

**Golden Gate National Recreation Area
Mount Tamalpais State Park**



Dias Ridge Restoration and Trail Improvement Project

Environmental Assessment/Initial Study
July 2007



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Lead Agencies



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GENERAL INFORMATION ABOUT THIS DOCUMENT

What's in this Document:

The National Park Service (NPS) and California Department of Parks and Recreation (CDPR) have prepared this Environmental Assessment/Initial Study to examine the potential environmental impacts of the alternatives being considered for the proposed Dias Ridge Restoration and Trail Improvement Project at Mount Tamalpais State Park and Golden Gate National Recreation Area in Marin County, California. The document describes why the project is being proposed, alternatives for the project, the existing environment that could be affected by the project, the potential impacts from each of the alternatives, and measures proposed to avoid, minimize and/or mitigate potential adverse effects on the environment.

What you should do:

Please read this Environmental Assessment/Initial Study (EA/IS). In addition to the lead agencies offices listed above, additional copies of this document are available for review at:

Mount Tamalpais State Park
801 Panoramic Highway
Mill Valley, CA 94941

Marin District Headquarters
California Department of Parks and
Recreation
845 Casa Grande Road
Petaluma CA 94954

Stinson Beach Library
3521 Shoreline Highway
Stinson Beach, CA 94970

Belvedere-Tiburon Library
1501 Tiburon Blvd.
Tiburon, CA 94920

For individuals with sensory disabilities, this document can be made available in large print or on compact disk. To obtain a copy in one of these alternate formats, please contact the Environmental Coordinator listed below.

The EA/IS is also available for review on the web at <http://parkplanning.nps.gov/goga> (click on project title).

We welcome your comments. Submissions must be in writing and postmarked, or received by fax or e-mail, no later than August 3, 2007. The originals of any faxed document must be received by regular mail within ten (10) working days following the deadline for comments, along with proof of successful fax transmission.

Comments regarding this Environmental Assessment/Initial Study may be submitted online at <http://parkplanning.nps.gov/goga>, or by mail to either:

Environmental Coordinator
California Department of Parks &
Recreation
Northern Service Center
One Capitol Mall - Suite 500
Sacramento, CA 95814

Or,

E-mail To: CEQANSC@parks.ca.gov

(Include "Dias Ridge Trail" on the subject line)

Or, Fax To: 916-445-8883

Superintendent
Golden Gate National Recreation Area
Attn: Dias Ridge
Bldg. 201, Fort Mason
San Francisco, CA 94123

Or,

E-mail To: goga_planning@nps.gov

What happens next:

After comments are received from the public and reviewing agencies, NPS and CDPR may: (1) give environmental approval to the proposed project, (2) undertake additional environmental studies, or (3) abandon the project. If the project is given environmental approval and funding is appropriated, NPS and/or CDPR could design and construct all or part of the project.

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CHAPTER 1: PURPOSE OF AND NEED FOR ACTION

INTRODUCTION

The National Park Service (NPS) and California State Parks (CDPR) are working in partnership to plan and conduct the environmental analysis for the Dias Ridge Restoration and Trail Improvement Project. The project area under consideration is located in the Green Gulch sub-watershed, part of the Redwood Creek watershed, in the Muir Beach area of Marin County and lies within both the Golden Gate National Recreation Area (GGNRA) and Mount Tamalpais State Park (MTSP) (see Figure 1). Located approximately 20 miles north of San Francisco, MTSP features over 6,300 acres of redwood groves, oak woodlands, grassland slopes, chaparral, and rocky ridges. GGNRA consists of approximately 80,500 acres extending from Tomales Bay in Marin County south to San Mateo County. Encompassing 59 miles of bay and ocean shoreline and seven distinct watersheds, GGNRA is home to 1,273 plant and animal species, including 80 sensitive, rare, threatened, or endangered species.

The proposed project would realign trail segments and restore degraded areas on Dias Ridge (see Figure 1). The project would improve the overall quality of the parkland and reduce sedimentation into the Redwood Creek and Green Gulch watersheds by removing non-designated trails, replacing or rehabilitating poorly aligned and eroding segments of the Dias Ridge Trail, and restoring areas of natural landscape. An improved trail alignment would also support existing authorized trail-use designations.

This Environmental Assessment (EA) evaluates one Action Alternative—the proposed trail realignment and rehabilitation on Dias Ridge—and a No-Action alternative. For this analysis, NPS is serving as the lead agency for the National Environmental Policy Act (NEPA) compliance and CDPR is serving as the lead agency for the California Environmental Quality Act (CEQA) compliance. An Initial Study prepared under CEQA is included in this document as Appendix A.

PURPOSE AND NEED

Purpose of the Action

The purpose of this project is to improve the Dias Ridge Trail alignment and drainage and to reduce erosion on Dias Ridge between Panoramic Highway and the Golden Gate Dairy. For the project to be successful, the project must accomplish the following objectives:

- Remove, regrade, and revegetate, as appropriate, poorly aligned and non-designated trail segments on Dias Ridge;
- Improve drainage conditions and reduce soil erosion and sediment runoff into Redwood Creek;
- Improve the trailhead at Golden Gate Dairy to facilitate possible future plans by Marin County, Caltrans, and NPS along the State Route 1 (SR1) corridor;

- Improve the visitor experience and visitor orientation by providing new trailhead, directional and interpretive signage, and a safe, sustainable, multi-use trail surface and condition.
- Complete a gap for bicycle use in the Bay Area Ridge Trail, a regional trail system.

Need for Action

Existing trail alignments in the Lower Redwood Creek watershed are causing resource damage to valuable park landscapes and resources. The present Dias Ridge Trail alignment is a former ranch road/fire road that in several areas exceeds 25% grade, has erosion problems and, in many segments, has poor alignment and drainage. Erosion on the deteriorated Dias Ridge Trail and non-designated trail segments on the Ridge are also contributing to sedimentation in Redwood Creek, degrading water quality, and impacting habitat for threatened and endangered species. NPS and CDPR have identified a need to reduce erosion and sedimentation into the sensitive creek habitat to the greatest extent possible.

All user groups are not served on the Dias Ridge Trail and are sometimes in conflict, and violations of trail-use designations are frequently observed. The route on MTSP lands is a designated fire road, open to bicyclists, equestrians and hikers. Some users of the Dias Ridge Trail bypass its western segment through GGNRA lands by using a non-designated trail that leads north from the top of Dias Ridge down to Frank Valley Road. This unauthorized use of non-designated trails has caused severe slope erosion, causing point source sedimentation to Redwood Creek. New trailhead informational and regulatory signage is needed at the Golden Gate Dairy and Panoramic Highway Trailheads to facilitate authorized recreational uses on Dias Ridge. The current alignment does not provide a multi-use connection to State Route 1, although the 1992 GGNRA Designation of Routes Final Rule and identified in 36 CFR Part 7 (Federal Register Vol. 57, No. 239 12/11/2002) identified Dias Ridge Trail on NPS land as a multi-use trail.

SCOPE OF THE ANALYSIS

The decision that will be made as a result of this analysis is focused solely on the actions described in the Alternatives Chapter (Chapter 2). Although there are a number of actions being considered in lower Redwood Creek Watershed (see list below), from a NEPA context, this project is considered to have “independent utility” and can be implemented with or without the implementation of these actions. These projects include:

- Wetland and Creek Restoration at Big Lagoon, Muir Beach (Draft EIS/R, December 2006)
- Lower Redwood Creek Floodplain and Salmonid Habitat Restoration, Banducci Site (Environmental Assessment, March 2007)
- *** Parallel Connector Trail Following State Route 1 between Golden Gate Dairy and Frank Valley Road (Possible implementation in 2008/09 or later).
- *** Lower Coast View Trail Extension (Possible implementation in 2010 or later).

*** The SR1 Connector Trail and the Lower Coast View Trail Extension were being planned in conjunction with the actions proposed in this analysis. As planning for these actions

progressed, it became apparent that these actions had issues that could not be resolved in a timely manner. Instead of delaying the entire analysis until these issues were resolved, it was decided to remove these actions from this analysis in order to implement the Dias Ridge actions beginning in fall 2007. Both lead agencies are committed to completing the planning and compliance process for these actions, and would like to implement these actions within the original timeline presented at the public scoping meeting. Although implementation of these actions would require a separate NEPA/CEQA analysis, the lead agencies desire to complete the analysis in calendar year 2008.

RELATED LAWS/GUIDELINES AND OTHER PLANNING AND MANAGEMENT DOCUMENTS

This document is written with the guidance of a set of regulations and policies. The following is a summary of relevant planning and guidance documents and regulations used in the preparation of this document. Other applicable regulations, plans, and standards that were taken into consideration in the development of this EA and the analysis of the impacts are identified in Chapter 3.

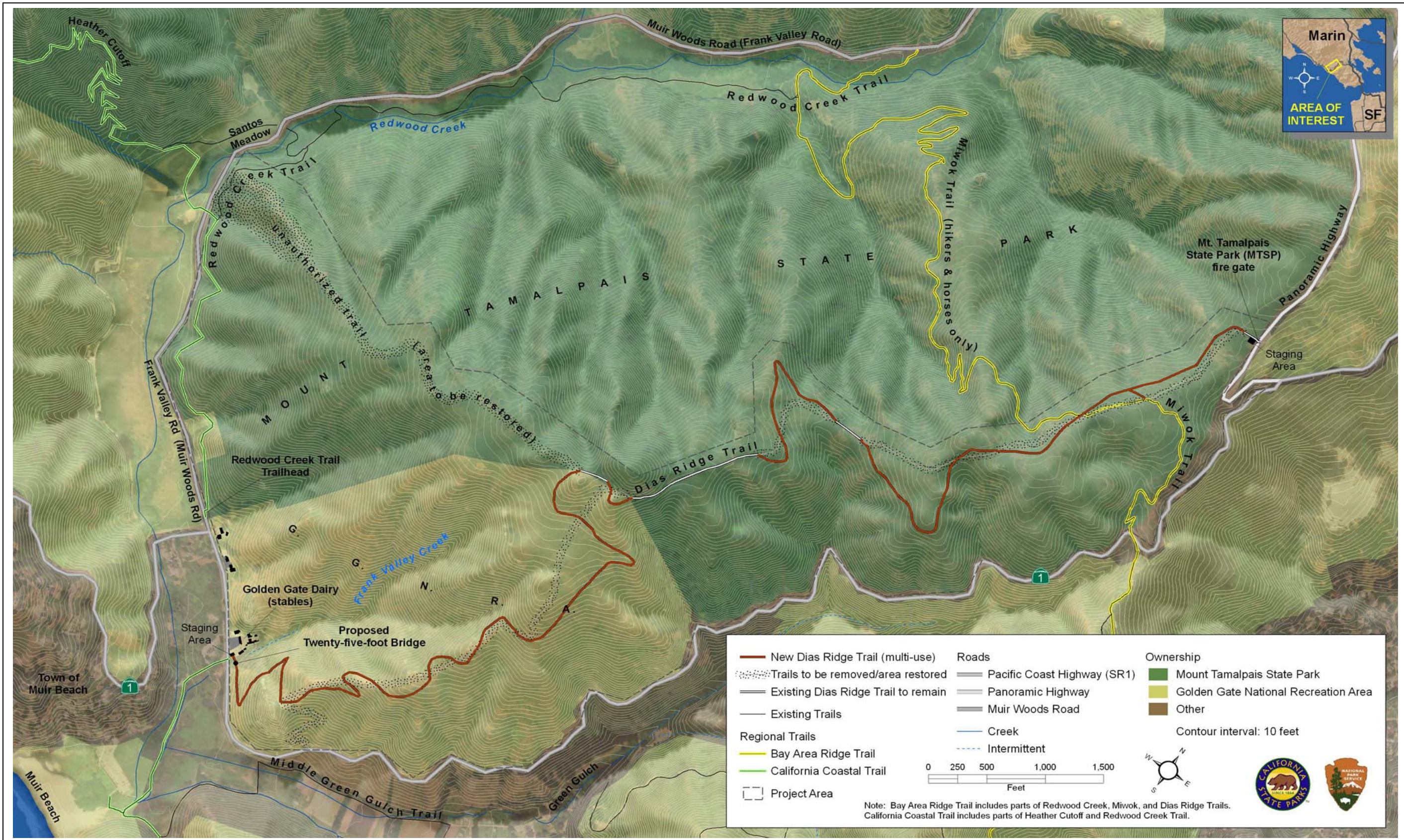
National Environmental Policy Act / California Environmental Quality Act. An Environmental Assessment (EA) is a study under the National Environmental Policy Act (NEPA) of 1969 to determine whether a proposed federal action has the potential to cause significant environmental impacts. An EA is a decision-making tool that analyzes the potential environmental effects of a proposed action - in this case, the Dias Ridge Restoration and Trail Improvement Project - and its alternatives.

This document has been jointly prepared by NPS and CDPR staff to satisfy the requirements of federal and state environmental laws and policies, primarily the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA). This EA/IS analyzes one action alternative and the No Action alternative and their impacts on the human and natural environment. It describes existing conditions in the project area and analyzes the effects of each project alternative on the environment.

This EA was prepared pursuant to the National Environmental Policy Act (NEPA) of 1969 (42 U.S.C. 4341 et seq.), as amended in 1975 by P.L. 94-52 and P.L. 94.83. Additional guidance includes NPS Director's Order 12 (NPS, 2001a) which implements Section 102(2) of NEPA and the regulations established by the Council on Environmental Quality (CEQ) (40 CFR 1500-1508). The project must comply with requirements of NEPA as well as other legislation that governs land use, natural resource protection, and other policy issues within GGNRA. Many regulations and Executive Orders are typically addressed in NEPA documents.

This EA identifies and analyzes the anticipated environmental impacts from the proposed Dias Ridge I Restoration and Trail Improvement Project in Marin County. This document also identifies measures that have been incorporated into the design of the project to reduce all project impacts to a less than significant level as defined by CEQA Guidelines §15065.

Figure 1: Project Area Map



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In addition to the CEQA compliance process following the CEQA Guidelines (California Code of Regulations §15000 et seq), this project has been evaluated according to state and local requirements including, but not limited to, the California Endangered Species Act and regional air and water quality standards (See Appendix A).

The NEPA compliance process is guided by its implementing regulations, 23 CFR §771.117. Other Federal regulations are intended to protect a specific environmental resource or element; these include, but are not limited to, Section 106 of the National Historic Preservation Act, Section 7 of the Endangered Species Act, and Executive Orders 11990 and 11998 (Protection of Wetlands and Floodplains, respectively). The project must comply with requirements of NEPA as well as other legislation that governs land use, natural resource protection, and other policy issues within GGNRA.

National Park Service Organic Act. The NPS Organic Act of 1916 directs the NPS to manage units “to conserve the scenery and the natural and historic objects and the wildlife therein and to provide for the enjoyment of the same in such a manner as will leave them unimpaired for the enjoyment of future generations.” (16 U.S.C. § 1). Congress reiterated this mandate in the Redwood National Park Expansion Act of 1978 by stating that the NPS must conduct its actions in a manner that will ensure no “derogation of the values and purposes for which these various areas have been established, except as may have been or shall be directly and specifically provided by Congress.” (16 U.S.C. § 1 a-1). The Organic Act prohibits actions that permanently impair park resources unless a law directly and specifically allows for the acts. An action constitutes an impairment when its impacts “harm the integrity of park resources or values, including the opportunities that otherwise would be present for the enjoyment of those resources and values.” (NPS 2006:1.4.3).

National Park Service Mission Statement. The National Park Service preserves unimpaired the natural and cultural resources and values of the National Park System for the enjoyment, education, and inspiration of this and future generations.

- Relevant objectives from the NPS Mission Statement for this project are:
- The Service will cooperate with federal agencies, tribal, state and local governments, nonprofit organizations, and property owners to provide appropriate land protection measures.
- The National Park Service will preserve and protect the natural resources, processes, systems, and values of units of the national park system in an unimpaired condition to perpetuate their inherent integrity and to provide present and future generations with the opportunity to enjoy them.
- The National Park Service will protect, preserve, and foster appreciation of the cultural resources in its custody and demonstrate its respect for the peoples traditionally associated with those resources through appropriate programs of research, planning, and stewardship
- The Service will focus special attention on visitor enjoyment of the parks while recognizing that the NPS mission is to conserve unimpaired each park’s natural and cultural resources and values for the enjoyment, education, and inspiration of present and future generations.

National Park Service Management Policies (2006). The NPS Management Policies 2006 requires the analysis of potential effects of each alternative to determine if actions would impair park resources. To determine impairment, the NPS must evaluate “the particular resources and values that would 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.” (NPS 2006:1.4.4). The NPS must always seek ways to avoid or minimize, to the greatest degree practicable, adverse impacts on park resources and values. However, the laws do give the NPS management discretion to allow impacts to park resources and values when necessary and appropriate to fulfill the purposes of a park, as long as the impact does not constitute impairment to the affected resources and values (NPS 2006:1.4.3).

General Management Plan for the Golden Gate National Recreation Area (GMP). The GMP (NPS 1980), which is the guiding plan for the park, and its corresponding EA were reviewed in the development of this EA. Management objectives guiding this project are:

- Maintain and restore the character of natural environmental lands by maintaining the diversity of native park plant and animal life, identifying and protecting threatened and endangered plant and animal species, marine mammals, and other sensitive natural resources, controlling exotic plants, and checking erosion whenever feasible.
- Recognize the importance of the cultural resources within the recreation area through a positive program of their identification, evaluation, preservation, management, and interpretation.
- Retain opportunities for recreational activities pursued in the park today.
- Develop a trail system for the use of hikers, bicyclists, and equestrians.

National Park Service Director’s Order 12 (DO-12) and Handbook. This environmental assessment analyzes the context, duration, and intensity of impacts related to the Dias Ridge Trail Rehabilitation and Access Improvement Project, as well as the potential for resource impairment, as required by Director’s Order 12, Conservation Planning, Environmental Impact Analysis and Decision Making.

36 CFR 4.30, Federal Register, Vol. 52, No. 63 and Vol. 57, No. 239. These regulations specifically address bicycle use on NPS lands. Vol. 52, No. 63 states, “Routes may only be designated for bicycle use based on a written determination that such use is consistent with the protection of a park area’s natural, scenic, and aesthetic values, safety considerations and management objectives and will not disturb wildlife or park resources.” Vol. 57, No. 239 states with regard to bicycle routes: “Any additional trails other than those mentioned in this preamble may be designated by the Superintendent in writing after holding public meetings through the Golden Gate Advisory Commission, by marking on maps which will be available in the office of the Superintendent and other places convenient to the public, and through the posting of trails which are open to bicycle use.”

2005 Fire Management Plan/EIS for the Golden Gate National Recreation Area. This Final Environmental Impact Statement (FEIS) evaluates alternative strategies for a Fire Management Plan (FMP) for lands within the Golden Gate National Recreation Area (GGNRA), Muir Woods National Monument, and Fort Point National Historic Site. The National Park Service (NPS) prepared the DEIS in accordance with the National Environmental Policy Act (NEPA). The FEIS

analyzes three alternatives for managing fire in the park. The alternatives are based upon park values, effective fire management strategies, NPS policy, and applicable law.

Relevant management objectives identified in the FMP that provide useful context include:

- Protect natural resources from adverse effects of fire and fire management activities, and use fire management wherever appropriate to sustain and restore natural resources.
- Reduce wildland fire risk to private and public property.

1999 Resource Management Plan, Golden Gate National Recreation Area. The Natural Resources Management Plan identifies GGNRA's natural resources and their condition. It describes a program to preserve, monitor, maintain, and restore, where necessary, the natural California habitats, and ecosystems on which they depend.

Redwood Creek Watershed Vision. The watershed vision was created through a one-year collaboration among agencies, the public, and a watershed "vision team." Through this effort, public agencies in the watershed worked with the public and the vision team to identify issues and values in the watershed and define desired future conditions (DFC) for watershed resources. Among the relevant DFC's was that human caused erosion be addressed so it does not impact fish and aquatic impact. A visitor experience DFS states that, "Access to the watershed and recreational opportunities are provided for a range of trail users through a well designed, comprehensive trail system. The actions proposed in this analysis are consistent with the DFC's expressed in the Redwood Creek Watershed Vision.

Seventh Generation 2001 Strategic Initiatives, CDPR. The mission of the California Department of Parks and Recreation is to provide for the health, inspiration, and education of the people of California by helping to preserve the state's extraordinary biological diversity, protecting its most valued natural and cultural resources, and creating opportunities for high-quality outdoor recreation.

This project furthers the Seventh Generation 2001 Strategic Initiatives of the Department's mission by contributing to the following objectives:

- Increase Leadership in Parks and Recreation: The project responds to this objective by increasing CDPR's interagency cooperation with the broader park, recreation and resource management community.
- Expand Recreational Opportunities and Increase Leadership in Natural Resource Management: The project would respond to these objectives by removing non-designated trails that contribute to natural resource degradation, rehabilitating segments of existing authorized trails and by providing additional higher quality trail segments. The new segments would offer improved trail circulation and increased options for recreational uses while protecting soils, vegetation, and water quality on state and federal park lands.

Mount Tamalpais State Park General Plan. The 1980 Mount Tamalpais State Park General Plan includes goals for the project area and the park's trails in general. These include:

- Increase recreation opportunities in Frank Valley
- Rehabilitate worn-out park facilities

- Remove exotic plants
- Retain and continue to maintain 58 miles of hiking and horseback trails

Other Requirements and Constraints. CDPR and NPS share approval authority for implementation of projects that span the boundaries of Mount Tamalpais State Park and the Golden Gate National Recreation Area, including the proposed Dias Ridge Restoration and Trail Improvement area. The following permits, approval, and/or consultations may also be required before work can begin:

- A Section 404 Clean Water Act permit from the U.S. Army Corps of Engineers (USACE) Regulatory Branch, for portions of the project that could impact waters of the U.S., if the project is determined to be within USACE jurisdiction.
- Section 7 consultation with the U.S. Fish and Wildlife Service relating to northern spotted owl, coho salmon, red-legged frog, and steelhead, in compliance with the federal Endangered Species Act.
- Storm Water Pollution Prevention Plan (SWPPP), in compliance with the National Pollutant Discharge Elimination System (NPDES) Program, with oversight by the State Water Resources Control Board.
- Consistency determination with the Coastal Zone Management Act, with oversight by the California Coastal Commission.
- Project elements to be completed on CDPR lands would adhere to the terms of the Department's 2004 legal settlement with the Tamalpais Conservation Club.

SCOPING AND ISSUES

Issues and concerns regarding the proposed project were identified through input from individuals, organizations, federal and state agencies, and NPS and CDPR scoping efforts. In addition to the project being thoroughly discussed internally between the two lead agencies, the proposed project was presented to the public for comment. In order to solicit public comment the lead agencies sent out a project flyer to approximately 1,575 people and posted a public notice in the Marin Independent Journal to inform them of the public meeting/site walk and to guide them to the NPS's park website where more specific project information was posted.

As mentioned, the two lead agencies hosted a public meeting and a site walk. The public meeting was held on December 8, 2005 and was attended by approximately 100 people. The site walk was held on December 10, 2005 and was attended by approximately 20 people. In all, the lead agencies received 73 separate pieces of correspondence from the public.

Most of the commentators were supportive of the project. Comments brought up by the public can be generally categorized as: 1) Suggesting a different alternative or suggesting a specific action be incorporate into the existing alternatives; and 2) Consider specific impacts associated with the proposed actions.

Among the additional alternatives suggested during scoping were to expand the project north to include other trails, to end the Dias Ridge Trail at Frank's Valley road, or to provide a different alternative route for the SR 1/Coast View portion of the project. As noted in the previous section

“Scope of the Analysis”, the SR 1/Coast View sections of the project were removed from the project because of outstanding unresolved issues with these actions.

Suggestions to expand the action beyond the proposal was evaluated and determined to be beyond the scope of this project and would not meet the project’s purpose and need.

Among the suggested project actions to include as part of the proposed action was to make the trail be wider or narrower than 60”; suggest vegetation management treatments; and suggesting trail design features such as eliminating “blind curves”, and minimizing impacts at the Golden Gate Dairy trailhead. These suggestions are reflected in the proposed action.

Once issues were identified, they were used to refine the proposed action and to develop mitigation measures. Impact topics based on substantive issues, environmental statutes, regulations, and executive orders were selected for detailed analysis and are listed in the next section.

IMPACT TOPICS IDENTIFIED FOR FURTHER ANALYSIS

The following issues and impact topics are analyzed in this EA:

- Visual Resources and Visitor Experience
- Cultural Resources
- Water Quality
- Air Quality
- Vegetation
- Wetlands and Other Waters
- Water Quality
- Geology and Soils
- Hazards, Hazardous Materials, and Public Safety
- Noise
- Wildlife
- Special Status Species

A description of the existing conditions for each selected topic is provided in Chapter 3, Affected Environment.

IMPACT TOPICS CONSIDERED BUT DISMISSED FROM FURTHER CONSIDERATION

As part of the scoping and environmental analysis conducted for the project, the following environmental resources and issues were considered but no potential for adverse impacts to these was identified. Consequently, there is no further discussion regarding the following in this Environmental Assessment. Reasons for dismissing specific topics from further review are included below.

Conflict with Land Use Plans, Policies, or Controls. The proposed action would neither change local and regional land use nor impact local businesses or other agencies. Implementation of the Action Alternatives would not affect existing land uses within the GGNRA or MTSP, regardless of trail alignment or designation.

Energy Requirements and Conservation Potential. This project would not place an increased burden on local or regional energy resources. The project is located on open space

land and the proposed actions would not require long-term use of energy resources. Construction activities associated with the project would be undertaken in an energy efficient manner.

Socially or Economically Disadvantaged Populations. Under Executive Order 12898 all federal agencies are required to evaluate the impact of proposed actions on minority and low-income populations. According to the U.S. Environmental Protection Agency's Office of Environmental Justice, environmental justice is the "fair treatment...of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws...Fair treatment means that no group of people...should bear a disproportionate share of the negative environmental consequences resulting from industrial, municipal, and commercial operations or the execution of federal, state, local, and tribal programs and policies" (USEPA 2005). For environmental justice impacts to occur, significant environmental impacts attributable to a project must fall disproportionately upon low-income and minority populations within the affected area. The actions proposed would not have disproportionate health or environmental effects on minorities or low-income populations or communities as defined in the Environmental Protection Agency's Environmental Justice Guidance (1998). Any temporary restriction on trail use or trail realignments would be equally applied to all visitors, regardless of race or socioeconomic standing.

Prime or Unique Agricultural Lands. All land in the project area is zoned as public parklands. The project would not convert existing farmland to non-agricultural use. Therefore, the action alternative would not affect prime or unique agricultural lands. See Appendix A for further discussion of Agricultural Resources under CEQA.

Indian Trust Assets. Indian trust assets are property interests held in trust by the Federal government for the benefit of Indian tribes or individuals. The proposed action would have no effect on Indian Trust Assets.

Sacred Sites. No sacred sites, as defined by Executive Order 13007, have been identified in the project area. This is address in Chapter 3, Cultural Resources section.

Museum Collections. Actions proposed under this project would have no direct or indirect effect on park museum collections.

Park Operations. Actions proposed under this project would have no direct or indirect effect on operations within GGNRA or MTSP.

Wilderness. There is no designated Wilderness within the project area. Implementation of elements of the action alternatives would not have a direct or indirect effect on the parks' Wilderness areas.

Socioeconomics. The proposed action would not appreciably impact local businesses or the local economy. Any increases in employment opportunities for the local construction workforce and associated revenues for local businesses due to project implementation would be temporary and negligible, lasting only as long as project implementation.

Urban Quality and Growth Inducement. The proposed action would not impact urban quality, because the project would not foster economic growth or induce substantial population growth in the area; create a significant demand for labor; or displace substantial numbers of people or existing housing, necessitating the construction of replacement housing elsewhere.

Floodplains and Hydrology. Executive Orders 11988 (Floodplain Management) requires an examination of impacts to floodplains and the potential risk involved in placing facilities within floodplains. The NPS Management Policies 2006, Section 4.6.4, Floodplains, and Director's Order #77.1, 1993 NPS Floodplain Management Guidelines, provide guidelines on developments proposed in floodplains. Mapping of wetlands and seeps was conducted for the project and the placement of the trail was able to avoid impacting these resources.

CHAPTER 2: ALTERNATIVES

INTRODUCTION

NEPA requires federal agencies to conduct a careful, complete and analytical study of the impacts of proposals that have the potential to affect the environment and consider alternatives to that proposal, well before any decisions are made. Federal agencies are also required to involve interested or affected members of the public in the NEPA process. The EA assists the NPS in decision-making and in the determination that the potential for significant effects does not exist and the preparation of an environmental impact statement is not required. An EA must identify technically feasible alternatives that meet the objectives of the project.

This chapter describes the alternatives considered, including the No Action alternative. All project alternatives consider environmental constraints and site characteristics and are consistent with the legal requirements, established standards, and guidelines for the management of natural and historic resources in accordance with the mission of the NPS. The description of the Action alternative includes mitigation measures and monitoring activities proposed to minimize or avoid environmental impacts. This section also includes a description of a alternatives considered early in the process but later eliminated from further study; reasons for their dismissal are provided.

ALTERNATIVES DEVELOPMENT PROCESS

The NPS and CDPR developed and refined the Action alternative evaluated in this EA/IS through an internal planning process that included careful review and analysis of site data, agency management objectives, and consideration of input received during scoping. The Action alternative resulted from this process and was designed to meet the project's Purpose, Need and Objectives as described in Chapter 1.

In order to acquire the baseline data needed to develop informed and appropriate alternatives for the Dias Ridge Restoration and Trail Improvements project, NPS and CDPR commissioned and/or participated in several studies in the GGNRA and MTSP. See corresponding topics in Chapter 3 and Appendix A for further information. These studies included:

Biological Assessment (B.A.). The B.A. prepared for this project provides a review of vegetation types, grassland communities, non-native vegetation, special status plant and animal species, and critical habitat. The B.A. incorporates technical information from field surveys and prior documentation to determine how the project may affect species listed as threatened or endangered or proposed for listing under the Endangered Species Act.

Vegetation Mapping. Vegetation associations and vegetation alliances were mapped in 2005, 2006 and 2007 according to standards set forth by the NPS Inventory and Monitoring Program.

Invasive Plant Survey. The locations of 35 non-native plant species in the project area have been mapped according to observations by the URS Corporation in 2006, CDPR biologists in 2006, and during studies for the 2005 Golden Gate National Recreation Area Fire Management

Plan Environmental Impact Statement and the 2006 Draft Redwood Creek Watershed Assessment report by Stillwater Sciences.

Special Status Species Occurrences. CDPR conducted a series of surveys for special status plant species during appropriate blooming periods in 2006. None were identified in the project's action area. Two federally listed anadromous fish species, Coho salmon and steelhead, are known to inhabit Redwood Creek within the project's action area. Current data on these populations was included in the Biological Assessment. Potential habitat for the northern spotted owl and the California red-legged frog in or near the project's action area was also evaluated.

Hydrological Assessment. Natural and manipulated drainage patterns, natural and artificial seeps, natural and manipulated landslides, and areas of placed fill were identified and mapped in early 2006.

Soil Features. Soil types in the Dias Ridge project area and surrounding vicinity have been mapped by the U.S. Department of Agriculture Soil Conservation Service (USDA 1985). Seven soil types and other features (such as rock outcrops) were identified and mapped during the assessment for this project. The soils are characterized according to parent material, depth, slope, and drainage.

Plan for Habitat Restoration and Decommissioning of Non-Designated Trails. The project design incorporates the Dias Ridge Habitat Restoration and Non-Designated Trail Decommissioning Plan, which includes an exotic species control plan

Archaeological Survey Report. Provides an inventory of archaeological resources in the project's Area of Potential Effects (APE), and identifies any that are listed or eligible for listing on the National Register of Historic Places (NRHP).

Dias Ridge and Coast View Trails Rehabilitation and Access Improvement Project, Historic Property Summary Report with Determination of Eligibility and Finding of Effect. Provides a summary of archaeological and historical resources in the APE, documents significance of any that are listed or eligible for listing on the NRHP, and presents a Finding of Effect on any NRHP properties from the proposed undertaking.

Comprehensive Transportation Management Plan. County of Marin, NPS, DPR, Caltrans, and the Metropolitan Transportation Commission (2005).

Trail Assessment. All roads, recreational trails, and non-designated trails are depicted on the Project Map, Figure 1 of this report.

Watershed Assessment, Redwood Creek. The watershed characterization chapter of the 2006 Draft Redwood Creek Watershed Assessment presents an up-to-date natural resource characterization of the Redwood Creek watershed. It incorporates information and analysis from a report on existing conditions in the watershed (GGNRA 2003) with new and updated information from recent studies, including the 2004 Sediment Budget for Redwood Creek (Stillwater Sciences, 2004) the Feasibility Analysis Report, Big Lagoon Wetland and Creek Restoration (PWA 2004), several recent wildlife monitoring efforts, and analysis of recent stream flow and water quality data (Stillwater Sciences 2005a, 2005b).

DESCRIPTION OF ALTERNATIVES

ALTERNATIVE A - NO ACTION ALTERNATIVE

Evaluation of the environmental consequences of a No Action alternative is required pursuant to NEPA and a “no project” alternative for CEQA. This document refers to these collectively as the “No Action” Alternative. This alternative represents the future conditions without implementation of the Proposed Action. Under the No Action Alternative, NPS and CDPR would not proceed with the Dias Ridge restoration and trail improvements; trail use would continue without the necessary upgrades. This alternative would leave the project area in its current condition, with the CDPR district and GGNRA conducting critical maintenance only, and managing visitor use at current levels.

Under this alternative, existing erosion conditions on the deteriorated Dias Ridge trail alignment and other non-designated trails on Dias Ridge would increase, accelerating their decline. The eroded trails would continue to contribute sediment into Redwood Creek, degrading water quality and impacting habitat for Federally-listed Coho salmon and steelhead. Existing local gaps in the regional, statewide, and National Park Service trail plans through this area would remain.

The No Action alternative describes the action of continuing the present management operation and condition; it does not imply or direct discontinuing the present action or removing existing uses, developments, or facilities. The no-action alternative provides a basis for comparing the management direction and environmental consequences of the proposed action and must always be considered in every EA.

Because the No Action alternative anticipates future conditions in the context of existing ones, it is possible that other actions may take place and projects may be constructed and implemented in the foreseeable future that could affect environmental resources absent the Proposed Action. NEPA requires the disclosure of effects that foreseeable actions may have on environmental resources. These effects are discussed in Chapter 3: Affected Environment/Environmental Consequences and Appendix A of this EA/IS in the analysis of those specific resource areas.

ALTERNATIVE B – DIAS RIDGE RESTORATION AND TRAIL IMPROVEMENTS (PREFERRED ALTERNATIVE)

This project would involve landscape restoration, trail improvements, new trail construction, and associated work on Dias Ridge starting at the MTSP fire gate at the west side of Panoramic Highway approximately 1,250 feet north of its intersection with SR1 and running westward to the Golden Gate Dairy. The approximate total length of this segment is 15,700 feet. Under this alternative, existing trail segments would be retained where practical and construction of an improved trail alignment would be implemented to eliminate poorly graded and eroding segments. The trail segment analyzed in this EA would continue to be shared or multi-use (hikers, bicycles, and equestrians) and would provide an identified desired link in the Bay Area Ridge Trail system. Figure 1 shows the project in its entirety.

Proposed Actions are grouped as follows:

- Non-designated Trail Decommissioning and Closure Actions

- Habitat Restoration Following Closure of Old Segments and Non-designated Trail Segments
- Construction of New Trail and Reuse of Existing Segments Actions
- General Construction Sequencing and Timing
- Non-Designated Trail Decommissioning and Closure Actions

Non-designated Trail Decommissioning and Closure Actions

California State Parks and NPS would need to implement actions before and after trail restoration and trail construction begins. These actions include information signage that informs users that restoration actions are underway and informing them of trail closures. The purpose is to keep trail users off of decommissioned portions of trail and areas where restoration projects are underway.

For permanent trail reroutes, outreach to park users would occur in advance of trail closure to alert the public of the project. Rerouting instructions or other field demarcations directing the recreation users to the new trail would be done in addition to the trail closure signs. Temporary fencing may be necessary if the new trail alignment is difficult to see, or if the public continues to use the closed trail. Signage would begin no later than 1 month before construction begins, and would be removed when the old trail has been fully rehabilitated.

Notices for temporary trail closures would be developed on a case by case basis. Notification methods could include informational brochures or flyers posted at trailheads as well as press releases for larger closures.

Permanent closure and restoration of non-designated trails and other non-designated trails would require diligent monitoring, as the public may continue to use closed trails, compromising trail closure efforts. These efforts are especially important during vegetation restoration. Trail closure and/or standard restoration-in-progress signs would be installed prior to re-grading and installation of plants and should stay in place for 3-5 years following planting. Brush piles and fencing may be required in areas where the public continues to use closed trails to deter public use.

For some portions of trail closure, brush and/or temporary fencing would be utilized to divert human use from decommissioned non-designated trails and allow for the restoration and revegetation to succeed. Fencing may be necessary to divert the public from closed trails. Fencing would be used sparingly to retain the wild and scenic character of the area. If fencing is required, it may include temporary fencing, post and cable fencing, and/or split-rail fencing.

Habitat Restoration following closure of Old Segments and Non-designated Trail Segments

A major part of the project is the closure and restoration of old trail segments, ensuring the natural habitat of the surrounding area are restored in a manner that minimizes the potential for erosion, and support native plant habitat that is similar to surrounding areas.

The removed sections of the present Dias Ridge Trail on both MTSP and GGNRA property would be restored and revegetated. These sections total approximately 9,800 feet in length.

The large non-designated trail area extending west on Dias Ridge in MTSP from the GGNRA boundary to Redwood Creek would be closed, regraded, and revegetated. The approximate total length of this trail area is 4,500 feet.

Approximately 13,842 (4,219 meters) of trail is anticipated to be closed and restored following the new trail construction. This includes 4,515 feet (1,376 meters) of closed non-designated trail to the west of the Dias Ridge trail alignment. Remaining trail segments would be recontoured as necessary to restore the natural land contours and drainage patterns of the site. Whenever possible, native fill from areas immediately adjacent to the existing trails to be restored would be used. It is anticipated that the final width of disturbance along former trail segments following site recontouring would range from 6 to 80 feet wide (1.8 to 24.4 meters). Typically, the area of disturbance to rehabilitate or restore a trail section may be several or more times the width of the actual trail in order to achieve the desired natural contours, proper soil stabilization, and facilitate thorough revegetation. The larger widths would occur in areas where the existing trail area is 20 to 30 feet wide (6.1 to 9.1 meters) and frequently braided, incised, gullied, or in a deep cut slope. If imported backfill is available, and where its use may be optimal for restoration, only appropriate and approved soil types would be used.

Approximately 11 acres of native habitat would be restored. Habitats to be restored include coyote brush, coastal scrub/coastal grassland, grassland (wet variant), oak/bay woodland habitat. Both passive and active restoration techniques would be used. Restoration would also include control of invasive non-native plant species populations, and stem soil erosion within the project area.

Restoration techniques to restore natural contours and rehabilitate sites to natural conditions would vary by segment. In general, the techniques used include:

Ripping/Scarification. Approximately 4,594 feet (1,400 meters) of trail may require ripping/scarification prior to restoration implementation. This treatment would rip/scarify compacted soil, typically 3 to 4 inches, to allow for improved water infiltration and plant establishment. Equipment would be used that is appropriate for the level of decompaction needed. Depending on the location, accessibility, and level of disturbance of trail segments, these trails would be scarified by hand using a rake, mattock, digging forks, or similar hand tools, or mechanically scarified using small heavy equipment such as a bobcat with digging tines to loosen soil. The anticipated area of disturbance for this soil treatment is the trail footprint.

Light Regrading. Approximately 5,906 feet (1,800 meters) of trail may require light regrading prior to restoration implementation. The anticipated area of disturbance for light regrading is not more than 25 feet wide, including current trail footprint. In some areas, the disturbance area would not extend beyond the existing trail footprint.

Heavy Regrading. Approximately 820 feet (250 meters) of former trail would require heavy regrading prior to revegetation efforts. These areas would require more intensive regrading because they have significant erosional gullying or conditions that have resulted in a larger soil deficit. In most areas ample soil may be recaptured from the sides of the trail and from nearby new trail construction to restore satisfactory site contours. It is anticipated that the final width of disturbance along trail segments following site recontouring may be as much as 80 feet. Use of heavy equipment would be required for these areas. Equipment would be selected with the goal

of creating the smallest project disturbance area possible while achieving project restoration objectives. Wherever possible, light low-psi tracked vehicles such as a Sweco tractor or bobcat should be selected over larger tracked vehicles. Following heavy grading, the entire site would be compacted to erase the hydrologic memory of the site and to stabilize soils.

Steep areas may require use of a ‘track-walker’ to press the soil and a binder (typically seed-free straw) into the parent soil material. To achieve erosion control along trail segments, additional structures might be required including the installation of rock armaments (for any wet water crossings), drainage dips, out-sloping the trail to prevent water accumulation on the trail surface, water bars, erosion control fabric, straw wattles, or seed-free straw bales.

Regrade with Fill (fill available from outside the project area) - Most decommissioned trail footprints would be restored using only native soil recaptured within the site and from adjacent new trail construction. However, in some limited areas of the project, outside fill may be required to stabilize the site and reestablish natural contours. It is estimated that approximately 3,363 feet (1,025 meters) of trail may require additional imported fill to complete re-grading to natural contours. The anticipated area of disturbance for regrading is not more than 50 feet wide, including current trail footprint. Imported fill would be required for this type of treatment, however would be limited to the amount necessary to satisfactorily achieve recontouring.

Imported soil would be brought into the site using a small dump truck or excavator. To limit transportation impacts, approved imported fill material would come from adjacent restoration projects being implemented in the lower Redwood Creek watershed and other nearby NPS project sites. This would occur when the material could be made available in a timely manner. Where feasible, staging of fill material would be done close to where it is generated and where it is needed to minimize traffic impacts. Where local sources are not available, alternate soil sources may include Caltrans landslide debris and soil from adjacent Route 1 washouts. Soil suitability standards and Best Management Practices (BMPs) would be implemented for all imported fill materials used in the Dias Ridge trails restoration.

