

National Park Service
U.S. Department of the Interior



Point Reyes National Seashore
North District of Golden Gate National Recreation Area

GENERAL MANAGEMENT PLAN AMENDMENT RECORD OF DECISION

Approved:

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RECORD OF DECISION
POINT REYES NATIONAL SEASHORE AND THE NORTH DISTRICT OF GOLDEN GATE
NATIONAL RECREATION AREA
GENERAL MANAGEMENT PLAN AMENDMENT
ENVIRONMENTAL IMPACT STATEMENT

1.0 Introduction

The US Department of the Interior (DOI), National Park Service (NPS), has prepared this Record of Decision (ROD) for the General Management Plan Amendment (GMP Amendment) and Environmental Impact Statement (EIS) for Point Reyes National Seashore (Point Reyes) and the north district of Golden Gate National Recreation Area (north district of Golden Gate) managed by Point Reyes (collectively referred to as “the park”). The GMP Amendment updates management guidance for approximately 28,000 acres of the more than 86,000 acres of national park system lands managed by Point Reyes, including all lands currently leased for beef and dairy ranching, referred to as the planning area. This ROD concludes the NPS decision making process for the EIS and details the alternative selected for implementation, which will guide the park’s management decisions on lands in the planning area.

This ROD was prepared in accordance with the requirements of the National Environmental Policy Act of 1969, as amended (NEPA), its 1978 implementing regulations (40 Code of Federal Regulations [CFR] 1500–1508), the DOI NEPA regulations (43 CFR 46), and the 2015 NPS NEPA Handbook. This ROD includes a summary of the purpose and need for action; a description of the selected alternative; a synopsis of alternatives considered and analyzed in detail in the final EIS (FEIS); a summary of agency consultation; the identification of the environmentally preferable alternative and the basis for the decision.

2.0 Park Enabling Legislation and Legislative History

The alternatives considered in this GMP Amendment include broad programmatic proposals relating to visitor use, development, and resource preservation as well as detailed proposals for site-specific land uses. One of the site-specific decisions to be made in this plan is whether multi-generational ranching should continue. Multi-generational ranching is a legislatively authorized use for lands in both Point Reyes and Golden Gate. The NPS *Management Policies 2006* (Section 1.4.3.1) direct park managers to consider Congressional interest, as expressed in enabling legislation, when deciding whether to allow a legislatively authorized use.

Congressional interest in ranching as practiced in the Seashore dates back to the creation of Point Reyes in 1962. Congress established Point Reyes “to save and preserve for the purposes of public recreation, benefit, and inspiration, a portion of the diminishing seashore of the United States that remains undeveloped” Act of Sept. 13, 1962, Pub. L. No. 87-657, Section 1, 76 Stat 538, codified at 16 U.S.C. 459c. The House Report accompanying the 1962 legislation noted that the new Seashore’s “ocean beaches and high cliffs, sand dunes and low but rugged mountains, forested areas and expanses of pasturelands, [and] small fresh water lakes and ponds” all contributed to the area’s scenic beauty. H. Rep. 87-1628, at 2–4 (1962). Congress further noted that ranching as practiced within the Seashore played an important role “in preserving the beauty of the area.” Id. at 5.

In 1962, nearly all of the land within the new Seashore’s boundary was privately owned, and roughly half of it was used for beef or dairy ranching. Congress initially sought to protect ranches and the pastoral landscape they supported by prohibiting NPS from using eminent domain as long as ranchlands remained

in their natural state or were used for ranching. H. Rep. 87-1628 at 5, 8, 10 (1962). After land prices in the area escalated and ranchlands were threatened with subdivision, Congress amended the park's legislation in 1970 by repealing the condemnation restraint. Act of Apr. 3, 1970, § 2(b); Pub. L. No. 91-223, 84 Stat. 90. This allowed NPS to acquire ranchlands and authorize continued ranching through retained rights of use and occupancy (as authorized under Section 5 [formerly Section 6] of the park's enabling legislation), or by using the leasing provisions of the Land and Water Conservation Fund Act. S. Rep. 91-738, at 2, 7–8 (1970); 116 Cong. Rec. S7615 (March 17, 1970).

The Point Reyes legislation was amended again in 1976 through a bill that designated wilderness in Point Reyes. As part of that bill, Congress added the following italicized language to Section 459c-6:

Except as otherwise provided in sections 459c to 459c-7 of this title, the property acquired by the Secretary under such sections shall be administered by the Secretary *without impairment of its natural values, in a manner which provides for such recreational, educational, historic preservation, interpretation, and scientific research opportunities as are consistent with, and based upon, and supportive of the maximum protection, restoration, and preservation of the natural environment within the area*, subject to the provisions of [the National Park Service Organic Act, as amended and supplemented] and in accordance with other laws of general application relating to the national park system..." Act of Oct. 18, 1976, Pub. L. No. 94-544, § 4(a), 90 Stat. 2515, codified at 16 U.S.C. Section 459c-6.

At the time this language was added, the NPS used a three-tiered management approach for lands under its jurisdiction based on the classification of each unit. Areas classified as national seashores and national recreation areas were managed with less emphasis on natural resource protection than areas classified as national parks. The intent of the 1976 amendment was to direct NPS to manage Point Reyes under the higher standard then used for national parks. H. Rep. 94-1680, at 3–4 (1976). The NPS abandoned the three-tiered management approach in the 1980s and thereafter managed all park units, regardless of classification, to the same high standard mandated by the National Park Service Organic Act, as amended and supplemented. The import of Section 459c-6 today is to reinforce the mandate of the National Park Service Organic Act, as amended and supplemented, which is to conserve the park's resources and values and avoid their impairment while also providing opportunities for the public to enjoy those resources and values.

In 1978, Congress revisited the Point Reyes enabling act's ranching provisions and added language facilitating NPS's ability to authorize ranching. In addition to expanding the types of use and occupancy rights that ranchers could retain, Congress included specific leasing authority allowing agricultural lands to be leased back to prior owners or lessees:

Where appropriate in the discretion of the Secretary, he or she may lease federally owned land (or any interest therein) which has been acquired by the Secretary under this Act, and which was agricultural land prior to its acquisition. Such lease shall be subject to such restrictive covenants as may be necessary to carry out the purposes of this Act. Any land to be leased by the Secretary under this section shall be offered first for such lease to the person who owned such land or was a leaseholder thereon immediately before its acquisition by the United States. Act of Nov. 10, 1978, Pub. L. No. 95-625, Title III, § 318(b), 92 Stat. 3467, 3486–87; codified as amended at 16 U.S.C. § 459c-5.

An accompanying House Committee report explained that Congress "included a range of management tools to protect the pastoral character of the [lands added to the Seashore]. Rights of use and occupancy which are retained for agricultural properties should permit reasonable further development consistent

with expanding and maintaining the agricultural use of the land. The use of agricultural lease-backs is encouraged to the fullest extent in ensuring the perpetuation of this use.” H. Rep. 95-1165, at 71 (1978).

Ranching is also addressed in the enabling legislation for Golden Gate National Recreation Area. Golden Gate was established as a unit of the national park system 10 years after Point Reyes, in 1972, in “order to preserve for public use and enjoyment certain areas of Marin and San Francisco Counties, California, possessing outstanding natural, historic, scenic, and recreational values, and in order to provide for the maintenance of needed recreational open space necessary to urban environment and planning.” Act of Oct. 27, 1972, Pub. L. No. 92-589, 86 Stat. 1299; codified at 16 U.S.C 460bb et seq.

Congress directed the NPS to use the resources in the new park,

in a manner which will provide for recreation and educational opportunities consistent with sound principles of land use planning and management [and] preserve the recreation area, as far as possible, in its natural setting, and protect it from development and uses which would destroy the scenic beauty and natural character of the area.” *Id.*

Recognizing that then privately-owned ranches in Olema Valley were threatened by subdivision in the same manner as ranches on the Point Reyes peninsula, Congress urged the NPS to acquire ranchlands and issue leases to ranchers who wished to continue ranching. H. Rep. 92-1391, at 13 (1972). Several years later in 1978 and as part of the same bill discussed above for Point Reyes, Congress also amended Golden Gate’s legislation to authorize the same type of agricultural lease-backs that Congress included in Point Reyes’ legislation. Act of Nov. 10, 1978, Pub. L. No. 95-625, Title III, § 317, 92 Stat. 3467, 3484–86 (1978), codified at 16 U.S.C. § 460bb-2(j).

In 2012, Congress’s long-standing interest in ranching in both Point Reyes and the north district of Golden Gate prompted former Secretary of the Interior Salazar to direct NPS to explore the possibility of issuing 20-year leases to ranchers. In a 2012 memorandum which primarily concerned the Drakes Bay Oyster Company matter, the Secretary discussed Congress’s support of ranching and affirmed that the “working ranches are a vibrant and compatible part of Point Reyes National Seashore, and both now and in the future represent an important contribution to the Point Reyes’ superlative natural and cultural resources.”

Ranching was again the subject of Congressional interest in 2019, when Congress directly addressed the GMPA planning process in a Joint Explanatory Statement accompanying House Joint Resolution 31 (the Consolidated Appropriations Act, 2019). The Joint Statement noted that “multi-generational ranching and dairying is important both ecologically and economically” and is “fully consistent with Congress’s intent for the management of Point Reyes National Seashore.” The statement further expressed the conferees’ “strong support” for the October 2017, GMPA Initial Proposal, which proposed continued ranching and dairying operations under lease/permits with 20-year terms. H. Rep. 116-9 at 720-21 (2019).

In establishing Point Reyes and Golden Gate as units of the national park system, Congress envisioned that lands within the parks would be administered to support recreation, inspiration, education, historic preservation, interpretation, and natural and scenic values, and that park resources would be managed in accordance with the high standard of the National Park Service Organic Act, as amended and supplemented. In addition, the legislative record reflects decades of Congressional support for beef and dairy ranching on lands in the planning area, as well as a recognition of the linkage between ranching and maintenance of the park’s scenic and pastoral qualities. This history together with the recent reaffirmation of Congressional support for ranching confirm that ranching remains an appropriate use of park lands today. In accordance with NPS *Management Policies* Section 1.4.3.1, the NPS has determined that ranching may continue provided that it does not cause impairment or unacceptable impacts to park resources.

3.0 Park Purpose

Decisions to be made in this plan are also guided by the park purpose statements for Point Reyes and Golden Gate. Purpose statements are informed by a review of enabling legislation and legislative history, as well as the general laws pertaining to national parks. They provide broad direction for resource preservation and visitor use, which are particularly useful for informing the general management planning elements of this plan. The foundation documents for Point Reyes (2020) and Golden Gate (2017) include purpose statements that identify the reasons for the establishment of these two park units. The foundation document for Point Reyes includes the following purpose statement:

Established for public benefit, recreation, and inspiration, Point Reyes National Seashore preserves a rugged and wild coastal peninsula and surrounding waters, connecting native ecosystems, enduring human history, and interpretive, scientific, and educational opportunities.”

The foundation document also identified a wide range of fundamental resource values (FRVs) for Point Reyes. Examples include scenic coastal landscapes; diverse habitats for native species, a continuum of more than 5,000 years of human use history ranging from American Indian sites to the two ranching-related historic districts, and many opportunities for inspiration and recreation.

The foundation document’s purpose statement for Golden Gate is:

The purpose of Golden Gate National Recreation Area is to offer national park experiences to all, including a large and diverse urban population, while preserving and interpreting the outstanding natural, historic, scenic, and recreational values of the park lands.

Like the foundation document for Point Reyes, the Golden Gate foundation document identified FRVs. Examples include a rich assemblage of coastal ecosystems and water resources that support those ecosystems, threatened and endangered species, and park access that provides visitors with a broad range of activities and varied experiences.

4.0 General Management Planning For Point Reyes, Litigation and Current Status of Ranching and Elk

In 1980, NPS issued a combined GMP for Point Reyes and Golden Gate (1980 GMP) that established management objectives, land management zones, and program guidance and direction for the park. The NPS proposed to rely on guidance from the 1980 GMP when, in early 2014, the NPS initiated development of a ranch comprehensive management plan to address high priority management needs associated with leased ranch lands. In 2016, several environmental groups challenged the ranch planning process, arguing that the NPS needed to prepare a new GMP for the park. Most park ranchers and Marin County joined the litigation, and a settlement was reached in 2017. Under the multi-party Settlement Agreement, NPS agreed to prepare the GMP Amendment and EIS addressing the management of the lands currently leased for ranching in the park. The Settlement Agreement preserves NPS’s right to give full consideration to other potential action alternatives. It also allows NPS to consider agricultural diversification, increased operational flexibility, promotion of sustainable operational practices, succession planning, and similar ranch management practices as part of any action alternative except the no ranching alternative. All action alternatives evaluated in the EIS have been developed and evaluated consistent with the terms of the Settlement Agreement.

Lands in the planning area are currently leased to more than 20 families under agricultural lease/special use permits (lease/permits) or Reservations of Use and Occupancy. Leased ranchlands comprise approximately 18,000 acres of Point Reyes and 10,000 acres of the north district of Golden Gate. Approximately 2,400 animal units (AU) of livestock for beef ranching and 3,325 dairy animals are currently authorized. Eighteen operations include residential uses specific to on-site ranch operations. Two separate free-ranging tule elk herds occur within the planning area—the Drakes Beach herd and the Limantour herd (see figure R-1 in attachment A). In late 2019, the Drakes Beach and Limantour herds comprised an estimated 138 and at least 163 animals, respectively.

5.0 Purpose and Need for Action

This EIS for a GMP Amendment for Point Reyes and the north district of Golden Gate was prepared to update management guidance for more than 28,000 acres of national park system lands, including all lands currently leased for beef and dairy ranching. The purpose of the EIS is to establish guidance for the preservation of natural and cultural resources and the management of infrastructure and visitor use in the planning area. The EIS addresses the future management of tule elk and leased ranchlands in the planning area.

Action is needed at this time to address the management of approximately 28,000 acres of land currently leased for ranching, which is the park's highest priority planning issue. Action is also needed to comply with the terms of the Settlement Agreement approved by the US District Court for the Northern District of California on July 14, 2017, under which NPS agreed to prepare a GMP Amendment addressing the management of lands currently leased for ranching.

This GMP Amendment considers measures to preserve park resources, proposals for types and intensities of development, and identification and implementation commitments for carrying capacity within the planning area. The plan also addresses options for maintaining a viable population of free-ranging elk and, for alternatives that would allow ranching to continue, a range of ranching activities including diversification, grazing, and sustainable ranch practices. Given the broad range of issues addressed in the plan, some elements are analyzed at the programmatic level (e.g., development of visitor amenities) and others are analyzed in detail (e.g., elk management).

6.0 Decision (Selected Action)

Following release of the FEIS, the NPS made several minor modifications to alternative B to be further responsive to public concerns raised during the planning process, to incorporate conditions agreed to during a public hearing on the preferred alternative before the California Coastal Commission (CCC), and to conform to the Biological Opinions issued by federal wildlife agencies. These modifications fall within the spectrum of alternatives considered in the FEIS. As detailed fully below, these modifications include more robust requirements for ranch operations, further restrictions on diversification, and changes to the approach for managing free-ranging elk in the planning area. The modifications will reduce environmental impacts associated with multi-generational ranching and thereby further enhance natural and cultural resource conditions. The selected action, which is alternative B with the modifications described herein, fulfills the requirement to update the 1980 General Management Plan for lands in the planning area.

A Supplemental Information Report (SIR) is attached to the ROD (attachment C). This report documents the rationale for the modifications that were made to alternative B, describes the impacts that are expected to result from the modifications, and confirms that, based on these modifications, a supplemental EIS is not required.

6.1 General Description and Zoning

Under the selected action, NPS will amend the 1980 GMP by adopting a new zoning framework and new programmatic management direction for the planning area. NPS will apply two new management zones, the Ranchland zone and the Scenic Landscape zone, to the planning area. This new zoning will amend the 1980 General Management Plan (GMP) by updating zoning including the Special Use-Pastoral Lands and Pastoral Landscape Management zones in the planning area with these zones (see attachment A, figure R-2) to be consistent with activities authorized through this planning process. New opportunities and improvements to facilitate public use and enjoyment in the planning area will be implemented in both the Ranchland and Scenic Landscape zones. NPS will also establish a new framework for managing visitor capacity that establishes indicators and thresholds for the planning area.

Lands in the 27,500-acre Ranchland zone have been actively ranched before and after their acquisition by NPS and since the completion of the 1980 GMP. Like the Special Use-Pastoral Lands and Pastoral Landscape Management zones from the 1980 GMP, multi-generational ranching activities will be considered an appropriate use and will only be authorized in the Ranchland zone. NPS will implement a subzoning framework for the Ranchland zone that will further limit authorization of specific activities based on resource management goals and objectives as described in the “Ranch Operations” section below. Continued occupancy and use of lease/permit areas for multi-generational ranching will occur according to the management strategies identified in table R-1 for ranchlands and in support of desired conditions. Of the 28,700 acres in the planning area, the Ranchland zone will include approximately 7,600 acres of land under lease/permit (i.e., 2,350 acres in Point Reyes and 5,250 acres in the north district of Golden Gate) that were not included in the Special Use-Pastoral Lands and Pastoral Landscape Management zones in the 1980 GMP. These areas will be rezoned from the Natural Environment, Special Use, and Deferred Acquisition zone and the Natural Landscape Management zone to the new Ranchland zone. This zoning change is consistent with longstanding use patterns. These lands have been actively ranched before and after their acquisition by NPS and since the completion of the 1980 GMP. In total, 27,500 acres will be allocated to the Ranchland zone; however, not all 27,500 acres will be under lease/permit (see “Subzoning Framework,” below).

The Scenic Landscape zone will apply to approximately 1,200 acres that are in the planning area but will not be included in any ranch lease/permit, including a portion of the primary range of the Drakes Beach herd. These lands had been zoned as part of the Pastoral Lands zone in the 1980 GMP.

Beef and dairy cattle operations will continue to operate in the Ranchland zone as described in the “Ranching Overview” section in chapter 2 of the FEIS, except as modified in this Record of Decision. The selected action authorizes NPS to issue lease/permits with up to 20-year terms to existing families who agree to undertake required actions to continue ranching operations (see “Ranch Operating Agreements” section) on approximately 25,500 acres (see attachment A, figure R-3). Each ranch will be managed pursuant to an agricultural lease/permit and associated ranch operating agreement (ROA), which will be an exhibit to the lease/permit. The ROA will identify ranch-specific operational details and requirements associated with (1) beef or dairy ranching (as applicable); (2) authorized diversification activities; and (3) maintenance requirements.

NPS will continue to work closely with local agricultural organizations, state agencies, natural resource conservation experts, and stakeholder groups to share information and discuss issues related to ranching.

6.2 Preservation of Area Resources

The selected action outlines the detailed management strategies that NPS will adopt to achieve the desired conditions related to the preservation of park resources in the planning area. For each desired condition, table R-1 outlines management strategies that NPS will adopt for: all lands in the planning area; additional management strategies taken on lands in the Ranchland zone; and additional management strategies taken on lands in the Scenic Landscape zone. Some of these strategies could require further site-specific planning and environmental documentation, including NEPA and National Historic Preservation Act (NHPA) compliance before individual projects could be implemented. Adopting these management strategies will amend the 1980 GMP by providing revised natural and cultural resource management direction for the planning area. The selected action enhances the ability of the park to meet these conditions in a manner that is protective of both natural and cultural resources.

6.3 Public Use and Enjoyment

The selected action indicates the types and general intensities of development associated with facilitating public use and enjoyment of the planning area through the adoption of strategies and actions described in this section to achieve the desired conditions for facilitating public use and enjoyment and visitor experience in the planning area. These strategies are organized around the following key areas: development of trails and trail-based recreation; development to support day use and overnight accommodations; development to support/enhance interpretation and education; development related to shuttles and parking; and potential use of unoccupied ranch complexes and historic structures. These approaches are applicable to both the Ranchland zone and the Scenic Landscape zone. Adopting these strategies and actions will amend the 1980 GMP by providing revised guidance and management direction for visitor use of the planning area.

Many of the specific strategies and project recommendations described below will be accomplished over time and will be subject to available funding. Development proposals, including but not limited to, new trail connections and parking improvements will occur over the next 20 years and will require additional site-specific review and compliance, including NEPA and NHPA compliance before project implementation could occur.

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TABLE R-1: STRATEGIES FOR THE PRESERVATION OF AREA RESOURCES

Management Strategies on All Lands in the Planning Area	Additional Management Strategies in the Ranchland Zone	Additional Management Strategies in the Scenic Landscape Zone
Preservation strategies for ecological function		
Desired Condition: Ecological function, connectivity, and processes persist and thrive in communities, including wetlands, grassland, forest, scrub, and dune communities.		
<ul style="list-style-type: none"> ▪ Identify community types, ecological sites, and their extent and distribution. Periodically evaluate for large-scale changes. ▪ Research and evaluate connectivity of ecosystems and flexibility of species niches. ▪ Conduct management actions that promote habitat heterogeneity, connectivity, and species considered ecosystem engineers. ▪ Identify previously damaged or degraded natural systems and restore where possible. ▪ Identify and implement practices that protect soil health and minimize soil erosion. ▪ Continue to seek funding and partnerships to restore structure and process to habitat types such as creeks, wetlands, and coastal dunes. ▪ Implement the Point Reyes <i>Fire Management Plan</i>, and update the plan as necessary, consistent with federal law and departmental management policies. ▪ Locate and design visitor use improvements to minimize impacts on ecological functions. ▪ Coordinate with the Federated Indians of Graton Rancheria (FIGR) to incorporate Traditional Ecological Knowledge (TEK) practices to inform NPS habitat monitoring and management efforts within the planning area. 	<p>Range, Pasture, and Ranch Core subzone*</p> <ul style="list-style-type: none"> ▪ Incorporate applicable USDA-NRCS Conservation Practice Standards and mitigation measures from appendix F into Ranch Operating Agreements (ROA). Monitor and enforce rancher compliance with permit requirements, including authorized activities by area, establishment and maintenance of buffer areas, cattle stocking rates, and timing and location of grazing. <ul style="list-style-type: none"> ○ Monitoring data will facilitate adaptive management to protect valued resources. ▪ Incorporate management actions and grazing regimes that promote habitat heterogeneity, connectivity, and species that are considered ecosystem engineers into individual ROAs as appropriate. <p>Resource Protection subzone*</p> <ul style="list-style-type: none"> ▪ Identify disturbance regimes that may need to be maintained by management. <ul style="list-style-type: none"> ○ Targeted Grazing could be used to maintain rare and endangered habitat and species. ○ May require increased effort in management, early detection, and additional Integrated Pest Management (IPM) strategies. <p>*For definitions of subzones, please see “Subzoning Framework” section, below.</p>	<ul style="list-style-type: none"> ▪ Prioritize restoration activities, such as removal of fencing, water developments, roads/crossings, and wildlife barriers/attractants. Conduct habitat restoration in identified areas such as wetlands. ▪ Identify disturbance regimes that may need to be maintained by management. <ul style="list-style-type: none"> ○ Use Targeted Grazing to maintain rare and endangered habitat and species. Future implementation planning may be needed to determine specific locations. ▪ Increase effort in management and early detection and adapt IPM strategies for areas where ranching is no longer occurring. ▪ Implement TEK approaches within the Scenic Landscape zone.
Desired Condition: Sources of air, water, noise, and light pollution are limited.		
<ul style="list-style-type: none"> ▪ Follow US Environmental Protection Agency (USEPA), state, and San Francisco Bay Regional Water Quality Control Board (San Francisco Bay RWQCB) guidelines and regulations to protect water quality. ▪ Continue to monitor and evaluate water quality in the planning area. Use monitoring data to target areas for improvement. Implement practices to reduce impacts on water quality consistent with guidelines and regulations above. ▪ Follow strategies and practices established by NPS Night Sky and Natural Sounds and Air Quality program guidance. <ul style="list-style-type: none"> ○ Reduce and shield artificial light sources to protect natural night skies and minimize human-caused intrusions to natural soundscapes. ○ Locate and design visitor use improvements to minimize contributions to air, water, and noise pollution. ○ Monitor and minimize noise/unnatural sounds that adversely affect planning area resources or values or visitors’ enjoyment of them. ○ Consider noise pollution in the procurement and use of equipment. 	<ul style="list-style-type: none"> ▪ Identify and require implementation of actions to modernize Manure and Nutrient Management systems on dairies consistent with USEPA, state, and San Francisco Bay RWQCB requirements. Incorporate and prioritize water quality improvement management actions in individual ROAs with anticipated timing to ensure resource protection outcomes are realized. Use the ROA process to regularly document and evaluate implementation of water quality improvement practices, monitoring, Manure and Nutrient Management, and grazing management. ▪ Regulate all beef ranches under a framework consistent with Tomales Bay watershed to ensure all operations adhere to a parkwide standard. ▪ Evaluate lighting on all ranch buildings and noise from farm machinery and equipment to determine best practices and incorporate relevant mitigation measures from appendix F into individual ROAs. ▪ Identify approved operations, practices and resource protection investments at the ranch scale through ROAs and use them to monitor and enforce rancher compliance with permit requirements and track progress on commitments. ROAs will identify (and NPS will monitor) relevant metrics, such as authorized activities and grazing regime by area, establishment and maintenance of buffer areas, cattle stocking rates, and timing and location of grazing. Monitoring data will facilitate adaptive management to protect valued resources. 	<ul style="list-style-type: none"> ▪ Prioritize restoration to mitigate for ongoing water quality impacts associated with historical ranch operations based on monitoring.

Management Strategies on All Lands in the Planning Area	Additional Management Strategies in the Ranchland Zone	Additional Management Strategies in the Scenic Landscape Zone
<ul style="list-style-type: none"> Conduct operations in compliance with federal, state, and local air quality regulations and minimize air quality pollution emissions associated with operations in the planning area. 	<ul style="list-style-type: none"> Establish monitoring and maintenance conditions for riparian protection fencing through individual ROAs. Utilize Residual Dry Matter (RDM) monitoring to ensure ranches are maintaining vegetation cover necessary to minimize soil erosion. Continue to seek funding and partnerships to implement water quality improvement projects on grazing lands. 	
Preservation Strategies for Native Species, Including Threatened and Endangered Species		
Desired Condition: Habitats and populations of threatened and endangered species, special-status, and rare species persist and are improved.		
<ul style="list-style-type: none"> To protect threatened and endangered species and their habitats, all activities in the planning area—whether undertaken by ranchers and their employees or by NPS—will conform to conditions outlined in Biological Opinions by the United States Fish and Wildlife Service (USFWS) and the National Oceanic and Atmospheric Administration – National Marine Fisheries Service (NMFS). Prioritize inventory and monitoring of rare and special concern species based on species rankings and/or perceived level of threat using existing data. Inventory and monitoring could help identify population trends, distributions, associations and ecological functions/connectivity. Targeted monitoring related to proposed activities will also occur to determine effects of proposed actions. Conduct habitat restoration and management, including the removal of non-native plant species where appropriate as defined by the strategies above. If monitoring data indicate threats to sensitive species by invasive plant species encroachment, visitor use, barriers to dispersal or other means, take appropriate actions to protect these species. Non-native species management is addressed further below under the desired conditions of maintaining and enhancing native plant and animal communities and limiting invasive, non-native species. Continue to seek funding and partnerships to monitor these species and restore habitats. 	<p>Range, Pasture, and Ranch Core subzone*</p> <ul style="list-style-type: none"> Use individual ROAs to: <ul style="list-style-type: none"> Identify and implement grazing regimes that maintain habitat conditions for documented rare and special status plant species. Monitor and enforce rancher compliance with permit requirements. Set relevant metrics, such as authorized activities by area, establishment and maintenance of buffer areas, cattle stocking rates, and timing and location of grazing. Identify, plan and implement maintenance requirements for stock ponds documented as California red-legged frog habitat. Establish monitoring and maintenance conditions for riparian protection fencing. Identify and implement relevant raven management measures. Monitor relevant metrics to facilitate adaptive management and protect valued resources. <p>Resource Protection subzone*</p> <ul style="list-style-type: none"> Implement management actions such as Targeted Grazing, which benefit species in the absence of grazing. <p>*For definitions of subzones, please see “Subzoning Framework” section, below.</p>	<ul style="list-style-type: none"> Implement management actions such as Targeted Grazing and stock pond maintenance, which benefit species in the absence of ranching.
Desired Condition: Native plant and animal communities persist and thrive.		
<ul style="list-style-type: none"> Prioritize inventory and monitoring of animal and plant communities or populations based on achieving desired conditions. Monitoring could help identify species diversity, changes in native species populations or community structure, and to develop ecological models to inform management. Long-term declines in native animal and plant communities or populations could trigger management action. Maintain a viable population of free-ranging tule elk in Point Reyes. Coordinate with the FIGR to incorporate TEK practices and the California Department of Fish and Wildlife (CDFW) to inform tule elk management efforts within the planning area. Prioritize monitoring tule elk as a species of management concern to identify population trends, movement patterns, and habitat utilization. 	<ul style="list-style-type: none"> Identify authorized ranching activities and monitor and enforce rancher compliance with permit requirements. Set relevant metrics in individual ROAs, such as authorized activities by area, establishment and maintenance of buffer areas, cattle stocking rates, and timing and location of grazing. Monitor relevant metrics to facilitate adaptive management and protect valued resources. For example, RDM monitoring will be used to ensure a vegetation cover necessary to promote plant growth remains at the onset of germinating rains. 	<ul style="list-style-type: none"> Identify disturbance regimes that may need to be maintained by management. Implement management actions such as Targeted Grazing and stock pond maintenance, which benefit species in the absence of ranching. Increase efforts in management and early detection and adapt IPM strategies for areas where ranching is no longer occurring.

Management Strategies on All Lands in the Planning Area	Additional Management Strategies in the Ranchland Zone	Additional Management Strategies in the Scenic Landscape Zone
<p>Monitoring data will be used to determine population thresholds and identify management actions such as habitat improvement.</p> <ul style="list-style-type: none"> ▪ Restore native species populations that have been severely reduced or extirpated where feasible. ▪ Continue to provide interpretive and educational programs to promote preservation of native species. 		
Management Strategies for Invasive/Non-Native Species		
Desired Condition: Populations and extent of invasive, non-native species are limited such that they do not, or only minimally, affect ecosystem processes and/or function.		
<ul style="list-style-type: none"> ▪ Use Early Detection and Rapid Response to prevent introductions of non-native species. Monitoring by ranchers, NPS staff, partners, and volunteers will be used to detect and eradicate new infestations of non-native species before they become widespread. ▪ Prioritize non-native species for management based on level of threat to park resources and ability to control. ▪ Use IPM to control invasive species and promote long-term prevention through a combination of monitoring and control methods. <ul style="list-style-type: none"> ○ Chemical control will generally be used only in combination with other control methods, selected and applied in a manner that minimizes risks to human health, non-target organisms, and the environment. ○ Monitoring will be conducted to identify damage and pests and determine what, if any, management is needed. Monitoring will also be used to determine effectiveness and inform adaptive management. ○ Ranchers, their employees, and NPS will not intentionally introduce invasive non-native species to the planning area. 	<ul style="list-style-type: none"> ▪ Ranchers and their employees will comply with individual ROAs to prevent accidental introductions and manage non-native species of concern. ▪ Implement actions to effectively transition and restore silage and manure spreading areas to permanent pasture through coordination between the NPS and park ranchers. ▪ Ranchers and NPS will coordinate efforts to limit the spread of non-native species through annual ROA reviews. ▪ Evaluate opportunities to limit the need to import supplemental feed on beef ranches, including seasonal grazing. 	<ul style="list-style-type: none"> ▪ Increase efforts in management and early detection and adapt IPM strategies for areas where ranching is no longer occurring. ▪ Identify priority areas for targeted grazing to control non-native, invasive species as appropriate.
Preservation Strategies for Cultural Resources		
Desired Condition: National Register properties listed or eligible for listing, including contributing buildings, structures, and sites are preserved in a manner that maintains their integrity.		
<ul style="list-style-type: none"> ▪ Conform to the <i>Secretary of the Interior's Standards for the Treatment of Historic Properties</i> for work done by NPS, ranchers, or ranch employees. ▪ Pursue adaptive reuse of historic structures to support visitor activities, rancher use, or park/partner operations. ▪ Remove or allow to deteriorate in a safe manner non-contributing buildings, structures, and landscape features not needed for ranching or park purposes. ▪ Explore interpretation and educational opportunities that foster an appreciation of the historic districts and help build long-term support for their preservation. ▪ Do not permit large-scale telecommunications and utility infrastructure, commercial windmills and other energy infrastructure in the planning area whenever possible because they are inconsistent with the historic district. 	<ul style="list-style-type: none"> ▪ Ensure that ranchers maintain historic structures and cultural landscapes consistent with <i>The Secretary of the Interior's Standards for the Treatment of Historic Properties and Guidelines for the Treatment of Cultural Landscapes</i> <ul style="list-style-type: none"> ○ Ranchers will be responsible for routine maintenance such as roofing and painting. NPS will work with ranchers to identify strategies to rehabilitate structures according to <i>The Secretary of the Interior's Standards for the Treatment of Historic Properties</i> ▪ Use continued grazing as a tool to maintain the characteristics of the historic pasturelands, maintain grassland and other habitat diversity, and manage risk of catastrophic fire in the historic district. ▪ NPS staff will collaborate with ranchers to interpret traditional land use and current agricultural practices. ▪ Allow small-scale telecommunications and utility installations for personal use on ranches or as compatible with adaptive reuse, with NPS approval and appropriate precautions taken to protect the historic scene such as locating underground or sited close to existing development. 	<ul style="list-style-type: none"> ▪ Apply a prioritization process to preserve historic buildings to minimize impacts on historic districts. ▪ Pursue adaptive reuse of abandoned structures or ranch cores, including management strategies to preserve the historic landscape comprising these districts. <ul style="list-style-type: none"> ○ Targeted grazing and other tools could be used to maintain the characteristics of the historic pasturelands.

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6.3.1 Development of Trails and Trail-Based Recreation

NPS will strive to improve hiking, biking, and equestrian access in the planning area through enhanced trail connections. Lands in the planning area are generally open to public access, including active grazing areas, but additional route designation and guidance for visitors about trail-based opportunities will facilitate more visitor enjoyment opportunities. Trail opportunities will focus on loop routes, improve connectivity with adjacent public lands, and facilitate north-south connectivity across the landscape.

Most new routes will use existing administrative roads (including ranch roads); new trail construction will be limited. Maintaining these roads to support a multi-use trail network will facilitate increased recreational opportunities for pedestrians, equestrians, and bicyclists. The focus of the trail network in the planning area will be on expanding access for multi-use trails. However, individual trails in the planning area could be designated for specific uses (e.g., hike only, equestrian and hike only, bike and hike only). Most routes will be minimally maintained for general recreational access and will have a rural, backcountry character. When an existing administrative or ranch road is identified as part of the trail network, the level of service and maintenance will generally be the minimum needed to maintain vehicle access and protect resources. In addition to designated routes, NPS will also consider installing pedestrian crossings (i.e., gates/step overs) through ranch fences to accommodate visitor access to ranch lands. NPS will collaborate with ranchers on the location and/or form of the step-overs or crossings across active ranch lands and on methods to ensure minimal disruption to ranch operations (e.g., self-closing or spring-loaded swing gates with simple signage that will help ensure that gates are closed once people pass through). NPS will develop public information and safety messages to support recreational activities that involve walking through active pastures without defined trail alignments. To facilitate north/south trail connectivity across the planning area, NPS envisions a mix of established trails and off-trail routes with crossings across ranch lands to provide recreational access. Ranch operations and private housing will be considered when determining the locations of these routes and alignments.

Bicycles will continue to be allowed on public and administrative roads designated for bicycle use. NPS will improve signage to highlight existing opportunities for bicycles, clarify and update information for cyclists to help with trip planning, and evaluate new opportunities for bicycle access primarily using the extensive network of ranch roads. NPS will seek to close existing gaps for bicycle access by using the existing ranch road network to facilitate additional bicycle loops, such as in the area between L Ranch Road and Pierce Point Road. Site-specific implementation planning and compliance associated with providing additional bicycle access will meet the requirements of 36 CFR 4.30.

NPS will also work with adjacent land managers and partners to explore opportunities to facilitate larger, regional trail connections to the planning area from outside the park and improve trail connectivity for pedestrians, equestrians, and bicyclists. Examples of opportunities include connecting the Cross Marin Trail to routes through the park.

Appendix H of the FEIS: Public Use and Enjoyment Detail provides some additional information that NPS could consider in implementing programmatic recommendations for public use and enjoyment (e.g., trail routes, trailhead improvements).

6.3.2 Development to Support Day Use and Overnight Accommodations

NPS will look for opportunities to expand day use and overnight accommodations in the planning area, with a focus on previously developed areas, such as former ranch complexes, and will prioritize the adaptive reuse of historic buildings to support these uses where possible. Implementation of any of the options below will depend on availability of an appropriate location as well as NPS's operational capacity

and/or ability to work with partners to support the operation. Potential day use and overnight opportunities that NPS will consider in the planning area include:

- Use of one or more vacant complexes as a concession operation (e.g., hostel in the buildings; campground in the pasture; possible yurts, tent cabins, or other similar structures that offer an overnight option between tent camping and commercial lodging)
- New location(s) for administrative or volunteer accommodations (e.g., camping, recreational vehicle hookup, or housing)
- Drive-in and hike-in camping sites with limited services and amenities
- Additional sites for day use activities, such as picnicking, close to roads and other infrastructure (where applicable, these activities will be sited so as not to interfere with grazing)
- An education camp in a ranch complex or other previously developed or disturbed area if a partner were interested and able to create and maintain the facility
- Opportunities for overnight use or other adaptive reuse at the RCA Receiving Station

6.3.3 Development to Support/Enhance Interpretation and Education

NPS will explore new opportunities, techniques, and contemporary media to help interpret park resources and ranching in the planning area and will collaborate with ranchers and other park partners, such as Point Reyes National Seashore Association or park concessioners, on interpretive messaging, programs, and other techniques to share the story of multi-generational ranching in the park. As ranch operations diversify and engage in additional public serving activities, NPS will collaborate with ranchers to identify opportunities to integrate interpretive and educational messaging and programming. Selected waysides could be focused on existing destinations, such as at trailheads and the visitor center, and could also be installed at key pullouts, such as along L Ranch Road.

NPS will preserve and interpret the historic RCA Receiving Station. NPS could cooperate with a non-profit group and could also explore expanded adaptive uses of the facility, including overnight uses, through a park partner or through a request for proposal process.

NPS will also expand interpretation and visitor opportunities around the Naval Radio Compass Station. NPS will consider establishing a trailhead on Sir Francis Drake Boulevard and use of the old road to/through the property as a trail to the site of the former lifesaving station and the naval radio compass facility. NPS will also provide interpretation of these historic resources to enhance the visitor experience. Non-historic structures associated with the property will be removed.

6.3.4 Development Related to Shuttles and Parking

NPS will continue to maintain the existing basic transportation network in the planning area. No new roads or significant changes to circulation patterns are envisioned. Marin County and the State of California will continue to serve as leads for roads within their respective jurisdictions in the planning area. NPS will continue to work with Marin County on maintenance and improvements for Pierce Point Road and Sir Francis Drake Boulevard and will similarly work with the State of California for State Route 1.

NPS may continue to use shuttle or other operational strategies to manage traffic and crowding issues at various locations in the park and will explore additional or expanded shuttle use, or collaborate with the county to expand transit systems, as tools to manage visitor use. NPS will also seek improvements to parking at trailheads to improve visitor safety and facilitate access to trails and park destinations.

6.3.5 Potential Use of Unoccupied Ranch Complexes and Historic Structures

Most of the ranch complexes contain historic buildings, structures, and other character-defining features that contribute to the integrity and significance of the Olema Valley Dairy Ranches Historic District or Point Reyes Peninsula Dairy Ranches Historic District. Several individual structures within occupied ranch complexes and unoccupied ranch complexes are currently vacant. The NPS will actively pursue adaptive reuse of these individual buildings and abandoned complexes as a preservation strategy for those contributing historic resources not being used to support ranch operations. To preserve the historic district, NPS will make every reasonable effort to adapt historic buildings and complexes to compatible uses that require minimal alteration of the character-defining features. NPS will ensure that new uses and physical changes to contributing structures, including limited new construction such as minor additions, are made in accordance with *The Secretary of the Interior's Standards for the Treatment of Historic Properties and Guidelines for the Treatment of Cultural Landscapes*.

NPS will explore ways to utilize and occupy vacant buildings, for NPS or park partner operational uses, visitor servicing programs, or for use by ranchers on adjacent lands for ranch operations/housing. If ultimately no use can be found for a structure or complex, NPS will consider stabilization and preservation actions such as mothballing. Any activities with the potential to affect contributing structures, buildings, objects, or sites of these historic districts will need to be considered within the provisions of NHPA and in consultation with the State Historic Preservation Officer (SHPO). NPS will also apply this approach to individual structures that may become vacant in the future.

