

Foundation Statement



Golden Gate National Recreation Area
Muir Woods National Monument
Fort Point National Historic Site

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This document has not been edited.
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TABLE OF CONTENTS

Introduction

- National Park Service Organic Act 1916
- Golden Gate Biosphere Reserve
- Guiding Principles
- Foundation Statement Overview
 - Purpose of the Foundation Statement
 - Elements of a Foundation Statement
- Park Unit Descriptions and Location Maps

Chapter 1. Golden Gate National Recreation Area

- Park Purpose
- Park Significance & Primary Interpretive Theme
- Fundamental Resources and Values
- Analysis of the Fundamental Resources and Values
 - 1. Geologic Resources
 - 2. Marine Environment
 - 3. Coastal Ecosystem
 - 4. Threatened and Endangered Species
 - 5. Water Resources
 - 6. Fortifications & Military Installations
 - 7. Alcatraz Island
 - 8. Dramatic Settings
 - 9. Preserved Open Spaces
 - 10. Diverse Park Settings
 - 11. Park Access
 - 12. Archaeological Sites
- Special Mandates and Administrative Commitments

Chapter 2. Muir Woods National Monument

- Park Purpose
- Park Significance & Primary Interpretive Theme
- Fundamental Resources and Values
- Analysis of Fundamental Resources and Values
 - 1. Old Growth Forest
 - 2. Conservation Movement

Chapter 3. Fort Point National Historic Site

- Park Purpose
- Park Significance & Primary Interpretive Theme
- Fundamental Resources and Values
- Analysis of Fundamental Resources and Values
 - 1. Fort Point

List of Appendices

- Appendix A. Proclamation establishing Muir Woods National Monument
- Appendix B. Legislation related to Fort Point National Historic Site
- Appendix C. Legislation related to Golden Gate National Recreation Area
- Appendix D. Description of Fortifications and Military Installations within Golden Gate National Recreation Area and Fort Point National Historic Site
- Appendix E. Golden Gate Biosphere Reserve

INTRODUCTION

National Park Service Organic Act of 1916

Each unit of the National Park System was established by a specific law or presidential proclamation, in addition to being governed by the National Park Service Organic Act of 1916 which created the Park Service and defined its mission -

..... The service this [Act of 1916] established shall promote and regulate the use of the Federal areas known as national parks, monuments, and reservations herein after specified by such means and measures as conform to the fundamental purpose of the said parks, monuments, and reservations, which purpose is to conserve the scenery and the natural and historic objects and the wild life therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations.

Golden Gate Biosphere Reserve

Golden Gate National Recreation Area, Muir Woods National Monument, and Fort Point National Historic Site contribute to the lands and waters that comprise the internationally recognized Golden Gate Biosphere Reserve. Designated in 1988 as part of the United Nations - Man and the Biosphere Program, the Golden Gate Biosphere Reserve is the only one in the world to span marine, coastal, and upland resources adjacent to a major metropolitan area. Golden Gate National Recreation Area connects designated international, national, state and local environments of importance¹.

Guiding Principles

Stewardship

The National Park Service has the responsibility for conservation and preservation of Golden Gate National Recreation Area resources for the nation, world, and future generations. The park is committed to furthering its goals by involving the widest spectrum of individuals and organizations as stewards. This community interaction brings care, concern, and commitment to a natural treasure which can be better sustained with the help of others.

Civic Engagement/Public Involvement

Golden Gate National Recreation Area is dedicated to a continuous, dynamic conversation with the public in the planning and decision-making of the park. Conversations range from providing information and building awareness, to participating in park planning. This provides opportunities for the public to have meaningful involvement, to discuss concerns, values, and preferences; and to give input when park decisions and

¹ The Golden Gate Biosphere Reserve is further described in appendix E.

policies are developed and implemented. Continued communication can help ensure the park remains relevant to the public.

Partnerships

The Park is committed to mutual collaborations and learning. Partners bring additional creativity and approaches, reach new audiences, and expand delivery of services; creating outcomes beyond any one organization's individual capacity. Partnerships are the essential path to achieve complementary park and partner objectives.

Foundation Statement Overview

Purpose of the Foundation Statement

The Foundation Statement is used to guide current and future planning and management of Golden Gate National Recreation Area, in its entirety, including Muir Woods National Monument and Fort Point National Historic Site. For each park unit, the Foundation Statement contains the shared understanding of its purpose, park significance, fundamental resources and values, primary interpretive themes, special mandates and the legal/policy requirements for administration and resource protection. The primary advantage of developing a Foundation Statement is the documented understanding of what is most important about the park that provides the basis for future planning and decision-making.

Elements of a Foundation Statement

The park's legislation is the basis for developing the Foundation Statement. Park managers and planners used the park's legislation and legislative history in order to understand and document why Congress and the president created Golden Gate National Recreation Area, Fort Point National Historic Site and why Muir Woods National Monument was established by presidential proclamation. The Foundation Statement articulates the shared understanding of the park managers in defining each of the following elements for the three units administered by Golden Gate National Recreation Area.

Park Purpose

The park purpose is a statement of why Congress and/or the president established the park as a unit of the national park system. The park purpose statement provides the most fundamental criteria against which the appropriateness of all plan recommendations, operational decisions, and actions are tested.

Park Significance

Guided by the park's legislation and the knowledge acquired through management, research, and civic engagement - statements of park significance define what is **most important** about a park's resources and values. In developing park significance statements, the planning team focused on the attributes that make the park's resources and values important enough to be included in the national park system. Each unit in the national park system

contains many significant resources, but not all these resources contribute to why the park was designated.

The park purpose and significance statements are used to guide all planning and management decisions to ensure that the resources and values that Congress and the president wanted preserved are understood and are the park's first priority.

Fundamental Resources and Values

The National Park Service works to ensure the conservation and public enjoyment of those resources and values that are fundamental to maintaining the park significance. Understanding the resources and values that support the park significance will provide managers and planners with a focus on what is truly most important about a park. If the fundamental resources and values are degraded, then the park's ability to preserve the park significance could be jeopardized.

Defining the fundamental resources and values for each park significance does not preclude the consideration of other important resources and values. The National Park Service planning process calls for a rigorous analysis of the impacts of proposed actions on all components of the environment, particularly those resources and values determined to be so important regionally or nationally that they are protected by law.

Analysis of Fundamental Resources and Values

The analysis articulates the importance of those resources and values that supports the park significance and described their current conditions, potential threats and the relevant laws and NPS policies that need consideration in planning and management. In addition, stakeholders who have a substantial interest in the preservation or management of a particular resource are identified. This section of the Foundation Statement requires periodic reviews and updates as monitoring and research improves our understanding of each fundamental resource and value.

Primary Interpretive Themes

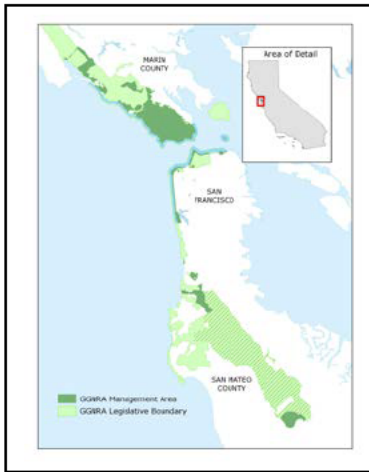
Primary interpretive themes describe what needs to be interpreted to provide visitors with opportunities to understand and appreciate park purpose and significance. The themes are the key stories and concepts of the park. The development and interpretation of primary interpretive themes provide the foundation on which the park's educational and interpretive program is based.

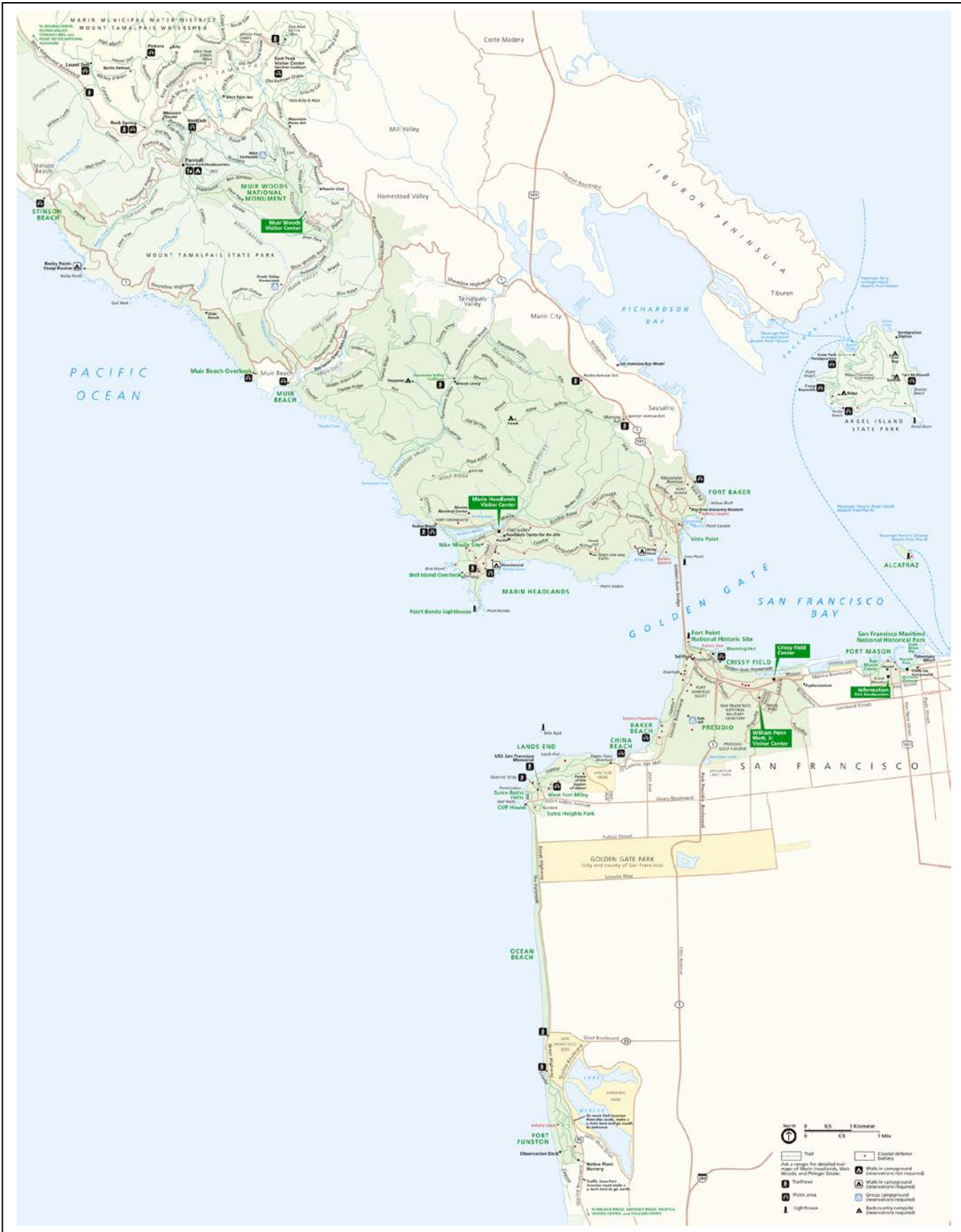
Special Mandates

Special mandates are legal requirements and administrative commitments that apply to a specific unit of the national park system. These special mandates may include direction from Congress or formal agreements with other public or private entities. The special mandates are identified in order to ensure their consideration in all planning and decision making about the park.

Park Unit Descriptions and Location Maps

Golden Gate National Recreation Area's lands and waters extend north of the Golden Gate Bridge to Tomales Bay in Marin County and south to San Mateo County, encompassing approximately 60 miles of bay and ocean shoreline. These lands represent one of the nation's largest coastal preserves and contain numerous natural, historical, and cultural resources. Included in this land area are Muir Woods National Monument and Fort Point National Historic Site. Muir Woods National Monument, a primeval stand of old-growth coastal redwoods, is north of the Golden Gate Bridge in Marin County. Fort Point National Historic Site, a Civil-war era casemated fort, is on the water's edge directly below the southern abutment of the Golden Gate Bridge. Golden Gate National Recreation Area has administrative and management responsibilities for both Muir Woods National Monument and Fort Point National Historic Site.





Park Purpose

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

The National Park Service Organic Act of 1916 states that units of the national park system are established "to conserve the scenery and the natural and historic objects and the wild life therein and to provide for enjoyment of the same in such manner as to leave them unimpaired for the enjoyment of future generations." This statement represents the most basic mission of Golden Gate National Recreation Area.

Golden Gate National Recreation Area was created during an era of growing environmental awareness and rapid disappearance of open lands and historic sites. In the late 1960s a remarkable convergence of events highlighted the vulnerability of widely beloved landscapes and landmarks surrounding the Golden Gate, spurring the government to respond with a study and citizens to organize a political vehicle to preserve these natural settings. Based on the study and the urgings of the organized public, the federal government supported a new national park and adopted the slogan "parks to the people." Congress and the president were motivated by the fact that most Americans resided in urban areas – ordinary people who seldom, if ever, went to national parks. The national recreation area preserves nationally significant resources in and adjacent to the City of San Francisco and thereby offers an exceptional opportunity to provide national park experiences to a large and diverse urban population. This concept is clearly reflected in the legislative history of the national recreation area, congressional records, and the memories of the people who were involved.