Erosion Control. Because of the steepness of the site and the type of soils present, it is anticipated that extensive erosion control would be necessary in some areas. Erosion control techniques that may be used, but not limited to, include:

- Weed-free rice straw
- Erosion control fabric
- Straw wattles
- Silt fencing
- “Rolling dip” construction
- Drain-dips
- Check dams

Revegetation

Proposed trail and habitat restoration activities would involve a combination of active revegetation; light-active revegetation; and passive revegetation (described below).

Active Revegetation. Active revegetation includes planting and seeding using seeds and propagules collected and grown from seed collected onsite. Seed collection would follow standard GGNRA collection guidelines, and should be conducted within the same watershed as

the project, preferably within the same sub-watershed to help ensure genetic compatibility of collected material.

Light Active Revegetation. Light-active revegetation is the application of previously salvaged, stockpiled native vegetation material such as native grassland “hay”, and seed heads of coyote brush and other shrubs.

Passive Revegetation. Passive revegetation is defined as allowing vegetation to self-seed from adjacent vegetation communities. This type of revegetation is most appropriate for areas with adjacent well-established native vegetation that would be treated with light grading/scarification, and areas that have a relatively narrow (i.e. less than 6 feet) area of potential effect with limited competitive pressures from adjacent weed infestations.

Construction of New Trail and Reuse of Existing Segments Actions

The following actions and design standards would be done for the new Dias Ridge trail route from Panoramic Highway to Golden Gate Dairy. This includes constructing new sustainable trail segments, and reuse of existing trail segments where appropriate and sustainable.

Trail Improvements. Trail improvement activities, and new trail construction, would include repairing, upgrading, or replacing culverts, drain inlets, and other drainage structures, and final grading and resurfacing as appropriate. A sustainable trail tread would be established within the project area and on the surveyed alignment using a Sweco trail dozer (or similar small equipment) followed by handwork. Native grasslands would be avoided; alternatives would be developed to avoid grasslands. All work would be in accordance with current Best Management Practices (see Appendix A).

Trailheads. At the Dias Ridge trailhead on Panoramic Highway, signs would be upgraded. Improved signage and other appropriate trailhead furnishings would be installed at the proposed Golden Gate Dairy trailhead.

Bridge. A twenty-five-foot (7.62 meters) long multi-use wooden bridge, 5 to 6 feet (1.5 to 1.8 meters) in width, would be constructed to span across the seasonal Frank Valley Creek southeast of the Golden Gate Dairy (see Figure 1). The bridge would be allowed to weather and age so that it would blend in with the associated structures and landscape setting. The bridge design would be similar to a bridge recently installed by the NPS at Pirate’s Cove in the Marin Headlands.

Design Standards. New trail segments would be constructed with appropriate drainage as described in State and Federal Best Management Practices (BMPs), using standards for sustainable layout including outsloping tread, drain dips, water bars, crib walls, and other structures.

Figure 2. Bridge Example for Golden Gate Dairy



Accessibility and Grades. Whenever feasible and appropriate, trail standards would follow Americans with Disabilities Act (ADA) Accessibility Guidelines for Outdoor Developed Areas. Grades on a few realigned segments of this project would be up to 15%, in excess of these ADA Guidelines. Adherence to the ADA Guidelines would not be feasible throughout the entire project due to existing terrain in specific areas.

Corridor Width. Trail corridor width is the width within which vegetation is removed and a trail constructed. For this project, a trail corridor would be maintained that prevents encroaching vegetation from impacting the usable trail tread width and allows for the safe passage of all trail users. The final width of the corridor cleared for the new trail would vary with topography and vegetation. For example, a corridor through dense vegetation would be cleared generally to a width between 10 to 12 feet (3.0 to 3.7 meters) and to a height of 10 feet (3.7 meters), if applicable. A wider corridor supports better lines-of-sight along the trail.

Tread Width and Surfacing. The trail would be constructed to a 5 foot (1.5 meters) minimum width, with adjustments made as needed to accommodate topography, line of sight, and the safe passage of trail users. Where a steep side slope exists, making it unsafe for users to step off the trail to allow passage between users, or where there is poor line of sight making safe passage between users problematic, the trail would be constructed to a width of 6 feet (1.8 meters). This is consistent with the MTSP final Mitigated Negative Declaration (as amended April 2003), and in accordance with the terms of a legal settlement between C DPR and the Tamalpais Conservation Club (DPR 2004). The trail surface would be native tread. Where imported backfill would be required for repairs, only appropriate and approved soil types would be used.

Buffers. The proposed alignments would be designed to maximize distances from existing structures and identified natural and cultural resources of concern.

Signage. Clear and concise roadway and trail signage would identify trails and bikeways, guide users to their destinations, and inform motorists of the presence of bicyclists and pedestrians.

General Construction Sequencing, Timing, and Staging

Trail enhancement, re-alignment, decommissioning and erosion control work proposed under this alternative would begin in August of 2007 and be completed by the end of 2008. Invasive non-native plant control, revegetation and restoration actions would continue through 2012. Mechanical equipment would be used to regrade, recontour, and restore the existing road and trail segments, and to construct new trail alignments. This phase of the project would primarily be completed by hand labor. BMPs would be employed throughout the project to protect water quality and natural and cultural resources.

The relatively small requirements for equipment and crew staging can be accommodated within the established footprint of the existing trail alignment on Dias Ridge and in two small staging areas adjacent to the top and bottom of the trail. For example, the small mechanical equipment, ATVs, and other material haulers can be staged within an approximately hundred-foot segment of the existing Dias Ridge trail. Two staging areas will be used during the construction period, these areas are identified on Figure 1. Both staging areas will be restored after use. The Golden Gate Dairy staging area is approximately 2,000 sf, and the one located at the Panoramic Gate is approximately 3,000 sf.

MITIGATION MEASURES AND MONITORING REQUIREMENTS

Mitigation measures are specific actions designed to minimize, reduce, or eliminate impacts of alternatives and to protect park resources and visitors. Monitoring activities are actions to be implemented during or following construction. Table 1 describes the mitigation that would be done to minimize impacts of the project. Appendix A also describes Best Management Practices that would guide project implementation, including implementation timing and responsibility.

Table 1. Mitigation Measures **Error! Bookmark not defined.**

| Mitigation | Description |
|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Aesth-1: | Aesthetics – Project proponents will revegetate cut and fill slopes for stability to control erosion and to re-establish the visual continuity of vegetative cover through the duration of the project. |
| Aesth-2: | Aesthetics - Trail edges and any retaining walls along the new hillside trail south of Golden Gate Dairy will be vegetated using appropriate medium-to-tall coastal sage scrub species, where consistent with adjacent vegetation, to screen views of the trail from the dairy ranch complex. |
| Air-1 | <p>Air - All active construction areas will be watered at least twice daily during dry, dusty conditions. Water used for this purpose will be obtained outside the project area.</p> <p>All trucks hauling soil, sand, or other loose materials on public roads will be covered or required to maintain at least two feet of freeboard.</p> <p>All equipment engines will be maintained in good condition, in proper tune (according to manufacturer’s specifications), and in compliance with all State and federal requirements.</p> <p>Excavation and grading activities will be suspended when sustained winds exceed 25 miles mph, instantaneous gusts exceed 35 mph, or dust from construction might obscure driver visibility on public roads.</p> <p>Earth or other material that has been transported onto paved streets and shoulder by trucks, construction equipment, erosion, or other project-related activity will be promptly removed.</p> <p>Speed limit signs limiting vehicle speed to 15 mph or less at construction sites will be posted every 500 feet</p> |
| Bio-1: | <p>Native Plant Communities – In areas of new trail construction where actions will impact sensitive native plant communities, these communities will be restored in kind in locations identified by NPS and CDPR..</p> <p>Qualified NPS and/or CDPR staff will identify appropriate reference sites for coastal prairie, coastal scrub and wetland habitats within the watershed. Botanical specialists in the agencies will determine plant palettes for direct seeding and revegetation actions, with seed collected within the watershed and plants grown in the NPS native plant nurseries.</p> <p>NPS will grow replacement plants from local seed sources, to result in no net loss of native plant communities. Project proponents will monitor revegetated areas and invasive plant species controlled, as part of the on-going vegetation</p> |

| Mitigation | Description |
|------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | <p>management program</p> <p>Plants will be propagated off-site, transported to the revegetation areas by truck and/or all-terrain vehicle where appropriate, and planted by hand labor.</p> |
| Bio-2: | <p>Exotic Plant Species Control -</p> <p>NPS and CDPR will monitor control strategies and performance measures for invasive non-native plants for up to 5 years,. Performance measures for planted natives will also be monitored for up to five years.</p> <p>Guided by these strategies and measures, NPS and CDPR restoration staff will conduct monitoring of invasive non-native plants and native plantings for up to five years following the project's implementation.</p> |
| Bio-3: | <p>Nesting Raptor Species -</p> <p>If construction is planned during the breeding seasons (January 1 – July 31) for any raptors, then a pre-construction survey to locate any potential raptor nests will be conducted in and around the project area. If a nest is located near the project area, then construction will not occur within 500 feet or an appropriate distance as defined by an NPS or MTSP wildlife biologist of the active nest until after the young have fledged and there is no evidence of a second attempt at nesting as determined by an agency-approved biologist.</p> |
| Bio-4: | <p>Sensitive Bat Species - The proposed project has a slight potential to affect sensitive bat species through the removal of trees that are used for roosting. Implementation of the following measure will reduce potential effects to a less than significant level.</p> <p>A bat habitat assessment and survey will be conducted by project proponents prior to construction in order to determine what species are present in trees identified for removal, and whether they are used for day, night, or maternity roosts. Trail alignments will be adjusted, where practicable, to avoid the removal of tree roosting habitat.</p> |
| Bio-5 | <p>Landbird Nesting – Vegetation will removal will be planned outside the landbird breeding season (March 1 – July 31). Nest surveys will be conducted by a qualified biologist prior to vegetation removal during the breeding season. If nests are located, a suitable non-work buffer determined by a qualified biologist based on species and habitat characteristics,</p> |

| Mitigation | Description |
|-------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | will be established and remain in place until birds could successfully fledge and move from the area. |
| Bio-6: | <p>California Red-legged Frog - Immediately prior to the start of work each morning, a USFWS-approved Biologist or DPR-qualified Biologist will conduct a visual inspection of the construction zone.</p> <p>Construction activity within the project site will also be spot checked during the work day by a USFWS- approved Biologist or a DPR-qualified Biologist.</p> <p>If a California red-legged frog is found, start of work at that project site will be delayed until the species moves out of the site on its own accord.</p> <p>All holes and trenches will be covered at the close of each work day or escape ramps (plywood or similar material) will be provided; all pipes, culverts or similar structures that are stored at the construction site for one or more overnight periods will be thoroughly inspected for CRLF before the pipe is subsequently buried, capped, or otherwise removed in any way to prevent animals from being trapped.</p> <p>Prior to the start of construction, all construction-related personnel will be instructed by a qualified biologist in the life history of the California red-legged frog and its habitat, and instruction in the appropriate protocol to follow in the event that a California red-legged frog is found onsite.</p> |
| Bio-7: | <p>Sudden Oak Death - Marin County is under quarantine regulations for Sudden Oak Death and the pathogen has been confirmed by laboratory analysis to occur in Samuel P. Taylor State Park, but not in Mount Tamalpais State Park or in any part of the project area.</p> <p>Integration of Sudden Oak Death BMPs into design plans will reduce impacts to a less than significant level.</p> <p>All project components impacting Sudden Oak Death host or carrier plants will follow the “Sudden Oak Death Best Management Practices in Zone of Infestation Regulated Areas, Assembled by the Management Committee of California Oak Mortality Task Force, 2002”.</p> |
| Cult-1: | <p>Cultural Resources, Protected Areas - Prior to the start of construction, a State Cultural Resource Specialist will review construction limits on the ground with the State Representative assigned to the project and mark (e.g. with flagging and/or plastic mesh construction fencing) the avoidance area. Specifically, site CA-MRN-567H, new site 60131-01, and elements of Ranch M will be designated “off-limits” during all construction activities. Neither mechanical equipment nor</p> |

| Mitigation | Description |
|------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | workers on foot will be allowed within the site boundaries. A State Cultural Resource Specialist will review construction limits on the ground with the State Representative assigned to the project and mark (e.g. with flagging and/or plastic mesh construction fencing) the avoidance area prior to the start of construction. All grading activities for new trail construction or old trail restoration near the flagged areas will be specifically monitored by a qualified Cultural Resource Specialist or his/her designee. |
| Cult-2: | Cultural Resources, Discovery Provisions - In the event that previously unknown cultural resources are encountered during project construction by anyone, they will be treated in accordance with 36 CFR 800.13 (Protection of Historic Properties: Post-review discoveries). The archeological resource will be assessed for its eligibility for listing on the NRHP in consultation with the SHPO and the Federated Indians of Graton Rancheria (if it is an indigenous archaeological site) and a determination of the project effects on the property will be made. If the site will be adversely affected, a treatment plan will also be prepared, as needed, during the assessment of the site's significance. Assessment of inadvertent discoveries may require archaeological excavations or archival research to determine resource significance. Treatment plans will fully evaluate avoidance, project redesign, and data recovery alternatives before outlining actions proposed to resolve adverse effects. |
| Cult-3: | Cultural Resources, Discovery Provisions - In the event that human remains are discovered, work will cease immediately in the area of the find and the project manager/site supervisor will notify the appropriate CDPR and NPS personnel. Protocols under federal law will apply for discoveries on federal land. For discoveries of native human remains on state land, these would be handled by CDPR in accordance with state burial laws. The find will be secured and protected in place. The Marin County coroner will be notified in accordance with §7050.5 of the California Health and Safety Code, and the Native American Heritage Commission (NAHC) will be notified within 24 hours of the discovery if the Coroner determines that the remains are Native American. If a determination finds that the remains are Native American and that no further coroner investigation of the cause of death is required, they will be treated in accordance with the Native American Graves Protection and Repatriation Regulations at 43 CFR 10.4 (Inadvertent Discoveries). |
| Geo-1: | Erosion Control - Prior to project construction, CDPR will prepare a Storm Water Pollution Prevention Plan (SWPPP) will be prepared. The SWPPP will identify all pollutant and sediment sources that may affect storm water discharges from the construction sites, identify and implement Best Management Practices (BMPs) to control erosion and runoff, and reduce or eliminate these pollutants and sediments during construction and post-construction, and develop a |

| Mitigation | Description |
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| | <p>maintenance schedule for post-construction BMPs.</p> <p>BMP erosion control methods include trail design strategies such as rolling grade dips and outsloping to encourage sheet flow across a trail surface. In wet areas measures may include surface reinforcing (e.g. cobbles in combination with geotextile or sheet drain materials), boardwalks, and drainage lenses. Other measures include locating new trails to avoid steep and/or erosive slopes. The BMPs established for post-construction erosion control will be assessed annually and maintained as needed for a period of three years following construction.</p> <p>Site-specific revegetation plans will utilize native species indigenous to the site for locations that are being rehabilitated. Quickly establishing vegetative cover on areas denuded from construction activities will minimize the potential for sediment production.</p> <p>Prior to the start of construction, training will be provided by a qualified biologist to construction staff in order to inform workers of the presence of federally listed species (e.g. Coho salmon, and steelhead) in area streams and the necessity for implementing BMPs. This training will also identify boundaries of construction zones and identify proper disposal of construction debris and the proper response to fluid spills.</p> <p>Implement Measure Haz-1 (see below).</p> |
| Haz-1: | <p>Hazardous Materials - Prior to the start of construction, the contractor will inspect all equipment for leaks and regularly inspect thereafter until equipment is removed from park premises.</p> <p>Prior to the start of construction, CDPR and/or NPS will prepare a Spill Prevention and Response Plan (SPRP) as part of the SWPPP and maintain a spill kit on-site throughout the life of the project. This plan will include a map that delineates construction staging areas, where refueling, lubrication, and maintenance of equipment will occur. This plan will identify and employ best management practices (BMP) as appropriate and necessary to contain, collect and dispose of hazardous materials and sediment. This plan will also identify lawfully permitted or authorized disposal destinations outside of park boundaries.</p> <p>Refueling, lubrication, and equipment maintenance areas will be located at least 100 feet from any bodies of water, including but not limited to Redwood Creek.</p> <p>In the event of any spill or release of any chemical in any physical form at the project site or within the boundaries of</p> |

| Mitigation | Description |
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| | <p>Mount Tamalpais State Park or GOGA during construction, the contractor will immediately notify the appropriate staff (e.g., project manager, supervisor, or State Representative) and implement appropriate spill containment procedures, as identified in the SPRP and SWPPP.</p> <p>Equipment will be cleaned and repaired (other than emergency repairs) outside state and national park boundaries. All contaminated water, sludge, spill residue, or other hazardous compounds will be contained and disposed of outside park boundaries, at a lawfully permitted or authorized destination.</p> |
| Haz-2: | <p>Hazardous Materials - Prior to the start of construction, the contractor will develop a fire safety plan for NPS and CDPR approval. This plan will include the emergency calling procedures and any required employee training.</p> <p>Spark arrestors or turbo-charging (which eliminates sparks in exhaust) and fire extinguishers will be required for all heavy equipment.</p> <p>Construction crews will be required to park vehicles away from flammable material, such as dry grass or brush. At the end of each workday, heavy equipment will be parked over mineral soil, asphalt, gravel, or concrete to reduce the chance of fire.</p> <p>Fire suppression equipment (fire extinguishers, fire hoses, etc.) will be available and located on park grounds. CDPR staff will be required to have a State Park radio on site, which will allow direct contact with the CDF and a centralized CDPR dispatch center, to facilitate the rapid deployment of control crews and equipment in case of a fire.</p> |
| Hydro-1: | <p>Hydrology - The following measures will be included in the SWPPP for erosion control:</p> <p>Construction activities will not be planned during the rainy season, but if storms are anticipated during construction or if construction must occur during the rainy season (October 15 – April 15), “winterizing” will occur, including the covering (tarping) of any stockpiled soils and the use of temporary erosion control methods to protect disturbed soil.</p> <p>Temporary erosion control measures (BMPs) will be used during all soil disturbing activities and until all disturbed soil has been stabilized (recompacted, re-vegetated, etc.) in order to control soil and surface water runoff during construction activities. CDPR-approved BMPs, such as silt fences, weed-free fiber rolls, mulch or other applicable techniques will be utilized. Information on example BMPs can be found in the Stormwater Best Management Practice Handbook for Construction, available on-line at www.cabmphandbooks.com.</p> <p>Permanent BMPs for erosion control will consist of properly compacting disturbed areas and revegetation of appropriate</p> |

| Mitigation | Description |
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| | <p>disturbed soil areas with native species using seed collected locally, where possible. If local native plant seeds are not available, a weed-free native mixture may be used with prior approval of the State’s Representative.</p> <p>Final project design plans will include permanent BMP measures to be incorporated into the project.</p> |
| Noi-1: | <p>Noise - Construction activities will be limited to the daylight hours, Monday – Friday. If weekend or holiday work is necessary, no work will occur on those days before 8:00 a.m. or after 6 p.m.</p> <p>Stationary noise sources and staging areas will be located as far away from sensitive receptors as possible. If they must be located near sensitive receptors, stationary noise sources will be muffled to the extent feasible and/or, where practicable, enclosed within temporary sheds.</p> |

ALTERNATIVES CONSIDERED BUT ELIMINATED FROM FURTHER EVALUATION

NPS and CDPD considered the potential of several alternative trail connections to fulfill project objectives. The project goal was to connect the existing Dias Ridge trail from the Panoramic trailhead to both SR1 in the vicinity of the Golden Gate Dairy and Frank Valley Road with a minimum of impacts to the cultural and natural resource values of the area. These alternative conceptual alignments were field checked, evaluated and improved, and ultimately dismissed from further consideration for various reasons. These are presented on Figure 2 and each is discussed below:

OPTION 1

Dias Ridge lower/east alignment (Shown in red on Figure 2). This alignment would connect low points along the existing alignment by paralleling SR1 above Green Gulch Farm for approximately 2,500 feet. This would improve the existing Dias Ridge alignment from an elevation-gain perspective; however, this alignment was rejected for the following reasons:

The proposed alignment is redundant to the existing trail alignment above and would be more directly visible from Green Gulch and SR1, negatively affecting the view of the project area from the south. Given its proximity to SR1, the proposed alignment would also be less desirable for trail users due to the visibility of and noise from vehicles on SR1. The steep landscape, with rock outcrops and seeps, is difficult terrain in which to construct a trail and represents an unacceptable level of impact.

OPTION 2

Dias Ridge west plus Miwok trail connection. (Shown in orange on Figure 2). This alignment would utilize and improve a portion of the existing non-designated trail on Dias Ridge in MTSP and then would head north to create a multi-use trail alignment that connects Dias Ridge with the existing Miwok trail in Mount Tamalpais State park. This alignment was rejected for the following reasons:

This route would not directly connect to SR1 at Muir Beach, failing to fulfill the project objectives with regard to the California Coastal Trail connection. The portion of this alignment heading north from Dias Ridge to the Miwok trail is located in known spotted owl habitat and in addition, formalizing a trail corridor on the top of Dias Ridge would be an impact to the scenic views of Dias Ridge from SR1 north of Muir Beach. This alignment is also partly in steep terrain with rock outcrops and seeps, and construction would be difficult.

OPTION 3

Dias Ridge west plus SR1 connection south. (Shown in purple on Figure 2). This alignment would utilize and improve a portion of the existing non-designated trail on Dias Ridge in MTSP and then connect to SR1 and the Golden Gate Dairy via a contouring alignment south. This alignment was rejected for the following reasons:

The southern portion of this alignment would be constructed through undisturbed Dias Ridge grasslands, causing an adverse impact to the area. This alignment would also create a visual impact to the scenic view of Dias Ridge from SR1 north of Muir Beach. The terrain, including

rock outcrops, seeps, and crossing of sub-drainages, is difficult in which to construct a trail and represents an unacceptable level of resource impacts.

OPTION 4

MTSP-GGNRA boundary to Redwood Creek trail at the SR1 – Frank Valley Road intersection. (Shown in yellow on Figure 2). This alignment is located on the boundary ridge between the parks and was rejected for the following reasons:

The terrain, including rock outcrops and seeps, would be difficult in which to construct a trail, and would also trigger impacts to undisturbed Dias Ridge grasslands. This trail alignment would create a visual impact to the scenic views of Dias Ridge from SR1 north of Muir Beach.

ENVIRONMENTALLY PREFERRED ALTERNATIVE

The Council on Environmental Quality Regulations implementing NEPA and the NPS NEPA guidelines require that “the alternative or alternatives which were considered to be environmentally preferable” be identified (CEQ Regulations, Section 1505.2). Ordinarily, this means the alternative that causes the least damage to the biological and physical environment; it also means the alternative that best protects, preserves, and enhances historic, cultural, and natural resources.

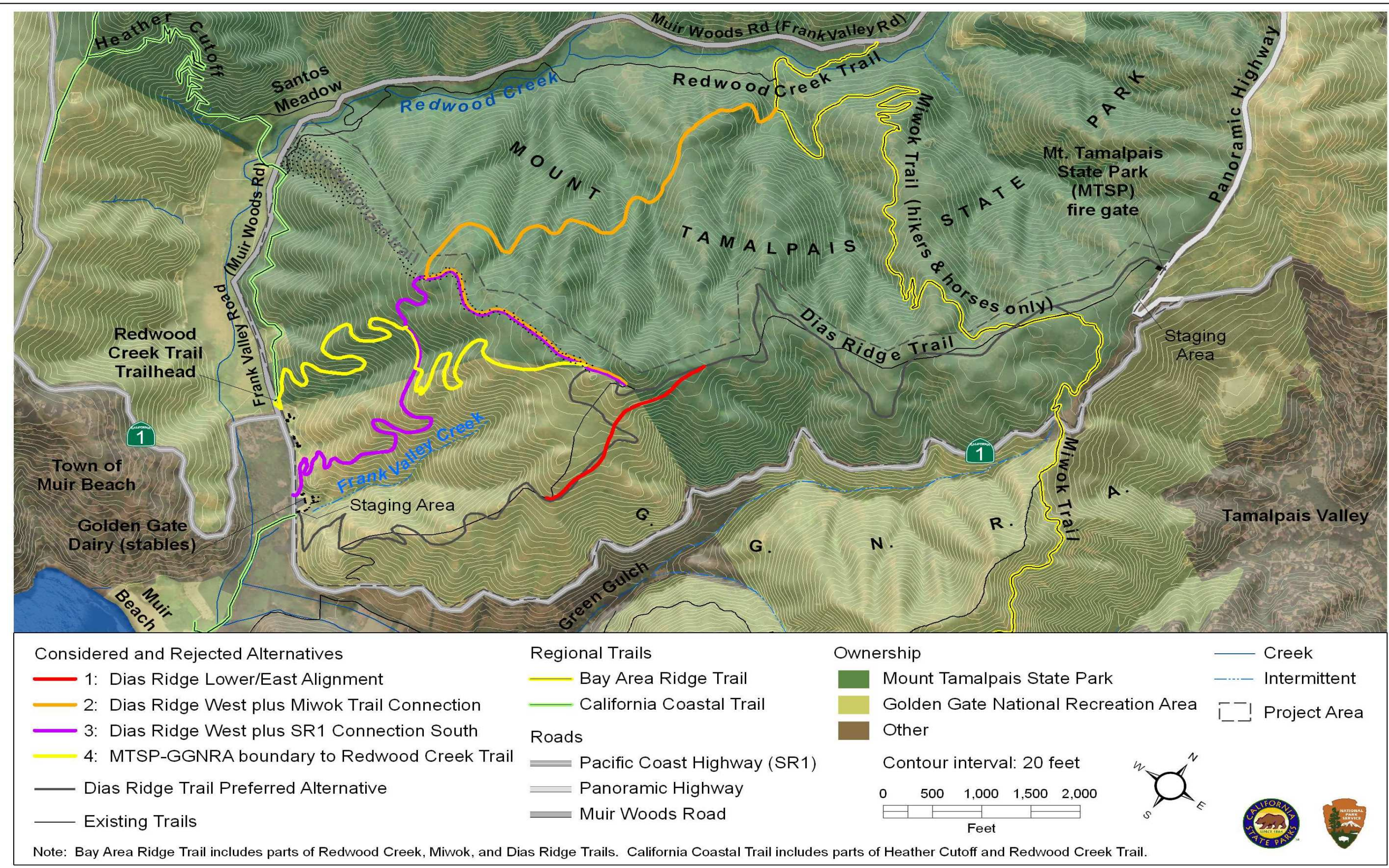
The Council on Environmental Quality defines the environmentally preferred alternative as “...the alternative that would promote the national environmental policy as expressed in the National Environmental Policy Act’s §101.” Section 101 of NEPA states that, “...it is the continuing responsibility of the Federal Government to . . .

- (1) fulfill the responsibilities of each generation as trustee of the environment for succeeding generations;
- (2) assure for all Americans safe, healthful, productive, and aesthetically and culturally pleasing surroundings;
- (3) attain the widest range of beneficial uses of the environment without degradation, risk to health or safety, or other undesirable and unintended consequences;
- (4) preserve important historic, cultural, and natural aspects of our national heritage, and maintain, wherever possible, an environment which supports diversity and variety of individual choice;
- (5) achieve a balance between population and resource use which will permit high standards of living and a wide sharing of life’s amenities; and
- (6) enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.”

The Action Alternative is the environmentally preferable alternative because it would provide the greatest benefit to natural and recreational resources in the project vicinity and would best meet the requirements in Section 101 of NEPA. The proposed action alternative would best fulfill the project objectives, as compared to the No Action alternative. Actions under Alternative B would provide erosion control, improve overall drainage conditions and reduce sediment runoff,

provide for habitat restoration and protection for federally listed species, long-term stewardship actions, and improvements to the trail and trailheads that will result in an improvement to safety and sustainability of visitor access and use of federal and state parklands. The No Action alternative would result in the continued management of the project area in its current conditions. Because there would be no significant improvements made to the deteriorated trail and habitat areas, visitor amenities, nor the degraded slopes and erosive soil conditions, the No Action alternative is the least environmentally preferred option.

Figure 3: Considered and Rejected Alternatives



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CHAPTER 3: AFFECTED ENVIRONMENT/ ENVIRONMENTAL CONSEQUENCES

INTRODUCTION

This chapter presents information on the affected environment and environmental consequences of the Dias Ridge Restoration and Trail Improvement Project. The environmental consequences are analyzed for the Proposed Action and the No Action Alternative. NEPA requires consideration of direct and indirect impacts, cumulative impacts, and measures to avoid, minimize, or mitigate adverse impacts. NPS policy also requires that “impairment” of resources be evaluated in all environmental documents. Cumulative impacts are discussed in each impact topic section; impairment analysis is provided for the project as a whole at the end of this chapter.

Additionally, a CEQA Environmental Checklist developed by the Governor’s Office of Planning and Research is included in this document as Appendix A. The Environmental Checklist, also known as an “Initial Study,” provides an analysis of environmental impacts on resources additional to those considered under NEPA. For the purposes of CEQA, the effects of implementing the Proposed Action are compared to Existing Conditions. For the purposes of NEPA, the effects of the Proposed Action are compared to No Action. For most issue areas, Existing Conditions and No Action are identical, so only one comparison is made.

METHODOLOGY

GENERAL METHODS FOR ASSESSING IMPACTS

The NPS has assessed both direct impacts (an effect that is caused by an action and occurs at the same time and place) and indirect impacts (an effect that is caused by an action but is later in time or farther removed in distance, but still reasonably foreseeable) for each project alternative. The analysis of environmental impacts considers the context, duration, intensity, and type of impact, as defined below.

Context

The context of the impact considers whether the impact would be local or regional. For the purposes of this analysis:

Local Impacts would generally be those that occur within the immediate vicinity of Dias Ridge and the Green Gulch sub-watersheds within the Redwood Creek watershed.

Regional Impacts would be those that occur on surrounding national and state park lands and in adjacent Marin County communities.

Duration

The duration of the impact considers whether the impact would occur in the short term or the long term.

Short-term impacts are temporary, transitional, or construction-related impacts associated with project activities.

Long-term impacts are typically those effects that would last several years or more or would be permanent.

Intensity

Intensity is a measure of the severity of an impact. The intensity of the impact considers whether the effect would be negligible, minor, moderate, or major.

Negligible impacts would not be detectable and would have no discernable effect.

Minor impacts would be slightly detectable, but would not be expected to have an overall effect.

Moderate impacts would be clearly detectable and could have an appreciable effect.

Major impacts would have a substantial, highly noticeable effect.

Type of Impact

Impacts were evaluated in terms of whether they would be beneficial or adverse. Beneficial impacts would improve resources/conditions. Adverse impacts would deplete or negatively alter resources/conditions.

Because definitions of intensity (negligible, minor, moderate, or major) vary by impact topic, intensity definitions are provided separately in the following section under each impact topic analyzed in this document.

Each alternative is compared to a baseline to determine the context, duration, and intensity of resource impacts. For purposes of impact analysis, the baseline is the continuation of current management projected over the next 10 years (alternative A). In the absence of quantitative data, best professional judgment was used to determine impacts. In general, the thresholds used come from existing literature, federal and state standards, and consultation with subject matter experts and appropriate agencies.

Cumulative Effects

The Council on Environmental Quality's regulations to implement the National Environmental Policy Act require the assessment of cumulative impacts in the decision-making process for federal projects. Cumulative impacts are defined as "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions" (40 CFR 1508.7). Cumulative impacts are considered for both the Proposed Action and the No Action alternative.

Cumulative impacts were determined by combining the impacts of the alternative being considered with other past, present, and reasonably foreseeable future actions. Therefore, it was necessary to identify other ongoing or reasonably foreseeable future projects at GGNRA and/or MTSP and, if applicable, the surrounding region.

Impairment

In addition to determining the environmental consequences of the alternatives, NPS Management Policies 2006 requires the analysis of potential effects to determine if actions would impair park resources. Under the NPS Organic Act and the General Authorities Act, as amended, the NPS may not allow the impairment of park resources and values except as authorized specifically by Congress. The NPS must always seek ways to avoid or minimize, to the greatest degree practicable, adverse impacts on park resources and values. However, the laws do give the NPS management discretion to allow impacts to park resources and values when necessary and appropriate to fulfill the purposes of a park, as long as the impact does not constitute impairment to the affected resources and values (NPS 2006:1.4.3).

Impairment to park resources and values has been analyzed in this document. Impairment is an impact that, in the professional judgment of the responsible NPS manager, would harm the integrity of park resources or values, including the opportunities that otherwise would be present for the enjoyment of those resources or values. 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 enabling legislation or proclamation of the park; is the key to the cultural or natural integrity of the park or to opportunities for enjoyment of the park; or as identified as a goal in the park's general management plan or other relevant NPS planning document. An impact would be less likely to constitute an impairment to the extent that it is an unavoidable result, which cannot be reasonably further mitigated, or an action necessary to preserve or restore the integrity of park resources or values.

The following process was used to determine whether the alternatives had the potential to impair park resources and values:

- The park's enabling legislation, the General Management Plan, the Strategic Plan, and other relevant background were reviewed with regard to the unit's purpose and significance, resource values, and resource management goals or desired future conditions.
- Management objectives specific to resource protection goals at the park were identified.
- Thresholds were established for each resource of concern to determine the context, intensity and duration of impacts, as defined above.
- An analysis was conducted to determine if the magnitude of impact reached the level of "impairment," as defined by NPS Management Policies.

AFFECTED ENVIRONMENT/ IMPACT ANALYSIS

Regulatory Background NEPA Regulations require federal agencies to study the proposed action's effects on the quality of the human environment. The term Human Environment, as used in the Act, shall be interpreted comprehensively to include the natural and physical environment and the relationship of people with that environment (40 CFR 1508.14).

VISUAL RESOURCES AND VISITOR EXPERIENCE

REGULATORY BACKGROUND

2006 NPS Management Policies - Scenic views are described as highly valued characteristics of the natural resources, processes, systems, and values found in national parks. Throughout the 2006 NPS Management Policies it is emphasized that facilities and construction need to minimize visual intrusions in the natural landscape, and need to be considered in locating facilities and park infrastructure. A specific example is in Section 4.7.1, Air Quality, which directs NPS to “perpetuate the best possible air quality in parks to (1) preserve natural resources and systems; (2) preserve cultural resources; and (3) sustain visitor enjoyment, human health, and scenic vistas.”

State Regulations - The entire segment of Hwy 1 in Marin County is an eligible state scenic highway under the Caltrans Scenic Highway Program. The Guidelines for the Official Designation of Scenic Highways (Caltrans 1996) states that the scenic corridors (defined as the area of land generally adjacent to and visible from the highway) of officially designated state scenic highways are subject to protection, including regulation of land use, site planning, advertising, earthmoving, landscaping, and design and appearance of structures and equipment. Examples of visual intrusions that would degrade scenic corridors as stipulated by Caltrans and that are applicable to this project include dense and continuous development, highly reflective surfaces, development along ridge lines, extensive cut and fill, scarred hillsides and landscape, exposed and unvegetated earth, and a dominance of exotic vegetation.

The lower portion of the proposed project is located in the coastal zone. The portion of the project located in the coastal zone is on GGNRA land. As federal land, under the Coastal Zone Management Act (CZMA), it is excluded from the coastal zone. However, the actions proposed in this project are consistent with the CZMA, and Marin County’s approved Local Coastal Plan. The Marin County LCP (Marin County 1980), as well as the Coastal Act, emphasize protection of views to scenic resources from public roads, beaches, trails, and vista points. The following analysis demonstrates consistency with this provision.

AFFECTED ENVIRONMENT

The following is a discussion of the existing visual quality of the project area and surrounding region.

Regional Visual Environment. The project area is comprised of portions of both Mount Tamalpais State Park and the Golden Gate National Recreation Area. Sweeping views of San Francisco, the Bay and the Pacific coast are a trademark of the area’s ridgelines (NPS 1999) and have drawn hikers since well before their inclusion as parklands. At 2,571 feet, Mount Tamalpais forms the highest point of this coastal range and the dominant visual feature of the Marin peninsula. These parklands retain great natural beauty despite the proximity and pressures of an urban population. Developed land represents only 11 percent of Marin acreage. The majority is held as parks, open space and watershed lands (48%) or for agricultural use (36%). The project area lies within the west side of Marin County, which remains primarily rural with scattered, small, unincorporated towns providing services for the agricultural industry, local residents, and tourism (NPS 2005a).

Marin County exercises stringent development policies to control lighting and protect dark night skies. High open spaces afford opportunities to view the night sky without intrusion from the overall sky glow of the San Francisco Bay Area.

Visually, the regional landscape is one of contrasts and complements. The horizontal lines of bay and ocean, and the edges of their meeting with land, are complemented by the ridgelines of rolling hills and gently rounded forms of low-growing coastal scrub and grasslands, and repeated in the highly visible horizontal corridors of Highways 1 and 101. The majority of the built environment is low-height and reinforces the concept of the horizontal environment. In contrast, the high peak and attenuated flanks of Mount Tamalpais dominate the region are complemented by the vertical lines of coastal bluffs and high headlands, steep hillsides, deep valleys, and tall forests.

Figure 4. Mt. Tam S. Face



Project Area Visual Environment. A description of the visual information (landform and water, vegetation and manmade development cover) within a project area, as well as its visual character and quality, serves as a baseline of existing conditions against which to measure the project's potential impacts. Visual impacts are considered from both the perspective of views *from* the project area and views *of* the project. For the Dias Ridge Restoration and Trail Improvement project, topography limits the visual boundaries into the project area.

The landforms consist of two adjacent valleys, bounded and separated by ridges. Green Gulch and Frank Valley intersect where Green Gulch Creek and Redwood Creek, join to create Big Lagoon before flowing over Muir Beach into the ocean. Coyote (or Fox) Ridge forms the south boundary of the Green Gulch watershed, while northeast-southwest trending Dias Ridge fans out between the two valleys. A narrow coastal terrace tops the ridgeline along the western edge of Frank Valley before dropping into the ocean. The small Muir Beach residential community occupies the terminal south slopes of this ridge as it dips to meet the alluvial plain at the mouth of Redwood Creek.

Green Gulch - Green Gulch starts as a relatively narrow, steep-sided valley to the east, just west of the SR1/Panoramic Highway intersection, and broadens into a wider alluvial plain as it nears the ocean. Green Gulch Farm occupies the valley floor, while publicly accessible trails traversing the valley, hillsides, and Coyote Ridge, are part of the extensive GGNRA trail network.

Approaching the project area from SR101 via SR1, the motorist experiences a gradual transition from a highly developed urban environment to a natural one. Past the intersection with Panoramic Highway, all evidence of the urban fringe disappears. The road passes beneath a grove of trees and emerges with views into the narrow Green Gulch. To the right, the steep Dias Ridge hillside blocks the view, and to the left, the roadside drops steeply off to the canyon below, with views to the richly textured mosaic of vegetation on the north slope of Coyote Ridge or the canopies of tall eucalyptus trees emerging from the canyon floor.

As the road reaches the entrance to Green Gulch Farm, there are glimpses of building structures screened by foliage and the valley floor below becomes visible, revealing the

Figure 5. View of Golden Gate Dairy from Dias Ridge



geometric patterns and more vibrant crop and flower colors of the farmed landscape. These are in a vivid contrast to the natural background features and vegetation. The valley widens and the view opens to Muir Beach and the ocean beyond, framed by

hillsides and the backdrop of Muir Beach homes. This is a foreground view of relatively short duration for the motorist. As the road curves again and elevation is lost, the long distant view is gone, replaced by a high quality foreground view of the cattail marsh, and verdant wetland and riparian vegetation surrounding Big Lagoon and Redwood Creek. Once SR1 turns north into Frank Valley, this view too disappears.

Frank Valley - About one quarter mile southeast of Muir Woods National Monument, Redwood Creek changes direction in a broad curve and flows southwest. The narrow canyon widens into a broader alluvial floodplain known as Frank Valley. This valley was historically subject to repeated flooding from Redwood Creek, resulting in alluvial deposition as well as channel migration, problems which continue to plague the area today. Red alders and arroyo willows form a generally contiguous canopy, and native understory species occur virtually throughout the entire corridor upstream from SR1. Buckeye, bay laurel, and coast live oak also occur (Hume 2005).

Motorists enter Frank Valley as SR1 leaves Green Gulch and turns north around the base of Dias Ridge. Opposite the Pelican Inn, a visual focal point at the junction to the Muir Beach turn-off, is the historic Golden Gate Dairy. The Golden Gate Dairy has a unique dramatic setting nestled between two flanking rocky slopes in a steep drainage east of Big Lagoon. Despite modern changes in adjacent land use, the dairy retains a connection with the surrounding natural topography. This is a frequently congested area where roads intersect, SR1 changes direction three times within a short distance, and several driveways enter the highway. The hillside backdrop and homes of the Muir Beach community block views westward and views north are partially obscured by the vegetation.

Dias Ridge - Dias Ridge, a northeast-southwest spur off Mount Tamalpais' northwest-southeast Throckmorton Ridge, is a gently undulating landscape punctuated with rugged rock outcroppings. North of the ridgeline the land slopes gradually towards Redwood Creek, but declines steeply to the valley floor just

Figure 6. Along the Dias Ridge Trail



above Frank Valley Road and the Redwood Creek Trail. A narrow band of land south of the ridgeline slopes toward Green Gulch then drops off precipitously to SR1 below. Vegetation cover is composed of coastal scrub and grassland, with a few oaks, wind-sculpted laurels, and Douglas firs present amid the coastal scrub (Spitz 1989). The Dias Ridge Trail tops the ridgeline, running generally parallel to SR1 in Green Gulch and connecting Panoramic Highway to SR1 north of Big Lagoon. The signed trailhead is located on the west side of the Panoramic Highway, approximately one-quarter mile from its intersection with SR1. From the south, the Miwok Trail joins the Dias Ridge Trail less than a mile from the trailhead and then departs about 500 feet later in a northwest direction down to Redwood Creek (Spitz 1989).