6.4 Visitor Carrying Capacity

The selected action identifies and includes implementation commitments for visitor carrying capacities (also referred to as visitor capacity) for lands in the planning area. Visitor capacity is a component of visitor use management defined as the maximum amount and types of visitor use that an area can accommodate while sustaining desired resource conditions and visitor experiences, consistent with the purpose for which the area was established. By establishing and implementing visitor capacities, NPS can help ensure that visitors have the opportunity for a range of high-quality experiences and that resources are protected. NPS is a leading member of the collaborative six federal agency council known as the Interagency Visitor Use Management Council (IVUMC) that provides a consistent approach to visitor use management. A full description of the IVUMC framework and additional resources related to visitor carrying capacity can be found at <http://visitorusemanagement.nps.gov/>.

The desired conditions for preservation of area resources and visitor experiences were used to guide the development of capacity for the planning area. Visitor-caused issues in the planning area were identified and include parking, crowding and congestion, trash, and waste. The selected action includes indicators (measurable attributes that can be tracked over time) and thresholds (minimal acceptable condition for each indicator), as well as monitoring protocols, management strategies, and actions that can be taken to help maintain desired conditions.

The following indicators were identified for the planning area:

- number of visitors per year;
- number of incidents of informal parking at key destinations;
- number of documented incidents and visitor complaints related to visitor use;
- number of new and existing dumping sites encountered, and incidences recorded; and
- documented condition assessment changes to cultural resources from visitor-caused actions and disturbances, as defined in the NPS Archeological Site Management Information System.

Thresholds, monitoring protocols, and management strategies can be found in Appendix I: Indicators, Thresholds, and Visitor Capacity Details.

Visitor capacities were also identified for the planning area following the IVUMC framework and by using best practices and examples from other plans and projects across the national park system. Based on these best practices, the planning team used the following process to identify capacity: (1) determine the analysis area, (2) review existing direction and knowledge, (3) identify the limiting attribute, and (4) identify visitor capacity and strategies to implement visitor capacity.

Three key areas were identified, which together compose most of the visitor use areas in the planning area:

1. Key visitor destinations along Pierce Point Road and L Ranch Road
2. North district of Golden Gate lands
3. Key visitor destinations along Sir Francis Drake Boulevard from Pierce Point Road to the end of the planning area (A Ranch)

Visitor capacities identified for these areas generally maintain current visitor use levels, measured primarily by vehicle counts, with some opportunities to increase other types of use such as biking and trail-based recreational experiences. Visitor capacity analysis also illustrates the opportunity to redistribute some visitor use temporally and spatially in the planning area and throughout the park.

Strategies that will be implemented to manage visitor capacity generally involve providing more information to visitors to be able to accurately wayfind and select experiences; expanding the range of visitor opportunities in the planning area; managing access through a broader range of tools; formalizing trailheads and parking; managing large-scale trail-based event requests; and partnering to improve safe multi-use of the roads notably for bicycle access.

Appendix I of the FEIS presents the detailed visitor capacity identification as it relates to the visitor use management framework for the planning area. The appendix includes additional detail describing the rationale and methodology for development of the indicators listed above; associated thresholds; and associated monitoring protocols, management strategies, and actions that can be taken to help maintain desired conditions. The appendix also outlines the future monitoring of use levels and data that will inform NPS if use levels are at or near visitor capacities, along with the adaptive management strategies that will be taken. These adaptive management strategies represent the suite of actions that could be taken to manage visitor capacity if thresholds are approached or exceeded. Not all of these strategies will necessarily be taken or needed to manage capacity. Adopting this visitor capacity framework will amend the 1980 GMP by adding guidance and management direction for managing visitor capacity in the planning area. It also fulfills the statutory requirement for general management plans related to visitor carrying capacity.

6.5 Ranch Operations

6.5.1 Subzoning Framework

To ensure protection of natural and cultural resources, streamline the permitting process for typical ranch activities, and provide consistent guidance to ranchers, the selected alternative adopts a subzoning framework for the Ranchland zone that will define the Resource Protection, Range, Pasture, and Ranch Core subzones. This subzoning framework was developed based on analysis of topography and existing sensitive resource information. By implementing a subzoning framework, NPS can better ensure resource protection by identifying the most appropriate locations for ranch activities. Appendix J of the FEIS

provides the methods used to develop the initial estimates for each subzone. The area of each subzone will differ by ranch, based on site topography and the presence of wetlands, rare plants, and other sensitive resources. Ranch-specific subzoning maps are provided in figures 9 through 32 in appendix A of the FEIS. The zoning map for E Ranch has been modified based on changes made to the selected action (see attachment A, figure R-4). NPS may make technical revisions to the zone maps based on additional monitoring, surveys, or on-the-ground field verification efforts (see appendix J of the FEIS). These maps will also continue to be refined in collaboration with ranchers, including delineating the clear boundary of each Ranch Core subzone.

6.5.1.1 Resource Protection Subzone

The Resource Protection subzone includes lands containing sensitive resources, such as creeks and riparian areas, some threatened and endangered species habitat, and archeological sites. No ranching activities will be authorized in this subzone; however, NPS will conduct limited Management Activities, including Targeted Grazing, in coordination with the Federated Indians of Graton Rancheria (FIGR) to meet desired resource management goals and objectives. Under the selected action, the Resource Protection subzone will encompass approximately 2,000 acres comprising approximately 800 acres within current lease/permit boundaries but already excluded from ranching and an additional 1,200 acres that will be excluded from ranching.

6.5.1.2 Range Subzone

The Range subzone is identified as lands where grazing is compatible with resource protection objectives, but more intensive activities will not be allowed because of the documented presence of sensitive resources, including rare plants, native grasslands, wetlands, riparian/stream/pond habitats, forested areas, and threatened and endangered species habitat or habitat necessary for critical components of threatened and endangered species' life cycles. Additionally, this subzone includes nearly all areas with slopes greater than 20%. The authorized activities in this subzone will be limited to cattle grazing; generally, no Management Activities or diversification will be allowed in the Range subzone, unless they will work toward attainment of NPS resource management goals and objectives. Based on analysis of existing sensitive resource data, approximately 16,400 acres (over 64%) of the lands under lease/permit will be identified as Range subzone.

6.5.1.3 Pasture Subzone

The Pasture subzone is identified as lands where no sensitive resources are known to occur; therefore, a suite of Vegetation Management activities, including seeding and Mowing, may be conducted in addition to grazing. The Pasture subzone includes areas where introduced or domesticated native forage species exist and will be used primarily for the production of livestock. Approximately 8,900 acres (nearly 35%) of the area under lease/permit will be identified as Pasture subzone. Manure and Nutrient Management will be authorized on approximately 1,800 acres in the pasture subzone on five dairies. Authorized Forage Production will be limited to one dairy with existing silage, totaling 163 acres of pasture subzone in the planning area. NPS will coordinate restoration of discontinued Forage Production Areas to permanent pasture over a period of 2-4 years. Under the selected action, some diversification activities will be authorized in the Pasture subzone as described in the "Diversification" section, below. See the "Ranch Operating Agreements" and "Diversification" sections for details. Generally, construction of permanent buildings will not be authorized in the Pasture subzone.

6.5.1.4 Ranch Core Subzone

The Ranch Core subzone includes the developed complex of buildings and structures and may also include a limited number of disturbed acres meeting Pasture subzone criteria located immediately adjacent to the developed complex. This acreage, which will be limited to not more than 2.5 acres per

occupied ranch complex, is designed to support authorized diversification activities described in table R-5. These lands will not contain, or have the potential to affect, sensitive resources and the additional acreage will be sited in the most appropriate location on each eligible ranch to minimize adverse impacts. Diversification activities and new infrastructure will only be authorized in this subzone within residentially occupied ranch complexes. Residential complexes that are currently occupied are identified in attachment A, figure R-3. New dairies will not be considered under a diversification proposal. Geographic constraints could limit Ranch Core subzone activities on individual ranches. Approximately 220 acres (less than 1%) of the area under lease/permit will be identified as Ranch Core subzone. The exact location of the Ranch Core subzone will be defined in each ROA.

6.5.2 Agricultural Lease/Special Use Permits

The selected action authorizes NPS to issue agricultural lease/permits with up to 20-year terms to ranchers who agree to undertake required actions to continue multi-generational ranching operations on approximately 25,500 acres. The lease/permits constitute the overall authorization for ranch families to operate on park lands. They include general terms and conditions as well as commitments and standards for ranching operations.

Longer term leases (i.e., 20 years) will allow ranchers to amortize increased investment in the operational infrastructure required to maintain historic structures and meet expectations for implementation of Management Activities, which mitigate potential natural resource impacts. The term of each lease/permit will be determined on a case-by-case basis, depending on the investments to be implemented as specified in the ROA (see below).

NPS has determined that in some cases, conversion of permanent pasture to seasonal grazing regimes in coordination with ranchers may achieve desired conditions for grassland habitat and fire protection while also reducing potential water quality impacts. NPS has decided that Allotment 19 (see attachment A, figure R-5) will be converted from a permanent to a seasonal grazing regime. NPS will continue to evaluate grazing operations and, in coordination with ranch operators, may identify additional pastures or allotments where seasonal grazing is determined as the best approach to maintaining grassland habitat, mitigating risk of fire, minimizing the introduction and spread of invasive species, and protecting water quality.

Dairy Operations:

The selected alternative authorizes continuation of up to five dairies (approximately 2,425 dairy animals) if they meet the following conditions:

- For the initial ROA, the NPS and dairy operators will evaluate infrastructure conditions to identify measures for the operator to undertake to modernize Manure and Nutrient Management infrastructure and practices. If the operator is unable to commit to invest the necessary resources to meet this requirement, the dairy operation will cease within two years and the number of dairies authorized in the park will be reduced.
- ROAs will include a schedule for implementation of modernization requirements to ensure resource protection outcomes are realized as promptly as possible. NPS will use the ROA process to regularly document and evaluate implementation of water quality improvement practices, monitoring, Manure and Nutrient Management, and grazing management.

Dairy operators will be allowed to convert to beef operations in lieu of ceasing operations. If another park dairy operator could commit to the necessary investment on a closed dairy, the NPS will consider relocating the dairy operation to that site. If additional dairy operations close, no new dairy operations

will be considered.

Beef Operations:

For the initial ROA, the NPS and beef operators will identify priority management actions to restrict cattle from sensitive riparian, freshwater wetland, and estuarine habitats to mitigate for potential water quality impacts from their operations. These commitments and a schedule for their prompt implementation will be included in the ROA. Additional cultural resource protection and rehabilitation measures will also be identified and included in the initial ROA.

Stocking rates and grazing regimes for beef operations will be identified in the ROA and may be updated based on review of forage and Residual Dry Matter (RDM) information. No Forage Production activities will be authorized on beef grazing allotments. The NPS will coordinate the phase out of silage (Forage Production) and conversion to permanent pasture on two beef ranches over a period of 2-4 years.

Except for direct conversion from dairy to beef operations, the NPS does not anticipate authorizing an increase in the number of beef grazing lease operations but may reduce the total number of operations by combining or retiring allotments.

6.5.2.1 Ranch Operating Agreements

The lease/permit will require each rancher to enter into an ROA to continue ranching. The ROA will identify ranch-specific operational details and requirements associated with (1) beef or dairy ranching (as applicable) to meet desired conditions, (2) authorized diversification activities, and (3) maintenance requirements including historic ranch structures and operational infrastructure. ROAs will be developed with each rancher and reviewed during an annual meeting with NPS staff.

The process for including infrastructure upgrades in an ROA has been slightly modified from the way it was described in the FEIS. This change is reflective of conditions agreed to during the Coastal Commission hearing regarding the development of a strategy and timeline for improving water quality through the installation of ranching-related infrastructure and management practices. It is also responsive to public concerns requesting that NPS require ranch operators to adhere to a timeline for the implementation of measures that further improve resource conditions. As a result, the NPS has determined that it is appropriate to require the inclusion of certain Management Activities and modernization requirements, together with a schedule for their prompt implementation, in the initial ROA. These activities will be carried forward into subsequent ROAs as appropriate because some projects may take several years to complete.

The types of requirements that will be included in initial ROAs fall into the following categories:

- Ranchers operating in areas with regular elk use will be required to modify feeding strategies to reduce potential conflict with/habituation of elk to these methods. Implementation of actions in conjunction with specific infrastructure changes to reduce elk access to hay will be the responsibility of the ranch operator.
- NPS, in consultation with ranchers, will identify and plan maintenance requirements for ranchers to implement for stock ponds documented as California red-legged frog habitat.
- Ranch operators, in coordination with the NPS, will be required to monitor, maintain, and report conditions and actions taken to ensure riparian fencing is in place and effective at maintaining riparian buffers.
- Ranch operators will be required to meet 1,200 pounds/acre RDM standards as documented by NPS through visual RDM mapping and monitoring across the planning area.

- Upon NPS development of a US Fish and Wildlife Service (USFWS)-approved Raven Management Program, ranchers will be required to implement relevant, mandatory raven management measures.
- The NPS and ranch operators will evaluate infrastructure conditions to identify measures and a timeline for the operator to address deferred maintenance on the historic ranch infrastructure. Maintenance commitments will be tracked as one of the performance metrics through the annual ROA review process.
- Additional requirements for dairy operations are discussed in the “Dairy Operations” section.

As part of annual ROA review and in order to assess ranch performance, the NPS will track investment and compliance with the established schedule for completion of these requirements. If no changes are made, the existing ROA will be recertified for the following year of the lease term. If NPS approves changes to operational practices or requirements, the ROA will be revised accordingly (subject to applicable compliance as described below) and signed by both parties.

Because the EIS analyzes some ranch Management Activities at a detailed level and others at a conceptual level, only actions analyzed in detail in the EIS will be authorized in a ranch’s initial ROA. Actions that are analyzed in detail in this EIS and authorized under the selected action are beef and dairy ranching at AU/dairy animal levels as described under this alternative, diversification activities in the Pasture and Ranch Core subzones as described in table R-5 below, preservation and maintenance activities for ranch buildings as described in appendix G of the FEIS, and 41 categories of Management Activities described below and in appendix F of the FEIS. As part of annual ROA discussions, ranchers can submit proposals for other activities that are compatible with the management zoning and other parameters of the selected action. Depending on the proposal, other types of compliance and permitting requirements may also apply (e.g., NHPA, ESA, building permits, San Francisco Bay Regional Water Quality Control Board [San Francisco Bay RWQCB permits]). If approved by NPS following the conclusion of all compliance and permitting processes, the proposed activity will be included in a revised ROA for the ranch.

6.5.2.2 Animal Units

The selected action allows each ranch to have a maximum number of AU or dairy animals allowed to graze at one time. AU or dairy animals allowed under a lease/permit will continue to be managed to meet the 1,200 pounds/acre RDM standard and other NPS management objectives. RDM will be monitored as the primary resource protection performance standard and ranch-specific resource protection objectives will be developed through ROAs. NPS will determine annual adjustments to AU or dairy animals based on the use of a rangeland forage production model (see appendix K of the FEIS), monitoring data, NPS range program manager and rancher expertise, historical information, US Department of Agriculture (USDA) guidelines, and variation in ground conditions and weather/climate. All dairy ranch lease/permits will be permitted based on the number of dairy animals. Annually, NPS and ranchers will review performance measures, including RDM, to identify grazing regime and stocking rates that will ensure site conditions are maintained to meet the minimum RDM standard and other desired resource conditions. Under the selected action, approximately 2,400 AU of beef cattle and 2,425 dairy animals will be authorized, which is a reduction of 690 dairy animals from alternative B as described in the FEIS.

Ranch operators will be authorized to have a limited number of livestock and conduct other activities common within a typical ranch complex (e.g., small family garden, non-breeding pigs, personal chicken coop, horses for personal use) as an accessory use defined through the ROA as long as the intent is not for commercial or diversification purposes. The type of livestock that will be allowed for this purpose will be consistent with those authorized in the EIS. If located in the Pasture subzone, the animal unit equivalent (AUE) of these animals will be part of the overall AU, not in addition to the authorized AU. Any

confinement of these species will be required to meet the San Francisco Bay RWQCB regulations for waste management and any other applicable regulations.

6.5.2.3 Succession

The NPS will review each lessee's compliance with the terms of the lease/permit (or Reservation of Use and Occupancy) and ROA annually. The results of these reviews will be considered by NPS when evaluating future operational requests. In the event an existing rancher decides to discontinue ranching, or consistently fails to meet performance requirements NPS will follow the Succession Policy to authorize continued multi-generational ranch operations or other adaptive uses within the Ranchland Zone in a manner that supports the Park's natural and cultural resource management objectives and is consistent with the selected action. The succession policy has also been revised to incorporate coordination with the FIGR regarding the transition of a lease to a new operator and adaptive reuse of ranches and historic infrastructure.

When the two remaining life estates expire, the NPS will evaluate the succession policy and ranch resource performance criteria to determine whether other members of the immediate family should be offered an opportunity to continue operations.

6.5.2.4 Appraisal Process

New appraisals will be conducted, overseen, and completed by the DOI Appraisal and Valuation Services Office.

6.5.2.5 Range Management and Monitoring

Under the selected action, NPS will manage ranching pursuant to various guidelines and standards. In 1990, NPS adopted the Range Management Guidelines (NPS 1990a) in response to countywide concerns about flooding and large-scale erosion control in the early 1980s. NPS has updated and adapted authorizations based on this guidance, applicable regulations, and other best available science. In addition, NPS contracted with the UC Berkeley Range Ecology Lab to review existing ranch management practices and make recommendations that NPS could consider as part of this planning process. Collectively, these guidelines set forth standards and Best Management Practices (BMPs) for ranching operations with the overall goal of administering the grazed rangelands in the park in a manner that provides for environmental protection and restoration, public recreation opportunities, and a visually aesthetic pastoral scene.

The Range Monitoring Handbook (NPS 1990b) outlines monitoring methods to ensure that the standards as set forth in the 1990 Range Management Guidelines are met and incorporated into ranch lease/permits. Specifically, it outlines the methodologies used to assess rangeland vegetation species composition (condition and trend) and conduct RDM monitoring. Monitoring is designed to determine range carrying capacities, evaluate the effectiveness of current grazing management in maintaining or improving range resources, and provide baseline data on range plant community successional dynamics. NPS established RDM and vegetation species composition monitoring locations in each ranch or pasture unit between 1986 and 1990 based on the concept of representative key areas, a widely used rangeland monitoring concept.

The park's 1990 Range Management Guidelines (NPS 1990a) establish a minimum RDM level of 1,200 pounds/acre of herbaceous plant material remaining in the fall to protect the soil resources and optimize vegetative production. Lower levels of cover are permitted in identified high-impact areas, such as water and feeding troughs, corrals, and adjacent to dairies. These guidelines were updated in 2015 in collaboration with the UC Berkeley Range Ecology Lab. The UC report (Bartolome et al. 2015) concluded that the minimum 1,200 pounds/acre standard remains appropriate based on the RDM guidelines developed by UC researchers for coastal prairie (Bartolome et al. 2006), but the report also

noted that site-specific conditions and management goals may call for adjusting the minimum standard for particular sites. Bartolome et al. (2015) also recommended expanded use of visual RDM mapping across pastures to better inform overall management of the ranch lands. Updated monitoring protocols based on the UC Berkeley Range Ecology Lab review have been in place since 2015. A summary of visual mapping and monitoring data collected from 2015 to 2019 is available in appendix E of the FEIS.

In addition to RDM, NPS has conducted spring species composition monitoring at key area monitoring locations during multiple, but typically nonconsecutive, years and will continue to monitor vegetation to aid in evaluation of conditions. The NPS may also monitor forage productivity plots on a subset of ranches that are monitored in spring to aid in determination of stocking rates.

Other range management activities include planning, implementation, and monitoring to improve resource conditions, protect water quality, and maintain infrastructure integral to ranch operations. To date, more than 170 activities to improve resource conditions have been implemented in the planning area in partnership with USDA-Natural Resources Conservation Service (USDA-NRCS), San Francisco Bay RWQCB, the Marin Resource Conservation District, ranch operators, and others (figure 4 in appendix A of the FEIS). These activities have been implemented on a case-by-case basis with some variations in required mitigation measures and BMPs. A majority of the activity types implemented are described in detail in appendix F of the FEIS.

Under the selected action, NPS will regularly monitor ranches to ensure compliance with lease/permit conditions and regulatory requirements, and to assess changes that may affect resource conditions (e.g., early detection of invasive species, identification of new areas of erosion). Periodic monitoring will be conducted in association with the implementation of projects, restoration activities, or other requirements. Types of monitoring include water quality, vegetation (including rare plants and invasive species), riparian condition, and infrastructure condition. Riparian restoration and invasive species management will also continue to be performed on a routine basis.

Through the Coastal Zone Management Act (CZMA) Consistency Determination process, the NPS will implement a Water Quality Strategy for lands in the planning area that are outside the Tomales Bay watershed. The goal of the Water Quality Strategy is to assess and improve water quality through installation of ranching-related infrastructure and Management Activities. Annual reporting will be made available to the public and regulatory agencies. In furtherance of the Water Quality Strategy, individual ranch ROAs will identify water quality improvement practices, monitoring protocols, grazing management actions, and dairy Manure and Nutrient Management actions that the rancher is required to undertake promptly according to an established schedule. NPS will monitor and evaluate compliance with these requirements through the ROA process. NPS will continue to require compliance with water quality regulations including total maximum daily loads and associated grazing waivers in the Tomales Bay watershed, as well as waste discharge requirements or waivers of discharge requirements for confined animal facilities. All beef ranches will also be regulated under a framework consistent with Tomales Bay watershed requirements to ensure all operations adhere to a parkwide standard. Additionally, the NPS agreed to identify actions that could reduce greenhouse emissions from ranching operations as part of a climate action strategy which may also be included with regular reporting to the CCC.

ROAs will identify and provide an implementation and monitoring framework for the following requirements where applicable: water quality improvement practices; maintenance of stock ponds documented as California red-legged frog habitat; mandatory raven management measures; grazing regimes that maintain habitat conditions for documented rare and special status plant species including 1,200 pounds/acre of RDM; maintenance of riparian protection fencing; modernization of Manure and Nutrient Management systems on dairies consistent with US Environmental Protection Agency, state, and San Francisco Bay RWQCB requirements; effective transition and restoration of silage and manure

spreading areas; modifications to feeding strategies to reduce potential conflict with/habituation of elk in areas of regular elk use; and opportunities for seasonal grazing to limit winter water quality impacts and the need to import supplemental feed on beef ranches.

Under the selected action, NPS authorization will continue to be required before ranchers implement any range improvements beyond routine maintenance. Typical activities include changes to cattle management infrastructure (e.g., fencing, watering systems, roads), erosion control measures, and land treatments to manage vegetation. Types of Management Activities are described in more detail below. Many of these activities also require regulatory review by other agencies.

The expectations and requirements for authorized range Management Activities will be incorporated into each ROA and updated and revised as new information becomes available. Additional monitoring requirements specific to authorized activities will also be included in each ROA. The Management Activities that may be authorized under this alternative are described below. Practice Standards that have been identified as having greenhouse gas (GHG) mitigation and/or carbon sequestration benefits on farms and ranches, often referred to as carbon farming practices (e.g., Range Planting, Tree/Shrub Establishment, Riparian Forest Buffer, and Manure and Nutrient Management, among others) are also indicated in appendix F of the FEIS with an asterisk. The list of Practice Standards is based on the qualitative greenhouse benefits ranking of practices prepared by USDA-NRCS (USDA-NRCS 2019).

6.5.3 Management Activities, Practice Standards and Mitigation Measures

The selected action evaluates a number of Management Activities (i.e., typical ranch projects) that will be implemented on ranches to improve resource conditions. The selected action groups these activities into three Activity Types: Ranch Infrastructure and Water Control Management, Vegetation Management, and Other Management Activities, which are discussed in detail below. Typically, proposals and/or funded projects will include more than one Management Activity.

The only change from the FEIS that NPS has made related to Management Activities is the requirement for ranchers to commit to undertaking certain identified Management Activities (together with their associated practice standards and mitigation measures) according to an established schedule. As explained in greater detail in the “Agricultural Lease/Special Use Permit” and “Ranch Operating Agreements” sections above, this change was made in response to public concerns and the outcome of the Coastal Commission hearing. Under this modified approach, for the initial ROA, NPS, in coordination with ranch operators, will identify Management Activities that ranchers need to implement to address priority issues or to further reduce impacts to water quality.

As described in the FEIS, Ranchers may also seek to undertake other Management Activities by submitting a proposal to NPS, which if approved, will be included in the ROA. ROAs will require ranchers to adhere to the established USDA-NRCS Practice Standards for all Management Activities. These Practice Standards are technical guidelines for the conservation of soil, water, air, and related plant and animal resources and are described beginning on page F-9 of appendix F of the FEIS. In addition to Practice Standards, specific mitigation measures were developed to avoid or minimize impacts from all ranch Management Activities and are mandatory unless otherwise noted in an ROA. These mitigation measures are listed in tables F-11 through F-13 of appendix F of the FEIS where they are cross-referenced with their associated Practice Standards.

In addition to the established guidance from USDA-NRCS, appendix F of the FEIS incorporates mitigation measures and standards from other environmental compliance documents, such as the Marin Resource Conservation District Permit Coordination Program (which was established to streamline permitting for many of the activity types listed herein), previous NEPA compliance reviews for park-

specific projects, and previous biological opinions (BOs) from USFWS and the National Marine Fisheries Service (NMFS). The Management Activities, Practice Standards, and mitigation measures described in appendix F and analyzed in the FEIS were developed to ensure protection of natural and cultural resources and streamline the compliance review for common ranch management activities.

No additional NEPA analysis will be required as long as a covered Management Activity authorized in an ROA is conducted in accordance with all applicable Practice Standards, size limitations and mitigation measures (some activities may nevertheless still require additional permitting and review by other agencies before incorporation into an ROA).

Practice Standards and mitigation measures may be revised in the future as new information becomes available that will result in better protection of park resources or as a result of changes in law, policy, or regulatory agencies' standards. NPS will continue to work closely with local agricultural organizations, state agencies, natural resource conservation experts, and stakeholder groups to share information and discuss issues related to ranching. To further our collaborative efforts, the NPS has entered into an agreement with the Marin RCD funding two technical support field positions which will streamline and enhance the design, implementation and approval process for a wide range of Management Activities (such as fencing, livestock water supply, erosion control, and carbon beneficial practices).

A general description of Management Activities is provided below, and additional detail is provided in appendix F of the FEIS. The analysis assumes a total number of individual projects that will occur over the 20-year lease/permit term as well as in any given year, when applicable.

6.5.3.1 Ranch Infrastructure and Water Control Management

Ranch Infrastructure and Water Control Management Activities, including Road Upgrade and Decommissioning, Infrastructure Improvements, Fencing, Livestock Water Supply, Pond Restoration, Waterway Stabilization, and Stream Crossing are part of the regular management and maintenance of ranch operations. Any maintenance projects or new improvements involving ground disturbance or alteration of hydrological regimes will continue to require NPS review and approval, including a review of potential impacts on sensitive species.

Under the selected action, the types of Ranch Infrastructure and Water Control Management activities included in table R-2 are analyzed in detail in this EIS and could be implemented after inclusion in a rancher's approved ROA. NPS will work with ranchers and relevant external agencies to review proposed Ranch Infrastructure and Water Control Management Activities on an annual basis. Ranchers will be required to prioritize and implement practices to improve water quality based on the results of water quality monitoring in the Tomales Bay watershed and under the Strategy. NPS will work with ranchers to identify stock ponds that are documented California red-legged frog critical habitat for required maintenance.

TABLE R-2: RANCH INFRASTRUCTURE AND WATER CONTROL MANAGEMENT ACTIVITIES

Activity	Associated Practice Standards^a
Road Upgrade and Decommissioning	Access Road (560), Trails and Walkways (575), Structure for Water Control (587), and Road Closure and Treatment (654)
Infrastructure Improvements	Heavy Use Area Protection (561), Roof and Covers (367), Roof Runoff Structure (558), and Structure for Water Control (587)
Waterway Vegetation and Planting	Grassed Waterway (412) and Filter Strip (393)
Fencing	Fence (382)
Livestock Water Supply	Spring Development (574), Livestock Pipeline (516), Underground Outlet (620), Watering Facility (614), and Pumping Plant (533)
Pond Restoration	Pond Restoration (378[R])
Waterway Stabilization	Grade Stabilization Structure (410) and Lined Waterway or Outlet (468)
Stream Crossings	Stream Crossing (578)

^a The number in parenthesis is the USDA-NRCS Conservation Practice Standard number.

Road Upgrade and Decommissioning

The purpose of Road Upgrade and Decommissioning is to prevent erosion and protect water quality by making improvements to an existing road network. This may include activities such as re-grading surfaces, installing or repairing culverts, or constructing cross-road drains. In areas where roads have been identified as no longer necessary for ranch or park operations, they may be decommissioned to restore more natural drainage and habitat conditions. NPS has worked with ranchers to implement several Road Upgrade and Decommissioning activities in the planning area; however, a number of roads still have erosion issues and/or are no longer actively used or maintained. NPS assumes 20 Access Road projects, up to 10 Trails and Walkways, 40 Structures for Water Control, and 5 Road Closure and Treatment projects will be implemented over the 20-year lease/permit term. NPS anticipates up to 3 Road Upgrade and Decommissioning projects annually.

Infrastructure Improvements

The purpose of these activities is to protect areas that are heavily used by ranch operations to (1) prevent erosion or degradation of critical infrastructure, (2) separate clean runoff from potential pollutant sources, and (3) prevent flooding in ranch core areas. Activities could include establishing suitable vegetation to convey surface water at a non-erosive velocity using a broad and shallow cross section to a stable outlet, planting strips of vegetation to filter pollutants, installing roof and covers and roof runoff infrastructure, and placing materials to stabilize a ground surface. NPS has worked with ranchers to install gutters, inlets, culverts, and vegetated/rock-lined waterways around high-intensity-use areas such as corrals in the ranch complex to direct clean rainwater away from these areas. NPS assumes 10 Roof and Covers projects will be implemented over the 20-year lease/permit term, with additional roof runoff structures developed as needed, associated with all buildings. Heavy use area protections are a regular practice associated with troughs and feeding areas, as well as corrals and heavily travelled lanes in the ranch complex.

Waterway Vegetation and Planting

Waterway Vegetation and Plantings are used in areas where added water conveyance capacity and vegetative protection are needed to prevent erosion and improve runoff water quality through infiltration

that removes sediment, other suspended solids, and dissolved contaminants in runoff. NPS assumes up to 25 Grassed Waterways and 12 Filter Strip projects will be implemented over the 20-year lease/permit term.

Fencing

The purpose of this activity is to help accomplish management goals and objectives by controlling the movement of animals, people, and vehicles. Fencing is used for multiple purposes including managing cattle and creating pastures for better control over the timing and duration of grazing. Specific fences have been installed for purposes such as archeological resource and riparian habitat protection. Existing fencing types authorized in the planning area include barbed wire livestock fencing, electric fencing, and rail fencing. Removal of abandoned fencing will continue to occur on ranchlands. New fencing will require wildlife-friendly designs. NPS will require the removal of abandoned fence on ranchlands to address wildlife and visitor safety. Construction of temporary fencing (i.e., electric fencing) will be authorized following NPS approval. NPS assumes approximately 20% of the 340 miles of existing fencing will be replaced, 24 miles of fence will be installed for the Resource Protection subzone, and an additional 35 miles of new fence will be constructed to improve livestock management over the 20-year lease/permit term. NPS anticipates up to 5 Fencing projects annually.

Livestock Water Supply

The purpose of developing alternative water sources is to help address potential impacts of unrestricted livestock access to streams and wetlands and to provide cleaner, more reliable, and well-distributed drinking water to animals. Most ranches have water developments for cattle consumption, including developed springs, wells, and associated storage tanks and troughs. Many ranches also have aging or abandoned infrastructure. NPS has worked with ranchers to redevelop sources and provide off-stream water to cattle distributed throughout pastures. Troughs will require wildlife escape ramps. Redevelopment of existing water sources and associated distribution infrastructure will be authorized following NPS review and approval. Establishment of new water sources (e.g., new wells) will require separate environmental review and is not analyzed in this FEIS. NPS assumes up to 25 Spring Developments, 40 Livestock Pipelines, 30 Watering Facilities, and 24 Pumping Plants will be authorized over the 20-year lease/permit term.

Pond Restoration

The purpose of this activity is to improve water availability for livestock, fish, and wildlife and to maintain or improve water quality. Restoration actions include repairs of emergency spillways, alternative pipe outlets for water flow, and removal of accumulated silt to restore a pond's original storage capacity. This activity does not include new instream ponds or activities that will increase the original storage capacity of a pond. NPS has worked with ranchers in the planning area to maintain functioning stock ponds and the habitat they provide for wildlife such as the California red-legged frog (*Rana aurora draytonii*). NPS assumes up to 25 Pond Restoration projects will occur over the 20-year lease/permit term.

Waterway Stabilization

The purpose of this activity is to stabilize a gully or downcutting channel by installing a structure to control the grade and/or stabilize the slope. NPS has typically installed these structures in the planning area in coordination with ranchers to prevent erosion and protect resources. NPS assumes up to 40 Grade Stabilization Structure (headcut repair) and 20 Lined Waterway projects (drainage ditch stabilization) will occur over the 20-year lease/permit term. NPS anticipates up to 4 Waterway Stabilization projects annually.

Stream Crossing

The purpose of this activity is to install a permanent stabilized area or structure across a perennial or intermittent watercourse to provide access for people, livestock, equipment, and vehicles and to protect water quality by reducing potential for delivery of sediment and other pollutants into the water. Stream Crossings include stabilized areas, such as fords, and structures (e.g., bridges and culverts). Sites will be evaluated to determine if a Stream Crossing is necessary and to account for habitat requirements for wildlife species present. Work could include modifications to, or removal of existing crossings. Many Stream Crossings in the planning area have involved slightly shaping and hardening previously used tributary banks with rock and installing cross-stream fencing to direct cattle movement across the waterway. NPS assumes up to 16 Stream Crossing projects will occur over the 20-year lease/permit term. NPS anticipates up to 3 Stream Crossing projects annually.

Vegetation Management

Table R-3 contains the types of Vegetation Management activities analyzed in detail in this EIS that could be implemented after inclusion in a rancher's approved ROA. These activities are described below.

TABLE R-3: VEGETATION MANAGEMENT ACTIVITIES

Activity	Associated Practice Standards
Upland and Riparian Vegetation Management and Planting	Critical Area Planting (342), Range Planting (550), Riparian Herbaceous Cover (390), Riparian Forest Buffer (391), Windbreak/ Shelterbelt Establishment (380), Tree/Shrub Establishment (612), Mulching (484), Conservation Cover (327), and Wildlife Habitat Planting (420)
Mowing	Brush Management, Mechanical (314-A) and Herbaceous Weed Treatment (315)
Integrated Pest Management (IPM)	IPM (595)
Targeted Grazing	Prescribed Grazing (528)

Upland and Riparian Vegetation Management and Planting

This activity supports establishment of perennial or self-sustaining vegetation (e.g., grasses, forbs, legumes, shrubs, and trees). to restore, enhance, or create desired plant communities and fish and wildlife habitats; protect soils, control erosion, reduce sediment, and improve water quality; improve accessibility, quantity, and quality of forage and browse for livestock and wildlife; improve air quality; sequester carbon; and improve soil health. Vegetation Management activities may include seeding, planting container plants or cuttings, maintenance of historic windbreaks, mulching, and minor grading or digging to remove roots and prepare the area for planting. Protection measures may include plant shelters, wire mesh, weed-free mulching around the plant base to inhibit grass and weed growth, temporary erosion control, or preventing wildlife or cattle from accessing newly planted areas until vegetation is successfully established.

Seeding will be limited to hand broadcast and no-till seed drill using an NPS approved seed mix in the Pasture and Ranch Core subzones. A plans and specifications document will detail species and equipment used, as well as monitoring and maintenance requirements, such as regular inspections for invasive species. Seeding will also continue to be authorized for Forage Production on 163 acres (see "Other Management Activities" section below). Requests for aeration will only be allowed if a need is demonstrated (e.g., via soil test). NPS assumes up to 40 Critical Area Planting projects, 50 Riparian

Forest Buffers, and up to 24 Windbreak/Shelterbelt Establishments will occur over the 20-year lease/permit term. Range planting will be evaluated on a site-specific basis in the Range subzone.

Mowing

Shrub control and weed management are conducted to maintain or increase areas of grassland habitat available for grazing activities. Coastal California grasslands are disturbance dependent, and even with grazing, some can slowly convert from grassland to shrubland (Ford and Hayes 2007, see chapter 3 of the EIS). Mowing involves the timely cutting, and in some cases removal of, herbaceous vegetation for forage, control of herbaceous weeds, and woody (non-herbaceous) plants, including those that are invasive and noxious. Ranchers will continue to request prior approval and receive written authorization from NPS to conduct Mowing, except for mowing non-native thistles, which is currently authorized in lease/permits. NPS has approved shrub mowing in specific cases, but it is generally only conducted for fence or infrastructure maintenance activities. Mowing undesirable species as a form of weed treatment will be authorized in the Pasture and Ranch Core subzones once reviewed by NPS.

Brush Management will generally be considered in the Pasture and Ranch Core subzones. NPS will consider proposals for Brush Management in the Range subzone under limited circumstances. Brush Management authorizations in any subzone will be conducted outside the bird nesting season. If authorization for Brush Management were granted, ranchers will be responsible for maintenance of desired conditions for the treated area. Mowing undesirable species as a form of weed treatment will be authorized in the Pasture and Ranch Core subzones once reviewed by NPS. NPS will consider proposals for mowing undesirable species in the Range subzone under limited circumstances. There will be no limit to the amount of Mowing, but Mowing will be approved on an individual basis and incorporated into ROAs. Between 4 to 8 Brush Management and Herbaceous Weed Treatment requests are anticipated annually.

Integrated Pest Management

IPM is a decision-making process that coordinates knowledge of pest biology, the environment, and cost-effective available technology to prevent unacceptable levels of pest damage while posing the least possible risk to people, resources, and the environment. IPM is a site-specific combination of pest prevention, pest avoidance, pest monitoring, and pest suppression strategies.

NPS addresses pest issues on a case-by-case basis following an IPM policy that helps determine the combination of procedures that are most effective for each pest situation. The decision to incorporate a chemical, biological, or bioengineered pesticide into a management strategy is based on a determination that a product is necessary, and other available options are either not acceptable or not feasible.

The park's IPM Coordinator reviews proposals for the use of a pesticide, herbicide, biological control agent, or genetically modified organism (also known as Pesticide Use Proposals) on a case-by-case basis considering site-specific conditions. In the case of ranching operations in the planning area, requests have been made to NPS to treat non-native, invasive weeds with herbicide. NPS must approve a Pesticide Use Proposal before a product can be purchased or applied. Under NPS policy, pesticide applications can only be performed by or under the supervision of a certified or registered applicator who is licensed under the procedures of a federal or state certification system. All pesticide applications will continue to be reported to NPS annually.

IPM related to Vegetation Management will be authorized in the Pasture and Ranch Core subzones as appropriate. Site-specific management for weed treatments will also be allowed in the Range subzone, depending on rancher requests, park vegetation management goals, and extent of infestation. Manual removal of invasive vegetation will also be considered, where appropriate, in areas where listed species

are present. IPM is ongoing and will continue annually based on presence of species and site-specific evaluation.

Targeted Grazing

Targeted Grazing prescriptions optimize the timing, frequency, intensity, and selectivity of grazing (or browsing) in combinations that purposely exert grazing/browsing pressure on specific plant species or portions of the landscape. Targeted Grazing differs from traditional grazing management in that the goal of Targeted Grazing is to apply defoliation or trampling to achieve specific resource management objectives, whereas the goal of traditional livestock grazing management is generally the production of livestock commodities (Bailey et al. 2019).

Targeted Grazing can be used to improve or maintain the condition of natural resources such as desired species composition, structure, and/or vigor of plant communities; riparian and/or watershed function; and soil erosion and soil health. NPS, in coordination with ranchers has implemented Targeted Grazing to maintain and enhance rare plant species populations, ensure adequate vegetative cover in riparian areas, and control weeds. Targeted Grazing will be authorized as necessary to meet NPS management goals and objectives.

6.5.3.3 Other Management Activities

The following types of Other Management Activities, completed in accordance with the associated Practice Standards and mitigation measures identified in appendix F of the FEIS, could be implemented after inclusion in a rancher’s approved ROA. Forage Production and Manure and Nutrient Management activities will only be applicable on ranches where these activities will be authorized.

