

linguistic—Related to language or the scientific study of language.

litigation—Legal action, in this case, challenging an agency action. One of the reasons a comprehensive dog management policy is needed at GGNRA. A policy inconsistent with NPS regulations and increased public expectations for use of the park for dog recreation have resulted in controversy, litigation, and compromised visitor and employee safety, affecting visitor experience and resulting in resource degradation.

loam—Soil containing 7 to 27 percent clay, 28 to 50 percent silt, and 23 to 52 percent sand by volume.

machine gun pit—A field fortification offering supplemental support to the fortified batteries.

magazine—A room (e.g., in a fort) in which powder and other explosives are kept.

mammalian—Of or relating to mammals.

mandate—Because conservation remains its predominant mandate, the NPS seeks to avoid or to minimize adverse impacts on park resources and values.

manifestation—A perceptible, outward, or visible expression.

man-made features—Part of the cultural landscape at GGNRA includes man-made features such as the Battery Townsley and its earthworks. The presence of dogs may detract from the value of the landscape because dogs may adversely affect cultural landscapes through play, digging, urinating, or defecating.

Marine Mammal Protection Act—This federal law, enacted in 1972, was the first article of legislation to call specifically for an ecosystem approach to natural resource management and conservation. MMPA prohibits the taking of marine mammals, and enacts a moratorium on the import, export, and sale of any marine mammal, along with any marine mammal part or product within the United States.

maritime transportation—Shipping of goods and traveling by sea. The USCGS Historic District’s period of significance is related to several important structures associated with maritime transportation.

marsh—A tract of soft, wet land usually characterized by monocotyledons (e.g., grasses, cattails). Marshes in GGNRA include tidal marshes, freshwater marshes, brackish marshes, and one salt marsh (at Crissy Field).

marshland—Marsh.

Mélange areas—Topographically, Mélange areas have broad ridge crests and gentle slopes. Because they are more easily eroded, there are frequent earthflows. See **Franciscan Mélange**.

metabolic cycles—The set of chemical reactions that happen in living organisms to maintain life. Some bacteria and fungi use oxygen in their metabolic cycles, which can lead to depleted dissolved oxygen levels in water.

metamorph—An organism that undergoes metamorphosis, or one that is in the process of metamorphosing (especially one at an indeterminate stage of the process).

metamorphic rock—One of the three main rock types (the others being igneous and sedimentary). Metamorphic rock is the result of the transformation of an existing rock type, the protolith, through heat and pressure causing profound physical and/or chemical change. The protolith may be igneous, sedimentary, or another older metamorphic rock. Some examples of metamorphic rocks are gneiss, slate, marble, schist, and quartzite.

microbial biofilm—An aggregate of microorganisms in which cells are stuck to each other and/or to a surface. Biofilms are usually found on solid substrates submerged in or exposed to some aqueous solution, although they can form as floating mats on liquid surfaces and also on the surface of leaves, particularly in high humidity climates.

microorganisms—Bacteria and other organisms of microscopic size. Uninfected dogs may pick up canine distemper virus and other diseases from infected wildlife. Wild birds, small mammals, and other dogs can also introduce microorganisms into a water supply, and algal blooms or other naturally occurring phenomena can make uninfected dogs sick when they drink from affected streams or ponds.

Migratory Bird Treaty Act of 1918—A law making unlawful the kill, capture, buy, sell, import, or export of migratory birds, eggs, feathers, or other parts.

migratory birds—Birds that move periodically from one region to another for feeding, breeding, or wintering.

mitigation—Lessening the effects of an adverse impact, either by reducing the impact itself or by arranging for acceptable mitigation elsewhere in the park or off site; for example, by restoring alternative habitat and relocating affected individuals.

morbidity—Disease. Shorebirds unaccustomed or unable to acclimate to human or dog disturbance will either repeatedly flush when approached or will no longer reside at a site. This behavior can result in bird energy loss, morbidity (disease), reduced reproductive success, or death.

municipalities—Cities. Increasingly, municipalities are being challenged by the growing popularity of dog walking, and are responding by providing dog parks or play areas where dog owners can allow their dogs to be off leash.