The Dias Ridge Trail begins in a visually open landscape with panoramic views in all directions. From Dias Ridge near the Panoramic Highway trailhead, views to the northeast feature Richardson Bay, Tiburon, Belvedere, Angel Island, and the East Bay. To the north, an almost unobstructed panorama of the entire south face of Mount Tamalpais is visible from Dias Ridge. Similar views south from Dias Ridge Trail over Coyote Ridge go past the Golden Gate to Montara Mountain on the San Mateo shore (Spitz 1989). Ocean views from the project area range from narrow glimpses of water to expansive coastline vistas. From the Muir Beach Overlook, the vista stretches from Bolinas and Point Reyes in the north to San Francisco's Ocean Beach in the south (NPS 2005c). As one's distance increases from Panoramic Highway, undulations in the landscape and waist high vegetation provide screening and opportunities for isolation and solitude. At lower elevations, views to locations out of the project area are obstructed by topography and vegetation. Ephemeral attributes that contribute to the character of the area include the sounds of nature – birds, and wildlife and wind – and the opportunities for viewing wildlife.

Dias Ridge is visible from several locations in the project vicinity. Motorists along Panoramic Highway have mid- to distant views of the ridgeline and east side of the project area for a short duration. Pedestrians and residents along the road have mid and long distant views of moderate to long duration. Dias Ridge can be seen from Coyote Ridge Trail and higher elevations of the Green Gulch hillside trails. The western facing hillside is visible from Muir Beach, some homes in the Muir Beach community, Frank Valley and the Banducci Ranch, the Golden Gate Dairy, motorists approaching from the north on SR1, and hikers on the Coast View Trail above the Banducci Ranch. These are middle ground to background views. For hikers, cyclists, and residents, the duration is moderate to long; for motorists, the view opportunity is generally of short duration. Factors that contribute to degradation of the visual and aesthetic environment are primarily the gullies, bare areas and other evidences of erosion along the Dias Ridge Trail and undesignated trail areas. Close to Panoramic Highway, traffic noise can be heard for a short distance.

Visitor Experience Conditions – The existing trail from Panoramic Road to the Golden Fate Dairy has many problematic sections for visitors. Several segments are excessively steep, narrow, overgrown, and severely eroded. The present trail alignment is poorly drained and frequently has standing water during the wet season. Many segments are steep with slippery rocky tread and others are steep and eroded, resulting in a gullied, dangerous and unusable trail tread.

The lower segment from the NPS/MTSP boundary to the Golden Gate Dairy is, in general, excessively steep, narrow, overgrown and eroded. Portions of the trail are not walkable, and

non-designated routes around difficult and overgrown eroded sections have developed. Other segments of the trail have grown to over 20 feet wide as users have avoided puddles and incised erosion gullies. The trail is designated as multi-use for its entirety; however, due to the impacts and safety concerns related to the typical problems mentioned above, the segment on NPS land (the lower segment) is presently closed to bicycles. User conflicts in particular occur on this lower segment as bicycles, hikers, and equestrians attempt to negotiate these difficult trail segments.

The Bay Area Ridge Trail (BART), an approximately 800 mile trail that encircles the Bay Area, runs through GGNR A and MTSP in the project area on the Miwok Trail from the south and continues north on the Deer Park fire road. The segment from Dias Ridge Trail north to Redwood Creek is designated for hikers and equestrians only. The California Coastal Trail (CCT) runs for approximately 1,000 miles along the California Coast. In this project area, the CCT enters from the north as a multi-use trail on the new Coast View Trail in MTSP. From there, the bicycle route continues south on SR1. The hiker and equestrian designation of the CCT continues in MTSP on the Heather Cutoff Trail and Redwood Creek Trail south to the

intersection of Frank Valley Road and SR1. The CCT designated alignment is interrupted along SR1 at Muir Beach from the Frank Valley Road intersection to the Golden Gate Dairy, a problem area that is proposed for future improvement. A continuation of the CCT south will be integrated into the Big Lagoon project along Pacific Way and through Muir Beach where it continues south on the Coastal Fire Road in GGNRA.

Figure 7. View from Dias Ridge Looking East



IMPACT ANALYSIS

Methodology

Views of the project area and views of the surrounding area from the project area are evaluated on their relative degree of vividness, intactness, and unity, as modified by the “visual sensitivity” of the viewer. Viewer sensitivity is based on the visibility of resources in the landscape, the proximity of viewers to the visual resource, the frequency and duration of viewing, the number of

viewers, and the type and expectations of individuals and viewer groups. The discussion identifies the project's potential impacts on visual resources and measures to avoid, reduce, or mitigate the intensity and duration of those impacts.

Public scoping input and observation of visitation patterns combined with an assessment of what is available for visitors currently were used to estimate the effects of the actions in the alternatives in this document. The impact on the ability of the visitor to experience a full range of visual/aesthetic experiences was analyzed by examining resources and objectives presented in the GGNRA significance statement.

The potential for change in visitor experience was evaluated by identifying projected increases or decreases in recreational trail use on Dias Ridge and other visitor uses, and determining whether these projected changes would affect the desired visitor experience and result in greater safety concerns or additional user conflicts.

The following thresholds for evaluating impacts on visual resources and visitor experience were defined:

Negligible: The visual quality of the landscape would not be affected or the effects would be at or below the level of detection, would be short-term, and the changes would be so slight that they would not be of any measurable or perceptible consequence to the visitor experience. Visitors would not be affected or changes in visitor use and/or experience would also be below or at the level of detection and any effects would be short-term.

Minor: Effects to the visual quality of the landscape would be detectable, although the effects would be short-term, localized, and would be small and of little consequence to the visitor experience. Change in visitor use and/or experience would be detectable although the changes would be slight and short-term.

Moderate: Effects to the visual quality of the landscape would be readily detectable, long-term and localized, with consequences at the regional level. Changes in visitor use and/or experience would be readily apparent and likely long-term. The visitor would be aware of the effects associated with the actions. Mitigation measures, if needed to offset adverse effects, would be extensive and likely successful.

Major: Effects to the visual quality of the landscape would be obvious, long-term, and would have substantial consequences to the visitor experience in the region. Changes in visitor use and/or experience would be readily apparent, severely adverse or exceptionally beneficial and have important long-term consequences. Extensive mitigation measures would be needed to offset any adverse effects and their success would not be guaranteed.

Alternative A

Under the no action alternative the existing trail alignments in the Lower Redwood Creek watershed would continue to cause resource damage to the park's landscapes and resources. The present Dias Ridge Trail alignment, a former ranch road/fire road, would continue to erode with visible gullies becoming more prominent over time. Exposed soils would become vectors for non-native plant establishment, creating a visual contrast to the surrounding native communities.

Visitor experience would also be affected because conflict regarding trails use designation would still be apparent. Visitors would also not benefit from improved wayfinding, and may be confused as to use designations and directions. Bicyclists would be subject to unsustainable and deteriorated trail segments.

Cumulative Impacts

No other projects are being planned in the viewshed of Dias Ridge project area, therefore no cumulative impacts are anticipated.

Conclusion

As viewed from key observation locations, keeping intact the existing deteriorated trail segments would result in moderate, long-term adverse effects to the visual environment of Dias Ridge. Although this alternative would not create any new visual features on the landscape, the existing eroding trail features would continue to be more visible over time. For people who visit this area under the existing conditions, they would continue to be exposed to deteriorated trail infrastructure, would be exposed to exposed soils and weeds, and depending on their mode (walking or riding) would encounter substandard trail conditions resulting in moderate, long-term, adverse impacts.

Alternative B

Visual Resources - The proposed trail improvements would be visible from various locations within the general vicinity, including Panoramic Highway, various nearby residences, the ridge south of Green Gulch and hillside trails along Green Gulch. The new trail alignment from the crest of Dias Ridge to SR1, south of Golden Gate Dairy, would be visible from the ridgeline and hillside trails south of Green Gulch, from roads and the Muir Beach community. Revegetation and restoration of the existing trail segments and non-designated trail areas on Dias Ridge would be seen from Frank Valley, the Coast View Trail, SR1 on the coastal ridge, and homes on the north and east side of the Muir Beach community.

The visual effect of trail construction would be the establishment of a bare soil trail tread with the removal of vegetation in the path of the trail. On side slopes, creation of the new trail widths would require bank cuts and filling. These grading activities would create areas above and below the edges of the trail where bare soil or rock is exposed to view. Visually, it may be apparent where construction has occurred because bare soil, being different in color and texture than surrounding vegetation, is readily distinguishable. When viewed face on, the resulting appearance of the hillside may vary depending on several factors including the steepness of the slope, the width of the trail tread, the height and spread of existing vegetation, and the position of the viewer. Continuous bare areas on hillsides may create the appearance of horizontal or diagonal lines or bands that are inconsistent with the visual character of an area.

The new trail would replace the existing one in much the same location and have similar construction standards (trail width and surface). Following planting/seeding of new trail edges, and the establishment of vegetation, the trail's long-term appearance would be compatible with the existing visual character of the site and result in a negligible effect on visual resources. The project would not significantly alter the views of the trail as commonly seen from Panoramic Highway or Green Gulch. Nor would it affect scenic views *from* the trail. The segment of new

Dias Ridge Trail along the northeast hillside above Golden Gate Dairy is located within the historic viewshed of the ranch. Impacts to the integrity of the setting would be mitigated to less than significant by screening this section of trail with coastal sage scrub vegetation consistent with the existing land cover.

Figure 8. Dias Ridge Trail Erosion Areas

Restoration of existing trails or eroded areas would involve the tilling of bare areas to loosen and aerate the compacted soil to provide conditions necessary for plant establishment. Along with trail replacement, restoration activities would enhance the area's visual quality through the re-establishment of contours more consistent with the natural landscape and revegetation. Overall, this would benefit the visual character and continuity of the site. There would be a short-term, minor, adverse affect on visual resources from exposed trail tread, bare trail edges, and restoration activities.



The short-term appearance of a larger disturbed bare soil area may occur as a result of creating a smooth and gradual transition to the adjacent undisturbed areas. The area would then be revegetated and the long-term effect would be beneficial as native plants eventually are established and provide visual screening, more diversity and improved wildlife habitat along the trail.

Visitor Experience - Overall, under this alternative, the restoration and reconstruction of the Dias Ridge Trail would greatly improve the visitor experience. A bicycle route separate from the dangerous road shoulder of SR1 would link the Bay Area Ridge Trail to Muir Beach. The new alignment would provide a stable, consistent trail tread of safe width, and an enjoyable route of varying moderate gradient with spectacular views of the Pacific Ocean and surrounding parklands. Generally, lines-of-sight on the new trail alignment would be maximized to allow for the safe passage and visibility of all users. In addition, new trailhead amenities and directional signage would also contribute to an enhanced visitor experience. The proposed trail improvements would be designated as the Bay Area Ridge Trail (BART) multi-use trail and would close a gap in the BART multi-use connectivity. The long-term impact on visitor experience would be local, beneficial and moderate. Short-term impacts on visitor experience would be local, adverse, and minor during the construction period.

Construction Activities - Project implementation could temporarily disturb the visitor experience by altering the visual resources in the area immediately affected by the work being performed. Construction equipment and personnel, staging areas and stored materials and stockpiles may be visible to motorists, trail users and residents over the period of construction. Although adverse, the affects of construction activities on visual resources would be short-term and minor.

All construction work for the proposed project would be limited to daylight hours, eliminating the need for night-time work lights. Neither construction nor operation of the trail would require or create lighting conditions that would adversely affect day or nighttime views. The project would have negligible or no effect on natural darkness.

Avoidance, Minimization and/or Mitigation Measures

The following measures are proposed to avoid or minimize potential effects of the project on aesthetic resources. The first measure ensures that bare soil areas created as a result of new trail construction would be revegetated to mitigate the potentially visually disruptive appearance of those areas and, along with the implementation of Best Management Practices, avoid direct or indirect effects on soil stability. The second measure addresses potential impacts of new trail construction on the historic Golden Gate Dairy viewshed.

Aesth-1: Project proponents will revegetate cut and fill slopes for stability to control erosion and to re-establish the visual continuity of vegetative cover through the duration of the project.

Aesth-2: Trail edges and any retaining walls along the new hillside trail south of Golden Gate Dairy will be vegetated using appropriate medium-to-tall coastal sage scrub species, where consistent with adjacent vegetation, to screen views of the trail from the dairy ranch complex.

Cumulative Impacts

Past and current land uses have taken a toll on the land, water, air, plants, wildlife, and silence. Evidence of the effects of prior human activity include the visual impacts of authorized and non-designated trail development, community development adjacent to park boundaries, non-native species invasion, erosion, and continued development within the state and federal parklands.

The management of GGNRA lands in Frank Valley and Green Gulch has been influenced by two overlapping goals, to make the area accessible to hikers, bikers, and horseback riders, and to attempt to restore the natural ecology. State Park efforts in Frank Valley have been directed at controlling the effects of trail erosion by improvements to the Heather Cutoff Trail. All projects implemented within these two valleys have had the direct or indirect effect of improving the visual quality of the area. Future Redwood Creek and Big Lagoon restoration work and Muir Beach improvements promise to result in continued enhancement of the visitor experience as well as the visual environment.

The proposed undertaking would not contribute to cumulative adverse effects to aesthetic resources within the project area.

Conclusion

As viewed from key observation locations, by restoring and realigning deteriorated trail segments would result in moderate, long-term beneficial impacts to the visual environment of Dias Ridge. Although this alternative would create new visual features on the landscape, these trail infrastructure changes would be in sustainable locations and would no longer be the source of erosion and gullyng. Vegetation establishment over time would blend the trail features so they blend with the surrounding natural landscape. The extensive construction actions that are required to restore and realign trail segments would cause moderate, short-term adverse impacts as noticed from key observation points looking into the project area. For people who visit this area under the new realigned and restored conditions would be exposed to

trail standards that enhance visitor experience due to improved trail width, slope, and location. During construction visitors would not be allowed into construction areas to protect their safety. This would result in minor, short-term adverse impacts to visitors. Impacts would not cause impairment.

CULTURAL RESOURCES

REGULATORY BACKGROUND

The term “cultural resources” as used in this document refers to all historical and archaeological resources, regardless of significance. The National Historic Preservation Act (NHPA) of 1966, as amended, defines federal agencies’ responsibility to preserve, conserve, and encourage the continuation of the diverse traditional prehistoric, historic, ethnic, and folk cultural traditions that underlie and are a living expression of our American heritage. The NHPA sets forth national policy and procedures regarding “historic properties,” defined as districts, sites, buildings, structures, and objects included or eligible for listing on the National Register of Historic Places (NRHP). Section 106 of the NHPA requires federal agencies to consider the effects of their actions on “historic properties” and to provide the Advisory Council on Historic Preservation (ACHP) with a reasonable opportunity to comment, following the Act’s implementing regulations (36 CFR 800).

The NPS, the California State Historic Preservation Officer (SHPO), and the ACHP entered into a Section 106 Programmatic Agreement (PA) in 1992 that details the procedures that must be followed for modifications, including new construction, on GGNRA lands. This agreement provides for internal review of some types of projects/activities, such as the rehabilitation of historic structures in accordance with the *Secretary of the Interior’s Standards for Historic Preservation*, (NPS 1992b) whose impacts do not cross the threshold from “no adverse effect” to “adverse effect.”

Cultural resource provisions of CEQA, as well as California Public Resources Code (PRC) Section 5024.1, which established the California Register of Historical Resources, apply to this joint federal/state undertaking. PRC Section 5024 requires state agencies to identify and protect state-owned resources that meet National Register of Historic Places listing criteria. Similarly, CEQA Section 15064.5 requires the “lead agency” to determine whether a proposed project, “may cause a substantial adverse change in the significance of an historical resource,” when identifying the project’s potential for causing significant effects on the environment.

AFFECTED ENVIRONMENT

For a federal undertaking, 36 CFR 800.16[d] requires establishment of the Area of Potential Effects, or “APE.” The APE is defined as *the geographic area(s) within which an undertaking may directly or indirectly cause alteration in the character or use of historic properties, if any such properties exist*. The APE for a given project is influenced by its nature and scale. For the Dias Ridge Trail Restoration project, NPS has determined that the APE is the same as the Project Area, depicted on Figure 1. In consultation with NPS and Native American representatives with interest in the project vicinity, a CDPR State Archaeologist and a State Historian conducted archival and field research and compiled an inventory of cultural resources in and near the APE.

Numerous cultural resource studies have been conducted in and around the Dias Ridge Restoration and Trail Improvement Project area. The most recent was a CDPR archaeological surface survey of selected portions of the APE (Wulzen and Osanna 2006). Planning for a GGNRA project at Big Lagoon, contiguous to the present project area, has also produced several useful reports. Ethnographic data for the southern Marin coast is sparse, but some information is found in Barrett (1908a, 1908b), Kroeber (1925), Kelly (1978), and Milliken (1995, 1998). Stewart (2003) restates this information in the context of GGNRA lands.

As part of this undertaking, a Historic Property Summary Report with Determination of Eligibility and Finding of Effect was prepared by the NPS and CDPR which identifies the historic and/or archeological resources that are potentially eligible for the National Register of Historic Places or the California Register of Historical Resources. The report included an inventory and review of existing resource information and studies, as well as field work for verification.

CDPR's archaeological survey coverage included approximately 110 acres in and around the Dias Ridge Rehabilitation and Trail Improvements project APE and additional areas under review for a future Coast View Trail extension (Wulzen and Osanna 2006). The physical examination of the APE was supplemented by records searches and review of historical source documents and maps. In addition, CDPR requested a search of the Native American Heritage Commission's (NAHC) Sacred Lands Inventory, for information on any potential sacred sites near the project area, as well as inviting input from Native American contacts on the NAHC list of contacts for Marin County.

According to the NWIC files, six historic properties are recorded within a one-half mile radius of the project area. These properties are evenly divided between precontact middens (CA-MRN-199, -333, and -499) and historical resources (CA-MRN-552H, -567H, and 570H). Three precontact midden sites not reported by the NWIC are discussed by Meyer (2005) and Psota (2006). Two of these, the Fan Site and Pelican Site (CA-MRN-674) are buried deposits on the fringe of a historic lagoon. The third, the Banducci Site, is thought to be on the banks of Redwood Creek upstream from the lagoon area, but it has not been formally recorded. Psota (2006) is evaluating the Pelican Site (CA-MRN-674) as eligible for the NRHP. CA-MRN-570H (Duncan 1988d) is the Frank Valley Road (a.k.a. Muir Woods Road), a historic alignment, portions of which date to as early as 1886 (USCGS 1886). It is now a paved county road and is outside the APE.

CA-MRN-567H is located within the project area. CA-MRN-567H (Duncan 1988e) represents the remains of the Dias Ranch, located principally on the east side of Panoramic Highway at the northeast end of the Dias Ridge Restoration and Trail Improvement Project. A portion of the site is recorded on the west side of the highway and within the current APE.

The 2006 survey located one new site (temporary number 60131-01) containing historic to recent trash and a watering trough located on State Parks land on Dias Ridge. This site is within the APE but has not been evaluated for eligibility to either the NRHP or the California Register of Historical Resources (CRHR). Both federal and state laws require that unevaluated resources must be considered eligible until they are formally evaluated for eligibility.

Ranch M, known as the Bello Ranch Property and the Golden Gate Dairy, is located at the western foot of Dias Ridge on SR1 and opposite the road into Muir Beach. It is in the process of being nominated to the National Register of Historic Places (NRHP) (NPS 2006a & 2006b) by

the National Park Service. It is within the APE of the Dias Ridge project. The nomination has identified 25 different buildings, structures or features as contributing elements and the property retains the appearance and feel of the vernacular architecture of a functioning dairy. The contributing features include both the Miwok Trail and the Diaz [sic] Ridge Trail/Road, segments of which are also within the APE (Weeks and McKee 2006a:7:8).

Table 2: Resources within the Area of Potential Effect

| Name/Number | Location | Type of Resource | Status of Listing |
|---------------------------------------------|-----------------|------------------------------------|----------------------------------------------------|
| CA-MRN-567H | State park land | Historic archeology | Not evaluated for NHRP or CRHR listing |
| Site 60131-01 | State Park land | Historic archeology | Not evaluated for NHRP or CRHR listing |
| Ranch M (Bellar Ranch or Golden Gate Dairy) | NPS land | Historic ranch, cultural landscape | Eligible, nomination to NRHP being prepared by NPS |

IMPACT ANALYSIS

Methodology

Impacts to cultural resources (archaeological resources, historic structures, the cultural landscape, or traditional cultural properties) are described in terms of type, context, duration, and intensity, which is consistent with the Council on Environmental Quality regulations implementing NEPA. These impact analyses are intended, however, to comply with the requirements of both NEPA and Section 106 of the National Historic Preservation Act.

The NPS and CDPR cultural resources staff identified potential resources that could be effected by the project and the potential impacts were evaluated in accordance with the Advisory Council on Historic Preservation’s regulations implementing Section 106 (36 CFR Part 800, “Protection of Historic Properties”). Consistent with this process, the Area of Potential Effects (APE) was first determined along with the identification of cultural resources within the APE that are either listed on or eligible to be listed on the National Register of Historic Places (i.e. “Historic Properties”). Then, staff applied the criteria of adverse effect to any Historic Property in the APE and considered ways to avoid, minimize, or mitigate adverse effects, whether direct or indirect, on those historic properties.

Under 36 CFR Part 800, a finding of *adverse effect* or *no adverse effect* must be made for NRHP-listed or -eligible historic properties affected by the federal undertaking. An *adverse effect* occurs whenever an impact alters, directly or indirectly, any of the characteristics of an Historic Property that contributes to its eligibility for inclusion on the NRHP (e.g. diminishing the integrity of the resource’s location, design, setting, materials, workmanship, feeling, or association). Adverse effects also include reasonably foreseeable effects that would be caused by a proposed action but would occur later in time, be farther removed in distance or be cumulative (36 CFR Part 800.5, “Assessment of Adverse Effects”). A determination of *no adverse effect* means there is an effect, but the effect would not diminish in any way the characteristics of the cultural resource that qualify it for inclusion on the NRHP.

Archeological Resources. Certain important research questions about human history can only be answered by the actual physical material of cultural resources. Archaeological resources have the potential to answer, in whole or in part, such research questions. An archaeological site can be eligible for listing on the National Register of Historic Places if the site has yielded, or may be likely to yield, information important in pre-contact history or European-American history.

For purposes of analyzing impacts to archaeological resources, thresholds for evaluating the intensity of an impact are based upon the potential of the site(s) to yield information important in pre-contact historic and European-American history, as well as the probable historic context of the affected site(s):

Negligible: The impact would be at the lowest levels of detection or barely measurable, with no perceptible consequences, either adverse or beneficial, to archaeological resources. For purposes of Section 106, the determination of effect would be *no adverse effect*.

Minor: *Adverse impact:* The disturbance of a site would be confined to a small area with little, if any, loss of important information potential. For purposes of Section 106, the determination of effect would be no adverse effect.

Beneficial impact: A site would be preserved in its natural state. For purposes of Section 106, the determination of effect would be no adverse effect.

Moderate: *Adverse impact:* Disturbance of a site would not result in a substantial loss of important information. For purposes of Section 106, the determination of effect would be *adverse effect*.

Beneficial impact: The site would be stabilized. For purposes of Section 106, the determination of effect would be *no adverse effect*.

Major: *Adverse impact:* Disturbance of a site would be substantial and would result in the loss of most or all of the site and/or its potential to yield important information. For purposes of Section 106, the determination of effect would be *adverse effect*.

Beneficial impact: There would be active intervention to preserve the site. For purposes of Section 106, the determination of effect would be *no adverse effect*.

Historic Structures/Buildings. In order for a structure or building to be listed on the National Register of Historic Places, it must be associated with an important historic context, i.e. possess significance — the meaning or value ascribed to the structure or building, *and* have integrity of those features necessary to convey its significance (i.e., location, design, setting, workmanship, materials, feeling, and association; see National Register Bulletin #15, *How to Apply the National Register Criteria for Evaluation*; NPS 1995a).

For purposes of analyzing potential impacts to historic structures/buildings, the thresholds for evaluating the intensity of an impact are defined as follows:

Negligible: The impact would be at the lowest level of detection or barely perceptible and not measurable. For purposes of Section 106, the determination of effect would be *no adverse effect*.

Minor: *Adverse impact:* The impact would not affect the character-defining features of a structure or building listed on or eligible for the National Register of Historic Places. For purposes of Section 106, the determination of effect would be *no adverse effect*.

Beneficial impact: The character-defining features would be stabilized/preserved in accordance with the *Secretary of the Interior’s Standards for the Treatment of Historic Properties* (NPS 1995b), to maintain existing integrity of a structure or building. For purposes of Section 106, the determination of effect would be *no adverse effect*.

Moderate: *Adverse impact:* The impact would alter a character-defining feature(s) of the structure or building but would not diminish the integrity of the resource to the extent that its National Register eligibility would be jeopardized. For purposes of Section 106, the determination of effect would be *adverse effect*.

Beneficial impact: The structure or building would be rehabilitated in accordance with the *Secretary of the Interior’s Standards for the Treatment of Historic Properties* to make possible a compatible use of the property while preserving its character-defining features. For purposes of Section 106, the determination of effect would be *no adverse effect*.

Major: *Adverse impact:* The impact would alter a character-defining feature(s) of the structure or building, diminishing the integrity of the resource to the extent that it is no longer eligible for listing on the National Register. For purposes of Section 106, the determination of effect would be *adverse effect*.

Beneficial impact: The structure or building would be restored in accordance with the *Secretary of the Interior’s Standards for the Treatment of Historic Properties* to accurately convey its form, features, and character as it appeared during its period of significance. For purposes of Section 106, the determination of effect would be *no adverse effect*.

Alternative A

Under Alternative A, no trail realignment or improvements would be made. Thus, there would be no effect on cultural resources within the project area. Visitor use would continue and existing soil erosion would also continue.

Cumulative Impacts

No other projects are planned in the project area, therefore no additional cumulative effects are expected to impact cultural resources.

Conclusion

Under this alternative, as no improvements would be made, there would be no effect on cultural resources and thus no impairment of those resources.

Alternative B

A total of ten cultural resource sites are reported within one half mile of the project area. Of these, seven are clearly outside the project boundaries and would not be affected in any way. The potential effects on the three remaining cultural resources that are within the APE are discussed below.

CA-MRN-567H, The Dias Ranch, in the northeast quadrant of the project area, would see minor adjustments to the alignment of the upper portion of the Dias Ridge Trail within the defined site boundary. The current trail was probably originally graded as a fire break, not as a feature of the Dias Ranch. There would be No Effect to CA-MRN-567H as a result of the proposed action.

The new alignment of the Dias Ridge Trail would move traffic farther away from newly recorded Site 60131-01, a historic trash scatter beside a large rock outcrop on Dias Ridge. The previously visible deposit would be obscured from trail users by intervening vegetation. There would be No Effect on 60131-01.

Ranch M, the Bello Ranch Property or Golden Gate Dairy, would see new trail construction descending off of Dias Ridge, passing across the west side of the dairy property and off to the northwest, paralleling SR1. While segments of the trails identified as contributing elements would be modified, the intent of these modifications is to improve the recreational use of the trails. Such modifications would not change the current use or the character defining elements of the trails and are meant to enhance rather than remove them. The construction of a 25 foot bridge across would be an introduction of a non-historic element in a historic landscape setting. However, the bridge would be constructed of redwood, left to age in the elements, and would be compatible with, yet distinguishable from, the historic architecture of the Golden Gate Dairy, resulting in no adverse impact. Ground disturbance related to construction of the Frank Valley Creek bridge would be monitored for the presence of archeological resources. Overall, there would be No Adverse Effect to Ranch M.

Avoidance, Minimization, and/or Mitigation Measures

Cult-1: Protected Areas: Prior to the start of construction, a State Cultural Resource Specialist will review construction limits on the ground with the State Representative assigned to the project and mark (e.g. with flagging and/or plastic mesh construction fencing) the avoidance area. Specifically, site CA-MRN-567H, new site 60131-01, and elements of Ranch M will be designated “off-limits” during all construction activities. Neither mechanical equipment nor workers on foot will be allowed within the site boundaries. A State Cultural Resource Specialist will review construction limits on the ground with the State Representative assigned to the project and mark (e.g. with flagging and/or plastic mesh construction fencing) the avoidance area prior to the start of construction. All grading activities for new trail construction or old trail restoration near the flagged areas will be specifically monitored by a qualified Cultural Resource Specialist or his/her designee.

Cult-2: Discovery Provisions: In the event that previously unknown cultural resources are encountered during project construction by anyone, they will be treated in accordance with 36 CFR 800.13 (Protection of Historic Properties: Post-review discoveries). The archeological resource will be assessed for its eligibility for listing on the NRHP in consultation with the SHPO and the Federated Indians of Graton Rancheria (if it is an indigenous archaeological site) and a determination of the project effects on the property will be made. If the site will be adversely

affected, a treatment plan will also be prepared, as needed, during the assessment of the site's significance. Assessment of inadvertent discoveries may require archaeological excavations or archival research to determine resource significance. Treatment plans will fully evaluate avoidance, project redesign, and data recovery alternatives before outlining actions proposed to resolve adverse effects.

Cult-3: Discovery Provisions: In the event that human remains are discovered, work will cease immediately in the area of the find and the project manager/site supervisor will notify the appropriate CDPR and NPS personnel. Protocols under federal law will apply for discoveries on federal land. For discoveries of native human remains on state land, these would be handled by CDPR in accordance with state burial laws. The find will be secured and protected in place. The Marin County coroner will be notified in accordance with §7050.5 of the California Health and Safety Code, and the Native American Heritage Commission (NAHC) will be notified within 24 hours of the discovery if the Coroner determines that the remains are Native American. If a determination finds that the remains are Native American and that no further coroner investigation of the cause of death is required, they will be treated in accordance with the Native American Graves Protection and Repatriation Regulations at 43 CFR 10.4 (Inadvertent Discoveries).

Cumulative Impacts

As noted above, the archaeological sites recorded near the APE bear little or no evidence of effects from prior actions in the area and the project will not affect the historic values associated with the built environment in and near the APE. Protective measures have been incorporated into the project to avoid adverse effects on cultural resources and it therefore will not contribute to any cumulative effects.

Conclusion

Under this alternative, the proposed trail work would not result in an adverse effect to cultural resources within the APE. The new alignment of the trail would be a long-term, minor beneficial effect for Site 60131-01 by distancing traffic away from the site. The overall resulting impacts to cultural resources would be local, long-term, beneficial, and negligible. This project would not result in impairment to Cultural Resources.

PHYSICAL ENVIRONMENT

WATER QUALITY

REGULATORY BACKGROUND

Section 401 of the Clean Water Act, the primary federal law regulating water quality, requires water quality certification from the State Water Resources Control Board (SWRCB) or Regional Water Quality Control Board when a project (1) requires a federal license or permit, and (2) will cause discharge into waters of the United States, in the State of California. Section 402 of the Clean Water Act establishes the National Pollutant Discharge Elimination System (NPDES) permit requirement for the discharge of any pollutant (except dredge or fill material) into waters of the United States. The California Environmental Protection Agency (CalEPA) has delegated

administration of the federal NPDES program to the SWRCB and the Regional Water Quality Control Boards (RWQCBs). The Dias Ridge Restoration and Trail Improvement Project is within the jurisdiction of the San Francisco Bay RWQCB.

In addition to the NPDES permit, a Stormwater Pollution Prevention Plan (SWPPP) is required for all projects that affect an acre or more of land. Included in the SWPPP are the Best Management Practices (BMPs) that would be used on the project to prevent soil erosion, siltation, and non-stormwater impacts to water quality.

AFFECTED ENVIRONMENT

Water quality monitoring has been conducted in Redwood Creek and its tributaries at several locations throughout the years. Most of the monitoring has focused on the lower portion of Redwood Creek (NPS 2005). The following water quality information has been obtained from the National Park Service's Feasibility Analysis Report, Big Lagoon Wetland and Creek Restoration Project (PWA 2004). The water temperature ranged from 11-15°C in the winter and spring months to 18-19°C in the late summer and fall. These temperatures are within the tolerance of many aquatic organisms. There are high salinity levels in the downstream backwater area exposed to tidal intrusion in the summer months. Salinity levels are low throughout the upstream portions of Redwood Creek. The dissolved oxygen levels in Redwood Creek are generally near saturation conditions (high) except during the summer and fall when they drop. However, these levels are still above those necessary for fish. The nitrate and ammonia levels were high in the lower portions of Redwood Creek. The phosphate levels are low in the lower reaches of Redwood Creek. Very fine suspended sediments such as clay, silt, organic matter, and microscopic organisms cause turbidity in the stream. It is very likely that the significant amount of erosion occurring in the project area are contributing sediment to Redwood Creek causing adverse conditions for anadromous fish habitat.

Surface Water. Mean annual precipitation within the watershed is 37.5 inches (NPS 2005). Redwood Creek displays the hydrology that is typical of northern California coastal streams. At the beginning of the year, groundwater aquifers have been replenished and flow is high and will become higher after a precipitation event. By late spring and summer flow is fed by groundwater and upper watershed springs. By the end of the summer there is almost no surface water flow. See Figure 9, Seeps and Springs in Project Area. (URS 2006).

Water Supply. The water supply for Mount Tamalpais State Park comes from three wells and municipalities. The well closest to the proposed project site is the one at Frank Valley. The Golden Gate National Recreational Area has two park residences in Muir Beach and they receive their water from the Muir Beach Community Service District.

Water Quality. The NPS Management Policies 2006 state that the NPS will "take all necessary actions to maintain or restore the quality of surface waters and groundwaters within the parks consistent with the Clean Water Act and all other applicable federal, state, and local laws and regulations" (sec. 4.6.3).

A water quality standard defines the water quality goals of a waterbody by designating uses to be made of the water, by setting minimum criteria to protect the uses, and by preventing degradation of water quality through antidegradation provisions. The antidegradation policy is only one portion of a water quality standard. Part of this policy [40 CFR 131.12(a)(2)] strives to

maintain water quality at existing levels if it is already better than the minimum criteria. Antidegradation should not be interpreted to mean that “no degradation” can or will occur, as even in the most pristine waters, degradation may be allowed for certain pollutants as long as it is temporary and short term.

Other considerations used to assess the magnitude of water quality impacts include the effects on those resources dependent on a certain quality or condition of water. Sensitive aquatic organisms, submerged aquatic vegetation, riparian areas, and wetlands are affected by changes in water quality from direct and indirect sources.

IMPACT ANALYSIS

Methodology

While many parks do have established water quality monitoring programs, not all organic compounds are systematically measured. In the absence of park-specific data, available water quality benchmarks or criteria and estimated discharge rates of organics were used as the basic tools to address water quality impacts potentially resulting from the alternatives.

Given the above water quality issues and methodology and assumptions, the following impact thresholds were established in order to describe the relative changes in water quality (overall, localized, short and long term, cumulatively, adverse and beneficial) under the project alternatives:

Negligible: Impacts are chemical, physical, or biological effects that would not be detectable, would be well below water quality standards or criteria, and would be within historical or desired water quality conditions.

Minor: Impacts (chemical, physical, or biological effects) would be detectable but would be well below water quality standards or criteria and within historical or desired water quality conditions.

Moderate: Impacts (chemical, physical, or biological effects) would be detectable but would be at or below water quality standards or criteria; however, historical baseline or desired water quality conditions would be altered on a short-term basis.

Major: Impacts (chemical, physical, or biological effects) would be detectable and would be frequently altered from the historical baseline or desired water quality conditions; and/or chemical, physical, or biological water quality standards or criteria would be slightly and singularly exceeded on a short-term basis.

Alternative A

The No Action alternative would result in a continuation of existing conditions, which would result in continued soil erosion and sedimentation into Redwood Creek. No new impacts to the existing conditions would occur.

Cumulative Impacts

The No Action alternative would result in a continuation of existing conditions. No new impacts to the existing conditions would occur as a result of the no action alternative.

Conclusion

Under Alternative A, the impacts to water quality would be regional, long-term, adverse, and moderate. Although impairment might not occur by maintaining existing practices, sediment would continue to impact important anadromous fish habitat in Redwood Creek.

Alternative B

The Dias Ridge Restoration and Trail Improvement Project is designed to improve an existing multi-use trail and its immediate environs. There would not be a substantial change in operation or condition of the site, however, soil erosion problems would be remedied, thus reducing the amount of sedimentation into Redwood Creek. During excavation or trenching operations associated with the Dias Ridge Restoration and Trail Improvement Project, a release of sediment into Redwood Creek could occur, but would be minor and short-term. Other impacts to water quality could result from releases of fuels or other fluids from vehicles and equipment during construction activities. However, if appropriate measures are not taken, these activities could result in a violation of water quality standards and waste discharge requirements. BMPs would be put in place to control any spills that might occur during construction from migrating into the surface water and groundwater. Therefore, significant impacts to the surface water and groundwater quality would not occur as a result of project implementation. Long-term, the rehabilitation of the trail network, along with creating a sustainable trail design will substantially improve the erosion that is occurring under existing conditions.

Avoidance, Minimization, and/or Mitigation Measures

Hydro-1: A SWPPP will be developed and implemented and will include measures (BMPs) to prevent, contain, and clean up any spills, and to protect water quality. The following measures will be included in the SWPPP for erosion control:

Construction activities will not be planned during the rainy season, but if storms are anticipated during construction or if construction must occur during the rainy season (October 15 – April 15), “winterizing” will occur, including the covering (tarping) of any stockpiled soils and the use of temporary erosion control methods to protect disturbed soil.

Temporary erosion control measures (BMPs) will be used during all soil disturbing activities and until all disturbed soil has been stabilized (recompacted, re-vegetated, etc.) in order to control soil and surface water runoff during construction activities. CDPR-approved BMPs, such as silt fences, weed-free fiber rolls, mulch or other applicable techniques will be utilized. Information on example BMPs can be found in the Stormwater Best Management Practice Handbook for Construction, available on-line at www.cabmphandbooks.com.

Permanent BMPs for erosion control will consist of properly compacting disturbed areas and revegetation of appropriate disturbed soil areas with native species using seed collected locally, where possible. If local native plant seeds are not available, a weed-free native mixture may be used with prior approval of the State’s Representative.

Final project design plans will include permanent BMP measures to be incorporated into the project.

In addition, the mitigation measures *Geo -1*, *Haz-1*, and *Haz-2* will be implemented.

Cumulative Impacts

Past and current developments and land uses both within and adjacent to MTSP and GGNRA have contributed to increased runoff and surface water quality issues within the Redwood Creek Watershed. However, implementation of the measures described in Appendix A, would considerably reduce the effects of the Proposed Action on hydrology and water quality.

Conclusion

Under Alternative B the impacts to water quality would be regional, long-term, beneficial and moderate. This alternative will not cause impairment to water quality.

HAZARDS, HAZARDOUS MATERIALS, AND PUBLIC SAFETY

REGULATORY BACKGROUND

AFFECTED ENVIRONMENT

Hazardous Materials. The term “recognized environmental conditions,” as defined by American Society for Testing and Materials Designation E 1527-00, means: *The presence, or likely presence, of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property.* The term includes hazardous substances or petroleum products even under conditions in compliance with laws. The term is not intended to include de minimis conditions that generally do not present a material risk of harm to public health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies (ASTM 2006).

There has been no known industrial use or construction of buildings in the project area that could have been a source of hazardous materials.

Fire Hazards. The Park region is rated as having high to very high fire danger by Marin County (Marin County 2005). The Park’s fire suppression needs are met by the California Department of Forestry and Fire Protection (CDF) and the Marin County Fire Department.

A recent search of the California Department of Toxic Substance Control’s (CDTSC) Envirostor Database for Federal Superfund Sites, State Response Sites, Voluntary Cleanup Sites, and School Cleanup Sites found there are no recognized environmental conditions that affect the project area (CDTSC 2006).

IMPACT ANALYSIS

Methodology

Hazards and Hazardous Materials: In the absence of park-specific directives, potential hazards were evaluated using the methods and assumptions of the CEQA Initial Study (see Appendix A). Under CEQA, a project may be considered to have a “significant environmental effect” if it will:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;

- Create a significant hazard to the public or the environment through reasonably foreseeable upset and/or accident conditions involving the release of hazardous materials, substances, or waste into the environment;
- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school;
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan; or
- Expose people or structures to a significant risk of loss, injury, or death from wildland fires, including areas where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

Visitor Conflicts and Safety. The methods for evaluating potential visitor conflicts and safety are similar to that used for visitor experience. Any potential for visitor-related impacts attributable to the Dias Ridge Restoration and Trail Improvements project, including conflicts with other park users, having negative effects on some types of visitor experiences — could potentially affect the mandate to provide for injury-free visits. Potential impacts were identified based on the number of visitors in an area, and the proximity of these user groups.

The impact intensities for both visitor conflicts and public safety follow. Where impacts to visitor experience or visitor safety become moderate or minor, it is assumed that current visitor satisfaction and safety levels would begin to decline and the park would not be achieving some of its long-term visitor goals.

Negligible: Public health and safety would not be affected, or the effects would be at low levels of detection and would not have an appreciable effect on public health or safety.

Minor: The impact would be measurable or perceptible, and it would be limited to a relatively small number of visitors at localized areas. Impacts to visitor safety could be realized through a minor increase or decrease in the potential for visitor conflicts in current accident areas. The effect would be likely to be short-term and would not have an appreciable effect on public health and safety. If mitigation were needed, it would be relatively simple and would likely be successful.

Moderate: The impact to visitor safety would be sufficient to cause a permanent change in accident rates at existing low accident locations or to create the potential for additional visitor conflicts in areas that currently do not exhibit noticeable visitor conflict trends. The effects would be readily apparent and long-term, and would result in substantial, noticeable effects to public health and safety on a local scale. Mitigation measures would probably be necessary and would likely be successful.

Major: The impact to visitor safety would be substantial either through the elimination of potential hazards or the creation of new areas with a high potential for serious accidents or hazards. The effects would be readily apparent and long-term, and would result in substantial, noticeable effects to public health and safety on a regional scale. Extensive mitigation measures would be needed, and their success would not be guaranteed.

Alternative A

Under this alternative there would be no construction activities, therefore there would be no potential impacts from hazardous materials and no changes to visitor safety. No trail improvements would be implemented, so current safety hazards created from erosion and slope instability would continue.

Cumulative Impacts

The project area may be intermittently treated to control non-native vegetation. Techniques to control non-native vegetation are decided through the park's Integrated Pest Management program, but may include use of herbicides where appropriate.