TABLE R-4: OTHER MANAGEMENT ACTIVITIES

Activity	Associated Practice Standards
Manure and Nutrient Management	Nutrient Management (590), Composting Facility (317), Waste Treatment (629), Waste Separation Facility (632), Waste Transfer (634), and Waste Storage Facility (313)
Forage Production	Forage and Biomass Planting (512), Forage Harvest Management (511), and Residue and Tillage Management/ No-Till (329)

Manure and Nutrient Management

The purpose of Manure and Nutrient Management is to protect water and air quality and to improve soil conditions. These activities apply specifically to dairies because they are required under San Francisco Bay RWQCB regulations to manage waste generated from operations. Dairies manage animal manure by accumulating it in storage ponds and then spreading the liquid or slurry on fields by means of trucks or pumping through pipes that drain waste out onto fields. Solids may also be separated and stored or composted and then spread on fields by truck or tractor. Small-scale collection of manure and other organic material into managed compost piles for use as a soil amendment is also conducted on some beef cattle ranches.

The State of California considers all confined animal facilities other than concentrated animal feeding operations as nonpoint sources of pollution. These nonpoint sources must comply with animal waste discharge standards found at sections 22560–22565 of Title 27 of the California Code of Regulations and with applicable waste discharge requirements or waivers, which include specific requirements intended to

protect water quality. These requirements for the park's dairies include compliance with a monitoring and reporting program, and development and implementation of site-specific management plans.

Under the selected action, dairies will continue to produce large quantities of manure waste that ranchers will be required to manage consistent with state and federal regulations to avoid impacts on water quality and sensitive resources. Application of animal manure and compost generated in the planning area will be allowed in the Pasture and Ranch Core subzones of operations that have generated the compost on-site with an approved nutrient management plan. This activity will be reduced from approximately 2,500 acres under existing conditions to 1,800 acres under the selected action due to the reduction in the number of authorized dairies, with some pastures not treated every year. Compost will only be spread on the ranch where it originated. Application of commercially produced compost and fertilizer will not be authorized. NPS will consider other projects such as methane capture systems, aerobic digesters, and new composting activities on a case-by-case basis within the Ranch Core subzone on dairy. Waste transfer projects are assumed at up to 12 projects annually.

Forage Production

The purpose of Forage Production is to optimize yield and quality of forage for livestock and promote vigorous plant regrowth. These activities involve seedbed preparation, manure spreading, seeding, and harvest mowing of herbaceous vegetation to provide feed for on-site consumption by livestock. Non-native grasses, such as ryegrass (*Festuca* spp.), oat grass (*Avena* spp.), and vetch (*Vicia* spp.), are typically planted. Forage Production includes harvest mowing to produce silage, haylage, or hay. Silage is cut earlier in the season than haylage and is wetter; hay is drier and cut later in the season. Once silage is harvested, it is stored in covered piles or bunkers; haylage is baled within several days and wrapped in plastic. Both are allowed to ferment prior to feeding to livestock. Hay is cut and dried on the ground prior to being baled and preserved without fermentation.

Under the selected action, only one ranch (one dairy) will be authorized to continue Forage Production (including Forage and Biomass Planting, Forage Harvest Management, and Residue and Tillage Management) on 163 acres in the ranch's Pasture subzone. This activity will be conducted in accordance with the terms of the ranch's ROA which will be updated as necessary to reflect current USDA-NRCS Conservation Practices or other site-specific considerations. Should the one authorized ranch discontinue Forage Production in permitted areas, those acres will be returned to grazing, and the total acreage of Forage Production in the planning area will be further reduced.

6.5.4 Diversification

Authorization for diversification activities under the selected action will be restricted to sheep, goats, farm stays and ranch tours in the Ranch Core and Pasture subzones subject to the limitations described in table R-5. These diversification activities could be allowed in specified subzones with the use of required mitigation measures specific to each activity (see appendix F of the FEIS, table F-14). In response to comments from the San Francisco Bay RWQCB on the FEIS, all mitigation measures and requirements from appendix F of the FEIS must be identified, designed, implemented and determined to be in proper functioning order prior to the commencement of the approved diversification activity. Diversification activities listed in table R-5 will not require additional NEPA compliance provided they are consistent with the prescribed size and location and use all relevant mitigation measures described in appendix F of the FEIS.

Proposals for other types of diversification activities, including commercial chicken operations and row crops, will be subject to additional, site-specific NEPA review and compliance, including an analysis of water needs to ensure that the needs can be met from existing sources and to ensure that there are no

unacceptable impacts to park resources All authorized diversification activities must be included in a ranch operator's ROA prior to implementation.

Existing diversification activities on ranches will be brought into conformance with the requirements of the selected action (e.g., scale, location, and applicable mitigation measures). Ranchers will not be allowed to harm or harass wildlife or predators to protect crops or livestock. Livestock guardian animals (i.e., dogs, llamas, donkeys) will be allowed with the use of established mitigation measures and a requirement to report any wildlife and visitor conflicts to NPS (see appendix F of the FEIS, table F-14).

Diversification activities will only be authorized for ranch operations with an occupied ranch complex. Grazing-only operations that do not include a developed complex or authorized residential use of buildings will not be authorized to conduct diversification activities (e.g., F Ranch, Martinelli Ranch, Genazzi Ranch, E Gallagher Ranch, McFadden Ranch, and C. Rogers Ranch).

6.5.4.1 Ranch Core Subzone

In addition to cattle, livestock species that are analyzed in detail in the EIS and could be allowed in the Ranch Core subzone include sheep and goats, as described in table R-5. Any confinement of these species will be required to meet the San Francisco Bay RWQCB regulations for confined animal facilities and any other applicable regulations. NPS will consider farm stays and ranch tours that are limited to adaptive reuse of existing structures and in compliance with applicable codes. In response to comments from the San Francisco Bay RWQCB, farm stays will be limited to 2 guest rooms per ranch in existing structures and will not be approved unless the NPS determines that sufficient water from existing potable sources is available to support this new use and that any additional water use does not result in unacceptable impacts to the park's water resources. Ranch tours will originate in the Ranch Core subzone but could occur in all subzones.

Ranch-specific proposals for (i) small-scale processing of products produced in the planning area, (ii) additional animals (e.g., species consistent with the EIS, including commercial chicken production and greater numbers of sheep and goats than authorized in table R-5), (iii) horse boarding, (iv) and crops (non-irrigated or irrigated) in the Ranch Core subzone will be considered on a case-by-case basis and will require additional environmental review. Proposals for new dairy operations will not be considered. Consistent with the agricultural lease/permit, ranchers are not allowed to establish new water rights, but NPS will recognize valid existing water rights. The NPS will not consider proposals for species dismissed in the EIS (ducks, geese, turkeys, and rabbits). For diversification activities falling into one of the four categories above, ranchers will be required to submit detailed proposals to NPS and document that resources (e.g., water) are available to support new operational requirements prior to allowing ranchers to pursue site-specific review and compliance of the proposal to proceed in accordance with the lease/permit.

6.5.4.2 Pasture Subzone

The selected action authorizes sheep and goats in the Pasture subzone, as described in table R-5. Chickens for commercial production will require a site-specific plan and will be analyzed separate from this planning process. Pasture diversification activities should be located in the vicinity of the occupied Ranch Core subzone on authorized ranches. Construction of permanent infrastructure associated with diversification activities will not be allowed in the Pasture subzone; however, temporary electric fencing will be approved.

TABLE R-5: DIVERSIFICATION ACTIVITIES AUTHORIZED UNDER THE SELECTED ACTION AND ANALYZED IN DETAIL IN THE FEIS

Activity	Size/Scale ^a	Subzones Where Authorized ^b
Sheep or Goats	<ul style="list-style-type: none"> ▪ Up to 50 sheep or up to 66 goats (10% of authorized AU or not to exceed 10 AU if authorized AU is greater than 100).^c ▪ This allocation is part of permitted AU, not in addition. Cattle AU will be reduced to accommodate sheep and goats. 	<ul style="list-style-type: none"> ▪ Ranch Core and Pasture
Farm stays/ Ranch tours ^d	<ul style="list-style-type: none"> ▪ Limited to 2 guest rooms per ranch through adaptive reuse of existing structures. ▪ Will not be approved unless the NPS determines that sufficient water from existing potable sources is available to support this new use and that the additional water use does not result in unacceptable impacts to the park's water resources 	<ul style="list-style-type: none"> ▪ Ranch Core^d

^a All activities must follow applicable mitigation measures provided in appendix F and must be identified, designed, implemented and determined to be in proper functioning order prior to the commencement of the approved diversification activity.

^b Diversification activities are only authorized on ranches with a developed complex.

^c For grazing purposes, sheep and goats have AU equivalents of 0.2 and 0.15 AU, respectively (USDA-NRCS 2006).

^d Ranch tours are anticipated to originate in the Ranch Core subzone but could occur on Ranch Core, Pasture, and Range subzones.

6.5.5 Ranch Complexes

Most of the ranches in the planning area are components of the Point Reyes Peninsula Dairy Ranches or Olema Valley Dairy Ranches Historic Districts (see appendix G of the FEIS). More than 200 of the contributing resources that make up these historic districts, including residential buildings, barns, Grade A dairies, sheds, other out-buildings, roads, and pasturelands, are located in the planning area, along with additional non-contributing resources. Occupancy of residential units in the lease/permits with developed complexes will be limited to family members of lease/permit holders, employees of that ranch (and their family), and, with NPS approval, employees of other park ranches. As a condition of the lease/permit, all ranch worker housing will be maintained in a safe and sanitary condition to ensure the health and well-being of occupants. Ranchers should ensure that appropriate amenities, including internet access, is available to residents if service is available in that area. NPS may work with ranchers and service providers to allow for such connectivity if park permits are needed.

Most beef operations include outbuildings such as storage barns or sheds and corrals. The building complexes of most dairies also include more modern agricultural structures built to support dairy cattle operations, including milking barns, free-stall or loafing barns, and associated waste management systems. Ranchers are responsible for maintenance of all ranch buildings and infrastructure within the complex, including ranch roads, as defined through the ROA.

Local gas, power, and telephone providers supply ranch utility services, including electricity, internet, and telephone service. Residences are heated by wood or propane. On-site septic systems include holding tanks, and leach lines are used for sewage disposal for the residential structures. Water for domestic use is supplied primarily by springs and wells on individual ranches. For some ranches, NPS or the local municipal system are the water utility provider.

6.5.5.1 Use of Ranch Complexes

NPS and its partners will strive to preserve and maintain the significant physical attributes or character-defining features that contribute to the integrity of the historic districts in the planning area. Most ranch complexes are components of the historic districts and contain historic buildings and other features that NPS will preserve whenever possible. NPS will collaborate with the ranchers to preserve the ranch complexes in the planning area by including maintenance and upkeep requirements in the ROAs, which could include support from the Point Reyes Historic Preservation Crew, and other NPS stewardship and preservation programs. Appendix G of the FEIS provides a list of preservation and maintenance guidelines for ranch buildings under lease/permit. The NPS will identify and evaluate individual underutilized structures or unoccupied ranch complexes and actively pursue adaptive reuse as a preservation strategy if they are no longer used to support ranch operations. The potential for some dairies to transition to beef operations will change the use of some contributing structures, such as grade A Dairies. If several ranch complexes or structures were to become vacant, the NPS would prioritize preservation of contributing structures at those Ranch Core areas. NPS will review and approve all proposed new uses and associated modifications to ranch complexes and structures to ensure conformance with the EIS and *The Secretary of the Interior's Standards for the Treatment of Historic Properties*.

6.5.5.2 Maintenance

Maintenance is an important ongoing activity that will continue to be accomplished in collaboration between NPS and ranchers. Ranchers will continue to maintain ranch complex infrastructure, including all water, sewer, and electrical systems, as well as most ranch service roads in a safe condition, using Practice Standards and mitigation measures that limit impacts on sensitive resources; no new roads or trails will be established without prior written permission from NPS.

Under the selected alternative, ranchers will remain responsible for the maintenance of ranch complex infrastructure, including all water, sewer, and electrical systems, as well as the majority of ranch roads. Unless otherwise approved by NPS, regular maintenance activities on contributing historic ranch structures will continue to be completed in a manner consistent with *The Secretary of the Interior's Standards for the Treatment of Historic Properties and Guidelines for Rehabilitating Historic Buildings*. These maintenance activities may include:

- Repair and replacement of exterior siding with in-kind material or compatible substitute material approved by NPS
- Painting of building exterior a minimum of every 15 years
- Repair and replacement of roofs using in-kind or compatible substitute material approved by NPS
- Maintenance (trimming, pruning) of vegetation surrounding buildings to protect building materials and for defensible space
- Repairs to building structural systems following NPS-approved methods and with approved materials
- Pest control activities consistent with the NPS IPM program to prevent deterioration of building materials caused by insects and pests
- Repair of existing windows and doors or replacement with NPS-approved replacements
- Maintenance of gutters, downspouts, and other drainage features designed to convey water away from buildings and the installation of new systems

- Repair and replacement of flooring with in-kind material or compatible substitute material
- Maintenance, repair, and limited replacement of deteriorated interior features
- Maintenance and repair of existing mechanical, electrical, and plumbing systems associated with buildings and upgrade of such systems by augmenting or replacing system components

Maintenance activities that are not analyzed in the EIS will require additional environmental review. Maintenance on ranch buildings will be a requirement for ranchers and will occur annually. For the initial ROA, the NPS and ranch operators will evaluate infrastructure conditions to identify measures for the operator to undertake to address deferred maintenance on the ranch infrastructure. Maintenance commitments will be tracked as one of the performance metrics through the annual ROA review process.

The overall condition of historic structures is poor to fair (see EIS “Chapter 3: Cultural Landscapes, Historic Districts, and Historic Structures”). A substantial level of investment is needed to address the deferred maintenance needs on many of these structures and to bring them up to a maintainable state. Completion of these one-time investments by NPS will then make it easier for ranchers to fulfill ongoing maintenance needs for these facilities.

6.5.5.3 New Development/Infrastructure Improvements and Alterations

The selected action allows for improvements and alterations of existing structures, upgrades to worker housing, and new development and infrastructure in compliance with the subzoning framework. All such work will be the responsibility of the rancher at their own cost, will require prior written approval from NPS through the ROA process, and will be done in accordance with applicable laws, including local building codes. All worker housing will comply with local building codes and safety standards. New development will require site-specific review and compliance once a detailed proposal is submitted to NPS. Approved projects will be authorized in an individual ROA and will be subject to applicable Practice Standards and mitigation measures in appendix F of the FEIS and maintenance standards in appendix G of the FEIS. Except in very limited circumstances, development of new structures and minor additions will only be considered in the Ranch Core subzone.

6.6 Elk Management

The free-ranging elk herds will be maintained in the Point Reyes portion of the planning area, but the herd size and geographic distribution will be managed in consultation and coordination with the California Department of Fish and Wildlife (CDFW) and the FIGR. Both the Drakes Beach and Limantour herds will be actively managed to remain in their core area. However, a core area could expand if a neighboring ranch ceased to operate. A core area could also expand further into the Scenic Landscape zone. Male elk will be allowed to wander outside of a core area.

There is also the potential for new herds to form under the selected action, as discussed in the “Population Level Management” section below. A new herd will consist of a group of elk that split from either the Drakes Beach or Limantour herds to occupy a distinctly new home range and where the juveniles and adult females in the splinter group have limited interaction with, or do not return to, their herd of origin. Adult males may move between herds without constituting a new herd.

NPS will take actions to manage the population level of the Drakes Beach herd in Point Reyes and will continue to take actions to reduce conflicts related to the presence of elk on ranches (e.g., hazing); mitigate elk damage to ranch infrastructure; and conduct monitoring, disease testing, and reporting. The NPS will establish an additional wildlife technician position that will increase the capacity of the park to implement the monitoring and mitigation efforts to minimize impacts to ranch operations. Management actions include:

- Pushing elk from active pastures to areas not leased for grazing by using a graduated management response, including standard and aggressive hazing techniques.
- In coordination with the FIGR, the NPS will enhance habitat in the Scenic Landscape zone on areas frequented by elk, including water enhancements, weed control, brush and pasture mowing, and targeted grazing to increase forage for elk off of ranch lands. This includes removing non-native plant species that are unpalatable to elk and removing brush that is preventing the growth of quality forage from up to 300 acres in the Scenic Landscape zone. The NPS will consult with the FIGR on Traditional Ecological Knowledge (TEK) and management approaches to achieve these outcomes.
- Modifying livestock feeding strategies, redesigning existing infrastructure, or developing new infrastructure that will reduce the likelihood of elk feeding on supplemental forage for cattle. Ranchers operating in areas with regular elk use will be required to modify feeding strategies to reduce potential conflict with/habituation of elk to these methods. Implementation of actions in conjunction with specific infrastructure changes to reduce elk access to hay will be the responsibility of the ranch operator.
- Repairing fences damaged by elk and building elk crossings to allow elk to cross fences without damaging them.
- Offering fence materials to ranchers for repairs.
- Strategically siting pasture fences to exclude elk from specific high value pastures will be considered. NPS will work with park ranchers to identify specific areas on a ranch where such fencing may be most effective.
- Installing alternative fence designs, particularly around seasonal pastures to minimize damage to fences resulting from elk movement across fence lines.
- Removing cattle fences from areas no longer permitted for grazing.
- Continuing elk monitoring within the planning area including at least weekly ground observations and the use of GPS collars. These efforts will be used to determine the amount of time that elk are spending in different areas, allowing the NPS to measure elk response to the actions identified in the selected action and to adapt as appropriate.
- Inspecting areas frequented by elk for elk impacts to fencing and other ranch infrastructure.
- Meeting regularly with those ranchers most affected by elk to allow for an assessment of which elk management strategies are most effective and what strategies may need more emphasis or adjustment.

In the event of an unforeseen circumstance that causes the herds to completely move from long-established core use areas to other locations in the planning area, NPS will reevaluate the impacts and management approaches set forth in the selected action as needed to ensure maintenance of a viable free-ranging elk population in Point Reyes, which may result in the need for further environmental review.

6.6.1 Population Level Management and Geographic Extent

NPS will actively manage the free-ranging elk herds in the Point Reyes portion of the planning area. NPS will manage the herds to remain in Point Reyes, in coordination with CDFW and the FIGR. This plan will not change the status of the elk fence at Tomales Point which serves as the northern boundary to the

planning area. The NPS will manage the elk at Tomales Point in accordance with applicable plans for that area.

The establishment of new elk herds on areas leased for ranching will be discouraged through management actions. A graduated response will be taken to deter establishment of new herds. First, NPS staff will try to haze elk back to their original location or onto other park lands that are not leased for ranching. If unsuccessful, NPS will employ more aggressive hazing techniques such as firing bean bag shots at the elk. If hazing does not work, lethal removal of a few individuals in coordination with CDFW and the FIGR may be tried. If these techniques are unsuccessful, NPS will monitor the new herds and areas of high elk concentration on ranchlands will be managed in response to localized resource impacts. Over time and with the absence of predators, a population threshold may become necessary. A threshold will be developed that considers factors such as the amount of time elk spend on ranches, the extent of the ranch area occupied by elk, predicted forage production, and the operational status of the leased area (i.e., dairy or beef, number of cattle, seasonal grazing) and NPS's ability to manage additional elk herds. The NPS will also consider adjustments to authorized ranching operations to reduce conflicts. Consistent with desired conditions for the planning area, the NPS will manage for the long-term viability of new elk herds by maintaining an adequate number of elk and a natural sex/age ratio within the herd.

6.6.1.1 Drakes Beach Herd

NPS will manage the Drakes Beach herd to keep it in its existing core area (i.e., between Barries Bay and the C Ranch and B Ranch boundary) and to allow it to further expand into Allotment 4 (see attachment A, figure R-5 for location of this allotment), which will no longer be leased for livestock grazing. While the closing of Allotment 4 will increase forage availability for elk, it is unknown how much this closure will shift the time elk spend on C Ranch. Brush mowing and non-native vegetation removal activities will be prioritized for Allotment 4 and other areas of the Scenic Landscape Zone to encourage elk use off of permitted ranch areas.

The herd will be maintained at a stable and viable population level, consistent with desired conditions for the planning area. Based on estimated forage consumption by elk, forage productivity on ranches, and time that elk spend on ranches, as well as NPS capacity to manage elk, NPS has set an initial population threshold of 140 adult elk for the selected alternative (see Becker et al. 2019, appendix K of the FEIS) primarily based on the amount of time that the elk spend on the C Ranch dairy. This is an increase of 20 animals from the FEIS.

Because conditions affecting elk could change over time, the selected action incorporates an adaptive approach for the Drakes Beach herd. For example, the herd's core area will be allowed to expand if a neighboring ranch ceases to operate. In addition, the closure of Allotment 4 may result in a shift of the amount of time that the elk spend on C Ranch. Implementation of the habitat improvements identified above may also adjust the behavior of this herd. An adaptive approach is also favored in the case of other permanent changes to operations, such as a shift from dairy to beef. In the event of such changes and based on robust monitoring of elk behavior, the NPS will reconsider the population threshold consistent with the goal to maintain a viable free-ranging elk population, which may result in the need for further environmental review.

While the elk population may experience a slight increase each year as a result of spring calving, a population count will be conducted each fall, and if necessary, elk will be removed in coordination with CDFW and the FIGR prior to the next spring calving season. Most removals will occur outside the calving and rut seasons, and no reproductively active females or bulls will be lethally removed during the calving and rut seasons. Male elk that stray from core use areas will be monitored closely, and actions may be taken to mitigate for impacts on ranching operations. Population reduction efforts may target male elk outside the core area if conflicts with ranching operations arise.

NPS will manage the Drakes Beach herd to the population threshold in coordination with CDFW and the FIGR using lethal removal methods or, if practicable, translocation outside the park. Currently, the State does not allow the translocation of elk outside the park because of concerns about spreading Johne's disease. Previous efforts to move elk in or out of the park have been halted because of Johne's disease and/or Chronic Wasting Disease policies. CDFW's comment letter in response to the draft GMP Amendment, dated September 23, 2019, reads in part, "Translocation of elk out of PRNS [Point Reyes] is not a viable option for population management due to the potential for translocation of diseases, short and long-term costs, risk to staff or contractors, and risk to animals." If translocation becomes a practicable option in the future, additional environmental review will be completed at that time to address potential impacts on elk and other resources.

Removals for population management will consider the desired sex ratio needed to maintain the Drakes Beach herd at a reduced number and be consistent with natural conditions of the herd. Between 12 to 20 elk are anticipated to be removed annually using existing NPS staff, qualified volunteers, or other authorized agents (ie. CDFW, FIGR, contractors) to maintain the herd at the population threshold. NPS will coordinate with CDFW and the FIGR on the development of a detailed implementation strategy, and determine, annually, the number of elk by age and sex to be removed from the Drakes Beach herd to maintain the population threshold.

The total number of elk that will initially need to be removed to reach the established population threshold will depend on the size of the herd at the time of implementation and may take more than one year depending on the resources available to conduct the removals. Elk will be removed using methods that will result in minimal interruptions to park operations, ranchers, and park visitors. NPS will evaluate options to donate meat to the extent possible. Options could include donation of meat to local charitable organizations, the California condor program, the FIGR and other Tribal groups, or for the purposes of disease testing. Meat donation will occur in collaboration with the appropriate state and federal agencies, including the NPS Office of Public Health, the California Department of Food and Agriculture, USDA, the FIGR, and CDFW. Elk carcasses that are difficult to retrieve will be left in place.

6.6.1.2 Limantour Herd

As stated in the FEIS, elk from the Limantour herd will be monitored closely and managed consistent with desired conditions for the planning area. Female groups will be discouraged from occupying ranch areas adjacent to the wilderness. While elk will continue to be present on ranchlands, areas of high elk concentration will be monitored and managed in response to localized resource impacts. In these cases, the graduated management response described above will be implemented, including standard and aggressive hazing techniques and the potential for lethal removal of individual elk. However, if these actions fail, new herds from the Limantour elk will be allowed to occupy lands leased for ranching within the planning area. If population thresholds for new herds are needed, they will be developed as described in the "Population Level Management" section above. No population-level management will be taken that will threaten the future existence or viability of the Limantour herd, consistent with the goals of the 1998 Tule Elk Management Plan/EA to maintain viable populations of tule elk in Point Reyes and to manage with minimal intrusion to regulate population size, where possible, as part of natural ecosystem processes.

7.0 Other Alternatives Considered in the FEIS

7.1 Alternative A

Alternative A is the no action alternative required by NEPA and assumes continuation of current management for the planning area. Under alternative A, NPS would continue to follow previous plans and established practices in the planning area. Additionally, NPS would continue to apply the management

zoning framework outlined in the 1980 GMP, except as noted below, and would implement current management actions and policies related to ranching activities.

Approximately 17,100 acres of land in Point Reyes would remain in the Special Use-Pastoral Lands zone that identified ranching as a compatible use. Approximately 4,100 acres in the north district of Golden Gate would remain in the Pastoral Landscape Management zone that similarly identified ranching as a compatible use. Approximately 7,600 acres of land in the planning area would retain a zoning classification that is inconsistent with its existing land use. Of these 7,600 acres, the 1980 GMP zoned 2,350 acres of Point Reyes as Natural Environment, Special Use, and Deferred Acquisition zones and 5,250 acres in Golden Gate as part of the Natural Landscape Management zone. Ranching was not identified as a compatible use in those zones but has been conducted consistently on these 7,600 acres since acquisition by NPS. The inconsistency between the 1980 land management zones and current operations would continue under alternative A.

Under alternative A, NPS would continue to follow previous planning guidance, including the 1980 GMP, and subsequent site-specific plans for programmatic guidance related to the preservation of area resources and public use and enjoyment of the area. NPS would continue to manage for visitor capacity as part of regular park operations.

Under alternative A, NPS would issue new lease/permits to the existing ranch families to continue beef and dairy operations on approximately 27,000 acres with terms of 5 or 10 years. Provisions would be updated to reflect current operations, regulatory requirements, and changes in NPS management. In the planning area, approximately 800 acres have been fenced to exclude cattle from sensitive resources. These exclusion areas are not reflected in the text of current authorizations but would be incorporated into new lease/permits. Additionally, 600 acres in the planning area, including the primary range of the Drakes Beach herd, would remain outside of any ranch lease/permit. Appraisals would continue to be conducted to determine current fair market value for each operation.

NPS would continue to monitor and manage elk, including efforts prevent or mitigate elk damage to ranches, and conduct disease testing. NPS would also undertake a planning process to determine an appropriate population level and methods for managing the free-ranging elk in Point Reyes because elk are currently within the interim management limit of 250–350 animals established in the 1998 EA. In collaboration with CDFW, NPS would recapture and move or lethally remove any elk that leave Point Reyes for Golden Gate or non-federal lands.

7.2 Alternative C

Under alternative C, NPS would amend the 1980 GMP for lands in the planning area by adopting new programmatic guidance and applying two new management zones, the Ranchland zone and the Scenic Landscape zone as described under alternative B in the FEIS.

Under alternative C, elements related to the preservation of area resources, public use and enjoyment and visitor carrying capacity would be the same as described under alternative B. NPS would issue lease/permits with up to 20-year terms to the existing ranch families to continue beef and dairy operations on 26,100 acres and would implement the subzoning framework described for alternative B. Ranch management, diversification opportunities, and strategies for the management of historic structures and adaptive reuse of vacant structures would be the same as those described for alternative B in the FEIS. AU and dairy animals would be the same as described for alternative B in the FEIS.

The Drakes Beach herd would be removed using agency-managed, contractor-led lethal removal methods. The management of the Limantour herd would be the same as alternative B in the FEIS.

7.3 Alternative D

Under alternative D, NPS would amend the 1980 GMP for lands in the planning area by adopting new programmatic guidance and applying two new management zones, the Ranchland zone and the Scenic Landscape zone. Ranching would be reduced, and the Drakes Beach herd would be managed as described for alternative B in the FEIS.

Under alternative D, elements related to preservation of area resources, public use and enjoyment, and visitor carrying capacity would be the same as alternative B. Alternative D would terminate ranching operations on approximately 7,500 acres through the phase out of grazing-only operations and the expiration of life estates. These areas would then be incorporated into the Scenic Landscape zone. In the Scenic Landscape zone, NPS would identify priority areas for Vegetation Management and develop a restoration plan to identify priority habitat that would need to be maintained to protect sensitive species or communities, (e.g., priority California red-legged frog pond breeding habitat or endangered plant populations that benefit from grazing; see table 2 in the FEIS for additional strategies). The Ranchland zone would include approximately 19,000 acres that remain in active ranching. NPS would authorize the continuation of multi-generational beef and dairy ranching operations under lease/permits with terms up to 20-years for the remaining ranches, and specific AU or livestock numbers would be authorized, as described for alternative B in the FEIS. Approximately 1,700 AU of beef cattle and 3,115 dairy animals would be authorized under alternative D. NPS would manage ranching operations in the Ranchland zone under a subzoning framework as described for alternative B in the FEIS.

The Drakes Beach and Limantour elk herds would be managed as described for alternative B in the FEIS for lands in the Ranchland zone that remain under lease/permit. If new herds formed on lands within the Scenic Landscape zone where ranching has been discontinued in Point Reyes, they would be allowed to continue, and a population threshold would be developed for the new herd. No new elk herds would be allowed to establish in areas under lease/permit.

7.4 Alternative E

Under alternative E, NPS would amend the 1980 GMP for lands in the planning area by adopting new programmatic guidance and applying two management zones, the Ranchland zone and the Scenic Landscape zone. Elements related to preservation of area resources, public use and enjoyment, and visitor carrying capacity would be the same as alternative B.

Application of the Ranchland zone would be the same as described under alternative B in the FEIS for beef operations. Under alternative E, the six active dairy ranches in the planning area would cease dairy operations within five years, and ranchers would be eligible to convert to beef cattle grazing. Depending on the conversion rate of dairy ranches to beef, up to 26,100 acres would be included in the Ranchland zone. If an existing dairy rancher did not want to convert to beef ranching, NPS would follow the Succession Policy to determine future use of the ranch and may consider potential conversion of some or all the land to the Scenic Landscape zone. For areas remaining in beef cattle ranching, NPS would authorize the operations with lease/permits under a zoning framework similar to that described for alternative B, including the management of historic structures. The RDM standard would be managed the same as described under alternative B. Adaptive reuse of historic buildings on dairy ranches would be considered to support a change in operational activities to either beef ranching or as an inactive ranch, as described below.

Specific AU would be authorized based on the current conditions when the ROAs are developed. If all dairy operations converted to beef, based on current conditions, all dairy animals (approximately 3,115)

would be removed from the ranched lands, and initially up to 750 AU of beef cattle would be authorized on these former dairies. Overall, approximately 3,150 AU of beef cattle would be authorized under alternative E.

Under alternative E, the need for Manure and Nutrient Management activities associated with dairy operations would be eliminated. Manure spreading on 2,500 acres would cease. Forage Production would not be authorized. The NPS would work with ranch operators to convert the 1,000 acres of former silage fields to permanent pasture. Diversification activities would not be authorized.

NPS would take no actions to limit the population growth or geographic extent of free-range elk as long as elk do not move outside Point Reyes. NPS would no longer haze elk from ranchlands, and authorized AU for each ranch would be adjusted as needed to ensure RDM goals were being met. NPS would continue to conduct monitoring, disease testing, and reporting and would consider taking action to reduce conflicts related to the presence of elk on ranches (e.g., fence repairs). Given the absence of predators and the need to keep elk within Point Reyes, population management would be needed at some point in the future, likely beyond 20 years. Further environmental review may be necessary to determine an appropriate population range for elk and management techniques to maintain elk within that range.

7.5 Alternative F

Under alternative F, ranching operations would be discontinued, and visitor opportunities would be expanded. NPS would adopt new programmatic guidance that would amend the 1980 GMP and would apply the Scenic Landscape zone to the entire planning area, which would replace the zoning from the 1980 GMP. This 28,700-acre zone would be managed to support the desired conditions for the planning area defined in chapter 1 of the FEIS consistent with strategies identified in Table 2 of the FEIS.

Ranching operations with developed complexes would be phased out over a five-year period, except for the two life estates in the park. Grazing-only operations would be phased out in one year. After the life estates expire, no agricultural activities would be permitted. The agricultural lease/permits, range management, Ranchland zone and subzoning framework, and diversification elements described for the other alternatives would not be applicable under alternative F. Additionally, the NPS would remove non-historic infrastructure including fences, pipes, troughs, and prioritize some former ranch roads for decommissioning to address resource management objectives. Management Activities would occur only to meet NPS resource management goals and objectives.

Under alternative F, adaptive reuse for as many historic structures as feasible would be pursued, with a priority for those ranches that have a notable number of the characteristic buildings typical of ranches in the districts. Maintenance and adaptive reuse of the developed ranch cores would be prioritized for each of the historic ranches based on the condition and integrity of the existing infrastructure. Lower priority ranches would receive less maintenance and would potentially be mothballed or stabilized to arrest deterioration while adaptive reuse opportunities are pursued. If adaptive reuse opportunities are ultimately not identified, the decision may be made to demolish some structures. The deterioration of ranch buildings over time and potential demolition would result in long-term, adverse impacts on lower priority properties and the National Register districts to which they contribute.

Except as noted below, NPS would not limit the population growth or geographic extent of free-ranging elk in the Point Reyes portion of the planning area. Until cessation of ranching operations, NPS would consider limited, non-lethal management measures for elk. Once ranching operations cease, the elk fence at Tomales Point would be removed, consistent with the removal of other boundary fences in the planning area. Given the absence of predators and the need to keep elk within Point Reyes, population management, including lethal removal of individuals as an option, would be needed at some point in the

future, likely beyond 20 years. Further environmental review may be necessary to determine an appropriate population range for elk and management techniques to maintain elk within that range.

8.0 Consultation and Coordination

During development of the EIS, NPS engaged with the regulatory and consulting agencies listed below as directed by applicable law and policy. The following permits/consultations have been considered or completed prior to implementation of the selected action:

- Clean Water Act Section 404 permit—US Army Corps of Engineers
- Clean Water Act Section 401 permit—San Francisco Bay Regional Water Quality Control Board
- Endangered Species Act Section 7, Biological Opinion—US Fish and Wildlife Service
- Endangered Species Act Section 7, Biological Opinion—National Marine Fisheries Service
- Coastal Zone Management Act Federal Consistency Review—California Coastal Commission
- National Historic Preservation Act Section 106 Consultation—California State Historic Preservation Officer
- National Historic Preservation Act Section 106 Consultation—Tribal Heritage Preservation Officer, Federated Indians of Graton Rancheria

8.1 Clean Water Act Section 404

The NPS initiated communications with the US Army Corps of Engineers (Corps) with the release of the draft EIS (DEIS). The Corps has reviewed the general proposed activities and indicated that ranching activities are exempt from Section 404 analysis. Corps review is not required for the ROD and issuance of the agricultural lease/permits as the actions considered are not specific projects that would trigger permitting with the Corps. The NPS will continue to communicate and consult with the Corps as appropriate, as site specific actions are identified. Some of the programmatic activities such as trail development and establishment of other visitor amenities would require consultation and permitting if, and when, specific projects are pursued.

8.2 Clean Water Act Section 401

The San Francisco Bay RWQCB is delegated the authority to implement Section 401 of the Clean Water Act. The EIS evaluates a range of activities including dairy operations, grazing, and implementation of Management Activities that are under the San Francisco Bay RWQCB's purview. The San Francisco Bay RWQCB works directly with beef and dairy ranch operators to administer water quality protection permits for grazing operations and confined animal facilities. The NPS has communicated with San staff regarding various aspects of the selected action throughout the planning process and has communicated the intent to initiate programmatic permitting for the Management Activities, Practice Standards, and mitigation measures identified in appendix F of the FEIS.

8.3 Endangered Species Act and Magnuson-Stevens Fishery Conservation and Management Act

The NPS consulted with the USFWS and the NMFS under Section 7 of the Endangered Species Act and under the essential fish habitat provisions in section 305(b) of the Magnuson-Stevens Fishery Conservation and Management Act. Draft Biological Assessments were transmitted to each agency on

August 8, 2019 with the release of the DEIS. As a result of these submittals, the USFWS and NMFS informed the NPS that they were initiating Technical Assistance/Pre-consultation on the NPS request. NPS staff provided site tours to the NMFS staff on September 12, 2019 and January 23, 2020, and USFWS staff on January 22 and 23, 2020. During the site tours, agency staff also met with some ranch operators in the field to review site locations where threatened and endangered plant species occur within the ranch.

As part of the planning process, park ranchers requested applicant status under Section 7 of the Endangered Species Act. In coordination with the USFWS and NMFS, the NPS hosted a Rancher Applicant meeting at the park headquarters on January 23, 2020. The purpose of the meeting was to provide rancher applicants an update regarding the agency Technical Assistance/Pre-consultation phase, process for USFWS and NMFS consultation, and what the applicant role would be during that consultation process.

Formal consultation was initiated concurrent with the release of the FEIS and submission of the final Biological Assessments to USFWS and NMFS. The final Biological Assessments identified alternative B as described in the FEIS as the proposed action for purposes of Section 7 consultation.

The NMFS issued a Biological Opinion on March 18, 2021 that concluded that the proposed action (alternative B) was not likely to jeopardize the continued existence of the federally endangered Central California Coast coho salmon, or the threatened Central California Coast steelhead and California Coastal Chinook salmon and was also not likely to result in the destruction or adverse modification of designated critical habitat for Central California Coast coho salmon or Central California Coast steelhead. NMFS also reviewed the likely effects of the proposed action (alternative B) on essential fish habitat (EFH). No additional EFH conservation recommendations were provided beyond those identified in the proposed action.

The USFWS issued a Biological Opinion on June 4, 2021 with the following conclusions:

- The proposed action is not likely to adversely affect California freshwater shrimp, Marin dwarf flax, showy Indian clover, Tiburon paintbrush, and Tidestrom's lupine.
- The effects on western snowy plover critical habitat are discountable.
- The proposed action is not likely to jeopardize the continued existence of the California red-legged frog, western snowy plover, Myrtle's silverspot butterfly, beach layia, Sonoma alopecurus, and Sonoma spineflower.
- The proposed action is not likely to destroy or adversely modify designated critical habitat.

Since the issuance of the Biological Opinions, the NPS modified alternative B as explained above (see Decision section) and considered in detail in the SIR (attachment C). The NPS reviewed the ESA regulations regarding reinitiation requirements at 50 CFR § 402.16(a) and determined that the changes to alternative B as set forth in the selected action will not cause any new effects to the listed species or critical habitat considered in the Biological Opinions or exceed the amount of take specified in the incidental take statements. Therefore, the NPS has concluded that the modifications do not necessitate reinitiation of consultation under 50 CFR § 402.16 with either USFWS or NMFS. The NPS has initiated a technical assistance request with both agencies to update the description of the proposed action as described in the Biological Opinions to conform to the selected action described in this ROD. This will ensure consistency with the ROD and clarity moving forward with implementation of the selected action.

8.4 Coastal Zone Management Act

In accordance with the Federal Coastal Zone Management Act of 1972 (CZMA), as amended, the National Park Service has determined that the GMP Amendment for Point Reyes and Golden Gate is consistent to the maximum extent practicable with the California Coastal Management Program, pursuant to the requirements of the CZMA and the California Coastal Act of 1976, as amended.

The NPS submitted a Consistency Determination (CD) for the GMPA/FEIS preferred alternative to the CCC on October 16, 2020. The CCC released their staff report on March 25, 2021. The staff recommended that the CCC include a condition that the NPS provide a Water Quality Strategy for review and approval by the CCC Executive Director before new leases with ranchers are finalized. The Water Quality Strategy shall have an overall purpose of assessing the effect of installed ranching best management practices and management measures on water quality throughout the GMPA planning area and prioritizing further measures to be implemented to reduce ranching impacts to water quality. The CD was considered and discussed by the CCC at a public hearing on April 22, 2021, and the Commission identified additional reporting conditions with respect to both air quality and water quality. The NPS agreed to these conditions, and the Commission conditionally concurred with the CD submitted by NPS.

8.5 National Historic Preservation Act

Pursuant to the requirements of the NHPA, the NPS consulted on the preferred alternative and its potential effects on historic properties with the California SHPO, the FIGR, and interested members of the public. NPS initiated consultation with the SHPO and the FIGR and defined the Area of Potential Effect for this undertaking in a letter submitted in November of 2018. In response to the letter, the SHPO suggested that, given the programmatic nature of the plan, consultation should instead be conducted as portions of the plan are actually being implemented. In consideration of comments from the SHPO, the NPS clarified in a letter dated August 9, 2019 that besides the issuance of agricultural lease/permits the elements in the GMPA are conceptual in nature or broad management strategies, and compliance with Section 106 of the NHPA would be best accomplished as specific sub-actions are developed and proposed for implementation. To support this, the NPS proposed the development of a programmatic agreement to govern the implementation of the agricultural lease/permit program and its compliance with Section 106 of the NHPA. In addition to the SHPO and the FIGR, the ranch operators were invited to participate in the NHPA process and the development of the proposed programmatic agreement as consulting parties. On January 15, 2020, a draft programmatic agreement document was delivered to the SHPO, the FIGR, and consulting parties for review along with supporting information about the status of cultural resources within the GMPA planning area. In a letter response dated April 23, 2020, the SHPO indicated that there was not sufficient purpose and need for a programmatic agreement at the present time.