National Environmental Policy Act (NEPA)—An environmental law enacted in 1969 that established a national policy promoting the enhancement of the environment and also established the President's Council on Environmental Quality (CEQ). NEPA's most significant effect was to set up procedural requirements for all federal government agencies to prepare environmental impact statements. This dog management plan/EIS is intended to fulfill NPS obligations under NEPA.

National Historic Preservation Act—A law enacted in 1966 that requires federal agencies to consider the effects of their undertakings on properties listed or potentially eligible for listing on the National Register of Historic Places. All actions affecting the parks' cultural resources must comply with this legislation.

National Marine Fisheries Service (NMFS)—A federal agency that is a division of the NOAA. The NMFS is responsible for the stewardship and management of the nation's living marine resources and their habitat within the United States' Exclusive Economic Zone, which extends seaward 200 nautical miles from the coastline.

National Oceanic and Atmospheric Association (NOAA)—NOAA is a scientific agency within the U.S. Department of Commerce focused on the conditions of the oceans and the atmosphere. NOAA warns of dangerous weather, charts seas and skies, guides the use and protection of ocean and coastal resources, and conducts research to improve understanding and stewardship of the environment.

National Vegetation Classification System—Devised by the USGS/NPS Vegetation Mapping Program in response to the NPS Natural Resources Inventory and Monitoring Guideline (NPS-75) issued in 1992. The objective of the Vegetation Mapping Program is to develop a uniform hierarchical vegetation classification standard and methodology on a Service-wide basis and, using that classification standard and methodology, to generate vegetation maps for most of the park units under NPS management.

Native American—Any of the indigenous peoples living within the United States.

native plant communities—Interdependent complexes of naturally occurring vegetation, which nourish native wildlife and which require specific soil conditions and other habitat characteristics to survive. Through intensive and prolonged use of park sites, dogs may reduce the abundance and diversity of native plant communities, resulting in the loss of rare or unusual plants.

native plant propagation—Disturbance of soils by dogs and humans may influence native plant propagation and promote colonization by non-native, invasive species. See **propagation**.

natural forces—Wind, rain, seismic activity, soil instability, and burrowing animals.

natural resource restoration—Use of proven methods to return affected resources, such as vegetation, soils, or wildlife, to near their original health and numbers.

natural seeps—Small springs, or places where water naturally oozes to the Earth's surface, often forming pools. One of the resources in the Lands End area potentially subject to impacts by dogs.

Negotiated Rulemaking Act—A law enacted in 1990 that establishes a framework for the selection of a negotiated rulemaking committee and consensus development of a proposed federal regulation. As a result of the federal panel review, public comment, and other internal park discussions, GGNRA chose to pursue negotiated rulemaking under the law.

Negotiated Rulemaking Committee—The committee, established in February 2006, was composed of nine primary representatives and nine alternates from three informal caucuses: voice and sight control advocates, environmental and conservation organizations, and other park users. Its goal was to reach consensus on a special regulation or portions thereof on dog management at GGNRA and recommend that regulation to the NPS.

nesting songbirds—Small birds. Unleashed dogs running into the understory to retrieve balls or simply to explore the scentscape may adversely affect the structure of the plant community and reduce its value as wildlife habitat for amphibians, small mammals, and nesting songbirds, such as Swainson’s thrush and California quail.

New Lands—New lands are defined as any land acquired by the park during the dog management planning process or after the plan/EIS and rule are finalized, unless specifically addressed by the plan.

nitrate—A naturally occurring chemical that is left after the breakdown of animal or human waste. In freshwater or estuarine systems close to land, high levels of nitrates can potentially cause the death of fish. Nitrates form a component of total dissolved solids and are widely used as an indicator of water quality.

nitrogen—A chemical element that constitutes 78% by volume of Earth’s atmosphere. Dog waste can increase the amount of nitrogen in the soil, altering the soil chemistry and threatening native plants.

no-dog experience—Some alternatives would provide a no-dog experience in certain areas for visitors who would prefer to enjoy the park without the presence of dogs.

non-indigenous visitors—Any of the peoples from other cultures who came into contact with Native Americans. Their importance to the study of Native American history lies chiefly in their written records of encounters with the indigenous peoples, who did not use written language.

nonrenewable resources—See **depletable resources**.

North American Industry Classification System (NAICS)—The standard used by federal statistical agencies in classifying business establishments for collecting, analyzing, and publishing statistical data related to the U.S. business economy. Dog-walking services are classified as “Pet Care (except Veterinary) Services” under NAICS, code 812910.