Conclusion

Under this alternative there would be no construction activities, therefore there would be no potential impacts from hazardous materials and no changes to visitor safety. No trail improvements would be implemented, so current safety hazards created from erosion and slope instability would continue.

Alternative B

Construction activities would require the use of certain potentially hazardous materials, such as fuels, oils, or other fluids associated with the operation and maintenance of vehicles and equipment. These materials are generally contained within vessels engineered for safe storage. Large quantities of these materials would not be stored at or transported to the construction site. However, spills, upsets, or other construction-related accidents could result in a release of fuel or other hazardous substances into the environment. Implementation of the Measure Hazmat-1 would reduce the potential for adverse impacts from these incidents to a less than significant level. In addition, implementation of the Spill Prevention Plan and conditions discussed above would reduce any risk to on-site workers, the public, or the environment to a less than significant level.

The proposed work would take place in an area of grasslands and flammable shrubs and trees. Construction equipment can get very hot with extended use; this equipment could sometimes be in close proximity to dry grasses or other fuels. Improperly outfitted exhaust systems or friction between metal parts and/or rocks could generate sparks, resulting in a fire. Integration of the following construction fire control measures into design and construction plans would reduce the potential for adverse construction impacts from this project to a less than significant level.

The proposed project would result in a net benefit to visitor safety, as the final trails would be constructed to GGNRA trail standards and would include signs to promote safe trail use. Furthermore, the removal of non-designated trails, the stabilization of erosion areas, and the removal of debris would reduce overall potential hazards to visitors.

Avoidance, Minimization and/or Mitigation Measures

The following would be implemented as part of the project's construction:

Haz-1: Prior to the start of construction, the contractor will inspect all equipment for leaks and regularly inspect thereafter until equipment is removed from park premises.

Prior to the start of construction, CDPR and/or NPS will prepare a Spill Prevention and Response Plan (SPRP) as part of the SWPPP and maintain a spill kit on-site throughout the life of the project. This plan will include a map that delineates construction staging areas, where refueling, lubrication, and maintenance of equipment will occur. This plan will identify and employ best management practices (BMP) as appropriate and necessary to contain, collect and dispose of hazardous materials and sediment. This plan will also identify lawfully permitted or authorized disposal destinations outside of park boundaries.

Refueling, lubrication, and equipment maintenance areas will be located at least 100 feet from any bodies of water, including but not limited to Redwood Creek.

In the event of any spill or release of any chemical in any physical form at the project site or within the boundaries of Mount Tamalpais State Park or GOGA during construction, the contractor will immediately notify the appropriate staff (e.g., project manager, supervisor, or State Representative) and implement appropriate spill containment procedures, as identified in the SPRP and SWPPP.

Equipment will be cleaned and repaired (other than emergency repairs) outside state and national park boundaries. All contaminated water, sludge, spill residue, or other hazardous compounds will be contained and disposed of outside park boundaries, at a lawfully permitted or authorized destination.

Haz-2: Prior to the start of construction, the contractor will develop a fire safety plan for NPS and CDPR approval. This plan will include the emergency calling procedures and any required employee training.

Spark arrestors or turbo-charging (which eliminates sparks in exhaust) and fire extinguishers will be required for all heavy equipment.

Construction crews will be required to park vehicles away from flammable material, such as dry grass or brush. At the end of each workday, heavy equipment will be parked over mineral soil, asphalt, gravel, or concrete to reduce the chance of fire.

Fire suppression equipment (fire extinguishers, fire hoses, etc.) will be available and located on park grounds. CDPR staff will be required to have a State Park radio on site, which will allow direct contact with the CDF and a centralized CDPR dispatch center, to facilitate the rapid deployment of control crews and equipment in case of a fire.

Cumulative Impacts

The project area may be intermittently treated to control non-native vegetation. Techniques to control non-native vegetation are decided through the park's Integrated Pest Management program, but may include use of herbicides where appropriate. Use of herbicides is tightly controlled with its own spill prevention practices and certified applicators conducting the work.

Conclusion

Under the No Action alternative, there would be a long-term, adverse, negligible impact on visitor safety as there would be no major improvements made to the trail and surrounding area.

GEOLOGY AND SOILS

REGULATORY BACKGROUND

Laws, regulations, and policies pertaining to park geologic resources that are applicable to the proposed action include:

36 C.F.R. § 2.1: prohibits possessing/ destroying/disturbing mineral resources, cave resources, and paleontological specimens in park units.

NPS Management Policies (2006), Section 4.8.1: requires NPS to allow natural geologic processes to proceed unimpeded. NPS can intervene in these processes only when required by Congress, to save human lives, there is no other feasible way to protect other natural resources/park facilities/historic properties or intervention is necessary to restore impacted conditions and processes.

NPS Management Policies (2006), Section 4.8.1: requires NPS to investigate alternatives for mitigating the effects of human alterations of natural processes and restoring natural conditions, study impacts of cultural resource protection proposals on natural resources, use the most effective and natural-looking erosion control methods available, and avoid putting new developments in areas subject to natural shoreline processes unless certain factors are present.

NPS Management Policies (2006), Section 4.8.2: requires NPS to protect geologic features from unacceptable impacts of human activity while allowing natural processes to continue.

AFFECTED ENVIRONMENT

This section provides information on the geology and soils that occur or could occur within the proposed project site, identifies geologic hazards in the vicinity of the proposed project location such as earthquake potential, and analyzes issues related to project activities including potential exposure of people and property to geologic hazards, landform alteration, and erosion. The primary sources of for information contained in this section are listed in Chapter 5, References.

The Dias Ridge Restoration and Trail Improvement Project area is located within the California Coast Range Geomorphic Province, a northwest-trending chain of mountains forming the outer northern and central California Coast range. Most of the project area is situated on the western side of the ridge. The terrain is comprised of steep hillsides interspersed with small rock outcrops. The project area ranges in elevation from near sea level to 864 feet. The hillsides are steep, with slopes ranging from 15 to 75 % according to NPS (2003). Slopes measured using CDPR GIS maps range from 1.9% to a maximum of 26.3% within the project area (Wulzen 2006).

Geology

Mount Tamalpais and Golden Gate National Recreation Area are underlain by rocks of the Franciscan formation. This formation, originating as marine deposits in the Jurassic to Cretaceous periods (180-89 million years ago), was transported and then uplifted to its current position. The Franciscan is predominantly composed of two types of rock: large, relatively stable blocks, and highly-sheared material mixed with sediment. The latter is unstable and often fails causing landslides even on low percent slopes (CDPR 1980).

The Franciscan Formation tends to have different stability characteristics. The sheared mélange is quite weak, and is often associated with landslides and slippage. The consolidated blocks of sandstone and shale tend to be more stable (CDPR 1980). The alluvial soils found in the area are relatively weak and unconsolidated.

Soils

Soil survey information is available for the project area (USDA 1985). The Dias Ridge Restoration and Trail Improvement Project area is located within the California Coast Range Geomorphic Province, a northwest-trending chain of mountains forming the outer northern and central California Coast range. Most of the project area is situated on the western side of the ridge. The terrain is comprised of steep hillsides interspersed with small rock outcrops. The hillsides are steep, with slopes ranging from 15 to 75 % according to NPS (2003). Slopes measured using CDPR GIS maps range from 1.9% to a maximum of 26.3% within the project area (Wulzen 2006).

Soils present within the project area consist predominantly of Cronkhite-Barnabe complex soils with slopes ranging from 15-75%. Additional soils adjacent to the area to be restored include Centissima-Barnabe Complex, 50-75% slopes.

Cronkhite-Barnabe complex soils are characterized by deep to shallow, well drained soils derived from sandstone and shale. Soil has a low permeability rate and runoff potential is rapid, with high potential for erosion. Typical vegetation supported by these soils include, annual grasses, scrub, and forbs. Rocky outcrops present within the project area are generally found on Cronkhite-Barnabe soils with 30-50% and 50-75% slopes.

Centissima-Barnabe complex soils are characterized by gravelly loam and fine, sandy loam. Soils are generally deep and well drained, derived from soft sandstone and shale. Water runoff is typically rapid with high potential for erosion. Vegetation generally found on these soils include, Doug fir, coast redwood, hardwood, annual grasses, and forbs. Soils often have a top layer of duff present.

In general, these soil types that are located on steep slopes are considered prone to erosion. Trail design and construction methods should reflect necessary erosion control to help prevent trail failure and soil erosion during and after construction.

Landslides, or mass wasting, are a downward movement of soils and rock under the pull of gravity. Mass wasting requires soils and rock, slope, and a triggering mechanism. Triggering mechanisms include earthquake shaking, heavy rainfall, and erosion. There are considerable existing and potential geologic hazards within and adjacent to the proposed project site including erosion landslides and rolling boulders. The steep slopes within or immediately adjacent to the project site increase the risk of landslides and rolling boulders.

IMPACT ANALYSIS

Methodology

The impact intensities are as follows:

Negligible impacts would not be detectable and would have no discernable effect.

Minor impacts would be slightly detectable, but would not be expected to have an overall effect.

Moderate impacts would be clearly detectable and could have an appreciable effect.

Major impacts would have a substantial, highly noticeable effect.

Alternative A

Under the No Action alternative, the trails would not be realigned, new trails would not be constructed and non-designated trail areas would not be regarded, revegetated and restored. Exposed soils and gullied areas would continue to be vulnerable to erosion by natural processes. Eroded trails would continue to contribute sediment into Redwood Creek, degrading water quality. The accelerated erosion on non-designated trail areas would continue. This would result in a long-term, adverse, moderate effect on soils and geology of the project area.

Cumulative Impacts

There would be no cumulative impacts associated with this alternative.

Conclusion

The No Action alternative would result in a continuation of existing conditions. Erosive soil conditions would be perpetuated and the effect would be adverse, regional, and moderate.

Alternative B

Under this alternative, actions to relocate the trail to a more sustainable alignment and to restore eroded areas would result in reduced erosion and mass wasting potential. Long-term, moderate beneficial impacts are anticipated from the proposed soil decompaction, regarding, and revegetation; trail construction, removal, and improvements; removal of gullies; installation of fill; installation of erosion control measures; and bridge construction. Additionally, changes in visitor use patterns resulting from guided use on appropriately constructed trails and limited use in sensitive areas would reduce erosion and sedimentation.

Short-term, local and regional, adverse impacts may result during construction activities due to increased potential for temporary erosion and sediment transport during restoration (soil decompaction and revegetation) and trail construction activities. Much of the proposed grading would include recontouring and/or creating slopes and a temporary increase in erosion potential may occur during construction.

Avoidance, Minimization and/or Mitigation Measures

Geo-1 – Erosion Control: Prior to project construction, CDPR will prepare a Storm Water Pollution Prevention Plan (SWPPP) will be prepared. The SWPPP will identify all pollutant and sediment sources that may affect storm water discharges from the construction sites, identify and implement Best Management Practices (BMPs) to control erosion and runoff, and reduce or eliminate these pollutants and sediments during construction and post-construction, and develop a maintenance schedule for post-construction BMPs.

BMP erosion control methods include trail design strategies such as rolling grade dips and outsloping to encourage sheet flow across a trail surface. In wet areas measures may include surface reinforcing (e.g. cobbles in combination with geotextile or sheet drain materials), boardwalks, and drainage lenses. Other measures include locating new trails to avoid steep

and/or erosive slopes. The BMPs established for post-construction erosion control will be assessed annually and maintained as needed for a period of three years following construction.

Site-specific revegetation plans will utilize native species indigenous to the site for locations that are being rehabilitated. Quickly establishing vegetative cover on areas denuded from construction activities will minimize the potential for sediment production.

Prior to the start of construction, training will be provided by a qualified biologist to construction staff in order to inform workers of the presence of federally listed species (e.g. Coho salmon, and steelhead) in area streams and the necessity for implementing BMPs. This training will also identify boundaries of construction zones and identify proper disposal of construction debris and the proper response to fluid spills.

In addition, mitigation measure *Haz-1* will be implemented.

Cumulative Impacts

Past and current developments and land uses within and adjacent to the project area have contributed to erosion and increased runoff of sediments within the watersheds of Marin County. Best Management Practices selected and carried out in this project would avoid increased erosion and runoff.

Conclusion

Rehabilitation of non-designated and deteriorated trail areas on Dias Ridge would have a beneficial effect on geology and soils. Potential disturbance to rocky outcrops would be avoided with project implementation. During construction, there may be short-term, adverse, regional and local, minor to moderate impacts. But in the long-term, with regarding and revegetation of eroding soil areas, the effect on soils and geology would be moderate and beneficial. Impacts would not cause impairment.

AIR QUALITY

Climate. California and Marin County experience profound seasonal changes in weather. This seasonal variation in weather conditions produces the wet winters and arid summers pattern that characterize a "Mediterranean climate". Marin County is wedge shaped, bounded on the west by the Pacific Ocean, on the east by the San Pablo Bay, on the south by the Golden Gate, and on the north by the Petaluma Gap (BAAQMD NA). This project is located on the San Francisco Bay side of the county.

Temperature. Areas along the west coast of Marin County are usually subject to cool marine air. In the summer months, the marine air is cooled as it passes over the offshore upwelling region, and forms a fog layer along the coast. In the winter, proximity to the ocean keeps the coastal regions relatively warm. Temperatures do not vary much over the year at these coastal areas: high 50s in the winter and low 60s in the summer. The warmest months are September and October, which are in the mid to high 60s. The eastern side of Marin County has warmer weather and less fog. This is due less to the blocking effect of the hilly terrain to the west, and more to its distance from the ocean (BAAQMD, N.A.).

Precipitation. The San Francisco Bay Area climate is characterized by moderately wet winters and dry summers. Winter rains (December through March) account for about 75 percent of the average annual rainfall; about 90 percent of the annual total rainfall is received in the November-April period. The mountainous terrain in Marin County has higher rainfall amounts than most parts of the Bay Area (the southern Santa Cruz Mountains report higher rainfall amounts). Near Mount Tamalpais, rainfall amounts are twice as high as the rest of the Bay Area (BAAQMD, N.A.).

Air Quality Standards. Ambient air quality standards were developed to protect the public health and welfare. Individuals or groups that would be especially reactive to criteria pollutants are considered sensitive receptors, such as children, the elderly, individuals susceptible to respiratory distress, and those who are acutely or chronically ill. These standards specify the concentration of pollutants the public can be exposed to without experiencing adverse health effects. National and state standards are reviewed and updated periodically based on new health studies. California ambient standards tend to be at least as protective as national ambient standards and are often more stringent. Based on these standards (attainment, non-attainment, or unclassified), regional areas such as the San Francisco Air Basin are given an air quality status “label” by the federal and state regulatory agencies for planning purposes.

Although the California Clean Air Act was not enacted until 1988, state ambient air quality standards were established in 1969. The California Air Board makes State area designations for ten ambient air pollutants commonly referred to as “criteria pollutants” (an air pollutant for which acceptable levels of exposure can be determined and for which an ambient air quality standard has been set): ozone, suspended particulate matter (PM10), fine suspended particulate matter (PM2.5), carbon monoxide, nitrogen dioxide, sulfur dioxide, sulfates, lead, hydrogen sulfide, and visibility reducing particles (VRPs). A pollutant is designated in attainment if the state standard for that pollutant was not violated at any site in the area during a three-year period. Conversely, a pollutant is designated non-attainment if there was at least one violation of a State standard for

Table 3. Marin County Air Quality Designations

| | 2004 State Levels | Proposed* 2006 State Levels | 2006 Federal Levels (as of Sept 2006) |
|-------------------------------|-------------------|-----------------------------|---------------------------------------|
| Ozone | Non-attainment | Non-Attainment | 8 hour standard: Non-attainment |
| Carbon Monoxide | Attainment | Attainment | Unclassified |
| Nitrogen Dioxide | Attainment | Attainment | Unclassified |
| Sulfur Dioxide | Attainment | Attainment | Attainment |
| Particulate matter (PM10) | Non-Attainment | Non-Attainment | Unclassified |
| Particulate Matter (PM2.5) | Non-Attainment | Non-Attainment | Unclassified |
| Sulfates | Attainment | Attainment | N/A |
| Lead | Attainment | Attainment | N/A |
| Hydrogen Sulfide | Unclassified | Unclassified | N/A |
| Visibility Reducing Particles | Unclassified | Unclassified | N/A |

* (NOTE: On November 16-17, 2006, the Air Resources Board was to consider changes to the State area designations for ozone, PM10, PM2.5, and carbon monoxide (CO), based on air quality data collected during 2003 through 2005.

<http://www.arb.ca.gov/desig/adm/adm.htm#state>

that pollutant in the area. Unclassified means the data is incomplete and designation of attainment or non-attainment is not supportable.

The U.S. EPA established the federal standards after the passage of the Clean Air Act of 1970. EPA established national area designations for six criteria pollutants. These pollutants include carbon monoxide (CO), ozone (O₃), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), lead, particulate matter 10 microns or less in diameter (PM₁₀), and particulate matter 2.5 microns or less in diameter (PM_{2.5}). Nationally, an area considered to have air quality as good as or better than the national ambient air quality standards as defined in the Clean Air Act is designated "attainment"; any area that exceeds ambient air quality standards is designated as non-attainment; and an area that cannot be classified on the basis of available data as meeting or not meeting the national primary or secondary ambient air quality standard is designated "unclassified".

Local Air Quality. At the State level, ozone, PM₁₀, and PM_{2.5} have been designated "non-attainment" in the BAAQMD. Carbon monoxide, nitrogen dioxide, sulfur dioxide, sulfates, and lead are all designated attainment. Hydrogen sulfide and VRP levels have been designated unclassified. The proposed levels for 2006 remain the same.

At the National level, the 8-hour standard for ozone (the 1-hour standards were removed in June 2005) is the only criteria pollutant designated "non-attainment". Carbon monoxide, nitrogen dioxide, PM₁₀, and PM_{2.5} are designated "unclassified". Only sulfur dioxide is designated "attainment".

IMPACT ANALYSIS

Methodology

The air quality analysis is a general discussion of potential short-term impacts on air quality resulting from construction. Short-term construction generated criteria air pollutant and precursor emissions (e.g. ROG, NO_x, and PM₁₀) are qualitatively assessed as recommended by the Bay Area Air Quality Management District. An analysis of the long-term air pollutant impacts is not assessed, although it is anticipated that there would be no long-term increase in air pollutants as a result of the project.

Alternative A

Under the No Action alternative, the trails would not be realigned, new trails would not be constructed and non-designated trails would not be rehabilitated and operations would remain the same. There would be no construction related emissions generated and Bay Area Air Quality Management District (BAAQMD) recommended control measures for emissions of dust would not be required.

Cumulative Impacts

There would be no cumulative impacts associated with the No Action Alternative.

Conclusion

No adverse or beneficial impacts to air quality are expected from the No Action Alternative.

Alternative B

Construction emissions would be short-term or temporary and would have the potential to represent adverse impacts to air quality, especially in the case of PM10. Fugitive dust emissions are associated primarily with soil disturbing activities and vary as a function of soil silt content, soil moisture, wind speed, acreage of disturbance area. Fugitive dust emissions would also vary from day to day, depending on the level and type of activity, and the weather. ROG and NOx emissions are associated primarily with gas and diesel equipment exhaust. Construction would temporarily generate emissions of ROG, NOx, and PM10 from soil disturbance actions related to trail construction and rehabilitation, and obliteration.

The implementation of the preferred alternative would not generate new long-term air emissions and would not require permitting through the BAAQMD. It would not affect or increase traffic and would not change existing vehicle emissions.

Avoidance, Minimization and/or Mitigation Measures

Air-1: This project will adhere to all BAAQMD's rules regarding fugitive dust control at construction sites to include the following:

- All active construction areas will be watered at least twice daily during dry, dusty conditions. Water used for this purpose will be obtained outside the project area.
- All trucks hauling soil, sand, or other loose materials on public roads will be covered or required to maintain at least two feet of freeboard.
- All equipment engines will be maintained in good condition, in proper tune (according to manufacturer's specifications), and in compliance with all State and federal requirements.
- Excavation and grading activities will be suspended when sustained winds exceed 25 miles mph, instantaneous gusts exceed 35 mph, or dust from construction might obscure driver visibility on public roads.
- Earth or other material that has been transported onto paved streets and shoulder by trucks, construction equipment, erosion, or other project-related activity will be promptly removed.
- Speed limit signs limiting vehicle speed to 15 mph or less at construction sites will be posted every 500 feet.

Cumulative Impacts

Other projects adjacent to the project area would contribute similar short-term air quality impacts. Cumulative PM10 impacts could occur if the projects were occurring at the same time. However, since the projects are not anticipated to overlap during construction, the cumulative impacts are expected to be minor and short-term.

Conclusion

Construction activities associated with the proposed project would have minor, short-term, adverse impacts on air quality in the region, mostly due to fugitive dust. Impacts would not cause impairment.

NOISE

REGULATORY BACKGROUND

The natural soundscape, sometimes called natural quiet, is the aggregate of all the natural sounds that occur in parks, absent human-caused sound, together with the physical capacity for transmitting the natural sounds (NPS Management Policies 2006, sec. 4.9: Soundscape Management). These intrinsic sounds are recognized and valued as a park resource in keeping with the NPS mission (Management Policies 2006), and are referred to as the park's natural soundscape. NPS Management Policies 2006 and Director's Order #47, Sound Preservation and Noise Management (NPS, 2000) mandate that parks preserve the natural soundscape associated with national park units. Where natural soundscape conditions are currently not impacted by inappropriate noise sources, the objective must be to maintain those conditions. Where the soundscape is found to be degraded, the objective is to facilitate and promote progress toward restoration of the natural soundscape.

The Noise Control Act of 1972 established a requirement that all federal agencies administer their programs to promote an environment free of noise that jeopardizes public health or welfare. The Environmental Protection Agency (EPA) identified indoor and outdoor noise limits to protect against effects on public health and welfare. Outdoor limits of 55dB-Ldn and indoor limits of 45dB-Ldn are identified as desirable to protect against speech interference and sleep disturbance for residential areas and areas with educational and healthcare facilities ("sensitive receptors").

In 1987, the California Department of Health Services published guidelines for the noise elements of local general plans. These guidelines include a sound level/land use compatibility chart that categorizes various outdoor Ldn ranges by land use. These guidelines identify the normally acceptable range for low-density residential uses as less than 65 dB and conditionally acceptable levels as 55-75 dB.

The Marin County Community Development Agency is currently in the process of updating the 1994 Countywide Plan, which was first created in 1973 and revised in 1982. A revised draft document including a Noise Element was released for public review in August 2005.

Table 4. Comparative Noise Examples

| Type of Noise or Environment | Decibels (dBA) |
|---------------------------------|----------------|
| Soft Whisper | 30 |
| Normal Conversation | 60-65 |
| Car, at 20 mph, 25 ft away | 65 |
| Vacuum Cleaner 10 ft away | 70 |
| Backhoe | 84-93 |
| Front end loader | 86-94 |
| Hammer , Earthmover | 87-95 |
| Portable saw | 88-102 |
| Dump Truck at 50 mph 50 ft away | 90 |
| Earth Tamper ; Crane | 90-96 |
| Bulldozer | 93-96 |
| Gas leaf blower, 25 ft away | 100 |
| Helicopter 200 ft away | 100 |
| Stud welder | 101 |
| Jackhammer | 102-111 |
| Train horn 100 ft away | 105 |
| Jet takeoff 200 ft away | 120 |
| Shotgun at shooter's ear | 140 |

The Marin Countywide Draft General Plan includes policies and programs intended to reduce the impact of future development on noise. Project-relevant noise policies include:

Noise Policy 3: Regulate Noise Generating Activities. Require measures to minimize noise exposure to neighboring properties, open space, and wildlife habitat from construction-related activities, yard maintenance equipment, and other noise sources.

AFFECTED ENVIRONMENT

Vehicle traffic is the primary source of noise in Marin County, with the highest noise levels occurring along major roadways. These noise sources include Highways 37, 101, and 1, and larger county roads (Sir Francis Drake Boulevard, Petaluma Point Reyes Road, Lucas Valley Road, Novato Boulevard, etc.), the San Rafael Airport, Gness Field County Airport, and Richardson Bay Helipad. Traffic noise levels on the major highways, primary arterial streets and major county roads have not changed significantly since 1987 and future projects expect an increase of at most one decibel over existing levels. Existing noise levels for air traffic have not changed substantially since 1986 and are not expected to increase in the future. County residents are frequently exposed to noise ranging from 35 to 80 decibels. (Marin County 2005).

Noise is defined as unwanted sound and is known to have several adverse effects on people, including hearing loss, speech and sleep interference, physiological responses, and annoyance. Based on these known adverse effects of noise, the federal government, the State of California, and many local governments have established criteria to protect public health and safety and to prevent disruption of certain activities.

Noise is commonly described in “Ldn,” which expresses average sound level over a 24-hour period in decibels (dB), the standard measure of pressure exerted by sound. Ldn includes a 10 dB penalty for sounds between 10 P.M. and 7 A.M., when background noise is lower and people are most sensitive to noise. Because decibels are logarithmic units of measure, a change of 3 decibels is hardly noticeable, while a change of 5 decibels is quite noticeable and an increase of 10 decibels is perceived as a doubling of the noise level. A change from 50dB to 60dB increases the percentage of the population that is highly annoyed at the noise source by about 7 percent, while an increase from 50 dB to 70 dB increases the annoyed population by about 25 percent. Sounds as faint as 10 decibels are barely audible, while noise over 120 decibels can be painful or damaging to hearing.

IMPACT ANALYSIS

Methodology

Context, time, and intensity together determine the level of impact for an activity. For example, noise for a certain period and intensity would be a greater impact in a highly sensitive context, and a given intensity would be a greater impact if it occurred more often, or for longer duration. It is usually necessary to evaluate all three factors together to determine the level of noise impact. In some cases an analysis of one or more factors may indicate one impact level, while an analysis of another factor may indicate a different impact level. In such cases, best professional judgment based on a documented rationale must be used to determine which impact level best applies to the situation being evaluated. Threshold for noise impacts are based on the following:

Negligible: Natural sounds would prevail; (activity) noise would be very infrequent or absent, mostly immeasurable.

Minor: Natural sounds would predominate in areas where management objectives call for natural processes to predominate, with (activity) noise infrequent at low levels. In areas where (activity) noise is consistent with park purpose and objectives, natural sounds could be heard occasionally.

Moderate: In areas where management objectives call for natural processes to predominate, natural sounds would predominate, but (activity) noise could occasionally be present at low to moderate levels. In areas where (activity) noise is consistent with park purpose and objectives, (activity) noise would predominate during daylight hours and would not be overly disruptive to noise-sensitive visitor activities in the area; in such areas, natural sounds could still be heard occasionally.

Major: In areas where management objectives call for natural processes to predominate, natural sounds would be impacted by (activity) noise sources frequently or for extended periods of time. In areas where (activity) noise is consistent with park purpose and zoning, the natural soundscape would be impacted most of the day; noise would disrupt conversation for long periods of time; and/or make enjoyment of other activities in the area difficult; natural sounds would rarely be heard during the day.

Alternative A

Under the No Action alternative, the trails would not be realigned, new trails would not be constructed and non-designated trails would not be rehabilitated and operations would remain the same. There would be no impact on noise and existing conditions described above would remain the same.

Cumulative Impacts

There would be no cumulative impacts associated with the No Action Alternative.

Conclusion

There would not be any resulting impacts on noise under this alternative.

Alternative B

Under the Proposed Action, trail alignment improvements, trail construction, and non-designated trail rehabilitation would include the use of noise generating equipment. Construction activities would potentially result in temporary, minor, adverse impacts to noise in the immediate area. Site maintenance and programs would have no noise-related impacts.

Under the Proposed Action, construction noise levels at and near the project area would fluctuate, depending on the type and number of construction equipment operating at any given time, and would exceed ambient noise standards in the immediate vicinity of the work for brief periods of time. The distance from staff residences (approximately 100 feet) to the proposed work sites is sufficient to prevent an objectionable level of noise. However, depending on the specific construction activities being performed, short-term increases in ambient noise levels

could result in speech interference at the work site and a potential increase in annoyance to visitors and staff.

Avoidance, Minimization and/or Mitigation Measures

Construction activities will generally be limited to the daylight hours, Monday – Friday. If weekend work is necessary, no work will occur on those days before 8:00 a.m. or after 6 p.m.

Internal combustion engines used for any purpose at the job site will be equipped with a muffler of a type recommended by the manufacturer. Equipment and trucks used for construction will utilize the best available noise control techniques (e.g. engine enclosures, acoustically-attenuating shields, or shrouds, intake silencers, ducts, etc.) whenever feasible and necessary.

Stationary noise sources and staging areas will be located as far away from sensitive receptors as possible. If they must be located near sensitive receptors, stationary noise sources will be muffled to the extent feasible and/or, where practicable, enclosed within temporary sheds.

Cumulative Impacts

The proposed action contributes only to short-term noise construction impacts. Construction activities associated with the proposed project would have minor, temporary adverse impacts on noise in the region. Therefore, there are no noise related cumulative impacts associated with the proposed action.

Conclusion

Construction-generated noise would be considered to have an adverse, short-term impact to residents located close to SR1 when construction activities are taking place in these areas. Integration of Noise Minimization Measures into the project design would reduce noise impacts to a less than significant level, with short-term minor to moderate impacts. The project would not cause impairment to the natural soundscape.

BIOLOGICAL ENVIRONMENT

WETLANDS AND OTHER WATERS

REGULATORY BACKGROUND

Wetlands and other waters are protected under a number of laws and regulations. At the federal level, the Clean Water Act (33 U.S.C. 1344) is the primary law regulating wetlands and waters. The Clean Water Act regulates the discharge of dredged or fill material into waters of the United States, including wetlands. “Waters of the U.S.” include navigable waters, interstate waters, territorial seas and other waters that may be used in interstate or foreign commerce such as intrastate lakes, rivers, streams, mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, and natural ponds. To classify wetlands for the purposes of the Clean Water Act, a three-parameter approach is used that includes the presence of hydrophytic (water-loving) vegetation, wetland hydrology, and hydric soils (soils subject to saturation/inundation). All three parameters must be present, under normal circumstances, for an area to be designated as a jurisdictional wetland under the Clean Water Act. However, NPS

wetland policy requires that affected wetlands be mapped under a more conservative delineation methodology (Cowardin et al. 1979) to delineate wetlands.

Section 404 of the Clean Water Act establishes a regulatory program that provides that no discharge of dredged or fill material can be permitted if a practicable alternative exists that is less damaging to the aquatic environment or if the nation's waters would be significantly degraded. The Section 404 permit program is run by the U.S. Army Corps of Engineers (USACE) with oversight by the USEPA.

The Executive Order for the Protection of Wetlands (E.O. 11990) also regulates the activities of federal agencies with regard to wetlands. Essentially, this executive order states that a federal agency cannot undertake or provide assistance for new construction located in wetlands unless the head of the agency finds: (1) that there is no practicable alternative to the construction; and (2) the proposed project includes all practicable measures to minimize harm.

At the state level, if the project may substantially and adversely affect fish or wildlife resources, a Lake and Streambed Alteration Agreement will be required. Since the project will not alter any streambeds within the project area, a Streambed Alteration Agreement will not be required. Wetlands under jurisdiction of the USACE may or may not be included in the area covered by a Streambed Alteration Agreement obtained from the CDFG.

The RWQCBs were established under the Porter-Cologne Water Quality Control Act to oversee water quality. Each RWQCB also issues water quality certifications in compliance with Section 401 of the Clean Water Act. Please see the Water Quality section for additional details.

AFFECTED ENVIRONMENT

The federal Clean Water Act (CWA) defines wetlands as lands that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. The USACE has jurisdictional authority of wetlands under provisions found in Section 404 of the CWA. Typically, USACE jurisdictional wetlands meet three criteria: hydrophytic vegetation, hydric soils, and wetland hydrology.

A site investigation for the presence of seeps, which are considered Cowardin wetlands, was conducted within the Dias Ridge project area by URS Corporation biologists on April 17-21st, 2006. A total of 41 seeps were located and mapped, ranging in size from approximately 5 to 4000 square meters. Approximately 5 acres of seeps are present within the project area¹. These wetlands are not connected to any "Waters of the U.S." and are isolated; hence they are not currently subject to USACE jurisdiction.

The seasonal Frank Valley Creek runs through part of the project area, southeast edge of the Golden Gate Dairy. Both Redwood Creek and Green Gulch Creek persist downslope of the project area, across SR1 (See Figure 9).

Additionally, 4.7 acres of riparian and wetland vegetation was mapped within the project area, including mostly patches of emergent vegetation and one patch of mixed willow vegetation.

¹ Mapped by URS in April 2006.

IMPACT ANALYSIS

Methodology

Wetlands are “lands where saturation with water is the dominant factor determining the nature of soil development and the types of plant and animal communities living in the soil and on its surface” (USFWS 1979).

The planning team based the impact analysis and the conclusions for possible impacts to wetlands on the on-site inspection of known and potential jurisdictional wetlands in MTSP and GGNRA, review of existing literature and studies, information provided by NPS and CDPR experts, and their professional judgment. Where possible, mapped locations of wetlands were compared with locations of proposed developments and modifications of existing trails and signage. Predictions about short-and long-term site impacts were based on previous studies of impacts to wetlands from similar projects and recent scientific data.

Alternative A

Under the “No Action” Alternative none of the proposed actions would be implemented within the project area. No trail construction, restoration, or removal would occur, no areas of erosion would be repaired, and no programmatic site improvements would be implemented. As a result, there would be no short-term adverse impacts would occur to wetlands/seeps from construction activities. However, impacts to biological resources from continued uncontrolled visitor use along non-designated trail segments and from controlled visitor use along poorly aligned and eroding authorized trail segments would continue to result in degradation (from trampling and erosion) to wetlands/seep areas.

Uncontrolled visitor use on non-designated and poorly aligned and eroding trail segments and the lack of active native habitat restoration would result in the slow loss and degradation of wetland habitat for common as well as special status wildlife species.

Cumulative Impacts

Past and present visitor use has resulted in impacts to wetlands/seep areas through trampling and erosion on portions of the current Dias Ridge Trail and non-designated trail segments. A “No Action” Alternative would add to existing impacts and continue the degradation of these sensitive habitats.

Conclusion

A “No Action” Alternative would result in local, long-term, direct, and moderate to major adverse impacts to wetlands/seep areas that may be considered significant if utilization of non-designated trails and poorly aligned and eroding trail segments continues to occur. Implementation would not cause impairment to wetlands.

Alternative B

Project implementation would result in local, short and long-term, direct and indirect, minor to major, and adverse and beneficial impacts to wetlands/seeps identified within the project area.

Local, short-term, indirect, and adverse impacts to vegetation and native plant communities may occur, such as vegetation degradation (i.e. from dust, crew trampling) during trail construction,

restoration, erosion repair, non-native plant removal, planting, and monitoring. These impacts would be temporary, local, and minor, especially considering the net beneficial impacts from restoration and trail realignment.

Local, long-term, direct, moderate to major, and beneficial impacts to wetlands/seeps would occur from restoration of removed trail segments and trail realignment out of and away from these sensitive habitats, resulting in a net benefit.

Cumulative Impacts

Past and present visitor use has resulted in impacts to wetlands/seep areas through trampling and erosion on portions of the current Dias Ridge Trail and non-designated trail segments. Implementation of the project would create temporary, local, and minor impacts during restoration activities and add to existing conditions, but would significantly reduce impacts from past and present levels in the near future following restoration and the lack of visitor access due to trail realignment.

Conclusion

The proposed project would result in local, short and long-term, direct and indirect, minor, and adverse impacts to vegetation and native plant communities. Local, long-term, direct, moderate to major and beneficial impacts would occur from restoration of removed trail segments, resulting in a net benefit to wetlands/seep areas. This proposal would mitigate some of the past effects, specifically removal and habitat restoration of non-designated trail segments with appropriate native vegetation derived from seed materials collected onsite. The new Dias Ridge Trail would replace the existing Dias Ridge Trail/Fire Road with an alignment that avoids wetlands/seep areas. Implementation would not cause impairment to wetlands.

VEGETATION

NATIVE COMMUNITIES

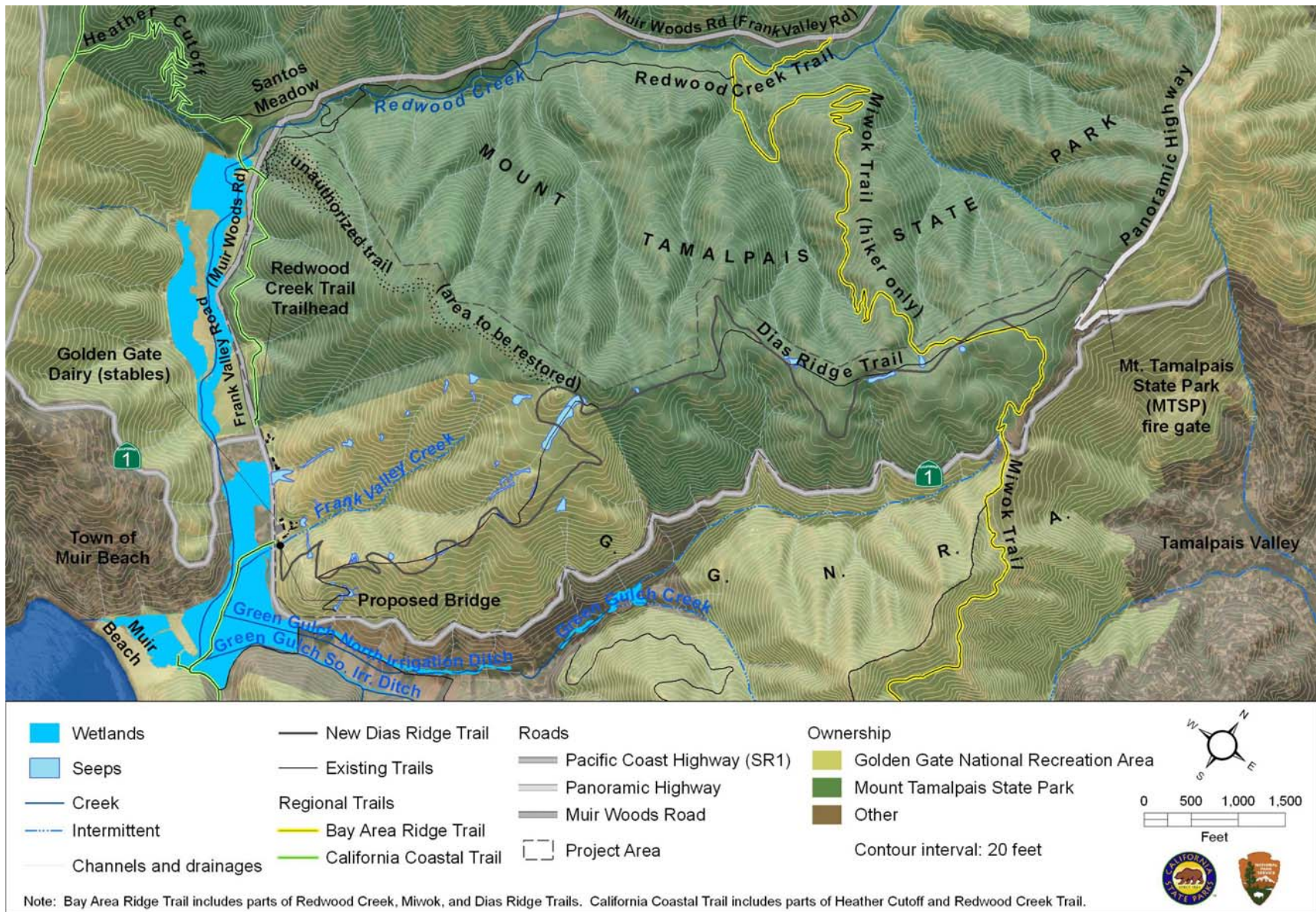
REGULATORY BACKGROUND

NPS Management Policies 2006 (National Park Service 2006a) state: "The National Park Service will maintain as parts of the natural ecosystems of parks all native plants and animals."

The policies go on to state that:

- Flowering plants, ferns, mosses, lichens, algae, fungi, and microscopic plants are included;
- The natural abundances, diversities, dynamics, distributions, habitats, and behaviors of these native species are preserved and protected; and
- The introduction of exotic (nonnative) species into units of the national parks system should be prevented.

Figure 9. Wetland and Seeps



AFFECTED ENVIRONMENT

Vegetation within the Dias Ridge portion of the project area has been classified and mapped by the URS Corporation under contract with NPS (URS 2006). Other relevant vegetation information is detailed in the Redwood Creek Watershed Assessment report by Stillwater Sciences (2005). Vegetation information detailed in these two sources largely conforms to the U.S. National Vegetation Classification System (Grossman et al. 1998), with some modifications. This classification system is hierarchical, with the two lowest levels of the hierarchy, the alliance and the association, based on floristics. These two levels are derived from the dominant or diagnostic species.

The URS Corporation's mapping effort for Dias Ridge has classified vegetation to either the alliance or association level. Special emphasis has been directed toward the identification of grassland and wetland vegetation (especially native types), seeps, and exotic plant species. Grassland types were focused on because certain types are considered rare by the California Department of Fish and Game's Natural Diversity Database (CNDDDB 2006). Rare communities include the California Bay Alliance, *Baccharis pilularis* (*Nassella pulchra* Association), Purple Needlegrass Alliance, and *Nassella pulchra* (*Baccharis pilularis* Association). Based on the criteria developed by the CNDDDB for designation of rare natural plant communities, the *Baccharis pilularis* with Native Grassland Association can be considered rare since its constituent native grass species are all associated with other CNDDDB-designated rare vegetation types. Plant communities classified as rare by the CNDDDB are also considered to be "sensitive" native communities that are managed for protection and perpetuation by government agencies such as the NPS and CDPR.

Vegetation types identified in the Stillwater Sciences 2005 report utilize unpublished data provided by NPS that is based on remote sensing, with some field checking for accuracy. The associations and alliances classified by NPS have been grouped by Stillwater Sciences into what have been termed superalliances, which are based on shared dominant species or other shared floristic, physiognomic, and ecological properties. For this document constituent alliances comprising these superalliances have been extrapolated from the Stillwater Sciences report for compatibility with URS information and field observations in 2006 by CDPR biologists.