Given the change in approach, NPS compliance with Section 106 of the NHPA for the GMPA and issuance of agricultural lease/permits was accomplished following the streamlined review process of the *2008 Programmatic Agreement Among the National Park Service, the Advisory Council on Historic Preservation, and the National Conference of State Historic Preservation Officers for Compliance with Section 106 of the National Historic Preservation Act* with a finding of “no adverse effect” (36 CFR 800.5). The FIGR and the ranch operators who chose to participate as consulting parties were notified of the finding by written letter dated September 23, 2020. Additional compliance with Section 106 of the NHPA compliance will be completed as appropriate for those specific actions that comprise the Management Activities and proposals for Diversification being considered for authorization within the annual ROA for each ranch operator, and for the implementation of specific proposals related to preservation of park resources and public use and enjoyment.

8.6 Tribal Consultation

NPS conducted government-to-government consultation with the FIGR through formal and informal written communications and a number of in-person meetings throughout the course of the GMPA development. On December 27, 2020, the NPS received a letter from the FIGR regarding the GMP Amendment. The letter acknowledged ongoing consultation between NPS and the FIGR, and NPS efforts to conduct NHPA consultation with the Tribe throughout the development of the GMPA. The letter also expressed an expanded interest in consulting and collaborating with the NPS in cultural resources survey work, protection of Tribal sacred sites, the protection and management of tule elk, and the inclusion of TEK in the management and long-term restoration of lands under agricultural lease/permit. To further support a government-to-government relationship and an expanded level of collaboration with the FIGR, a General Agreement was signed on August 9, 2021 that formalizes and clarifies the level and process for coordination and consultation, determines a regular schedule of meetings, and articulates a vision for expanded engagement between NPS and the FIGR in the stewardship of park lands. The agreement establishes that the NPS will coordinate with the FIGR to ensure Tribal views and TEK are part of the management of park lands and resources, including ongoing management of tule elk and the ranched lands. The NPS will work with the Tribe through enhanced collaboration and partnership as it proceeds with implementation of the GMP Amendment.

8.7 Public Participation and Scoping

The formal scoping process for the EIS was initiated on October 31, 2018 with the publication of a Notice of Intent in the Federal Register. Over 1,340 pieces of correspondence were received during the 30-day scoping period. NPS published the Notice of Availability for the DEIS in the Federal Register on August 9, 2019 initiating a 45-day public comment period. More than 7,600 pieces of correspondence were received during the comment period. NPS's responses to all substantive public concerns raised during the DEIS public comment period are provided in appendix P of the FEIS. See Chapter 5 of the FEIS for additional detail.

8.8 Post-FEIS Correspondence

After the September 2020 release of the FEIS, the NPS received a number of letters from other agencies and the public regarding a variety of issues addressed in the GMP Amendment. As further explained in the SIR, some of the issues raised in these letters have been addressed through the modified elements of alternative B. Other issues, while substantive, were already addressed in the FEIS and did not warrant additional/further response from the NPS. Many of the letters that were received by the NPS were related to concerns regarding management of the tule elk herd at Tomales Point, which is outside the scope of this EIS. In addition, many other letters were related to the CZMA process described above, and as such, were addressed through the CCC CD process. See the SIR (attachment C) for additional details regarding public and agency correspondence received after release of the FEIS.

9.0 Environmentally Preferable Alternative

The environmentally preferable alternative is defined as “the alternative that causes the least damage to the biological and physical environment and best protects, preserves, and enhances historical, cultural, and natural resources (43 CFR 46.30).” As noted in 40 CFR 46.30, it is possible to identify more than one environmentally preferable alternative if different alternatives have different impacts on affected

resources. NPS has identified the selected action as the environmentally preferable alternative for cultural resources and alternative E as the environmentally preferable alternative for natural resources.

Regarding cultural resources, the continuation of active ranching and occupied infrastructure as envisioned under the selected action is consistent with the primary preservation approach for effective preservation of the Point Reyes Peninsula and Olema Valley Dairy Ranches Historic Districts under *The Secretary of the Interior's Standards for the Treatment of Historic Properties*. The types of ranching activities authorized under the selected action will allow contributing historic structures and lands to be used and occupied for ongoing traditional ranching operations. As part of the initial ROA process, the NPS and ranch operators will evaluate infrastructure conditions and identify mandatory measures and a timeline for the operator to address deferred maintenance on historic ranch infrastructure. Maintenance commitments will be tracked as one of the performance metrics through the annual ROA review process. In addition, the NPS will also identify and evaluate underutilized individual structures or unoccupied ranch complexes and actively pursue adaptive reuse as a preservation strategy. All buildings and infrastructure projects for deferred and preventive maintenance and adaptive reuse will be consistent with *The Secretary of the Interior's Standards for the Treatment of Historic Properties and Guidelines for Preserving, Rehabilitating, Restoring and Reconstructing Historic Buildings*.

Grazing of historic pasturelands will preserve the cultural landscape by maintaining the historic land use according to *The Secretary of the Interior's Standards for the Treatment of Historic Properties and the Guidelines for the Treatment of Cultural Landscapes*. While rezoning the 580-acre grazing Allotment 4 from the Ranchland to the Scenic Landscape zone, the NPS will actively manage (e.g., mow) grassland areas of the allotment to enhance tule elk uses, including grazing, to maintain the integrity of the historic district and cultural landscape. In addition, as described in the Tribal Consultation Section above, the selected action incorporates language regarding coordination and partnership with the FIGR, ensuring the use of TEK in the management of elk and ranchlands consistent with the General Agreement for Government to Government Partnership, making the selected action superior to other alternatives in the consideration and protection of cultural resources. Alternatives D, E and F are less protective of historic resources in the two ranching historic districts. Alternative D, which would discontinue grazing on more than 7,500 acres of the planning area, would result in greater adverse impacts to the historic districts because characteristic vegetation types within the affected pasturelands would no longer have sufficient grazing pressure and would convert to shrubland or forest over time, thereby diminishing the cultural landscapes' integrity of design, association, setting, and feeling. Alternative E would immediately remove uses from many occupied buildings on the six dairy ranches, thereby risking accelerated deterioration of their historic fabric before adaptive reuses could be identified and established. As described in the EIS, alternative F could result in significant, adverse impacts on the two ranching historic districts through a complete elimination of the traditional historic use of ranches and pasturelands, making it inferior from a cultural resources standpoint.

Regarding natural resources, the cessation of dairy ranching under alternative E would eliminate the most intensive activities and impacts on natural resources from park ranching operations, including Manure and Nutrient Management and Forage Production. Because diversification would not be authorized, there would be no impacts to natural resources from such activities. These two factors are the primary distinguishing factors that make alternative E environmentally preferable from a natural resource perspective. Other natural resource benefits from alternative E include the application of a zoning framework through which grazing would maintain habitats for native species that have coexisted with livestock grazing for more than 150 years and a defined set of Management Activities, Practice Standards and mitigation measures, similar to the selected action. Alternative A is not environmentally preferable because it does not establish a comprehensive approach to manage ranch operations and protect park resources through the zoning framework or the defined Management Activities, Practice Standards and

mitigation measures associated with the other alternatives. The selected action is not environmentally preferable for natural resources because while it will reduce Manure and Nutrient Management by 28% and Forage Production by 84% compared to existing conditions, it does not eliminate these activities entirely. Alternative C is not environmentally preferable for natural resources because it would eliminate the native free-range Drakes Beach tule elk herd. Alternative D is not environmentally preferable because impacts from dairy ranching would be greater than under Alternative E and the selected action. Also, wildlife species that favor grassland habitats would be adversely impacted as formerly grazed areas convert to shrub or forest habitat. Even though alternative F eliminates all ranching and would reduce ranching impacts to water resources, air quality, and soils, it was not identified as the environmentally preferable alternative because the elimination of livestock grazing would have widespread ecological impacts from the removal of the primary disturbance regime that has been present for more than 150 years and the park would not be able to mitigate these impacts across the entire planning area. Over time, formerly grazed lands would likely convert to shrub or forest habitat which could adversely affect wildlife and plant species dependent on grassland habitats (e.g., burrowing owl, grasshopper sparrow and tricolored blackbird). As part of the Section 7 consultation, USFWS identified a number of species which benefit from grazing activities to reduce competition from non-native invasive species (e.g., federally listed plants such as Sonoma alopecurus, Sonoma spineflower, and Tiburon paintbrush) and other species such as Myrtle's silverspot butterfly whose host plants and food sources are also dependent on well-managed grazing regimes. Finally, complete removal of grazing would also result in an increase in fuel loading and fire risk in the planning area.

10.0 Basis for Decision

The decision-making process for selecting an alternative for implementation involved careful consideration of the following: the purpose and need for this plan; consistency with park purposes, enabling legislation, legislative history, and other governing mandates; the impacts of the alternatives on park resources; and comments received from other agencies, the FIGR and the public during the EIS and associated consultation processes. The following is an evaluation of the alternatives examined in the EIS with regard to these factors.

Selected Action: The NPS has selected alternative B, as modified and described in the “Decision” section above. The selected action fulfills the requirement to update the general management plan for the planning area by establishing new measures and strategies to preserve park resources, a zoning framework and other tools to guide development and land use within the planning area, and strategies for managing visitor capacity. Through these elements, the selected action offers the best combination of strategies to protect both natural and cultural resources, achieve desired conditions for the planning area, and is consistent with park purposes as expressed in the enabling legislation and legislative history for Point Reyes and Golden Gate.

The selected action establishes two new management zones, the Ranchland zone and the Scenic Landscape zone, which will preserve resources by directing development and land uses to locations best suited for authorized activities. Preservation of natural and cultural resources is also addressed through a suite of “desired conditions” that are established for the planning area (see table R-1). These conditions establish qualitative benchmarks to preserve natural and cultural resources and identify strategies to achieve them. New opportunities and improvements to facilitate public use and enjoyment in the planning area will be implemented in both the Ranchland and Scenic Landscape zones. The NPS will also adopt a framework for managing visitor capacity. The framework will establish indicators and thresholds to ensure that visitor use is managed to support desired conditions for the planning area.

The selected action will result in a number of improved natural resource conditions. As part of the zoning framework, approximately 2,000 acres will be removed from active ranch operations and included in the Resource Protection subzone. This subzone encompasses areas with known sensitive resources such as listed species and riparian areas. The new 1,200-acre Scenic Landscape zone will also benefit resources because the NPS will actively seek to improve habitat conditions for native species in this zone. In a change from the FEIS, the Scenic Landscape zone now includes Allotment 4 (580 acres) which will no longer be leased for beef or dairy ranching. This area includes part of the core area for the Drakes Beach elk herd. The exclusion of ranching from these areas will result in long-term benefits to natural resources such as soils, riparian vegetation, sensitive species, some federally listed species, wildlife including tule elk, and water quality. These actions support natural resource FRVs including the Marine, Estuarine and Freshwater Environments; Diversity of Habitats and Native Species; Coastal Ecosystems; Water Resources; and Threatened and Endangered Species.

Consistent with the enabling legislation for both parks and Congressional intent, the selected action considers ranching an appropriate use of park lands in the Ranchland zone and manages ranching through a number of new approaches that will support desired conditions for the planning area. Only grazing will be allowed in the Range subzone which comprises more than 60% of the Ranchland zone. As documented in the EIS and USFWS Biological Opinion, grazing is not only compatible with the resource conditions in this zone, it also helps support populations of some federally-listed plant species (see below). The selected action also gives the NPS increased management oversight and flexibility to direct ranchers to adapt grazing practices and stocking rates to changing conditions. Use of the rangeland forage production model, RDM monitoring, and other tools to adjust conditions in the field will enhance NPS's ability to ensure that rangeland health is protected.

Through the EIS analysis, NPS has determined that a continued grazing regime within the grasslands (representing approximately 60% of the planning area and over half of the Range subzone and 86% of the Pasture subzone) is important to maintain many natural and cultural resources including rare plants, native and naturalized grasslands, and the historic cultural landscape. In their 2021 Biological Opinion, USFWS concluded that "the general changes to ranching in Point Reyes National Seashore and the north district of Golden Gate National Recreation Area will not have noticeable negative effects on the populations (California red-legged frog, western snowy plover, Myrtle's silverspot butterfly, beach layia, Sonoma alopecurus and Sonoma spineflower) and in some cases may actually improve conditions. This is supported by the general positive trends since the 2002 biological opinion on Ranching Activities in Point Reyes (USFWS 2002) was issued." Grazing is also necessary to prevent further encroachment by shrubland and forest habitat, which are abundant elsewhere in the park outside of the planning area. Protecting the park's grasslands is consistent with the Seashore's legislative history which cited the large expanses of pastureland and their contribution to the scenic beauty of the area as a factor supporting the establishment of Point Reyes as a unit of the national park system. H. Rep. No. 87-1628, at 2-4 (1962). Coastal grasslands have also been identified as an element of the Scenic Coastal Landscape FRV in the Point Reyes Foundation Document.

More intensive ranching activities (e.g., diversification, Manure and Nutrient Management, Forage Production) will be limited to the Pasture and Ranch Core subzone which include developed areas and lands where resource concerns are limited. Compared to existing conditions, the selected action reduces Forage Production from 1,000 to 163 acres and Manure and Nutrient Management from 2,500 to 1,800 acres. These Management Activities will be required to comply with the Practice Standards and mitigation measures identified in appendix F of the FEIS. The selected action also limits the types of diversification activities that are authorized and requires all mitigation measures from appendix F to be implemented and properly functioning before the activity can commence.

The selected action accelerates the implementation of operational changes and infrastructure upgrades on ranches to the direct benefit of natural resources. As an outgrowth of the CCC process, the NPS agreed to implement a Water Quality Strategy and identify actions that could reduce greenhouse emissions from ranching operations as part of a climate action strategy. To implement these strategies, as part of the initial ROA process, the NPS and operators will identify priority actions to restrict cattle from and reduce impacts to sensitive riparian, freshwater, wetland and estuarine habitats. Additionally, dairy operators will be required to commit to modernizing their Manure and Nutrient Management infrastructure and practices. Ranchers will be required to agree to a schedule to implement these actions promptly. Additional general requirements such as adherence to the 1,200 pounds/acre RDM standard, and implementation of actions from a USFWS-approved Raven Management Program will be applicable to all agricultural operations in the planning area. In light of the closure of the McClure Dairy at I Ranch and in furtherance of reducing impacts to air quality, the selected action also limits the number of dairies to five and reduces the overall number of authorized dairy cattle by 22% from existing conditions, with commensurate reductions ranging from 13% to 24% reduction (depending on the pollutant parameter) from existing air quality impacts (see analysis in attachment C). These requirements, coupled with the limits placed on authorized diversification activities, will minimize and mitigate air and water quality impacts from both beef and dairy operations and will result in long-term benefits to water quality, soils, riparian vegetation, sensitive species, wildlife, and federally listed species such as salmonids, California red-legged frog, western snowy plover, Sonoma alopecurus, and Sonoma spineflower. These actions support natural resource FRVs including the Marine, Estuarine and Freshwater Environments; Diversity of Habitats and Native Species; Coastal Ecosystems; Water Resources; and Threatened and Endangered Species.

Ranchers who agree to undertake required actions will be offered lease/permits with terms up to 20-years. When Congress amended the enabling legislation for Point Reyes and Golden Gate in 1978, it encouraged the NPS to use the new leasing authority to the fullest extent. H. Rep. 95-1165, at 71 (1978). Congress recently noted that multi-generational ranching and dairying is consistent with Congressional intent for the management of the park and further expressed support for lease/permits with 20-year terms (House Rep. 116-9 at 720-21 (Feb. 13, 2019)). The selected action furthers Congress's interest in seeing ranching continue in the planning area, and when coupled with measures described above that limit the nature and scale of ranching activities, demonstrates that ranching will be managed to avoid impairment and unacceptable impacts on park resources.

The selected action will maintain multiple free-ranging elk herds in Point Reyes. Maintenance of the Drakes Beach herd at 140 animals is consistent with approaches for population management of ungulate herds by the NPS and state of California and is consistent with the NPS's authority under the Organic Act. Although 12-20 elk will be lethally removed from the Drakes Beach herd each year, the herd will be maintained at a viable population level. In addition, the closure of the 580-acre Allotment 4 to livestock grazing will increase forage availability for elk and reduce elk conflicts with ranch operations, as this area is regularly used by the Drakes Beach herd. Brush mowing and non-native vegetation removal activities will be prioritized in this and other areas of the Scenic Landscape zone to encourage elk use off of permitted ranch areas. The Limantour herd will be allowed to expand in terms of population and geographic distribution, although female groups will be discouraged from occupying ranch lands. The selected action also allows new herds to form within the planning area. New herds will be discouraged from forming on lands leased for ranching, but the selected action recognizes that hazing may be ineffective in moving them off ranch lands in which case the new herds will be monitored and areas of high elk concentration on ranchlands will be managed in response to localized resource impacts. These actions support the Diversity of Native Habitats and Species FRV and are consistent with desired conditions for native species management.

Cultural resource preservation objectives will also be supported by the selected action. The Olema Valley Dairy Ranches and Point Reyes Peninsula Dairy Ranches Historic Districts are elements of the Continuum of Human Use FRV because they reflect more than 150 years of ranching history in the area. The districts include historic buildings, structures, and pasturelands that are contributing resources to the historic districts. The pastoral qualities of the landscape, including rolling hills covered by pastures and coastal grasslands, comprise elements of the cultural landscapes within the districts. The significance and integrity of these cultural landscapes have been well documented in the recently completed National Register of Historic Places nominations for the respective properties. Since land use is important to the significance of the Olema Valley Dairy Ranches and Point Reyes Peninsula Dairy Ranches Historic Districts, continuation of the existing historic use is the preferred preservation treatment according to NPS *Management Policies* (Section 5.3.5.2.6). Under the selected action, as part of the mandatory ROA conditions, NPS and ranch operators will evaluate infrastructure conditions to identify measures and a timeline for the operator to address deferred maintenance on the historic ranch infrastructure. Maintenance commitments will be tracked as one of the performance metrics through the annual ROA review process. Historic pasturelands will continue to be used for cattle grazing, which will result in the preservation of the cultural landscape by maintaining the historic land use according to *The Secretary of the Interior's Standards for the Treatment of Historic Properties and Guidelines for the Treatment of Cultural Landscapes*. In addition, preservation and maintenance guidelines for ranch buildings identified in the plan serve to clarify maintenance responsibilities and requirements and support the park's goal of maintaining a compatible use that protects and maintains character defining materials and features.

Limited diversification activities (farm stays, farm tours, small numbers of sheep or goats) will be authorized in the Pasture and Ranch Core subzones under the selected action. Contemporary use of a cultural landscape is allowed under the NPS *Management Policies* if it does not adversely affect significant landscape characteristics and features and either follows the historic use or does not impede public appreciation of it. The types of diversification authorized under the selected action (e.g., limiting farm stays to two rooms in existing structures) will not significantly affect the districts or impede public appreciation of the park's ranching history.

Another important attribute of the selected action related to the preservation of cultural resources is the role of the FIGR. Under the selected action, the NPS will coordinate with the FIGR to incorporate TEK in elk management actions including the enhancement of elk habitat in the Scenic Landscape zone. The NPS will also collaborate with the FIGR in the management of ranchlands. Collectively, these actions support the Continuum of Human Use FRV and are consistent with desired conditions for cultural resources management.

The selected action is grounded in the best available science, consistent with the NPS *Management Policies* and the park's enabling legislation and supports both desired conditions for the planning area and the park's FRVs. It provides for a range of appropriate land uses and activities in the planning area while preserving and protecting natural and cultural resources in a manner that is consistent with NPS's legal mandates. For these reasons, modified alternative B, as described in the "Decision" section above, was selected for implementation.

Alternative A: Alternative A, also known as the no action alternative, proposed a continuation of ranching as currently practiced in the planning area and no changes to the 1980 GMP in terms of resource preservation or public use and enjoyment. Ranch management would include issuing agricultural lease/permits with terms of 5 or 10 years, and the evaluation and authorization of recurring ranching activities on a case-by-case basis. Because alternative A does not include the benefits associated with the management zoning framework or a comprehensive approach for review and authorization of Management Activities, it does not further NPS's goals for natural resource protection as well as the selected action. Alternative A also does not expand opportunities for trails and trail based recreation, or

address visitor carrying capacity and is inferior to the other alternatives in terms of fulfilling park goals for visitor enjoyment of park resources. Moreover, alternative A would maintain the inconsistency in land use and the 1980 GMP zoning and does not address the future management of tule elk in the planning area. Because alternative A does not further the purpose and need for this plan it was rejected in favor of the selected action.

Alternative C: The primary factor that distinguishes alternative C from the selected action is its proposal to eliminate the Drakes Beach herd. Full removal of this herd would result in at least a 45% reduction of free-ranging elk in the planning area. While the viability of the tule elk population in Point Reyes and in California would not be affected, removal rather than management of an entire native elk herd would be unprecedented in the national park system and would be inconsistent with CDFW management of elk on ranchlands outside the park. Alternative C was rejected in favor of the selected action because of its significant adverse impacts on free-ranging tule elk in Point Reyes.

Alternative D: Alternative D does not adequately protect cultural resources in the planning area. The discontinuation of grazing would adversely impact historic districts in the planning area over time if the 7,500 acres removed from grazing converted to shrubs/forest. The conversion of the characteristic vegetation within these pasturelands would affect the cultural landscapes' integrity of design, association, setting, and feeling to the extent that these contributing resources would no longer convey their significance. Beyond the individual pasturelands, this loss of integrity would also fragment the overall cultural landscape. For pastures removed from grazing, the determination by NPS of need for, and level of Targeted Grazing would be driven by desired ecological objectives for vegetation communities and would require increased NPS effort in management. The park would not be able to replace the grazing benefits across the landscape in a manner that would fully support grassland habitat features and associated wildlife habitat. For these reasons, NPS has rejected this alternative in favor of the selected action.

Alternative E: Alternative E presents a number of adverse impacts to cultural resources not present under the selected action. The discontinuation of dairy operations would immediately remove uses from a large number of occupied buildings on the six dairy ranches, thereby risking accelerated deterioration of their historic fabric before adaptive reuses could be identified and established. If dairy ranches did not convert to beef ranches, impacts on the cultural landscape would be similar to those described above for alternative D. Although alternative E is the environmentally preferable alternative for natural resources, the selected action meets desired conditions for natural resources while also avoiding the adverse cultural resource impacts expected under alternative E. For these reasons, NPS has rejected this alternative in favor of the selected action.

Alternative F: Multi-generational ranching, which is consistent with Congressional intent for the park and therefore an appropriate use of park land, would be discontinued under this alternative. In addition to the loss of ranching as a historic land use, landscape features such as fences, boundaries, and circulation features would be removed, and the integrity of the historic pasturelands would diminish over time as grassland environments maintained by ranching activities convert to shrublands/forest. These changes would likely diminish the integrity of the Point Reyes Peninsula Dairy Ranches Historic District and the Olema Valley Dairy Ranches Historic District to the point that they would no longer retain sufficient integrity to convey their historic significance and therefore would no longer be eligible for listing in the National Register of Historic Places. This would result in significant, adverse impacts on the Point Reyes Peninsula Dairy Ranches and Olema Valley Dairy Ranches Historic Districts which are considered FRVs for the park. Impacts of this magnitude are inconsistent with desired conditions for the planning area. Similarly, these landscape level changes could also adversely affect wildlife and plant habitat (including some threatened and endangered species) and increase fuel loading and thereby fire risk in the planning area. While under this alternative the park would prioritize and implement Targeted Grazing and other

efforts to maintain habitat, it would not be able to replace the grazing benefits across the landscape in a manner that would fully support persistence of a grassland community. For these reasons, NPS has rejected this alternative in favor of the selected action.

11.0 Conclusion

Of the alternatives considered, the selected action (modified alternative B) best meets the purpose and need of the EIS and desired conditions for the planning area. In making this decision, the NPS considered more than 7,600 pieces of correspondence received on the DEIS from individuals, organizations, and government agencies. No significant concerns were raised that could not be addressed by minor modifications to the plan. Where appropriate, recommended changes were made to provide more clarity, refine proposed management strategies, or provide factual corrections, and were reflected in the FEIS. The NPS also made several minor modifications to alternative B as presented in the FEIS to be further responsive to public concerns raised during the planning process, to incorporate conditions agreed to during a public hearing on the preferred alternative before the CCC, and to conform to the Biological Opinions issued by USFWS and NMFS. These modifications fall within the spectrum of alternatives considered in the FEIS and their effects are reasonably apparent from the analysis in the EIS (see attachment C).

The selected action is consistent with the NPS's statutory mission and responsibilities, Congressional intent, and park purposes and is based on a consideration of environmental, technical, and other factors. The selected action incorporates all practical means to avoid or minimize environmental harm, including a zoning framework and required Practice Standards and mitigation measures for Management Activities as provided in appendix F of the FEIS, and will not result in the impairment of park resources or values or violate the NPS Organic Act (see attachment D).

The required 30-day waiting period before approval of the ROD was initiated on September 18, 2020, with the US Environmental Protection Agency's *Federal Register* notification of the filing of the FEIS [85 FR 58358].

The official responsible for implementing the selected action is the National Park Service Regional Director for Interior Regions 8, 9, 10, and 12.

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Attachments

Attachment A – Modified alternative B figures

Attachment B – Errata to FEIS

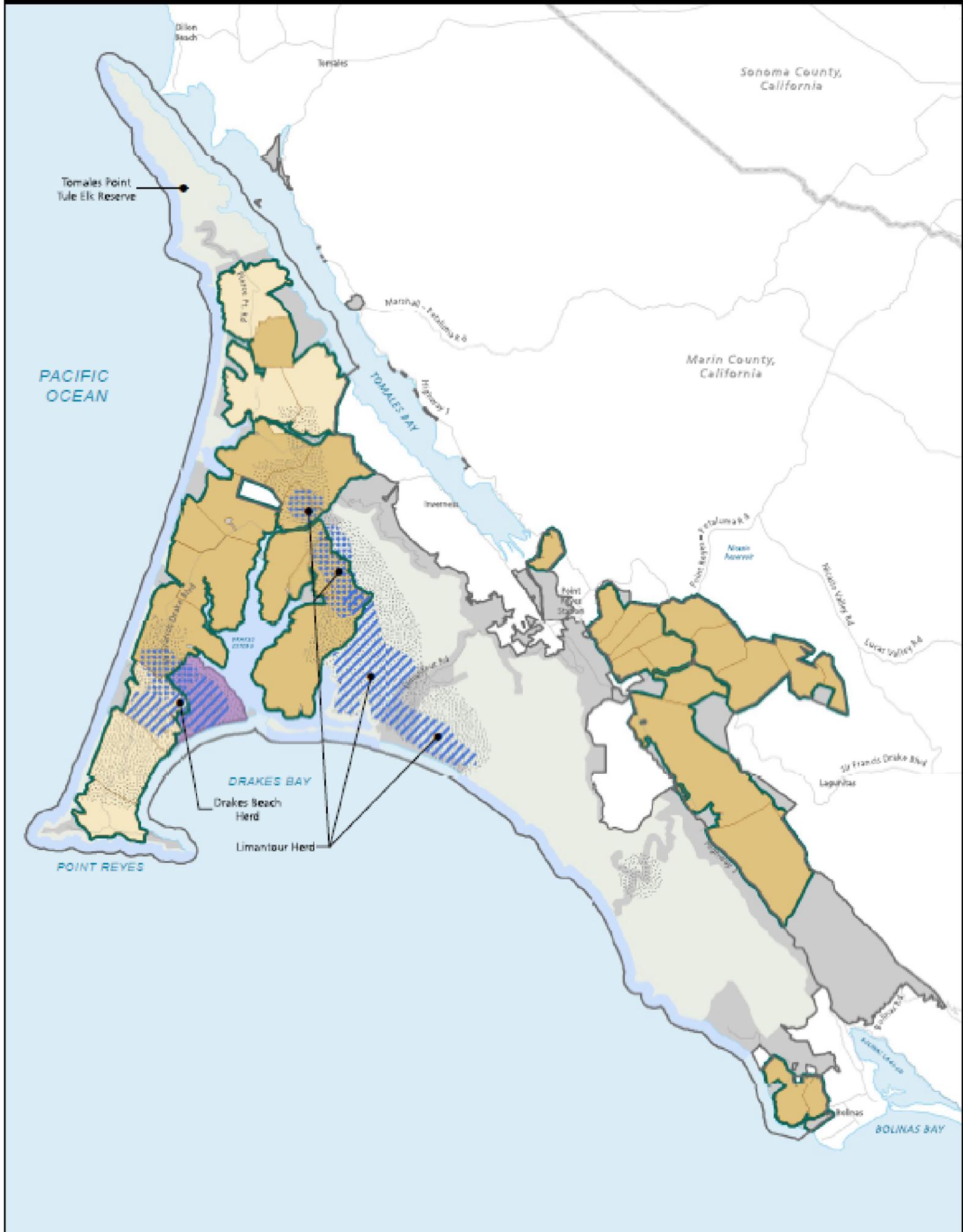
Attachment C – Supplemental Information Report

Attachment D – Non-Impairment Determination

Attachment A—Modified Figures

Point Reyes National Seashore
 General Management Plan Amendment
 Environmental Impact Statement

National Park Service
 U.S. Department of the Interior



Legend

Point Reyes Administered Land	Ranchland Zone	Elk Cow Group Regular Use
NPS Lands Outside Planning Area	Scenic Landscape Zone	Elk Bull Group Regular Use
Phillip Burton Wilderness (Land)	Beef Cattle Operations	Elk Seasonal or Transitory Use (groups of 12 elk or less)
Phillip Burton Wilderness (Water)	Dairy Operations	
Major Road		
County Boundary		

North

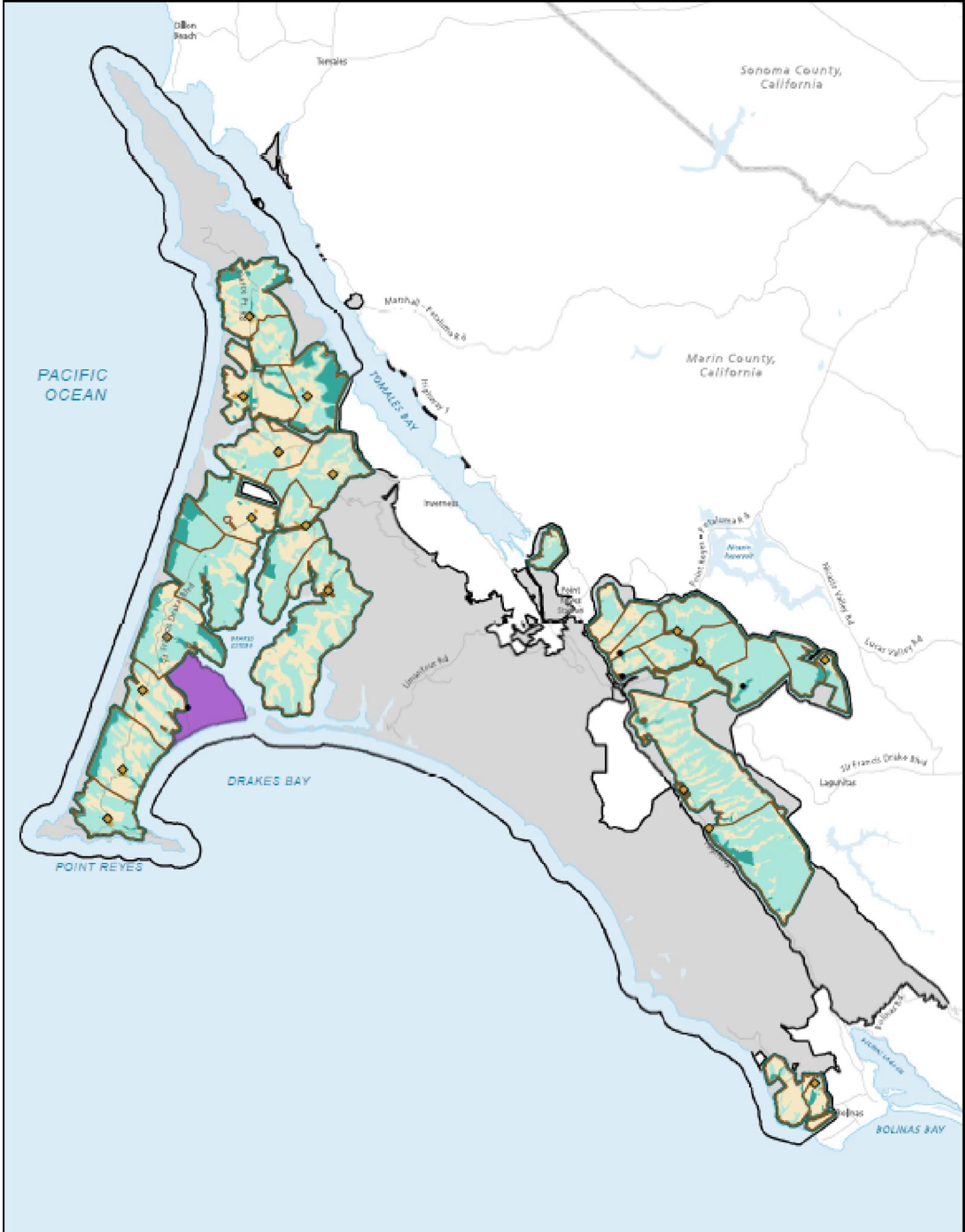
Source: NPS 2016-2020

0 4 Kilometers
0 2.5 Miles

FIGURE R-1: TULE ELK RANGE IN POINT REYES

Point Reyes National Seashore
 General Management Plan Amendment
 Environmental Impact Statement

National Park Service
 U.S. Department of the Interior



Legend

- | | |
|---------------------------------|-----------------------------|
| Ranch Boundary | Ranchland Zone |
| Point Reyes Administered Land | Ranch Core Subzone |
| Major Road | Pasture Subzone |
| County Boundary | Range Subzone |
| NPS Lands Outside Planning Area | Resource Protection Subzone |
| Unoccupied Complex | Scenic Landscape Zone |



Source:
 NPS 2016-2019, ESRI 2017

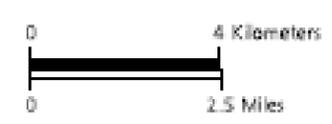
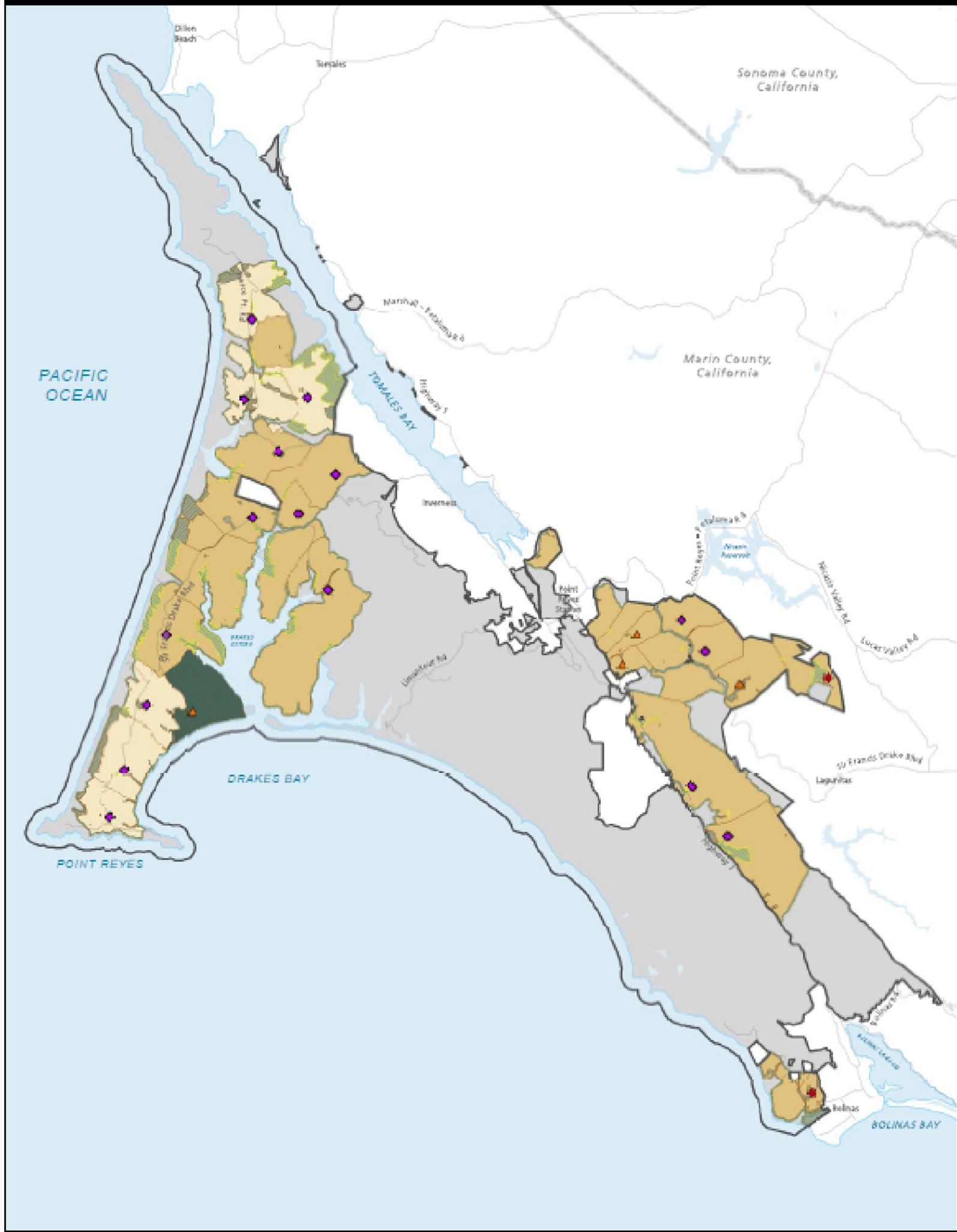


FIGURE R-2: MODIFIED ALTERNATIVE B ZONING MAP

Point Reyes National Seashore

General Management Plan Amendment
Environmental Impact Statement

National Park Service
U.S. Department of the Interior



Legend

- | | |
|---------------------------------|---------------------------------------|
| Point Reyes Administered Land | No Current Authorized Residential Use |
| GMP Amendment Planning Area | Current Residential Use Authorized |
| NPS Lands Outside Planning Area | Reserved Life Estate |
| County Boundary | Beef Cattle Operations |
| Major Road | Dairy Operations |
| | Existing Resource Protection Buffer |
| | Proposed Resource Protection Buffer |
| | Lands Not Under Lease/Permit |