The enabling legislation establishing the park, recognizing that heavy use could impair its "outstanding natural, historic, scenic and recreational values," reconfirmed the mandate of the Organic Act: "In the management of the recreation area, the Secretary of the Interior shall utilize the resources in a manner which will provide for recreation and educational opportunities consistent with sound principles of land use planning and management. ...the Secretary shall preserve the recreation area, as far as possible, in its natural setting, and protect it from development and uses which would destroy the scenic beauty and natural character of the area."

Park Significance & Primary Interpretive Theme

The founders of Golden Gate National Recreation Area intended to bring national park experiences to urban populations. The park's diverse and extensive collections of "outstanding natural, historic, scenic and recreation values" not only fulfill this purpose, but represent an exceptional range of national-park-quality resources. Each resource is significant in its own right, but collectively their value is enhanced, due to their proximity to the 7 million people residing in the San Francisco Bay area.

Few geological landforms and processes have exerted such widespread influence on natural and cultural processes as the Golden Gate — the landform that marks the entrance to San Francisco Bay. The area's unique geographical configuration has shaped ecosystems and defined thousands of years of history and prehistory. Virtually all of the park's resources derive their character and existence from this iconic feature, now overshadowed by the legendary bridge. Following are the park significance statements for Golden Gate National Recreation Area:

Golden Gate National Recreation Area - Park Significance Statement 1

The convergence of the San Andreas Fault, San Francisco Bay at the Golden Gate, and the California coastline creates a dynamic landscape and environment of exceptional scientific value.

Primary Interpretive Theme

The park's fundamental natural geologic systems and processes, and the resulting effects on people and the environment, link the park to the highly visible and significant geologic forces around the world.

[new photo needed](#)

Golden Gate National Recreation Area - Park Significance Statement 2

The undeveloped remnant coastal corridor of marine, estuarine, and terrestrial ecosystems supports exceptional native biodiversity and provides a refuge for one of the largest concentrations of rare, threatened and endangered species in the national park system.

Primary Interpretive Theme

In a world of diminishing biological diversity and threatened natural resources, the Golden Gate National Recreation Area preserves islands of biodiversity within and near a large urban area. The accelerating rate of global climate change threatens even these islands.



Golden Gate National Recreation Area - Park Significance Statement 3

The park includes the largest and most complete collection of military installations and fortifications in the country, dating from Spanish settlement in 1776 through the 20th century. These installations served as command post for the Army in the Western United States and the Pacific. This long period of military presence has yielded one of the most extensive collections of historic architecture in the national park system.

Primary Interpretive Theme

Coast defense posts are at the heart of park lands, and a major reason the park is preserved today. Although no hostile shot was ever fired, every major type of military fortification and architecture represented here demonstrates evolving defense technology. War, peace, and the nature of protection have shaped the country and will continue to shape the country.

[new photo needed](#)

Golden Gate National Recreation Area - Park Significance Statement 4

Alcatraz Island, the site of pre-Civil War fortifications, was the nation's first military prison, later became the most notorious maximum security penitentiary in the United States, and subsequently was the site of the occupation that helped ignite the movement for American Indian self-determination.

Primary Interpretive Theme

As a site of international notoriety, Alcatraz provides a powerful opportunity to provoke visitors to confront their personal views on crime and punishment, the judicial system, and freedom. The layers of history so evident on the island present visitors with a chance to understand the 155-year span of Alcatraz history - from the U.S. Army period, through the Federal penitentiary era and the Native American occupation to the current NPS management of the island.



Golden Gate National Recreation Area - Park Significance Statement 5

The headlands of the Golden Gate and its scenic landscape, vistas, and coastal environment are internationally recognized as the panoramic backdrop to the metropolitan San Francisco Bay area and contribute to the quality of life.

Primary Interpretive Theme

Centered on the entrance to one of the world’s great harbors, the lands of the park facing the Golden Gate are associated with and still convey the feelings of the epic stream of history that flowed between its headlands. The Gold Rush and mobilization for WWII are among the many rich periods of history that focused on this iconic spot. To envision and fully appreciate their impact, the visual integrity of Fort Mason and the Marin and San Francisco Headlands plays a key role.

New photo with GGNRA in backdrop

Golden Gate National Recreation Area - Park Significance Statement 6

The continuum of Park resources at the doorstep of the San Francisco Bay area provides an abundance of recreational and educational opportunities.

Primary Interpretive Theme

The Park provides for diverse recreational and educational opportunities, from contemplative to active pursuits, including participation in stewardship and volunteer activities. Its proximity allows an urban population to connect with nature and history.



Golden Gate National Recreation Area - Park Significance Statement 7

Parklands are within the traditional homelands of Coast Miwok and Ohlone people. They contain indigenous archeological sites with native heritage, historic, and scientific values.

Primary Interpretive Theme

The natural features and resources of the park, along with its location on the San Francisco Bay estuary, sustained the Ohlone and Miwok people who lived on the lands now comprising the park for thousands of years before Europeans arrived. Archeological sites in the park link to these pre-European

new photo needed

inhabitants and to their descendants who retain a vibrant culture to this day.

Fundamental Resources and Values

The following fundamental resources and values are critical to maintaining the park significance of Golden Gate National Recreation Area. The associated fundamental resources and values are listed along side each park significance statement that they support.

Park Significance	Associated Fundamental Resources and Values
<p>The convergence of the San Andreas Fault, San Francisco Bay at the Golden Gate, and the California coastline creates a dynamic landscape and environment of exceptional scientific value.</p>	<p>1. Geologic Resources - Golden Gate National Recreation Area's geologic resources include faults, plate margins, and a subduction zone; a diversity of rock types and deposits representing more than 100 million years of the earth's history; and complex geologic processes that continue to shape the landscape.</p>
<p>The undeveloped remnant coastal corridor of marine, estuarine, and terrestrial ecosystems supports exceptional native biodiversity and provides a refuge for one of the largest concentrations of rare, threatened and endangered species in the national park system.</p>	<p>2. Marine Environment - Oceanic conditions, such as tides, currents, waves, surf, upwelling, and sea level, influence Golden Gate National Recreation Area's coastal environment, including climate and the land.</p> <p>3. Coastal Ecosystems - Golden Gate National Recreation Area contains a rich assemblage of coastal native plant and animal habitat that includes forests, coastal scrub, grassland, freshwater, estuarine and marine habitats, beaches, coastal cliffs, and islands.</p> <p>4. Threatened and Endangered Species - Golden Gate National Recreation Area supports one of the largest numbers of federally listed threatened and endangered species in the national park system. This island of refuge is due to the confluence of unique and diverse habitats adjacent to the urban San Francisco Bay region.</p> <p>5. Water Resources - Golden Gate National Recreation Area's water resources support coastal corridor ecosystems and these consist of groundwater sources (aquifers and springs); freshwater systems (streams, lakes, and ponds); coastal, estuarine, and marine water resources (the Pacific Ocean and San Francisco Bay); and other wetlands.</p>
<p>The park includes the largest and most complete collection of military installations and</p>	<p>6. Fortifications & Military Installations - Golden Gate National Recreation Area includes cultural landscapes, structures, features, and museum collections, including historic fortifications and military installations.</p>

Park Significance	Associated Fundamental Resources and Values
<p>fortifications in the country, dating from Spanish settlement in 1776 through the 20th century. These installations served as command post for the Army in the Western United States and the Pacific. This long period of military presence has yielded one of the most extensive collections of historic architecture in the national park system.</p>	
<p>Alcatraz Island, the site of pre-Civil War fortifications, was the nation's first military prison, later became the most notorious maximum security penitentiary in the United States, and subsequently was the site of the occupation that helped ignite the movement for American Indian self-determination.</p>	<p>7. Alcatraz Island - Alcatraz Island has cultural landscapes, historic structures, museum collections, and stories associated with its use as a Civil War fort, military prison, federal penitentiary, and the Indian Occupation of 1969 to 1971.</p>
<p>The headlands of the Golden Gate and its scenic landscape, vistas, and coastal environment are internationally recognized as the panoramic backdrop to the metropolitan San Francisco Bay area and contribute to the quality of life.</p>	<p>8. Dramatic Settings - Golden Gate National Recreation Area contains dramatic views of contrasting undeveloped and urban coastal environments.</p> <p>9. Preserved Open Spaces - The park preserves undeveloped open spaces and associated ecosystems ranging from beaches to promontories and open water, including both natural and historic settings.</p>
<p>The continuum of Park resources at the doorstep of the San Francisco Bay area provides an abundance of recreational and educational opportunities.</p>	<p>10. Diverse Park Settings - The diversity of settings, from remote to urban, provides visitors with active and passive recreational and educational opportunities, including participation in park stewardship.</p> <p>11. Park Access - A system of designated pathways supports access to settings that provide visitors with a broad range of activities and varied experiences.</p>
<p>Parklands are within the traditional homelands of Coast Miwok and Ohlone people. They contain indigenous archeological sites with native heritage, historic, and scientific</p>	<p>12. Archeological Sites - Sites document the traditional homelands of the Coast Miwok and Ohlone people.</p>

Park Significance	Associated Fundamental Resources and Values
values.	

Analysis of the Fundamental Resources and Values

1. Geologic Resources

Golden Gate National Recreation Area's geologic resources include faults, plate margins, and a subduction zone; a diversity of rock types and deposits representing more than 100 million years of the earth's history; and complex geologic processes that continue to shape the landscape.

Importance of this Resource	<p>The San Francisco Bay region straddles the boundary zone between two of the Earth's major tectonic plates. The Pacific Plate is slowly moving northward relative to the North American Plate along the San Andreas Fault Zone. Sea floor spreading in the middle of the Pacific Plate has pushed the edge of that plate under the North American Plate, creating a subduction zone.</p> <p>The San Andreas Fault, which extends most of the length of California, defines many of the major recognizable landforms in the park. The fault zone in Golden Gate National Recreation Area is evident along Tomales Bay, the Olema Valley and Bolinas Lagoon in Marin County, then extends offshore and makes landfall again at Fort Funston in San Francisco and is highlighted to the south by the lakes and reservoirs within San Francisco Watershed lands in San Mateo County. The fault is easily viewed from land.</p> <p>Ancient marine and nearshore rocks scraped off the edge of the continent in the subduction zone form the unique geology of the Marin Headlands - a diversity of rock types including cherts, basalts, greenstones and sandstones. Other coastal bluffs and headlands - from the Presidio to Land's End, and from Muir Beach to Stinson Beach - formed from serpentine and mélangé extruded from deeper within the subduction zone.</p> <p>More recent geologic history is exposed at Fort Funston and south where nearshore deposits of silts and sands were deposited in an environment of sea level rise and fall and uplift. Terrestrial mammals were fossilized in these formations.</p> <p>Tectonic forces, changes in sea level related to past climate changes, combined with river and stream erosion have created an eroded landscape evidenced by large and small watersheds within and adjacent to the park. The largest example is San Francisco Bay and the Golden Gate. Smaller watersheds at least partially within the park include Lagunitas Creek, Bolinas Lagoon, Redwood Creek, Tennessee Valley, and Rodeo Valley in Marin County; Tennessee Hollow and Lobos Creek on the Presidio; and San Francisquito Creek, Sanchez Creek and Calera Creek watersheds in San Mateo County.</p> <p>The park's geologic resources are of exceptional scientific interest and value with respect to plate tectonics, dynamics of the San Andreas Fault, reconstruction of plate margin history, deep plate margin seismicity, earthquake recurrence, paleontological resources, and active estuarine and marine processes. The proximity to educational and research institutions in the San Francisco Bay Area makes the park's geologic resources easily accessible to researchers and educators.</p>
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Current Conditions, Trends, and Potential Threats	<p><u>NH: Montana Mt highest point in park. What altitude?</u></p> <p>The topographical relief of Golden Gate National Recreation Area ranges from the ocean floor to 2,571 feet above mean sea level at the top of Mt. Tamalpais. Slopes range from almost flat marine terraces and alluvial deposits to steep canyons along some creeks, and near vertical bluffs above numerous beaches.</p> <p>The San Andreas Fault extends northwest from near Fort Funston, and runs through Bolinas Lagoon and Tomales Bay. Although the park contains many faults, the San Andreas Fault is the most evident in size and influence. San Andreas is one of the most studied faults in the world and is monitored by</p>
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the San Andreas Fault Observatory at Depth (SAFOD), a deep borehole observatory that began development in 2004 by National Science Foundation (NSF) and the United States Geologic Survey (USGS). This project is attempting to reveal the physical and chemical processes controlling earthquake generation within a seismically active fault. Through ongoing observations of the fault, scientists have determined that there is an average of 34mm of movement per year along the fault.