Based on the URS and Stillwater Sciences studies and observations made by CDPR biologists during 2006 field surveys for sensitive plants, the vegetation within the project area is comprised of the following distinct types. These distinct types are described below and have been mapped (see Figure 10).

Coyote Brush Alliance. The most prevalent vegetation type in the project area is Coyote Brush Alliance, a native shrub vegetation type dominated by coyote brush (*Baccharis pilularis* var. *consanguinea*). Poison oak (*Toxicodendron diversilobum*), California blackberry (*Rubus ursinus*), bush monkeyflower (*Mimulus aurantiacus*), and California sagebrush (*Artemisia californica*) are common constituents of this type. In some locations poison oak and/or California sagebrush co-dominate with coyote brush. Coyote Brush Alliance is very common in coastal locations of northern and central California.

Frequent, relatively extensive openings in the coyote brush shrublands support grassland vegetation, both native and non-native types. Native and non-native grasslands intergrade readily and boundaries are not typically well defined or discernible. Eight different vegetation

types with a grassland component occur within the project area; five of these are dominated by native species.

Native Grassland Alliances. Native grasslands in California have largely been replaced by non-native annual and perennial grasses and forbs since the start of the European and American settlement period. Remnant stands of native grasslands constitute less than 10% of what existed prior to the start of this period; hence they are a high priority for protection by state and federal resource agencies, including the National Park Service and the California Department of Parks and Recreation. Dias Ridge supports remnant pockets of native grasslands, which constitute prime examples of a vegetation type once common in Marin County.

Native grassland types found on Dias Ridge are 1) *Baccharis pilularis* with *Nassella pulchra* Association; 2) *Nassella pulchra* with *Baccharis pilularis* Association; 3) Purple Needlegrass Alliance; 4) *Baccharis pilularis* with Native Grassland Association; and 5) Red Fescue Alliance. Purple needlegrass (*Nassella pulchra*) dominates the grassland portion of the first two vegetation types, which are a mixture of shrublands and grasslands. The Purple Needlegrass Alliance is dominated by purple needlegrass, but lacks a significant shrub component. A fourth type, *Baccharis pilularis* with Native Grassland Association, has a dominant shrub component and a grassland component with more than one dominant native grass species. The Red Fescue Alliance is grassland vegetation that is dominated by red fescue (*Festuca rubra*).

Other common constituents of native grasslands include Indian paintbrush (*Castilleja* sp.), blue-eyed grass (*Sisyrinchium bellum*), poison oak, yarrow (*Achillea millefolium*), and several non-native species described below in the California Annual Grassland Alliance. Native California oatgrass (*Danthonia californica*) and California melic (*Melica californica*) are minor constituents of some native grassland areas.

Non-native Grassland Alliances. Non-native grassland types are 1) California Annual Grassland Alliance; 2) *Baccharis pilularis* with California Annual Grassland Association; and 3) Introduced Perennial Grassland Alliance. Dogtail (*Cynosurus echinatus*), Italian ryegrass (*Lolium multiflorum*), ripgut grass (*Bromus diandrus*), and slender oats (*Avena barbata*) dominate the California Annual Grassland Alliance and the grassland portion of the second type. Other commonly encountered species include English plantain (*Plantago lanceolata*), Italian thistle (*Carduus pycnocephalus*), and quaking grass (*Briza maxima*). Both of these annual grassland types are fairly common along the Dias Ridge Trail.

Introduced Perennial Grassland Alliance. The Introduced Perennial Grassland Alliance is limited to a few small areas near the start of the Dias Ridge project area at the Panoramic Highway. This vegetation is dominated by non-native grasses such as tall fescue (*Festuca arundinacea*) and orchard grass (*Dactylis glomerata*), and Harding grass (*Phalaris aquatica*), with few other species present.

Rush Alliance. The Rush Alliance, *Juncus effusus* Association is found in a few scattered locations along the northern half of the Dias Ridge Trail. This type is dominated by several species, including common rush (*Juncus effusus*), toad rush (*Juncus bufonius*), Pacific woodrush (*Luzula comosa*), and sedge (*Carex* sp.). Invasive non-native plant species such as smooth cat's-ear (*Hypochaeris glabra*) and velvet grass (*Holcus lanatus*) are common constituents of this vegetation.

California Bay and Coast Live Oak Alliances. The California Bay and Coast Live Oak Alliances are native vegetation types dominated by tree species. California bay (*Umbellularia californica*) dominates the canopy of the former, while coast live oak (*Quercus agrifolia*) is the dominant tree in the latter type. Bracken fern (*Pteridium aquilinum*) and poison oak are common constituents in the ground layer of both types. Small areas of these vegetation types occur along the northern section of the Dias Ridge trail and the Frank Valley Road terminus of the non-designated trail (scheduled for removal and rehabilitation) that connects to the Dias Ridge Trail at its halfway point

IMPACT ANALYSIS

Methodology

All available information on vegetation and vegetative communities potentially impacted in the Dias Ridge Restoration and Trail Improvement project area was compiled. Where possible, map locations of sensitive vegetation species, populations, and communities were identified and avoided. Predictions about short- and long-term impacts were based on previous projects with similar vegetation and recent studies. The thresholds for evaluating the intensity of an impact are defined as follows:

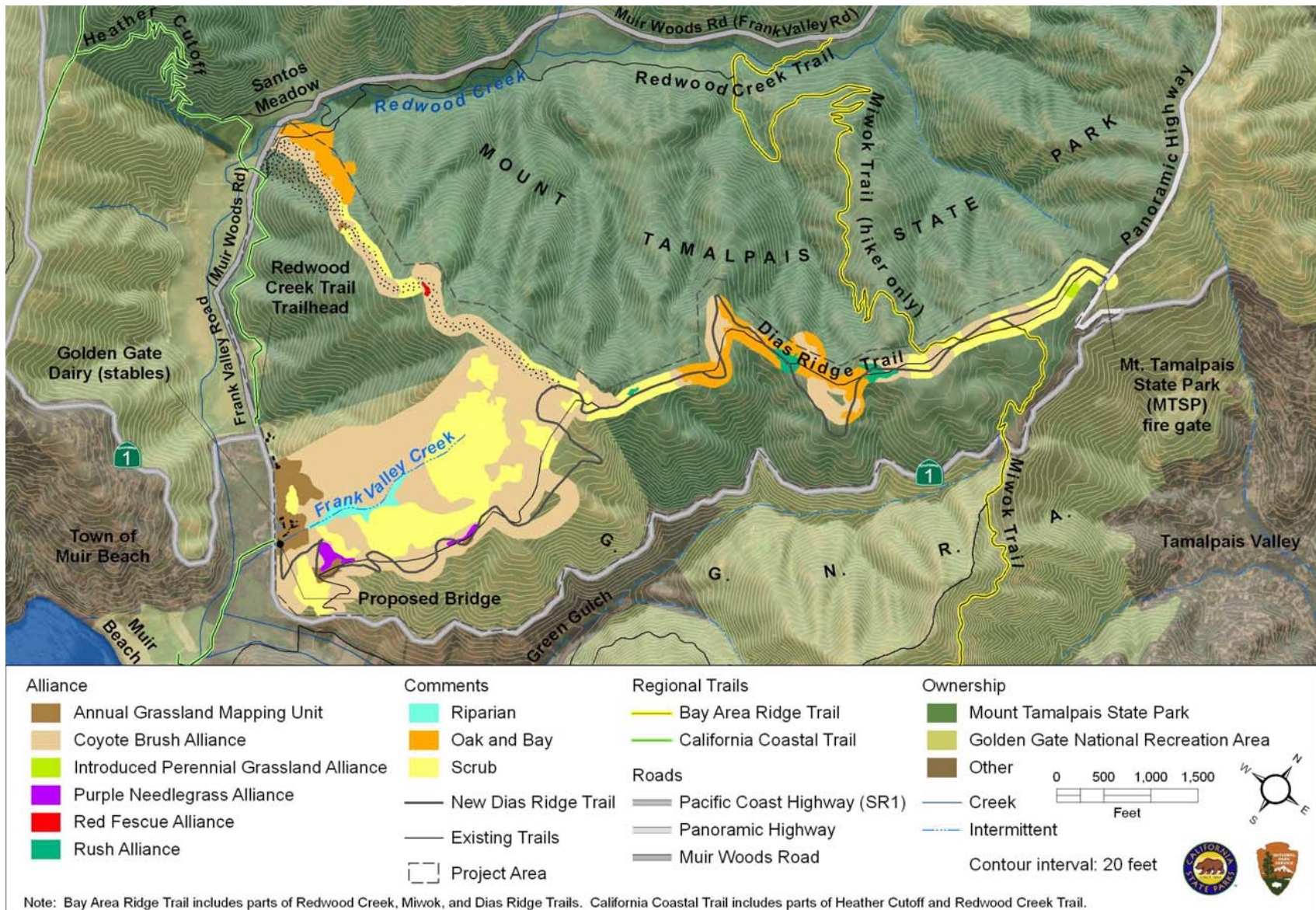
Negligible: No native vegetation would be affected or some individual plants could be affected as a result of the alternative, but there would be no effect on native species populations. The effects would be short-term, on a small scale, and no species of special concern would be affected. The action would not result in measurable or perceptible changes in plant community size, integrity, or continuity.

Minor: The alternative would affect some individual native plants and would also affect a relatively minor portion of that species' population. Mitigation to offset adverse effects, including special measures to avoid affecting species of special concern, could be required and would be effective. Impacts would be measurable or perceptible but would be localized within a relatively small area. The overall viability of the plant community would not be affected and, if left alone, would recover.

Moderate: The alternative would affect some individual native plants and would also affect a sizeable segment of the species' population in the long-term and over a relatively large area. Mitigation to offset adverse effects could be extensive, but would likely be successful. Impacts would cause a change in the plant community (e.g. abundance, distribution, quantity, or quality). Some species of special concern could also be affected.

Major: The alternative would have a considerable long-term effect on native plant populations, including species of special concern, and affect a relatively large area in and out of the park. Impacts to the plant community would be substantial, highly noticeable, and permanent. Extensive mitigation measures to offset the adverse effects would be required, and success of the mitigation measures would not be guaranteed.

Figure 10. Mapped Vegetation Communities in Project Area



Alternative A

Under the “No Action” Alternative none of the proposed actions would be implemented within the project area. Therefore, no trail construction, restoration, or removal would occur, no invasive non-native plants would be removed, no areas of erosion would be repaired, and no programmatic site improvements would be implemented. As a result, no adverse impacts would occur to biological resources from construction activities, including equipment, vehicle or crewmember disturbances and habitat removal. However, impacts to biological resources from continued uncontrolled visitor use along non-designated trail segments and from controlled visitor use along poorly aligned and eroding authorized trail segments would continue to result in degradation (from trampling and erosion) to native plant communities and wetlands/seeps.

Uncontrolled visitor use and the lack of active native habitat restoration would result in the slow loss and degradation of suitable foraging, aestivation, upland, and wetland habitat for common as well as special status wildlife species. No additional benefits to wildlife could be expected or ensured without active restoration activities such as soil decompaction and planting of suitable native plants.

Cumulative Impacts

Past activities and actions that have affected native plant communities within the project area include:

- Non-designated trails on Dias Ridge;
- The spread of plantings of non-native or non-indigenous vegetation such as eucalyptus near the Golden Gate Dairies complex; and
- Indirect effects such as trampling of vegetation from off-trail visitor use.
- Continued utilization of the existing Dias Ridge Trail and non-designated trail segments would add to existing impacts of native vegetation, including sensitive plant communities.

Conclusion

Alternative A may result in local, long-term, direct, and minor to moderate adverse impacts to Vegetation and Native Plant Communities that may be considered significant if continued utilization of non-designated trails and poorly aligned and eroding trail segments continues to occur and if non-native plant encroachment substantially changes the species composition within sensitive plant communities.

Alternative B

Project implementation would result in local, short and long-term, direct and indirect, minor to major, and adverse and beneficial impacts to the *Vegetation and Native Plant Communities* described above. Four of these types are native plant communities identified as rare by the CNDDDB. These are California Bay Alliance, Baccharis pilularis with Nassella pulchra Association, Purple Needlegrass Alliance, and Nassella pulchra with Baccharis pilularis Association. Two other types, Baccharis pilularis with Native Grassland Association and Rush

Alliance and the *Juncus effusus* Association, are considered to be “sensitive” vegetation types by state and federal management agencies.

Project impacts would occur from construction of approximately 13,842 feet (4,219 meters) of new trail and closure and restoration of existing trail segments. Construction of new trail segments would be designed to avoid as much as possible rare/sensitive plant communities, especially native grasslands, seeps, and wetlands (e.g. Rush Alliance, *Juncus effusus* Association). Native grasslands with a significant purple needlegrass component are especially sensitive and would be avoided to the maximum extent possible.

Poorly aligned and eroding trail segments of approximately 1,800 feet of the Dias Ridge Trail and associated non-designated trail segments would be restored to natural conditions and revegetated with an appropriate mix of native plants. Additionally, this includes approximately 9,880 feet of a non-designated trail segment that connects the existing Dias Ridge Trail with Frank Valley Road.

Local, short-term, direct and indirect, minor, and adverse impacts to vegetation and native plant communities may occur, such as vegetation degradation (i.e. from dust, crew trampling) during trail construction, restoration, erosion repair, non-native plant removal, planting, and monitoring. Long-term, indirect, and adverse impacts may result from future weed encroachment in project areas after soil disturbance. These impacts would be temporary, local, and minor, especially considering the net beneficial impacts to vegetation and native plant communities described below.

Local, long-term, direct, moderate, and adverse impacts would result from the removal of 3.0 acres of native plant communities, including .1 acres of rare/sensitive vegetation types. Implementation of Measures Bio-1 and Bio-2 would reduce adverse impacts to native plant communities and reduce weed encroachment to less than significant.

Avoidance, Minimization and/or Mitigation Measures

Bio-1: Native Plant Communities - In areas of new trail construction where actions will impact sensitive native plant communities, these communities will be restored in kind in locations identified by NPS and CDPR..

Qualified NPS and/or CDPR staff will identify appropriate reference sites for coastal prairie, coastal scrub and wetland habitats within the watershed. Botanical specialists in the agencies will determine plant palettes for direct seeding and revegetation actions, with seed collected within the watershed and plants grown in the NPS native plant nurseries.

NPS will grow replacement plants from local seed sources, to result in no net loss of native plant communities. Project proponents will monitor revegetated areas and invasive plant species controlled, as part of the on-going vegetation management program.

Plants will be propagated off-site, transported to the revegetation areas by truck and/or all-terrain vehicle where appropriate, and planted by hand labor.

Bio-2: Exotic Plant Species Control – NPS and CDPR will monitor control strategies and performance measures for invasive non-native plants for up to 5 years,. Performance measures for planted natives will also be monitored for up to five years.

Guided by these strategies and measures, NPS and CDPR restoration staff will conduct monitoring of invasive non-native plants and native plantings for up to five years following the project's implementation.

Cumulative Impacts

Past activities and actions that have affected native plant communities within the project area include:

- Non-designated trails on Dias Ridge;
- Plantings of non-native or non-indigenous vegetation such as eucalyptus near the Golden Gate Dairies complex
- Trampling of native vegetation from off-trail visitor use.

Past and current off-trail visitor use has caused trampling of vegetation and in part is responsible for the existing vegetation conditions in the project area. Restoration actions proposed as part of this plan would resolve these conditions, and would overall improve deteriorated vegetation conditions. Impacts to sensitive habitats would be reduced from project implementation through restoration and trail realignment. New trail segments would be sited to avoid these sensitive habitats as much as possible.

Conclusion

The proposed project would result in local, short and long-term, direct and indirect, minor to moderate, and adverse impacts to vegetation and native plant communities. Local, long-term, direct, moderate to major, and beneficial impacts would occur from restoration of removed trail segments, resulting in a net benefit to native plant communities. This proposal would mitigate some of the past adverse impacts, specifically removal and restoration of non-designated trail segments with appropriate native vegetation derived from seed materials collected onsite. The new Dias Ridge Trail would replace the existing Dias Ridge Trail/Fire Road with an alignment that avoids more of the native grasslands than the current trail system. Grades on the new trail would be less steep, resulting in a reduction in erosion of surrounding native plant communities. Local, long-term, direct, moderate to major, and beneficial impacts would occur from restoration of removed trail segments, resulting in a net benefit to native plant communities. Approximately 11 acres of native habitats would be restored. Implementation of this alternative would not cause impairment on native communities.

INVASIVE PLANT SPECIES

REGULATORY BACKGROUND

On February 3, 1999, President Clinton signed Executive Order 13112 requiring federal agencies to combat the introduction or spread of invasive species in the United States. The order defines invasive species as "any species, including its seeds, eggs, spores, or other biological material capable of propagating that species, that is not native to that ecosystem whose introduction does or is likely to cause economic or environmental harm or harm to human health." Federal entities including NPS rely on California's noxious weed list to define the

invasive plants that must be considered as part of the NEPA analysis for a proposed project in the state.

AFFECTED ENVIRONMENT

Non-native plant species occurring within the project area have been mapped by the URS Corporation under contract with NPS (URS 2006). Additional information on exotic species within or adjacent to the project area are derived from observations made by DPR biologists during 2006 field surveys for sensitive plants, the 2005 Golden Gate National Recreation Area Fire Management Plan FEIS, and the 2006 Redwood Creek Watershed Assessment report by Stillwater Sciences (2005). Exotic species known to occur in the project area are listed in Appendix D.

Sudden Oak Death: Discovered in 1995, Sudden Oak Death (*Phytophthora ramorum*) has infected and killed thousands of tanoak, coast live oak, Shreve Oak, and California black oak trees in coastal forests from Humboldt County to Monterey County. This fungus also infects California bay laurel, pacific madrone, California buckeye, coast redwood, Douglas-fir, big leaf maple, California honeysuckle, California coffeeberry, toyon, rhododendron, manzanita and huckleberry. Research has shown that Infections in species other than oaks do not result in mortality for the infected plant. However, they are likely important reservoirs of inoculum for the pathogen and may play a role in spreading disease to other plants.

Sudden Oak Death (SOD) is transported to new areas when infected plants or infested soil is moved. SOD thrives in wet or moist climates, cool temperatures, and living plants. Its spores can be found in soil and water as well as plant material. The risk of SOD spread is greatest in muddy areas and during rainy weather where spore-producing hosts are present. Marin County is one of 14 California counties to have confirmed SOD findings and is under State and federal quarantine regulations. Quarantined areas are subject to specific regulations regarding the movement and use of susceptible plants. County Agricultural Commissioners enforce both State and federal regulations. Sudden Oak Death has been confirmed to occur in Mount Tamalpais State Park. SOD has not been identified within the project area.

IMPACT ANALYSIS

Methodology

The following thresholds were used in determining impacts on invasive plant species:

Negligible: Alternative would result in no noticeable changes in the areal extent on invasive plant species.

Minor: Alternative would result in small but noticeable change and establishment of invasive plants.

Moderate: Alternative would result in easily noticeable change and establishment of invasive plant species.

Major: Alternative would result in highly noticeable change and establishment of invasive plant species.

Alternative A

Under the “No Action” Alternative none of the proposed actions would be implemented within the project area. Therefore, no trail construction, wildlife habitat restoration or habitat removal would occur, no invasive non-native plants would be removed, no areas of erosion would be repaired, and no programmatic site improvements would be implemented. As a result, no adverse impacts would occur to biological resources from construction activities, including equipment, vehicle or crewmember disturbances and habitat removal. However, over the long-term, the distribution and species composition of wildlife habitats, vegetation, and native plant communities would continue to change due to further encroachment by invasive, non-native plant species. Habitat value would continue to decline, especially for special status species.

Cumulative Impacts

Past and present visitor use on portions of the current Dias Ridge Trail and non-designated trail segments has resulted in impacts to native wildlife habitats. Impacts to habitat primarily result from trampling and erosion, displacing native plants and creating additional areas that are colonized by exotic plant species that are often of little benefit to native wildlife. A “No Action” Alternative would continue existing impacts and the further degradation of wildlife habitats.

Conclusion

A “No Action” Alternative would result in local, long-term, direct, minor to moderate, and adverse impacts to native plant communities and wildlife habitats, and the continued displacement of native vegetation by invasive, non-native species. This could be considered significant if continued utilization of non-designated trails and poorly aligned and eroding trail segments continues to occur and if non-native plant encroachment substantially changes the species composition within sensitive plant communities.

Alternative B

Project implementation would result in local, short and long-term, direct and indirect, minor to moderate, and adverse and beneficial impacts to native plant communities and wildlife habitats. Some of the exotic plant species identified in Table 2 above could affect portions of the project area through initial colonization and/or spreading from existing stands or populations onto bare ground created following the removal of existing trail segments and the construction of new trails. Buried seeds onsite as well as windblown seeds from sources outside of the project area could germinate and become established on these bare surfaces.

Local, short-term and long-term, direct, minor to moderate, and adverse impacts to native plant communities during trail construction and habitat restoration from invasive plant species would be addressed through the establishment of an invasive species control program. See Measures Bio-1 and Bio-2, whose implementation would reduce adverse impacts to native plant communities from weed encroachment to less than significant.

As stated in the Affected Environment for this section, Marin County is under quarantine regulations for Sudden Oak Death. If SOD occurs within or adjacent to the project area it could be inadvertently transported by construction equipment and personnel to new areas when infected plants or infested soil is moved. Implementation of the Measure Bio-6 would reduce adverse impacts to a less than significant level.

Avoidance, Minimization and/or Mitigation Measures

Bio-7: Sudden Oak Death - Marin County is under quarantine regulations for Sudden Oak Death and the pathogen has been confirmed by laboratory analysis to occur in Samuel P. Taylor State Park, but not in Mount Tamalpais State Park or in any part of the project area.

Integration of Sudden Oak Death BMPs into design plans will reduce impacts to a less than significant level.

All project components impacting Sudden Oak Death host or carrier plants will follow the “Sudden Oak Death Best Management Practices in Zone of Infestation Regulated Areas, Assembled by the Management Committee of California Oak Mortality Task Force, 2002”.

Cumulative Impacts

Past actions and activities within and adjacent to the project area that may have contributed to adverse impacts to native plant populations from invasive exotic plants include:

- Trail construction and maintenance;
- Non-designated trails on Dias Ridge;
- Plantings of non-native or non-indigenous vegetation such as eucalyptus near the Golden Gate Dairies complex

Trails are a typical conduit for introduction and spread of exotic plant species and the new trail construction could potentially impact new areas along trail edges. However, as described above, implementation of Measures *Bio-1* and *Bio-2* would reduce adverse impacts to native plant communities from weed encroachment to a less than significant level.

Conclusion

Project implementation would result in local, short and long-term, direct and indirect, minor to major, and adverse and beneficial impacts to native plant communities and wildlife habitats. Local, long-term, direct, moderate to major, and beneficial impacts would occur from removal of invasive plant species and the restoration of native plant communities. Adverse impacts would be mitigated through implementation of *Bio-1*. Impacts would not cause impairment.

SPECIAL-STATUS PLANT SPECIES INCLUDING RARE, THREATENED, AND ENDANGERED SPECIES

REGULATORY BACKGROUND

The U.S. Fish and Wildlife Service (USFWS) and CDFG share regulatory responsibility for the protection of special-status plant species. See Appendix C for a list of potential special status plant species for the Dias Ridge project area. “Special-status” species are selected for protection because they are rare and/or subject to population and habitat declines. “Special status” is a general term for species that are afforded varying levels of regulatory protection. The highest level of protection is given to threatened and endangered species; these are species that are formally listed or proposed for listing as endangered or threatened under the Federal Endangered Species Act (FESA) and/or the California Endangered Species Act (CESA).

AFFECTED ENVIRONMENT

This section of the document discusses the special status plant species that may occur in the project area. Special status biological resources include plants and animals that have been afforded special recognition by federal, state, or local resource agencies and organizations. Also included are habitats that are of relatively limited distribution or are of particular value to wildlife.

For the purposes of this document, special-status species are defined as plants and animals that are legally protected under the federal Endangered Species Act (ESA), the California Endangered Species Act (CESA) or other laws, or that are otherwise considered sensitive by federal, state, or local resource conservation agencies and organizations. Specifically, this includes species listed as state and/or federally Threatened, Endangered, or Rare; those considered as candidates for listing; species identified by USFWS and /or CDFG as Species of Special Concern; wildlife identified by CDFG as Fully Protected or Protected; and plants considered by the California Native Plant Society (CNPS) to be rare, threatened, or endangered (i.e., plants on CNPS lists 1 and 2). Special-status species that are not federally protected or state listed as threatened, endangered, or rare do not receive protection under ESA or CESA; however, impacts to these species could still be considered significant under CEQA if it determined to be rare or endangered by the lead agency.

Queries of the CNDDDB (2005) and the CNPS On-line Inventory (2006) were conducted for special status plant species that are known to occur within the Bolinas, Point Bonita, San Francisco North, San Francisco South, San Quentin, and San Rafael 7.5-minute U.S.G.S. quadrangle maps. A total of 76 plant species are reported to occur within these six U.S.G.S. quadrangle maps. Two special-status plant species listed by CNDDDB do not appear on the CNPS list. There are no reported occurrences of any sensitive plant species within the project area. Based on habitat requirements, 63 species have a potential to occur within the project area. These are listed Appendix C. Sixteen of these species have listing status by the State and/or federal government as either rare (State only), endangered, or threatened.

Surveys for special status plant species were conducted by CDPR biologists on March 7-8, 21-22, April 25-27, May 30-31, June 1 and 6, and August 1-2, 2006. These surveys were scheduled to coincide with the appropriate blooming periods for the species listed in Appendix C. The 2006 flowering season was somewhat atypical, with a cool wet spring that inhibited flowering, and followed by a quick transition into summer. All habitats with a potential to support special status plant species were surveyed along the current Dias Ridge Trail, non-designated trail segments, and the proposed new trail alignment. Generally, the survey areas consisted of a 100 foot-wide strip on both sides of the trail alignments as measured from the trail's center point. A series of three surveys during the appropriate blooming periods in 2006 did not locate any federally listed or candidate plant species within action areas for this project.

IMPACT ANALYSIS

Although suitable habitat is available within the project area, no special status plant species were located during surveys conducted in 2006. Suitable habitat mostly consists of seeps, openings in coastal scrub, and grasslands, primarily those dominated by native species.

Methodology

The following thresholds were used to determine impacts on special-status plant species:

Negligible: Alternative would result in an imperceptible or not measurable (undetected) change in the areal extent of habitat for special-status plant species at the project site.

Minor: Alternative would result in a small, measurable, perceptible, and localized change in the areal extent of habitat for a special-status plant species at the project site.

Moderate: Alternative would result in a change in the areal extent of habitat for a special-status plant species such that is apparent, measurable, and sufficient to cause a change in the resource (e.g., abundance, distribution, quantity, or quality). Less localized than a minor impact. For adverse impacts, habitat for the plant species may be eliminated or highly restricted on the project site.

Major: Alternative would result in a change in the areal extent of habitat for a special-status plant species that is substantial, highly noticeable, and with the potential for landscape-scale effects and major irreversible population effects.

Alternative A

Under the “No Action” Alternative none of the proposed actions would be implemented within the project area. Therefore, no trail construction, restoration, or removal would occur, no invasive non-native plants would be removed, no areas of erosion would be repaired, and no programmatic site improvements would be implemented. Habitat suitable for special status plant species would continue to be degraded by trampling and erosion from uncontrolled visitor use along non-designated trail segments and from controlled visitor use along poorly aligned and eroding authorized trail segments.

Cumulative Impacts

Past and present visitor use on portions of the current Dias Ridge Trail and non-designated trail segments has resulted in impacts to native habitats that are capable of supporting special status plant species. Impacts primarily result from trampling and erosion. A “No Action” Alternative would add to existing impacts and continue the degradation of these native habitats.

Conclusion

A “No Action” Alternative would result in local, long-term, direct, and moderate to major adverse impacts to native habitats capable of supporting special status plant species. These impacts may be considered significant if utilization of non-designated trails and poorly aligned and eroding trail segments continues to occur.

Alternative B

Project implementation would result in local, short and long-term, direct and indirect, minor to moderate, and adverse and beneficial impacts to native habitats within the project area capable of supporting special status plant species.

Local, long-term, direct, moderate, and adverse impacts would result from the removal of 3.0 acres of native plant communities, some of which are capable of supporting special status plant species. These impacts would be mitigated by implementation of Measure Bio-1.

Local, short-term, direct and indirect, minor, and adverse impacts to native habitats capable of supporting special status plant species may occur, such as vegetation degradation (i.e. from

dust, crew trampling) during trail construction, restoration, erosion repair, non-native plant removal, planting, and monitoring. These impacts would be temporary, local, and minor, especially considering the net beneficial impacts from restoration and trail realignment.

Local, long-term, direct, moderate to major, and beneficial impacts to native habitats capable of supporting special status plant species would occur from restoration of removed trail segments and trail realignment that mostly avoids sensitive habitats, resulting in a net benefit. Approximately 11 acres of native habitats would be restored.

Restoration and trail realignment activities would increase the opportunity for special status plant species to become established within suitable habitats.

Cumulative Impacts

- Past activities and actions that have affected native habitats within the project area include:
- Non-designated trails on Dias Ridge;
- Spread of plantings of non-native or non-indigenous vegetation such as eucalyptus near the Golden Gate Dairies complex;
- Trampling of native vegetation from off-trail visitor use.

As described above, the proposed project would result in permanent adverse impacts to 3.2 acres of native plant communities. Effects such as trampling of vegetation from off-trail visitor use would probably be unchanged from current use patterns, although less sensitive habitat would be affected. Impacts to sensitive habitats, many of which are capable of supporting special status plant species, would be reduced from project implementation that restores and realigns existing trail segments. New trail segments would be sited to avoid sensitive habitats as much as possible.

Conclusion

Based on surveys of the project area, no known sensitive plant species would be affected by this project. The proposed project would result in local, short and long-term, direct and indirect, minor to moderate, and adverse impacts to vegetation and native plant communities. Local, long-term, direct, moderate to major, beneficial impacts would occur from restoration of removed trail segments, resulting in a net benefit to native habitats. This proposal would mitigate some of the past adverse impacts, specifically removal and restoration of non-designated trail segments with appropriate native vegetation derived from seed materials collected onsite. The new Dias Ridge Trail would replace the existing Dias Ridge Trail/Fire Road with an alignment that avoids more of the native grasslands than the current trail system. Grades on the new trail would be less steep, resulting in a reduction in erosion of surrounding native habitats. Impacts would not cause impairment.

WILDLIFE

WILDLIFE (GENERAL)

REGULATORY BACKGROUND

The NPS Organic Act, which directs parks to conserve wildlife unimpaired for future generations, is interpreted by the agency to mean that native animal life should be protected and perpetuated as part of the park's natural ecosystem. Natural processes are relied on to control populations of native species to the greatest extent possible; otherwise they are protected from harvest, harassment, or harm by human activities. According to NPS Management Policies 2006, the restoration of native species is a high priority (sec. 4.1). Management goals for wildlife include maintaining components and processes of naturally evolving park ecosystems, including natural abundance, diversity, and the ecological integrity of plants and animals.

AFFECTED ENVIRONMENT

Existing biological databases and inventories were reviewed for this document. This included but was not limited to a query of the CNDDDB (2006) for special status wildlife that are known to occur within the Bolinas, Point Bonita, San Francisco North, San Francisco South, San Quentin, and San Rafael 7.5-minute U.S.G.S. quadrangle maps and the U.S. Fish and Wildlife Service (USFWS) list of federally listed and proposed species for Marin County. Lists of special status species for Marin County and/or the general project area were compiled from the CNPS, CNDDDB (CDFG), USFWS, and from CDPH and NPS personnel with local knowledge and expertise. Habitats and vegetation types occurring within or adjacent to the project area were established from existing information or field reconnaissance. Sources of existing information included the GGNRA Fire Management Plan EIS (NPS 2005), the Lower Redwood Creek Floodplain and Salmonid Habitat Restoration - Banducci Site EA (NPS 2007), and the Redwood Creek Watershed Assessment (NPS 2006). Other sources included wildlife species lists compiled by MTSP and GGNRA. Information on GGNRA and MTSP wildlife was obtained from NPS and CDPH park documents and records, natural resource specialists, the U.S. Fish and Wildlife Service, and the California Department of Fish and Game. A compilation of state and federally listed and proposed (candidate) species potentially occurring in the project area was developed from these sources. Based on habitat types represented in the project area, only those species known or with a potential to occur in or adjacent to the project area were addressed in this document. Some of the reference documents, such as the GGNRA Fire Management Plan, address the entire park unit and include habitat and vegetation types not represented in the Dias Ridge project area. Examples of special status wildlife species that occur in GGNRA, such as tidewater goby or California brown pelican, have no available habitat within the Dias Ridge project area. Consequently, those and other similar species were not addressed in this document. Potential species that could be affected by the proposed action include:

Terrestrial habitats within the planning area support a high diversity of mammals. Meso-carnivores, including the gray fox (*Urocyon cinereoargenteus*), bobcat (*Felis rufus*), and the recently reestablished coyote (*Canis latrans*) inhabit coastal scrub and grasslands. Mountain lions (*Felis concolor*) have been sighted in some undeveloped areas of the park. These carnivores feed on a variety of small and large mammals such as the Pacific black-tailed deer (*Odocoileus hemionus columbianus*), broad-footed mole (*Scapanus larimani*), pocket gopher (*Thomomys bottae*), deer mouse (*Peromyscus maniculatus*), western harvest mouse (*Reithrodontomys megalotis*), California vole (*Microtus californicus*), and brush rabbit (*Sylvilagus bachmani*). Badgers (*Taxidea taxus*) are also infrequently encountered. Some

species, such as the western harvest mouse, appear to be restricted to areas where native perennial grasses persist.

Raptors: All raptors and their nests are protected under the Fish and Game Code (Section 3503.5). While there are currently no known raptor nests within the project area, some potential exists for raptor species to nest within or near the proposed project site. If present, impacts to nesting raptor species could occur if the project is constructed during the nesting season (February 1 through August 31) and if active nests occur within 500 feet of the project area.

Townsend's big-eared bat (*Corynorhinus townsendii*) and Pallid bat (*Antrozous pallidus*): These bats are California Special Concern species that are found in a variety of habitats, including coniferous forests, and may roost in caves, rock crevices, or cavities of trees. There is a potential for tree removal as part of this project and bat habitat may be affected as a result of project implementation.

IMPACT ANALYSIS

Methodology

Negligible impacts would not be detectable and would have no discernable effect.

Minor impacts would be slightly detectable, but would not be expected to have an overall effect.

Moderate impacts would be clearly detectable and could have an appreciable effect.

Major impacts would have a substantial, highly noticeable effect.

Alternative A

Under the "No Action" Alternative none of the proposed actions would be implemented within the project area. Therefore, no trail construction, wildlife habitat restoration, or removal would occur, no invasive non-native plants would be removed, no areas of erosion would be repaired, and no programmatic site improvements would be implemented. Habitat suitable for special status wildlife species would continue to be degraded by trampling and erosion from uncontrolled visitor use along non-designated trail segments and from controlled visitor use along poorly aligned and eroding authorized trail segments. Visitor use would continue to result in possible disturbance and mortality to wildlife and special status wildlife.

Cumulative Impacts

Past and present visitor use on portions of the current Dias Ridge Trail and non-designated trail segments has resulted in impacts to native wildlife habitats. Impacts to habitat primarily result from trampling and erosion. Impacts to special status wildlife species from past and present human activities (e.g. hiking, mountain biking, horseback riding; trail maintenance) is difficult to ascertain, but certain species are more adversely affected than others. A "No Action" Alternative would continue existing impacts to wildlife species and the degradation of wildlife habitats.

Conclusion

A "No Action" Alternative would result in local, long-term, direct, minor to moderate, and adverse impacts to native wildlife and their habitats. These impacts may be considered significant if

utilization of non-designated trails and poorly aligned and eroding trail segments continues to occur.

Alternative B

Project implementation would result in local, short and long-term, direct and indirect, minor to major, and adverse and beneficial impacts to native wildlife species and wildlife habitats. Project impacts would occur from construction of approximately 13,936 feet of new trail and closure and restoration of existing trail segments. Construction of new trail segments would be designed to avoid as much as possible sensitive habitats such as seeps, and wetlands (e.g. Rush Alliance, *Juncus effusus* Association), and oak/bay woodlands.

Approximately 13,042 feet of poorly aligned and eroding trail segments, including 4515 feet of non-designated trail segments would be restored to natural conditions, creating valuable wildlife habitat that would be free of human disturbance.

Local, short-term, direct and indirect, minor, and adverse impacts to wildlife habitat may occur, such as vegetation degradation (i.e. from dust, crew trampling) during trail construction, restoration, erosion repair, non-native plant removal, planting, and monitoring. Project activities would be timed to avoid critical wildlife breeding periods. Long-term, indirect, and adverse impacts may result from future weed encroachment in project areas after soil disturbance. These impacts would be temporary, local, and minor, especially considering the net beneficial impacts to restoration of native habitats.

Local, long-term, direct, moderate, and adverse impacts would result from the removal of 3.2 acres of native wildlife habitat.

This project has been designed to minimize the removal of trees, especially large diameter native trees that provide valuable wildlife habitat. The proposed project has a slight potential to affect nesting raptor species, which are protected by CDFG under applicable state law. Implementation of the following measure would reduce potential effects to nesting raptors to a less than significant level.

Avoidance, Minimization and/or Mitigation Measures

Bio-3: Nesting Raptor Species - If construction is planned during the breeding seasons (January 1 – July 31) for any raptors, then a pre-construction survey to locate any potential raptor nests will be conducted in and around the project area. If a nest is located near the project area, then construction will not occur within 500 feet or an appropriate distance as defined by an NPS or MTSP wildlife biologist of the active nest until after the young have fledged and there is no evidence of a second attempt at nesting as determined by an agency-approved biologist.

Bio-4: Sensitive Bat Species - The proposed project has a slight potential to affect sensitive bat species through the removal of trees that are used for roosting. Implementation of the following measure will reduce potential effects to a less than significant level.

A bat habitat assessment and survey will be conducted by project proponents prior to construction in order to determine what species are present in trees identified for removal, and whether they are used for day, night, or maternity roosts. Trail alignments will be adjusted, where practicable, to avoid the removal of tree roosting habitat.

Bio-5: Landbird Nesting - Vegetation removal will be planned outside the landbird breeding season (March 1 – July 31). Nest surveys will be conducted by a qualified biologist prior to vegetation removal during the breeding season. If nests are located, a suitable non-work buffer determined by a qualified biologist based on species and habitat characteristics, will be established and remain in place until birds could successfully fledge and move from the area.

Cumulative Impacts

Past activities and actions that have affected native wildlife and their habitats within the project area include:

- Non-designated trails on Dias Ridge;
- Trampling of native vegetation from off-trail visitor use.
- Visitor use on authorized trails during wildlife breeding season

As described above, the proposed project would result in permanent adverse impacts to 3.2 acres of native wildlife habitat. Effects such as trampling of vegetation from off-trail visitor use would probably be unchanged from current use patterns, although less sensitive habitat would be affected. Impacts to sensitive habitats would be reduced from project implementation through restoration and trail realignment. New trail segments would be sited to avoid sensitive habitats as much as possible, including large diameter native trees.

Conclusion

The proposed project has a slight potential to affect sensitive bat species through the removal of trees that are used for roosting. Implementation of the following measure would reduce potential effects to a less than significant level.

Local, long-term, direct, moderate to major, and beneficial impacts would occur from restoration of removed trail segments, resulting in a net benefit to native wildlife habitat. Approximately 11 acres of native habitats would be restored.

The proposed project would result in local, short and long-term, direct and indirect, minor to moderate, and adverse impacts to native wildlife habitat. Local, long-term, direct, moderate to major, and beneficial impacts would occur from restoration of removed trail segments, resulting in a net benefit. This proposal would mitigate some of the past adverse impacts, specifically removal and restoration of non-designated trail segments with appropriate native vegetation derived from seed materials collected onsite. The new Dias Ridge Trail would replace the existing Dias Ridge Trail/Fire Road with an alignment that avoids more of the sensitive wildlife habitats than the current trail system. Creation of additional native habitat through restoration activities would benefit wildlife, including special status species. Impacts would not cause impairment.

SPECIAL STATUS WILDLIFE SPECIES

REGULATORY BACKGROUND

Special status biological resources include wildlife species that have been afforded special recognition by federal, state, or local resource agencies and organizations. They are legally

protected under the federal Endangered Species Act (ESA), the California Endangered Species Act (CESA) or other laws, or that are otherwise considered sensitive by federal, state, or local resource conservation agencies and organizations. Specifically, this includes species listed as state and/or federally Threatened or Endangered; those considered as candidates for listing; species identified by the U.S. Fish and Wildlife Service (USFWS) and /or California Department of Fish and Game (CDFG) as Species of Special Concern; and wildlife identified by CDFG as Fully Protected or Protected. Also afforded protections are those habitats that are of relatively limited distribution or are of particular value to wildlife.

The primary federal law protecting threatened and endangered species is the Federal Endangered Species Act (FESA): 16 United States Code (USC), Section 1531, et seq. See also 50 CFR Part 402. This act and subsequent amendments provide for the conservation of endangered and threatened species and the ecosystems upon which they depend. Under Section 7 of this act, federal entities such as NPS are required to consult with the U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NOAA Fisheries) to ensure that they are not undertaking, funding, permitting or authorizing actions likely to jeopardize the continued existence of listed species or destroy or adversely modify designated critical habitat. Critical habitat is defined as geographic locations critical to the existence of a threatened or endangered species. The outcome of consultation under Section 7 is a Biological Opinion or an "incidental take permit." Section 3 of FESA defines take as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect or any attempt at such conduct."

California has enacted a similar law at the state level, the California Endangered Species Act (CESA), California Fish and Game Code, Section 2050, et seq. CESA emphasizes early consultation to avoid potential impacts to rare, endangered, and threatened species and to develop appropriate planning to offset project caused losses of listed species populations and their essential habitats. The California Department of Fish and Game (CDFG) is the agency responsible for implementing CESA. Section 2081 of the Fish and Game Code prohibits "take" of any species determined to be an endangered species or a threatened species. Take is defined in Section 86 of the Fish and Game Code as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." CESA allows for take incidental to otherwise lawful development projects; for these actions an incidental take permit is issued by CDFG. For projects requiring a Biological Opinion under Section 7 of the FESA, CDFG may also authorize impacts to CESA species by issuing a Consistency Determination under Section 2080.1 of the Fish and Game Code.