North

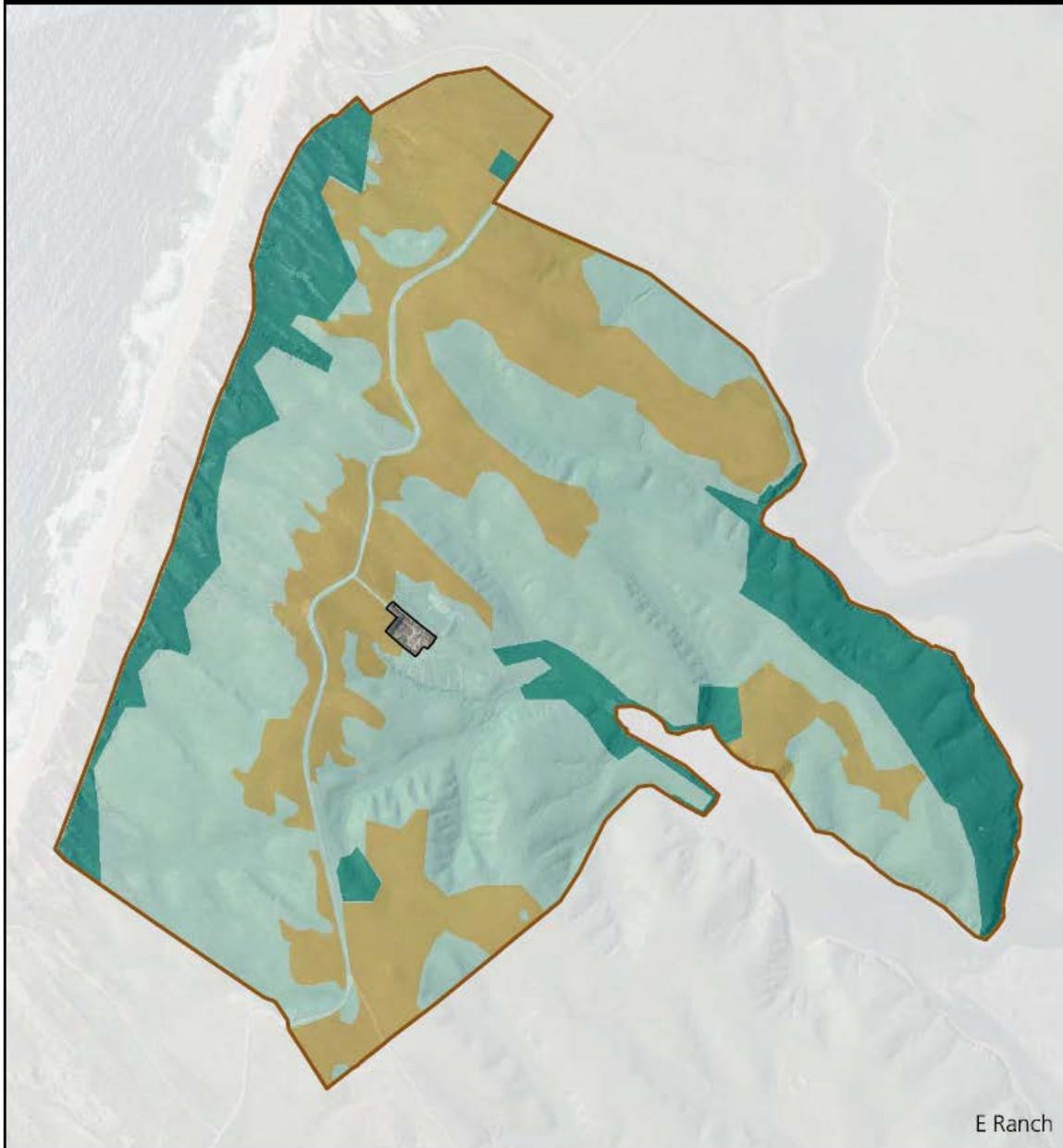
Sources:
NPS 2016-2019, ESRI 2017

FIGURE R-3: MODIFIED ALTERNATIVE B

Point Reyes National Seashore

General Management Plan Amendment
Environmental Impact Statement

National Park Service
U.S. Department of the Interior



Legend

- | | |
|-----------------------------|----------------|
| Developed Complex | Ranch Boundary |
| Pasture Subzone | |
| Range Subzone | |
| Resource Protection Subzone | |



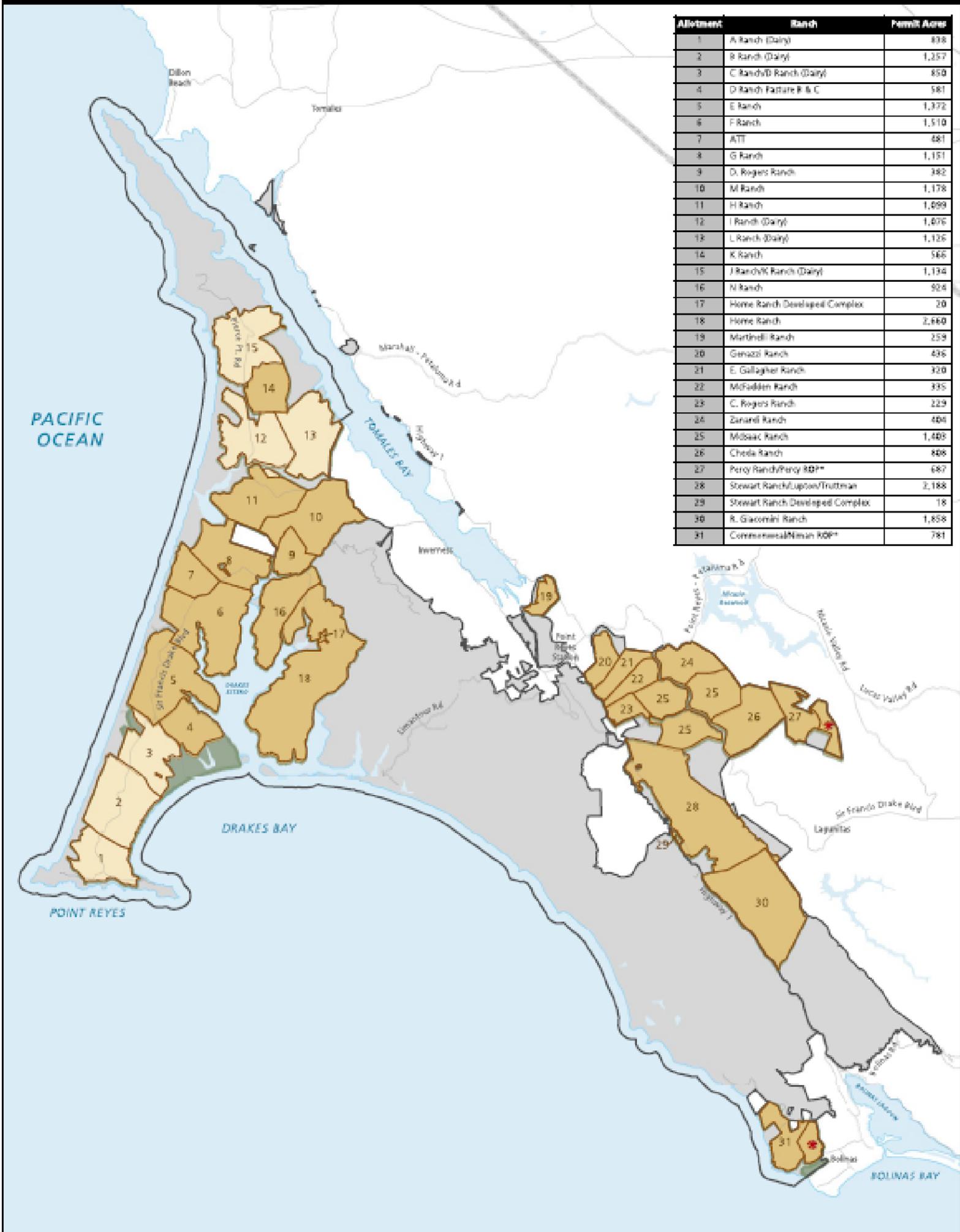
North
↑
Sources:
NPS 2016-2019
NAIP Imagery 2020

0 0.3 Kilometers
0 0.25 Miles

FIGURE R-4: E RANCH ZONING MAP

Point Reyes National Seashore
 General Management Plan Amendment
 Environmental Impact Statement

National Park Service
 U.S. Department of the Interior



Allotment	Ranch	Permit Acres
1	A Ranch (Dairy)	898
2	B Ranch (Dairy)	1,257
3	C Ranch/D Ranch (Dairy)	850
4	D Ranch Pasture B & C	581
5	E Ranch	1,372
6	F Ranch	1,510
7	ATT	481
8	G Ranch	1,151
9	D. Rogers Ranch	382
10	M Ranch	1,178
11	H Ranch	1,009
12	I Ranch (Dairy)	1,476
13	L Ranch (Dairy)	1,126
14	K Ranch	566
15	J Ranch/W Ranch (Dairy)	1,134
16	N Ranch	924
17	Home Ranch Developed Complex	20
18	Home Ranch	2,660
19	Martelli Ranch	259
20	Genzoli Ranch	496
21	E. Gallagher Ranch	320
22	McFadden Ranch	335
23	C. Rogers Ranch	229
24	Zanardi Ranch	404
25	Misaac Ranch	1,403
26	Chela Ranch	408
27	Perry Ranch/Perry RDP*	687
28	Stewart Ranch/Lupton/Truttman	2,188
29	Stewart Ranch Developed Complex	18
30	R. Giacomini Ranch	1,858
31	Commercial/Mission RDP*	781

Legend

- Point Reyes Administered Land
- GMP Amendment Planning Area
- NPS Lands Outside Planning Area
- County Boundary
- Major Road
- ★ Reserved Life Estate
- Beef Cattle Operations *
- Dairy Operations *



Sources:
 NPS 2016-2018, ESRI 2017

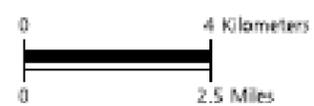


FIGURE R-5: RANCH KEY MAP

*Reflects existing use

Attachment B—Errata to the FEIS

FEIS

Table of Contents: The following tables are added to the Table of Contents:

Table 19. Number of Livestock by Alternative for Emission Estimates

Table 20. Livestock Waste NH₃ and VOC Annual Emission Factors

Table 21. CH₄ and N₂O Emission Factors for Manure Management

Table 22. Annual Livestock-Related Emissions from Ranching under Alternative A (Tons/Year)

Table 23. Annual Livestock-Related Emissions form Ranching under Alternative B (Tons/Year)

Table 24. Annual Livestock-Related Emissions form Ranching under Alternative D (Tons/Year)

Table 25. Annual Livestock-Related Emissions form Ranching under Alternative E (Tons/Year)

Table 26. Annual Livestock-Related Emissions form Ranching under Alternative F (Tons/Year)

Page 103, Air Quality, Regulatory Framework, Class 1 Areas and Protection of Air Quality Related Values:

The following text is added after the first sentence: “In some cases only the wilderness portion of a unit is designated as Class I, because that section met the designation criteria in 1977 when the Clean Air Act was amended.”

Page 103, Air Quality, Environmental Context, Climate and Meteorology:

The text: “Point Reyes is a Class I park” is replaced by “The Clean Air Act designates the Point Reyes Wilderness established in 1976 (now Phillip Burton Wilderness) as a Class I airshed (40 CFR Section 81.405).”

Page 204, Table 16 - Economic Impact Definitions: Change table name to Table 16a.

Page 204: Change text reference from Table 16 to Table 16a.

Page 214, Table 17 - 2018 Vehicle Miles Traveled Estimate: Change table name to Table 17a.

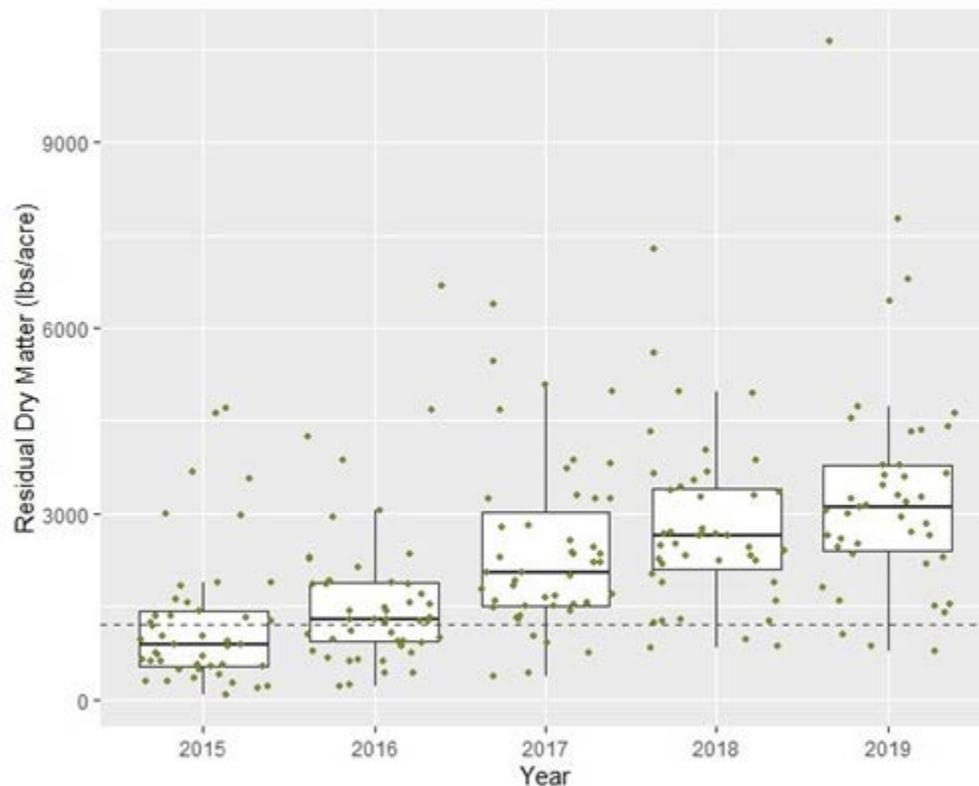
Page 214: Change text reference from Table 17 to Table 17a.

Page 215, Table 18 - Gasoline Passenger Auto Generalized Emission Factors: Change table name to Table 18a.

Page 215: Change text reference from Table 18 to Table 18a.

Appendix E

Page E-6, Figure 3: Figure 3 is replaced with the image below:



Appendix F

Page F-1: The following text will be added to the second bullet at the bottom of the page: “To the extent possible, calving will take place indoors.”

Page F-3: The following bullet was added to the list:

- “Use weed free certified hay if feasible or inspect feeding areas regularly for any new species regularly during each growing season.”

Page F-9 - Structure for Water Control (587): The culvert size is corrected to reflect a 100-year- 24-hour event, not a 25-year, 24-hour event.

Page F-29: In the first mitigation cell, the following text was added: “equipment storage, short-term maintenance, and refueling will be prohibited from taking place on the project site unless deemed necessary for project completion by NPS, and if approved by NPS shall be conducted in a contained area located at least 100 feet from a watercourse or riparian area.”

Page F-31: Two additional rows, applicable to all Management Activities, are added to the table to include the following text:

- “Actions shall be taken to reduce contamination of, and erosion from runoff, including: implementation of measures to minimize concentrated flow from roads, roofs, and paved surfaces into stables, such as rolling dips for roads, and/or to prevent concentrated flow from causing erosion, such as roof gutter downspouts with energy dissipaters, and French drains; rainfall and runoff shall be diverted away from high-use areas with animal waste, such as stalls, manure piles, paddocks, and arenas, using methods such as guttered roofs, manure bins, and grassed waterways to keep such areas as dry as possible during the rainy season.”
- “Noise disturbing activities within and directly adjacent to forested northern spotted owl habitat will be restricted between February 1 and July 31 unless specifically approved by the NPS based on contemporary knowledge of spotted owl activity centers and nesting status. USFWS will be consulted on any activities with potential effects to northern spotted owls.”

Page F-32: Three additional rows, applicable to all Management Activities, are added to the table to include the following text:

- “No barriers from dispersal will be placed in creeks supporting California freshwater shrimp.”
- “For Lagunitas Creek, Olema Creek and tributaries, any herbicide application will not be applied within 15 feet of aquatic features and only conduct spot application between 15-60 feet from aquatic features.”
- “In areas that are habitat for California freshwater shrimp, the NPS will prioritize the use of herbicides specifically formulated and approved for use in water for application of herbicides adjacent to aquatic features.”

Page F-32: In the second mitigation cell, the words “*two weeks*” are removed from “Conduct the surveys within three days ~~two weeks~~ prior to initiation of vegetation clearing, tree removal and trimming, or other construction activities.”

Page F-33: In the second mitigation cell, the last sentence was changed to “Relocation of California red-legged frog can be performed only by *individuals who are designated by NPS*”.

Page F-35: In the last mitigation cell, the following text is added “Boundary fencing must be at least wildlife considerate.”

Page F-37: In the first mitigation cell, the fourth bullet was updated to reflect the following text: “ensure that no mowing occurs around ponds unless pre-approved by NPS *and mowing mitigation measures are in place*”

Page F-39: The following mitigations, applicable to all Management Activities, are added to Table F-12:

- “Herbicide use shall adhere to bird nesting restrictions and guidelines during March 15-July 31 unless vegetation height is less than 8 inches. Application adjacent to any bird nest must be buffered by 100 feet.”
- “Any application of herbicide must buffer rare and sensitive plant species by a minimum of 10 feet unless a drift shield or wicking is used.”
- “NPS approval is required prior to the purchase and use of pesticides, which must follow NPS IPM guidelines and operating procedures, including the Pesticide Use Proposal system. Application must be performed by or under the supervision of a certified or registered applicator who is licensed under the procedures of a federal or state certification system. Pesticide storage, transport, mixing, loading, use and disposal must comply with state and federal regulations including the California Department of Pesticide Regulation, Marin County Department of Agriculture, Weights, and Measures,

manufacturer labels and instructions, Safety Data Sheets, and any guidance from a registered Pest Control Advisor.”

- “Barring more restrictive requirements, herbicide use shall also adhere to the following: do not apply when average wind speed exceeds 10 miles per hour at plant height; do not apply within 24 hours of predicted rainfall (>20% chance) or until plants are dry following rainfall; do not apply under wet conditions due to dense fog; add a marker dye to ensure applicators can visually detect drift to help avoid treatment of non-target areas, or accidental overtreatment; applicators shall have emergency spill clean-up gear (spill containment and absorption materials), dry cleanup methods (i.e., absorbent materials, and/or rags) on site; applicators shall check equipment regularly for leaks and repair immediately; mixing and loading must be conducted at least 100 feet from watercourses, riparian areas, or other sensitive species as determined by NPS; spot treatments shall be the most common method of application to reduce potential effects on nontarget species. Broadcast treatment (uniform application over an entire area) will only be considered for more severe infestations, as approved by NPS; apply any extensive treatment in phases to allow wildlife movement away from each application.”
- “Herbicide will not be applied within 15 feet of aquatic features in salmonid habitat and only spot application (applied directly or with a backpack sprayer) will be allowed between 15-100 feet. No broadcast spraying will be allowed within this 100-foot buffer zone. Aerial application is not included in the proposed action.”
- “Herbicides and surfactants used within the 100-foot buffer zone of salmonid habitat will be limited to those found in Table 1. If other chemicals are proposed for use in this buffer zone within the 20-year plan term, they will be restricted to those approved by EPA for use in aquatic environments. In addition, NPS will request NMFS review of any new chemicals proposed for use to ensure that reinitiation of ESA section 7 consultation or separate section 7 consultation is not needed.”
- “Herbicides will not be applied in salmonid habitat when air temperature exceeds 85 degrees.”

Page F-42: An additional row, applicable to all Management Activities, is added to the table to include the following text: “Any herbicide use must follow the 2006 Stipulated Injunction issued by the Federal District Court for the Northern District of California, buffering California red-legged frog habitat for pesticides containing certain ingredients. When conducting herbicide application, the site will be surveyed for California red-legged frog. If an individual is identified no spraying will occur within 100 feet of the individual.”

Page F-45: In the sixth mitigation cell, add the following text at the end of the first sentence “unless specific timing is shown to benefit listed plants species.”

Page F-46: The last sentence in the fourth row was updated to reflect the following text: “The use of herbicides or fertilizers will be minimized in habitat that supports special-status butterflies; *during Myrtle’s silverspot butterfly flight season (June 15-early September) targeted spot spraying may be conducted in this habitat only if approved by NPS while maintaining a distance of 25 ft from any observed butterfly.*”

ATTACHMENT C—SUPPLEMENTAL INFORMATION REPORT

1 INTRODUCTION AND PURPOSE

In September 2020, the National Park Service (NPS) released a Final Environmental Impact (FEIS) Statement for the *General Management Plan Amendment for Point Reyes National Seashore and the North District of Golden Gate National Recreation Area* (GMP Amendment). The GMP Amendment/FEIS identified alternative B as the agency’s preferred alternative. Following consultation and review of the preferred alternative by state and federal agencies, the NPS made minor changes to the preferred alternative to incorporate conditions of those reviews. The NPS also made minor modifications to the preferred alternative’s ranching and elk management elements to further reduce impacts on park resources. All of these changes are responsive to public and regulatory agency concerns raised during the planning process. The NPS has identified alternative B, as modified, as the selected action in the Record of Decision for the GMP Amendment/EIS (ROD). A complete narrative description of the selected action can be found in section 6.0 of the ROD (the terms selected action and modified alternative B are used interchangeably in this document).

Since the release of the FEIS, the NPS signed a General Agreement with the Federated Indians of Graton Rancheria (FIGR), a federally recognized tribe whose ancestral homeland encompasses the planning area. The agreement establishes a government-to-government relationship with the tribe and allows for the incorporation of the tribe’s traditional ecological knowledge in the management of park resources. The preferred alternative has been modified to incorporate relevant provisions of this agreement.

The NPS has also continued to receive letters and other communications from the public since the release of the FEIS. Although these communications were received outside the formal public comment process, the NPS has reviewed them to assess whether they raise any new information.

The purpose of this Supplemental Information Report (SIR) is to determine whether a Supplemental Environmental Impact Statement should be prepared. To this end, the SIR describes the changes to the preferred alternative and evaluates the impacts of these changes compared to the impacts disclosed in the FEIS. It also addresses whether communications received since the close of the formal public comment process raise any new issues.

2 CRITERIA FOR SUPPLEMENTING AN EIS

The 1978 Council on Environmental Quality (CEQ) regulations governing the NEPA compliance process for this EIS require a federal agency to prepare supplements to draft or final environmental impact statements if: (1) the agency makes substantial changes to the proposed action that are relevant to environmental concerns; or (2) there are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts (40 C.F.R. § 1502.9(c)(1)). CEQ’s definition of the term “significant” is found at 40 C.F.R. § 1508.27.

When an agency makes changes to its preferred alternative, CEQ’s *Forty Most Asked Questions Concerning CEQ’s National Environmental Policy Act Regulations*, 46 Fed. Reg. 18,026, 18,035 (Mar. 23, 1981)), provides additional guidance. Supplementation is not required when two requirements are satisfied: (1) the new alternative is a “minor variation of one of the alternatives” discussed in the EIS, and (2) the new alternative is “qualitatively within the spectrum of alternatives” that were discussed in the EIS.

A further source of guidance is the Department of the Interior’s NEPA regulations, 43 C.F.R. Part 46. Section 46.20(d) states as follows:

(d) The Responsible Official's decision on a proposed action shall be within the range of alternatives discussed in the relevant environmental document. The Responsible Official's decision may combine elements of alternatives discussed in the relevant environmental document if the effects of such combined elements of alternatives are reasonably apparent from the analysis in the relevant environmental document.

3 CHANGES TO THE FEIS PREFERRED ALTERNATIVE

While the modifications discussed below are identified to differentiate from what was presented in the FEIS, the majority of the elements evaluated in the FEIS preferred alternative have not changed. The zoning framework and criteria for defining subzones, the Management Activities, Practice Standards and mitigation measures detailed in appendix F, and the programmatic elements of the preferred alternative (e.g., Visitor Use and Enjoyment and Visitor Carrying Capacity) remain unchanged. Because there have been no changes to these plan elements, they are not discussed in Section 5 below.

3.1 MINOR CHANGES THAT ARE WITHIN THE SPECTRUM OF ALTERNATIVES

The elements included in the modified alternative B, described below, are minor modifications to the preferred alternative and are within the spectrum of alternatives analyzed in the FEIS. These changes are also responsive to public comment and recent input from regulatory reviews.

3.1.1 Mandatory Ranch Operating Agreement (ROA) Conditions for Beef and Dairy Operators

Modified alternative B updates the lease/permit implementation strategy to include a number of mandatory requirements. The initial ROA would identify infrastructure and investment commitments for dairy and beef grazing operations in order to accelerate implementation of practices that further support natural and cultural resource protection objectives. Subsequent ROAs would update progress on these commitments. NPS would review and evaluate each rancher's success in implementing these commitments during the yearly ROA review process. The following conditions would be incorporated into the ROAs:

- Ranchers operating in areas with regular elk use would be required to modify cattle feeding strategies to reduce potential conflict with/habituation of elk to these methods. Implementation of actions in conjunction with specific infrastructure changes to reduce elk access to hay would be the responsibility of the ranch operator.
- Ranch operators, in coordination with the NPS, would identify, plan and implement maintenance requirements for stock ponds documented as California red-legged frog habitat.
- Ranch operators, in coordination with the NPS, would be required to monitor, maintain, and report conditions and actions taken to ensure riparian fencing is in place and effective at maintaining riparian buffers.
- Ranch operators would be required to meet 1,200 pounds/acre RDM standards as documented through visual RDM mapping and monitoring by NPS across the planning area.
- Ranch operators, in coordination with the NPS would be required to identify and implement relevant raven management measures as documented in the USFWS-approved Raven Management Program.
- The NPS and ranch operators would evaluate infrastructure conditions to identify necessary measures and a timeline for the operator to address deferred maintenance on the historic ranch infrastructure. Maintenance commitments will be tracked as one of the performance metrics through the annual ROA review process.

Dairy Operations

- For the initial ROA, the NPS and dairy operators would evaluate infrastructure conditions and identify necessary measures for the operator to undertake to modernize manure management infrastructure and practices. If the operator is unable to commit to invest the necessary resources to meet this requirement, the dairy operation would cease within two years but could convert to beef (see 3.1.2 below).
- ROAs would include a schedule for implementation of modernization requirements to ensure resource protection outcomes are realized as promptly as possible. NPS would use the ROA process to regularly document and evaluate implementation of water quality improvement practices, monitoring, Manure and Nutrient Management, and grazing management.

Beef Operations

- For the initial ROA, the NPS and beef operators would identify priority Management Actions to restrict cattle from sensitive riparian, freshwater wetland, and estuarine habitats to mitigate for potential water quality impacts from their operations. These commitments and a schedule for their prompt implementation would be included in the ROA.

The changes in operational conditions are consistent with the analysis presented in the FEIS for alternative B which envisioned that these types of changes would happen in the future. The only difference is that these operational changes will accelerate the implementation of Management Activities and maintenance requirements. Changes related to the grazing activities are simply the conversion of a management guideline from the preferred alternative into a requirement (Residual Dry Matter (RDM) standard). These changes would improve the ability of ranch operations to meet desired conditions and would reduce impacts to soils, water quality, vegetation, wildlife and air quality.

For dairy operations, these mandatory ROA conditions would require increased investment to modernize Manure and Nutrient Management infrastructure. These changes are consistent with the zoning framework of the preferred alternative and impact analysis presented in the FEIS. The impacts of dairies closing within the planning area is evaluated under alternative E of the FEIS (which evaluated the cessation of dairy operations within 5 years, with the option to convert to beef operations, as well as cessation of all Manure and Nutrient Management and Forage Production associated with the dairy operations). The impact analysis for alternative E identified that if all dairy operations converted to beef, the 3,115 dairy cattle would be replaced with up to 750 Animal Units (AU) of beef cattle for a total of 3,150 beef cattle in the planning area. Overall, potential impacts associated with the changes to dairy operations under the mandatory ROA conditions are within the spectrum of alternatives analyzed in the FEIS, falling between alternative B and alternative E.

3.1.2 Maximum of Five Dairies and Possible Conversion of Dairies to Beef

Modified alternative B limits the number of dairies to five rather than six. Since the release of the FEIS, the McClure Dairy, which operated from the I Ranch, informed the NPS that they would be closing the dairy operation by July 2021. Based on the closure of the McClure Dairy at I Ranch, the modified alternative B:

- removes 691 dairy animals from the planning area, resulting in a 22% reduction in dairy animals (3,115 to 2,425 dairy animals),
- reduces the acreage affected by Manure and Nutrient Management (manure spreading) from 2,500 acres to 1,800 acres, and
- removes 552 acres of Forage Production from the planning area.

Modified alternative B would allow the remaining five dairies to operate consistent with NPS expectations identified in Section 3.1.1 above. Operators would be allowed to convert to beef if they are not able to commit to the investments necessary to upgrade their infrastructure. These changes would improve the ability of dairy operations to meet management objectives, reducing impacts to soils, water quality, vegetation, wildlife and air quality. Alternative B evaluated six dairies and alternative E evaluated the closure of all dairy operations over a period of five years, conversion to beef grazing operations, and cessation of Forage Production and Manure and Nutrient Management. Therefore, the impacts of five dairy operations, and the reduction in Manure and Nutrient Management and Forage Production is fully encompassed within the spectrum of alternatives and impact analysis presented in the FEIS.

3.1.3 Reduced Cattle Grazing and Additional Seasonal Grazing Areas

Modified alternative B rezones Allotment 4 (see figure R-5 in the ROD) from cattle grazing to Scenic Landscape zone and converts Allotment 19 (see figure R-5 in the ROD) to seasonal grazing. These changes will reduce impacts and are within the spectrum of alternatives considered in the FEIS. Alternative D considered the permanent closure of some areas to grazing, including Allotments 4 and 19. Seasonal grazing is analyzed in the FEIS as part of alternatives A, B C, D and E. These changes would reduce impacts on water quality, while maintaining grassland habitat and moderating fire risk.

3.1.4 No Forage Production on Beef Ranches

Forage production would not be authorized on beef ranches. The NPS would require the phase out of 280 acres of silage (Forage Production) and its conversion to permanent pasture on two beef ranches. The phase out would occur over a period of two to four years to support restoration of those areas to permanent pasture. The discontinuation of Forage Production within the planning area was evaluated under alternative E in the FEIS. These changes would reduce impacts on soils, water, wildlife, and some vegetation resources.

3.1.5 Adjustment to Diversification Activities

Modified alternative B removes crops and commercial chickens from the selected action. They are no longer included in the list of activities that do not require additional NEPA compliance (FEIS Table 6). These activities would only be approved following separate site-specific review and compliance prior to authorization by the NPS. The selected action also limits farm-stays to no more than two guest units per residentially occupied complex, within existing structures. Prior to implementation of diversification activities, all mitigation measures and requirements from appendix F must be identified, designed, implemented by the rancher, and determined to be in proper functioning order by NPS. Farm stay opportunities would not be approved unless the NPS determines that sufficient water from existing potable sources is available to support this new use and that the additional water use does not result in unacceptable adverse impacts to the park's water resources. These changes are within the spectrum of the alternatives analyzed in the FEIS because alternative E evaluated ongoing ranching without pasture or ranch core diversification activities. These changes to the diversification activities would reduce impacts on soils, water, vegetation, wildlife, and air resources from what was described in alternative B.

3.1.6 Tule Elk

Increased Population Threshold and Range of Elk

The elk management elements of the preferred alternative have been modified in several ways. Under modified alternative B, the Drakes Beach herd would have a population threshold of 140 rather than 120 animals. In addition to managing the free-ranging elk herds in the Point Reyes portion of the planning area in coordination with the California Department of Fish and Wildlife (CDFW), the NPS would also coordinate with the FIGR in the management of these herds. The core area of the Drakes Beach herd will

be allowed to expand into Allotment 4 (see figure R-5 of the ROD for location of this allotment), which will no longer be leased for livestock grazing. While the establishment of new elk herds on areas leased for ranching would still be discouraged through graduated hazing actions, the modifications to alternative B recognize that these efforts may not prevent new herds from establishing. If these techniques are unsuccessful, NPS will monitor the new herds and areas of high elk concentration on ranchlands will be managed in response to localized resource impacts. Over time and with the absence of predators, a population threshold may become necessary for new herds. These changes would reduce adverse effects on elk and are within the spectrum of alternatives considered in the FEIS. Specifically, alternative E allowed for the expansion of elk in the planning area, and it did not impose a population threshold on the Drakes Beach herd.

Rezoning of Allotment 4

Allotment 4 comprises 580 acres adjacent to the core area of the Drakes Beach herd and will be included in the Scenic Landscape Zone. In coordination with the FIGR, NPS would take actions to improve this area for elk habitat, including brush mowing and continued non-native vegetation removal activities to encourage elk use outside of permitted ranch areas on up to 300 acres of the 1,200 Scenic Landscape zone. While this change increases the acreage of improved elk habitat from the FEIS preferred alternative by roughly 200 acres, it is consistent with the goal contemplated for pasture habitat within Allotment 4 in the FEIS (within the Ranchland zone). This change is within the spectrum of alternatives analyzed in the FEIS under alternative D, specifically, the closure of Allotment 4 to grazing and its inclusion in the Scenic Landscape zone.

Operational Adjustments to Support Tule Elk

Operational adjustments would be incorporated into ROAs as identified in 3.1.1. Ranchers operating in areas with regular elk use would be required to modify feeding strategies to reduce potential conflicts with/habituation of elk to these methods. Implementation of actions in conjunction with specific infrastructure changes to reduce elk access to hay would be the responsibility of the ranch operator. This is a minor operational change to alternative B that does not affect the impact analysis.

3.2 CHANGES TIED TO NEW INFORMATION - AGREEMENT WITH FEDERATED INDIANS OF GRATON RANCHERIA

The NPS entered into a General Agreement as a defining framework for the government-to-government relationship with the Federated Indians of Graton Rancheria on August 9, 2021. The agreement calls for the NPS to consult and coordinate with the tribe to ensure Tribal views and traditional ecological knowledge (TEK) are part of the management of park lands and resources, including plant and animal communities, as well as ranching leases; and to collaborate and partner with the tribe for the management of tule elk, a species of cultural significance to the tribe. Involving the tribe in the implementation of these plan actions will not change the impacts disclosed in the FEIS. Additional details about the General Agreement are included in the ROD.

3.3 CHANGES TIED TO THE CONDITIONS ADOPTED AT THE CALIFORNIA COASTAL COMMISSION (CCC) HEARING

The NPS submitted a Consistency Determination (CD) for the GMP Amendment/FEIS preferred alternative to the California Coastal Commission on October 16, 2020. The CCC considered the CD at a public hearing on April 22, 2021. The NPS agreed to several conditions during the hearing that require adjustments to the preferred alternative to further reduce impacts from ranching, particularly to water quality.

The NPS agreed to develop a Water Quality Strategy which has an overall purpose of assessing the effect of installed ranching best management practices and management measures on water quality throughout the GMPA planning area and prioritizing further measures to be implemented to reduce ranching impacts on water quality. The NPS will collect and evaluate water quality data and use it to prioritize management strategies to address issues of concern, including short- and long-term ranch management actions. The NPS will ensure the implementation of these commitments through ranch-specific ROAs.

In order to implement the Water Quality Strategy, the NPS needs the flexibility to mandate infrastructure upgrades and changes to operational practices in the lease/permit and ROA. As identified in Section 3.1.1, the NPS has modified the preferred alternative to require dairy operators to agree to a schedule for the prompt implementation of measures to modernize manure management infrastructure and practices. Additionally, the NPS agreed to identify actions that could reduce greenhouse emissions from ranching operations as part of a climate action strategy which may also be included with regular reporting to the CCC. These actions would reduce both water quality and air quality impacts associated with dairy operations.

This change to the timing of operational and infrastructure improvements to dairy operators is within the spectrum of alternatives considered in the FEIS. Alternative E analyzed the impacts of dairy operations on water quality and proposed their closure or their possible conversion to beef to reduce these impacts. Alternative B analyzed the continued operation of dairies but with dairy operators having more leeway as to when to implement improvements. Frontloading these requirements places the impacts of the modified alternative B between these two alternatives.

The same approach would be implemented on beef grazing operations, with the identification and commitment to priority Management Activities to be installed promptly on an approved schedule. Management Activities to address water quality concerns on beef grazing operations are included in appendix F (e.g., fencing, infrastructure improvement) and were evaluated in the FEIS as part of alternative B.

3.4 UPDATES TO LEASE/PERMIT & ROA CONDITIONS TIED TO REGULATORY AGENCY CONSULTATION AND ISSUANCE OF BIOLOGICAL OPINIONS

The NPS engaged in formal consultation with the U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS) on the preferred alternative presented in the Final EIS. The wildlife agencies reviewed the GMPA/FEIS preferred alternative and concluded that it would not likely jeopardize the continued existence of listed species or destroy or adversely modify critical habitat. In their Biological Opinions (BOs), the wildlife agencies prescribed certain nondiscretionary terms and conditions to protect listed species from unauthorized take. The NMFS issued its BO on March 18, 2021, and USFWS issued its BO on June 4, 2021.

The following conditions evaluated in the FEIS and included in the Opinions, have been incorporated into the modified alternative B and will be carried across to the lease/permit and ROA as required conditions (see Section 3.1.1 for additional details):

- NPS shall define management responsibility in ranch lease/permits ensuring that ranch stock ponds associated with California red-legged frog breeding will be maintained and not be allowed to fall into disrepair.
- NPS shall ensure the 1,200 pounds per acre RDM standards are met by continuing to use visual RDM mapping across the plan area ranches to better inform management. This mapping will occur using the same approach as was used from 2016-2019.
- NPS shall ensure that riparian fences that must be maintained, as identified in ROAs, and that are found to be in disrepair are completely repaired or replaced (to prevent cattle breaching) within one year of discovery.

- NPS shall ensure that the application of herbicides conforms to the conditions listed in the NMFS Biological Opinion. This is consistent with current practice, lease/permit and ROA conditions.
- Upon NPS development of a USFWS approved Raven Management Program, ranchers would be required to implement relevant, mandatory raven management measures.

Fencing, pond maintenance and pesticide use are Management Activities that were evaluated in the FEIS for all alternatives that authorized ranching (alternatives B, C, D and E). Appendix F of the FEIS identifies and details all appropriate mitigations that will be required during implementation of these Management Activities. The only change is that fence and pond maintenance activities will now be mandatory rather than voluntary. The use of pesticides, including herbicides was already regulated through the NPS's Integrated Pest Management program and was evaluated in the FEIS. The additional conditions for herbicide use in the Biological Opinions represent only minor variations and will be more protective of listed species. Similarly, the requirement to comply with RDM standards was included in the preferred alternative. The fact that conditions arising out of the Biological Opinions would be included in lease/permits was already disclosed publicly in the lease/permit template that was posted to the GMPA/EIS website. None of these changes constitute significant new information, and they are all within the spectrum of alternatives considered in the EIS.

Following release of the FEIS, the Regional Water Quality Control Board and the Environmental Protection Agency (USEPA) submitted letters which identified the need for additional clarification associated with the diversification actions proposed at that time. As identified above, the sequencing of implementation has been adjusted to require all mitigation measures and requirements from appendix F to be identified, designed, implemented by the rancher, and determined to be in proper functioning order by NPS, prior to the commencement of the approved diversification activity. This is a process change that does not result in any new or different impacts. Additionally, with respect to the farm stay units, the NPS clarified the scale of farm stay units (not to exceed 2 per permitted occupied ranch core) and will require ranchers to submit detailed information for NPS review regarding the availability of sufficient water to support this expanded use prior to NPS authorization. These clarifications are consistent with the analysis presented in Alternative B.

4 PUBLIC INPUT RECEIVED AFTER OFFICIAL PUBLIC COMMENT PERIOD

Since the September 2020 release of the FEIS, the NPS and the Department of the Interior have received numerous pieces of correspondence related to ranching and elk management issues at Point Reyes. These pieces of correspondence were submitted outside of the official public comment periods on the EIS. Nevertheless, the NPS reviewed this correspondence and determined that it did not raise substantial new information or circumstances relevant to environmental concerns. Two letters, one from USEPA and another from the San Francisco Bay Regional Water Quality Control Board, did lead to minor adjustments to the preferred alternative. These changes are addressed in this SIR.

The general topics raised in the letters that did not result in changes to the selected action or impact analysis include letters that:

- Raised concerns that are outside the scope of this GMPA/EIS (e.g., management of elk at Tomales Point; consideration of the impacts of the 2020 Woodward Fire).
- Raised concerns over enforcement issues under current lease/permits.
- Did not identify any significant new information relevant to the scope of this EIS and concerns were already adequately addressed in the EIS (e.g., requests that the GMPA implement alternative F as the selected action and concerns regarding the status of the National Register of Historic Places nomination for an Indigenous Archeological District at Point Reyes).

- Were submitted as part of the public involvement process for the CCC's Consistency Determination process and also sent to the NPS. The content of these letters informed the outcome of the CCC public hearing.

5 WHETHER THE MODIFICATIONS RESULT IN SIGNIFICANT IMPACTS NOT CONSIDERED IN THE EIS

5.1 SOILS

Ranch Operations

Grazing

Under modified alternative B, Allotment 4 is assigned to the Scenic Landscape zone thereby removing active livestock grazing from approximately 580 acres. Allotment 4 was identified as having 0.2 acres of high-intensity-use area, and 256 acres of Low Compaction Resistance/High Erosion Potential soils. Rezoning of Allotment 4 would remove 0.2 acres of high intensity use areas, 3% of the High Erosion Potential soils and 2% of the Low Compaction Resistance soils from the Ranchland zone. In addition, with the reduction to a total of five dairy operations, the acreage of high-intensity-use areas would be expected to decrease, as 6 dairies represented 86 of the 150 estimated acres in this category. Specific to grazing, the modified alternative B also includes the Mandatory ROA Condition (Section 3.1.1) to meet the Residual Dry Matter standard of 1,200 pounds per acre on ranched lands based on annual visual mapping and monitoring efforts. While the standard is consistent with the FEIS analysis, based on consultation with the NMFS, it will be included as a mandatory condition in ROAs. As documented in the FEIS, maintaining RDM at 1,200 pounds per acre in the fall is protective of soils. Overall, the changes identified as part of the modified alternative B would result in a small reduction in soil impacts and do not alter the impact analysis to soils presented in alternative B.