Bedrock parent materials within the park are jumbled, partly as a result of grinding movement along the San Andreas Fault. The Marin Headlands contains more resistant rocks than the more erodible mélangé found to the north of Pirates Cove. Groundwater is close to the surface and frequently emerges as seeps or springs in the mélangé area. The sea cliffs at Fort Funston were formed from the oldest of these tilted fossil-rich beds of sand and clay (the Merced Formation), and are easily eroded by wave action. In the last few hundred thousand years, sand and clay have accumulated as beaches, dunes, and near shore deposits and are now exposed at Sutro Heights, Baker Beach, Angel Island and Rodeo Cove.

Many abandoned rock, gravel, and sand quarries are found within Golden Gate National Recreation Area. Dogtown Copper Mine, located just off Bolinas Ridge, is the only known mineral development in the park. It was developed in 1863 and re-worked around the turn of the century and its two shafts are now abandoned.

The greatest threat to the geologic features within Golden Gate National Recreation Area is excavation and accelerated erosion. Deep, long gullies of old roads continue to erode. Vegetation is impacted and non-designated "social trails" are found in heavily used natural areas. New road, trail, and building construction often involves permanent removal of rock outcrops and other natural geologic formations. And the ongoing maintenance of existing facilities is not only costly and problematic, but also impacts coastal geologic resources.

Landslides or slumps exist in most of the small valleys throughout Golden Gate National Recreation Area. Large gully networks range in character from persistently de-vegetated slopes, to large individual channels up to 15 feet deep and wide. These gullies have been caused by a combination of locally intense rainfall, human disturbance, and the presence of highly erodible soils. Past and current land use practices have altered vegetative composition, aggravated and encouraged soil erosion, and precipitated landslide activity and recurrent gully formation. The erosion has contributed to increasing sediment loads to streams, bays and shorelines. They have also accelerated the loss of large quantities of top soil and have resulted in prominent visual scars and contribute to recurrent maintenance costs.

Some of the worst and most obvious problem areas are in grasslands. Almost without exception, major erosional features have been caused by the diversion of streams or the concentration of seasonal storm runoff by roads and trails. Many roads developed prior to park establishment were improperly aligned and constructed. These factors have resulted in inadequate drainage, which has led to concentrations of water. These concentrations have created gullies and carried increased sediment yields into creeks, which in turn impairs water quality. In addition, water diversions and the concentration of runoff may initiate or accelerate landslides in sensitive areas.

Past grazing has increased erosion by decreasing the amount of vegetation available to capture water. It also has caused soil to become compacted and thereby deterring infiltration. This then increases runoff, which carries topsoil and sediments into the creeks. Off-road vehicles, hang gliders, bicyclists, horses, dogs, hikers, and other visitors have created denuded areas with compacted soil. Compaction also inhibits infiltration, increasing runoff and erosion. The trend of increasing trail use portends a long term and potentially increasing threat.

	<p>Dredging and dredge disposal, sand mining, and shoreline construction can alter natural coastal erosion and deposition. Global warming and associated sea level rise will exacerbate coastal erosion.</p> <p>Damage from earthquakes mostly depends on the type of underlying subsurface material. Upland areas on bedrock generally have a low seismic hazard, whereas bay lands, unconsolidated sand, and artificial fill areas (such as Crissy Field, Aquatic Park, Fort Mason docks, the mouth of Lobos Creek and along Ocean Beach) may experience intense shaking, subsidence, differential settling and liquefaction.</p> <p>Serpentine outcrops are generally unstable and very erodible. While natural serpentine erosion is important for this unique habitat, human activities such as trampling and grading in or near the outcrops accelerate the erosion and disrupt the fragile habitat.</p> <p>Unauthorized rock collecting is a threat to the resource as well.</p>
Stakeholders	<ul style="list-style-type: none"> - Cordilleran Section, Geological Society of America (regional professional society) - Geological Society of America (national professional society) - American Geophysical Union (national scientific organization) - California Coastal Commission (state coastal management agency responsible for implementing the Coastal Zone Protection Act) - California Division of Geology (state geologic resources management agency) - National Oceanic and Atmospheric Administration (federal agency focused on the condition of the oceans and atmosphere) - Natural Resource Conservation Service (division of the US Department of Agriculture focused on conservation of soil, water and other natural resources) - San Francisco Bay Conservation and Development Commission (BCDC) (regional agency responsible for implementing the Coastal Zone Protection Act within the San Francisco Bay) -U.S. Geological Survey (federal scientific organization) -Regional Water Quality Control Board (regional branch of the State Water Resources Control Board) -University of California- Berkeley, Davis and other campuses (research, teaching) -Stanford University (research, teaching) -San Francisco State University (research, teaching)
Laws and Policies	<p>Geologic Resources Source: NPS <i>Management Policies 2001</i>; NPS-77, "Natural Resources Management Guidelines"</p> <p>Policy Direction: The park's geologic resources and processes are preserved and protected as integral components of the natural systems.</p> <p>Coastal Zone Management Act of 1972 (The Coastal Zone Management Act of 1972, 16 U.S.C. sections: 1451-1464, is the primary federal statute for protecting the nation's coastal areas.)</p>
Needs	<ul style="list-style-type: none"> • Address (reduce, eliminate, or mitigate) impacts of non-natural erosion. • Utilize sustainable design principles and best management practices to reduce or avoid impacts to geologic formations and resources. • Identify and protect geologic hazard areas and/or significant sites. • Utilize education, interpretation, and outreach to inform visitors about geologic resource needs. • Monitor the impacts of human influences on coastal geologic processes (shoreline features and dunes).

2. Marine Environment	
Physical oceanic conditions, such as tides, currents, waves, surf, upwelling, and sea level, influence Golden Gate National Recreation Area's coastal environment, including climate and the land.	
Importance of this Resource	Horizontal and vertical movements of water along the coast vary by season and bring changes in local climate. The environment is hospitable, with very little fluctuation in temperature. Upwelling brings nutrient-rich waters to the sunlit zone resulting in one of the five most productive marine environments in the world. The seasonal changes in coastal current patterns create dynamic beaches and dunes through coastal erosion, accretion, and the transport of sand.
Current Conditions, Trends, and Potential Threats	<p>The Golden Gate represents the largest topographic break in the coastal hills along the coast. Warm air from the interior of California mixes with cooler oceanic air from the Pacific in the summer, with the opposite occurring in the winter. This key location extends the moderating influence of the ocean inland for more than a hundred miles. Strong upwelling conditions that typically occur from April through July exert a major influence on biotic life along this coast. Notable wildlife species, such as harbor seals and common murrelets are supported by the high productivity afforded by the area's upwelling, downwelling, and no welling. Littoral transport occurs typically from the north to south, depositing materials on submerged bars and in deep channels, creating a diverse array of submerged habitats. The dynamic nature of coastal beaches is formed by seasonal deposition and erosion of materials; with episodic winter storms from the south leading to major coastal erosion and landform changes. Ocean-land interface is responsible for fog which shapes vegetative communities along the coast.</p> <p>Long-term trends in marine influences are characterized by global patterns including rising sea levels and water temperatures. Increased population growth and development may result in alteration of marine physical processes including continued changes to the nature, timing, and amount of freshwater inputs into the Pacific Ocean from the watersheds contributing to the San Francisco Estuary. Maintenance of coastal roads such as California State Highway 1 within park boundaries and development activities adjacent to park boundaries may accelerate coastal erosion or result in engineered bank protection.</p> <p><u>PM: Add global warming element</u></p> <p>Sea level rise, caused by global warming, would result in the loss and conversion of intertidal resources and will result in actions by the neighbors and possibly the Park to protect infrastructure that may alter natural shorelines (e.g., increased rock shoreline protection). Rising water temperatures could lead to decreased productivity in coastal waters and shift fish communities towards warm-water species. A change in species usage of coastal waters may also result from the reduction in frequency, volume, and extent of freshwater flows into the Pacific Ocean. Continued manipulation of the subtidal habitats from commercial sand dredging could reduce the extent of bars and result in the loss of sand materials for littoral transport and beach development. Continued use of parking facilities, roads and other infrastructure within the Park adjacent to coastal waters may result in intrusive actions in order to protect them.</p> <p><u>KC: include pollution and water quality (see Water Resources Fdn. Report)</u></p>
Stakeholders	<ul style="list-style-type: none"> - California Department of Fish and Game - City of San Francisco (adjacent land and water owner) - Univ. of California marine research institutions (Bodega, Long, Moss Landing, Romberg-Tiburon) - Other research institutions (San Francisco Estuary Institute, California Academy of Science, Smithsonian) - California Sea Grant

	<ul style="list-style-type: none"> - Marine resource advocacy groups (various- Bay Institute, Baykeeper) - Farallones Marine Sanctuary Assoc. - Surfrider Foundation (San Francisco Chapter) (non-profit interested in coastal environmental issues) - Gulf of the Farallones and Monterey Bay National Marine Sanctuary - Marine Mammal Center - Seaflow (marine soundscape) - Ocean alliance (marine conservation) - U.S. Geological Survey (research) - U.S. Army Corps of Engineers/U.S. EPA (Clean Water Act, River and Harbors Act implementation) - National Oceanic and Atmospheric Administration (federal agency focused on the condition of the oceans and atmosphere) - U.S. Geological Survey (federal scientific organization) - Headlands Institute (non-profit GOGA partner) - Golden Gate National Parks Conservancy (non-profit GOGA partner) - YMCA (non-profit GOGA partner) - Discovery Museum (non-profit GOGA partner) - California Academy of Science
<p>Laws and Policies</p>	<p>Marine Resource Source: <i>NPS Management Policies 2001 including Sec.4.1.5 Restoration of Natural Systems and Sec. 4.8.1.1 Shorelines and Barrier Islands; NPS-77 "Natural Resources Management Guideline" Coastal Zone Management Act of 1972, Marine Mammal Protection Act, Marine Protection, Research, and Sanctuaries Act of 1972</i></p> <p>Policy Direction: Natural resources will be managed to preserve fundamental physical and biological processes, as well as individual species, features, and plant and animal communities.</p>
<p>Needs</p>	<ul style="list-style-type: none"> • Understand and address the effects of global warming and sea level rise. • Understand and address the effects of human manipulation of the marine environment, including dredging and spoils disposal, and erosion protection by others. • Identify specific infrastructure (parking, roads, facilities) that adversely affects the marine environment and develop strategies to address them.

3. Coastal Ecosystem

Golden Gate National Recreation Area contains a rich assemblage of coastal native plant and animal habitat that includes forests, coastal scrub, grassland, freshwater, estuarine and marine habitats, beaches, coastal cliffs, and islands. The environmental processes that take place in these habitats create a biologically diverse ecosystem.

Importance of this Resource

The Golden Gate National Recreation Area includes many plant and animal species that reach the extent of their geographic range, and the park protects numerous remnant, isolated, and fragmented habitats in the broader San Francisco Bay Area because of underlying physical processes and the long history of human use.

Native plant and wildlife habitats within the park are situated in the central California Coast Range, which is one of only five regions in the world with a Mediterranean climate. This climate fosters ideal habitat for nearly 900 native plant species and at least 387 vertebrate species (11 amphibians, 20 reptiles, 53 fish, 53 mammals, and 250 birds), representing an exceptional level of biodiversity within a relatively small geographic area. The existence and continued survival of these diverse biota is based on several ecological drivers, including wind, climate, natural erosional processes, flooding, fire, winter storm events, predator-prey relationships, grazing/herbivory, plant-animal interactions, and impacts from loss of keystone species such as the California grizzly and tule elk. Terrestrial invertebrates in the park are less well known, with the exception of the Marin Headlands and Milagra Ridge which support diverse butterfly populations.

PM: Add marine and estuarine resources

NH/PM: Highlight Alcatraz biological resources, natural communities and significance

Current Conditions, Trends, and Potential Threats

While the park supports an extremely diverse array of plant and wildlife species and their habitats, a broad range of forces threaten their viability (of these plant and animal populations and the habitats they depend upon). Visitor use occurs throughout the park with more than 20 million people annually. Historic domestic grazing and ranching, military installations, manipulation of topography through grading, blasting, and road building, and planting non-native species has significantly influenced native plant communities.

Habitat fragmentation, degradation and isolation are inherent features of Golden Gate National Recreation Area's urban interface. Fragmentation and isolation of wildlife habitat is increasing with further development on lands that surround the park. Therefore, Golden Gate National Recreation Area becomes even more important as a plant refuge and corridor for wildlife populations. Ongoing monitoring includes plant community mapping and species-specific documentation to track current and changing conditions of these resources.

NH: Add marine

Threats to wildlife and their habitats throughout Golden Gate National Recreation Area include habitat fragmentation, non-native animals, human disturbance such as high levels of recreational use, domestic and feral animals, habitat change caused by non-native plant establishment, environmental contaminants, wildlife diseases, and wildland fire.

The spread of non-native plants represents the most significant threat to the biodiversity of native plant species in the park. Non-native species thrive in the park, especially in areas affected by intensive historic land use (grazing, military occupation, etc.) and on land adjacent to urbanized areas that serve as a constant weed source. Other threats include development of social trails, non-natural erosion, and poorly maintained/managed infrastructure.