Notice of Establishment (NOE)—Publication of an NOE in the Federal Register is required before a federal advisory committee can meet. Following publication of a Notice of Intent to establish a negotiated rulemaking committee for the GGNRA plan/EIS, an NOE was published in the Federal Register in February 2006. See **Negotiated Rulemaking Committee**.

Notice of Extension of Comment Period—Published in the Federal Register on March 29, 2006, to extend the period for public comment on the scope of the planning process and potential alternatives through April 24, 2006.

Notice of Intent (NOI)—A Notice of Intent is a formal notice that an action will occur. For this process NOIs were published to establish a negotiated rulemaking committee in the Federal Register in June 2005 and to indicate that an EIS would be prepared in the Federal Register in 2006. See **Negotiated Rulemaking Committee**.

NPS Environmental Quality Division (EQD)—A part of the Natural Resource Program Center, reporting to the Associate Director for Natural Resources Stewardship and Science. Provides technical assistance to parks and serves as the focal point for all matters relating to NEPA planning and other related environmental mandates (NPS DO #12).

NPS Organic Act—See **Organic Act of 1916**.

NPS Service-wide Dog Regulation—NPS-wide regulation 36 CFR 2.15(a)(2) states that the following are prohibited: Failing to crate, cage, restrain on a leash which shall not exceed six feet in length, or otherwise physically confine a pet at all times.

nutrient chemistry—The balance of nutrients in soils or water; alteration of this balance by adding, removing, or changing nutrients can be detrimental to the organisms that depend on them. Dogs, particularly off leash and without adequate voice and sight control, can potentially change nutrient chemistry in soils and water.

obsidian flakes—Small chips of obsidian, a naturally occurring volcanic glass formed as an extrusive igneous rock that was commonly used for projectile points in ancient cultures. Found at the San Francisco County archeological sites at GGNRA, these flakes are evidence of Native American weapon- and tool-making activities.

off designated trails—Under all action alternatives, dogs would be prohibited in all campgrounds and off designated trails in GGNRA.

off leash dogs—Without further information, does not specify whether under voice and sight control or wandering free without voice and sight control. Under the 1979 pet policy (and current use), provisions exist for off leash dog use within GGNRA, in contravention of NPS-wide dog management policy.

offensive artillery—Large-bore, crew-served, mounted projectile weapons. To avoid penetration by artillery attacks on the California coast, the resistance of a battery was calculated in a certain number of feet of earth placed in front of a certain number of feet of concrete.

Ohlones—One of the two major indigenous communities (the other being the Coast Miwoks) occupying the lands around San Francisco Bay at the time of first contact with non-indigenous visitors. Approximately 50 small, politically independent tribes of Ohlones lived south of the Golden Gate.

on leash dog walking—On leash dog walking requires dogs to be restrained on a leash not to exceed six feet in length. Excludes dogs on leash but uncontrolled; e.g., dogs with their leashes in their mouths or dogs trailing their leashes behind them.

Organic Act of 1916—Established the National Park Service. The Act requires conservation of park scenery, natural and historic objects, and wildlife, and provision for the enjoyment of park resources in such a manner as to leave them unimpaired for the enjoyment of future generations. Prohibits actions that impair park resources unless a law directly and specifically allows for these actions (16 USC 1a-1).

organisms—Plants and animals, bacteria, and other living things.

outreach volunteers—Under all action alternatives, outreach volunteers (such as Trail Keepers) would help educate and inform the public about the new dog management regulation.

paleontological resources—Fossil remains of life forms from past geological periods. Dog and human overuse of areas may result in uncovering of paleontological resources, leading to subsequent damage or loss.

palustrine wetlands—All nontidal wetlands dominated by trees, shrubs, persistent emergent plants, or emergent mosses or lichens, as well as small, shallow open-water ponds or potholes. Often called swamps, marshes, potholes, bogs, or fens.

parapet—A wall, rampart, or elevation of earth or stone to protect soldiers. On leash dog walking would be allowed only on the paths and parapet of Sutro Heights Park.