The modifications to the preferred alternative identified in Section 3 above would not result in changes to the impact analysis for Ranch Infrastructure and Water Control Management, Vegetation Management and Ranch Complexes presented in the FEIS.

Other Management Activities - Manure and Nutrient Management and Forage Production

Under the modified alternative B, the reduced number of authorized dairies (see Section 3.1.2.) decreases the area of Manure and Nutrient Management from 2,500 acres (8.7% of planning area) to approximately 1,800 acres (6.3% of planning area). Forage Production is removed from beef operations (Section 3.1.4.) and reduced on dairy operations (Section 3.1.2). Within the planning area, Forage Production is reduced from 1,000 acres (3.5% of the planning area) to 163 acres (0.6% of the planning area). The mitigation measures associated with Manure and Nutrient Management and Forage Production were not changed and will remain protective of sensitive resources and soils as identified in the FEIS. These decreases in Manure Management and Forage Production will result in a direct, but limited reduction of impacts to the soil resources on approximately 1,000 acres or approximately 3.5% of the planning area. In these areas, grazing will be maintained, and soil impacts associated with grazing cattle would continue.

Diversification

Under modified alternative B, commercial chickens and row crops are not included in the selected action. Future proposals for these activities will require site-specific planning and compliance review. The FEIS characterized the adverse impacts of chickens as a pasture diversification activity as limited, due to their dispersal across a large area at low densities. Adverse impacts from row crops were characterized as

minimal, in association with the initial disturbance, tilling, and potential use of fertilizer that could alter soil fertility in areas where it is applied. These changes to diversification reduce the potential impacts to soil resources described in the FEIS.

Elk Management

Increasing the Drakes Beach herd by 20 animals and coordinating elk management with the FIGR would not change the impact analysis for soils identified in the FEIS.

Cumulative Impacts

As described above, the modifications to alternative B do not result in substantial changes in impacts to soil resources. When the incremental impacts of modified alternative B are combined with the impacts of past, present, and reasonably foreseeable actions, the overall cumulative impact on soils would be adverse. The incremental impacts of modified alternative B would contribute most of the impacts. However, soil conditions would improve compared to existing conditions from the implementation of the zoning framework and application of Practice Standards and mitigation measures. The impacts of modified alternative B would not alter the overall cumulative impact analysis described for alternative B in the FEIS.

Conclusion

The changes anticipated under modified alternative B, including assignment of Allotment 4 to the Scenic Landscape zone, and the reduction in Manure and Nutrient Management and Forage Production, would remove direct impacts to soil resources on up to 1,580 acres (5.5%) of the planning area. These changes reduce impacts to soils but not to a degree that is substantially different than analyzed and presented under alternative B in the FEIS. The changes to the soil impacts identified in modified alternative B are within the range of impacts analyzed in the FEIS, specifically, the impacts would be less than those identified under alternative B, but more than those identified in alternative E.

5.2 WATER RESOURCES

Ranch Operations

The modified alternative B includes the Mandatory ROA Condition (Section 3.1.1) to meet the Residual Dry Matter standard of 1,200 pounds per acre on ranched lands based on annual visual mapping and monitoring efforts. This standard is consistent with the FEIS analysis, and based on consultation with the NMFS, it will be included as a mandatory condition in the ROA. As documented in the FEIS, maintaining RDM at 1,200 pounds per acre in the fall is protective of water quality. The removal of cattle grazing from Allotment 4 and the conversion of Allotment 19 (and potentially other areas) from permanent pasture to seasonal grazing would improve water quality conditions. Seasonal pasture use for grazing in the spring and summer when forage is high, followed by rest in the winter, removes direct impacts and runoff from cattle activity during the rainy season (O’Callaghan 2019). Through these changes, approximately 35 acres of wetlands (2% of wetlands in the planning area) would move from Range subzone to Scenic Landscape zone, including 3.3 acres of ponds and 5.8 miles of streams.

Authorized Forage Production on ranches (see Sections 3.1.2 and 3.1.4) would be reduced compared to existing conditions from 1,000 acres (3.5% of the planning area) to 163 acres (0.6% of the planning area). Manure and Nutrient Management would be reduced from 2,500 acres (8.7% of the planning area) to approximately 1,800 acres (6.3% of the planning area) and there would be one less manure management system overall. These changes will result in a localized decrease in the type and intensity of impacts in

those small coastal watersheds on both water quality (primarily through reduction in runoff potential) and water quantity (due to one less dairy operation) identified in the FEIS.

Under the modified alternative B, ranch operations will be required to prioritize and implement Management Activities that would restrict cattle from sensitive riparian and estuarine habitat, and address documented nonpoint sources. These Management Activities such as Fencing, Livestock Water Supply, Road Upgrade and Decommissioning, Riparian Forest Buffer, and designated Stream Crossings are included in appendix F and were analyzed in the FEIS.

For the remaining dairy operations, the Mandatory ROA Conditions for Dairy Operations to identify and implement actions to modernize manure management systems would ensure associated water quality outcomes are realized more promptly than anticipated in the FEIS. Most of the actions that would be undertaken to address these requirements fall within the suite of Management Activities that were considered in FEIS appendix F and therefore the impacts of those Management Activities have been fully analyzed. Examples include Ranch Infrastructure and Water Control Management Activities such as roofing, covers and roof runoff structures. Some projects may trigger the need for site specific compliance (e.g., new infrastructure in the ranch core). The possible need for tiered compliance was disclosed in alternative B. These modernization requirements could also lead to the relocation of a dairy operation to another location with superior infrastructure. Further, if a current operator is not able to make the investments necessary to modernize the manure management infrastructure, the operation would cease and would be allowed to convert to less intensive beef grazing operations.

Overall, implementation of the mandatory ROA conditions for beef and dairy operations would result in direct and measurable improvements to water quality. These benefits would accrue sooner than anticipated under the preferred alternative and are within the range of water quality impacts analyzed in the FEIS (e.g., alternative E would have converted dairies to beef operations).

Additionally, the reduction of dairy operations from six to five results in a reduction of 690 dairy cattle in the planning area, and the congregating effects of one confined animal facility would be eliminated. It is also expected to reduce the total area of high-intensity-use areas to less than 150 acres (note the FEIS identified that 57% of the high-intensity use areas were concentrated on the six dairy operations), thereby reducing overall potential for runoff from high intensity use areas.

Regarding water quantity, the number of authorized dairy cattle under the modified alternative B would reduce water consumption by approximately 20% (5.8 – 15.6 million gallons per year) from the amount analyzed for alternative B in the FEIS (see FEIS Table 8). This reduction is within the range of impacts analyzed in the FEIS in that Alternative E would have removed all dairy cattle from the planning area.

Diversification

Under modified alternative B, commercial chickens and row crops are not included in the selected action. Future proposals for these activities will require site-specific planning and compliance review. The FEIS characterized the impacts of chicken pasture diversification as limited and adverse due to the dispersal across a large area at low density. Row crops could increase the potential for nonpoint source sediment and/or nutrient loading to water resources.

As noted in the FEIS, changes to impacts on water quantity are not anticipated from other livestock diversification because a limited number of animals would be involved, and the total authorized AU would not increase.

Modified alternative B also updates and clarifies other diversification activities. Farm stays would be limited to 2 guest rooms per ranch in existing structures and would not be approved unless the applicant demonstrates and the NPS determines that sufficient water from existing potable sources is available and septic systems are adequate to support the new use. Any diversification activities in the Ranch Core

would need to demonstrate that the additional water use does not result in unacceptable adverse impacts to the park's water resources. Further, for all other diversification actions, all mitigation measures and requirements from appendix F must be identified, designed, implemented by the rancher, and determined to be in proper functioning order by NPS, prior to the commencement of the approved diversification activity.

These changes to diversification would reduce the potential water quality and water quantity impacts described in the FEIS.

Elk Management

Changes to elk management described in Section 3.1.6 and 3.2 would not affect water quality or quantity differently than analyzed in the FEIS.

Cumulative Impacts

As described above, the modifications to alternative B do not result in substantial changes in impacts to water resources. When the incremental impacts of modified alternative B are combined with the impacts from past, present, and reasonably foreseeable actions, the overall cumulative impact on water resources would be adverse, with modified alternative B contributing slight to noticeable impacts, depending on the watershed. As explained in the FEIS, the primary driver of cumulative impacts in the Tomales Bay watershed would continue to be actions related to ranching and development outside the planning area. While the Tomales Bay watershed would continue to be impaired under the Clean Water Act, modified alternative B would be a small contributor to that impairment, and ongoing implementation of Management Activities would continue to reduce pollutant contributions to the Tomales Bay watershed incrementally over time. Overall, water quality would improve compared to existing conditions. The impacts of modified alternative B would not alter the overall cumulative impact analysis described for alternative B in the FEIS.

Conclusion

The changes identified above are anticipated to directly and indirectly reduce water quality impacts and water use and accelerate improvements to water quality conditions. Water quality monitoring and reporting in conjunction with the Water Quality Strategy identified in the CCC Consistency Determination (see Section 3.3) will indicate progress and allow the NPS to identify additional actions necessary to continue to improve water quality. The changes to the water resource impacts identified in modified alternative B are within the range of impacts analyzed in the FEIS, specifically adverse impacts would be reduced from those described under alternative B, but greater than those described in alternative E.

5.3 VEGETATION, INCLUDING FEDERALLY LISTED SPECIES

Ranch Operations

Grazing

Beneficial effects of grazing activities, such as slowing coastal scrub encroachment into grassland, reducing abundance of some perennial grass weeds, reducing the biomass of highly competitive non-native annual grasses and forbs, and removing vegetative fuel, would continue on lands where dairy operations are reduced, on beef cattle allotments where seasonal grazing could be implemented, as well as on Allotment 4 through NPS management such as Targeted Grazing. Because 57% of the high intensity use areas were present on the six dairies under alternative A, the reduction of one dairy operation is

anticipated to slightly reduce the total acreage of these areas. The Mandatory ROA Conditions, including the requirement that strengthens the 1,200 pounds per acre of Residual Dry Matter (RDM) objective from a guideline to required performance condition, will result in further protections of soil and vegetation resources across the grazed lands.

Ranch Infrastructure and Water Control Management

No changes to vegetation resources are expected.

Vegetation Management

Impacts from Vegetation Management activities on up to 300 acres in the Scenic Landscape zone are not expected to change the total acreage analyzed for activity types such as Mowing, which would be similar to the range analyzed in alternative B and would follow the mitigation measures in appendix F.

Vegetation Management activities in the Scenic Landscape zone, focused on maintaining habitat for tule elk and federally listed species, could reduce the amount of coastal scrub and increase grasslands over time, but this would be a small proportion of the total within the planning area (change on < 1% of planning area acres). Potential impacts from other Vegetation Management activities could be slightly reduced (1.1%) as approximately 100 acres of Pasture subzone would be moved to Scenic Landscape Zone.

Other Management Activities

Manure and Nutrient Management would be reduced on one dairy and Forage Production would only be authorized on one dairy as described above. This would reduce or eliminate influences on plant species composition (often in favor of weedy species) and increased biomass production associated with manure spreading on the acreage, although certain conditions could persist for a period of time depending on soil condition. Benefits to native vegetation would be limited because the manure spreading and Forage Production occurred in areas comprising predominantly non-native, seeded agricultural, or invasive species. Reducing active management of these areas could result in an increase in need to control for non-native and invasive species (see below).

Diversification.

Under modified alternative B, commercial chickens and row crops are not included in the selected action. Future proposals for these activities will require site-specific planning and compliance review. The impacts from these activities described in the FEIS include the potential for high nutrient levels to tilt the competitive advantage to non-native, weedy species and increase biomass in certain areas from chickens on pasture, while cultivation of crops has the potential to introduce invasive species to the managed areas. These changes to diversification would reduce the potential impacts to vegetation described in the FEIS.

Non-Native and Invasive Plants

There is potential for increased abundance of non-native and invasive species on acres that were authorized for certain Management Activities under alternative B but not modified alternative B, including 837 acres of Forage Production, 700 acres of manure spreading (552 which overlap with Forage Production acres), and a small proportion of high-intensity-use areas. These areas (approximately 1,000 acres) would continue to be grazed, which would limit seed production for certain herbaceous non-native species. The NPS would also evaluate and prioritize Vegetation Management and restoration activities in former Forage Production areas to control and reduce risks from non-native and invasive species.

Habitat-Specific Impacts

Wetlands

Under modified alternative B, 2% of wetlands in the planning area (35 acres), including approximately 3.3 acres of stock ponds (3 ponds) and 5.8 miles of streams would move from the Range Subzone in alternative B to the Scenic Landscape zone, increasing wetlands in that zone from 4% to 6% of the total planning area wetlands (Table S-1). Impacts from grazing would be reduced on these acres (see above).

Riparian Forest/Shrubland

Seasonal grazing could result in localized improvements in vegetation characteristics at certain locations, including Allotment 19, throughout the planning area.

Grasslands

The amount of grassland in the Scenic Landscape Zone would increase slightly by approximately 205 acres (1% total of planning area grasslands) as compared to alternative B (Table S-2). Furthermore, management activities to improve elk habitat within the Scenic Landscape zone would maintain or enhance grassland habitats on up to 300 acres. NPS would utilize Vegetation Management and Targeted Grazing to maintain this habitat type for tule elk and federally listed species. Seasonal grazing could reduce the localized grazing pressure within certain grassland areas on ranches over time, which could lead to shrub encroachment. Cessation of Forage Production would reduce the acres classified as agricultural pastureland over time with prioritization of Vegetation Management activities in these areas.

Coastal Dunes

No change expected.

Coastal Scrub

The amount of coastal scrub in the Scenic Landscape zone would increase by 340 acres, changing the allocation in this zone from 3% to 10% of the planning area coastal scrub (7% change) as compared to alternative B (Table S-2). Management Activities to limit coastal scrub encroachment in the Scenic Landscape zone would be conducted on up to 300 acres (see Vegetation Management above). As noted above in Grasslands, reduced grazing pressure in localized areas could result in shrub encroachment over time.

Special Status & Federally Listed Plants

NPS would conduct Vegetation Management and Targeted Grazing to limit impacts to special status species, with maintenance of grassland habitat to protect reintroduction sites for showy Indian clover and nectar sources for Myrtle's silverspot butterfly in Allotment 4. The planned treatments would not change the analysis of impacts for showy Indian clover or Myrtle's silverspot butterfly presented under alternative B of the FEIS. Further, the modified alternative B would not result in changes to impacts or the impact analysis for Marin dwarf flax, Tiburon paintbrush, beach layia, Sonoma alopecurus, and Sonoma spineflower, and Tidestrom's lupine, as the zoning and grazing management activities to promote or maintain these species would not differ from Alternative B.

TABLE S-1: PERCENT OF WETLANDS IN THE PLANNING AREA, BY SUBZONE

Resource Protection Subzone	Pasture Subzone	Ranch Core Subzone	Range Subzone	Scenic Landscape Zone
14%	0%	<1%	79%	6%

TABLE S-2: PERCENT OF HABITAT TYPE BY SUBZONE

Habitat Type	Resource Protection Subzone	Pasture Subzone	Ranch Core Subzone	Range Subzone	Scenic Landscape Zone
Riparian Forest/Shrubland	30%	2%	<1%	65%	2%
Grasslands	3%	45%	<1%	49%	3%
Coastal Prairie (Grassland)	12%	27%	0%	58%	3%
Annual Grassland	2%	38%	<1%	56%	3%
Agricultural Pasturelands	1%	78%	<1%	17%	2%
Coastal Dunes	64%	3%	0%	33%	<1%
Coastal Scrub	11%	18%	<1%	62%	10%

Cumulative Impacts

As described above, the modifications to alternative B do not result in substantial changes in impacts to vegetation. When the incremental impacts of modified alternative B are combined with the impacts from past, present, and reasonably foreseeable actions, the overall cumulative impact on vegetation would be adverse for some species and beneficial for others, as described above. The incremental impacts of modified alternative B would contribute a majority of the overall cumulative impacts. The impacts of modified alternative B would not alter the overall cumulative impact analysis described for alternative B in the FEIS.

Conclusion

Overall, the changes under the modified alternative B that would affect the analysis presented in the FEIS would occur primarily on approximately 1,800 acres (6.2%) of the planning area. These changes, including reassignment of Allotment 4 from the Ranchland to the Scenic Landscape zone, and reduction in Manure and Nutrient Management and Forage Production, would remove or reduce the negative direct impacts identified in the FEIS from these areas. Grazing management would be maintained across approximately 25,500 acres of the planning area and would continue to reduce cover of non-native annual grasses and biomass that compete with or limit the establishment of native perennial grasses and annual forbs and help slow or prevent brush encroachment into grasslands as identified in the FEIS. The

mandatory ROA condition to maintain 1,200 pounds per acre RDM will ensure these objectives are met more consistently across the planning area. While there is potential for increased abundance of non-native and invasive species on approximately 1,000 acres where Manure and Nutrient Management and Forage Production is removed, maintenance of grazing would help mitigate the potential impacts of these non-native species, as will prioritization of restoration efforts. The specific changes to vegetation conditions resulting from reassignment of Allotment 4 or changes to grazing management regimes from permanent to seasonal pasture under the modified alternative B would not change the overall impacts or impact analysis with respect to listed plant species in the planning area. The changes to the vegetation impacts, including listed species, identified in modified alternative B are within the range of impacts analyzed in the FEIS, specifically the extent and types of impacts identified for alternative B and alternative E in the FEIS.

5.4 WILDLIFE, INCLUDING FEDERALLY LISTED SPECIES

Ranch Operations

Under the modified alternative B, a reduction in Forage Production acres from 1,000 to 163 would reduce direct impacts to wildlife, particularly small mammals and birds, from harvest mowing on 837 acres accounting for approximately 2.9% of the planning area. Cattle grazing on the 837 acres subject to RDM standards would result in impacts similar to the grazing impacts described for the preferred alternative in the FEIS. The area of Manure and Nutrient Management would be reduced from 2,500 acres (8.7% of the planning area) to approximately 1,800 acres (6.3% of planning area) of the pasture subzone through the reduction of one dairy operation. The potential for runoff of nutrients that could cause long-term, adverse impacts on aquatic wildlife in proximity to areas where cattle are most concentrated, and pastures where manure could be spread, as well as alterations of water quality in coastal waters that could affect marine mammals, would be reduced through the change in acres available for Manure and Nutrient Management and cessation of one dairy operation. Reduction by one dairy operation and 837 acres of Forage Production could also reduce potential for maintaining an unnatural abundance of ravens, European starlings, and brown-headed cowbirds, however food sources would remain available to these species in the planning area.

Reclassification of Allotment 4 to the Scenic Landscape Zone would remove regular cattle access from approximately 35 acres of wetlands (2% of wetlands in the planning area), including 3.3 acres of ponds and 5.8 miles of streams and reduce potential impacts to habitat for some species of reptiles, amphibians and aquatic invertebrates that utilize these areas. However, removing regular livestock grazing could negatively affect reptiles and amphibians that benefit from reduced vegetation caused by cattle grazing around stock ponds and streams. Targeted grazing could be used to offset these concerns. To support targeted grazing, existing fencing could be retained but would be retrofitted to ensure wildlife friendly design. As mentioned in the Vegetation Management section above, seasonal grazing could result in localized changes to habitat for certain species.

Other wildlife impacts from Vegetation Management such as mowing in Allotment 4 are not expected to change as the total acreage authorized for this Management Activity would be similar to the range analyzed in alternative B and would follow the mitigation measures in appendix F.

Diversification

Under modified alternative B, commercial chickens and row crops are not included in the selected action. Future proposals for these activities will require site-specific planning and compliance review. Potential impacts associated with these activities include increased disturbance and alteration of wildlife habitat in up to 45 acres of the planning area. These changes to diversification would reduce the potential impacts to wildlife described in the FEIS.

Listed Species

Under the modified alternative B, Mandatory ROA conditions would require ranchers to maintain stock ponds to preserve critical habitat for the California red-legged frog. The NPS would maintain ranch ponds on Allotment 4 to preserve critical habitat for California red-legged frog. NPS would also coordinate Vegetation Management activities on up to 300 acres in the Scenic Landscape zone, with a focus on controlling the encroachment of shrubs and herbaceous fuel loads (i.e., annual grasses), to maintain habitat for wildlife that utilize grasslands including tule elk and Myrtle's silverspot butterfly. Continued grazing on the area of the reduced dairy operation and NPS habitat Management Activities in Allotment 4 would not result in any changes in impacts to federally listed species.

Snowy plovers and their critical habitat, while not in the planning area, are adjacent to the planning area and were included in the Section 7 consultation with USFWS. As identified in Section 3.1.1.5, Mandatory ROA Conditions, ranchers would be required to implement mandatory raven management measures to reduce the potential impact of ravens on snowy plovers. Reduction by one dairy operation and discontinuation of Forage Production and conversion to permanent pasture on 837 acres is consistent with the Avoidance, Minimization, and Mitigation Measures identified within the USFWS BO, and would reduce habitat known to support an unnatural abundance of ravens, however food sources would remain available to these ravens in the planning area and raven predation can result from a small number of individuals. While this measure may reduce risks to snowy plovers, impacts remain similar to those disclosed in the FEIS. In addition, these changes presented in modified alternative B would not alter the impacts or impact analysis for designated critical habitat for western snowy plover.

The modified alternative B would not result in changes to impacts or the impact analysis on Central California Coast coho salmon, threatened Central California Coast steelhead, California Coastal Chinook salmon, and California freshwater shrimp. In addition, the modifications would not alter the impacts or impact analysis for designated critical habitat for Central California Coast coho salmon, or Central California Coast steelhead. All changes would be more protective of water quality and habitat for listed aquatic species. There is no change in the number of Management Activities authorized to be implemented, and modified alternative B incorporates the Terms and Conditions, Reasonable and Prudent Measures, and Best Management Practices and Minimization Measures of the BOs that are protective of habitat for these species.

Cumulative Impacts

As described above, the modifications to alternative B do not result in substantial changes in impacts to wildlife. When the incremental impacts of modified alternative B are combined with the impacts from past, present, and reasonably foreseeable actions, overall beneficial cumulative impacts on wildlife would be similar to alternative B. By contrast, overall adverse cumulative impacts on wildlife would decrease compared to alternative B as described above. However, the impacts of modified alternative B would not alter the overall cumulative impact analysis described for alternative B in the FEIS.

Conclusion

Most of the changes that would affect wildlife would occur on approximately 1,800 acres (6.2%) of the planning area. The reduction in areal extent of Forage Production and Manure and Nutrient Management will result in direct, localized beneficial outcomes for small mammals and ground nesting birds. Further, these reductions will reduce areas where ravens are known to scavenge and would slightly but beneficially support and contribute to efforts to manage ravens to reduce impacts on the federally threatened western snowy plover. Mandatory ROA Conditions will contribute direct beneficial impacts by 1) requiring ranchers to maintain ranch ponds which also are critical breeding habitat for California red-legged frog; 2) requiring improved management and maintenance of established riparian fencing to

protect riparian and aquatic habitat supporting endangered Central California Coast Coho Salmon, and threatened Central Coast Steelhead; and 3) requiring ranchers to implement raven management measures to reduce the potential impact of ravens on snowy plovers. Indirectly, the mandatory ROA conditions, including required prioritization and implementation of practices to further protect water quality and sensitive habitat would further accelerate protective measures anticipated under the FEIS. Overall, the changes to wildlife impacts, including listed species, from the modified alternative B are within the range of impacts analyzed in the FEIS, specifically the extent and type of impact would be between those identified for alternative B and alternative E in the FEIS.

5.5 TULE ELK

Ranch Operations

Under modified alternative B, the Mandatory ROA conditions, including the condition that ranchers operating in areas with regular elk use would be required to modify feeding strategies to reduce potential conflict with/habituation of elk to these methods, would reduce the potential for ongoing ranching operations to alter elk behavior by reducing the potential for unnatural feeding opportunities from elk in the Ranchland zone.

The reassignment of Allotment 4 from Ranchland to Scenic Landscape zone will provide additional habitat where tule elk will not interact with cattle. While the closing of Allotment 4 will increase forage availability for elk, it is unknown how much this closure will shift the time elk spend on C Ranch. Brush mowing and non-native vegetation removal activities will be prioritized for Allotment 4 and other areas of the Scenic Landscape Zone in order to encourage elk use off of permitted ranch areas.

Elk Management

Consistent with the General Agreement for government-to-government partnership, NPS will manage the tule elk herds at Drakes Beach and Limantour in consultation and coordination with the FIGR to ensure that Tribal views and TEK are part of the management of tule elk, and that the individual animals are taken in a manner that they may be beneficially utilized by the Tribe or be prepared to support programs such as charitable meat donation and Condor recovery efforts.

Drakes Beach Herd

As identified in Section 3.1.6, and Section 3.2, management actions under the modified alternative B would limit the population of the Drakes Beach herd to 140 animals, an increase of 20 animals over the preferred alternative. Between 12 to 20 elk are anticipated to be removed annually using existing NPS staff, qualified volunteers, or other authorized agents (i.e., CDFW, the FIGR, contractors) to maintain the herd at the population threshold. Maintaining a population threshold of 140 individuals would not jeopardize the viability of the Drakes Beach herd (CDFW 2018). The preferred alternative would have also maintained a viable, but slightly smaller, herd size. As a result, there are no substantial changes in impacts to this herd under modified alternative B.

Limantour Herd

Under the modified alternative B, new herds from the Limantour herd may form if graduated management actions fail. New herds will be allowed to occupy lands leased for ranching within the planning area, but areas of high elk concentration will be monitored and managed in response to localized resource impacts. The adverse impacts of hazing actions would be similar to those described in the FEIS. Lethal removal of individual elk could occur, if necessary, to prevent new herds or female groups from establishing on areas under lease/permit or to address localized impacts from the presence of elk on ranchlands. If needed, lethal removal would result in adverse impacts to individual elk. The graduated response to deter the

formation of new herds (excluding full removal of a new herd) and to localized elk impacts under the modified alternative B would be similar to the impacts to the Limantour herd disclosed in the FEIS. The establishment of new herds was considered and analyzed in Alternative E.

Cumulative Impacts

As described above, the modifications to alternative B do not result in substantial changes in impacts to tule elk. When the incremental impacts of modified alternative B are combined with the impacts from past, present, and reasonably foreseeable actions, the overall cumulative impact on elk would remain beneficial because a viable, free-ranging tule elk population would be maintained. The incremental impacts of modified alternative B contribute the majority of the cumulative impacts. The impacts of modified alternative B would not alter the overall cumulative impact analysis described for alternative B in the FEIS.

Conclusion

The actions identified in the modified alternative B would continue to prioritize the management of tule elk to maintain healthy free-ranging tule elk herds in Point Reyes. The increased population size of the Drakes Beach herd does not change the viability of this herd from a population perspective. The potential for new herds and the potential for elk expansion in the planning area was analyzed in the FEIS for Alternative E. The expansion in elk habitat and the reduction in conflicts between elk and livestock under modified alternative B will benefit elk but not in a manner that substantially changes the impact analysis in the FEIS. Overall, the changes to tule elk impacts identified in the modified alternative B are within the range of impacts analyzed in the FEIS, specifically the extent and types of impacts would be between those identified for alternative B and alternative E in the FEIS.

5.6 VISITOR USE, EXPERIENCE, AND ACCESS

Ranch Operations & Diversification

Under the modified alternative B, the Maximum of Five Dairies and Possible Conversion of Dairies to Beef, and reductions to areal extent of Forage Production and Manure and Nutrient Management would result in some changes to the overall composition of ranching and the viewsheds within Point Reyes. Based on public engagement during the planning process, such changes may be highly evident to some visitors, but not apparent to other visitors. The removal of commercial chickens and crops from diversification activities authorized without further compliance would slightly reduce the potential adverse impacts of these activities on the experience of some visitors. Modified alternative B retains farm stays as an authorized activity, however with some additional requirements (e.g., limit of 2 farm stay units per residentially occupied complex and demonstration of water availability prior to approval by the NPS). These additional restrictions would be beneficial for some visitors who disfavor this use and adverse for those who are interested in farm stay opportunities. Finally, the Mandatory ROA Conditions would accelerate implementation of actions that would enhance the condition and appearance of historic structures in the Ranchland zone, thereby benefiting resource protection and visitor enjoyment.

Elk Management

Changes to tule elk management under the modified alternative B would result in impacts very similar to those identified in the FEIS. The population threshold increase of 20 animals and coordination with the FIGR on the management of tule elk would not be apparent to most visitors. The potential for new herds in the planning area and an increase in potential viewing opportunities was disclosed in the FEIS for Alternatives E and F.

Cumulative Impacts

As described above, the modifications to alternative B do not result in substantial changes in impacts to visitor use, experience, and access. When the incremental impacts of modified alternative B are combined with the impacts from past, present, and reasonably foreseeable actions, the overall cumulative impact on visitor use and experience would be similar to alternative B, with the incremental impacts of modified alternative B contributing most of the impacts. Overall, visitor use and experience would be similar to alternative B. The impacts of modified alternative B would not alter the overall cumulative impact analysis described for alternative B in the FEIS.

Conclusion

Modified alternative B would maintain the pastoral landscape, historic districts and grazing management regimes present within the planning area. The mandatory ROA conditions would accelerate implementation of actions that would enhance the condition and appearance of historic structures in the Ranchland zone and beneficially contribute to visitor experience of the historic districts. While Manure and Nutrient Management and Forage Production would continue, the modified alternative B would reduce the area of these intensive activities by approximately 1,000 acres from that analyzed in the FEIS and would result in additional, localized beneficial impacts to visitor use and experience. Overall, the changes to Visitor Use, Experience, and Access impacts identified in the modified alternative B are within the range of impacts analyzed in the FEIS, specifically the extent and type of impact would be between those identified for alternative B and alternative E in the FEIS.

5.7 CULTURAL LANDSCAPES, HISTORIC DISTRICTS, AND HISTORIC STRUCTURES

Under the modified alternative B, existing historic ranching and dairy operations would continue in the planning area, with some adjustments. As part of the mandatory ROA conditions, the NPS and ranch operators will evaluate infrastructure conditions to identify measures and a timeline for the operator to address deferred maintenance on the historic ranch infrastructure. Maintenance commitments will be tracked as one of the performance metrics through the annual ROA review process. The NPS will also identify and evaluate individual underutilized structures or unoccupied ranch complexes and actively pursue adaptive reuse as a preservation strategy if they are no longer used to support ranch operations, including on any dairies that transition to beef operations. The NPS would actively manage areas (including the addition of Allotment 4) of the Scenic Landscape zone for tule elk, which would also maintain the cultural landscape condition.

As identified in section 4.2 above, the modified alternative B incorporates the General Agreement with the FIGR. The agreement establishes that the “partnership between the NPS and the Tribe in the management of Park lands is an essential strategy for the stewardship of these portions of the Tribe’s ancestral territory and the heritage resources therein.” Under the modified alternative B, the NPS would coordinate and consult with the FIGR to ensure Tribal views and TEK are part of the management of ranching leases and lands. The succession policy has been updated to recognize the FIGR’s ancestral connections to lands in the planning area and calls for coordination with the FIGR when leases transition to new operators to ensure that tribal views and TEK are considered in identifying appropriate future uses of the property. In addition, consultation with the FIGR on the elk management elements of the modified alternative B will ensure that elk management, including the taking of individual elk is carried out in a culturally appropriate manner. The modified alternative B would further ensure that these individuals would be beneficially utilized, with contributions for Tribal use, charity (meat donation) or by contributing to ongoing efforts to support expanding recovery of the California Condor.

Cumulative Impacts

As described above, the modifications to alternative B do not result in substantial changes in impacts to cultural landscapes, historic districts and historic structures. When the incremental impacts from modified alternative B are combined with the impacts from past, present, and reasonably foreseeable actions, the total cumulative impact on cultural resources would be similar to alternative B, with modified alternative B contributing most of the impacts. The impacts of modified alternative B would not alter the overall cumulative impact analysis described for alternative B in the FEIS.

Conclusion

The mandatory ROA conditions would accelerate beneficial effects anticipated in the FEIS, and therefore would be considered slightly more beneficial for the maintenance and preservation of historic structures. Additionally, the NPS would more closely and regularly consult with the FIGR to ensure that Tribal Views and TEK are part of the management of the ranching leases and lands and resources. There is also the potential that removing or reducing cattle grazing in some areas could negatively affect the appearance of pastures, which are contributing elements to the cultural landscape of the two ranching-related historic districts. The changes to cultural landscapes, historic districts and historic structures in the planning area are within the range of impacts analyzed in the FEIS, specifically the extent and type of impact would be similar to those identified for alternative B, however the beneficial effects of maintenance on the historic structures would be accelerated and would be realized in a shorter period of time.

5.8 SOCIOECONOMICS

Ranch Operations

Dairy Operations

The total reduction of 691 dairy animals, 510 of which are dairy cows, would bring authorized dairy cows down to approximately 1,550, a 25% reduction. Under the modified alternative B, dairy production in the planning area would account for 31% of dairy production, by sales, in Marin County. This accounts for less than 15% of the county's total cattle ranching sales. Overall, ranching in the planning area would continue to contribute less than 0.06% of total regional employment and 0.01% of the gross regional product. The modified alternative B, with five dairies, would include seven fewer jobs than analyzed in the FEIS.

If all dairy operations chose to convert to beef, impacts to the gross regional product and the job market would be similar to the description in alternative E. It could result in a loss of up to \$13.5 million in dairy sales annually compared to existing conditions, however, the conversion of dairy ranches would offset approximately 5% of those sales. This would reduce the gross regional product in the study area by 0.01%. The loss of jobs would represent 0.03% of all jobs in the county.

Management Activities

The initial ROA would require modernization activities and infrastructure investments that could result in contributions to the local economy. Construction associated with these projects may provide temporary support of jobs, sales, and income for construction companies contracted to implement them. Labor hired for these projects would be expected to come from the study area; therefore, the local population would not increase in the short or long term. This alternative would further provide indirect support for local jobs and income as construction companies and their laborers purchase additional goods and services in

the local economy. These impacts would occur only during the period of construction and would cease once construction is completed.

Diversification

Under modified alternative B, commercial chickens and row crops are not included in the selected action. Future proposals for these activities will require site-specific planning and compliance review. Assuming all 18 ranches that are eligible to raise chickens would elect to raise the maximum 500 chickens allowed under diversification activities, it is estimated that there would be a reduction of up to \$558,000 sales annually from what was considered in alternative B in the FEIS. This accounts for only 2.1% of all chicken revenue in the study area. The economic benefits created by the sale of products from these activities would not occur, and purchases made by ranchers to develop these activities would not support local jobs, income, sales, and taxes in the study area. These changes to diversification would slightly reduce the socioeconomic benefits described in the FEIS for alternative B.

Cumulative Impacts

As described above, the modifications to alternative B do not result in substantial changes in impacts to the socioeconomic analysis. When the incremental impacts of modified alternative B are combined with the impacts from past, present, and reasonably foreseeable actions, the overall cumulative socioeconomic impacts would be similar to alternative B. The incremental impacts of ranching under modified alternative B would contribute 0.03-0.06% of total regional employment and less than 0.01% gross regional product in the study area. The impacts of modified alternative B would not alter the overall cumulative impact analysis described for alternative B in the FEIS.

Conclusion

The selected action would continue to contribute to regional employment and gross regional product from ongoing support of employment, incomes, sales, and taxes by ranchers, park spending and projects, and visitation to the park. The beneficial socioeconomic impacts of modified alternative B would be slightly reduced compared to alternative B due to the closure of one dairy operation. If the dairy operations converted over time to beef ranching, it would result in impacts as described under alternative E.

5.9 AIR QUALITY

As identified in the FEIS, a conformity applicability analysis was completed for this project, and the emissions were below the *de minimis levels*. Overall, the primary driver of air quality in the planning area would continue to be regional sources. The regulatory attainment status of the region would not change. The same conditions are present for the analysis of the modified alternative B.

The 2015 emissions inventory for Marin County indicates that countywide NH₃ emissions from all source categories is 949 tons per year. Farm operations account for the majority of NH₃ emissions in Marin County, at 628 tons per year NH₃, or 66% of total Marin County NH₃ emissions. The existing NH₃ emissions estimated for ranching in the planning area represent approximately 11% of the total county-level emissions (from all source categories), and 17% of county emissions from farming operations (FEIS Table 13).

VOC emissions for the park were compared to the CARB inventory's Reactive Organic Gases and represent 21% of county-level farming operation emissions. However, because agriculture is a relatively small component of overall VOC emissions, the VOC emissions estimated for ranching in the park are only 1.3% of total county VOC emissions (major sources of VOCs include industrial sources, solvent use and motor vehicles/equipment).

Ranch Operations and Diversification

Changes to authorized dairy operations identified under the modified alternative B would result in a reduced number of dairy animals (from 3,115 to 2,425) and limitation of no more than 5 dairy operations (reduced from 6). The NPS has identified operational changes to the issuance of permits that would require dairy operations to commit to modernize manure management systems as part of their permit agreement. Should these operations not want to make the necessary investments to continue operating as a dairy, they would be allowed to convert to beef operations in that area. As identified in alternative E, if all the dairy operations ceased and all dairy cattle were removed, those allotments could instead accommodate 750 AU of beef grazing.

Under modified alternative B, commercial chickens and row crops are not included as diversification activities in the selected action. Future proposals for these activities will require additional site-specific planning and compliance review.

The air quality analysis presented in the FEIS relied on the total count of dairy cattle and beef AU for the calculations and a maximum of 9,000 chickens for alternative B. The net reduction in authorized dairy cattle and removal of chickens from authorized diversification activities identified in modified alternative B (see Table S-3) would result in a 24-27% reduction in NH₃, a 15-17% reduction in VOC, a 16% reduction in CO₂e, and a 17% reduction in PM_{2.5} from the analysis presented in the Final EIS for alternative B. The changes to Air Quality parameters of modified alternative B when compared to existing conditions is presented in Table S-4 (below). Modified alternative B, would represent approximately 8.4% of the total county-level NH₃ emissions (from all source categories), and 12.7% of county NH₃ emissions from farming operations. Modified alternative B would represent 17.5% of the county level farming emissions, but just 1.1% of overall county VOC emissions.

TABLE S-3: NUMBER OF LIVESTOCK BY ALTERNATIVE FOR EMISSION ESTIMATES

	Beef Cows	Dairy Cows	Dairy Heifers	Dairy Bulls	Total Cattle	Chickens
Modified Alternative B	2,400	1495	915	15	2425	0

TABLE S-4: ANNUAL LIVESTOCK-RELATED EMISSIONS FROM RANCHING UNDER MODIFIED ALTERNATIVE B

	NH₃	VOC	PM2.5	CO2 Equivalent (metric tons/ year)
Existing Condition	104.9	46.9	0.671	24,601
Modified Alternative B	79.9	39.6	0.583	20,446
Net change from Existing Condition	-25	-7.3	-0.088	-4,155
% Change from existing condition	-23.8%	-15.6%	-13.1%	-16.9%

With the closure of one dairy, the GHG emissions from livestock under the modified alternative B would represent 17.2% of the agricultural sector emissions in Marin County and 4.8% of total County emissions. In comparison to the statewide agricultural emissions of 32.4 million metric tons CO₂e (CARB 2021) the emissions of the modified alternative B would constitute less than one tenth of one percent (<0.07%).

Cumulative Impacts

The primary driver of air quality in the planning area would continue to be regional sources (see table 13 of FEIS). The selected action would not change the regulatory attainment status of the region. As a result, the modifications to alternative B do not result in substantial changes in impacts to the air quality analysis. When the incremental impacts of modified alternative B are combined with the impacts from past, present, and reasonably foreseeable actions, the overall cumulative impact on air quality would be adverse as described in alternative B in the FEIS. The impacts of modified alternative B would not alter the overall cumulative impact analysis described for alternative B in the FEIS.

Conclusion

The changes anticipated under modified alternative B, including the reduction of one dairy operation, required modernization of manure management systems or conversion to beef operations for dairies, and the removal of chickens from the authorized diversification activities, would result in localized beneficial reductions in air quality emissions as identified in Table S-4. These changes are similar to the level of air quality emissions disclosed in the FEIS for the preferred alternative. If all dairies closed and converted to beef, the resulting air quality impacts would be similar to those disclosed for alternative E in the FEIS. As a result, the impacts of the modified alternative B are within the range of impacts analyzed in the FEIS. The primary driver of air quality in the park would continue to be regional sources, and the quantitative reductions identified above would not change the regulatory attainment status of the region.

6 CONCLUSION

The changes evaluated above constitute minor modifications to alternative B and do not result in any significant new impacts. Many represent elements of alternatives D and E, the reduced ranching and no dairy ranching alternatives, that were considered in the GMP Amendment/FEIS. Overall, the changes embodied in the selected action reduce the impacts of the FEIS preferred alternative. As modified, alternative B remains qualitatively within the spectrum of alternatives considered in the GMP Amendment/FEIS.