AFFECTED ENVIRONMENT

Invertebrates

San Bruno elfin butterfly (*Callophrys mossii bayensis*, formerly *Incisalia mossii bayensis*) – Federal Endangered. The distribution of this species is restricted to a few small populations in coastal San Mateo, Contra Costa, and Marin Counties. Its host plant, yellow stonecrop (*Sedum spathulifolium*), is a succulent that grows on north facing rock outcroppings along the central California coast north to British Columbia. The adults emerge in February and March when the flowers are open. They mate and the female lays eggs on the host plant. A week later the eggs hatch and the larvae feed on the host plant while passing through a number of larval instars. In June the larvae pupate in ground litter until they emerge the following spring (Essig 2004).

Although there are a few rock outcroppings where the host plant could grow adjacent to the project area, no plants have been sighted at these locations. It is highly unlikely that the San Bruno elfin butterfly occurs in the general area. Project construction and restoration activities have been designed to avoid all rock outcrops; therefore the San Bruno elfin butterfly would not be affected by project implementation.

Mission blue butterfly (*Plebejus icarioides missionensis*, formerly *Icaricia icarioides missionensis*) – Federal Endangered. This butterfly is associated with coastal scrub habitat where the shrub host plants *Lupinus albifrons*, *L. variicolor*, and *L. formosus* occur. The larvae break their dormancy at the beginning of spring to eat for a short time before going underground to pupate. The adult emerges as the host plant starts flowering. After mating, the female lays eggs that hatch a few days later. The young larvae feed on the host plant for a few weeks before going into dormancy through the winter months (Essig 2004). There is a record of this species at Fort Baker in the Golden Gate National Recreation Area, however no mission blue butterflies were observed there in 1984 and 1985 (CDFG 2006). The project site includes coastal scrub habitat and the host plants are known to occur in MTSP and GGNRA, however, host plants were not encountered during 2006 surveys for special status plant species. Due to lack of habitat in the project area the mission blue butterfly would not be affected by project implementation.

Myrtle's silverspot butterfly (*Speyeria zerene myrtleae*) – Federal Endangered. This species is restricted to habitats along the central California coast such as dunes, scrub and grassland. The female adult emerges in the late summer to fall to mate and lay eggs on the host plant *Viola adunca*. The eggs hatch in late fall and the larvae become dormant soon after that until the following spring when they emerge to feed on the host plant. The larvae then pupate for two weeks before emerging as adults (Essig 2004). Known occurrences of this species are noted for northern Marin County, but as of 2006 not near the project area. The project area includes coastal scrub habitat, but the host plant is not known to occur in MTSP or that portion of GGNRA within the project area, however, host plants were not encountered during 2006 surveys for special status plant species. Due to lack of habitat in the project area the Myrtle's silverspot butterfly would not be affected by project implementation.

California freshwater shrimp (*Syncaris pacifica*) – Federal Endangered and State Endangered. This ten-legged crustacean is normally found in perennial low-elevation streams with very little slope in Marin, Sonoma, and Napa Counties (USGS 2006). They are found within stream pools away from the main current where there are undercut banks, exposed roots, and overhanging vegetation. The shrimp are able to reproduce in the fall of their second season. The female carries the eggs throughout the winter. California freshwater shrimp occur in coastal streams flowing toward the Pacific (USFWS 2006c). Although Redwood Creek contains habitat suitable for this species, surveys conducted by NPS in 1986 and 1997 to document the occurrence of California freshwater shrimp recorded no individuals in the Redwood Creek watershed (Fong 1997 and 1999). California freshwater shrimp would not be affected by project implementation.

Fish

California coastal chinook salmon (*Oncorhynchus tshawytscha*) – Federal Threatened. This anadromous fish species needs both fresh water streams and marine environments to complete its life cycle. The juveniles remain in streams for 3 months to 2 years before traveling toward

the estuarine environment and then on toward the ocean to feed and mature. California coastal chinook salmon adults return for spawning 1 to 6 years later. They can be found from the Bering Strait to Southern California (NOAA 2006). Redwood Creek does not support California coastal chinook salmon, therefore this species would not be affected as a result of project implementation.

Central California coastal coho salmon (*Oncorhynchus kisutch*) – Federal Endangered and State Endangered. This species is distributed from Central California to Alaska on the Eastern side of the Pacific. Central California coastal coho salmon spend approximately half of their life in fresh water streams and the remainder in marine waters. They return to freshwater stream to spawn and die. Threats include siltation and summer de-watering from agriculture. Central California coastal coho salmon are known to occur in Redwood Creek (Hofstra and Anderson 1989; CNDDDB 2006), but the project area is not close to the stream and project implementation would not affect this species.

Central California Coastal Steelhead (*Oncorhynchus mykiss*) – Federal Threatened. Central California coastal steelhead are an anadromous fish species, emerging and living as juveniles in fresh water streams and then migrating to marine environments to mature. They return to freshwater streams to spawn and die completing their life cycle. They are found from Alaska to Southern California (NPS 2005). Threats are attributed to agricultural water diversions and sediment deposition from previous logging. Central California coastal steelhead has been documented in Redwood Creek (Hofstra and Anderson 1989; CNDDDB 2006), but the project area is not close to the stream and project implementation would not affect this species.

Delta smelt (*Hypomesus transpacificus*) – Federal Threatened and State Threatened. This species of smelt is found in the Sacramento-San Joaquin Estuary and extend downstream as far as San Pablo Bay. They usually live in brackish water and their abundance is thought to depend on the amount of precipitation received during the winter months (CVBDB 2006). As the project area does not include this habitat, the delta smelt would not be affected by project implementation.

Tidewater goby (*Eucyclogobius newberryi*) – Federal Endangered. This benthic species prefers brackish, shallow lagoons in slow moving streams. Tidewater goby is found from Del Norte to San Diego Counties. During its one-year lifespan, this species remains in brackish lagoon habitat. Reproduction is year round and the eggs are placed in a vertical burrow. They hatch and remain planktonic in the mid-water column until they become benthic (USFWS 2006a). The tidewater goby is vulnerable throughout its range because of loss of coastal marsh due to coastal development activities. There is known occurrence for this species at Rodeo Lagoon in the Golden Gate National Recreation Area (CNDDDB 2006). Since the project area does not involve an estuarine habitat, there would be no effects on tidewater goby as a result of project implementation.

Amphibians

California red-legged frog (*Rana aurora draytonii*) – Federal Threatened and California Species of Concern. California red-legged frog inhabits a variety of aquatic areas (streams, lakes, and ponds) with dense vegetation. This species breeds from January to July and tadpoles need 11 – 20 weeks to reach maturity. Seasonal rain may aid with their dispersal (Zeiner et. al. 1988) through surrounding habitats near breeding sites. Threats are attributed to habitat modification

due to timber harvest and urban development, and bullfrog predation. A tiny population of California red-legged frog has been identified in lower Redwood Creek and Green Gulch (Stillwater Sciences 2005). Although the closest breeding habitat is more than 1 mile from the project area, there is a slight possibility that potential upland habitat for California red-legged frog would be affected by project implementation.

Birds

Bald Eagle (*Haliaeetus leucocephalus*) (nesting and wintering) – Federal Threatened and California Endangered. Bald eagles are also protected by the Bald and Golden Eagle Protection Act (BGEPA) and the Migratory Bird Treaty Act (MBTA). Bald eagle distribution varies seasonally. Most eagles that breed in Canada and the northern U.S. move south for the winter. Eagles generally nest near coastlines, rivers, and large lakes or reservoirs with an adequate food supply. They nest in mature trees; snags; cliffs; and occasionally on human-made structures. Past threats to the bald eagle arose from the widespread use of DDT and other pesticides, and poisoning as a result of feeding on waterfowl containing lead shot. Current threats are attributed to loss of nesting habitat due to development. Bald eagle populations have been steadily increasing primarily due to habitat protection and a reduction in the levels of certain pesticides (including DDT) occurring in the environment. There are no potential nesting sites within the project area. Therefore bald eagle would not be affected by project implementation.

California clapper rail (*Rallus longirostris obsoletus*) – Federal Endangered and State Endangered. Distribution of the California clapper rail is almost totally restricted to salt and brackish marshes of the San Francisco estuary. The California clapper rail is threatened by habitat loss, urbanization, and predation from both native and non-native species. There is a reported occurrence for this species at Bolinas Lagoon (CNDDDB 2006). Suitable habitat for this species is not within the project area; therefore California clapper rail would not be affected by project implementation.

Marbled Murrelet (*Brachyramphus marmoratus*) – Federal Threatened and California State Endangered. The murrelet is a small seabird that flies inland to nest in coastal forests where it usually lays only one egg. They range from the Oregon border to Santa Barbara County preferring stands of coastal coniferous forest for nesting up to 5 miles inland (Zeiner et. al. 1990). In California, murrelets spend most of the time offshore foraging on small ocean fish and invertebrates. The main cause of population declines has been the loss of forest nesting habitat due to timber harvest. However, current threats also include other factors such as oil spills and predation of eggs by unnaturally high populations of *Cyanocitta stelleri* and *Corvus corax*. The project site does not contain mature coniferous forest and the nearest suitable habitat is more than a mile from the project boundary; therefore, the marbled murrelet would not be affected by project implementation.

Northern Spotted Owl (*Strix occidentalis caurina*) – Federal Threatened. The northern spotted owl prefers dense, old growth, multi-layered mixed conifer, redwood, and Douglas-fir habitats (Zeiner et. al. 1990). They are nocturnal hunters that use tree cavities and natural platforms in trees for nesting. The northern spotted owl is threatened by urbanization, recreational pressure, genetic isolation, West Nile virus, barred owl (*Strix varia*) range expansion, and habitat loss due to Sudden Oak Death. There are possibly 75 pairs of northern spotted owls in Marin County.

The closest known northern spotted owl occurrences are at Muir Woods (NPS 2005). Nesting and roosting habitat borders the Dias Ridge project area and foraging habitat occurs along portions of the existing and proposed Dias Ridge Trail.

Western snowy plover (*Charadrius alexandrinus nivosus*) – Federal Threatened and California Species of Concern. The Pacific coast population extends from Washington to Baja, California and Mexico. This species inhabits sandy coastal beaches, salt pans, coastal dredged spoils sites, dry salt ponds, salt pond levees, and gravel bars. The decline and loss of western snowy plovers along the Pacific coast have been attributed to habitat loss throughout their range and disturbance caused by urbanization (USFWS 2006b). There is a reported occurrence for this species at Bolinas Lagoon (CNDDB 2006). Habitat for the western snowy plover does not occur within the project area. Therefore, the species would not be affected by project implementation.

Mammals

Salt marsh harvest mouse (*Reithrodontomys raviventris*) – Federal Endangered and State Endangered. The salt marsh harvest mouse is dependent on the dense cover of pickleweed (*Salicornia virginica*) that grows in salt marshes. This species is only found around the San Francisco, San Pablo, and Suisun Bays (USFWS 2006a). Loss of suitable habitat from urbanization and erosion threaten the species. Habitat for the salt marsh harvest mouse does not occur within the project area. Therefore, the species would not be affected by project implementation.

IMPACT ANALYSIS

Methodology

Negligible impacts would not be detectable and would have no discernable effect.

Minor impacts would be slightly detectable, but would not be expected to have an overall effect.

Moderate impacts would be clearly detectable and could have an appreciable effect.

Major impacts would have a substantial, highly noticeable effect.

Alternative A

Under the “No Action” Alternative none of the proposed actions would be implemented within the project area. Therefore, no trail construction, wildlife habitat restoration, or removal would occur, no invasive non-native plants would be removed, no areas of erosion would be repaired, and no programmatic site improvements would be implemented. Potentially suitable upland habitat for California red-legged frog (CRLF) and foraging habitat for northern spotted owl (NSO) would continue to be degraded to a limited extent by trampling and erosion from uncontrolled visitor use along non-designated trail segments and from controlled visitor use along poorly aligned and eroding authorized trail segments. Visitor use would continue to result in possible disturbance to CRLF and NSO.

Cumulative Impacts

Past and present visitor use on portions of the current Dias Ridge Trail and non-designated trail segments has resulted in impacts to native wildlife habitats. Impacts to habitat primarily result from trampling and erosion. Impacts to CRLF and NSO from past and present human activities

(e.g. hiking, mountain biking, horseback riding; trail maintenance) are difficult to ascertain. A “No Action” Alternative would continue existing impacts and the degradation of wildlife habitats.

Conclusion

A “No Action” Alternative would result in local, long-term, direct, minor to moderate, and adverse impacts to native wildlife habitats and local, long-term, direct, probably minor, and adverse impacts to CRLF and NSO. Impacts to native wildlife habitats may be considered significant if utilization of non-designated trails and poorly aligned and eroding trail segments continues to occur.

Alternative B

Project implementation would result in local, short and long-term, direct and indirect, minor to moderate, and adverse and beneficial impacts to threatened and endangered wildlife species and their habitats. Project impacts would occur from construction of approximately 13,936 feet of new trail and closure and restoration of existing trail segments.

Approximately 13,042 feet of poorly aligned and eroding trail segments of the Dias Ridge Trail and associated non-designated trail segments would be restored to natural conditions, creating valuable wildlife habitat that would be free of human disturbance.

Local, short-term, direct and indirect, minor, and adverse impacts to wildlife habitat may occur, such as vegetation degradation (i.e. from dust, crew trampling) during trail construction, restoration, erosion repair, non-native plant removal, planting, and monitoring. Project activities would be timed to avoid critical wildlife breeding periods. Long-term, indirect, and adverse impacts may result from future weed encroachment in project areas after soil disturbance. These impacts would be temporary, local, and minor, especially considering the net beneficial impacts to restoration of native habitats.

Local, direct, minor, and adverse impacts would occur from removal of 3.2 acres of native wildlife habitat, some of which may be foraging habitat for NSO and upland habitat for CRLF.

Although the closest known NSO occurrences are more than a mile from the project area, the project has been designed to minimize the removal of trees. The project area is potential foraging habitat for NSO and implementation of the following measure would reduce potential effects to a not likely to adversely affect NSO.

Local, long-term, direct, moderate, and beneficial impacts would occur from restoration of removed trail segments, resulting in a net benefit to NSO and especially CRLF habitat.

Avoidance, Minimization and/or Mitigation Measure

Potential CRLF upland habitat occurs on portions of the existing and proposed Dias Ridge Trail. These areas are located at the terminus of the current Dias Ridge Trail and the terminus of the non-designated trail segment at Frank Valley Road. Implementation of the following measure would reduce potential effects to a not likely to adversely affect CRLF.

Bio-6: California Red-legged Frog - Immediately prior to the start of work each morning, a USFWS-approved Biologist or DPR-qualified Biologist will conduct a visual inspection of the construction zone.

Construction activity within the project site will also be spot checked during the work day by a USFWS- approved Biologist or a DPR-qualified Biologist.

If a California red-legged frog is found, start of work at that project site will be delayed until the species moves out of the site on its own accord.

All holes and trenches will be covered at the close of each work day or escape ramps (plywood or similar material) will be provided; all pipes, culverts or similar structures that are stored at the construction site for one or more overnight periods will be thoroughly inspected for CRLF before the pipe is subsequently buried, capped, or otherwise removed in any way to prevent animals from being trapped.

Prior to the start of construction, all construction-related personnel will be instructed by a qualified biologist in the life history of the California red-legged frog and its habitat, and instruction in the appropriate protocol to follow in the event that a California red-legged frog is found onsite.

Cumulative Impacts

Past activities and actions that have affected native wildlife and their habitats within the project area include:

- Non-designated trails on Dias Ridge;
- Trampling of native vegetation from off-trail visitor use.
- Visitor use on authorized trails during wildlife breeding season

As described above, the proposed project would result in permanent adverse impacts to 3.2 acres of native wildlife habitat. Effects such as trampling of vegetation from off-trail visitor use would probably be unchanged from current use patterns, although less sensitive habitat would be affected. However, impacts to sensitive habitats would be reduced from project implementation through restoration and trail realignment. New trail segments would be sited to avoid NSO and CRLF habitats as much as possible, including native trees.

Conclusion

The proposed project would result in local, short and long-term, direct and indirect, minor to moderate, and adverse impacts to native wildlife habitat. Local, long-term, direct, moderate, and beneficial impacts would occur from restoration of removed trail segments, resulting in a net benefit to NSO and especially CRLF habitat. This proposal would mitigate some of the past adverse impacts, specifically removal and restoration of non-designated trail segments with appropriate native vegetation derived from seed materials collected onsite. The new Dias Ridge Trail would replace the existing Dias Ridge Trail/Fire Road with an alignment that avoids more of the sensitive wildlife habitats than the current trail system. Creation of additional native habitat through restoration activities would benefit wildlife, including threatened and endangered species. Impacts would not cause impairment.

NON-NATIVE WILDLIFE SPECIES

REGULATORY BACKGROUND

NPS Management Policies (4.4.4) state that exotic species will not be allowed to displace native species if displacement can be prevented.

AFFECTED ENVIRONMENT

Non-native wildlife species occurring within GGNRA are identified in the 2005 Golden Gate National Recreation Area Fire Management Plan FEIS. Some of these species may occur or pass through the project area. Non-native wildlife affect populations of native animals through competition for resources, predation, and as vectors for disease. Non-native terrestrial mammals that may occur in or near the project area include feral pigs (*Sus scrofa*), red fox (*Vulpes vulpes*), opossum (*Didelphis virginiana*), house cats (*Felis domesticus*), and Norway and black rats (*Rattus norvegicus* and *R. rattus*). Non-native birds may include wild turkeys (*Meleagris gallopavo*), European starlings (*Sturnus vulgaris*), peacocks (*Pavo cristatus*), house sparrows (*Passer domesticus*), and rock doves (*Columba livia*). Non-native invertebrates may include Argentine ant (*Iridomyrmex humilis*).

IMPACTS ANALYSIS

Methodology

The effect of the project to increase or decrease non-native wildlife species in the project area is qualitative discussion. No impact levels were quantified for this discussion.

Alternative A

Under the “No Action” Alternative none of the proposed actions would be implemented within the project area. Therefore, no trail construction, wildlife habitat restoration or habitat removal would occur, no invasive non-native plants would be removed, no areas of erosion would be repaired, and no programmatic site improvements would be implemented. This alternative would have little or no effect on any non-native wildlife populations.

Cumulative Impacts

A “No Action” Alternative would continue existing impacts from and the further degradation of wildlife habitats non-native wildlife populations.

Conclusion

A “No Action” Alternative would have little or no effect on any non-native wildlife populations.

Alternative B

Project implementation would result in restoration of native habitats and construction of new trail segments, but would have little or no effect on any non-native wildlife populations. The project would not result in the introduction of any new non-native wildlife species. Although trails provide a corridor for access of wildlife species, the openness of the habitats within the project area provides no impediment to the free movement of wildlife, including non-native species.

Cumulative Impacts

Past actions and activities within and adjacent to the project area that may have contributed to adverse impacts to native wildlife populations from non-native wildlife include abandonment of

pets (e.g. feral cats) and trail construction and maintenance. These impacts are considered to be minimal. Implementation of the project would create few or no additional impacts to native wildlife populations.

Conclusion

Project implementation would not result in the introduction of any new non-native wildlife species and would have little or no effect on any non-native wildlife populations; therefore his project would not contribute significantly to any existing impacts on native wildlife populations. Impacts would not cause impairment.

CHAPTER IV: LIST OF PREPARERS AND COORDINATION

LIST OF PREPARERS ERROR! BOOKMARK NOT DEFINED.

Following is a list of persons who contributed to preparation of this EA/IS. This list is consistent with the requirements set forth in NEPA and CEQA (40 CFS 1502.17 and Section 15129 of the State CEQA Guidelines).

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COORDINATIONERROR! BOOKMARK NOT DEFINED.

During preparation of this EA/IS, the lead agencies, NPS and CDPR, consulted with agencies with specific expertise in project issues, and with members of the public. Information gained in this effort assisted the lead agencies in determining the scope of this document, clarifying the description of the Proposed Action, and identifying potential environmental impacts and developing mitigation measures. Consultation included public scoping meetings, review of existing environmental documents and records, interagency communications and meetings. The lead agencies will continue to solicit public and agency input on the Proposed Action by encouraging review of this EA/IS.

As previously mentioned, this EA/IS has been prepared in accordance with the requirements of NEPA and CEQA. NPS and CDPR are also complying with other applicable laws, including the following:

Clean Air Act of 1972, as amended (42 USC 7401 et seq.). Section 176(c) of the Clean Air Act prohibits federal action or support of activities that do not conform to a State Implementation Plan. The Proposed Action is not expected to violate any standard, increase violations in the project area, exceed the USEPA's general conformity de minimus threshold, or hinder the attainment of air quality objectives in the local air basin.

Clean Water Act of 1972, as amended (33 USC 1251 et seq.). The Proposed Action is in compliance with Section 401 of the Clean Water Act. The Proposed Action would not result in placement of fill material into waters of the United States, including wetlands.

Endangered Species Act of 1973, as amended (16 USC 1531 et seq.). NPS has determined that the Proposed Action is not likely to adversely affect any listed terrestrial species. NPS is requesting concurrence from USFWS. Potential effects on the aquatic environment are being addressed through consultation with USACE.

Fish and Wildlife Coordination Act of 1958, as amended (16 USC 661 et seq.). Coordination with the USFWS under this act has been integrated throughout the preparation of the EA/IS.

National Historic Preservation Act of 1966, as amended (16 USC 470). It has been determined that the Proposed Action would have no adverse effect on historic properties under Section 106 of the NHPA. The NPS cultural resources staff are reviewing this project for purposes of Section 106 under the park's 1992 Programmatic Agreement by the SHPO and ACHP.

Farmlands Protection Policy Act. The purpose of the Farmland Protection Policy Act (FPPA) is to minimize the extent to which federal programs contribute to the unnecessary and irreversible conversion of farmland to nonagricultural uses. The FPPA ensures, to the maximum extent practicable, that federal programs are administered in a manner that is compatible with state, unit of local government, and private programs to protect farmland. The proposed action would not contribute to the unnecessary and irreversible conversion of farmland to nonagricultural uses.

EA/IS DISTRIBUTION

The NPS and CDPR distributed a copy (CD or paper) of the EA/IS to approximately 220 individuals, agencies and organizations. In addition the park distributed postcards to approximately 1,842 individuals, agencies, and organizations to notify them that the EA/IS was available for review and comment. In addition a legal notice was placed in the Marin County Independent Journal announcing the availability of the EA/IS for review and comment.

The EA/IS is available online for review and comment as well as at local libraries, and the main offices of the lead agencies. The distribution list is available upon request.

CHAPTER V: REFERENCES

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Appendix A
California Environmental Quality Act
Initial Study / Mitigated Negative Declaration

Appendix A
California Environmental Quality Act
Initial Study Environmental Checklist / Mitigated Negative Declaration

- 1. Project Title:**
Dias Ridge Restoration and Trail Improvement Project
- 2. Lead Agency Name & Address:**
California Department of Parks and Recreation
- 3. Contact Person & Phone Number:**
Gary Waldron, 916-445-8772
- 4. Project Location:**
Mount Tamalpais State Park & Golden Gate National Recreation Area, Marin County
- 5. Project Sponsor Name & Address:**
California Department of Parks and Recreation
Acquisition and Planning Division
Northern Service Center
One Capital Mall - Suite 500
Sacramento, California 95814
- 6. General Plan Designation:**
Mount Tamalpais State Park, May 1963
Golden Gate National Recreation Area, 1972
- 7. Zoning:**
Open Space, Recreational
- 8. Description of Project:**
The proposed project would:
 - realign trail segments and restore degraded areas on Dias Ridge;
 - improve the overall quality of the parkland and reduce sedimentation into the Redwood Creek and Green Gulch watersheds by removing unauthorized trails, replacing or rehabilitating poorly aligned and eroding segments of the Dias Ridge Trail, and restoring areas of natural landscape; and
 - support existing authorized trail-use designations.
- 9. Surrounding Land Uses & Setting:**
Refer to Section IX, Land Use Planning
- 10. Approval Required from Other Public Agencies:**
U.S. Department of the Interior, National Park Service

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact", as indicated by the checklist on the following pages.

- | | | |
|--------------------------------------------------------|-------------------------------------------------------------|-------------------------------------------------|
| <input type="checkbox"/> Aesthetics | <input type="checkbox"/> Agricultural Resources | <input type="checkbox"/> Air Quality |
| <input type="checkbox"/> Biological Resources | <input type="checkbox"/> Cultural Resources | <input type="checkbox"/> Geology/Soils |
| <input type="checkbox"/> Hazards & Hazardous Materials | <input type="checkbox"/> Hydrology/Water Quality | <input type="checkbox"/> Land Use/Planning |
| <input type="checkbox"/> Mineral Resources | <input type="checkbox"/> Noise | <input type="checkbox"/> Population/Housing |
| <input type="checkbox"/> Public Services | <input type="checkbox"/> Recreation | <input type="checkbox"/> Transportation/Traffic |
| <input type="checkbox"/> Utilities/Service Systems | <input type="checkbox"/> Mandatory Findings of Significance | <input checked="" type="checkbox"/> None |

DETERMINATION

On the basis of this initial evaluation:

I find that the proposed project **COULD NOT** have a significant effect on the environment and a **NEGATIVE DECLARATION** will be prepared.

I find that, although the original scope of the proposed project **COULD** have had a significant effect on the environment, there **WILL NOT** be a significant effect because revisions/mitigations to the project have been made by or agreed to by the applicant. A **MITIGATED NEGATIVE DECLARATION** will be prepared.

I find that the proposed project **MAY** have a significant effect on the environment and an **ENVIRONMENTAL IMPACT REPORT** or its functional equivalent will be prepared.

I find that the proposed project **MAY** have a "potentially significant impact" or "potentially significant unless mitigated impact" on the environment. However, at least one impact has been adequately analyzed in an earlier document, pursuant to applicable legal standards, and has been addressed by mitigation measures based on the earlier analysis, as described in the report's attachments. An **ENVIRONMENTAL IMPACT REPORT** is required, but it must analyze only the impacts not sufficiently addressed in previous documents.

I find that, although the proposed project could have had a significant effect on the environment, because all potentially significant effects have been adequately analyzed in an earlier EIR or Negative Declaration, pursuant to applicable standards, and have been avoided or mitigated, pursuant to an earlier EIR, including revisions or mitigation measures that are imposed upon the proposed project, all impacts have been avoided or mitigated to a less-than-significant level and no further action is required.

Signature on Original Document
Patricia DuMont
Environmental Coordinator

Date

Printed Name

EVALUATION OF ENVIRONMENTAL IMPACTS

1. A brief explanation is required for all answers, except "No Impact", that are adequately supported by the information sources cited. A "No Impact" answer is adequately supported if the referenced information sources show that the impact does not apply to the project being evaluated (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on general or project-specific factors (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
2. All answers must consider the whole of the project-related effects, both direct and indirect, including off-site, cumulative, construction, and operational impacts.
3. Once the lead agency has determined that a particular physical impact may occur, the checklist answers must indicate whether that impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate when there is sufficient evidence that a substantial or potentially substantial adverse change may occur in any of the physical conditions within the area affected by the project that cannot be mitigated below a level of significance. If there are one or more "Potentially Significant Impact" entries, an Environmental Impact Report (EIR) is required.
4. A "Mitigated Negative Declaration" (Negative Declaration: Less Than Significant with Mitigation Incorporated) applies where the incorporation of mitigation measures, prior to declaration of project approval, has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact with Mitigation." The lead agency must describe the mitigation measures and briefly explain how they reduce the effect to a less than significant level.
5. Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR (including a General Plan) or Negative Declaration [CCR, Guidelines for the Implementation of CEQA, § 15063(c)(3)(D)]. References to an earlier analysis should:
 - a) Identify the earlier analysis and state where it is available for review.
 - b) Indicate which effects from the environmental checklist were adequately analyzed in the earlier document, pursuant to applicable legal standards, and whether these effects were adequately addressed by mitigation measures included in that analysis.
 - c) Describe the mitigation measures in this document that were incorporated or refined from the earlier document and indicate to what extent they address site-specific conditions for this project.
6. Lead agencies are encouraged to incorporate references to information sources for potential impacts into the checklist or appendix (e.g., general plans, zoning ordinances, biological assessments). Reference to a previously prepared or outside document should include an indication of the page or pages where the statement is substantiated.
7. Supporting Information Sources: A source list should be appended to this document. Sources used or individuals contacted should be listed in the source list and cited in the discussion.
8. Explanation(s) of each issue should identify:
 - a) the criteria or threshold, if any, used to evaluate the significance of the impact addressed by each question **and**
 - d) the mitigation measures, if any, prescribed to reduce the impact below the level of significance.

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ENVIRONMENTAL ISSUES

I. AESTHETICS.

ENVIRONMENTAL SETTING

The California Legislature initiated the California Scenic Highway Program in 1963, with the goal of preserving and protecting the state's scenic highway corridors from changes that would reduce their aesthetic value. The State Scenic Highway System consists of eligible and officially designated routes. A highway may be identified as eligible for listing as a state scenic highway if it offers travelers scenic views of the natural landscape, largely undisturbed by development. Eligible routes advance to officially designated status when the local jurisdiction adopts ordinances to establish a scenic corridor protection program and receives approval from the California Department of Transportation.

Two highways within Marin County are identified in the Caltrans State Scenic Highway Program: an unconstructed portion of Highway 37, an existing section of Highway 37 and State Route 1 are listed as eligible for scenic status, however, have not been officially designated. No officially designated scenic highways are present in the county (Caltrans 2006).

| | <u>POTENTIALLY SIGNIFICANT IMPACT</u> | <u>LESS THAN SIGNIFICANT WITH MITIGATION</u> | <u>LESS THAN SIGNIFICANT IMPACT</u> | <u>NO IMPACT</u> |
|----------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|----------------------------------------------------------|---------------------------------------------|-------------------------------------|
| WOULD THE PROJECT: | | | | |
| a) Have a substantial adverse effect on a scenic vista? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Substantially degrade the existing visual character or quality of the site and its surroundings? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Criteria for Determining Significance

The analysis of determining the significance of impacts of the Proposed Action to Aesthetics is based on criteria I a-d, described in the environmental checklist above.

DISCUSSION

- a) See discussion of Visual Resources in Chapter 3 of the Environmental Assessment.
- b) No sections of Highway 1 within Marin County are listed as eligible. Highway 1 (Shoreline Highway/SR1) within the project area is not an officially designated state scenic highway. The project would not damage scenic resources within a state scenic highway. No impact.
- c) See discussion of Visual Resources in Chapter 3 of the Environmental Assessment.

| | |
|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Aesth – 1 | Project proponents will revegetate cut and fill slopes for stability to control erosion and to re-establish the visual continuity of vegetative cover through the duration of the project. |
| Aesth - 2 | Trail edges and any retaining walls along the new hillside trail south of Golden Gate Dairy will be vegetated using appropriate medium-to-tall coastal sage scrub species, where consistent with adjacent vegetation, to screen views of the trail from the dairy ranch complex. |

- d) The project does not include any structures or facilities that would act as light sources or create glare. All construction work for the proposed project would be limited to daylight hours, eliminating the need for night-time work lights. Neither construction nor operation of the trail would require or create lighting conditions that would adversely affect day or nighttime views. No impact.

II. AGRICULTURAL RESOURCES.

ENVIRONMENTAL SETTING

Since the mid-19th century, the Marin County's economy has been connected to livestock agriculture. Today agriculture is still the largest private land use in the county and the rangeland where Marin cattle graze is considered to be some of the best in California. In 2003, dairy and beef cattle provided animal and pasture products valued at about \$37 million. Other crops, including field and nursery crops, aquaculture, and organic fruit and vegetable crops contributed an additional ten million dollars to the value of the year's agricultural products (MALT, 2006). The county agricultural land base consists of about 137,000 acres of private land and 32,000 acres of federal land in the Point Reyes National Seashore and Golden Gate National Recreation Area. Federal legislation provides authority to lease or permit lands for agricultural use in these areas. (GP 2005)

The proposed project is located in both Mount Tamalpais State Park (MTSP) and a portion of the Golden Gate Recreation Area (GGNRA). The proposed project site is located in Marin County along the Pacific Coast. Current agricultural resources located within or adjacent to either MMTSP or the specific GGNRA project site include: Banducci Ranch, Golden Gate Dairy, and the Zen Center-Green Gulch Farm.

Banducci Flower Farm: Throughout most of the 20th Century, the Banducci family farmed the site, producing primarily flowers and hay. Farmers made several landscape changes to protect their agricultural site; including construction of streamside levees, leveling the site, re-routing drainages into a side ditch, pumping water from the creek for irrigation, clearing woody debris from the creek, and periodically adding revetment to creek banks. NPS purchased the site in 1980. Farming was discontinued in 1995, and today the site is managed by the NPS.

Golden Gate Dairy: The Golden Gate Dairy is a horse boarding facility managed by Ocean Riders and located near the intersection of SR1 and Frank Valley Road. Under a special permit, the barns are used for equestrian activities including stables for boarding, short-term paddock space, and as the base for trail riding. The Golden Gate Dairy is also an important

community gathering space and it serves as the regular vet clinic for horses and other community pets (Big Lagoon Site Analysis 2003)

Green Gulch Farm Zen Center:, also known as Green Dragon Temple, was founded in 1972 as a branch of San Francisco Zen Center. Green Gulch is a Soto Zen Buddhist community and thriving organic farm located just north of San Francisco, nestled in a valley bordered by Mount Tamalpais, the Golden Gate National Recreation area, and the Pacific Ocean. Work and weekly seminars focus on many aspects of farming and gardening including soil fertility/preparation, the sowing, transplanting, cultivation, and harvesting of vegetable crops, raised-bed flower, herb and fruit culture, on-site composting, the tending of perennial fruit and ornamental plants, and sales at farmers market.

| WOULD THE PROJECT*: | <u>POTENTIALLY SIGNIFICANT IMPACT</u> | <u>LESS THAN SIGNIFICANT WITH MITIGATION</u> | <u>LESS THAN SIGNIFICANT IMPACT</u> | <u>NO IMPACT</u> |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|----------------------------------------------------------|---------------------------------------------|-------------------------------------|
| a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Conflict with existing zoning for agricultural use or a Williamson Act contract? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

* In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997), prepared by the California Department of Conservation as an optional model for use in assessing impacts on agricultural and farmland.

Criteria for Determining Significance

The analysis of determining the significance of impacts of the Proposed Action to Agricultural resources is based on criteria II a-c, described in the environmental checklist above.

DISCUSSION

a-c) Although the Green Gulch Farm Zen Center is adjacent to park boundaries, it is outside the proposed project area. All work proposed as part of this project would be confined within the two park boundaries. No aspect of the proposed project would convert Prime Farmland, Unique Farmland or Farmland of Statewide Importance as prepare by the FMMP or the California Resources Agency to non-agricultural use; conflict with existing agricultural zoning or a Williamson Act contract; or involve other changes, which could result in conversion of Farmland to non-agricultural use. No impact.

III. AIR QUALITY.

ENVIRONMENTAL SETTING

The existing air quality conditions in the proposed project area have been described in the Air Quality section in Chapter 3 of the Environmental Assessment

| | <u>POTENTIALLY SIGNIFICANT IMPACT</u> | <u>LESS THAN SIGNIFICANT WITH MITIGATION</u> | <u>LESS THAN SIGNIFICANT IMPACT</u> | <u>NO IMPACT</u> |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|----------------------------------------------------------|---------------------------------------------|-------------------------------------|
| WOULD THE PROJECT*: | | | | |
| a) Conflict with or obstruct implementation of the applicable air quality plan or regulation? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| d) Expose sensitive receptors to substantial pollutant concentrations (e.g., children, the elderly, individuals with compromised respiratory or immune systems)? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| e) Create objectionable odors affecting a substantial number of people? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

* Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied on to make these determinations.

Criteria for Determining Significance

The analysis of determining the significance of impacts of the Proposed Action to Air Quality is based on criteria III a-e, described in the environmental checklist above.

DISCUSSION

All discussion regarding air quality, associated impacts, and conditions placed on the proposed project have been addressed in the Air Quality Section of Chapter 3 of the Environmental Assessment. Implementation of Mitigation Measure Air -1 will reduce impacts to air quality to less than significant levels.

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| Air - 1 | <p>All active construction areas will be watered at least twice daily during dry, dusty conditions. Water used for this purpose will be obtained outside the project area.</p> <p>All trucks hauling soil, sand, or other loose materials on public roads will be covered or required to maintain at least two feet of freeboard.</p> <p>All equipment engines will be maintained in good condition, in proper tune (according to manufacturer’s specifications), and in compliance with all State and federal requirements.</p> <p>Excavation and grading activities will be suspended when sustained winds exceed 25 miles mph, instantaneous gusts exceed 35 mph, or dust from construction might obscure driver visibility on public roads.</p> <p>Earth or other material that has been transported onto paved streets and shoulder by trucks, construction equipment, erosion, or other project-related activity will be promptly removed.</p> <p>Speed limit signs limiting vehicle speed to 15 mph or less at construction sites will be posted every 500 feet</p> |
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IV. BIOLOGICAL RESOURCES.

ENVIRONMENTAL SETTING

The existing biological resource conditions in the proposed project area are described in the Biological Resources section in Chapter 3 of the Environmental Assessment.

| | <u>POTENTIALLY SIGNIFICANT IMPACT</u> | <u>LESS THAN SIGNIFICANT WITH MITIGATION</u> | <u>LESS THAN SIGNIFICANT IMPACT</u> | <u>NO IMPACT</u> |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|----------------------------------------------------------|---------------------------------------------|-------------------------------------|
| WOULD THE PROJECT: | | | | |
| a) Have a substantial adverse effect, either directly or through habitat modification, on any species identified as a sensitive, candidate, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or the U.S. Fish and Wildlife Service? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or the U.S. Fish and Wildlife Service? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c) Have a substantial adverse effect on federally protected wetlands, as defined by §404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

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| e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Criteria for Determining Significance

The analysis of determining the significance of impacts of the Proposed Action to Biological Resources is based on criteria **IV** a-f, described in the environmental checklist above.

DISCUSSION

All discussion regarding biological resources, associated impacts, and conditions and/or mitigations placed on the proposed project have been addressed in the Biological Resources section in Chapter 3 of the Environmental Assessment. Implementation of the following Mitigation Measures will reduce impacts to less than significant levels.

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| Bio 1 | <p>Native Plant Communities - In areas of new trail construction where actions will impact sensitive native plant communities, these communities will be restored in kind in locations identified by NPS and CDPR.</p> <p>Qualified NPS and/or CDPR staff will identify appropriate reference sites for coastal prairie, coastal scrub and wetland habitats within the watershed. Botanical specialists in the agencies will determine plant palettes for direct seeding and revegetation actions, with seed collected within the watershed and plants grown in the NPS native plant nurseries.</p> <p>NPS will grow replacement plants from local seed sources, to result in no net loss of native plant communities. Project proponents will monitor revegetated areas and invasive plant species controlled, as part of the on-going vegetation management program</p> <p>Plants will be propagated off-site, transported to the revegetation areas by truck and/or all-terrain vehicle where appropriate, and planted by hand labor.</p> |
| Bio 2 | <p>Exotic Plant Species Control - NPS and CDPR will monitor control strategies and performance measures for invasive non-native plants for up to 5 years. Performance measures for planted natives will also be monitored for up to five years.</p> <p>Guided by these strategies and measures, NPS and CDPR restoration staff will conduct monitoring of invasive non-native plants and native plantings for up to five years following the project's implementation.</p> |
| Bio 3 | <p>Nesting Raptor Species - If construction is planned during the breeding seasons (January 1 – July 31) for any raptors, then a pre-construction survey to locate any potential raptor nests will be conducted in and around the project area. If a nest</p> |

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| | <p>is located near the project area, then construction will not occur within 500 feet or an appropriate distance as defined by an NPS or MTSP wildlife biologist of the active nest until after the young have fledged and there is no evidence of a second attempt at nesting as determined by an agency-approved biologist.</p> |
| Bio 4 | <p>Sensitive Bat Species - The proposed project has a slight potential to affect sensitive bat species through the removal of trees that are used for roosting. Implementation of the following measure will reduce potential effects to a less than significant level.</p> <p>A bat habitat assessment and survey will be conducted by project proponents prior to construction in order to determine what species are present in trees identified for removal, and whether they are used for day, night, or maternity roosts. Trail alignments will be adjusted, where practicable, to avoid the removal of tree roosting habitat.</p> |
| Bio 5 | <p>Landbird Nesting – Vegetation will removal will be planned outside the landbird breeding season (March 1 – July 31). Nest surveys will be conducted by a qualified biologist prior to vegetation removal during the breeding season. If nests are located, a suitable non-work buffer determined by a qualified biologist based on species and habitat characteristics, will be established and remain in place until birds could successfully fledge and move from the area.</p> |
| Bio 6 | <p>California Red-Legged Frog - Immediately prior to the start of work each morning, a USFWS-approved Biologist or DPR-qualified Biologist will conduct a visual inspection of the construction zone.</p> <p>Construction activity within the project site will also be spot checked during the work day by a USFWS- approved Biologist or a DPR-qualified Biologist. If a California red-legged frog is found, start of work at that project site will be delayed until the species moves out of the site on its own accord.</p> <p>All holes and trenches will be covered at the close of each work day or escape ramps (plywood or similar material) will be provided; all pipes, culverts or similar structures that are stored at the construction site for one or more overnight periods will be thoroughly inspected for CRLF before the pipe is subsequently buried, capped, or otherwise removed in any way to prevent animals from being trapped.</p> <p>Prior to the start of construction, all construction-related personnel will be instructed by a qualified biologist in the life history of the California red-legged frog and its habitat, and instruction in the appropriate protocol to follow in the event that a California red-legged frog is found onsite.</p> |
| Bio 7 | <p>Sudden Oak Death - Marin County is under quarantine regulations for Sudden Oak Death and the pathogen has been confirmed by laboratory analysis to occur in Samuel P. Taylor State Park, but not in Mount Tamalpais State Park or in any part of the project area.</p> <p>Integration of Sudden Oak Death BMPs into design plans will reduce impacts to a less than significant level.</p> <p>All project components impacting Sudden Oak Death host or carrier plants will follow the “Sudden Oak Death Best Management Practices in Zone of Infestation</p> |

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| | Regulated Areas, Assembled by the Management Committee of California Oak Mortality Task Force, 2002". |
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V. CULTURAL RESOURCES.