	Marine threats include oil transportation and possible exploration; pollution due to shipping and other maritime activities; recreational use of marine areas; and abalone hunting and other collecting of marine resources.
Stakeholders	<p>Stakeholder Interests:</p> <ul style="list-style-type: none"> - Golden Gate National Parks Conservancy (provide support for natural resource stewardship, and their staff has taken a primary role in numerous habitat restoration projects) - California Department of Fish and Game - Golden Gate Audubon - Headlands Institute (non-profit GOGA partner) - Point Reyes Bird Observatory- Conservation Science (research organization, assists the park with many wildlife monitoring programs) - Salmon Protection and Watershed Network (SPAWN) - Park Volunteers (assist with species monitoring and stewardship) - City of San Francisco (adjacent landowner) - San Francisco Watershed District - adjacent land owner - Marin County Open Space (adjacent landowner) - California State Parks (Mt. Tamalpais State Park, Angel Island - adjacent landowner) - Marin Municipal Water District (adjacent land owner) - City of Pacifica (adjacent landowner) - Weed Management Areas (Marin-Sonoma, San Francisco, and San Mateo) - Point Reyes National Seashore (adjacent park service unit, partner in several restoration and monitoring programs) - United States Fish and Wildlife Service - U.S. Geological Survey (Biological Resource Division) - National Oceanic and Atmospheric Administration- Fisheries Service - California Department of Fish and Game - California Department of Food and Agriculture - Regional research universities - Community colleges
Laws and Policies	<p>Ecosystem Management Source: NPS <i>Management Policies 2001</i> (1.5, 4, 4.1, 4.1.4, 4.4.1)</p> <p>Policy Direction: The park is managed holistically, as part of a greater ecological, social, economic, and cultural system.</p> <p>Natural Resources Source: NPS <i>Management Policies 2001</i>; NPS-77 "Natural Resources Management Guideline"</p> <p>Policy Direction: The National Park Service will maintain as parts of the natural ecosystem, all native plants and animals in the park.</p> <p>Invasive Species Source: Executive Order (EO) 13112 "Invasive Species"</p> <p>Policy Direction: Federal Agencies will prevent the introduction and spread of invasive species and restore native species.</p>
Needs	<ul style="list-style-type: none"> • Identify important coastal ecosystem requirements and the components most at risk. • Identify areas most sensitive to use and change and develop strategies for resource protection, including collaboration with outside entities. • Identify and prioritize management actions required to ensure coastal ecosystem health and sustainability. • Develop and implement an ecosystem monitoring strategy. • Understand and address the effects of global warming.

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4. Threatened and Endangered Species

Golden Gate National Recreation Area supports one of the largest numbers of federally listed threatened and endangered species in the national park system. This island of refuge is due to the confluence of unique and diverse habitats adjacent to the urban San Francisco Bay region.

Importance of this Resource

The Golden Gate National Recreation Area protects a wide range of remnant, isolated, and fragmented habitats that are becoming rare in the broader San Francisco Bay Area because of underlying physical processes and the long history of human use. These rare habitats support a large number and diversity of taxa of endangered species, including plants, invertebrates, birds, mammals, fish, reptiles, and amphibians.

The park also protects important habitats for state listed, designated sensitive and locally rare species.

Current Conditions, Trends, and Potential Threats

The fragmented nature of park properties along the urban interface limits the total amount and quality of endangered species habitat, as well as connectivity with other populations regionally. Many areas within the park have been disturbed and altered by past agricultural or military activities. Invasive plants are common in some locations. The park has an extensive trail network and receives over 20 million visitors annually. The park has many roads, including major traffic arteries such as California State Highways 1 and U.S. Highway 101, which pose a threat and alter movement patterns of endangered species.

Golden Gate National Recreation Area conducts regular inventory and monitoring work for the following endangered species: Presidio manzanita, Presidio clarkia, San Francisco lessingia, Marin dwarf-flax, California seablite, California freshwater shrimp, Mission blue butterflies, coho salmon, steelhead, northern spotted owls, western snowy plovers, red-legged frogs, and San Francisco garter snakes. About 40% of the park's threatened and endangered species (for which monitoring is conducted) were determined to have stable or increasing populations in 2005. Other endangered species population trends were unknown based on small and variable populations that in most cases were not monitored.

The park consults with United States Fish and Wildlife Service, National Oceanic Atmospheric Administration/National Marine Fisheries Service, and the California Department of Fish and Game related to any actions with the potential to adversely affect federally and state-listed species on parklands. The National Park Service continues ongoing planning or implementing habitat restoration and protection projects for San Francisco lessingia, Mission blue butterflies, coho salmon and steelhead trout, California red-legged frogs, San Francisco garter snakes, tidewater gobies, western snowy plovers and California brown pelicans.

Threats to endangered species in Golden Gate National Recreation Area include a number of broad categories - habitat fragmentation and continuing development outside the park, non-native animals, human disturbance and recreational impacts, domestic and feral animals, non-native plant invasion, environmental contaminants, and wildland fire. The spread of non-native plants threatens both endangered plants and some animals. Non-native species thrive in the park and in areas subject to intensive historic land use (grazing, military occupation) or adjacent to urbanized areas that are a constant source of weed invasion. Adverse impacts to hydrological processes and water quality threaten endangered marine, estuarine, and freshwater species. Wildlife diseases threaten some wildlife populations. Collecting is a problem for endangered butterflies and the San Francisco garter snake. Rare species, like the state-listed bank swallow, are affected by erosion from current land uses. At Fort Funston, visitors climb the cliffs and aggravate erosion in the sensitive cliff nesting area. Serpentine outcrops provide a substrate that supports many rare plants. The serpentine sites within the Golden Gate National Recreation Area are small and are threatened

	by a lack of protection.
Stakeholders	<ul style="list-style-type: none"> - Golden Gate National Parks Conservancy (provide support for natural resource stewardship, and their staff has taken a primary role in some projects enhancing endangered species habitat. - California State Parks - Tomales Bay Watershed Council - California Department of Fish and Game - Golden Gate Audubon - Point Reyes Bird Observatory Conservation Science (research organization, assists the park with many wildlife monitoring programs) - Salmon Protection and Watershed Network - Park Volunteers (assist with species monitoring and stewardship) - City of San Francisco (adjacent landowner) - San Francisco Watershed District (adjacent land owner) - Marin County Open Space (adjacent landowner) - Point Reyes National Seashore (adjacent park service unit, partner in several restoration and monitoring programs) - United States Fish and Wildlife Service - U.S. Geological Survey (Biological Resource Division) - National Oceanic and Atmospheric Administration- Fisheries Service - Regional research universities
Laws and Policies	<p>Threatened and Endangered Species</p> <p>Source: Endangered Species Act; equivalent state protective legislation; NPS <i>Management Policies 2001</i>; NPS-77, "Natural Resources Management Guidelines" Marine Mammal Protection Act, Bald Eagle Protection Act, Migratory Bird Protection Act, California Environmental Quality Act (CEQA)</p> <p>Key Requirements: Establishes United States Fish & Wildlife Service (USFWS) and or NOAA - National Marine Fisheries Service as the lead agencies for endangered species. Under Section 7, of the Endangered Species Act (1973), federal agencies must consult with the two agencies regarding any actions that may adversely impact endangered species. Under Section 10, the two agencies can authorize the take of endangered species for certain actions.</p> <p>Policy Direction: Federally listed and state-listed threatened and endangered species and their habitats are protected and sustained. Native threatened and endangered species populations that have been severely reduced in or extirpated from the park are restored where feasible and sustainable.</p>
Needs	<ul style="list-style-type: none"> • Identify important T&E species requirements. • Identify T&E species use areas and develop strategies to protect those areas, including collaboration with outside entities. • Identify and prioritize management actions required to ensure T&E species health and sustainability. • Develop and implement a T&E species monitoring strategy. • Understand and address the effects of global warming.

5. Water Resources

Golden Gate National Recreation Area's water resources support coastal corridor ecosystems and these consist of groundwater sources (aquifers and springs); freshwater systems (streams, lakes, and ponds); coastal, estuarine, and marine water resources (the Pacific Ocean and San Francisco Bay); and other wetlands.

Importance of this Resource

The Mediterranean climate of the San Francisco Bay area has wet winters and dry summers that shaped the life history and adaptations of the park's native species. Water resources are the lifeblood of the ecosystems of Golden Gate National Recreation Area.

The connected water resources are essential corridors for movement and sustainability of the park's aquatic animals and other wildlife. Streams support a variety of native plants and animals, including several threatened and endangered species. Most streams within the park are naturally dynamic and are characterized by highly variable winter flows and dry summer that significantly influence the riparian ecosystem.

Because of dry summer conditions, groundwater-fed seeps, springs, wetlands and surface water systems are biological oases that support rare and endangered species and provide other important habitat.

The park's wetlands support complex food webs, housing a rich biodiversity of wetland-endemic species, and providing habitat for many aquatic and terrestrial species. Wetlands provide numerous vital functions including water quality protection, flood and drought mitigation, erosion control, and groundwater recharge.

Coastal marine and estuarine waters of Golden Gate National Recreation Area provide one of the most diverse and productive ecosystems in the world. Coastal habitats are important for the preservation of several rare and endangered species.

Current Conditions, Trends, and Potential Threats

The park operates in a complex social setting that often impacts water resources. Both the park and local communities must consider watershed protection, water rights (quantity), water quality, invasive species management and other issues that impact environmental values.

Many of the park's freshwater resources are relatively intact, compared with the greater Bay Area. However, the San Francisco Bay-Estuary receives less than 50 percent of its historical freshwater inflows and therefore contains significantly altered biological communities. Furthermore, many of the streams located in the park are impaired and are not in compliance with water quality requirements.

Human influence has increased the degradation and contamination of water quality from past and present activities within and outside the park. In addition, there is continued human occupancy of historic floodplain and wetland habitats that includes park facilities such as parking lots, buildings, and roads. In addition, there is some water withdrawal from streams and groundwater aquifers for municipal, domestic and agricultural use. In developed areas of the park, water resources have been altered by excavation, filling, grading, paving and the installation of septic systems, drains, and storm sewers, resulting in a decrease of water availability and quantity, and species abundance and diversity. None of the streams meet current water quality standards.

In recent years, the park has been restoring hydrologic function by such actions as removing culverts to daylight streams, restoring and enhancing wetlands and riparian areas, reconnecting streams to their floodplains, recontouring areas with disturbed drainage, regrading roads to natural contours, and removing paving. Enhancement and restoration projects include Crissy Marsh and Tennessee Hollow, Mountain Lake, Mori Point wetlands, Easkoot Creek, and Redwood Creek. The importance of documenting changes in streamflows is underscored by the funding and implementation of a monitoring

	<p>program for this key "vital sign". Some surrounding communities are also working to reduce impacts, and the park has been working collaboratively with them to address water quality issues.</p> <p>Water quality will continue to be affected by past, current, and future activities such as:</p> <ul style="list-style-type: none"> • bacteria and nutrient loading, as well as pharmaceutical and other contaminants from wastewater disposal (septic systems); • pollutants from landfills and dredging operations; nutrients and chemicals from urban and agricultural sources, including fertilizers and pesticides; • non-point-source pollution in runoff, including accelerated erosion from existing roads and trails, and future construction activities; • heavy metals from roads, parking lots and stormwater outfalls; sediment and bacterial impacts from domestic animals; and • chemical spills. <p>Physical hydrologic conditions, including water quantity, seasonal timing of flows, and natural stormflow patterns will continue to be affected by past, current, and future actions within and outside the park such as:</p> <ul style="list-style-type: none"> • streams and springs dammed to impound surface water; • diversion of springs and streams, and pumping of groundwater for residential, municipal and agricultural water supply; • roads and trails concentrating surface runoff; • alteration of stream channels from channelization and bank stabilization efforts; • increased areas of impervious surface (e.g., buildings and paved areas); • construction in floodplains or other loss of floodplain function; • continued and increasing demand for water supply within and outside the park; • global warming reducing snowpack which provides freshwater; • pressure to reduce flooding; and • adding irrigated areas within the park's watersheds.
<p>Stakeholders</p>	<ul style="list-style-type: none"> - Stinson Beach County Water District (water district; surface water diversions and groundwater pumping adjacent to park lands; has local authority over septic systems) - San Francisco Public Utility Commission - Golden Gate National Parks Conservancy (park partner involved in project development and implementation within the park) - Green Gulch Farm (neighboring property owner and water user; has surface water diversions) - Marin Municipal Water District (neighboring property manager and water agency; has surface water diversions) - Marine Mammal Center - Muir Beach Community Services District (water district; groundwater pumping from Redwood Creek watershed) - San Francisco Bay Conservation and Development Commission (regulatory agency) - San Francisco Bay Regional Water Quality Control Board (regulatory agency that enforces Clean Water Act) - Surfrider Foundation (San Francisco Chapter) (non-profit interested in water quality issues) - The Presidio Trust (manages Presidio Area B; operates Lobos Creek diversion and water treatment plant; planning to construct recycled wastewater treatment plant for irrigation use on the Presidio, including Crissy Field) - Tomales Bay Watershed Council - City of San Francisco, Office of the Mayor - Daly City - California Department of Fish and Game - California Department of Parks and Recreation (owner and manager of