The modifications to the preferred alternative are also responsive to comments received from members of the public and from state and federal agencies. Several others are a direct outgrowth of a separate but related public hearing process before the California Coastal Commission. This further supports a decision that supplemental NEPA analysis is not necessary.

The decision to incorporate elements of alternatives D and E into the preferred alternative is consistent with the Department's NEPA regulations which allow deciding officials to combine elements of alternatives discussed in an EIS if the effects of such combined elements of alternatives are reasonably apparent from the analysis in the EIS. The analysis above indicates that the effects of modified alternative B are reasonably apparent from the impact analysis in the GMPA/FEIS.

This SIR also supports the conclusion that there are no significant new circumstances or information relevant to environmental concerns and bearing on the modified alternative B and its impacts.

The NPS has determined that a supplemental EIS is not required and that the purposes of NEPA would not be furthered by the preparation of a supplemental EIS.

References

CARB (California Air Resources Board)

- 2021 “California Greenhouse Gas Emissions for 2000 to 2019: Trends of Emissions and Other Indicators”. July 28, 2021. California Air Resources Board. Sacramento, California.
https://ww3.arb.ca.gov/cc/inventory/pubs/reports/2000_2019/ghg_inventory_trends_00-19.pdf.

CDFW (California Department of Fish and Wildlife)

- 2018 “Final Elk Conservation and Management Plan.” Sacramento, CA. 481 pages.

O’Callaghan P, Kelly-Quinn, Jennings E, Antunes P, O’Sullivan M, Fenton O, Uallacháin DÓ.

- 2019 The Environmental Impact of Cattle Access to Watercourses: A Review. *J. Environ. Qual.*, 48: 340-351. doi:10.2134/jeq2018.04.0167.

ATTACHMENT D—NON-IMPAIRMENT DETERMINATION FOR THE SELECTED ACTION

This non-impairment determination has been prepared for the selected action, as described in the Record of Decision (ROD) for the final General Management Plan Amendment (GMP Amendment) and Final Environmental Impact Statement (FEIS) for Point Reyes National Seashore (Point Reyes) and the north district of Golden Gate National Recreation Area (north district of Golden Gate) (collectively referred to as “the park”).

By enacting the National Park Service (NPS) Organic Act of 1916 (Organic Act), Congress directed the U.S. Department of the Interior and the NPS to manage units “to conserve the scenery, natural and historic objects, and wild life in the System units and to provide for the enjoyment of the scenery, natural and historic objects, and wild life in such manner and by such means as will leave them unimpaired for the enjoyment of future generations” (54 United States Code 100101).

NPS *Management Policies 2006* (NPS *Management Policies*), section 1.4.4, explains the prohibition on impairment of park resources and values:

“While Congress has given the Service the management discretion to allow impacts within parks, that discretion is limited by the statutory requirement (generally enforceable by the federal courts) that the Park Service must leave park resources and values unimpaired unless a particular law directly and specifically provides otherwise. This, the cornerstone of the Organic Act, establishes the primary responsibility of the National Park Service. It ensures that park resources and values will continue to exist in a condition that will allow the American people to have present and future opportunities for enjoyment of them.”

As stated in section 1.4.5 of the NPS *Management Policies*, an action constitutes impairment when its impacts “harm the integrity of park resources or values, including the opportunities that otherwise will be present for the enjoyment of those resources or values.” To determine impairment, NPS must evaluate the “particular resources and values that will be affected; the severity, duration, and timing of the impact; the direct and indirect effects of the impact; and the cumulative effects of the impact in question and other impacts.”

National park system units vary based on their enabling legislation, the natural and cultural resources present, and the unit’s mission. Likewise, the activities appropriate for each unit and for areas in each unit also vary. For example, an action appropriate in one unit could impair resources in another.

As stated in section 1.4.5 of the NPS *Management Policies*, an impact on any park resource or value may constitute an impairment, but an impact would be more likely to constitute an impairment to the extent that it affects a resource or value whose conservation is:

- necessary to fulfill specific purposes identified in the establishing legislation or proclamation of the park;
- key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park; or
- identified in the park’s general management plan or other relevant NPS planning documents as being of significance.

An impact would be less likely to constitute impairment if it is an unavoidable result of an action necessary to preserve or restore the integrity of park resources or values and it cannot be further mitigated.

The significance and importance of each park resource analyzed in this non-impairment determination has been informed by the Point Reyes National Seashore and Golden Gate National Recreation Area enabling acts, the 2020 Foundation Document for Point Reyes National Seashore, and the 2017 Foundation Document for Golden Gate National Recreation Area, which identify fundamental resources and values for the park (FRVs).

FRVs are those features, systems, processes, experiences, stories, scenes, sounds, smells, or other attributes determined by NPS managers to warrant primary consideration during planning and management processes because they are deemed essential to achieving the purpose of the park and maintaining its significance. FRVs are closely related to a park's legislative purpose and are articulated in a park's Foundation Document. The natural and cultural resource-related FRVs that may be affected by actions authorized under the selected action and are related to resources subject to the non-impairment standard as set forth in NPS *Management Policies* are as follows:

Point Reyes National Seashore Foundation Document:

- **Scenic Coastal Landscapes.** Shaped by ongoing geologic processes, the Point Reyes Peninsula juts 10 miles into the Pacific Ocean and encompasses more than 80 miles of wild beaches, dramatic cliffs, coastal grasslands, and detached coastal formations. Point Reyes National Seashore offers opportunities to observe and understand the interaction of land and sea from many perspectives, including geology, ecological disturbance, and climate change.
- **Marine, Estuarine, and Freshwater Environments.** Natural interactions and connections between freshwater, estuarine, and marine systems are indicators of ecosystem health and examples of resilience. Protection of these environments and the interactions between them is important for the ecological health of intertidal invertebrates and fishes, pinnipeds, seabirds, shorebirds, and dune plants, among other species, which are threatened by rising sea levels, changes in nutrient and temperature regimes, oil spills, and other pressures.
- **Diversity of Habitats and Native Species.** In Point Reyes National Seashore the convergence of ecological regions at the continental margin creates a complexity of terrestrial and marine habitats that sustain exceptional and internationally recognized native biodiversity, including a wide range of rare and endemic species.
- **Continuum of Human Use.** Point Reyes National Seashore preserves a landscape representing more than 5,000 years of American Indian history that is of outstanding archeological and cultural significance to the Federated Indians of Graton Rancheria and records early culture contacts between Coast Miwok and European explorers. The park preserves two districts (Olema Valley Dairy Ranches Historic District and Point Reyes Peninsula Dairy Ranches Historic District) that recognize more than 150 years of ranching on the Point Reyes Peninsula.

Golden Gate National Recreation Area Foundation Document:

- **Coastal Ecosystems.** Golden Gate National Recreation Area contains a rich assemblage of coastal native plant and animal habitats that includes forests, coastal scrub, grassland, freshwater, estuarine, and nearshore marine habitats, beaches, coastal cliffs, and islands.
- **Threatened and Endangered Species.** Golden Gate National Recreation Area supports one of the largest numbers of federally listed threatened and endangered species in the national park system. This island of refuge is due to the protected confluence of unique and diverse habitats adjacent to the urban Bay Area.
- **Water Resources.** Golden Gate National Recreation Area's water resources support coastal corridor ecosystems, which consist of groundwater sources (aquifers and springs); freshwater

systems (streams, lakes, and ponds); coastal, estuarine, and marine water resources (the Pacific Ocean and San Francisco Bay); and other wetlands.

A determination of non-impairment for the selected action is made for each of the impact topics carried forward for detailed analysis in the FEIS, except for visitor use, experience, and access and socioeconomics.¹ A non-impairment determination is not made for visitor use, experience, and access or socioeconomics because these impact topics are not considered to be separate park resources subject to the non-impairment standard established by the Organic Act and clarified further in section 1.4.6 of *NPS Management Policies*. Each resource or value for which non-impairment is assessed and the rationale supporting the non-impairment determination is described below.

The findings of this non-impairment determination are informed by the analysis of alternative B in the GMPA/FEIS, the analysis of the selected action (modified alternative B) in the Supplemental Information Report (SIR), and the results of Tribal and agency coordination and consultation processes. During the planning process, NPS engaged with the regulatory and consulting agencies including the US Fish and Wildlife Service (USFWS), the National Marine Fisheries Service (NMFS), the US Army Corps of Engineers, the California Coastal Commission (CCC), the San Francisco Bay Regional Water Quality Control Board, the California State Historic Preservation Officer, and the Federated Indians of Graton Rancheria (FIGR). See the ROD for more details regarding consultation and coordination.

The Biological Opinions from USFWS and NMFS provide a comprehensive analysis of the current status of federally listed species and critical habitat in the planning area and the direct, indirect and cumulative effects of alternative B on these species and their habitats. The terms and conditions identified by USFWS and NMFS have been incorporated into the ROD. USFWS and NMFS concluded that alternative B is not likely to jeopardize the continued existence of listed species or destroy or adversely modify designated critical habitat. Although the NPS made several minor modifications to alternative B following receipt of the Biological Opinions, the NPS has determined that alternative B has not been modified in a manner that causes an effect to the listed species or critical habitat that was not considered in the biological opinion. Therefore, as discussed in more detail in the ROD, the modifications to alternative B do not necessitate reinitiation of consultation under 50 CFR 402.16., and the conclusions of the Biological Opinions apply to the selected action (modified alternative B).

The CCC concurred that alternative B is fully consistent with the state's Coastal Management Program and asked the NPS to adopt several conditions related to water quality and climate change. These conditions, which the NPS incorporated into the selected action and which are discussed in the ROD, SIR and where relevant below, will further improve resource conditions in and adjacent to the planning area. As a result of government-to-government consultation, the NPS also entered into a General Agreement with the FIGR to further support expanded engagement in the stewardship of park lands.

To minimize repetition of information that is fully disclosed within other documents (FEIS, ROD, SIR), the following summary of the key ranch-management aspects of the selected action is provided. The selected action includes several tiers of NPS oversight to ensure that ranching is conducted in a manner consistent with the Organic Act and the enabling act for each park unit. First, the zoning framework identified under the selected action and described in appendix J of the FEIS, has been established to align the intensity of uses with the resource sensitivity of the lands within the planning area. The Resource

¹ As discussed in appendix C of the FEIS, impacts to other listed species not occurring in the planning area, soundscapes, wilderness, archeological resources, human health and safety, energy conservation, geomorphic and hydrologic process, scenic resources, evergreen forests and woodlands were considered but not carried forward for evaluation in the FEIS. Because impacts to these resources were evaluated and determined to be insignificant and so minimal that they could not be meaningfully analyzed in the FEIS, they are not discussed in this non-impairment determination.

Protection and Range subzones were established using criteria that are protective of the most sensitive resources. The Range subzone is identified as lands where grazing is compatible with resource protection objectives, but more intensive activities will not be allowed because of the documented presence of sensitive resources. In particular, grazing within the Range subzone furthers desired conditions by helping to sustain the complex mosaic of native grasslands and rare plants, and the cultural landscape of the two ranching-related historic districts.

The Pasture subzone is identified as lands where no sensitive resources are known to occur. Lands in this subzone are generally dominated by introduced or domestic species of vegetation. The Ranch Core subzone represents the developed complex including an array of historic structures, and lands in this zone are suited to more intensive activities. The zoning framework will protect resources by identifying the most appropriate locations on each ranch for cattle grazing, approved diversification activities, and the implementation of approved Management Activities.

Second, the selected action adopts a systematic approach to the implementation of typical ranch projects (referred to as “Management Activities” in the FEIS) to improve or maintain resource conditions. Under the requirements of the ROD, all Management Activities must be conducted in accordance with the well-established, agency-approved mitigation measures and best management practices identified in appendix F of the FEIS. These include Practice Standards developed by the United States Department of Agriculture Natural Resources Conservation Service that establish criteria for planning, designing, installing, operating and maintaining specific Management Activities to ensure they meet their intended purpose. In addition, for purposes of analysis in the FEIS and consultation with USFWS and NMFS, assumptions related to the number of projects expected to occur through the life of the plan included in the ROD are consistent with the assumptions identified in the FEIS. The measures in appendix F are designed to minimize environmental impacts and protect soil, water, and plant resources. Therefore, it is anticipated that the implementation of Management Activities will maintain and improve resource conditions over the long term.

Third, the agricultural lease/special use permits (lease/permits) and Ranch Operating Agreements (ROAs) that will be issued under the selected action will include strict operating terms and mandatory conditions. Examples include requirements related to cattle and livestock management; protection of wildlife and vegetation; compliance with water quality standards; limits on the use of hazardous materials and pesticides; and maintenance requirements to protect historic resources and ensure that ranch infrastructure is in proper functioning order. The ROA for each ranch will further identify ranch-specific operational details such as: requirements and best management practices associated with authorized cattle operations and authorized diversification activities; implementation of approved Management Activities; and maintenance obligations for specific structures. Specifically, the NPS and ranch operators will identify priority actions and ranchers will commit to a schedule to restrict cattle from sensitive riparian, freshwater wetland, and estuarine habitats to mitigate for potential water quality impacts from their operations in the initial ROA for each operation. For dairies, the NPS and dairy operators will evaluate infrastructure conditions to identify measures for the operator to undertake to modernize manure management infrastructure and practices. If the operator is unable to commit to invest the necessary resources to meet this requirement, the dairy operation will cease within two years and the net number of dairies authorized in the park will be reduced.

As discussed in detail below, none of the actions authorized under the selected action will impair park resources subject to the non-impairment standard. Moreover, the continuation of ranching, as authorized under the selected action, and the additional public use and enjoyment opportunities proposed under the selected action support the FRVs described above.

Non-Impairment Evaluation by Resource

SOILS

The protection of soils and geological resources and processes is important for sustaining the natural systems in the park.

RANCHING

Under the selected action, soil conditions will improve compared to current conditions due to zoning restrictions, controls on ranching, and the implementation of Management Activities. The selected action includes a 1,200-acre Scenic Landscape Zone where ranching and development will not be authorized and a 2,000-acre Resource Protection subzone in which ranching activities will cease, thereby eliminating any further impacts to soils from ranching in these zones. The Range subzone will ensure that steep slopes and areas with soils sensitive to more intensive disturbance (e.g., seeding and tilling) will be used only for grazing. The lease/permits will require that 1,200 pounds/acre of herbaceous plant material, referred to as Residual Dry Matter (RDM), remain in the fall, which will provide a high degree of protection from soil erosion and nutrient loss (see FEIS, p. 72). In 2018 and 2019, 95% of grazed lands measured by NPS met this RDM standard. By only authorizing grazing and requiring adherence to the 1,200 pounds/acre RDM standard within the 16,400-acre Range subzone (which accounts for approximately 64% of lease/permit areas), the potential for erosion and compaction of the soil structures in the majority of the planning area will be minimized. In addition, identification of priority actions on beef ranches to restrict cattle from sensitive riparian, freshwater wetland, and estuarine habitats will further decrease potential impacts to areas with sensitive soil resources.

While the potential for high erosion hazards and soil compaction exists in the planning area, the FEIS concludes that soils are generally in good condition. NPS has observed only 150 acres of bare soils due to current and past use (less than 1% of the planning area, much of which is limited to controlled feeding/watering areas, cattle trails and portions of the ranch core) confirming that soil erosion and compaction is not occurring at a level that is detrimental to overall resource conditions. The reduction of the number of dairies under the selected action will further reduce the acreage of these high-intensity-use areas, as dairies currently comprise over half (54%) of the total observed within the planning area. In addition, the selected action will only authorize Forage Production (silage) on 163 acres (compared to 1,000 acres under existing conditions) and Manure and Nutrient Management on approximately 1,800 acres of the Pasture subzone (compared to 2,500 acres under existing conditions). The 163 acres of silage on one dairy will overlap with areas where Manure and Nutrient Management will occur, resulting in a total of 1,800 acres of soil resources (less than 7% of the planning area) that will be affected by the most intensive activities. This is a nearly 1,000-acre reduction of impacts compared to existing conditions and further indication that the selected action will contribute to soil improvements beyond their currently good condition.

Management Activities that will be implemented as part of the selected action will incrementally benefit soils by mitigating potential impacts to soils from erosion, compaction, and alteration. For example, Livestock Water Supply projects improve distribution of cattle grazing on grasslands and decrease residence time in areas with sensitive soil resources. Activities such as Road Upgrade and Decommissioning and Infrastructure Improvement will provide measures that protect potentially erosive sites and heavy use areas. Upland and Riparian Vegetation Management and Planting will allow for the restoration of disturbed areas, protecting exposed soils. The mandatory ROA conditions will result in accelerated implementation of these Management Activities, ensuring that the benefits are realized sooner.

DIVERSIFICATION

Diversification with other livestock (goats or sheep) under the selected action will be limited in scale and location (Ranch Core and Pasture subzones only) and will replace cattle animal units (AU), not augment them. Impacts from sheep and goats would be similar to impacts of cattle grazing on soils and given the small number of sheep and goats allowed under the selected action (not to exceed 10 AU per residentially occupied ranch), it is highly unlikely that impacts on soils would increase compared to existing conditions. In addition, ranchers will be required to adhere to the mitigation measures in appendix F of the FEIS for diversification activities, including restrictions on prolonged grazing in areas with sparse vegetation, pasture rotation, and locating watering facilities in areas that promote even grazing distribution. Farm stays will be limited to existing structures, thereby avoiding impacts to soil resources. In addition, all mitigation measures must be identified, designed, implemented, and determined to be in proper functioning order prior to the commencement of any approved diversification activities.

ELK MANAGEMENT

Under the selected action, activities associated with elk hazing (e.g., walking, UTVs) and lethal removal of 12-20 elk from the Drakes Beach herd annually could result in localized soil erosion and compaction. These impacts will be limited to the portions of the planning area where the Drakes Beach herd is present. Impacts on soils from these activities will be temporary and will not interfere with the long-term integrity of the soil function in the planning area.

PUBLIC USE

Existing and expanded public use activities such as hiking, biking, equestrian use, camping and parking will result in limited adverse impacts to soils in association with existing and potential access routes. Most new route development will use existing administrative roads; limited new trail construction may cause localized impacts from erosion and compaction but will support expanded opportunities for visitor recreation and access. A future planning process would determine locations best suited for such development and site-specific mitigation measures to minimize potential impacts on soils would be identified.

CONCLUSION

Impacts to soils under the selected action will remain within acceptable limits and less than 150 acres (< 1% of the planning area) will contain bare soils indicative of high-intensity-use areas. The zoning framework, including establishment of the Scenic Landscape zone and Resource Protection subzone, only allowing only grazing in the Range subzone, and restrictions on diversification activities will protect soil resources. Adherence to the 1,200 lbs/acre RDM requirement on ranches and prioritization of activities that reduce impacts to sensitive riparian and wetland soils will further protect soil resources by reducing soil erosion potential. The ongoing implementation of Management Activities on ranches will also reduce the potential for impacts to soil resources, especially those intended to distribute cattle more evenly across the landscape (e.g., Livestock Water Supply), keep them out of sensitive resource areas (e.g., Fencing), and restore conditions (e.g., Upland and Riparian Vegetation Management and Planting). As a result, implementation of the selected action is not expected to lead to the development of additional high-intensity-use areas. Furthermore, the extent of high-intensity-use areas in the planning area will be reduced with the removal of one dairy operation.

In conclusion, while ranching and public use activities under the selected action will adversely impact soils, risks related to erosion and compaction will be adequately mitigated through zoning and the measures discussed above. The park's soil resources, which are already in good condition and not impaired, will improve under the selected action compared to current conditions. Inherent to the park's FRVs, soil conditions will continue to support diverse terrestrial habitats and native, endemic and special status species, and will remain in a condition that can be enjoyed by current and future generations. Therefore, no impairment will occur to soils as a result of implementing the selected action.

Water Resources

Surface water resources in the planning area include perennial and intermittent streams, human-made impoundments including stock ponds, and various wetlands including tidal estuaries and sag ponds. These features support a diverse array of aquatic species including multiple federally listed species. The main sources of water quality impacts in the planning area are potentially pathogenic bacteria and nutrient loading from nonpoint sources associated with ranches, dairies, septic systems, and stormwater runoff. Sediment loading from erosion associated with natural processes, ranch and dairy activities, land development and disturbance, legacy stream channel alteration, and stormwater runoff also affect many of the surface waters.

As described in the Water Resources section of Chapter 3 of the FEIS, since 1999, the NPS and park ranchers have implemented more than 170 Management Activities intended to improve water quality across the planning area, (FEIS appendix A, figure 4), and long-term monitoring indicates that water quality has improved concurrent with these actions (Lewis et al. 2019; FEIS appendix L, Voeller et al. 2021).

Further, as presented in the “Wildlife” section of the FEIS, many of the park’s watersheds, including Lagunitas and Olema Creek, are important ecosystems that continue to sustain native biodiversity, including a wide range of rare and endemic aquatic species. Lagunitas and Olema Creek are documented to sustain the southernmost stable populations of endangered coho salmon and threatened steelhead. These watersheds also support endangered California freshwater shrimp and California red-legged frog. Such an array of species is indicative of good water quality and diverse watershed conditions. This assessment is further supported by NMFS’ conclusion in the Biological Opinion that the selected action is not likely to result in the destruction or adverse modification of designated habitat for coho salmon or steelhead. Additionally, the USFWS identifies that “many of the [federally-threatened] California red-legged frog breeding sites in the [planning area] are artificial stock ponds constructed on lands that have been grazed by cattle for more than 150 years (USFWS 2002a). Creation of stock ponds and other small impoundments on ranches over the past 100 years has likely resulted in increased numbers and an expansion in range for the California red-legged frog in Point Reyes (Fellers and Kleeman 2007).”

RANCHING

Under the selected action, the Resource Protection subzone and the Scenic Landscape zone will exclude ranching activities from approximately 20% of wetlands including nine acres of ponds and 17.9 miles of streams within the planning area. The zoning framework has been developed to provide additional protection and buffers between areas of more intensive use and the most sensitive resources. While cattle will have direct access to most ponds (for drinking water), the selected action includes the following requirements: maintain the 1,200 pounds/acre RDM standard, monitor and maintain riparian fencing, and implement Management Activities consistent with the Practice Standards and mitigation measures identified in appendix F of the FEIS. The combination of zoning, along with these requirements will further minimize adverse impacts on water resources by: maintaining vegetation cover, maintaining and expanding riparian exclusions, and implementing practices that limit erosion potential in the remaining wetland, riparian forest, and shrubland areas in the Range subzone.

More intensive ranching activities will only be authorized in the Pasture (approximately 9,000 acres) and Ranch Core (approximately 220 acres) subzones which contain less than 1% of the water resources in the planning area. Forage Production will be reduced to 163 acres (compared to 1,000 acres under existing conditions) while Manure and Nutrient Management will occur on approximately 1,800 acres of the Pasture subzone (compared to 2,500 acres under existing conditions). This is a nearly 1,000-acre reduction in the most intensive activities from ranching in the Pasture subzone compared to existing conditions. These activities must adhere to the specific Practice Standards and mitigation measures in appendix F of the FEIS that will avoid or adequately minimize impacts on water quality. Practice

Standards associated with Manure and Nutrient Management include installing composting pads and manure/liquid separators; using techniques that reduce greenhouse gas emissions, such as conversion from dairy flush to scrape systems; and properly transferring liquid manure to avoid affecting environmentally sensitive areas. Manure application will only be permitted according to an NPS-approved Nutrient Management Plan which will include conditions to limit manure spreading to dry periods, prevent the use of steep or sensitive lands and habitats (e.g., wetlands), and require vegetated buffers around water resources.

Tomales Bay, which is outside the planning area and largely outside park boundaries, has been listed as an impaired waterbody under Section 303(d) of the Clean Water Act by the State, primarily as a result of exceedances of water quality standards for shellfish harvesting, which occurs on state-managed tidelands in the bay and is not a relevant water quality standard for the park. The FEIS explains that ranches in the planning area comprise only 7% of the lands in the watershed, that none of the park's dairy complexes are in this watershed, and that activities outside the park boundaries are the primary cause of poor water quality conditions in Tomales Bay. Specifically, the 2005 Tomales Bay TMDL staff report (Ghodrati and Tuden 2005) indicated that the Olema Creek watershed (which drains to Tomales Bay and accounts for 5,200 of the 10,000 acres of NPS land in the watershed) contributed just 1% of the overall fecal coliform to Tomales Bay. Water quality analysis indicates that in the Olema Creek watershed, implementation of Management Activities intended to reduce pathogen, sediment, and nutrient loading such as Livestock Water Supply, Fencing, and Controlled Crossings, was concurrent with a 95% decrease in fecal coliform bacteria concentrations from 1999 to 2017 (Lewis et.al. 2019). The NPS *Management Policies* are clear that managers cannot be held accountable for impairment from external sources over which managers have no control (NPS 2012). Contaminants entering Tomales Bay from lands under NPS control will be reduced under the selected action as more acres are added to the Resource Protection subzone and more Management Activities, with required mitigation measures, are implemented as part of the new lease/permit and ROA requirements. Actions outside of NPS's control will remain by far the largest influence on conditions in Tomales Bay. The NPS will continue to seek opportunities to work with others beyond park boundaries to minimize impacts from outside sources to portions of Tomales Bay within the park.

The selected action accelerates the implementation of operational changes and infrastructure upgrades on ranches to the direct benefit of water quality. This is an outgrowth of the CZMA Consistency Determination process where the NPS agreed to implement a Water Quality Strategy to assess and improve water quality through installation of ranching-related infrastructure and Management Activities. As part of the initial ROA process, the NPS and ranch operators will identify priority actions to restrict cattle from sensitive riparian, freshwater, wetland, and estuarine habitats. Additionally, dairy operators will be required to commit to modernize their manure management infrastructure and practices. Ranchers will be required to agree to a schedule to implement these actions promptly. These requirements will minimize and mitigate water quality impacts from both beef and dairy operations and will result in long-term benefits to water quality.

The NPS will also continue to require compliance with water quality regulations, including total maximum daily loads and associated grazing waivers in the Tomales Bay watershed, as well as waste discharge requirements or waivers of discharge requirements for confined animal facilities. All beef ranches will also be regulated under a framework consistent with Tomales Bay watershed to ensure all operations adhere to a parkwide standard.

With regard to water quantity, ranches in the planning area use both surface water and groundwater as the water source for livestock production operations with some of this water supplied by NPS. Managed resources including stock ponds, spring developments, and wells are used as sources for ranch operations and distribution of water to pastures. Overall, water necessary for operations is available to ranches on an annual basis and, under the selected action, the quantity utilized will decrease by approximately 20% from existing conditions due to the reduction in dairy operations. Most of the park operations have water

sources and systems that are replenished annually with winter rains and are susceptible to extreme or extended drought conditions. In drought scenarios, NPS will evaluate water use and could supplement or limit water to ranch operations based on the capacity of, and competing needs for, developed sources maintained by NPS. Ranch operations will be required to curtail water use during drought that will directly compromise aquatic habitat for listed species. Establishment of any new water sources within the planning area will require separate environmental review.

DIVERSIFICATION

Diversification activities authorized under the selected action are limited to small numbers of sheep and goats, farm tours and farm stays (limited to 2 rooms in existing structures if sufficient water is available). All diversification activities must adhere to the mitigation measures in appendix F of the FEIS which protect water quality (e.g., livestock diversification activities require the placement of watering facilities and new feed racks a minimum of 300 feet from any riparian or aquatic habitat as well as the incorporation of structural erosion control systems). In addition, all mitigation measures must be identified, designed, implemented and determined to be in proper functioning order prior to the commencement of the approved diversification activity.

Diversification activities that will require additional water, such as farm stays, will not be authorized unless NPS determines that sufficient water is available to support the requested activity. Establishment of any new water sources within the planning area will require separate environmental review.

ELK MANAGEMENT

Elk management actions, including lethal removal, will result in sporadic activities in localized areas where these management activities occur. Because any impacts will be short term and limited in extent, they will not lead to any considerable water resource impacts.

PUBLIC USE

Impacts associated with public use and enjoyment projects, such as trail development, may have localized impacts on water quality from ground disturbance and soils exposure, which can increase sedimentation. These projects would result in short-term adverse impacts during construction but would not result in long-term impacts through the application of mitigation measures and careful design. A future planning process would determine locations best suited for such development and site-specific mitigation measures to minimize potential impacts water quality would be identified. Visitation levels are not expected to increase under the selected action. Therefore, additional impacts to water quantity (i.e., reduction in water levels) from visitor use would not occur.

CONCLUSION

Implementation of the selected action and the measures discussed above will result in continued improvements in water quality in the planning area, consistent with trends that have been documented through long-term monitoring (Lewis et. al. 2019 and Voeller et. al. 2021). The zoning framework will restrict intensive uses to areas less prone to erosion and away from surface waters, limiting the potential for impacts associated with these activities. Application of range management guidelines and the ROA requirement to meet the RDM standard will also protect water resources by maintaining vegetation cover and limiting erosion potential. The selected action's Water Quality Strategy, including prioritization and accelerated implementation of water quality-related upgrades, plus the reduction in the number of dairies and corresponding reductions in acreage of Manure and Nutrient Management compared to existing conditions, will result in long term benefits to water quality compared to existing conditions. While impacts from the selected action on water quality will not be eliminated, impacts will be adequately mitigated. From a cumulative impact perspective, actions authorized under the selected action will contribute only a small portion of the overall impacts to water quality in Tomales Bay, and water quality

in the Bay and the overall planning area is expected to improve compared to existing conditions (FEIS p.135).

Water quality will remain in a state that supports the achievement of the park's FRVs. As expressed in the Marine, Estuarine, and Fresh Water Environments, Coastal Ecosystems, and Water Resources FRVs, the park's hydrologic connectivity, interaction of marine, estuarine and freshwater resources, and sustainment of a diverse array of aquatic species including federally listed coho salmon, steelhead, California red-legged frog, and California freshwater shrimp are indicators of ecosystem health and serve as examples of resilience. Through implementation of the selected action, impacts to these resources from ranch activities will be reduced and mitigated, and the ecosystems they support, which are currently in good functioning condition, will continue to function. Natural interactions and connections between freshwater, estuarine and marine systems will be maintained, thereby sustaining the exceptional native biodiversity and ecological health of species that rely upon the park's water resources and ensuring that they will remain in a condition that can be enjoyed by current and future generations. Therefore, implementation of the selected action will not impair water resources.

Vegetation, Including Federally Listed Species

The planning area contains a variety of habitat types including wetlands (4%), riparian forests/shrublands (1%), grasslands (60%), coastal dunes (2%), coastal scrub (18%), and evergreen forests and woodlands (14%) (FEIS Table 9). This broad range of plant communities contains a number of rare and endangered species that have coexisted with ranching activities for over 150 years.

RANCHING

Implementation of the zoning framework will add approximately 1,200 acres to existing ranching exclusions and protect sensitive resources as part of the 2,000-acre Resource Protection subzone. Additionally, 600 acres will be removed from ranching and included in the 1,200-acre Scenic Landscape zone. These changes will result in long-term, beneficial impacts on riparian forest/shrubland and wetland habitat types due to the elimination of ranching activities in these areas. The Range subzone will encompass approximately 16,400 acres of the planning area where ranching activities will be limited to grazing and site-specific treatments (e.g., Vegetation Management, pond restoration) to achieve resource management objectives. The most intensive activities will be limited to the approximately 8,900-acre Pasture subzone which contains no known sensitive resources, as this subzone is composed primarily of grassland and coastal scrub, and authorized activities will be compatible with maintaining grassland habitat. In addition, the extent of high-intensity-use areas in the planning area will be reduced with the removal of one dairy operation compared to existing conditions.

Implementation of Management Activities could disturb ground surfaces and result in localized removal, trampling, or crushing of vegetation from equipment and foot traffic during project activities. However, the associated Practice Standards and mitigation measures include conditions such as prescribed size limits, avoidance of sensitive areas, and revegetation requirements which will minimize or prevent disturbance to vegetation. The reduction in the extent of Manure and Nutrient Management under the selected action will minimize or eliminate influences on plant species composition and increased biomass production associated with manure spreading on approximately 700 acres. Because vegetation in the areas where manure spreading and Forage Production will continue under the selected action is predominantly non-native, impacts on native plants will be limited. There is also the potential for increased abundance of non-native and invasive species on the acres that will no longer be authorized for manure spreading (700 acres) and Forage Production (837 acres) and a small proportion of high-intensity-use areas. These areas will continue to be grazed, which will limit seed production for certain herbaceous non-native species. NPS will evaluate and prioritize Vegetation Management and restoration activities in former Forage Production areas.

Several Vegetation Management activities will benefit vegetation in the planning area. Targeted Grazing activities in the planning area will provide benefits by maintaining or increasing desired conditions for vegetation communities, such as grasslands, and controlling invasive plants. Upland and Riparian Vegetation Management and Planting and Integrated Pest Management (IPM) will help establish native plants and replace invasive species and potential disease-host plants. Herbicide application will be conducted under the NPS's IPM program, which will avoid or minimize impacts to non-target species.

Use of herbicides as part of the NPS IPM Framework is strictly limited and must comply with NPS regulations and procedures, applicable laws, all mitigation measures in appendix F of the FEIS (e.g., no spraying on wet or windy days), and additional measures and limitations stipulated by the BOs (e.g., application buffers and restrictions on types of herbicides used). Combined, these will minimize or prevent adverse impacts on listed species and non-target vegetation. By specifically targeting invasive vegetation with herbicide when it is determined to be the most suitable control method through the IPM process, this Management Activity will also maintain or benefit native plants and vegetation communities, including federally listed plants.

DIVERSIFICATION

Adverse impacts related to Diversification activities on vegetation will be limited because these activities will only be authorized in the Pasture and Ranch Core subzones which contain little native vegetation. The addition of limited numbers of sheep and goats (not to exceed 10 AU on any one permitted operation) in the Pasture and Ranch Core subzones could increase the consumption of forbs which may result in limited adverse impacts on the small number of native forbs in these subzones, depending on timing and duration of grazing (Masin et al. 2018). On the other hand, increased consumption of shrub species could help maintain grasslands, similar to mowing as described in the FEIS.

ELK MANAGEMENT

Elk management actions, including lethal removal, will result in sporadic vegetation trampling in localized areas where these management activities occur. Because these impacts will be short term and limited in extent, they will not lead to adverse impacts to vegetation resources.

PUBLIC USE

As discussed in the FEIS, actions related to public use and enjoyment (e.g., new trails, etc.) will result in minimal disturbance to vegetation but could increase the potential for the introduction and spread of invasive species to a small degree. Site-specific planning for new visitor use activities will include mitigation measures to help limit the introduction of non-native plant species, limiting the potential for adverse impacts to native vegetation.

HABITAT-SPECIFIC IMPACTS

Wetlands

Approximately 54% (1,954 acres) of the non-marine wetlands in the park (3,625 acres) occur in the planning area. Under the selected action, 6% of the wetlands in the planning area are in the Scenic Landscape zone, 14% are in the Resource Protection subzone, and 79% are in the Range subzone. The remaining 1% are in the Ranch Core subzone. Wetlands in the Ranch Core subzones will be protected through fencing. Wetlands in the Range subzone will be protected through RDM requirements and the use of Management Activities, including fencing, to control the timing and duration of grazing to improve water quality and ecological function. Additional acres in this subzone are protected by topography and natural features that limit cattle access. Over the past decades, the NPS has implemented fencing and other exclusions to limit cattle access to the majority of perennial streams and associated wetland/riparian habitat areas that support salmonid species. The NMFS Biological Opinion concludes that adverse effects to critical habitat for the three, listed fish species are likely to be limited to a few small, localized areas because the selected action includes RDM requirements, extensive fencing of riparian areas, upland water

sources for cattle, and well-established Natural Resource Conservation Service best management practices for ranching (NMFS 2021). Further, ROAs will require that ranchers maintain riparian fencing. With these management requirements, zoning, and light to moderate grazing, the selected action is compatible with maintaining wetlands and herbaceous wetland vegetation in the planning area.

Riparian forests and shrublands

Riparian forests and shrublands comprise approximately 220 acres of the planning area which represents approximately 11% of the 1,976 acres of riparian forest/shrubland in the park. This habitat type includes streams supporting populations of endangered coho salmon and threatened steelhead. Under the selected action, the most highly sensitive riparian habitats will be fenced and operations will be required to prioritize Management Activities that are protective of this habitat type, which makes up an estimated 1% of the planning area. As with wetlands, natural topography and dense vegetation limit cattle access to a portion of this habitat. These protections will maintain or improve riparian forests and shrublands in the planning area.

Grasslands

Grasslands (also referred to as coastal grasslands) are comprised of 3 types of vegetation: coastal prairie, California annual grasslands and agricultural pasturelands. Approximately 79% (17,255 acres) of the grasslands in the park (21,718 acres) occur in the planning area. Roughly 91% of the grasslands in the planning area are dominated by naturalized, non-native annual and perennial grasses, and the remaining 9% are dominated by native perennial grasses. Grasslands are a component of the Scenic Coastal Landscapes FRV for Point Reyes and the Coastal Ecosystems FRV for Golden Gate. This habitat is disturbance-dependent and grazing by large mammals, fire, and variation in seasonal rainfall keep shrubs and trees from invading and becoming dominant. Cattle slow the expansion of coastal scrub into open grassland by defoliating and trampling coyote brush seedlings (Ford and Hayes 2007). Management Activities, such as Mowing, can also help maintain disturbance in grasslands. Grazing at levels authorized under the selected action, as well as certain Management Activities such as Mowing, will allow the NPS to maintain these grassland communities and their contribution to these two FRVs. Where cessation of the more intensive Forage Production and Manure and Nutrient Management activities occurs, NPS will prioritize actions that restore and convert these areas to permanent pasture, and it is expected that the acres of the agricultural pasturelands grassland type will be reduced and converted to other grassland types. Grazing will continue to maintain or promote certain native species that have persisted with grazing for over 150 years.

Coastal dunes

Coastal dunes in the planning area make up approximately 28% (611 acres) of the coastal dune habitat in the park (2,217 acres). Dune plants are identified in the Marine, Freshwater and Estuarine FRV for Point Reyes. However, sixty percent of the park's coastal dunes are dominated by two non-native species, European beachgrass and iceplant, which were well established prior to the park's creation. Since 2001, NPS has removed more than 270 acres of invasive species from 524 acres of coastal dune habitat both inside and outside of the planning area. Under the selected action, 394 acres of coastal dune habitat will be included in the Resource Protection subzone, resulting in 64% of the dune habitat in the planning area being off-limits to ranching activities. Ongoing dune restoration efforts together with additional acres protected by the Resource Protection subzone will allow NPS to maintain the coastal dune ecosystem in Point Reyes and enhance its ability to support diverse species of native plants and wildlife.

Coastal Scrub

Coastal scrub in the planning area makes up approximately 30% (5,267 acres) of the total coastal scrub habitat in the park (17,708 acres), the majority of which is dominated by native coyote brush. Coastal scrub comprises 18% of the planning area. Under the selected action, 10% of the coastal scrub in the

planning area is in the Scenic Landscape zone, 11% is in the Resource Protection subzone, 18% is in the Pasture subzone, and 62% is in the Range subzone. Less than 1% of the coastal scrub in the planning area is in the Ranch Core subzone. Coastal scrub can be either open with an herbaceous component including grasses, or dense in woody shrub cover. Coastal scrub habitat is not generally affected by cattle grazing because scrub plants are not palatable to cattle. Continued cattle grazing and Management Activities such as mowing will maintain existing grassland-shrubland boundaries in some areas and slow encroachment of this habitat type into grasslands, preserving the mosaic of dense and open scrub and perpetuating the interplay between coastal scrub and grassland across the landscape.

FEDERALLY LISTED PLANT SPECIES

In addition to the vegetation community types discussed above, the NPS prepared a Biological Assessment that analyzed the potential impacts of alternative B on seven federally listed plants: beach layia (*Layia carnosa*), Marin dwarf flax (*Hesperolinon congestum*), showy Indian clover (*Trifolium amoenum*), Sonoma alopecurus (*Alopecurus aequalis* var. *sonomensis*), Sonoma spineflower (*Chorizanthe valida*), Tiburon paintbrush (*Castilleja affinis* ssp. *neglecta*), and Tidestrom's lupine (*Lupinus tidestromii*). Although the NPS made several minor modifications to alternative B following submission of the Biological Assessment to USFWS. As discussed in more detail in the ROD, the modifications to alternative B do not necessitate reinitiation of consultation under 50 CFR 402.16., and the conclusions of the Biological Opinions apply to the selected action (modified alternative B).