ENVIRONMENTAL SETTING

The existing cultural resource conditions in the proposed project area are described in the Cultural Resources section in Chapter 3 of the Environmental Assessment.

| | <u>POTENTIALLY SIGNIFICANT IMPACT</u> | <u>LESS THAN SIGNIFICANT WITH MITIGATION</u> | <u>LESS THAN SIGNIFICANT IMPACT</u> | <u>NO IMPACT</u> |
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| WOULD THE PROJECT: | | | | |
| a) Cause a substantial adverse change in the significance of a historical resource, as defined in §15064.5? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b) Cause a substantial adverse change in the significance of an archaeological resource, pursuant to §15064.5? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c) Disturb any human remains, including those interred outside of formal cemeteries? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Criteria for Determining Significance

The analysis of determining the significance of impacts of the Proposed Action to Cultural Resources is based on criteria V a-c, described in the environmental checklist above.

DISCUSSION

All discussion regarding cultural resources, associated impacts, and conditions and/or mitigations placed on the proposed project have been addressed in the Cultural Resources section of the Environmental Assessment, Chapter 3. Implementation of the following Mitigation Measures will reduce discovery impacts to less than significant levels.

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| Cult – 1 | Prior to the start of construction, a State Cultural Resource Specialist will review construction limits on the ground with the State Representative assigned to the project and mark (e.g. with flagging and/or plastic mesh construction fencing) the avoidance area. Specifically, site CA-MRN-567H, new site 60131-01, and elements of Ranch M will be designated “off-limits” during all construction activities. Neither mechanical equipment nor workers on foot will be allowed within the site boundaries. A State Cultural Resource Specialist will review construction limits on the ground with the State Representative assigned to the project and mark (e.g. with flagging and/or plastic mesh construction fencing) the avoidance area prior to the start of construction. All grading activities for new trail construction or old trail restoration near the flagged areas will be specifically monitored by a qualified Cultural Resource Specialist or his/her designee. |
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| <p>Cult – 2</p> | <p>Discovery Provisions In the event that previously unknown cultural resources are encountered during project construction by anyone, they will be treated in accordance with 36 CFR 800.13 (Protection of Historic Properties: Post-review discoveries). The archeological resource will be assessed for its eligibility for listing on the NRHP in consultation with the SHPO and the Federated Indians of Graton Rancheria (if it is an indigenous archaeological site) and a determination of the project effects on the property will be made. If the site will be adversely affected, a treatment plan will also be prepared, as needed, during the assessment of the site’s significance. Assessment of inadvertent discoveries may require archaeological excavations or archival research to determine resource significance. Treatment plans will fully evaluate avoidance, project redesign, and data recovery alternatives before outlining actions proposed to resolve adverse effects.</p> |
| <p>Cult - 3</p> | <p>Discovery Provision In the event that human remains are discovered, work will cease immediately in the area of the find and the project manager/site supervisor will notify the appropriate CDPR and NPS personnel. Protocols under federal law will apply for discoveries on federal land. For discoveries of native human remains on state land, these would be handled by CDPR in accordance with state burial laws. The find will be secured and protected in place. The Marin County coroner will be notified in accordance with §7050.5 of the California Health and Safety Code, and the Native American Heritage Commission (NAHC) will be notified within 24 hours of the discovery if the Coroner determines that the remains are Native American. If a determination finds that the remains are Native American and that no further coroner investigation of the cause of death is required, they will be treated in accordance with the Native American Graves Protection and Repatriation Regulations at 43 CFR 10.4 (Inadvertent Discoveries).</p> |

VI. GEOLOGY AND SOILS.

ENVIRONMENTAL SETTING

The existing geological and soil conditions in the proposed project area are described in the corresponding subsections of the Environmental Assessment, Chapter 3. Additional information to comply with CEQA is included below.

Seismicity

The San Andreas Fault Zone (SAFZ) lies approximately four miles offshore from the proposed project area. The SAFZ is the transform boundary between the North American tectonic plate to the east and the Pacific tectonic plate to the west. The SAFZ formed approximately 26-28 million years ago when part of the offshore ancestral spreading center was subducted beneath the North American plate. The subduction boundary changed to a side by side sliding movement (transform), resulting in the SAFZ. The rocks to the west of the SAFZ continue to northward relative to the east side at a rate of approximately 17.0 mm/year (Petersen 1996).. This area is known as one of the most seismically active areas in or near North America, capable of generating an earthquake of 7.1 on the Richter Magnitude Scale. This portion of the SAFZ has a recurrence interval of 400 years (Petersen 1996). The probabilistic seismic ground acceleration for the area would be 62.9% g (g= an acceleration due to gravity of 9.78 meters/second²).

The U.S. Geological Survey National Earthquake Hazards maps (Frankel et al. 2002) and the California Geological Survey probabilistic seismic maps (CGS, 2006) both indicate that the potential earthquake ground motions in the Dias Ridge Restoration and Trail Improvement Project area would be strong (0.629 g) compared to the rest of California and would result in strong ground shaking at the project site.

Recent investigations by two Penn State geologists (Furlong *et al.* 2004) indicate that a blind thrust fault may lie two to three miles below Mount Tamalpais. The presence of the blind thrust fault may help explain the different slip rates on the SAFZ north and south of the Golden Gate Bridge and the formation of Mt. Tamalpais. The slip rate along this blind thrust fault is thought to be 3 to 4 millimeters/year, which could potentially cause an earthquake of magnitude 6 on the Richter Scale within the next several hundred years (Furlong *et al.* 2004). The existence of blind thrust faults are hard to prove, since they cause no surface displacement, but they do cause uplift (Mt. Tamalpais). A blind thrust fault caused the 1994 Northridge earthquake in Southern California.

Liquefaction and Landslides

Secondary seismic hazards, such as liquefaction and landsliding, may occur during an earthquake. Liquefaction could occur in loose, granular materials (alluvium) below the water table, such as along stream channels and in unconsolidated, disturbed materials. It takes place when a granular material is transformed from a solid state to a liquid state during earthquake events. The potential for liquefaction is considered high along Redwood Creek and Green Gulch (Marin County 2005). The water table is shallow along the streams as they are interconnected to the alluvial aquifers below them (NPS 2003).

Landslides, or mass wasting, is a downward movement of soils and rock under the pull of gravity. Mass wasting requires soils and rock, slope, and a triggering mechanism. Triggering mechanisms include earthquake shaking, heavy rainfall, and erosion (BOR, 2006). There are considerable existing and potential geologic hazards within and adjacent to the proposed project site including erosion landslides and rolling boulders. The steep slopes within or immediately adjacent to the project site could increase the risk of landslides and rolling boulders.

| | <u>POTENTIALLY SIGNIFICANT IMPACT</u> | <u>LESS THAN SIGNIFICANT WITH MITIGATION</u> | <u>LESS THAN SIGNIFICANT IMPACT</u> | <u>NO IMPACT</u> |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|----------------------------------------------------------|---------------------------------------------|--------------------------|
| WOULD THE PROJECT: | | | | |
| a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving: | | | | |
| i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map, issued by the State Geologist for the area, or based on other substantial evidence of a known fault? (Refer to Division of Mines and Geology Special Publication 42.) | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| ii) Strong seismic ground shaking? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

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| iii) Seismic-related ground failure, including liquefaction? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| iv) Landslides? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b) Result in substantial soil erosion or the loss of topsoil? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c) Be located on a geologic unit or soil that is unstable, or that would become unstable, as a result of the project and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1997), creating substantial risks to life or property? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste disposal systems, where sewers are not available for the disposal of waste water? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f) Directly or indirectly destroy a unique paleontological resource or site, or unique geologic feature? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Criteria for Determining Significance

The analysis of determining the significance of impacts of the Proposed Action to Geology and Soils is based on criteria VI a-f, described in the environmental checklist above.

DISCUSSION

- a) i - iv) Although the project is located in a relatively high seismic area and the potential for liquefaction is considered high along Redwood Creek and Green Gulch., this project would rehabilitate an area of the park and improve the Dias Ridge Trail; it would not expose people or structures to potential substantial adverse effects from rupture of a known earthquake fault, seismic ground shaking, seismic-related ground failure, or landslide. Less than significant.
- b) A temporary increase in erosion may occur during construction activities. Implementation of the following Mitigation Measure will reduce erosion impacts to a less than significant level.

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| Geo-1 | <p>Prior to project construction, CDPR will prepare a Storm Water Pollution Prevention Plan (SWPPP) will be prepared. The SWPPP will identify all pollutant and sediment sources that may affect storm water discharges from the construction sites, identify and implement Best Management Practices (BMPs) to control erosion and runoff, and reduce or eliminate these pollutants and sediments during construction and post-construction, and develop a maintenance schedule for post-construction BMPs.</p> <p>BMP erosion control methods include trail design strategies such as rolling grade dips and outsloping to encourage sheet flow across a trail surface. In wet areas measures may include surface reinforcing (e.g. cobbles in combination with geotextile or sheet drain materials), boardwalks, and drainage lenses. Other measures include locating new trails to avoid steep and/or erosive slopes. The BMPs established for post-construction erosion control will be assessed annually and maintained as needed for a period of three years following construction.</p> <p>Site-specific revegetation plans will utilize native species indigenous to the site for locations that are being rehabilitated. Quickly establishing vegetative cover on areas denuded from construction activities will minimize the potential for sediment production.</p> <p>Prior to the start of construction, training will be provided by a qualified biologist to construction staff in order to inform workers of the presence of federally listed species (e.g. Coho salmon, and steelhead) in area streams and the necessity for implementing BMPs. This training will also identify boundaries of construction zones and identify proper disposal of construction debris and the proper response to fluid spills.</p> <p>Implement Measure Haz-1 (see Hazards and Hazardous Materials Section).</p> |
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- c) See discussion of Geology and Soils in Chapter 3 of the Environmental Assessment.
- d) The project site is underlain by soils with low and low to moderate shrink/swell potential and are therefore not subject to substantial expansion. See discussion of Geology and Soils section in Chapter 3 of the Environmental Assessment. Considerable risks to life or property are not likely.
- e) The project does not involve the installation of a new septic system or leach field. New restroom facilities would be tied into the existing sewer system. Therefore, there would be no impact.
- f) No known unique paleontological or geological resources exist on the project site. Therefore, no impact to these resources are expected to occur as a result of this project.

VII. HAZARDS AND HAZARDOUS MATERIALS.

ENVIRONMENTAL SETTING

Hazardous Materials: There has been no known industrial use or construction of buildings in the project area that could have been a source of hazardous materials.

Airports and Schools: The project site is not located within an airport land use zone, or within 2 miles of an airport. The Marin County Airport at Gness Field is located approximately 25 miles north of the project site, in the City of Novato (Marin County 2005). There are no private airstrips in the vicinity of the Park.

The closest school, Old Mill School, is located in Mill Valley, approximately 1.3 miles from the project area (Mapquest 2006).

Fire Hazards: The Park region is rated as having high to very high fire danger by Marin County (Marin County 2005). The Park's fire suppression needs are met by the California Department of Forestry and Fire Protection (CDF) and the Marin County Fire Department.

| | <u>POTENTIALLY SIGNIFICANT IMPACT</u> | <u>LESS THAN SIGNIFICANT WITH MITIGATION</u> | <u>LESS THAN SIGNIFICANT IMPACT</u> | <u>NO IMPACT</u> |
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| WOULD THE PROJECT: | | | | |
| a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and/or accident conditions involving the release of hazardous materials, substances, or waste into the environment? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Be located on a site which is included on a list of hazardous materials sites, compiled pursuant to Government Code §65962.5, and, as a result, create a significant hazard to the public or environment? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) Be located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport? If so, would the project result in a safety hazard for people residing or working in the project area? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f) Be located in the vicinity of a private airstrip? If so, would the project result in a safety hazard for people residing or working in the project area? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| h) Expose people or structures to a significant risk of | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

loss, injury, or death from wildland fires, including areas where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

Criteria for Determining Significance

The analysis of determining the significance of impacts of the Proposed Action to Hazards and Hazardous Materials is based on criteria **VII** a-h, described in the environmental checklist above.

Discussion

- a) Construction activities would require the use of certain potentially hazardous materials, such as fuels, oils, or other fluids associated with the operation and maintenance of vehicles and equipment. These materials are generally contained within vessels engineered for safe storage. Large quantities of these materials would not be stored at or transported to the construction site. However, spills, upsets, or other construction-related accidents could result in a release of fuel or other hazardous substances into the environment. Implementation of the following Mitigation Measures would reduce the potential for adverse impacts from these incidents to a less than significant level.

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| Haz - 1 | <p>Hazardous Materials - Prior to the start of construction, the contractor will inspect all equipment for leaks and regularly inspect thereafter until equipment is removed from park premises.</p> <p>Prior to the start of construction, CDPR and/or NPS will prepare a Spill Prevention and Response Plan (SPRP) as part of the SWPPP and maintain a spill kit on-site throughout the life of the project. This plan will include a map that delineates construction staging areas, where refueling, lubrication, and maintenance of equipment will occur. This plan will identify and employ best management practices (BMP) as appropriate and necessary to contain, collect and dispose of hazardous materials and sediment. This plan will also identify lawfully permitted or authorized disposal destinations outside of park boundaries. Refueling, lubrication, and equipment maintenance areas will be located at least 100 feet from any bodies of water, including but not limited to Redwood Creek.</p> <p>In the event of any spill or release of any chemical in any physical form at the project site or within the boundaries of Mount Tamalpais State Park or GOGA during construction, the contractor will immediately notify the appropriate staff (e.g., project manager, supervisor, or State Representative) and implement appropriate spill containment procedures, as identified in the SPRP and SWPPP.</p> <p>Equipment will be cleaned and repaired (other than emergency repairs) outside state and national park boundaries. All contaminated water, sludge, spill residue, or other hazardous compounds will be contained and disposed of outside park boundaries, at a lawfully permitted or authorized destination.</p> |
| Haz -2 | <p>Hazardous Materials - Prior to the start of construction, the contractor will develop a fire safety plan for NPS and CDPR approval. This plan will include the emergency calling procedures and any required employee training.</p> <p>Spark arrestors or turbo-charging (which eliminates sparks in exhaust) and fire extinguishers will be required for all heavy equipment.</p> |

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| | <p>Construction crews will be required to park vehicles away from flammable material, such as dry grass or brush. At the end of each workday, heavy equipment will be parked over mineral soil, asphalt, gravel, or concrete to reduce the chance of fire.</p> <p>Fire suppression equipment (fire extinguishers, fire hoses, etc.) will be available and located on park grounds. CDPR staff will be required to have a State Park radio on site, which will allow direct contact with the CDF and a centralized CDPR dispatch center, to facilitate the rapid deployment of control crews and equipment in case of a fire.</p> |
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- b) There is a potential for hazardous substances to be released to the environment during the project from vehicle or equipment fluid spills or leaks. Implementation of the Spill Prevention Plan required above would reduce any risk to on-site workers, the public, or the environment to less than significant.
- c) As noted in the Environmental Setting, the nearest school is approximately 1.3 miles away from the proposed project site. There would be no significant impacts as a result of this project.
- d) No part of the Park is included on a list of hazardous materials sites compiled pursuant to Government Code §65962.5. No area within the project site is currently restricted or known to have hazardous materials present. Therefore, no impact would occur with project development.
- e, f) The Park is not located within an airport land use plan, within two miles of a public airport, or in the vicinity of a private air strip. The Marin County Airport at Gness Field is located 25 miles to the northeast in the City of Novato. Therefore, no impact would occur as a result of this project.
- g) The proposed work would take place in an area of grasslands and flammable shrubs and trees. Construction equipment can get very hot with extended use; this equipment could sometimes be in close proximity to dry grasses or and other fuels. Improperly outfitted exhaust systems or friction between metal parts and/or rocks could generate sparks, resulting in a fire. Implementation of Mitigation Measure Haz - 2 above would reduce the potential for adverse construction impacts from this project to a less than significant level.

VIII. HYDROLOGY AND WATER QUALITY.

ENVIRONMENTAL SETTING

The existing hydrology and water quality conditions in the proposed project area are described in Chapter 3, Water Quality section of the Environmental Assessment.

| | <u>POTENTIALLY SIGNIFICANT IMPACT</u> | <u>LESS THAN SIGNIFICANT WITH MITIGATION</u> | <u>LESS THAN SIGNIFICANT IMPACT</u> | <u>NO IMPACT</u> |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|----------------------------------------------------------|---------------------------------------------|-------------------------------------|
| WOULD THE PROJECT: | | | | |
| a) Violate any water quality standards or waste discharge requirements? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge, such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Substantially alter the existing drainage pattern of the site or area, including through alteration of the course of a stream or river, in a manner which would result in substantial on- or off-site erosion or siltation? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| d) Substantially alter the existing drainage pattern of the site or area, including through alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in on- or off-site flooding? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| f) Substantially degrade water quality? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| g) Place housing within a 100-year flood hazard area, as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map, or other flood hazard delineation map? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| h) Place structures that would impede or redirect flood flows within a 100-year flood hazard area? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| i) Expose people or structures to a significant risk of loss, injury, or death from flooding, including flooding resulting from the failure of a levee or dam? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| j) Result in inundation by seiche, tsunami, or mudflow? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Criteria for Determining Significance

The analysis of determining the significance of impacts of the Proposed Action on Hydrology and Water Quality is based on criteria VII a-h, described in the environmental checklist above.

Discussion

- a) See discussion of water quality in Chapter 3 of the Environmental Assessment. Implementation of the following Mitigation Measure will reduce impacts to water quality to a less than significant level.

| | |
|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Hydro – 1 | <p>The following measures will be included in the SWPPP for erosion control:</p> <p>Construction activities will not be planned during the rainy season, but if storms are anticipated during construction or if construction must occur during the rainy season (October 15 – April 15), “winterizing” will occur, including the covering (tarping) of any stockpiled soils and the use of temporary erosion control methods to protect disturbed soil.</p> <p>Temporary erosion control measures (BMPs) will be used during all soil disturbing activities and until all disturbed soil has been stabilized (recompacted, re-vegetated, etc.) in order to control soil and surface water runoff during construction activities. CDPR-approved BMPs, such as silt fences, weed-free fiber rolls, mulch or other applicable techniques will be utilized. Information on example BMPs can be found in the Stormwater Best Management Practice Handbook for Construction, available on-line at www.cabmphandbooks.com.</p> <p>Permanent BMPs for erosion control will consist of properly compacting disturbed areas and revegetation of appropriate disturbed soil areas with native species using seed collected locally, where possible. If local native plant seeds are not available, a weed-free native mixture may be used with prior approval of the State’s Representative.</p> <p>Final project design plans will include permanent BMP measures to be incorporated into the project.</p> |
|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

- b) The Dias Ridge Restoration and Trail Improvement Project would realign the Dias Ridge Trail and restore the natural landscape. The project would not result in an increase in water usage because visitor numbers are expected to remain at current levels. Therefore, groundwater depletion would not occur as a result of project implementation.
- c) No existing drainages would be altered by this project and existing drainage patterns would not be significantly altered. Any siltation impacts would be less than significant. Post-construction BMPs to reduce sediment-laden runoff are specified in Mitigation Measure Geo-1.
- d) The drainage pattern would not be altered in a manner that would significantly increase the rate or amount of surface runoff in a manner that would result in on- or off-site flooding. As part of this project, a storm water conveyance system would be designed

to manage runoff in a manner that does not cause flooding. There should be no impact from this project.

- e) The Dias Ridge Restoration and Trail Improvement Project would not result in the increase of impervious surfaces. Appropriate BMPs would be used during construction of this project to avoid impacts to surface water quality in the Redwood Creek Basin and a SWPPP would be in place to prevent vehicle or equipment fluid spills. No substantial degradation of water quality would occur with the implementation of Mitigation Measure Hydro-1 listed above.
- f) This project would have the potential to substantially degrade water quality if BMPs to control soil erosion and runoff or release of vehicle or equipment fluids are not in place during construction. However, with implementation of Mitigation Measure Hydro-1 listed above, no substantial degradation of water quality would occur.
- g) This project does not include housing, therefore, the project would not place housing within any FEMA-designated 100-year flood plain. Therefore, there is no impact from this project.
- h) No portion of this project is located within the FEMA-designated 100-year floodplain.
- i) The project would not expose people or structures to an increased significant risk of loss, injury, or death from flooding, including flooding resulting from the failure of a levee or dam. The realignment of the Dias Ridge Trail and restoration of natural landscape are not expected to significantly increase visitor use of the area above current levels. Therefore, there is no impact from this project.
- j) The Golden Gate National Recreational Area is a coastal park that is bordered by the Pacific Ocean and all locations along the coastline are at risk of inundation by a tsunami, including Big Lagoon and the Redwood Creek floodplain part of the proposed project location. While inundation is possible, this project would not increase the potential. Also, the project area would not be susceptible to a seiche (generated in an enclosed water body) Landslides and mudflows may be possible in the steeper areas of the park and along the upper drainage of the Redwood Creek Watershed. Since these potential impacts are existing conditions, there would be a less than significant impact due to this project.

IX. LAND USE AND PLANNING.

ENVIRONMENTAL SETTING

Several agencies including, the Golden Gate National Recreation Area, Point Reyes National Seashore, California State Parks, the Marin Municipal Water District, the North Marin Water District, and the Marin Agricultural Land Trust (MALT), protect land in Marin County and share a responsibility for managing extensive lands that are generally in a natural condition and open to the public. Each of these agencies manages lands that amount to thousands of acres each.

The Marin Countywide General Plan recognizes the 606 square miles (370,511 acres) of land and water comprising Marin County as a cohesive environmental unit made up of regions called corridors, each with specific geographical and environmental characteristics and natural boundaries such as north-south ridgelines and bay land. Planning areas include: Novato, Las

Gallinas, San Rafael Basin, Upper Ross Valley, Lower Ross Valley, Richardson Bay, and West Marin.

Both Mount Tamalpais State Park and the project-specific area of the Golden Gate National Recreation Area are included in the West Marin planning area. The West Marin Planning Area consists of 249,128 acres and is comprised of open space, agricultural lands, and small towns located west of the City Centered Corridor and from Fort Cronkite Baker in the south to the Sonoma County line in the north. Park lands are designated as open space by the Marin Countywide Draft General Plan.

| | <u>POTENTIALLY SIGNIFICANT IMPACT</u> | <u>LESS THAN SIGNIFICANT WITH MITIGATION</u> | <u>LESS THAN SIGNIFICANT IMPACT</u> | <u>NO IMPACT</u> |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|----------------------------------------------------------|---------------------------------------------|-------------------------------------|
| WOULD THE PROJECT: | | | | |
| a) Physically divide an established community? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Conflict with the applicable land use plan, policy, or regulation of any agency with jurisdiction over the project (including, but not limited to, a general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Conflict with any applicable habitat conservation plan or natural community conservation plan? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Criteria for Determining Significance

The analysis of determining the significance of impacts of the Proposed Action to Land Use Planning is based on criteria **IX** a-c, described in the environmental checklist above.

DISCUSSION

- a) The proposed project is completely within the boundaries of Mount Tamalpais State Park and the Golden Gate National Recreation Area property. The project would add no barriers or elements that would divide or interfere with the established surrounding community. No impact.
- b) As noted in the Environmental Setting and Discussion IX(a) above, the proposed project site is located within Mount Tamalpais State Park and the Golden Gate National Recreation Area. No project elements are in conflict with the zoning, regulatory policies, land use plans, conservation plans, or ordinances for this area. All appropriate consultation and permits would be acquired, in compliance with all applicable local, state, and federal requirements. No impact.
- c) There is no applicable habitat conservation or natural community conservation plans in effect in the park; therefore, no conflict and no impact.

X. MINERAL RESOURCES.

ENVIRONMENTAL SETTING

The California Surface Mining and Reclamation Act (SMARA) of 1975 requires the State Geologist to classify land into Mineral Resource Zones (MRZs) according to the known or inferred mineral potential of that land without regard to land use or land ownership. An MRZ-1 classification indicates that no significant mineral deposits are present or likely to be present; MRZ-2 indicates that significant mineral deposits are present or there is a high likelihood for their presence and development should be controlled; in MRZ-3 mineral deposits cannot be determined from the available data; and MRZ-4 areas lack sufficient data to assign any other MRZ designation.

The North Bay region, comprised of Sonoma; Marin; and Napa Counties relies on mineral resources for construction materials such as aggregate, road base and sub-base, and Portland Cement concrete. Seven of the eight sites located in Marin County are identified by the State as MRZ-2, designated as having significant mineral resources for the North Bay Region. The single non-Class 2 site, Ring Mountain in Tiburon, is considered a Scientific Resource Zone.

The locations of the Marin mineral resource sites are heavily concentrated in the eastern portion of the county with five sites located in or around the city of Novato. Ring Mountain in Tiburon is the closest site to the project area.

No significant mineral resources have been identified within the boundaries of Mount Tamalpais State Park. In accordance with Public Resource Code § 5001.65, commercial exploitation of resources in the units of the state park system is prohibited.

| | <u>POTENTIALLY SIGNIFICANT IMPACT</u> | <u>LESS THAN SIGNIFICANT WITH MITIGATION</u> | <u>LESS THAN SIGNIFICANT IMPACT</u> | <u>NO IMPACT</u> |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|----------------------------------------------------------|---------------------------------------------|-------------------------------------|
| WOULD THE PROJECT: | | | | |
| a) Result in the loss of availability of a known mineral resource that is or would be of value to the region and the residents of the state? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Criteria for Determining Significance

The analysis of determining the significance of impacts of the Proposed Action to Mineral Resources is based on criteria X a,b described in the environmental checklist above.

Discussion

a,b) As stated in the Environmental Setting above, no significant mineral resources have been identified within the park boundaries. Therefore, the project would not result in the loss of availability of a known mineral resource nor a locally important mineral resource recovery site. No impact.

XI. NOISE.

ENVIRONMENTAL SETTING

The existing Noise conditions in the proposed project area are described in the corresponding section of Chapter 3 in the Environmental Assessment.

| | <u>POTENTIALLY SIGNIFICANT IMPACT</u> | <u>LESS THAN SIGNIFICANT WITH MITIGATION</u> | <u>LESS THAN SIGNIFICANT IMPACT</u> | <u>NO IMPACT</u> |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|----------------------------------------------------------|---------------------------------------------|-------------------------------------|
| WOULD THE PROJECT: | | | | |
| a) Generate or expose people to noise levels in excess of standards established in a local general plan or noise ordinance, or in other applicable local, state, or federal standards? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b) Generate or expose people to excessive groundborne vibrations or groundborne noise levels? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| c) Create a substantial permanent increase in ambient noise levels in the vicinity of the project (above levels without the project)? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Create a substantial temporary or periodic increase in ambient noise levels in the vicinity of the project, in excess of noise levels existing without the project? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| e) Be located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport? If so, would the project expose people residing or working in the project area to excessive noise levels? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f) Be in the vicinity of a private airstrip? If so, would the project expose people residing or working in the project area to excessive noise levels? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Criteria for Determining Significance

The analysis of determining the significance of impacts of the Proposed Action to Noise is based on criteria **XI** a-f, described in the environmental checklist above.

DISCUSSION

- a) Construction noise levels at and near the project area would fluctuate, depending on the type and number of construction equipment operating at any given time, and could exceed ambient noise standards in the immediate vicinity of the work for brief periods of time. However, depending on the specific construction activities being performed, short-term increases in ambient noise levels could result in speech interference at the work site and a potential increase in annoyance to visitors and staff. As a result, construction-generated noise would be considered to have a potentially significant short-term impact to these people. Integration of Mitigation Measure Noise 1 below into the project design will reduce noise impacts to a less than significant level.

| | |
|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Noi - 1 | <p>Construction activities will be limited to the daylight hours, Monday – Friday. If weekend or holiday work is necessary, no work will occur on those days before 8:00 a.m. or after 6 p.m.</p> <p>Stationary noise sources and staging areas will be located as far away from sensitive receptors as possible. If they must be located near sensitive receptors, stationary noise sources will be muffled to the extent feasible and/or, where practicable, enclosed within temporary sheds</p> |
|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

- b) Construction activity would not involve the use of explosives, pile driving, or other intensive construction techniques that could generate significant ground vibration or noise. Minor vibration immediately adjacent to backhoes and heavy equipment would only be generated on a short-term basis. Therefore, ground-borne vibration or noise generated by the project would have a less than significant impact.
- c) Once the proposed project is completed, all related construction noise would disappear. Nothing within the scope of the proposed project would result in a substantial permanent increase in ambient noise levels. Therefore, no impact.
- d) See Discussion XI(a) above. Conditions integrated into project design reduce impacts to a less than significant impact.
- e,f) This project is not located within an airport land use plan, within two miles of a public airport, or in the vicinity of a private air strip. Therefore, no impact would occur as a result of these project activities.

XII. POPULATION AND HOUSING

ENVIRONMENTAL SETTING

Dias Ridge is located in the Redwood Creek and Green Gulch watersheds in the Muir Beach area of Marin County and lies within the jurisdictions of both Mount Tamalpais State Park (MTSP) and the Golden Gate National Recreation Area (GGNRA). The large cities located closest to MTSP and Dias Ridge are San Rafael, San Francisco, and Richmond, located approximately 15 miles to the northeast, 20 miles south, and 23 miles southeast respectively.

In 2005, San Rafael's citizens accounted for approximately 23 percent of Marin County's total population. According to the California Department of Finance's City/County Population Estimates with Annual Percent Change, from January 1, 2004 to January 1, 2005, San Rafael's population has increased .01 percent, from 57,182 to 57,224. According to the 2004 Population Projections by Race/Ethnicity, Gender and Age Report from the California Department of Finance, the population for Marin County would peak at 252,440 people in 2010, an increase of 1.6 percent from the 2000 population level of 248,473 before falling to 225,127 people in 2050, a decrease of 9 percent from the 2000 population levels and a projected decrease of 12 percent from the 2010 projection population.

Housing within the Mount Tamalpais park boundaries is limited to seven existing staff residences and two small travel trailers used by two seasonal park aides. The permanent population of the park is relatively static, with approximately 18 people living in the park on a permanent basis per year. These numbers are based on DPR staffing requirements, and no

significant growth is anticipated in the foreseeable future (Carbahal 2006). The park is a recreational resource utilized by both locals and out-of-town visitors. No business or residential opportunities are offered within the park boundaries.

| | <u>POTENTIALLY SIGNIFICANT IMPACT</u> | <u>LESS THAN SIGNIFICANT WITH MITIGATION</u> | <u>LESS THAN SIGNIFICANT IMPACT</u> | <u>NO IMPACT</u> |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|----------------------------------------------------------|---------------------------------------------|-------------------------------------|
| WOULD THE PROJECT: | | | | |
| a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Criteria for Determining Significance

The analysis of determining the significance of impacts of the Proposed Action to Population and Housing is based on criteria **XII** a-c, described in the environmental checklist above.

DISCUSSION

a,b,c) The project would not have a housing component and all work would take place within the confines of the park boundary, with no additions or changes to the existing local infrastructure. It would neither modify nor displace any existing housing and would displace no one, either temporarily or permanently. Jobs are not expected to be generated as a result of this project therefore it would have no impact on population growth or housing.

XIII. PUBLIC SERVICES.

ENVIRONMENTAL SETTING

Mount Tamalpais SP (MTSP) is located on State Responsibility Land in West Marin County. The California Department of Forestry and Fire has a legal responsibility to provide fire protection on all State Responsibility Lands (CDF). In support of its ground forces, the CDF emergency response air program includes several pieces of air attack equipment. All California Department of Forestry and Fire (CDF) Aircraft are strategically located throughout the state at 13 air attack and nine helitack bases. Airtankers and helicopters are equipped to carry fire retardant or water, the helicopters can also transport firefighters, equipment and injured personnel. Aircraft can reach most fires within 20 minutes.

The size of the state and the numerous types of emergencies such as wildfire fires, floods, and earthquakes, require the cooperative efforts of federal, state and local agencies. CDF and

Marin County Fire Department, Woodacre Fire Headquarters, respond to emergencies at MTSP. Marin County Fire Department dispatches all emergencies from the Woodacre Headquarters Emergency Command Center (ECC). The ECC also coordinates emergency response with neighboring agencies, such as California State Parks and the National Park Service. The ECC Fire Chief is the California Office of Emergency Services (OES) Area Coordinator and coordinates all OES mutual aid requests for assistance, both in-state and out-of-state.

California State Park Rangers are POST-certified (Peace Officer Standards and Training certified) Law Enforcement Officers responsible for public protection and law enforcement in the park. The Marin County Sheriff's Department responds to emergency calls and assists with criminal investigations.

The project site is within the Mill Valley School District boundaries and closest to Old Mill Elementary school at approximately 1.3 miles from the proposed project location. There are no existing or proposed schools within one-quarter mile of the proposed project site.

| | <u>POTENTIALLY SIGNIFICANT IMPACT</u> | <u>LESS THAN SIGNIFICANT WITH MITIGATION</u> | <u>LESS THAN SIGNIFICANT IMPACT</u> | <u>NO IMPACT</u> |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|----------------------------------------------------------|---------------------------------------------|-------------------------------------|
| WOULD THE PROJECT: | | | | |
| a) Result in significant environmental impacts from construction associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, to maintain acceptable service ratios, response times, or other performance objectives for any of the public services: | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Fire protection? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Police protection? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Schools? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Parks? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Other public facilities? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Criteria for Determining Significance

The analysis of determining the significance of impacts of the Proposed Action to Public Services is based on criteria **XIII** a, described in the environmental checklist above.

DISCUSSION

All project work would occur within the boundaries of the parks and would not result in a significant impact to acceptable service ratios, response times or other performance objectives for public services. Any jobs generated as a result of the project would be short-term, with no permanent connection to the park location. The project would result in no significant increase in public service requirements.

Fire Protection: Use of construction equipment around flammable annual vegetation presents an increased fire risk that could result in additional demands on CDF and local

fire response teams. Any impact on services would be temporary and nothing in the project scope would contribute to the need for an increase in the existing level of public service. Integration of Mitigation Measure Haz-2, combined with the availability of on-site fire suppression equipment and support from State Park Rangers, would reduce the potential impact on Fire Protection services to a less than significant level.

Police Protection: State Park Rangers with law enforcement authority patrol the park boundaries, police the public use areas and grounds, enforce the public resource code, and guard against misuse of park property and resources. The Marin County Sheriff's Department responds to emergency calls and assists with criminal investigations. The proposed project is not expected to result in any need for increased police services. No impact.

Schools: No schools exist within two miles of the project area and there are no elements of this project that would result in an increased school enrollment in the area. No changes would occur that would require additional schools or school personnel. No impact.

Parks or Other Public Facilities: Work related to this project could cause minor delays and inconveniences at park access points and around the staging areas. However, all areas under construction would be closed to park visitors and due to the seasonal use of these facilities, the proposed project would not result in any significant adverse impact to park facilities or significant increased use at other parks in the area

XIV. RECREATION.

ENVIRONMENTAL SETTING

Marin County attracts hikers, cyclists, equestrians, campers, and fisherman from throughout the San Francisco Bay Area, with 141,000 acres of federal, state, county parkland, county open space, and two water districts' land devoted to recreation (Marin County 2005). State and federal lands within the County and part of the proposed project include: Mount Tamalpais, State Park and a portion of the Golden Gate National Recreation Area near Muir Woods.

Mt Tamalpais State Park

DPR's mission is to provide for the health, inspiration and education of the people of California by helping to preserve the state's extraordinary biological diversity, protecting its most valued natural and cultural resources, and creating opportunities for high-quality outdoor recreation.

Just north of San Francisco and the Golden Gate Bridge, is Mount Tamalpais State Park (MTSP), 6,300 acres of redwood groves, oak woodlands, grassland slopes, chaparral and rocky ridges offering spectacular views of the nearby Pacific and the surrounding San Francisco Bay Area, from its ridges, slopes and the 2,571-foot, East Peak. The Park offers a wealth of activities, including hiking, biking, tent camping, horseback riding, group camping, and overnight cabins.

| MTSP Attendance | |
|-----------------|----------------|
| Year | Total Visitors |
| 1996 | 1,095,340 |
| 1997 | 1,313,100 |
| 1998 | 1,588,266 |
| 1999 | 2,328,590 |
| 2000 | 1,873,885 |
| 2001 | 1,259,047 |
| 2002 | 1,396,396 |
| 2003 | 601,704 |
| 2004 | 449,443 |
| 2005 | 472,589 |

Trails: More than 50 miles of trail are within the park and connect to a larger, 200-mile-long trail system. Most trails are multi-use and shared by hikers, bikers, and equestrians.

Bootjack Picnic Area: An area of the park with tables, stoves, piped drinking water and flush toilets.

The *East Peak Summit* features a visitor center and a refreshment stand that are usually only open on weekends (during the summer, the refreshment stand is open daily). Phone, picnic tables and fully accessible restroom are also available.

The *Mountain Theater* (a.k.a. The Cushing Memorial Theater) From mid-May to mid-June each year the Mountain Play Association offers a revival Broadway musical, featuring professional theatre personnel, recreating the great American musical theatre, high on Mount Tamalpais. Shows are presented in the 5000 seat, outdoor, Mountain Theatre.

GGNRA

Golden Gate National Recreation Area's (GGNRA) mission is to preserve and enhance the natural environment and cultural resources of the coastal lands north and south of the Golden Gate for the inspiration, education, and recreation of people today, and for future generations.

GGNRA is one of the largest urban national parks in the world. The Area was established in 1972 and contains 75,398 acres extend from Tomales Bay in Marin County to San Mateo County in the south, encompassing 59 miles of shoreline - one of the nation's largest coastal preserves.

| GGNRA Attendance | |
|------------------|----------------|
| Year | Total Visitors |
| 1996 | 14,043,984 |
| 1997 | 13,803,382 |
| 1998 | 14,046,590 |
| 1999 | 14,048,085 |
| 2000 | 14,486,065 |
| 2001 | 13,457,900 |
| 2002 | 13,961,267 |
| 2003 | 13,854,750 |
| 2004 | 13,270,547 |
| 2005 | 13,602,629 |

GGNRA is many parks; some have an urban character such as Fort Mason, others are wilderness such as Point Reyes. The different parks give visitors the opportunity to seek solitude, gather together, pursue adventure, realize relaxation, obtain an education, and find entertainment. Furthermore, visitors can pursue all these different activities without getting in each others' way.

Due to the size of GGNRA and the enormous number of activities available, a comprehensive list would be prohibitive. Therefore it is simpler to state inappropriate activities in any land under the GGNRA umbrella as those that would create a hazard, a disturbance, or a severe inconvenience for other visitors, cause adverse impacts on

adjacent communities, or cause significant deterioration of park resources.

In addition to the specific programs offered by either MTSP or GGNRA, activities available on a greater scale are the California Coastal Trail and the California Pacific Bike Route.

California Coastal Trail

The California Coastal Trail (CCT), from Oregon to Mexico, is the result of past legislative action and ongoing efforts to build a network of public trails for walkers, bikers, equestrians, wheelchair riders, and others along the entire California Coast. Visitors to Marin County walking the California Coastal Trail can walk almost 60 of the 72-mile coastline on a trail or beach, and visit State and National Parks, historic military structures, and diverse visitor centers along the way. The Bay Area Ridge Trail, a National Park Service program, comprises a portion of the California Coastal Trail. The proposed project is located in Section 30 of the CCT .

California Pacific Bike Route

Starting in Vancouver, Canada, the Pacific Bike Route extends to Mexico. The California Coast Route is tremendously diverse. While riding, cyclists encounter massive redwoods, coastline vistas, vegetable farms, fruit orchards, and many urban areas. The curvy, winding roads along the Pacific Coast Route are shared with farm and logging trucks, cars, and recreational vehicles (Adventure Cycling Association). According to maps, the route through Marin County follows SR1 to Pt. Reyes where it veers inland toward San Rafael and back coastal at Marin Headlands.

| | <u>POTENTIALLY SIGNIFICANT IMPACT</u> | <u>LESS THAN SIGNIFICANT WITH MITIGATION</u> | <u>LESS THAN SIGNIFICANT IMPACT</u> | <u>NO IMPACT</u> |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|----------------------------------------------------------|---------------------------------------------|-------------------------------------|
| WOULD THE PROJECT: | | | | |
| a) Increase the use of existing neighborhood and regional parks or other recreational facilities, such that substantial physical deterioration of the facility would occur or be accelerated? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b) Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Criteria for Determining Significance

The analysis of determining the significance of impacts of the Proposed Action to Recreation is based on criteria **XIV** a,b described in the environmental checklist above.

DISCUSSION

- a) The proposed project would improve trail alignments and restore vegetation on non-designated trails, and improve public safety. While trails are being realigned some sections would be temporarily closed to visitors. While both Mount Tamalpais and GGNRA have many other trails for visitors to use, some could travel to other recreational facilities thereby increasing the associated visitor numbers. However, this situation would be temporary in nature, and the additional use at other recreational facilities is not expected to substantially increase the deterioration of facilities at an accelerated level. Less than significant.
- b) As mentioned above this project would improve trail alignments and restore vegetation on designated trails. It would not expand existing facilities and would not have an adverse effect on the environment. No impact.

XV. TRANSPORTATION/TRAFFIC

ENVIRONMENTAL SETTING

Both Mount Tamalpais State Park and the area within the Golden Gate National Recreation Area are located in the Coastal Corridor of Marin County. The Coastal Corridor is adjacent to the Pacific Ocean and is primarily designated for federal parklands, recreational uses, agriculture, and the preservation of existing small coastal communities. State Route 1 (SR1) borders a portion of the project area.

Marin County Congestion Management Program

Congestion Management Programs (CMPs) are designed to address existing and future transportation problems in urban areas of the State of California. The main components of the CMP include identification of transportation facilities and designation of level of service standards; performance measures to evaluate current and future transportation system performance; transportation alternatives; a process to determine development impacts on regional transportation; a computer travel model and database to estimate future transportation needs; and a 7-year investment strategy updated every 2 years to promote the CMP goals. The Marin County CMP is guided by the Metropolitan Transportation Commission's regional Transportation Plan and the Bay Area Air Quality Management District's Bay Area Clean Air Plan (CMP, 2003).