	<p>adjoining lands and lands within GGNRA legislative boundary)</p> <ul style="list-style-type: none"> - California Department of Water Resources (state water resources management agency) - California State Water Resources Control Board (authority over water rights; oversees the Regional Water Quality Control Boards) - U.S. Environmental Protection Agency (nationwide Clean Water Act authority) - U.S. Fish and Wildlife Service (protection of Threatened and Endangered species) - U.S. Geological Survey (water resources monitoring and research) - National Oceanographic and Atmospheric Administration - Fisheries Service (protection of Threatened and Endangered salmonids) - National Weather Service (weather and climate monitoring and prediction) - U.S. Army Corps of Engineers (jurisdiction over wetlands) - Universities and research institutions, public and private elementary and secondary schools, park partners in water resources education and volunteer activities.
<p>Laws and Policies</p>	<p>Water Resources</p> <p>Source: Clean Water Act; Executive Order (EO) 11514 "Protection and Enhancement of Environmental Quality"; NPS <i>Management Policies 2001</i>; NPS-77, "Natural Resources Management Guidelines". Clean Water Act; EO 12088, "Federal Compliance with Pollution Control Standards"; Rivers and Harbors Act; NPS <i>Management Policies 2001</i>; NPS-77, "Natural Resources Management Guidelines"; Special Directive 93-4, "Floodplain Management, Revised Guidelines for National Park Service Floodplain Compliance"; Federal Water Pollution Control Act (Clean Water Act); Executive Order (EO) 11990 <i>Protection of Wetlands</i>; Executive Order (EO) 11988 <i>Floodplain Management</i>; Coastal Zone Management Act; DO-77-1 "Wetland Protection"; DO 77-2 "Floodplain Management"</p> <p>Policy Direction: Surface water and groundwater are protected and water quality meets or exceeds all applicable water quality standards. NPS and NPS-permitted programs and facilities are maintained and operated to avoid pollution of surface water and groundwater.</p>
<p>Needs</p>	<ul style="list-style-type: none"> • Identify important water resources and their condition. • Identify important factors that affect water quantity and quality • Identify and prioritize management actions required to protect, improve, and monitor water resources, including collaboration with outside entities. • Understand and address the effects of global warming.

6. Fortifications & Military Installations

Golden Gate National Recreation Area includes cultural landscapes, structures, features, and museum collections, including historic fortifications and military installations.

<p>Importance of this Resource</p>	<p>Fortifications and Military Installations</p> <p>The national significance of the seacoast fortifications and Army installations of San Francisco Bay is of the highest order. They possess exceptional value in illustrating the military heritage of the United States and its effect on the broad national patterns of United States social, economic, geographical, and international history. Golden Gate National Recreation Area includes fortifications and installations that:</p> <ul style="list-style-type: none"> • embody an extraordinary range of distinguishing characteristics of military architecture, engineering, style, and construction; • collectively have exceptional historical significance; • illustrate military culture and yield information on the occupation of these lands²; and • provoke thoughts about, and engage visitors in a discussion on, war, peace, and the nature of protection. <p>Museum Collections</p> <p>U.S. military history, 1846-1994, is one of the park's major themes since much of the park is consists of former military sites. Consequently, museum collections related to this theme receive high emphasis in order to present a representative picture of this important aspect of the park's history. The park has a museum collection of more than 4.7 million objects, including archeological and historical objects and archives, historic documents, and records, the majority of which are related to the military history of the park. Of particular importance are the documents relating to the layout, construction, development, and operation of the fortifications and the Army posts that supported them.</p>
<p>Current Conditions, Trends, and Potential Threats</p>	<p>Structures</p> <p>According to the Golden Gate List of Classified Structures (LCS), there are 482 structures managed by the National Park Service that are classified as "Defense." This figure includes 9 structures associated with Fort Point National Historic Site. The majority of these structures are standard military structures built on posts whose sole mission was coast defense. Thus, almost all of the park's military structures are associated with the seacoast defense mission, but only some are specifically fortifications. The current conditions (2006) are: 3.94% unknown; 29.67% poor; 39% fair; and 27.39% good.</p> <p>In addition, there are 498 structures in the Presidio of San Francisco managed by the Presidio Trust that are classified as "Defense." The majority of these structures are not actual fortifications. The current conditions (2006) of these structures are: 2.4% poor; 14.05% fair; and 85.53% good.</p> <p>For those structures for which a use has been found, either through a partner or park use, the structures are being maintained or improved to some extent. For the military structures, which are seacoast fortifications, adaptive reuse is a more complex issue. A few have been adapted for use by the park as museums, collections storage, and maintenance facilities; however, the vast majority are closed and continue to deteriorate. Finding contemporary uses for many Army buildings has generally been a success, but finding adaptive uses for brick and concrete bunkers is difficult due to their layout, construction, location, condition, and obsolete and missing infrastructure. Limited financial support prevents the park from adequately protecting and maintaining these fortifications and installations.</p>

² Appendix D provides a description of Golden Gate National Recreation Area and Fort Point National Historic Site's fortifications and military installations.

	<p>The most significant threats to the resources are the harsh marine environment, lack of occupation, and their remoteness. The moist, salt laden air, drainage and ventilation problems, and erosion accelerate resource deterioration. Because of the structures remote locations and uncontrolled public access, these fortifications are subject to vandalism.</p> <p>Absent vigorous management by National Park Service and its partners, the structures will most likely not receive investment. Many non-profit, program-driven partners are not intrinsically motivated to maintain these types of historic structures. Therefore, the fundamental business relationship creates a strain for the park. The long-term non-profit partners are generally not structured business-wise to generate the cash needed to maintain the buildings and sites they already use.</p> <p>Landscapes</p> <p>Military operations have always been ultimately related to the landscape or terrain. Fortifications were sited for tactical advantage and building clusters and circulation networks were informed by the landscape and the characteristics of its terrain.</p> <p>At present, most park cultural landscapes are in fair condition, threatened by incremental partner- and visitor-driven changes, erosion, and especially by aging trees.</p> <p>Collections</p> <p>The museum collections are strongly associated with the same themes, time periods, people, and events that make up the military history of the park. The many historic structures have generated furnishings, archives, and related artifacts in the collection. The park's archeology program has resulted in systematic excavations of materials in the collection. The military history of the park and its traceable resources are well represented by uniforms, weapons, artillery, photographs, and archives.</p> <p>In 2005, the park housed its museum collections in ten separate facilities including the San Francisco Maritime National Historical Park museum collections facility in lower Fort Mason. Many of these locations are substandard and none of them meet National Park Service museum standards. Although planning has been underway for about fifteen years, a suitable location for the collection has yet to be built.</p> <p>The museum collection will continue to deteriorate without suitable facilities. In addition, staffing for this function has never been stable, which precludes realistic access for the public and staff.</p>
Stakeholders	<p>Many of the military structures have been adaptively reused by the park and a variety of park partners. These uses include administration, educational centers, artists' studios, and overnight accommodations.</p> <p><i>Park Partners/Tenants</i></p> <ul style="list-style-type: none"> - A Home Away from Homelessness - Family support, education, and child protective services for children of homeless (Fort Mason, and Fort Cronkhite,) - American Youth Hostel (Fort Mason, and Fort Barry) - Affordable accommodations providing top-quality service, cleanliness and security to guests located in historic structures. - Antenna Theatre - Interpretive program development; media services; educational aids (Fort Cronkhite, Bldgs 1057 & 1058) - Aramark - Visitor services - snack bar & gift shop (Muir Woods National Monument). - Bay Area Discovery Museum - Experiential and natural resource oriented education for pre-school and primary school children (Fort Baker) - Fort Baker Retreat Group - Conference and retreat center, which will include programs furthering the NPS mission to conserve natural and historic resources and provide for their public enjoyment. - Fort Mason Community Garden - Community Garden; historic use; includes education and public program support (Fort Mason).

- Fort Mason Foundation/Center - Cooperative of cultural, educational and recreation non-profit organizations (Lower Fort Mason)
- Fort Miley Adventure Ropes Course - Pacific Leadership Institute, San Francisco State University, College Health and Human Services, Recreation and Leisure Studies community-based program to link diverse neighborhoods to human potential, leadership and educational opportunity (Fort Miley)
- Foundation for Deep Ecology - Support education, advocacy, and legal action on behalf of wild Nature (Fort Cronkhite?)
- Giant Camera - Historic *Camera Obscura* behind Cliff House.
- Headlands Center for the Arts - Artists in Residence Program (Fort Barry)
- Headlands Institute - Environmental Education; part of Yosemite National Institutes; Marine Science emphasis (Fort Cronkhite)
- Headlands Institute for the Arts - This organization is a private non-profit organization dedicated to providing educational adventures in nature's classroom to inspire a personal connection to the natural world and responsible actions to sustain it.
- Marine Mammal Center - Marine Mammal Rescue, Rehabilitation, and Research; public education (Fort Cronkhite)
- Miwok Stables, Miwok Valley Association - Community horse stabling; Community education component (Tennessee Valley)
- NextCourse - Healthy Foods; Sustainability & Education (Fort Mason, Bldg. 1)
- Peanut Wagon -DBA: Cliff House - Restaurants, Bars & Gift Shop (Cliff House)
- Presidio Riding Club - Horse stabling for military & dependents

Organizations, Governments, and Tribes

- Alcatraz Alumni Association - Former Correctional Officers and family members who have association with Alcatraz who are interested in the preservation and interpretation of Alcatraz prison.
- Alcatraz Transportation Concessionaire - Boat transportation to Alcatraz Island is provided under a concession contract with Blue and Gold as the current provider. Hornblower Yachts under the name Alcatraz Cruises is the selected successor and transition will be effected to assure the best continuity of services.
- Fort Point and Presidio Historical Association - The Association promotes the preservation and interpretation of Fort Point and the Presidio's historical and cultural record, environment, and structures.
- Golden Gate National Parks Conservancy - The Golden Gate National Parks Conservancy is a nonprofit membership organization created to: preserve the Golden Gate National Parks; enhance the experiences of park visitors; and build a community dedicated to conserving the parks for the future.
- San Francisco Architectural Heritage - Heritage encourages appreciation of the built environment and understanding of the value of preserving significant San Francisco architecture.
- Veterans of the American Indian Occupation of 1969 - 1971 - The veterans are interested in the preservation and interpretation of the Alcatraz Occupation as well as preservation and protection of the memory of that seminal episode.
- Presidio Trust - The Presidio Trust's mission is to preserve and enhance the natural, cultural, scenic, and recreational resources of the Presidio for public use in perpetuity, and to achieve long-term financial sustainability.
- Council on America's Military Past (CAMP) - Its purpose is to identify, memorialize, preserve and publicize America's military history including the structures and facilities used by our soldiers, the living conditions, customs and traditions of our men and women in uniform, and the progress and purpose of United States military organizations.
- Coast Defense Study Group (CDSG) - This is a non-profit corporation formed to promote the study of coast defenses and fortifications, their history, architecture, technology, and strategic and tactical employment.
- National Trust for Historic Preservation, Western Regional Office - The National Trust for Historic Preservation is a private, nonprofit membership organization dedicated to saving historic places and revitalizing America's communities.
- California State Parks - The resources and stories of GOGA and many parks

	<p>within the San Francisco Bay Area are inextricably linked.</p> <ul style="list-style-type: none"> - California Office of Historic Preservation - Its mission is to preserve and enhance California's irreplaceable historic heritage as a matter of public interest so that its vital legacy of cultural, educational, recreational, aesthetic, economic, social, and environmental benefits will be maintained and enriched for present and future generations. - U.S. Federal Bureau of Prisons (BOP) - Alcatraz is one of the most notorious of the federal prisons and the BOP retains an interest in the preservation of the resources and the interpretation of their story. (Alcatraz)
<p>Laws and Policies</p>	<p>Archeological Resources</p> <p>Source: National Historic Preservation Act; Archeological Resources Protection Act; the <i>Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation</i>; Programmatic Agreement among the National Park Service, the Advisory Council on Historic Preservation, and the National Conference of State Historic Preservation Officers (1995); <i>NPS Management Policies 2001</i>, DO 28 "Cultural Resource Management Guideline"</p> <p>Policy Direction: Archeological sites are identified and inventoried and their significance is determined and documented. Archeological sites are protected in an undisturbed condition unless it is determined through formal processes that disturbance or natural deterioration is unavoidable. When disturbance or deterioration is unavoidable, the site is professionally documented and excavated and the resulting artifacts, materials, and records are curated and conserved in consultation with the California state historic preservation office (and American Indian tribes if applicable). Some archeological sites that can be adequately protected may be interpreted to the visitor.</p> <p>Cultural Landscapes</p> <p>According to the National Park Service's <i>Cultural Resource Management Guideline</i> (DO-28), a cultural landscape is a reflection of human adaptation and use of natural resources and is often expressed in the way land is organized and divided, patterns of settlement, land use, systems of circulation, and the types of structures that are built. The character of a cultural landscape is defined both by physical materials, such as roads, buildings, walls, and vegetation, and by use reflecting cultural values and traditions.</p> <p>Source: National Historic Preservation Act of 1966, as amended (16 USC 470); Advisory Council on Historic Preservation's implementing regulations regarding the "Protection of Historic Properties" (36 CFR 800); <i>Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes</i> (1996); National Park Service's <i>Management Policies</i> (2001); National Park Service's <i>Cultural Resources Management Guideline</i> (DO-28, 1996)</p> <p>Policy Direction: Cultural landscape inventories are conducted to identify landscapes potentially eligible for listing in the national register and to assist in future management decisions for landscapes and associated resources, both cultural and natural.</p> <p>The management of cultural landscapes focuses on preserving the landscape's physical attributes, biotic systems, and use when that use contributes to its historical significance.</p> <p>The preservation, rehabilitation, restoration, or reconstruction of cultural landscapes is undertaken in accordance with the <i>Secretary of the Interior's Standards for the Treatment of Historic Properties with Guideline's for the Treatment of Cultural Landscapes</i>.</p>