parasitic nematodes—Roundworms, which can live free in soil and water, and which live in animals or plants by robbing nutrients to the detriment of the host. Dog waste can contain parasitic nematodes, which can cause fevers, bronchitis, asthma, or vision problems in severe infections. Infection by any of these pathogens can occur through ingestion of contaminated sand, vegetation, or water.

park concessionaires—Businesses that pay the park fees for permission to do business within park grounds.

parvovirus—Parvovirus is one of the pathogens that can enter park waterbodies if dogs defecate within the water or through runoff when pet waste is not cleaned up. All strains of canine parvovirus will affect dogs, wolves, and foxes.

passive recreational experiences—In contrast with active recreation, such as biking, playing frisbee, and windsurfing, passive recreation is usually quieter and includes activities such as walking, bird-watching, and picnicking. Such activities can easily be disrupted by noisy dog play or barking.

pathogens—Specific causes (bacteria, viruses) of disease. Dog waste can communicate pathogens to the wild environment, and dogs can ingest pathogens from the wild.

pelagic birds—Oceanic birds; birds that live and hunt primarily on the open sea, returning to land only to breed. Species include petrels, sooty terns, and shearwaters.

perennial—Persisting for several years, usually with new herbaceous growth.

perturbation processes—The causes and effects of disturbance to a given group. One of the steps toward advancing the recovery of the mission blue butterfly is identification of the perturbation processes.

pesticide—An agent, usually chemical, used to destroy pests. Pesticides have been detected in some of the waterbodies in the park.

pet care services—This category of businesses includes animal grooming services, animal shelters, pet boarding services, dog pounds, guard-dog training services, guide-dog training services, kennels, pet boarding, obedience-training services, pet-sitting services, and dog walking services. There are 68 registered pet care service businesses in the city of San Francisco and 216 such businesses in the San Francisco MSA.

pet citations—Tickets issued to dog walkers for dog-related violations, for example, dogs accessing closed areas.

pH—A measure of the acidity or alkalinity of a solution: Solutions with a pH less than 7 are said to be acidic and solutions with a pH greater than 7 are said to be alkaline (or basic). One of the water quality indicators measured at several of the park's waterbodies by GGNRA.

phosphorus—A chemical element that is essential for all living cells. The most important commercial use of phosphorus-based chemicals is the production of fertilizers; however, phosphorus levels in water may increase due to animal waste, among other factors. Phosphorus is one of the water quality indicators measured for during testing of GGNRA waterbodies.

population viability—The state of numbers and health at which a wildlife population is able to remain self-sustaining and continue to survive. Intensive dog use of an area could disrupt its use by wildlife or degrade the habitat, resulting in a multitude of possible negative consequences for wildlife population viability.

predation—Hunting and killing of prey by predators. Predation can preclude use of any area and is one of the causes of habitat loss for the western snowy plover, a federally threatened species.

predator territory—The area in which a carnivorous animal or group of animals lives and hunts; usually these territories do not overlap with others of the same or similar species, and they are generally marked out by scent. One of the less obvious effects from intensive dog use of park lands is scent intrusion into predator territory.

prehistoric structures—Ruins or remains of buildings from a period predating written history. The presence of dogs inside prehistoric structures is inconsistent with the value of these structures because dogs may adversely affect them through play, digging, urinating, or defecating.

Presidio of San Francisco / Presidio Trust Management Plan—In 2002, the Presidio Trust approved the Presidio Trust Management Plan to update and supersede the GMP Amendment in Area B of the Presidio. (The GMP Amendment remains the management plan for Area A of the Presidio, still under the jurisdiction of the NPS.) The Presidio Trust Management Plan EIS states that the Trust “will give future consideration to its regulation regarding dogs once the GGNRA rulemaking process is concluded.” The Presidio Trust is a cooperating agency with the NPS on the dog management plan/EIS.

Presidio Trust Act—In 1996, Congress passed the Presidio Trust Act, creating the Presidio Trust as a wholly owned federal government corporation and granting jurisdiction of the 1,168-acre inland area of the Presidio, known as Area B, to the Trust.

prevalent—Widespread; dominant; common.

promenade—A place for strolling. Promenades at Crissy Field and Fort Point both have specific designations (on leash dog walking only or voice and sight control) under various alternatives.

promulgate—Proclaim or put into action (as a rule or regulation).

propagation—Increasing in numbers or area, usually by reproduction (plants).

prostrate—Lying flat on the ground (plants).

ranch dog permit—Permit issued by Marin County to allow ranchers to walk more than three adult dogs.

raptors—Birds of prey; any bird that hunts other animals.