Level of Service

Level of service is a measure of congestion on roadways. It represents the ease with which one can drive on the road. There are five LOS grades, from A to F. LOS A represents free flow conditions (i.e., unimpeded travel at the maximum posted speed), and LOS F represents very congested conditions (i.e., bumper-to-bumper).

The Marin County Congestion Management Program is designed to ensure that roadways operate at the minimum countywide standard of Vehicle LOS D or better for urban and suburban arterials including highways that serve as arterials (e.g., State Route 1, State Route 131) and LOS E or better for Highway 101, Interstate 580, and State Route 37.

| Level Of Service (LOS) | Volume to Capacity (V/C)* Ratio | | Description of Typical Traffic Conditions |
|------------------------|---------------------------------|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | Freeways | Arterials | |
| A | 0.0/.35 | 0.0/.60 | Conditions of free flow. Speed is controlled by driver's desires, speed limits or physical roadway conditions, not other vehicles. |
| B | .36/.51 | .61/.70 | Conditions of stable flow. Operating speeds beginning to be restricted, but little or no restrictions on maneuverability. |
| C | .55/.77 | .71/.80 | Conditions of stable flow. Speeds and maneuverability somewhat restricted. Occasional back-ups behind left-turning vehicles at intersections. |
| D | .78/.93 | .81/.90 | Conditions approach unstable flow. Tolerable speeds can be maintained but temporary restrictions may cause extensive delays. Speeds may decline to as low as 40 percent of free flow speeds. Little freedom to maneuver; comfort and convenience low. |
| E | .94/1.0 | .91/1.0 | Unstable flow with stoppages of momentary duration. Average travel speeds decline to one-third the free flow speeds or lower, and traffic volumes approach capacity. Maneuverability severely limited. |
| F | >1.0 | >1.0 | Forced flow conditions. Stoppages for long periods, and low operating speeds (stop-and-go). Traffic volumes essentially at capacity over the entire hour. |

* The ratio of the actual number of vehicles on a roadway (volume) versus the number of vehicles the roadway is designed to accommodate (capacity) in any given hour.

Bicycle - The Marin County Bicycle and Pedestrian plan was completed for the county by the Marin County Congestion Management Agency in June 2000. The plan serves as a coordinating and resource document for the unincorporated areas of the entire county.

Water The San Francisco Bay Area Water Transit Authority (WTA) is a regional agency authorized by the State of California to operate a comprehensive San Francisco Bay Area public water transit system.

Air - Marin County operates the only public use airport, Gness Field, within the county. According to the 2005 Marin Draft Countywide Plan, the county airport at Gness Field should be the only civilian airport facility in Marin County and shall be for general aviation only.

Rail - The Sonoma and Marin Counties Area Transit (SMART) was established in January 2003 to oversee the development and implementation of passenger rail service in the counties. SMART holds in public ownership, over 70 miles of railroad right-of-way and is responsible for planning, engineering, evaluating, and implementing passenger train service and corridor maintenance from Cloverdale to a Ferry Terminal that connects to San Francisco.

Bus – Golden Gate Transit provides regional fixed-route bus service in San Francisco, Marin, and Sonoma counties (GGT 2006). Marin County Transit District is responsible for local transit and paratransit services within the county (MCT 2006).

| | <u>POTENTIALLY SIGNIFICANT IMPACT</u> | <u>LESS THAN SIGNIFICANT WITH MITIGATION</u> | <u>LESS THAN SIGNIFICANT IMPACT</u> | <u>NO IMPACT</u> |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|----------------------------------------------------------|---------------------------------------------|-------------------------------------|
| WOULD THE PROJECT: | | | | |
| a) Cause a substantial increase in traffic, in relation to existing traffic and the capacity of the street system (i.e., a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b) Exceed, individually or cumulatively, the level of service standards established by the county congestion management agency for designated roads or highways? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| c) Cause a change in air traffic patterns, including either an increase in traffic levels or a change in location, that results in substantial safety risks? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Contain a design feature (e.g., sharp curves or a dangerous intersection) or incompatible uses (e.g., farm equipment) that would substantially increase hazards? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) Result in inadequate emergency access? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f) Result in inadequate parking capacity? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Criteria for Determining Significance

The analysis of determining the significance of impacts of the Proposed Action to Transportation/Traffic is based on criteria **XV** a-g, described in the environmental checklist above.

DISCUSSION

- a) Delivery of construction materials and equipment would have the potential to create limited temporary delays along SR1 and Panoramic Highway. The addition of an estimated 10-12 vehicles (crew pick-ups, delivery trucks and equipment haulers) making 1-2 trips during daylight hours would not cause a substantial increase in traffic volume or result in additional congestion. In addition, construction equipment would remain on-site for the duration of the project. This trail restoration and access improvement project would neither cause a substantial increase in traffic nor the capacity of SR1. Less than significant.
- b) As noted in Discussion (a) above, the proposed project would add approximately 10-24 vehicle trips daily on SR1 and Panoramic highway. The addition of this limited number of vehicles trips would not exceed, individually or cumulatively, the level of service standards for either roadway. No significant impact.

- c) The Gness County Airport is located in Novato, approximately 25 miles from the project area. The project site is not located in an airport use plan, within two miles of a public airport, in the vicinity of a private air strip, and does not serve as a normal reporting point for air traffic in the area. No part of the proposed project would affect or change existing air traffic patterns. No impact.
- d) No part of the proposed project includes a design feature that would substantially increase hazards. No impact.
- e) All construction activities associated with the proposed project would occur within the boundaries of MTSP and GGNRA. Work would not restrict access to or block any road outside the immediate construction area. No impact.
- f) Although construction equipment staging areas would use areas on Dias Ridge and in Frank Valley near the Golden Gate Dairy, any project encroachment on existing parking lots would be limited and temporary, allowing access to both construction and recreational areas. Less than significant impact.
- g) The proposed project would not conflict with adopted policies, plans or programs supporting alternative transportation. No impact.

XVI. UTILITIES AND SERVICE SYSTEMS.

ENVIRONMENTAL SETTING

Mount Tamalpais State Park provides day use picnic areas, single party campsites, group campsites, nature trails for recreation, and scenic view points, as well as interpretive panels and parking and restroom facilities for unit visitors.

Utilities and services available within the park unit include; picnic tables, barbecues, water (hose bibs), flush toilets, telephones, and Wi-Fi Services via AT&T for park visitors who use a wireless device within about 150 to 200 feet of the Ranger Station located in the park. Concessionaires at the East Peak Summit provide refreshments to park visitors daily during the summer and on weekends the remainder of the year. Restroom facilities are open to the public and garbage disposal is available at the day use and campground areas (Carbahal 2006).

Water supplies for the park come from a combination of wells and three different municipalities, City of Muir Beach, City of Stinson Beach and the Marin Municipal Water District. There are three wells located at Mount Tamalpais SP, one at East Peak, one at the CCC-built Mountain Theater, and one at Frank Valley. Mount Tamalpais is certified to treat the water, from the wells located within the park, at their own water treatment plant (Carbahal 2006).

Utilities and services available for the day-use areas are limited to garbage and sewage disposal. Garbage collected in the park day use areas is removed by State Parks personnel once a day and deposited into a special, animal-proof, 20 cubic yard dumpster located in the maintenance yard. Trash from the offices and the residences is collected once a week. This container is picked up by the Novato Disposal every 2 to 4 weeks. Sewage disposal for the park and its residences is handled by the park via multiple leach field and septic tank systems; approximately 12 systems total (Carbahal 2006).

Power and telephone service is provided to the park residences and on-site offices as well as to the concessionaire. Electrical power is provided by the Pacific Gas and Electric Company over conventional overhead lines, telephone services are provided by SBC. Services are provided via both overhead and underground systems. The park uses propane gas for some needs and it is provided by tank service, through a statewide services contract with Amerigas. The park owns 9 propane tanks approximately 250 gallons each (Carbahal 2006).

| | <u>POTENTIALLY SIGNIFICANT IMPACT</u> | <u>LESS THAN SIGNIFICANT WITH MITIGATION</u> | <u>LESS THAN SIGNIFICANT IMPACT</u> | <u>NO IMPACT</u> |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|----------------------------------------------------------|---------------------------------------------|-------------------------------------|
| WOULD THE PROJECT: | | | | |
| a) Exceed wastewater treatment restrictions or standards of the applicable Regional Water Quality Control Board? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities? | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | | |
| Would the construction of these facilities cause significant environmental effects? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities? | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | | |
| Would the construction of these facilities cause significant environmental effects? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Have sufficient water supplies available to serve the project from existing entitlements and resources or are new or expanded entitlements needed? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) Result in a determination, by the wastewater treatment provider that serves or may serve the project, that it has adequate capacity to service the project's anticipated demand, in addition to the provider's existing commitments? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| g) Comply with federal, state, and local statutes and regulations as they relate to solid waste? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Criteria for Determining Significance

The analysis of determining the significance of impacts of the Proposed Action to Utilities and Service Systems is based on criteria **XVI** a-g, described in the environmental checklist above.

DISCUSSION

- a) Mount Tamalpais State Park is within the jurisdiction of the San Francisco Bay Regional Water Quality Control Board. As designed the project would be in compliance with all applicable water quality standards and waste discharge requirements. No impact.

- b) The project does not call for the construction of new restroom facilities, nor would it require or result in the construction of new water or wastewater treatment facilities or the expansion of existing facilities. No impact.
- c) The proposed project would not require or result in the construction of new storm water drainage facilities or the expansion of existing facilities. No impact.
- d) The project does not propose construction which would result in an increased usage of the water supply. Current water supplies for Mount Tamalpais State Park are adequate for existing demand and projected future use. No impact
- e) Project does not propose construction which would result in a determination that there is inadequate capacity to service the project’s anticipated demand in addition to the already existing commitments. Wastewater treatment services for the park are provided by DPR personnel operating DPR-owned facilities. No impact.
- f) While it is possible that the proposed project could attract more visitors due to the improvements proposed by this project, it is anticipated that any increase in the park’s solid waste output would be handled by the current systems in place. No impact.
- g) The proposed project would comply with federal, state, and local statutes and regulations as they relate to solid waste. No impact.

MANDATORY FINDINGS OF SIGNIFICANCE

| | <u>POTENTIALLY SIGNIFICANT IMPACT</u> | <u>LESS THAN SIGNIFICANT WITH MITIGATION</u> | <u>LESS THAN SIGNIFICANT IMPACT</u> | <u>NO IMPACT</u> |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|----------------------------------------------------------|---------------------------------------------|--------------------------|
| WOULD THE PROJECT: | | | | |
| a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b) Have the potential to eliminate important examples of the major periods of California history or prehistory? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c) Have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means the incremental effects of a project are considerable when viewed in connection with the effects of past projects, other current projects, and probably future projects?) | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| d) Have environmental effects that will cause substantial adverse effects on humans, either directly or indirectly? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

DISCUSSION

- a) The proposed project was evaluated for potential significant adverse impacts to the natural environment and its plant and animal communities. The project site could support certain special status plants and animals. It has been determined that the project could have the potential to disturb nesting raptor species, sensitive bat species, and red-legged frog. In addition, project-related equipment and vehicles could spread the Sudden Oak Death pathogen. However, full implementation of all Mitigation Measures incorporated into this project would reduce those impacts, both individually and cumulatively, to a less than significant level.
- b) The proposed project was evaluated for potential significant adverse impacts to the cultural resources of Mount Tamalpais State Park and the immediate area. It has been determined that activities associated with the proposed project could have the potential to significantly disturb historic or archaeological resources. The proposed trail access improvements would involve ground disturbing activities and could affect historic property as well as unearth previously unknown cultural resources. Full implementation of all Mitigation Measures incorporated into this project would reduce those impacts, both individually and cumulatively, to a less than significant level.
- c) DPR often has smaller maintenance programs and trail restoration projects planned for a park unit. However, no other projects, other than routine maintenance, are planned for the proposed project area in the foreseeable future. Additionally, impacts from other environmental issues addressed in this evaluation do not overlap in such a way as to result in cumulative impacts that are greater than the sum of the parts. Less than significant impact.
- d) Most project-related environmental effects have been determined to pose a less than significant impact on humans. However, possible impacts from construction emissions (Air Quality), construction accidents, seismic events, and fire (Hazards and Hazardous Wastes), and noise, though temporary in nature, have the potential to result in significant adverse effects on humans. These potentially significant adverse impacts would be reduced to a less than significant level with implementation of all Mitigation Measures listed.

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Appendix B
**Initial Study with Proposed Mitigated Negative Declaration/
Environmental Assessment**
Submitted Pursuant to: (State) Division 13, California Public Resources Code
(Federal) 42 USC 4332(2)(C)

The State of California
Department of Parks and Recreation

Date of Approval

Signature _____ on _____ Original Document
Stephen R. Lehman
Deputy Director
Acquisition & Development Division
California Department of Parks and
Recreation

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PROPOSED MITIGATED NEGATIVE DECLARATION

Pursuant to: Division 13, California Public Resources Code

Project Description

The Dias Ridge Restoration and Trail Improvement Project is located in the Redwood Creek and Green Gulch watersheds in the Muir Beach area of Marin County and lies within the jurisdictions of both Mount Tamalpais State Park (MTSP) and the Golden Gate National Recreation Area (GGNRA). The National Park Service (NPS) and California Department of Parks and Recreation (CDPR) are working together to plan the project and evaluate its potential environmental impacts.

The project will:

- realign trail segments and restore degraded areas on Dias Ridge;
- improve the overall quality of the parkland and reduce sedimentation into the Redwood Creek and Green Gulch watersheds by removing unauthorized trails, replacing or rehabilitating poorly aligned and eroding segments of the Dias Ridge Trail, and restoring areas of natural landscape; and
- support existing authorized trail-use designations.

Determination

This proposed Draft Mitigated Negative Declaration (MND) is included to give notice to interested agencies and the public that CDPR intends to adopt a MND for this project. This does not mean that CDPR's decision regarding the project is final. This MND is subject to modification based on comments received by interested agencies and the public.

CDPR has prepared an Initial Study for this project, and pending public review, expects to determine from this study that the proposed project would not have a significant effect on the environment for the following reasons:

The proposed Dias Ridge Restoration and Trail Improvement Project would result in no effect on agricultural resources, land use and planning, mineral resources, population and housing, or utilities and service systems.

The proposed project would have less than significant effects on aesthetics, air quality, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, noise, public services, recreation, and transportation/traffic; and no significant adverse effect on biological resources, because the following avoidance, minimization and mitigation measures would reduce potential effects to a less than significant level:

Aesth-1: Project proponents will revegetate cut and fill slopes for stability to control erosion and to re-establish the visual continuity of vegetative cover through the duration of the project.

Aesth-2: Trail edges and any retaining walls along the new hillside trail south of Golden Gate Dairy will be vegetated using appropriate medium-to-tall coastal sage scrub species, where consistent with adjacent vegetation, to screen views of the trail from the dairy ranch complex.

Air-1: All active construction areas will be watered at least twice daily during dry, dusty conditions. Water used for this purpose will be obtained outside the project area.

All trucks hauling soil, sand, or other loose materials on public roads will be covered or required to maintain at least two feet of freeboard.

All equipment engines will be maintained in good condition, in proper tune (according to manufacturer's specifications), and in compliance with all State and federal requirements.

Excavation and grading activities will be suspended when sustained winds exceed 25 miles mph, instantaneous gusts exceed 35 mph, or dust from construction might obscure driver visibility on public roads.

Earth or other material that has been transported onto paved streets and shoulder by trucks, construction equipment, erosion, or other project-related activity will be promptly removed.

Speed limit signs limiting vehicle speed to 15 mph or less at construction sites will be posted every 500 feet

Bio-1: Native Plant Communities – In areas of new trail construction where actions will impact sensitive native plant communities, these communities will be restored in kind in locations identified by NPS and CDPR..

Qualified NPS and/or CDPR staff will identify appropriate reference sites for coastal prairie, coastal scrub and wetland habitats within the watershed. Botanical specialists in the agencies will determine plant palettes for direct seeding and revegetation actions, with seed collected within the watershed and plants grown in the NPS native plant nurseries.

NPS will grow replacement plants from local seed sources, to result in no net loss of native plant communities. Project proponents will monitor revegetated areas and invasive plant species controlled, as part of the on-going vegetation management program

Plants will be propagated off-site, transported to the revegetation areas by truck and/or all-terrain vehicle where appropriate, and planted by hand labor.

Bio-2: Exotic Plant Species Control - NPS and CDPR will monitor control strategies and performance measures for invasive non-native plants for up to 5 years,. Performance measures for planted natives will also be monitored for up to five years.

Guided by these strategies and measures, NPS and CDPR restoration staff

will conduct monitoring of invasive non-native plants and native plantings for up to five years following the project's implementation.

Bio-3: Nesting Raptor Species - If construction is planned during the breeding seasons (January 1 – July 31) for any raptors, then a pre-construction survey to locate any potential raptor nests will be conducted in and around the project area. If a nest is located near the project area, then construction will not occur within 500 feet or an appropriate distance as defined by an NPS or MTSP wildlife biologist of the active nest until after the young have fledged and there is no evidence of a second attempt at nesting as determined by an agency-approved biologist.

Bio-4: Sensitive Bat Species - The proposed project has a slight potential to affect sensitive bat species through the removal of trees that are used for roosting. Implementation of the following measure will reduce potential effects to a less than significant level.

A bat habitat assessment and survey will be conducted by project proponents prior to construction in order to determine what species are present in trees identified for removal, and whether they are used for day, night, or maternity roosts. Trail alignments will be adjusted, where practicable, to avoid the removal of tree roosting habitat.

Bio-5: Landbird Nesting – Vegetation removal will be planned outside the landbird breeding season (March 1 – July 31). Nest surveys will be conducted by a qualified biologist prior to vegetation removal during the breeding season. If nests are located, a suitable non-work buffer determined by a qualified biologist based on species and habitat characteristics, will be established and remain in place until birds could successfully fledge and move from the area.

Bio-6: California Red-legged Frog - Immediately prior to the start of work each morning, a USFWS-approved Biologist or DPR-qualified Biologist will conduct a visual inspection of the construction zone.

Construction activity within the project site will also be spot checked during the work day by a USFWS- approved Biologist or a DPR-qualified Biologist.

If a California red-legged frog is found, start of work at that project site will be delayed until the species moves out of the site on its own accord.

All holes and trenches will be covered at the close of each work day or escape ramps (plywood or similar material) will be provided; all pipes, culverts or similar structures that are stored at the construction site for one or more overnight periods will be thoroughly inspected for CRLF before the pipe is subsequently buried, capped, or otherwise removed in any way to prevent animals from being trapped.

Prior to the start of construction, all construction-related personnel will be instructed by a qualified biologist in the life history of the California red-legged frog and its habitat, and instruction in the appropriate protocol to follow in the event that a California red-legged frog is found onsite.

Bio-7: Sudden Oak Death - Marin County is under quarantine regulations for Sudden Oak Death and the pathogen has been confirmed by laboratory analysis to occur in Samuel P. Taylor State Park, but not in Mount Tamalpais State Park or in any part of the project area.

Integration of Sudden Oak Death BMPs into design plans will reduce impacts to a less than significant level.

All project components impacting Sudden Oak Death host or carrier plants will follow the "Sudden Oak Death Best Management Practices in Zone of Infestation Regulated Areas, Assembled by the Management Committee of California Oak Mortality Task Force, 2002" (See Appendix IV).

Cult-1: Cultural Resources, Protected Areas - Prior to the start of construction, a State Cultural Resource Specialist will review construction limits on the ground with the State Representative assigned to the project and mark (e.g. with flagging and/or plastic mesh construction fencing) the avoidance area. Specifically, site CA-MRN-567H, new site 60131-01, and elements of Ranch M will be designated "off-limits" during all construction activities. Neither mechanical equipment nor workers on foot will be allowed within the site boundaries. A State Cultural Resource Specialist will review construction limits on the ground with the State Representative assigned to the project and mark (e.g. with flagging and/or plastic mesh construction fencing) the avoidance area prior to the start of construction. All grading activities for new trail construction or old trail restoration near the flagged areas will be specifically monitored by a qualified Cultural Resource Specialist or his/her designee.

Cult-2: Cultural Resources, Discovery Provisions - In the event that previously unknown cultural resources are encountered during project construction by anyone, they will be treated in accordance with 36 CFR 800.13 (Protection of Historic Properties: Post-review discoveries). The archeological resource will be assessed for its eligibility for listing on the NRHP in consultation with the SHPO and the Federated Indians of Graton Rancheria (if it is an indigenous archaeological site) and a determination of the project effects on the property will be made. If the site will be adversely affected, a treatment plan will also be prepared, as needed, during the assessment of the site's significance. Assessment of inadvertent discoveries may require archaeological excavations or archival research to determine resource significance. Treatment plans will fully evaluate avoidance, project redesign, and data recovery alternatives before outlining actions proposed to resolve adverse effects.

Cult-3: Cultural Resources, Discovery Provisions - In the event that human remains are discovered, work will cease immediately in the area of the find and the project manager/site supervisor will notify the appropriate CDPR and NPS personnel. Protocols under federal law will apply for discoveries on federal land. For discoveries of native human remains on state land, these would be handled by CDPR in accordance with state burial laws. The find will be secured and protected in place. The Marin County coroner will be notified in accordance with §7050.5 of the California Health and Safety Code, and the Native American Heritage Commission (NAHC) will be notified within 24 hours of the discovery if the Coroner determines that the remains are Native American. If a determination finds that the remains are Native American and that no further coroner investigation of the cause of death is required, they will be treated in accordance with the Native American Graves Protection and Repatriation Regulations at 43 CFR 10.4 (Inadvertent Discoveries).

Geo-1: Erosion Control - Prior to project construction, CDPR will prepare a Storm Water Pollution Prevention Plan (SWPPP) will be prepared. The SWPPP will identify all pollutant and sediment sources that may affect storm water discharges from the construction sites, identify and implement Best Management Practices (BMPs) to control erosion and runoff, and reduce or eliminate these pollutants and sediments during construction and post-construction, and develop a maintenance schedule for post-construction BMPs.

BMP erosion control methods include trail design strategies such as rolling grade dips and outsloping to encourage sheet flow across a trail surface. In wet areas measures may include surface reinforcing (e.g. cobbles in combination with geotextile or sheet drain materials), boardwalks, and drainage lenses. Other measures include locating new trails to avoid steep and/or erosive slopes. The BMPs established for post-construction erosion control will be assessed annually and maintained as needed for a period of three years following construction.

Site-specific revegetation plans will utilize native species indigenous to the site for locations that are being rehabilitated. Quickly establishing vegetative cover on areas denuded from construction activities will minimize the potential for sediment production.

Prior to the start of construction, training will be provided by a qualified biologist to construction staff in order to inform workers of the presence of federally listed species (e.g. Coho salmon, and steelhead) in area streams and the necessity for implementing BMPs. This training will also identify boundaries of construction zones and identify proper disposal of construction debris and the proper response to fluid spills.

Implement Measure Haz-1 (see below).

Haz-1: Hazardous Materials - Prior to the start of construction, the contractor will inspect all equipment for leaks and regularly inspect thereafter until equipment is removed from park premises.

Prior to the start of construction, CDPR and/or NPS will prepare a Spill Prevention and Response Plan (SPRP) as part of the SWPPP and maintain a spill kit on-site throughout the life of the project. This plan will include a map that delineates construction staging areas, where refueling, lubrication, and maintenance of equipment will occur. This plan will identify and employ best management practices (BMP) as appropriate and necessary to contain, collect and dispose of hazardous materials and sediment. This plan will also identify lawfully permitted or authorized disposal destinations outside of park boundaries.

Refueling, lubrication, and equipment maintenance areas will be located at least 100 feet from any bodies of water, including but not limited to Redwood Creek.

In the event of any spill or release of any chemical in any physical form at the project site or within the boundaries of Mount Tamalpais State Park or GOGA during construction, the contractor will immediately notify the appropriate staff (e.g., project manager, supervisor, or State Representative) and implement appropriate spill containment procedures, as identified in the SPRP and SWPPP.

Equipment will be cleaned and repaired (other than emergency repairs) outside state and national park boundaries. All contaminated water, sludge, spill residue, or other hazardous compounds will be contained and disposed of outside park boundaries, at a lawfully permitted or authorized destination.

Haz-2: Hazardous Materials - Prior to the start of construction, the contractor will develop a fire safety plan for NPS and CDPR approval. This plan will include the emergency calling procedures and any required employee training.

Spark arrestors or turbo-charging (which eliminates sparks in exhaust) and fire extinguishers will be required for all heavy equipment.

Construction crews will be required to park vehicles away from flammable material, such as dry grass or brush. At the end of each workday, heavy equipment will be parked over mineral soil, asphalt, gravel, or concrete to reduce the chance of fire.

Fire suppression equipment (fire extinguishers, fire hoses, etc.) will be available and located on park grounds. CDPR staff will be required to have a State Park radio on site, which will allow direct contact with the CDF and a centralized CDPR dispatch center, to facilitate the rapid deployment of control crews and equipment in case of a fire.

Hydro-1: The following measures will be included in the SWPPP for erosion control:

Construction activities will not be planned during the rainy season, but if storms are anticipated during construction or if construction must occur during the rainy season (October 15 – April 15), “winterizing” will occur, including the covering (tarping) of any stockpiled soils and the use of temporary erosion control methods to protect disturbed soil.

Temporary erosion control measures (BMPs) will be used during all soil disturbing activities and until all disturbed soil has been stabilized (recompacted, re-vegetated, etc.) in order to control soil and surface water runoff during construction activities. CDPR-approved BMPs, such as silt fences, weed-free fiber rolls, mulch or other applicable techniques will be utilized. Information on example BMPs can be found in the Stormwater Best Management Practice Handbook for Construction, available on-line at www.cabmphandbooks.com.

Permanent BMPs for erosion control will consist of properly compacting disturbed areas and revegetation of appropriate disturbed soil areas with native species using seed collected locally, where possible. If local native plant seeds are not available, a weed-free native mixture may be used with prior approval of the State’s Representative.

Final project design plans will include permanent BMP measures to be incorporated into the project.

Noi-1: Noise - Construction activities will be limited to the daylight hours, Monday – Friday. If weekend or holiday work is necessary, no work will occur on those days before 8:00 a.m. or after 6 p.m.

Stationary noise sources and staging areas will be located as far away from sensitive receptors as possible. If they must be located near sensitive receptors, stationary noise sources will be muffled to the extent feasible and/or, where practicable, enclosed within temporary sheds.

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Appendix C

POTENTIAL SPECIAL STATUS PLANT SPECIES FOR DIAS RIDGE PROJECT AREA

| SCIENTIFIC NAME | COMMON NAME | FAMILY | CNPS LISTING | STATE LISTING | FEDERAL LISTING |
|-----------------------------------------------------------|-------------------------------|------------------|--------------|---------------|-----------------|
| <i>Alopecurus aequalis</i> var. <i>sonomensis</i> | Sonoma alopecurus | Poaceae | List 1B | None | FE |
| <i>Amorpha californica</i> var. <i>napensis</i> | Napa false indigo | Fabaceae | List 1B | None | None |
| <i>Amsinckia lunaris</i> | bent-flowered fiddleneck | Boraginaceae | List 1B | None | None |
| <i>Arctostaphylos hookeri</i> ssp. <i>franciscana</i> | Franciscan manzanita | Ericaceae | List 1A | None | None |
| <i>Arctostaphylos hookeri</i> ssp. <i>montana</i> | Mt. Tamalpais manzanita | Ericaceae | List 1B | None | None |
| <i>Arctostaphylos hookeri</i> ssp. <i>ravenii</i> | Presidio manzanita | Ericaceae | List 1B | CE | FE |
| <i>Arctostaphylos imbricata</i> | San Bruno Mtn. manzanita | Ericaceae | List 1B | CE | None |
| <i>Arctostaphylos montaraensis</i> | Montara manzanita | Ericaceae | List 1B | None | None |
| <i>Arctostaphylos virgata</i> | Marin manzanita | Ericaceae | List 1B | None | None |
| <i>Arenaria paludicola</i> | marsh sandwort | Caryophyllaceae | List 1B | CE | FE |
| <i>Aster lentus</i> | Suisun Marsh aster | Asteraceae | List 1B | None | None |
| <i>Astragalus pycnostachyus</i> var. <i>pycnostachyus</i> | coastal marsh milk-vetch | Fabaceae | List 1B | None | None |
| <i>Boschniakia hookeri</i> | small groundcone | Orobanchaceae | List 2 | None | None |
| <i>Calochortus tiburonensis</i> | Tiburon mariposa lily | Liliaceae | List 1B | CT | FT |
| <i>Carex lyngbyei</i> | Oakland star-tulip | Cyperaceae | List 2 | None | None |
| <i>Castilleja affinis</i> ssp. <i>neglecta</i> | Lyngbye's sedge | Scrophulariaceae | List 1B | CT | FE |
| <i>Ceanothus masonii</i> | Tiburon indian paintbrush | Rhamnaceae | List 1B | CR | None |
| <i>Centromadia parryi</i> ssp. <i>parryi</i> | Mason's ceanothus | Asteraceae | List 1B | None | None |
| <i>Chorizanthe cuspidata</i> var. <i>cuspidata</i> | pappose tarplant | Polygonaceae | List 1B | None | None |
| <i>Chorizanthe robusta</i> var. <i>robusta</i> | San Francisco Bay spineflower | Polygonaceae | List 1B | None | FE |
| <i>Chorizanthe valida</i> | robust spineflower | Polygonaceae | List 1B | CE | FE |
| <i>Cirsium andrewsii</i> | Sonoma spineflower | Asteraceae | List 1B | None | None |

| | | | | | |
|------------------------------------------------------|-----------------------------|------------------|---------|------|------|
| <i>Cirsium hydrophilum</i> var. <i>vaseyi</i> | Franciscan thistle | Asteraceae | List 1B | None | None |
| <i>Cirsium occidentale</i> var. <i>compactum</i> | Mt. Tamalpais thistle | Asteraceae | List 1B | None | None |
| <i>Clarkia franciscana</i> | compact cobwebby thistle | Onagraceae | List 1B | CE | FE |
| <i>Collinsia corymbosa</i> | Presidio clarkia | Scrophulariaceae | List 1B | None | None |
| <i>Collinsia multicolor</i> | round-headed Chinese houses | Scrophulariaceae | List 1B | None | None |
| <i>Dirca occidentalis</i> | western leatherwood | Thymelaeaceae | List 1B | None | None |
| <i>Eriogonum luteolum</i> var. <i>caninum</i> | Tiburon buckwheat | Polygonaceae | List 3 | None | None |
| <i>Fissidens pauperculus</i> | minute pocket-moss | Fissidentaceae | List 1B | None | None |
| <i>Fritillaria lanceolata</i> var. <i>tristulis</i> | Marin checker lily | Liliaceae | List 1B | None | None |
| <i>Gilia capitata</i> ssp. <i>chamissonis</i> | dune gilia | Polemoniaceae | List 1B | None | None |
| <i>Gilia capitata</i> ssp. <i>tomentosa</i> | woolly-headed gilia | Polemoniaceae | List 1B | None | None |
| <i>Gilia millefoliata</i> | dark-eyed gilia | Polemoniaceae | List 1B | None | None |
| <i>Grindelia hirsutula</i> var. <i>maritima</i> | San Francisco gumplant | Asteraceae | List 1B | None | None |
| <i>Helianthella castanea</i> | Diablo helianthella | Asteraceae | List 1B | None | None |
| <i>Hemizonia congesta</i> ssp. <i>leucocephala</i> | Hayfield tarplant | Asteraceae | List 3 | None | None |
| <i>Hesperevax sparsiflora</i> var. <i>brevifolia</i> | short-leaved evax | Asteraceae | List 2 | None | None |
| <i>Hesperolinon congestum</i> | Marin western flax | Linaceae | List 1B | CT | FT |
| <i>Holocarpha macradenia</i> | Santa Cruz tarplant | Asteraceae | List 1B | CE | FT |
| <i>Horkelia cuneata</i> ssp. <i>sericea</i> | Kellogg's horkelia | Rosaceae | List 1B | None | None |
| <i>Horkelia tenuiloba</i> | thin-lobed horkelia | Rosaceae | List 1B | None | None |
| <i>Leptosiphon croceus</i> | coast yellow linanthus | Polemoniaceae | List 1B | None | None |
| <i>Leptosiphon rosaceus</i> | rose linanthus | Polemoniaceae | List 1B | None | None |
| <i>Lessingia germanorum</i> | San Francisco lessingia | Asteraceae | List 1B | CE | FE |
| <i>Lessingia hololeuca</i> | woolly-headed lessingia | Asteraceae | List 3 | None | None |
| <i>Lessingia micradenia</i> var. <i>micradenia</i> | Tamalpais lessingia | Asteraceae | List 1B | None | None |
| <i>Micropus amphibolus</i> | Mt. Diablo cottonweed | Asteraceae | List 3 | None | None |
| <i>Microseris paludosa</i> | marsh microseris | Asteraceae | List 1B | None | None |
| <i>Navarretia rosulata</i> | Marin County navarretia | Polemoniaceae | List 1B | None | None |
| <i>Pentachaeta bellidiflora</i> | white-rayed pentachaeta | Asteraceae | List 1B | CE | FE |

| | | | | | |
|--------------------------------------------|------------------------------|------------------|---------|------|------|
| Plagiobothrys chorisianus var. chorisianus | Choris's popcorn-flower | Boraginaceae | List 1B | | None |
| Plagiobothrys diffusus | San Francisco popcorn-flower | Boraginaceae | List 1B | CE | None |
| Plagiobothrys glaber | hairless popcorn-flower | Boraginaceae | List 1A | None | None |
| Pleuropogon hooverianus | North Coast semaphore grass | Poaceae | List 1B | CT | None |
| Polygonum marinense | Marin knotweed | Polygonaceae | List 3 | None | None |
| Quercus parvula var. tamalpaisensis | Tamalpais oak | Fagaceae | List 1B | None | None |
| Sanicula maritima | adobe sanicle | Apiaceae | List 1B | CR | None |
| Sidalcea calycosa ssp. rhizomata | Point Reyes checkerbloom | Malvaceae | List 1B | None | None |
| Sidalcea hickmanii ssp. viridis | Marin checkerbloom | Malvaceae | List 1B | None | None |
| Silene verecunda ssp. verecunda | San Francisco campion | Caryophyllaceae | List 1B | None | None |
| Stebbinoseris decipiens | Santa Cruz microseris | Asteraceae | List 1B | None | None |
| Streptanthus batrachopus | Tamalpais jewel-flower | Brassicaceae | List 1B | None | None |
| Streptanthus glandulosus ssp. pulchellus | Mt. Tamalpais jewel-flower | Brassicaceae | List 1B | None | None |
| Streptanthus niger | Tiburon jewel-flower | Brassicaceae | List 1B | CE | FE |
| Trifolium amoenum | showy Indian clover | Fabaceae | List 1B | None | FE |
| Triphysaria floribunda | San Francisco owl's-clover | Scrophulariaceae | List 1B | None | None |
| Triquetrella californica | coastal triquetrella | Pottiaceae | List 1B | None | None |

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Appendix D
Invasive Plants Within the Project Area

| SCIENTIFIC NAME | COMMON NAME | FAMILY |
|---------------------------------|----------------------|----------------|
| <i>Argyranthemum frutescens</i> | Marguerite daisy | Asteraceae |
| <i>Arctotheca calendula</i> | Cape weed | Asteraceae |
| <i>Brassica nigra</i> | black mustard | Brassicaceae |
| <i>Calluna vulgaris</i> | heather | Ericaceae |
| <i>Carduus pycnocephalus</i> | Italian thistle | Asteraceae |
| <i>Cirsium vulgare</i> | bull thistle | Asteraceae |
| <i>Conium maculatum</i> | poison hemlock | Apiaceae |
| <i>Cortaderia</i> sp. | pampas grass | Poaceae |
| <i>Cotoneaster</i> sp. | cotoneaster | Rosaceae |
| <i>Cupressus macrocarpa</i> | Monterey cypress | Cupressaceae |
| <i>Cytisus scoparius</i> | Scotch broom | Fabaceae |
| <i>Dactylis glomerata</i> | orchard grass | Poaceae |
| <i>Erechtites glomerata</i> | Australian fireweed | Asteraceae |
| <i>Eucalyptus globulus</i> | bluegum eucalyptus | Myrtaceae |
| <i>Festuca arundinacea</i> | tall fescue | Poaceae |
| <i>Ficus carica</i> | fig | Moraceae |
| <i>Foeniculum vulgare</i> | sweet fennel | Apiaceae |
| <i>Galanthus</i> sp. | snowdrops | Amaryllidaceae |
| <i>Genista monspesulana</i> | French broom | Fabaceae |
| <i>Hedera helix</i> | English ivy | Araliaceae |
| <i>Helichrysum petiolare</i> | licorice plant | Asteraceae |
| <i>Holcus lanatus</i> | velvet grass | Poaceae |
| <i>Marrubium vulgare</i> | common horehound | Lamiaceae |
| <i>Myoporum laetum</i> | ngaio tree | Myoporaceae |
| <i>Myosotis latifolia</i> | forget-me-not | Boraginaceae |
| <i>Phalaris aquatica</i> | Harding grass | Poaceae |
| <i>Pinus radiata</i> | Monterey pine | Pinaceae |
| <i>Prunus</i> sp. | fruit trees | Rosaceae |
| <i>Pyracantha angustifolia</i> | narrowleaf firethorn | Rosaceae |
| <i>Raphanus sativus</i> | wild radish | Brassicaceae |
| <i>Rosa</i> sp. | ornamental roses | Rosaceae |
| <i>Silybum marianum</i> | milk thistle | Asteraceae |
| <i>Sonchus asper</i> | sow thistle | Asteraceae |
| <i>Tropaeolum</i> sp. | nasturtium | Tropaeolaceae |
| <i>Vinca major</i> | periwinkle | Apocynaceae |

Sudden Oak Death Best Management Practices in Zone Of Infestation Regulated Areas

Developed by the California Oak Mortality Task Force Biomass Utilization Committee 7/17/01; Reviewed and Amended by Management Committee 10/15/01, by Executive Committee 10/17/01, by email to all ending 10/24/01; mostly approved by other reviewers, to go out to website soon

Mitigation Measures to prevent the spread of Sudden Oak Death (SOD) pathogen during Tree Removal or Pruning Operations in SOD Infested Counties

Hosts of SOD: See California Oak Mortality Task Force (COMTF) website [suddenoakdeath.org] for most recent list of host species.

Distribution of SOD: See COMTF website (monitoring) for latest distribution.

Regulation: The pathogen, *Phytophthora ramorum*, can be spread via host material. Therefore, plants, plant parts, unprocessed wood and wood products, and other products of the above mentioned hosts may not be moved within or from counties infested with SOD without authorization of the local County Agricultural Commissioner. See <http://www.cdfa.ca.gov/cdfa/pendingregs/> for further information.

Infected foliage of a number of host plants presents a high risk for pathogen spread. Spread of the pathogen can occur through the transport of infected host foliage.

The SOD fungus resides in soil in infested areas and soil is therefore a potential carrier of the pathogen. The greatest threat of pathogen spread occurs when wet soil is present. Currently, soil movement is not regulated.

Mitigation measures to prevent the spread of SOD are warranted in the following situations:

- *Tree removal and pruning of non-host trees from infested sites.* Regulations do not apply if host material is not being moved from the harvest area. However, infected host material (especially foliage) and contaminated soil could be picked-up on tree removal and pruning equipment and transferred to other sites. Mitigation measures to minimize the unintended movement of host material and soil would be appropriate. See mitigation measures section below for a more thorough discussion.
- *Tree removal and pruning in an infested site where infected trees will be harvested or pruned.* Regulations apply. Host material should not leave the site except as authorized by the County Agricultural Commissioner and/or mitigation measures approved by the California Department of Forestry and Fire Protection (CDF). There is a danger that infected host material (especially foliage) and contaminated soil will be picked-up on tree cutting and handling equipment and transferred to other sites. Mitigation measures to minimize the unintended movement of host material and soil would be appropriate.
- *Tree removal and pruning on a site that is not known to be infested, but is in an infested county and contains susceptible host plants.* If the harvest area is within ¼ mile of a known infested area, then the tree removal area is considered to be infested and tree removal and pruning operations are conducted accordingly. For other tree removal and pruning areas, a detection survey must be conducted to determine if SOD is present. Consult with CDF and/or the Agricultural Commissioner for survey and sampling protocols. If hosts with SOD

symptoms are found and the pathogen is confirmed, the site would be added to the list of infested sites and tree removal and pruning operations conducted accordingly.

Mitigation measures to minimize the unintended movement of host material and soil from infested areas:

- Inform personnel that they are working in a SOD-infested area, unauthorized movement of plant material is prohibited, and the intent of mitigation measures is to prevent spread of the pathogen. Non-English speaking tree workers should be provided translation or written materials in appropriate language explaining mitigation measures.
- If some sites in the general operating area are found to be pathogen-free or have a low incidence of the pathogen, initiate and complete operations on these sites before moving to more heavily infested sites.
- Because wet soil and mud will readily adhere to vehicles, equipment, and boots: conduct operations during the dry season; utilize paved and graveled roads to the extent possible.
- Locate landings, log decks, roads, skid trails, chipping sites and other sites of equipment activity away from host plants, especially areas with symptomatic trees. Route equipment away from host plants and trees, especially areas with symptomatic trees.
- After working in an infested area, remove or wash-off accumulations of plant debris (especially foliage), soil, and mud from shoes, boots, vehicles and heavy equipment, etc. before traveling to an area that is not infested with SOD. Consider establishing an equipment power wash station. The station should be:
 - located within the generally infested area
 - paved or rocked
 - well-drained so that vehicles exiting the station do not become contaminated by the wash water.
- Pay particular attention to locations where plant debris and soil may accumulate and blow off or clean vegetative material from equipment. Consider cleaning tools and equipment, also boots with Lysol, Phisan, denatured alcohol or similar materials.
- After cleaning host debris from equipment, cut or chip non-host material to further clean the equipment of host debris.

If planning work in an area that is not infested with SOD, make sure that vehicles and equipment coming from an infested area are washed prior to entering the area that is not infested.

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