	<p>Historic Structures</p> <p>Source: National Historic Preservation Act; Archeological and Historic Preservation Act; the Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation; Secretary of the Interior's Standards for the Treatment of Historic Properties; Programmatic Agreement among the National Park Service, the Advisory Council on Historic Preservation, and the National Conference of State Historic Preservation Officers (1995); NPS Management Policies 2001, DO 28 "Cultural Resource Management Guideline."</p> <p>Policy Direction: Historic structures are inventoried and their significance and integrity are evaluated under National Register of Historic Places criteria. The qualities that contribute to the listing or eligibility for listing of historic structures on the national register are protected in accordance with the <i>Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation</i> (unless it is determined through a formal process that disturbance or natural deterioration is unavoidable).</p> <p>Museum Collections</p> <p>Source: National Historic Preservation Act; Archeological and Historic Preservation Act; Archeological Resources Protection Act; Native American Graves Protection and Repatriation Act; <i>NPS Management Policies 2001, DO 28 "Cultural Resource Management Guideline," NPS Museum Handbook</i></p> <p>Policy Direction: All museum collections (objects, specimens, and manuscript collections) are identified and inventoried, catalogued, documented, preserved, and protected, and provision is made for their access to and use for exhibits, research, and interpretation.</p> <p>The qualities that contribute to the significance of collections are protected in accordance with established standards.</p>
<p>Needs</p>	<ul style="list-style-type: none"> • Complete cultural landscape reports. • Complete historic structure reports for all structures and fortifications. • Complete condition assessments, treatment plans, costs and priorities for development of project statements to compete for funding. • Identify and secure facility(ies) that meet national museum standards to house and protect collections . • Catalogue and archive collections • Develop management guidelines for use and display of collections.

7. Alcatraz Island

Alcatraz Island has cultural landscapes, historic structures, museum collections, and stories associated with its use as a Civil War fort, military prison, federal penitentiary, and the Indian Occupation of 1969 to 1971.

Importance of this Resource

Alcatraz Island has, for over a hundred years, been reworked and altered by human activity, first as a Civil War fort, then as a military prison, and federal penitentiary. This 26-acre island, located in San Francisco Bay, is best known for its sinister reputation as the maximum security, minimum-privilege federal penitentiary that housed some of America's most notorious criminals. The resources include military-era fortifications; a lighthouse, fog signal building, museum collections, and remnants of the Indian Occupation of 1969 to 1971.

Alcatraz Island has been the site of events that have had an important impact on the nation as a whole from before the Civil War through an Indian Occupation of the 1970s because of its strategic location in the San Francisco Bay. Its significance in the areas of military history, social history (penology), and maritime commerce (related to gold) is enhanced by the integrity of the resource which follows from the fact that access to the island has been strictly limited by the U.S. Government throughout its history.

Military

First garrisoned on December 30, 1859, the post was officially designated Alcatraz Island but was often referred to as Fort Alcatraz. By 1861 the fort had 85 cannons emplaced and a garrison of 130 men. Alcatraz was designated as the official military prison for the entire Department of the Pacific on August 27, 1861 and was the first official army prison in the nation. During the Civil War, the number of prisoners at Alcatraz ranged between 15 and 50.

Prison

When Alcatraz became a civilian penitentiary in 1934, it quickly gained nationwide attention due to its association with many of the most infamous criminals of the gangster era and the bloody escape attempts made from there. It is representative of the far end of the penology spectrum, since it was a prison designed for punishment and incarceration only, rather than rehabilitation. It is of national importance in this regard because of its use as the repository of incorrigibles throughout the Federal prison system. Alcatraz Island is certainly the best known prison in American history and, arguably, along with France's "Devils Island," may be the most infamous prison in the world. The island has high levels of visitation due to its notoriety.

Indian Occupation

The "Indians of All Tribes" occupied the island from November 1969 to June 1971 to gain attention for the needs of their people. This event increased awareness of the American Indian's social concerns, and the establishment of D-Q University at Davis, California, as well as other such institutions throughout the country. Tangible evidence of their occupancy includes graffiti and physical alterations attributed to their actions. Alcatraz Island was declared a national historic landmark in 1985.

Museum Collection

The museum collections are strongly associated with Alcatraz themes, time periods, people, and events. The many historic structures have generated furnishings, archives, and related artifacts in the collection. The park's archeology has resulted in systematic excavations of materials in the collection. The Alcatraz history is well represented by uniforms, escape evidence and documentation, photographs, and archives.

Current Conditions,

According to the Golden Gate List of Classified Structures (LCS), there are 47 structures on Alcatraz that are designated historic and must be preserved and maintained. Of these, 6% are in unknown condition as they are buried

<p>Trends, and Potential Threats</p>	<p>military-era fortifications; 17% are in poor condition; 53% are in fair condition; and 23% are in good condition. In addition, the island is considered a cultural landscape.</p> <p>AL-68, the Main Prison Building, has had much attention focused on it due to its use as the prime interpretive point on the island. Assessed as poor condition in 2001, a great deal of funding has been expended in seismic upgrade in the last five years. Additional work is needed there, however, to continue to seismically upgrade and rehabilitate windows and other failing systems.</p> <p>Defensive Barracks (casemates and apartments), AL-64, is the other primary structure that used by the park for interpretive purposes. This structure includes the theatre where the Alcatraz video is shown as well as a bookstore, park offices, library, museum exhibit space, and other support functions. This building was also assessed in 2001 in poor condition although it does have a new roof and preservation work has been completed on the balconies and some of the windows of the apartments.</p> <p>Additional buildings used by the park at the present time include AL-79, Quartermaster and Commissary Warehouse; AL-67, Power Plant; AL-82, Model Industries Building; AL-84, New Industries Building; AL-89, Electric Shop; and AL-212 and -213, Offices. To some extent these uses are ensuring better preservation of these buildings, however, they could negatively affect historic fabric if not managed in an appropriate manner.</p> <p>The increase in the number of birds using the island as a refuge has constrained the park's ability to perform maintenance and necessary construction projects to preserve the historic structures. The nesting birds can also cause damage to structures, especially roofs and roof drainage systems.</p> <p>The major threat to protecting the cultural resources is the harsh marine environment that surrounds Alcatraz Island. The constant moist and salt laden air continues to erode the structural materials of the historic structures. In addition, not all the structures are occupied and have not been properly mothballed. The current level of funding for preservation activities and annual maintenance is inadequate to combat the effects of being surrounded by a marine environment.</p> <p>Museum Collection</p> <p>In 2005, the park houses its collections in ten separate facilities including the San Francisco Maritime National Historical Park museum collections facility in lower Fort Mason. Many of these locations are substandard and none of them meet National Park Service museum standards. Although planning has been underway for about fifteen years, a suitable location for the collection has yet to be determined.</p> <p>The museum collection will continue to deteriorate without a suitable facility. In addition, staffing for this function has never been stable which precludes realistic access for the public and staff.</p>
<p>Stakeholders</p>	<ul style="list-style-type: none"> - Alcatraz Alumni Association - Former Correctional Officers and family members who have association with Alcatraz who are interested in the preservation and interpretation of Alcatraz prison. - Alcatraz Transportation Concessionaire - Boat transportation to Alcatraz Island is provided under a concession contract with Blue and Gold as the current provider. Hornblower Yachts under the name Alcatraz Cruises is the selected successor and transition will be effected to assure the best continuity of services. - Golden Gate National Parks Conservancy - The Golden Gate National Parks Conservancy is a nonprofit membership organization created to: preserve the Golden Gate National Parks; enhance the experiences of park visitors; and build a community dedicated to conserving the parks for the future. - San Francisco Architectural Heritage - Heritage encourages appreciation of the built environment and understanding of the value of preserving significant San Francisco architecture.

	<ul style="list-style-type: none"> - Veterans of the American Indian Occupation of 1969 - 1971 - The veterans are interested in the preservation and interpretation of the Alcatraz Occupation as well as preservation and protection of the memory of that seminal episode. - Council on America's Military Past (CAMP) - Its purpose is to identify, memorialize, preserve and publicize America's military history including the structures and facilities used by our soldiers, the living conditions, customs and traditions of our men and women in uniform, and the progress and purpose of United States military organizations. - Coast Defense Study Group (CDSG) - This is a non-profit corporation formed to promote the study of coast defenses and fortifications, their history, architecture, technology, and strategic and tactical employment. - National Trust for Historic Preservation, Western Regional Office - The National Trust for Historic Preservation is a private, nonprofit membership organization dedicated to saving historic places and revitalizing America's communities. - California Office of Historic Preservation - Its mission is to preserve and enhance California's irreplaceable historic heritage as a matter of public interest so that its vital legacy of cultural, educational, recreational, aesthetic, economic, social, and environmental benefits will be maintained and enriched for present and future generations. - U.S. Federal Bureau of Prisons (BOP) - Alcatraz is one of the most notorious of the federal prisons and the BOP retains an interest in the preservation of the resources and the interpretation of their story.
Laws and Policies	<p>The laws and NPS policies in this analysis are associated with archeological resources, cultural landscapes, historic structures, and museum collections. A detailed description is provided under the Laws and Policies section of 6. Fortifications & Military Installations.</p>
Needs	<ul style="list-style-type: none"> • Complete cultural and archaeological resource studies and reports. • Identify requirements to maintain the integrity of NHL status; determine and prioritize treatments accordingly. • Assess adaptive re-use of interior spaces and develop implementation plan (consider museum collection use and storage into plans). • Determine course of action necessary to address the impacts of sea-level rise. • Evaluate the merit of food service on the Island- balance visitor needs with historic preservation. • Manage natural resources in a manner that preserves the NHL designation. • Identify and secure off-site curatorial facility(ies). • Evaluate alternatives for disabled access that achieve historic preservation objectives. • Address user capacity issues in order to enhance visitor experience.

8. Dramatic Settings	
Golden Gate National Recreation Area contains dramatic views of contrasting undeveloped and urban coastal environments.	
Importance of this Resource	The scenic resources represent a primary way that visitors experience Golden Gate National Recreation Area. The park's proximity to and the juxtaposition with intense urban development contributes a dramatic contrast to the large protected open spaces and spectacular scenic vistas. This includes the variety of opportunities to view the spectrum of vistas (close-up and distance views) of the park and from the park back to its metropolitan setting. In addition, landscapes in and adjacent to the park have been the setting for many historic events.
Current Conditions, Trends, and Potential Threats	<p>Viewsheds are being lost due to growth of non-native forests and vegetation, and development at the park's boundary. The continued evolution of programs operated by our park partners has led to a desire for expansion of their facilities such as the Headlands Institute, BADM, and Slide Ranch. The transportation needs of the growing population increases the demand for parking, access, and alternative modes of transportation.</p> <p>The potential loss of dramatic views from many park locations could result from unmanaged vegetation growth (native and exotic vegetation); impairment of vistas caused by air pollution; and night sky impacted by increased artificial lighting. There continues to be pressure to accommodate additional infrastructure and facilities that are needed by adjacent communities and from internal National Park Service and partner initiated projects. New development on private land or changes in land use could result in the loss of scenic values on lands and water resources that are outside the park boundaries but which contribute to the important park viewsheds. Development proposed on un-acquired land within the park boundary is a potential threat to the setting, since the NPS has limited acquisition funds. The high level of demands and limited park staffing could minimize the capacity for the National Park Service to monitor development outside/inside the park and proactively address scenic viewshed issues.</p>
Stakeholders	<ul style="list-style-type: none"> - Municipal planning and legislative bodies - Tour and travel industry (local, national and international) - County planning, policy and legislative offices - Regional and state planning and regulatory entities (e.g. ABAG, MTC, Regional Air Quality Control Board, BCDC, State Coastal Commission, ACOE) - Land Managing Agencies with management responsibilities within park boundaries (e.g. California Department of Parks and Recreation, SFPUC, Presidio Trust) - In-holdings within park (e.g. Green Gulch Ranch, private un-acquired tracts) - National Parks Conservation Association (NPCA)
Laws and Policies	<p>Air Quality Source: Clean Air Act, NPS <i>Management Policies 2001</i>; NPS-77, "Natural Resources Management Guidelines"</p> <p>Policy Direction: Air quality in the park meets national ambient air quality standards for specified pollutants. The park's air quality is maintained or enhanced with no significant deterioration.</p> <p>Nearly unimpaired views of the landscape both within and outside the park are present. Scenic views are substantially unimpaired.</p> <p>Lightscape Management/Night Sky Source: NPS <i>Management Policies 2001</i></p> <p>Policy Direction: Excellent opportunities to see the night sky are available. Artificial light sources both within and outside the national monument do not unacceptably adversely affect opportunities to see the night sky.</p>

<p>Needs</p>	<ul style="list-style-type: none"> • Identify the important resources and critical elements that make up the park's dramatic settings, including viewsheds, soundscapes, lightscaapes, aroma/sensory, and tactile elements, in addition to contributing elements such as air quality, natural processes, physical environment, and cultural landscapes. • Determine baseline conditions for identified dramatic settings; develop desired future condition statements. • Develop resource protection strategies, including collaboration with outside entities. • Develop monitoring and maintenance plans for identified dramatic settings. • Develop a process to review actions for consistency and compatibility with the character of identified dramatic settings, including NPS actions and external actions that affect dramatic settings.
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9. Preserved Open Spaces

The park preserves undeveloped open spaces and associated ecosystems ranging from beaches to promontories and open water, including both natural and historic settings.