Redwood National Park Expansion Act of 1978—Legislation formalizing a major expansion of the park, adding 48,000 acres to the park and doubling its size.

regulated off leash areas (ROLAs)—Designated areas within GGNRA that allow off leash dogs under voice and sight control.

religious indoctrination—The process of imparting doctrine in a non-critical way; the term may imply forcibly or coercively causing people to act and think on the basis of a certain religion. Religious

indoctrination was one of the influences the Spanish settlers of the San Francisco Bay area brought with them that resulted in the devastation of the native cultures.

restored habitat—Areas of soil, water, and vegetation that have been returned to their original functions and values by focused restoration activities. Such areas are protected under various alternatives by requiring on leash dog walking or restricting dogs to areas outside the restored habitat.

retractable leash—Cassette-type leash where the unused portion of leash is retracted into the cassette. In the Midpeninsula Regional Open Space District, retractable leashes can be up to 25 feet in length, whereas traditional leashes are restricted to a maximum length of 6 feet.

riparian coastal scrub—One of the plant communities present in GGNRA. Understory is an important wildlife habitat component of riparian coastal scrub and other plant communities within GGNRA. Unleashed dogs running into the understory may adversely affect the structure of the plant community and reduce its value as wildlife habitat for amphibians, small mammals, nesting songbirds, and California quail.

riparian—Related to, living on, or located on the bank of a natural watercourse.

riverine wetlands—Wetlands formed by and found alongside rivers. See **wetlands**.

Rodeo Clay Loam—Hydric soils that run along the Tennessee Valley floor with a slope of 2 to 5 percent. These soils are poorly drained and have a high available water capacity.

roosting—Settling down for rest or sleep; perching (birds). Resting habitat can be particularly important to migrating shorebirds, thousands of which come to GGNRA. Roosting and feeding plovers and other shorebirds flushed more frequently when pedestrians were accompanied by a dog.

roundworms—See **parasitic nematodes**.

sacred sites—Native Americans believe that certain areas of land are holy. Many of these places are fragile and have been adversely impacted by too many visitors or vehicles or activities. However, as there are no sacred sites known to exist on GGNRA lands, this topic has not been further addressed in this plan/EIS.

sag ponds—A body of water that forms as water collects in the depressions that form between two strands of an active strike-slip fault. The federally threatened California red-legged frog is known to breed in sag ponds.

saline hydraquents—Hydric soils located in tidal flats. These soils are flat (0 to 2 percent slope) and very poorly drained. The soils have a very low available water capacity and a moderate to strong salinity.

salmonid—Any of the family Salmonidae of long, bony fishes (such as salmon or trout) that have the last three vertebrae upturned. Two known salmonids (coho salmon and steelhead trout) in GGNRA are federally threatened species. Dogs playing in water can increase turbidity, which can disrupt fish feeding, particularly for visual feeders like salmonids.

San Francisco Metropolitan Statistical Area (MSA)—Comprising the counties of San Francisco, San Mateo, and Marin counties, each of which encompasses GGNRA lands.

sandstone—A sedimentary rock composed mainly of sand-sized minerals or rock grains. An important component of the Franciscan Mélange. See **Franciscan Mélange**.

scent intrusion—One of the subtler effects of intensive dog use of GGNRA lands. See **predator territory**.

scentscape—The overall olfactory character of an area. Dog intrusions into the natural scentscape (e.g., by urinating and defecating) can alter the behavior of wildlife

seabirds—Includes birds that live around the sea adjacent to land, as well as pelagic birds. See **pelagic birds**.

seasonal leash regulations—See **seasonal leash restriction**.

seasonal leash restrictions—Requiring on leash dog walking in areas that are normally open to off leash dogs, based on the seasonal presence of a protected or special-status animal species (e.g., western snowy plover), in order to protect the species.

Secretary of the Interior’s Standards and Guidelines for Archeology and Historic Preservation—Effective September 1983, these standards and guidelines are not regulatory and do not set or interpret agency policy. They are intended to provide technical advice about archeological and historic preservation activities and methods.