The USFWS Biological Opinion concurred with NPS' findings that alternative B (and, per the discussion above, the selected action) is not likely to adversely affect Marin dwarf flax, showy Indian clover, Tiburon paintbrush, and Tidestrom's lupine. With regard to Marin dwarf flax and Tiburon paintbrush, moderate livestock grazing on rare plant populations growing on serpentine soils can maintain native diversity, restrict competition from non-native grasses, and limit thatch and nitrogen accumulation (Weiss 1999; Fenn et al. 2010; Beck et al 2015). In its five-year status review for Marin dwarf flax, USFWS summarized the known effects of grazing on the species as having no impacts or a likely benefit (USFWS 2011). Therefore, the USFWS determined that adverse effects on Marin dwarf flax are discountable. The population of Tiburon paintbrush is on steep terrain which is grazed infrequently. Based on the steep terrain and the benefits of managed grazing, the USFWS determined that ranching's effects on this species are discountable.

Showy Indian clover was introduced in July 2006 to two coastal prairie habitat sites on D Ranch (USFWS 2012, Jeffery 2016). The introduced population of Showy Indian clover is divided by a fence with cattle grazing on only one half. The cattle-grazed portion had the highest observed number of flower heads when last monitored in 2016 (Jeffery 2016). Though the grazed introduction sites are located on Allotment 4, which will be converted to Scenic Landscape zone under the selected action, Vegetation Management activities such as Targeted Grazing will be used by NPS to continue to manage the area for this species. Due to the improvements to grazing and decreases in density of livestock, the adverse effects to showy Indian clover are discountable. Tidestrom's lupine occurs on unstabilized and partially stabilized sand dunes. Cattle have been excluded from coastal dunes where approximately 85% of known occurrences of this species are found. Under the selected action, cattle will be excluded from the remaining 15% of known occurrences through a new 67-acre resource protection exclusion area on the F ranch. As a result, adverse effects to Tidestrom's lupine under the selected action are discountable.

For beach layia, Sonoma Alopecurus and Sonoma spineflower, the USFWS concluded that alternative B is not likely to jeopardize the continued existence of these species and that the changes to ranching will not have noticeable negative effects on the populations and in some cases may actually improve conditions for these species. This determination was supported by the existence of generally positive trends for these species since the issuance of the 2002 biological opinion on Ranching Activities in Point Reyes (USFWS 2002b). All populations of these species will either be excluded from grazing via inclusion in the Resource Protection subzone or are in the Range subzone. With the exception of

Vegetation Management activities that will help attain NPS resource management objectives, grazing will be the only authorized activity that will occur in the Range subzone. In addition, required annual monitoring of the populations will minimize any potential effects described for each species by identifying encroachment by other species, population trends, sources of erosion, and failing nearby infrastructure such as fences or gates, and guiding corrective actions to ensure stability of the populations. Species-specific information is provided below.

Beach Layia

Under the selected action, potential effects of cattle trampling will be eliminated on all but 8% of known beach layia occurrences, all of which will be included in the Range subzone (NPS 2015b). Although cattle will be excluded from areas supporting over 90% of all known beach layia occurrences in the park, they could occasionally breach pasture fences and trample beach layia in protected coastal dunes (NPS, Parsons, pers. comm. 2019). To ensure that cattle grazing does not adversely affect beach layia in the planning area, NPS will work with ranchers to ensure the continued exclusion of cattle from coastal dune habitats directly adjacent to beaches. The selected action will not include any new human activity within coastal dune habitats where beach layia is found.

Sonoma Alopecurus

Under the selected action, all existing populations of Sonoma Alopecurus in the planning area will occur in areas that will be designated as the Range subzone. Research has shown that moderate grazing benefits this species by reducing competition from more abundant native plants and non-native invasive species, although trampling and soil compaction from grazing may cause some adverse impacts. However, the benefits of grazing outweigh the potential for adverse impacts, therefore, under the selected action, the NPS will continue working with ranchers to conduct seasonal Targeted Grazing to benefit this species.

No Vegetation Management activities or diversification activities will be allowed in the Range subzone, unless they will help attain NPS resource management objectives. The potential effects to Sonoma alopecurus from Management Activities in the Range subzone will be limited to adjacent use of herbicides, fencing and fence maintenance which could lead to some trampling or direct mortality of individual plants. This potential effect would be reduced via mitigation measures in appendix F of the FEIS and continued coordination with ranchers to manage the species' persistence via appropriate timing, intensity, and duration of grazing.

Sonoma spineflower

Sonoma spineflower occurs in areas that have been grazed for over a century. All known populations in the planning area are within the Range subzone, where grazing will be the only authorized activity that could potentially affect the species. Although cattle may cause seedling injury or trample individual plants, from a population perspective, grazing will help to support the continued persistence and long-term viability of Sonoma spineflower through a reduction in competition from non-native grasses, forbs, and shrubs. (USFWS 1998; Parsons and Ryan 2019). Management Activities that could potentially impact Sonoma spineflower include Road Upgrade and Decommissioning, Fencing, and Livestock Water Supply (Parsons and Ryan 2019). However, these activities will be implemented in a way that does not affect, or has a beneficial effect, on the species. The NPS will continue to monitor Sonoma spineflower populations to ensure their establishment and persistence. Over the last few decades, NPS has worked with ranch operators to make several changes to grazing and agricultural infrastructure to benefit the Sonoma spineflower population. To avoid or minimize the adverse effects of competition on Sonoma spineflower by non-native invasive plants, the NPS will continue to remove non-native, invasive, or other plants that may compete with Sonoma spineflower (i.e., yellow bush lupine and coyote brush) from within and adjacent to the Abbott's Lagoon population.

Conclusion

The selected action implements a zoning framework that will protect vegetation resources through additional exclusion areas for sensitive and federally listed plant species that could otherwise be adversely impacted by cattle grazing, and simultaneously maintains a grazing regime for those federally listed plant species and coastal grasslands that benefit from grazing. It will also restrict more intensive activities such as Forage Production (163 acres), Manure and Nutrient Management (1,800 acres), and diversification to the Pasture and Ranch Core subzones, which are predominantly grasslands comprised of non-native and naturalized species or developed areas that are compatible with these uses. Adverse impacts to native vegetation will be limited through the NPS requirement that ranchers adhere to Practice Standards and mitigation measures when implementing Management Activities, and prioritization of activities for protection of sensitive wetland and riparian habitat that will improve vegetation condition in these areas. Vegetation Management Activities such as Upland and Riparian Vegetation Management and Planting and IPM will help establish native plants and remove invasive species and potential disease-host plants. In addition, the beneficial impacts of grazing activities on vegetation such as: slowing coastal scrub encroachment into grasslands, reducing abundance of some perennial grass weeds, reducing the biomass of highly competitive non-native annual grasses and forbs, and removing vegetative fuel will continue, particularly in the Range and Pasture subzone which together comprise over 90% of the planning area. As discussed in the FEIS, cumulative impacts would be adverse for some species and beneficial for others, with the selected action contributing the majority of impacts.

Grazing at levels authorized under the selected action is consistent with maintenance of the grassland community identified as an FRV for the park. Because this vegetation community comprises more than 60% of the planning area, the integrity of the park's scenic coastal landscapes, including coastal grasslands, will continue to be maintained. As confirmed through the Section 7 process, listed plant species in the planning area have experienced generally positive trends since 2002, and USFWS concluded that the selected action will not jeopardize the continued existence of any listed plant species. Therefore, populations of listed plant species, which are components of the Threatened and Endangered Species and Diversity of Habitats FRVs, will continue to persist and thrive in the planning area. The selected action will not affect opportunities for current and future public enjoyment of vegetation resources in the park. For these reasons, implementation of the selected action will not result in impairment.

Wildlife, Including Federally Listed Species

As explained in the FEIS, the planning area hosts diverse terrestrial and aquatic ecosystems that support many mammals, birds, fishes, reptiles, amphibians, and invertebrates, including federally listed species. In fact, Point Reyes hosts the greatest avian diversity of any national park unit. The species listed under the Endangered Species Act (ESA) that were analyzed in detail in the FEIS, and by the USFWS and NMFS in their respective Biological Opinions, are one amphibian (California red-legged frog [*Rana aurora draytonii*]); one bird (western snowy plover [*Charadrius alexandrinus nivosus*]); three fish (coho salmon [*Oncorhynchus kisutch*], steelhead [*Oncorhynchus mykiss*], and Chinook salmon [*Oncorhynchus tshawytscha*]); and two invertebrates (Myrtle's silverspot butterfly [*Speyeria zerene myrtleae*], and California freshwater shrimp [*Syncaris pacifica*]). The requirements of the Biological Opinions have been incorporated into the selected action.

RANCHING

Implementation of the Scenic Landscape and Resource Protection zones will benefit a wide variety of wildlife species, including nesting songbirds and special status species such as the American badger, Point Reyes jumping mouse, and listed salmonids. The Resource Protection subzone will exclude cattle from an additional 2,000 acres of sensitive habitats such as riparian areas, surface waters, and federally

listed wildlife habitat, more than doubling the acreage of grazing exclusions compared to existing conditions.

Livestock grazing in the range and pasture subzones, together with RDM requirements, will benefit wildlife that prefer relatively short vegetation structure (e.g., black-tailed jackrabbit and deer mice) and grassland habitats (e.g., California horned lark, raptors). Native wildlife species have coexisted with ranching as the primary disturbance regime within the planning area's grassland habitats for more than 150 years, far pre-dating the park's establishment. Continued livestock grazing under the selected action will therefore continue to support a diversity of native species as well as species listed under the ESA (see below) that favor grassland habitats. In addition, the 1,200-acre Scenic Landscape zone, where ranching is prohibited, will benefit grassland species through actions such as elk habitat restoration (See "Tule Elk" below).

Species that prefer tall and dense vegetation found in forest and woodland habitats (e.g., dusky-footed woodrat), and shrubland habitats (e.g., Columbian black-tailed deer) will continue to have access to these habitat types in the planning area. Moreover, because the park includes extensive forest, woodland and shrubland habitats outside the planning area, species who favor these habitat types will continue to thrive throughout the park.

Management Activities associated with Ranch Infrastructure and Water Control Management are intended to prevent erosion, protect water quality, and add vegetative cover along water bodies, in turn protecting important wildlife habitat. Several Vegetation Management Activities are also intended to reduce erosion, establish native plants, and manage invasive plants, also improving wildlife habitat. Therefore, implementation of these types of Management Activities will result in beneficial impacts to wildlife.

Management Activities such as Brush Mowing in the Pasture and Ranch Core subzones will reduce coastal scrub habitat in the planning area, but since this habitat type is abundant in the park, effects on wildlife that prefer coastal scrub will be limited and localized. By maintaining grassland habitat, these same activities will be beneficial for other native species (see above for examples). Combined, maintaining the mosaic of grassland and coastal scrub through Management Activities and grazing will provide more diverse habitat for a variety of species. Pond Maintenance may result in temporary disturbance to some species (e.g., waterfowl) but this action is instrumental in maintaining critical habitat for the California red-legged frog and several species of special status bats. Further, impacts to wildlife associated with these and other Management Activities will be avoided, minimized, or mitigated through the implementation of Practice Standards and mitigation measures as laid out in appendix F of the FEIS.

Impacts to wildlife, particularly small mammals and birds, from Forage Production will occur on only 163 acres of the planning area, an 84% reduction from existing conditions. These impacts will be localized and will not affect the diversity or population levels of park bird species. The reduction in Forage Production could also reduce the potential for maintaining an unnatural abundance of ravens, European starlings, and brown-headed cowbirds.

The selected action limits the total number of dairies to five and reduces the area of Manure and Nutrient Management by 28% compared to existing conditions (from 2,500 acres to 1,800 acres). In addition, dairy operators will be required to modernize infrastructure to improve water quality, which will in turn benefit aquatic wildlife. The potential for runoff of nutrients that could cause long-term, adverse impacts on aquatic wildlife in proximity to areas where cattle are most concentrated, and pastures where manure could be spread, as well as alterations of water quality in coastal waters that could affect marine mammals, would be reduced through these changes. The diversity and viability of native species populations will not be altered by dairy operations as authorized under the selected action.

DIVERSIFICATION

Grazing by sheep or goats in the Pasture and Ranch Core subzones could cause adverse impacts to wildlife because these livestock consume more shrubs and forbs than cattle but given the small numbers of sheep and goats allowed under the selected action, these impacts would likely be minimal. Conversely, sheep and goat grazing could benefit mammals in the Pasture subzone by providing another method for controlling noxious weeds that would otherwise reduce wildlife habitat.

The Ranch Core subzone, which is less than 1% of the planning area, contains poor quality habitat for most native wildlife (i.e., structures and other development) and is generally only occupied by species tolerant of human disturbance (see FEIS, Chapter 4 for more detail). Therefore, impacts from livestock diversification, farm stays and farm tours in this subzone on wildlife and wildlife habitat will be minimal. Moreover, these activities will be required to adhere to mitigation measures and will be limited in both scale and extent. As such, diversification activities will not result in population level effects on any wildlife species.

ELK MANAGEMENT

Elk management actions, including lethal removal, will result in sporadic access and disturbance in localized areas where these management activities occur. Because these impacts will be short term and limited in extent, they will not lead to adverse impacts to other wildlife resources.

PUBLIC USE

Under the selected action, public use activities could disturb wildlife during development of new or expanded trails, roads, trailheads, and parking lots. These impacts would be limited because most trails would use existing administrative routes, and accommodations for day and overnight use would be developed in existing ranch complex buildings where species are adapted to human disturbance. Visitor use levels are not expected to increase under the selected action, therefore there would be no change in impacts to wildlife from visitation levels.

FEDERALLY LISTED WILDLIFE SPECIES

California Freshwater Shrimp

California freshwater shrimp are only found in Olema and Lagunitas creeks. Livestock access to these creeks is excluded through the use of fencing and these waterways are outside of all ranch operational boundaries. The selected action also adopts avoidance measures recommended by the USFWS that will avoid take of this species. In the Biological Opinion, the USFWS concluded that these elements of the selected action ensure that the effects of ranch activities on this species will be discountable and that nutrient loading and sedimentation in these waterways will not be significantly affected. The USFWS therefore concurred with the NPS determination that the selected action is not likely to adversely affect California Freshwater Shrimp.

California red-legged frog

Suitable aquatic and upland habitat for the California red-legged frog is found throughout the planning area. Many of the California red-legged frog breeding sites in the planning area are artificial stock ponds constructed on lands that have been grazed by cattle for more than 150 years (USFWS 2002b). The creation of these stock ponds and other water impoundments has likely resulted in increased numbers and an expansion in range for the California red-legged frog in Point Reyes (Fellers and Kleeman 2007). Adverse impacts on California red-legged frog habitat could occur due to ranching, however, there are no known population declines due to ranching in the park and the effect of ranching as proposed is expected to be beneficial overall through the maintenance of stock ponds and the breeding habitat they provide. As

part of the terms and conditions of the 2021 Biological Opinion, the USFWS included the following condition with regard to California red-legged frogs: “the NPS shall define management responsibility in ranch lease/permits to ensure that ranch stock ponds associated with California red-legged frog breeding will be maintained and not be allowed to fall into disrepair.” Under the selected action, the NPS will include this as a mandatory ROA condition for ranches that contain ponds supporting this species. The NPS will also identify restoration actions needed to maintain ponds in areas removed from grazing. The USFWS concluded in their 2021 Biological Opinion that the selected action is not likely to destroy or adversely modify designated critical habitat because the effects to California red-legged frog habitat are small and discrete, relative to the entire area designated, and are not expected to measurably diminish the value of the critical habitat or prevent it from sustaining its role in the conservation of the California red-legged frog. The Biological Opinion further states that “appropriate grazing regimens may improve breeding habitat (PCE 1) and dispersal habitat (PCE 4) by preventing annual non-native grasses from becoming so dense as to prevent breeding and dispersal.”

Western snowy plovers

Although western snowy plovers do not use habitats found on ranches (and thus are outside the planning area), they could be directly affected by the unauthorized presence of trespass cattle on nesting beaches (USFWS 2002b). The selected action will require that pasture fences be inspected regularly and maintained to minimize the likelihood of direct impacts to snowy plovers.

The reproductive success of western snowy plovers is also indirectly affected by ranch activities because ranches support higher numbers of predatory species, especially common ravens that prey upon snowy plover eggs and chicks. The reduction of one dairy operation and 837 acres of Forage Production may discourage the localized presence of ravens and follows guidance from the 2021 Biological Opinion to “return silage fields to permanent pasture where possible.” However, food sources would remain available to these species in the planning area and raven predation can result from a small number of individuals. To address this concern, the 2021 Biological Opinion includes terms and conditions to reduce predation of western snowy plovers. The NPS will develop a raven management program in coordination with the USFWS and include relevant, mandatory raven management measures in lease/permits and ROA conditions. In addition, the NPS will continue to minimize the effects of visitor impacts upon western snowy plovers through several actions, including seasonal beach closures, pet restrictions, education and outreach, and regular trash collection at beach access areas. The USFWS concluded that the selected action is not anticipated to appreciably shift the baseline of western snowy plover and is not likely to jeopardize the continued existence of the western snowy plover.

Myrtle’s silverspot butterfly

Myrtle’s silverspot butterfly and cattle grazing have co-existed for over a hundred years (Adams 2004, NPS 2007), and NPS has recorded occurrences of the Myrtle’s silverspot butterfly on nine ranches in the planning area. Studies have suggested that managed grazing may be necessary to ensure the persistence of nectar sources, and by extension Myrtle’s silverspot butterflies, in coastal grasslands (USFWS 2021). Conversely, grazing activities may result in trampling of eggs, larvae, and adults and may result in the destruction of individual host or nectar plants via consumption, trampling, soil compaction or erosion. Although there are some limited, adverse impacts from cattle on this species, the benefits of managed grazing as authorized under the selected action outweigh those risks. The USFWS Biological Opinion therefore concluded that livestock grazing would benefit butterflies on the nine ranches with documented occurrences and would enhance suitable habitat on other ranches. Avoidance measures that will be implemented as part of the selected action including buffer areas around larval host or nectar plants would reduce the interactions with any ground disturbance greatly reducing the take of individual butterflies. In addition, as part of the selected action, NPS will identify restoration actions in areas of the planning area where grazing no longer occurs to maintain habitat for wildlife that utilize grasslands, including the Myrtle’s silverspot butterfly.

Fish

Habitat conditions that support the three federally listed fish that occur in the planning area will be protected under the selected action. The NMFS Biological Opinion explains that the Lagunitas Creek watershed supports approximately 10 percent of the remaining Central California Coast coho salmon population, including the southernmost wild, independent population. Although coho salmon are declining elsewhere in their range, the Lagunitas Creek population is considered persistent and moderately abundant (NMFS 2012). The only creek near the planning area where Chinook salmon are found is in Lagunitas Creek. The increasing frequency of Chinook salmon in Lagunitas Creek suggests the development of a self-sustaining population there. Steelhead within the Lagunitas Creek watershed are considered an essential independent population with a low risk of extinction. Streams bordering Tomales Bay, Drakes Bay and Abbots Lagoon are generally small, frequently ephemeral, and do not provide valuable habitat for salmonids. Limited habitat is available for steelhead within some coastal streams draining to Drakes Estero.

Although the Biological Opinion indicates that ranching will continue to cause adverse effects to all freshwater life stages of Central California Coast coho salmon, Central California Coast steelhead, and California Coastal Chinook salmon due to effects on water quality, destruction or reduction of riparian vegetation, and erosion and compaction of soils, the Biological Opinion concludes that these impacts will only occur in localized, dispersed areas. (NMFS 2021). Moreover, the Biological Opinion notes that cattle are excluded from direct access to Lagunitas and Olema creeks, the two most significant streams occupied by salmonids. In addition, lands included in the Resource Protection subzone will exclude cattle from an additional 2.4 miles of perennial streams in the Lagunitas and Olema Creek watersheds. The Biological Opinion reaches a similar conclusion for coho and steelhead critical habitat: adverse effects are likely to be limited to a few small, localized areas because the selected action includes RDM requirements, extensive fencing of riparian areas, upland water sources for cattle, and well-established Natural Resource Conservation Service best management practices for ranching (NMFS 2021).

The Biological Opinion addresses impacts from Ranch Infrastructure activities (e.g., stream crossings, spring development, pond restoration, pipelines) that would affect salmonids and their habitat. NMFS concludes that these activities would only cause a small loss of salmon and steelhead from freshwater life history stages and that there would be no impact on future adult returns or the populations' resilience and persistence over time. The Biological Opinion also imposes limits on the number of Ranch Infrastructure activities that can be conducted over 20 years as a way to further ensure that incidental harm to salmonids is limited. In addition, many of the Management Activities are intended to protect or improve water quality, which could benefit these species and their habitat.

The Biological Opinion further ensures the protection of salmonids and their habitat by imposing mandatory requirements on the upkeep of riparian fences, adherence to RDM standards, and the establishment of 100' buffers for the use of herbicides around salmonid streams. The Biological Opinion explains that these measures are the best indicators to minimize potential harm to salmonids because: 1) the habitat effects of cattle grazing increase with the amount of time cattle spend in close proximity to streams and riparian fences are imperative to minimizing these effects; 2) all habitat pathways of take will vary in proportion to altered stream hydrology/morphology, impaired water quality, and degraded riparian habitat conditions; 3) herbicide application buffers reduce potential exposure to listed salmonids and 4) the 1,200 pounds/acre RDM standard is well established as an effective conservation measure to protect soil resources, increase biofiltration, and minimize nutrient runoff into aquatic habitats. Based on the findings of the NMFS Biological Opinion and the analysis in the FEIS, the selected action will sustain salmonids and their habitat and their contribution to the FRVs for the park.

CONCLUSION

While the selected action will result in impacts to individual animals, it will not affect the diversity of species present in the park nor will it affect the population viability for any species present in the planning

area, including those that are federally listed. The zoning framework will ensure that the most intensive activities are limited to the Pasture and Ranch Core subzones. Additional sensitive habitat areas will be included in the Resource Protection subzone and the Scenic Landscape Zone which exclude ranching activities thereby improving habitat conditions for many species, especially those that depend on grassland habitats, riparian areas and coastal dunes. Many Management Activities will improve habitat conditions and impacts to wildlife from other Management Activities will be avoided or minimized to the extent practicable through the implementation of the Practice Standards and mitigation measures. The selected action will also be implemented in a manner consistent with the findings of the Biological Opinions including the associated Avoidance, Minimization and Mitigation Measures, Reasonable and Prudent Measures, and Terms and Conditions. As discussed in the FEIS, cumulative impacts would be beneficial to some species and adverse to others, with the selected action contributing most of the impacts. Adverse cumulative impacts will be reduced compared to existing conditions and will not affect the diversity or population viability of wildlife in the park due to implementation of the zoning framework, the protective measures required by the BOs, and the terms and conditions of the agricultural lease/permits and ROAs.

The selected action will maintain the existing diversity and composition of habitat types in the planning area which will benefit many species of wildlife in support of the Marine, Estuarine and Freshwater Environments; Diversity of Habitats and Native Species; Coastal Ecosystems and Threatened and Endangered Species FRVs. Wildlife habitats and populations will remain readily accessible to visitors to enjoy, including for birdwatching and other educational and recreation activities. For these reasons, the selected action will not result in impairment of the park's wildlife or any federally listed wildlife species.

Tule Elk

As an endemic species, the reintroduction of tule elk in Point Reyes in 1978 enhanced the native biodiversity of Point Reyes and their presence contributes to the Diversity of Habitats and Native Species FRV. Tule elk currently occur in three distinct herds, two of which are located in the planning area—the Drakes Beach herd and the Limantour herd. The Drakes Beach herd consisted of an estimated 138 animals at the end of 2019 (NPS, Press, pers. comm. 2020). Based on field observations, the Limantour herd consisted of at least 163 animals in late 2019 (NPS, Press, pers. Comm. 2020). The NPS reported free range populations for 2020 at 139 elk for the Drakes Beach herd and 155 for the Limantour herd, indicating effects to the free-range herds as a result of current drought conditions. The herds remain at a viable population size. Tule elk are mixed grazers and browsers; they feed on both ground-level herbs and grasses and on woody shrubs and trees. Currently, coyotes and mountain lions are the only predators of elk in the park. Coyotes and mountain lions may target individual elk but do not affect the overall population.

RANCHING

The presence of tule elk on leased ranch lands has created conflicts with ranching, which is an appropriate use of the Ranchland zone. These conflicts, which have arisen in the form of fence damage, forage consumption, and consumption of supplemental cattle feed, would intensify over time if the population of free-ranging elk were to increase substantially on leased ranch lands and was not managed. Under the selected action, the removal of the 580-acre allotment 4 from ranching and its inclusion in the Scenic Landscape zone will increase forage availability for elk in the Drakes Beach herd and reduce the potential for conflicts with ranch operations. NPS will take actions such as Brush Mowing and removal of non-native vegetation to improve elk habitat in the 1,200-acre Scenic Landscape zone to increase forage availability for elk and encourage elk use off of permitted ranch areas. In addition, a mandatory ROA condition will be included for ranch operations in areas with regular elk use that will require the implementation of modified feeding strategies and infrastructure changes to reduce elk access to hay. Ranch fencing will also be modified by installing additional elk crossings and requiring wildlife-friendly

designs which will reduce the potential for injuries to individual elk from entanglement. These requirements will reduce the potential for conflict with/habituation of elk to ranch feeding operations and infrastructure.

In areas of active ranching, the establishment of new elk herds will be discouraged through a graduated management response starting with varying degrees of hazing and the potential for lethal removal of a few individuals in coordination with the FIGR and CDFW. If these techniques are unsuccessful, NPS will monitor the new herd and areas of high elk concentration on ranchlands will be managed in response to localized resource impacts. Over time and with the absence of predators, a population threshold may become necessary. A threshold will be developed that considers factors such as the amount of time elk spend on ranches, the extent of the ranch area occupied by elk, predicted forage production, NPS's ability to manage additional herds, and possible adjustments to ranching operations to reduce conflicts. Consistent with desired conditions for the planning area, the NPS will manage for the long-term viability of new elk herds by maintaining an adequate number of elk and a natural sex/age ratio within the herd.

DIVERSIFICATION

Forage competition with the limited numbers of other grazing livestock (sheep, goats) authorized under the selected action would not affect elk productivity or survival. The use of livestock guardian animals to haze elk will be prohibited.

ELK MANAGEMENT

Management of the Drakes Beach herd at a population threshold of 140 animals will necessitate removal of 12-20 elk from the herd per year. These efforts will be coordinated with CDFW and the FIGR (see "Cultural Landscapes" section below for additional details regarding the FIGR and elk management). Most removals will occur outside the calving and rut seasons, and no reproductively active females or bulls will be lethally removed during the calving and rut seasons. Removals for population management will consider the desired sex ratio needed to maintain the herd at 140 animals and be consistent with natural conditions of the herd. While implementation of the selected action will affect individual animals, it will not jeopardize the viability of the Drakes Beach herd (CDFW 2018).

With regard to the Limantour herd, female groups will be discouraged from occupying ranchlands through a graduated response starting with varying degrees of hazing and the potential for lethal removal of individual elk. Areas of high elk concentration on ranchlands will be monitored and managed in response to localized resource impacts. These actions will result in adverse impacts to individual elk, but no population level management actions will be taken for the Limantour herd.

For both herds, hazing, Johne's disease testing and annual monitoring activities will result in temporary disruption of grazing or other behaviors and increased energy demand on individual animals.

PUBLIC USE

The selected action includes options for expanded opportunities for hiking, biking, and equestrian access in the planning area. These actions will not limit elk movement or create entanglement hazards and will not otherwise noticeably impact elk. Potential impacts to elk associated with expanded visitor use include occasional displacement and/or disruption of grazing or other behaviors. However, elk are accustomed to some level of human activity, including noise and the presence of vehicles. Therefore, any impacts on elk as a result of expanded visitor use will not affect elk productivity or herd viability. Additionally, NPS will avoid constructing any trails or access projects in locations that will have high potential to disturb elk in their core areas.

CONCLUSION

Although implementation of the selected action will limit the size of the Drakes Beach herd and adversely impact individual elk in both free-ranging herds, both the Drakes Beach and Limantour herds will remain viable and free-ranging. New herds may also form under the selected action. There will be no population-level effects to elk. As discussed in the FEIS, cumulative impacts on elk will remain beneficial because a viable, free-ranging tule elk population will be maintained. The selected action will ensure the continued presence and contribution of tule elk to the native species diversity of Point Reyes. Therefore, the selected action will not impair tule elk. Visitors now and into the future will continue to have the opportunity to derive enjoyment and inspiration from this endemic species which will remain readily visible from trails and park roads.

Cultural Landscapes, Historic Districts, and Historic Structures

The lands managed by Point Reyes are the ancestral homeland of the Coast Miwok, and the federally recognized, affiliate tribe is the FIGR. The NPS and the FIGR have entered into a General Agreement concerning a government-to-government relationship for communication, coordination and protection of these lands that are representative of the Continuum of Human Use FRV. Relevant provisions of this agreement have been incorporated into the selected action.

The planning area includes portions of two ranching-related historic districts—the Olema Valley Dairy Ranches Historic District and the Point Reyes Peninsula Dairy Ranches Historic District. These districts are specifically identified in the Continuum of Human Use FRV, and the grassland pastures that contribute to the cultural landscapes for these districts are elements of the Scenic Coastal Landscape and Coastal Ecosystem FRVs. As explained in the Foundation Document for Point Reyes, the productive coastal grassland ecosystem supported the development of the area’s historic dairy and beef ranch tradition.

The Olema Valley Dairy Ranches Historic District occupies 14,127 acres in the western portion of the park and is mainly located in the north district of Golden Gate. Dairies in the Olema Valley were established in 1857. The Point Reyes Peninsula Dairy Ranches Historic District, which was listed on the National Register of Historic Places under criteria A and C, comprises approximately 22,237 acres of grassland and coastal scrub areas on the northern end of the Point Reyes peninsula. The ranches in the Point Reyes Peninsula Dairy Ranches Historic District were established in 1857, becoming one of the earliest suppliers of dairy products to the San Francisco area. Additional historic districts where the open grassland features contribute to the scene include the Marconi/RCA Bolinas transmitting station and the RCA Point Reyes Receiving Station.

RANCHING

Continued grazing in the Pasture and Range subzones and ongoing use and maintenance of occupied structures for ranching is beneficial to the historic districts and is the preferred preservation strategy under *The Secretary of the Interior’s Standards for the Treatment of Historic Properties and Guidelines for the Treatment of Cultural Landscapes* because occupation allows active management and maintenance of the contributing elements, including historic pasturelands and structures. Continued use of these areas as active ranches helps protect the pastoral character of the districts, which is consistent with the purposes of the park as articulated by Congress. Continued multi-generational ranching under the selected action will therefore have direct and cumulative beneficial impacts on cultural landscapes, historic districts, and historic structures. Development of the Cultural Landscape Report and Treatment Plan (currently in draft) will further inform the ongoing treatment approaches to maintain these National Register Districts.

The selected action will provide revised, explicit cyclic maintenance requirements that are the responsibility of each rancher, in accordance with *The Secretary of the Interior’s Standards for the Treatment of Historic Properties*. These requirements will be outlined in each ranch ROA, facilitating better

coordination with the NPS to identify and respond to priority needs, thereby reducing deferred maintenance. A formal process for addressing vacant structures, continued occupation of active ranches, and management of the pastoral landscape will also be developed. The impacts to the Dairy Ranches Historic District due to the closure of one dairy will be mitigated by relocating another dairy to this ranch property or identifying an adaptive reuse that can contribute to the maintenance of the ranch's historic structures. Adaptive reuse will occur for as many currently vacant historic structures as feasible by prioritizing ranches that contain the representative buildings and structures typical of the historic ranches.

The selected action also includes consultation with the FIGR in the management of ranch lands, which are part of the Tribe's ancestral homeland. The NPS will work with the Tribe through enhanced collaboration and partnership as it proceeds with implementation of the GMP Amendment. Specifically, the NPS will consult and coordinate with the FIGR to ensure that Tribal views and Traditional Ecological Knowledge (TEK) are incorporated into the management ranch lands and the leasing program. Through this relationship, the NPS is engaged with the FIGR in a dialogue regarding the ongoing management of these lands, as well as ongoing or new potential uses of the lands within the Ranchland Zone and as part of the succession policy considerations. As such, for allotments where the multi-generational family has ceased operations or not met performance conditions for renewal, NPS will evaluate the allotment to identify ongoing uses consistent with analysis in the GMP Amendment selected action and in coordination with the FIGR to ensure that Tribal views and TEK are considered in identifying land management opportunities that will support desired conditions at this location. Collectively, these actions support the Continuum of Human Use FRV and are consistent with desired conditions for cultural resources management.

DIVERSIFICATION

The limited types of diversification authorized under the selected action will not adversely affect the historic districts. Sheep and goats are consistent with types of livestock present on the ranches during the historic period. Consistent with adaptive reuse strategies, farm stay opportunities will be limited to existing structures.

ELK MANAGEMENT

Elk management activities will reduce elk conflicts with ranch operations and therefore reduce one factor that could affect the viability of multi-generational ranching and in turn the integrity of the ranching-related historic districts.

Tule elk are a species of cultural significance to the FIGR. As a result of ongoing consultation with the FIGR, the selected action has been modified to incorporate relevant elements of the General Agreement (see above). To this end, the NPS has committed to coordinate with the FIGR to ensure that Tribal views and TEK are factored into the management of tule elk under the selected action. Coordination with the FIGR and the use of TEK in collaborative management of this species of cultural significance to the tribe furthers the Continuum of Human Use FRV.

PUBLIC USE

Under the selected action, development of new visitor use opportunities, including trails and trail-based recreation, will not noticeably impact cultural resources because most development will use existing roads and previously developed areas. Any new uses and physical changes to historic structures, including limited new construction such as minor additions, will be made in accordance with *The Secretary of the Interior's Standards for the Treatment of Historic Properties*. A future planning process would determine locations best suited for such development and site-specific mitigation measures to reduce potential impacts on cultural resources would be identified through that subsequent planning process.

CONCLUSION

Continued multi-generational ranching operations under the selected action will result in beneficial impacts to the contributing elements of the Point Reyes Peninsula Dairy Ranches Historic District and Olema Valley Dairy Ranches Historic Districts which are part of the Continuum of Human Use, Scenic Coastal Landscape and Coastal Ecosystem FRVs. The ROAs and appendix G of the FEIS will outline requirements for maintaining historic ranch structures that will remain occupied, and for managing historic pasturelands. In addition, the incorporation of Tribal views and TEK in the management of ranch lands, tule elk and other park resources will ensure that the health and vitality of park lands is managed in furtherance of the Continuum of Human Use FRV. Because the selected action will result in long-term beneficial effects and will perpetuate the integrity, use and enjoyment of these resources into the future, there will be no impairment to cultural landscapes, historic districts, or historic structures in the park or to resources of cultural significance to the FIGR.

Air Quality

The Clean Air Act gives special air quality and visibility protection to national parks larger than 6,000 acres and national wilderness areas larger than 5,000 acres that were in existence when it was amended in 1977. The Clean Air Act designates the Point Reyes Wilderness established in 1976 (now Phillip Burton Wilderness) as a Class I airshed (40 CFR Section 81.405). The 2018 Park Conditions and Trends assessment rates visibility as a moderate concern based on 2011–2015 estimated visibility on mid-range days of 4.3 dv above estimated natural conditions. Estimated annual average natural condition on mid-range days equals 9.7 dv at Point Reyes. The park's air quality is generally good based upon available conditions (visibility, ozone for human health, ozone for vegetation health, nitrogen deposition and sulfur deposition) as defined in the 2018 assessment (NPS 2021). While the prevailing westerly marine flows are typical, during periods when atmospheric conditions displace the east Pacific high-pressure system, air flows from the San Francisco Bay area or inland parts of the state, can degrade the air quality of the park, particularly during the fire season when offshore flows dominate.

The US Environmental Protection Agency sets National Ambient Air Quality Standards (NAAQS) for six air pollutants (referred to as criteria pollutants): sulfur dioxide (SO₂), nitrogen dioxide (NO₂), ozone (O₃), particulate matter of 10 micrometers and 2.5 micrometers (PM₁₀ and PM_{2.5}), carbon monoxide (CO), and lead. Marin County is in marginal nonattainment status for O₃ (both the 2008 and 2015 standard) and moderate nonattainment status for the PM_{2.5} 2006 standard. In light of the nonattainment status of O₃ and PM_{2.5}, the NPS completed a conformity determination for the selected action which found that emissions of the pollutant parameters evaluated in the FEIS and SIR and identified for conformity (including VOC, PM_{2.5}, and NH₃) were below the *de minimis levels* and would not impede the state's ability to bring the area into compliance with the NAAQS.

RANCHING AND DIVERSIFICATION

Under the selected action, ranching activities will continue to generate *de minimis* emissions of NH₃, VOC, and PM_{2.5} as well as carbon dioxide equivalent (CO_{2e}) greenhouse gas emissions (GHG) associated with cattle grazing, manure management on dairies, fugitive dust, and mobile source emissions as shown in table S-3 of the SIR. As such, the selected action emissions are not regionally significant. Most air quality deposition sources that affect the park come from sources outside park boundaries, including mobile sources, power plant and industrial sources, and regional farming operations.

Under the selected action, it is estimated that park ranches will emit 11% of the NH₃ and 1.3% of the VOC emissions in Marin County (see SIR). Similarly, GHG emissions from livestock under the selected action would represent approximately 17.2% of agricultural sector emissions in Marin County and 4.8% of total county GHG emissions. In comparison to statewide agricultural sector emissions of 32.4 million metric tons CO_{2e} (CARB 2021), the selected action constitutes less than a tenth of a percent (<0.07%) of

GHG emissions. Table 20 of the FEIS shows that dairy cattle produce 26-48 times the NH₃ emissions as beef cattle. Consistent with the selected action, no new dairies will be authorized to replace operations that close. As such, any additional reduction in dairy cattle within the planning area would further reduce NH₃ production.

As a result of the CCC hearing, the NPS will identify actions that could be conducted in response to local, state, and federal climate-related requirements or initiatives and develop a strategy to further reduce greenhouse gas emissions from ranching operations. The NPS will explore opportunities with ranchers to innovate or adapt ranch operations to support climate goals. Examples include scalable solids separator and methane digestion systems, new feed types that reduce methane from cattle, and Carbon Farm Plans that identify actions to reduce or sequester carbon. Such efforts could further reduce overall emissions from the planning area.

ELK MANAGEMENT

There are no measurable effects on air quality from the elk management elements of the selected action.

PUBLIC USE

Air pollution, especially PM, influences a visitor's ability to view scenic vistas and landscapes at parks (NPS 2021). The NPS maintains a National Interagency Monitoring of Protected Visual Environments (IMPROVE) program station which is used to monitor the visibility/haze index for Point Reyes. The visibility condition is rated as fair, with a relatively unchanging trend over a period of 10 years (2009-2018). In 2018, the measured visual range was between 27 and 116 miles (NPS 2021; CARB 2021). Some of the haziest days are in the fall, when atmospheric conditions bring smoke and air pollution from other parts of the state. Fine sea salt is the largest natural contribution to haze at the park. By reducing air impacts from ranching compared to current conditions, the selected action will help to maintain or improve visibility conditions in the park to a limited degree.

The selected action programmatically discusses a range of potential public access improvements. Any potential actions will require site specific planning and compliance. Anticipated impacts associated with such actions would be minimal and short-term. Under the selected action, mobile source emissions will be similar to existing conditions because a change in visitor use levels is not anticipated. Data from Marin County's 2019 *Interim Community Greenhouse Gas Emissions Assessment* (Marin County 2019) show on-road transportation is the single largest emission sector (157,523 MTCO_{2e} in 2017). Mobile source emissions occurring within the boundaries of the park (3,734 MTCO_{2e}) represent approximately 2.3% of on-road transportation sector emissions countywide.

CONCLUSION

As identified in the SIR and discussed above, the emissions from the selected action will not exceed the *de minimus* thresholds, are not regionally significant and overall, air quality at the park will continue to be in good condition. The livestock-related emissions from ranching will be reduced compared to current conditions and could be further reduced pursuant to implementation of actions related to the climate strategy. Likewise, impacts from mobile sources associated with public use of the park and impacts from development to support public use will be minimal. Most impacts to air quality in the park will continue to come from regional sources outside the park. The NPS *Management Policies* are clear that managers cannot be held accountable for impairment from external sources over which managers have no control (NPS 2012). The selected action will also not impede the State's ability to attain compliance with NAAQS for O₃ and PM_{2.5}. Air quality conditions will continue to support a wide variety of opportunities for access, recreation and inspiration related to the park's Scenic Coastal Landscapes and Coastal Ecosystems FRVs. For these reasons, the selected action will not impair air resources.

Summary

In the best professional judgment of the NPS staff involved with the FEIS, no impairment of the park's resources or values will result from the implementation of the selected action. This conclusion has been made after taking into consideration the impact analysis in the FEIS, relevant scientific studies cited in the FEIS, the results of consultations with federal and state agencies and subject matter experts and following civic engagement and public involvement.

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