Importance of this Resource	The open space of Golden Gate National Recreation Area tells the story and reflects the success of the grassroots conservation movement that led to the park's creation. It provides important visual contrast with the urban metropolitan area.
Current Conditions, Trends, and Potential Threats	<p>The continued evolution of programs operated by our park partners has led to a desire for expansion of their facilities such as the Headlands Institute, BADM, and Slide Ranch. The transportation needs of the growing population increases the demand for parking, access, and alternative modes of transportation.</p> <p>There continues to be pressure to accommodate additional infrastructure and facilities that are needed by adjacent communities and from internal National Park Service and partner initiated projects. The potential for new development or changes in land use could impact the current value and esthetics of the park's open spaces and those adjacent to Golden Gate National Recreation Area. The high level of demands and limited staffing could minimize the capacity for the National Park Service to monitor development outside/inside the park and thereby proactively engage to maximize consideration of the park's open spaces.</p>
Stakeholders	<ul style="list-style-type: none"> - Organized user groups and advocacy organizations - Park partners - Commercial recreation providers, concessions and tour bus companies - Volunteers and stewards - Tourism/visitor convention bureaus - National Parks Conservancy - Municipal planning and legislative bodies - County planning, policy and legislative offices - Regional/State planning and regulatory entities (AGAG, MTC, Regional Air Quality Control Board, BCDC, State Coastal Commission, ACOE) - Land Managing agencies with management responsibilities within park boundaries (California Department of Parks and Recreation, SFPUC, Presidio Trust) - Transportation partners (e.g. CalTrans, County/City DPW, GG Bridge District)
Laws and Policies	
Needs	<ul style="list-style-type: none"> • Identify important open space areas in the park. • Prohibit development in important open space areas in the park. • Identify, monitor, and proactively respond to threats to important open space areas in the park, including adjacent development outside of the park boundary. • Develop land protection strategies that encourage contiguous open space. • Integrate land protection strategies into regional open space plans; collaborate with park neighbors and outside agencies on regional open space efforts.

10. Diverse Park Settings

The diversity of settings, from remote to urban, provides visitors with active and passive recreational and educational opportunities, including participation in park stewardship.

Importance of this Resource	The diversity of park settings from remote to urban provides visitors with recreational opportunities that range from active pursuits such as windsurfing and mountain biking to passive pursuits such as picnicking and bird watching. A range of recreation options meets the desires and needs of a diverse urban population. Without the options provided within Golden Gate National Recreation Area, outdoor recreation choices would be limited for residents of the San Francisco Bay Area.
Current Conditions and Trends	
Potential Threats	
Stakeholders	
Laws and Policies	
Needs	<ul style="list-style-type: none">• Identify the park's range of important park settings and their appropriate and compatible visitor activities.• Identify, or consider developing criteria to evaluate, new visitor activities that could be accommodated in various park settings.• Develop strategies to preserve important park settings, including the establishment of user capacity indicators and standards.

11. Park Access	
A system of roads and designated pathways supports access to settings that provide visitors with a broad range of activities and varied experiences.	
Importance of this Resource	<p>An innovative, multi-modal system that supports access to Park sites that provides visitors with a broad range of activities and varied experiences.</p> <p>The network of roads and designated pathways within Golden Gate National Recreation Area provides visitor access to the area's scenic, natural and cultural resources, historic routes, and diverse park settings. The multi-modal pathways, their locations and difficulty levels provide visitors with the opportunity to enjoy a broad range of activities and experiences. In addition, the designated pathway network helps to protect park resources by directing visitor use to the most appropriate and interesting places. The pathways also become a means to connect communities directly to Golden Gate National Recreation Area.</p>
Current Conditions, Trends, and Potential Threats	<p>Recreational trail use is a popular activity that continues to grow. Multi-use trails continue to have issues with use conflicts. Dog walkers and mountain bikers are particularly concerned about the loss of trail access and continue to speak strongly about creating new trail opportunities. Newly acquired park lands present new opportunities to offer expanded trail access, including connections to communities and other regional trails, but they also bring with them some significant maintenance issues. The park as a whole has many trails that have significant maintenance issues because they were never specifically designed to accommodate recreational trail use.</p> <p>The park strives to stay current and relevant to trail users and provide accessible, safe, well-maintained trails that are sensitive to park resources and values. The park has raised awareness about trail needs through the Trails Forever initiative and seems to have forged a connection between trail maintenance and resource management by creating the site stewardship program. Collectively, this has created a venue for improving community connections to the park through trail access and management.</p> <p>Current funds and staffing resources are not adequate to properly maintain the park's trail system. The park frequently inherits issues and problems associated with old trails and roads on newly acquired lands. New developments adjacent to the park boundary stress the park's trail system by adding significant new use and access patterns. Population growth and marketing efforts could lead to more visitor use, which may cause resource damage and/or maintenance concerns.</p> <p>Non-designated trails (social trails) and non-designated structures such as bike jumps cause a loss of scenic and natural resources, and aid erosion.</p> <p>Additionally, certain areas of the park are inaccessible, or have poor way-finding direction.</p> <p>Loss of access Interest in creating new opportunities Without car limited access to park Certain neighborhoods do not have transit access Trails aren't always connected to or integrated with park resources, for example, social trails Maintenance issues Existing uses aren't consistent with original design (eg. Trails) Conflicts</p> <p>THREATS New development adjacent to boundary Social trails - access needs Increased use may cause damage and maintenance concerns Inheriting issues and problems associated with all access modes. Pre-existing problems. Staffing resources inadequate</p>

	Boundary Park identity
Stakeholders	<ul style="list-style-type: none"> - Adjacent municipalities; City and County open space and trails agencies (incl. Pacifica, City of San Francisco, Marin County Open Space, San Mateo County Parks, San Francisco Public Utilities Commission) - Equestrian Trail Riders Action Committee (ETRAC) (interested in horse riding opportunities) - Responsible Organized Mountain Pedalers (ROMP) (interested in mountain biking opportunities) - Bay Area Paragliders (interested in paragliding areas and opportunities) - Coast Walk (interested in hiking trails; Coastal Trail advocate) - Bay Area Open Space Council (interested in trail opportunities and regional trail connections) - Association of Bay Area Governments (ABAG) (interested in regional trail connections) - California State Parks (interested in trail connections and related land management issues) - Golden Gate National Parks Conservancy (park partner assisting with trail planning, implementation, and management) - International Mountain Biking Association (IMBA) (interested in mountain biking opportunities and trail design/maintenance) - American Hiking Society (AHS) (interested in hiking trails and environmental advocacy) - Sierra Club (interested in resource impacts from trails; environmental advocacy) - Audubon Society (Golden Gate Audubon interested in resource impacts from trails; environmental advocacy)
Laws and Policies	<u>SN will send write up</u>
Needs	<ul style="list-style-type: none"> • Evaluate visitor and community access needs, both within and outside the park. • Develop a transportation plan that focuses on the integration of multi-modal access solutions to transportation issues both within and outside the park. • Ensure that park access implementation efforts support resource protection goals. • Develop a multi-media information strategy that improves and enhances trip planning and park access. • Evaluate and address economic barriers to park access for low-income populations.

12. Archeological Sites

Sites document the traditional homelands of the Coast Miwok and Ohlone people.

Importance of this Resource Indigenous archeological sites constitute the most tangible connection between Coast Miwok and Ohlone peoples and the parklands, and provide a basis for understanding the history of their life ways and cultures. That native people were severed from their homelands in the park for two centuries due to European and American colonialism, their traditional connections to place irreparably ruptured, magnifies the significance of indigenous archeological sites as focal points of native heritage today. Stark evidence of the presence of native people on parklands in the past, these sites are the platform upon which Coast Miwoks and Ohlones today stand and proclaim, "We are still here!"

Current Conditions, Trends, and Potential Threats Most of the known indigenous archeological sites in the park are below ground and stable, although sites located along the coast (coastal vulnerability), in unstable geological areas, and at the edge of bluffs, are subject to erosion. In the late 1990s—in equal measures due to evolving NPS policy and to the rekindling of California Indian tribal life—the park made its first efforts to reach out and work with the Coast Miwok and Ohlone communities. Since that time, cooperative work has encompassed a broad range of park activities such as consultation on the treatment of cultural resources, collaboration on the interpretation of native history and culture, and the permitting of religious activities on parklands. Recent natural resources restoration projects involving the identification and preservation of indigenous archeological sites (the Crissy Field tidal marsh and planned Big Lagoon restoration) have inspired an interest in exploring the incorporation of traditional ethnographic knowledge into natural resource enhancement efforts; this trend may continue.

Indigenous archeological sites are subject to erosion, particularly those along the coast, at the edge of bluffs, and in unstable geological terrain. Other threats include development, "pot-hunting," and inadvertent damage as a result of visitor use of the park. The greatest threat of all may be ignorance; because only a small fraction of the park has been surveyed for indigenous archeological sites, the park has a profound lack of knowledge with regard to site identification and significance evaluation.

Stakeholders

- Tribes having cultural affiliation with parklands include the Federally-recognized Federated Indians of Graton Rancheria, Coast Miwok, affiliated with Marin County parklands.
- There are several non Federally-recognized Ohlone tribes as well as individual descendents, affiliated with San Francisco and San Mateo County parklands.
- Note: The Federated Indians of Graton Rancheria was restored as a recognized tribe in 2000. Thus, the park has a government-to-government relationship with this tribe. Though none of the Ohlone tribes is currently recognized, they all have petitions in for Federal recognition. Thus, the nature of the park's relationship with these tribes will become government-to-government if/when any of their petitions is successful.
- Educational institutions that have extensive and/or continuing archeological research programs, include, but are not limited to, Sonoma State University, San Francisco State University, and Stanford University.

Laws and Policies

Native American Indians
Source:
 Native American Indian Graves Protection and Repatriation Act (1990); NPS Management Policies (2001), American Indian Religious Freedom Act (1978), Executive Order 13007, Indian Sacred Sites (1996), Section 207 of National Parks Omnibus Management Act (1998), Section 304 of National Historic Preservation Act, NPS Management Policies (2001)

	<p>Policy Direction: Recognizing that its resource protection mandate affects this human use and cultural context of park resources, the National Park Service plans and executes programs in ways that safeguards cultural and natural resources while reflecting informed concern for the contemporary peoples and cultures traditionally associated with them.</p>
<p>Needs</p>	<ul style="list-style-type: none"> • Survey, identify and evaluate archaeological resources; complete baseline overview and assessments of archeological and ethnographic resources and values. • Develop strategies to monitor and protect archeological sites from erosion, disturbance, illegal collection, and NPS actions. • Identify opportunities to incorporate ethnographic resources and values into natural habitat restoration. • Identify opportunities to interpret the archeological resources consistent with their protection. • Institutionalize a consultation process. • Understand and address the effects of sea-level rise on coastal archaeological sites.

Special Mandates and Administrative Commitments

Special mandates and administrative commitments refer to area-specific requirements. These formal agreements are often established concurrently with the creation of a unit of the national park system. Special mandates generally require the National Park Service to perform some particular action. The ongoing legislative and administrative constraints for Golden Gate National Recreation Area are described below. Those mandates and commitments that have been completed or addressed are listed at the end of this section.

Land Acquisition

Several pieces of legislation dictate how GGNRA shall conduct land acquisition activities:

- The recreation area's enabling legislation, PL 92-589, specified that "any lands or interests owned by the State of California, or any political subdivision thereof, may only be acquired by donation."
- PL 95-625, Sec. 317(e) specified that GGNRA (through the Secretary of Interior) "shall accept and manage any land and improvements adjacent to the recreation area which are donated by the State of California or its political subdivisions."
- PL 96-199, Sec. 103(b) specifies spending limits on land acquisition.