Secretary of the Interior—Head of the Department of the Interior, which oversees such agencies as the Bureau of Land Management, the U.S. Geological Survey, and the National Park Service. The Secretary also serves on and appoints the private citizens on the National Park Foundation board and is a member of the President’s Cabinet. The ESA requires all federal agencies to consult with the Secretary of the Interior on all projects and proposals having potential impacts on federally threatened and endangered plants and animals.

sediment—Particles of organic and mineral matter that settle to the bottom of a waterbody. When stirred up by dogs playing in water, the suspended sediments greatly increase turbidity, and the smaller sediments can remain suspended for hours, affecting fish feeding and reducing the numbers and diversity of benthic fauna.

sedimentary layers—Layers formed by overlapping deposits of sediment at the bottom of a waterbody. Through geological processes including compaction, these layers become rock. See **sediment**.

seedling microsites—A pocket within an environment with unique features, conditions, or characteristics that make it suited for seedling propagation and growth. Classifying different microsites may depend on many factors, including temperature, nutrient availability, soil physical characteristics, vegetation cover, and so on.

seismically active—Containing active faults that periodically result in earthquakes. GGNRA is located in a seismically active area, due to the presence of the San Andreas fault and multiple smaller faults.

sensitive habitat—See **fragile habitat**.

sensory perception—The ability to see, hear, smell, taste, and feel. Elderly people may have decreased sensory perception, which may place them at greater risk of negative encounters with aggressive dogs.

serpentine soils—These rare soils have a low calcium to magnesium ratio; they have high concentrations of other metals; and they lack essential nutrients, such as nitrogen, potassium, and phosphorus. At least twenty-eight plant and animal species occur either exclusively or primarily on serpentine soils in the Bay Area. Of these species, half are federally listed as threatened or endangered and the remainder are species of concern.

sewer outfall—Outlet or mouth of a sewer.

shale—A fine-grained, clastic sedimentary rock composed of mud. An important component of the Franciscan Mélange. See **Franciscan Mélange**.

shear—A splitting force caused by tangential pressure.

shell midden—See **shellmounds**.

shellmounds—Also called shell middens. An archaeological feature composed mainly of mollusk shells as debris from human activity. They contain a detailed record of what food was eaten or processed, as well as many fragments of stone tools and household goods, which makes them invaluable objects of archeological study.

shorebird—Any of a suborder of birds (*Charadrii*) that frequent the seashore. GGNRA waterfront lands provide habitat for thousands of shorebirds, including the federally threatened western snowy plover.

shrapnel—Bomb, mine, or shell fragments.

sight control—Any dog a walker is responsible for must be within sight and under verbal command at all times, regardless of distractions that can occur during a walk. If a dog cannot immediately obey verbal commands, it must remain on leash. Under alternatives B through E, dogs in ROLAs must be under voice and sight control at all times.

signal cable hut—Constructed in 1921 (building 946), this partially buried structure could be affected by the dog management plan.

silty clay loam—Soil consisting of 27 to 40 percent clay, 40 to 73 percent silt, and 0 to 20 percent sand, which characterizes the Blucher-Cole complex.

Sirdak sands—Deposited in dunes, with slopes from 5 to 50 percent. These sands can reach a depth of 120 feet. The sands are somewhat excessively drained and have a low available water capacity.

site abandonment—Wildlife leaving a nest or den site or foraging ground because of disturbance. An example of the short-term effects on wildlife that can occur due to human nonconsumptive recreational activities.

socioeconomics—Relating to a combination of social and economic factors. NPS dismissed socioeconomics as an impact topic in this plan/EIS because the socioeconomic impacts of alternative dog management policies are expected to have no measurable economic impact on the surrounding area.

soil erosion—A natural process by which water, wind, or other environmental factors break down, carry away, and then redeposit soil layers. Dog and human overuse of areas may result in accelerated soil erosion, exposing cultural or paleontological resources, threatening native plant species, or damaging geological resources. See **accelerated erosion**.

Soulajule soil series—Consists of moderately deep, well-drained soils that are located on hillsides.

soundscapes—The overall auditory character of an area. Barking dogs and the alarm calls of startled birds can be detrimental to the natural soundscape, affecting both visitor experience and wildlife communication.

Special Ecological Area (SEA)—The identified area in each ecological community type that is most biologically intact and diverse and has the most important biological values. In 1999, the Natural Resources section of the GGNRA RMP designated nine SEAs in the park.

special-status species—Plant and animal species federally or state listed as endangered or threatened, or otherwise judged to be in need of protection. The biological assessment for GGNRA lists well over 100 special-status species that are known to occupy the planning area.

stakeholder organization—Groups of interested parties. As part of its outreach activities, the park would consider setting up regularly scheduled meetings of stakeholder organizations for information sharing on dog management, posting summaries of the meetings on the park web site.

steelhead trout—*Oncorhynchus mykiss*. A federally threatened salmonid species known to inhabit the streams and lagoons in GGNRA.

stewardship—Careful and responsible management of something entrusted to one's care. One of the public suggestions resulting from the ANPR was to encourage volunteer efforts to assist in stewardship of voice and sight control dog walking areas. See **Advance Notice of Potential Rulemaking (ANPR)**.

strafe—To rake with fire at close range, especially with machine-gun fire from low-flying aircraft.

subtler experiences—Quiet, gentle sounds of nature such as lapping waves or frog choruses that may enrich the visitor experience. Such subtle experiences can be disrupted by disturbances from barking or playing dogs, changing the natural character of the area and the overall visitor experience. See **soundscapes**.

surfzone—The surf zone is the region defined by where incoming waves are breaking. Heal the Bay's Beach Report Card grades are based on daily and weekly fecal bacteria pollution levels in the surfzone.

sweathouse—Sweat lodge. There are several styles of Native American sweat lodges, from a domed or oblong hut similar to a wickiup to a simple hole dug in the ground and covered with planks or tree trunks. Stones are typically heated in an exterior fire and then placed in a central pit in the ground.

Tamalpais soils—Consist of moderately deep, well-drained soils that are located on mountainous uplands. The soils have a slope of 15 to 75 percent and consist of a very gravelly loam.

tannin—An astringent, bitter plant polyphenol. Found in abundance in redwood bark, it protects the trees from fire, insects, and bacteria.

taxonomic group—A way of classifying plants and animals that are biologically related. Taxonomic groups include rankings such as kingdom, phylum, class, and so on. For instance, a subspecies is a taxonomic group (or rank) that is a division of a species.

temporal—Time-based. Dog walking may need to be temporally restricted in certain areas to avoid conflicts.

terns—Seabirds in the family Sternidae. The shoreline of San Francisco Bay provides feeding, breeding, roosting, and wintering habitat for terns, among other bird species.

terrestrial habitats—Land habitats, as distinct from freshwater and marine habitats.

therapeutic value—Peace of mind arising from the knowledge that their dogs had been well exercised, according to some respondents to the ANPR.

tidal lagoon—Any lagoon in which a rise and fall of the water level takes place as a result of the action of the tides. An example of marine or estuarine resources at GGNRA that may be adversely affected by dog waste.

tidelands—The territory between the high and low water tide line of sea coasts, and lands lying under the sea beyond the low water limit of the tide, considered within the territorial waters of a nation.

tidewater goby—*Eucyclogobius newberryi*; federally listed as endangered, the tidewater goby is a small fish that inhabits coastal brackish water habitats entirely within California. In GGNRA it is known to occur in Rodeo Lagoon, and critical reproductive habitat for the goby is at risk from disturbance or destruction by dog play in the water.

topography—The configuration of a surface including its relief and the position of its natural and man-made features. Some dog play areas in San Francisco use topography or shrubbery as natural barriers.

trail corridor—The area immediately surrounding and including the trail; invariably wider than the trail itself. Various factors influence the width of the trail corridor, including safety considerations, jurisdictional issues, and topography.

Trail Keepers—A volunteer stewardship program that is part of the Trails Forever initiative. One of the volunteer groups who would participate in the outreach program to educate and inform the public about the new dog management regulation.

Trailhead Area Leash Program—The City of Boulder Open Space and Mountain Parks agency, which allows extensive off leash opportunities for dogs, instituted this program requiring dogs to be walked on leash at trailheads to reduce conflicts at trailheads between users with dogs and users without dogs.

turbidity—Quality of being thick or opaque with roiled sediment. Dogs playing in streams, wetlands, lagoons, and coastal areas can increase turbidity, disrupting fish feeding and reducing the numbers and diversity of benthic fauna.

tussock—A small hillock of grassy or grass-like plant growth.

understory—Layer of vegetation between the forest canopy (or top shrub layer) and the groundcover. Understory is an important wildlife habitat component of many tree- and shrub-dominated plant communities within GGNRA. Unleashed dogs running into the understory may adversely affect the structure of the plant community and reduce its value as wildlife habitat.

unhealthy environment—One of the criteria for triggering closure of an area at GGNRA to dog walking in the range of alternatives for new lands. Specific criteria for closure in existing lands is described in the compliance-based management strategy.

unrestricted environment—The ROLAs would allow dogs to enjoy exercise and socialization in an unrestricted environment.

urbanized—Having taken on the characteristics of a city; nonrural. Because the San Francisco Bay Area is highly urbanized, dog owners may have access to few outdoor areas for exercising their pets; consequently, using GGNRA lands for dog walking is important to residents.

U.S. Department of Agriculture’s Natural Resources Conservation Service. An agency that provides technical assistance to farmers and other private landowners and managers, including classifying prime and important farmlands. None of the soils at the GGNRA sites would qualify as prime or unique farmlands. Therefore, this topic has been dismissed from further analysis in the plan/EIS.

U.S. Department of the Interior—The U.S. federal executive department responsible for the management and conservation of most federal land and the administration of programs relating to Native Americans, Alaska Natives, and Native Hawaiians, and to insular areas of the United States. Its operating units include the Bureau of Indian Affairs, Bureau of Land Management, National Park Service, U.S. Fish and Wildlife Service, and U.S. Geological Survey.

U.S. Institute for Environmental Conflict Resolution—The 1998 Environmental Policy and Conflict Resolution Act (PL 105-156) created the Institute to assist parties in resolving environmental conflicts around the country that involve federal agencies or interests, helping them resolve federal environmental, natural resources, and public lands disputes in a timely and constructive manner through assisted negotiation and mediation.

U.S. Magistrate’s uniform bail schedule—The uniform bail schedule lists fines for all dog-related violations as established by the U.S. Magistrate.

Vegetation Stewardship Program—Coordinates habitat restoration activities in over 2,500 acres of the park. The habitat restoration component of the Vegetation Stewardship Program currently consists of four key program elements: the Site Stewardship Program, the Presidio Park Stewards, the Habitat Restoration Team, and the Invasive Plant Patrol.

vigilant—Watchful; alert. Habituation to activity may result in western snowy plover adults becoming less vigilant, which then increases the potential for predation of eggs and nestlings by opportunistic predators.

visitor amenities—Such services as visitor parking, visitor centers, etc. The area at Lands End near the restored Coastal Trail is being developed with visitor amenities that would further increase visitation and use.

voice and sight control—Dogs must be within sight and under verbal command at all times by their guardian/owner, regardless of distractions that can occur during a walk. If a dog cannot immediately obey verbal commands, it must remain on leash. Under alternatives B through E, dogs in ROLAs must be under voice and sight control at all times.

voice control—Under the 1979 pet policy, suitable locations were set forth for on leash dog walking areas and off leash, or voice control, areas.

water contamination—Contamination of a waterbody by introduction of microorganisms by dogs, wild birds, and wild mammals.

waterbird—A swimming or wading bird. In habitat for resting and feeding waterbirds, restrictions on pets provide important areas of reduced disturbance for these activities.

watercourses—Streams of water (rivers, brooks, underground streams, etc.). Emergent aquatic vegetation along the edge of watercourses provides critical habitat for some listed species, and disturbance of this vegetation from dog play could compromise its value to wildlife.

waterfronts—Land bordering large bodies of water, e.g., oceans and lakes.

wetlands—Lands transitional between terrestrial and aquatic systems, where the water table is usually at or near the surface or the land is covered by shallow water. Wetlands provide wildlife habitat and help to moderate flooding and pollution, and are vulnerable to adverse effects from intensive dog use.

Wild and Scenic Rivers Act of 1968—Established the national wild and scenic river system to protect the nation's highest quality natural rivers.

wintering habitat—Areas used by migratory birds during the winter; birds often return to the same wintering grounds year after year. The shoreline of the San Francisco Bay provides wintering habitat to thousands of birds each year.



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