Recreation Area Management and Administration

- PL 95-625, Sec. 317(f) specified that "no fees or admissions shall be charged, except to portions under lease or permit for a specific purpose. The Secretary [of the Interior] may authorize reasonable charges for public transportation."
- PL 106-291, Sec. 140 gives the park authority for fee-based education, interpretive and visitor service functions within the Crissy Field and Fort Point areas of the Presidio.
- PL 96-199, Sec. 103(b) specifies spending limits on park development.
- GGNRA signed a Memorandum of Understanding (MOU) for the Central California Coastal Biosphere Reserve that requires the recreation area to cooperate with the reserve partners and promote reserve activities. Although the MOU is voluntarily, it created a special administrative commitment. GGNRA has continued to promote the significance of resources within the recreation area and the reserve.

Peninsula Watershed Conservation Easement

On January 15, 1969, the United States of America was granted a conservation easement on 23,000 acres of watershed lands owned by the City/County of San Francisco. Two separate easements, a scenic easement and a scenic & recreation easement, were granted by San Francisco and accepted by the Secretary of the Interior. As the local federal land management agency, in 19xx GGNRA was charged with the responsibility administering the easement. The 23,000 acre scenic easement generally includes all lands (and waters) west of the eastern shorelines of the

Crystal Springs and San Andreas Reservoirs. The primary purpose of this easement is to preserve the property in its natural state while expressly permitting "the collection, storage and transmission of water and protection of water quality for human consumption." The 23,000 acre scenic & recreation easement generally includes all lands east of the eastern shorelines of the Crystal Springs and San Andreas Reservoirs. The primary purpose of this easement is to preserve the property in its natural state while expressly permitting "the collection, storage and transmission of water and protection of water quality for human consumption; outdoor recreation; and other [compatible] uses." Both easements contain numerous restrictions on use of the property. The scenic & recreation easement also grants the general public "the right, subject to rules and regulations as may be imposed and published by [the Public Utilities Commission], to enter the premises for recreational purposes." GGNRA has the right and obligation to monitor use of the land for consistency with the terms of the two easements.

Other Easements

GGNRA is required to recognize numerous title encumbrances, including easement rights for roads, utilities, etc. These privately held rights can affect park operations.

Tidelands Lease (Request from park - purpose & authority of lease)

GGNRA leases tidelands and submerged lands from the California State Lands Commission through July 31, 2036. Under the terms of the lease, the recreation area is required to notify the State within 10 days in the event that the public is charged any direct or indirect fee for the use and enjoyment of the leased areas. The lease also specified that hunting on leased lands is prohibited.

Mandates and Commitments Previously Addressed

Transportation Study

PL 92-589, Sec. 4(d) required GGNRA to "make a study for a coordinated public and private transportation system to and within the recreation area and other units of the national park system in Marin and San Francisco Counties." The Golden Gate Recreational Travel Study (GGRTS) recommendations were incorporated into the 1980 GMP. Addressing transportation issues was a major focus of the original GMP and the recreation area continues to review and revise their approach to transportation needs. Transportation and visitor access is again a prime topic for this GMP.

Advisory Commission

Section 5 of GGNRA's enabling legislation (PL 92-589) established an advisory commission for a period of 10 years from the date of enactment (October 27, 1972). It was to consist of 15 members with 3-year terms and the commission was required to meet at least annually. In 1980, PL 96-344 extended the charter of the advisory commission to a total of 20 years, increased the number of members from 15 to 17, and increased a member's maximum term length from 3 to 5 years. Three months later in 1980, the membership of the commission was increased from 17 to 18. The charter was extended again in 1992 to a total of 30 years by PL 102-525, Sec. 303. The commission's charter officially expired on October 26, 2002. Although the commission is no longer in place, GGNRA

has continued their commitment to public involvement by holding quarterly issue meetings that are open to all members of the public. The Superintendent's office meets regularly with elected officials and staff from other agencies to update them on park projects and listen to their concerns. The recreation area also hosts numerous public meetings and workshops to gather and incorporate public input into NPS projects.

Tule Elk Plan

PL 94-389 required the NPS to cooperate in Tule elk preservation on federal lands; report annually to Congress on the matter; and develop a conservation plan. The conservation plan was completed by Point Reyes National Seashore and GGNRA to cooperatively monitor Tule elk populations.

Phillip Burton Memorial

PL 98-28 required GGNRA to erect and maintain a memorial to Congressman Phillip Burton at Fort Mason; and inform the public, through maps, signage, programs, etc., of the contributions of Phillip Burton in authoring the legislation that created and expanded GGNRA. The memorial was constructed in 1990 and includes a wayside exhibit that informs the public about Phillip Burton's contributions.

Park Purpose

The purpose of Muir Woods National Monument is to preserve the primeval character and ecological integrity of the old-growth redwood forest for scientific values and inspiration.

The great San Francisco earthquake of April 1906 became the catalyst for a gift of land that led to the Bay Area's first national park area. Water was in short supply, and a number of companies scurried to supply water sources to the city by creating new reservoirs.

James Newlands, president of the North Coast Water Company, saw the city's need as an opportunity for personal profit. Assessing potential reservoir sites, Newlands came across a grove of redwoods in Marin County that were owned by William Kent. Kent was a wealthy Bay Area native who hailed from a family with a long tradition of progressive reform. Recognizing San Francisco's desperate situation and the potential of harvesting the redwood grove to create a reservoir, Newlands approached Kent to purchase the 47 acres. Kent declined the offer in order to retain the property for its beauty - especially since it was the last intact stand of redwoods in the Bay Area.

After Newlands filed a condemnation suit in state court, arguing that the public good of the reservoir exceeded Kent's right to keep the property, Kent devised a means to thwart the lawsuit. On December 26, 1907, he mailed the deed to 295 acres of his land, including the 47-acre tract targeted by the lawsuit, to Secretary of the Interior James R. Garfield, requesting that the government accept the gift for establishment of a national monument in honor of John Muir under the provisions of the recently enacted Antiquities Act of 1906. Kent urged quick federal action on his gift, and 12 days later on January 9, 1908, President Theodore Roosevelt signed a proclamation establishing Muir Woods National Monument. The proclamation stated that the tract contained "an extensive growth of redwood trees (*Sequoia sempervirens*)" that was "of extraordinary scientific interest and importance because of the primeval character of the forest in which it is located, and of the character, age and size of the trees."

The national monument was the tenth national monument to be so designated and the sixth to be placed under Department of the Interior administration. It was the first national monument to be located in proximity to a major city and the first to consist of former privately owned lands.

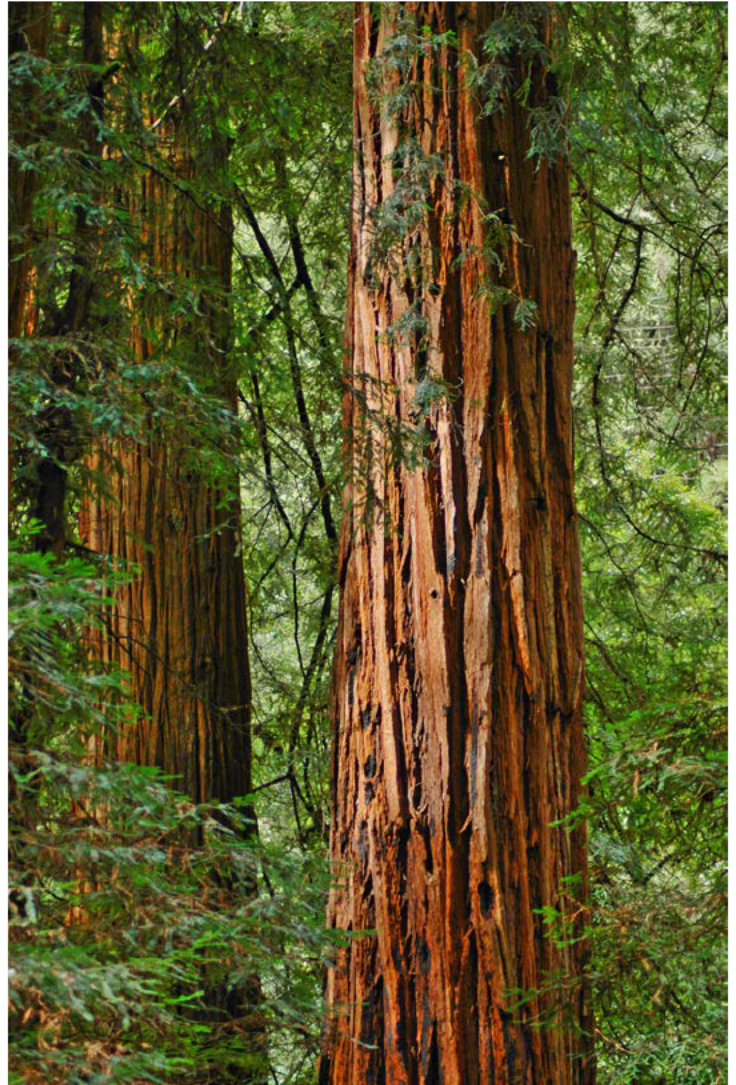
Park Significance & Primary Interpretive Theme

Muir Woods National Monument - Park Significance Statement

Muir Woods National Monument preserves the last remnant old-growth forest close to an urban center that retains its primeval character. The establishment of the monument is an important manifestation of early 20th century conservation history.

Primary Interpretive Theme

The majestic, primeval old-growth redwoods of Muir Woods invite visitors, in the words of namesake John Muir, to "come to the woods, for here is rest." The forest ecosystem of these towering trees and the creek beneath them supports an abundance of life. This remnant of the Bay Area's once abundant redwood forests inspires visitors through its seminal conservation story, today welcoming travelers from around the world to have what is, for many, their first wildlands experience.



Fundamental Resources and Values

The following fundamental resources and values are critical to maintaining the park significance of Muir Woods National Monument. The associated fundamental resources and values are listed along side the park significance statement.

Park Significance	Associated Fundamental Resources and Values
<p>Muir Woods National Monument preserves the last remnant old-growth forest close to an urban center that retains its primeval character. The establishment of the monument is an important manifestation of early 20th century conservation history.</p>	<p>1. Old Growth – The old growth forest ecosystem of the coastal redwoods.</p> <p>2. Conservation Movement – The role of Muir Woods in the conservation movement.</p>

Analysis of the Fundamental Resources and Values

1. Old Growth Forest	
The old growth forest ecosystem of the coastal redwoods.	
<p>Importance of this Resource</p>	<p>Muir Woods National Monument preserves an old growth forest ecosystem of coastal redwoods situated on the southwest flank of Mt. Tamalpais just 10 miles northwest of San Francisco and the Golden Gate Bridge. It was designated a National Monument by President Theodore Roosevelt in 1908 and became the nation's first donated land under the Antiquities Act.</p> <p>Muir Woods is home to the last remaining stand of old growth redwoods (<i>Sequoia sempervirens</i>) in Marin County, representing a fragmented island of the redwood forest that existed 150 years ago. It provides the opportunity to experience and explore a primeval forest away from urban concentration and noise. It is a place to experience night skies and natural sounds.</p> <p>With Redwood Creek at the core of its ecosystem, Muir Woods provides an island habitat for: coho salmon, steelhead, northern spotted owl, and marbled murrelets.</p> <p>Muir Woods National Monument is a part of a larger social and ecological region and is recognized as a UN Biosphere Reserve.</p>
<p>Current Conditions, Trends, and Potential Threats</p>	<p>At times, high visitation diminishes visitor experience and impacts resources. What are the trends e.g. continued increasing visitor use, demands for large group activities, decreasing park rangers to help visitors understand the resources (these examples are ideas to test)</p> <p>Lack of parking and alternative transportation choices creates overflow parking conditions and traffic jams. Those situations in turn have negative impacts on air quality, on the park's soundscape, and on the overall visitor experience. All these current threats to the park have the potential to become worse in the future if transportation and visitor management solutions are not implemented.</p> <p>Rip-rap, streambank protection, sudden oak death, infrastructure location impacting critical resources, nearby development light and sound</p>

	<p>encroachment</p> <p>Park to revise this section</p>
Stakeholders	<ul style="list-style-type: none"> - Golden Gate National Parks Conservancy <i>why</i> - Concessionaire (Aramark), <i>why</i> - Redwood Creek Watershed stakeholders <i>why</i> - California State Parks (who manage the adjacent lands). <i>why</i> - Marin Municipal Water District <i>why</i> - Muir Beach Community Services District. <i>why</i> - Dipsea Committee - Save the Redwoods League - Sempervirens Fund
Laws and Policies	<p>Ecosystem Management Source: NPS <i>Management Policies 2001</i> (1.5, 4, 4.1, 4.1.4, 4.4.1)</p> <p>Policy Direction: The park is managed holistically, as part of a greater ecological, social, economic, and cultural system.</p> <p>Natural Resources Source: NPS <i>Management Policies 2001</i>; NPS-77 "Natural Resources Management Guideline"</p> <p>Policy Direction: The National Park Service will maintain as parts of the natural ecosystem, all native plants and animals in the park.</p> <p>Lightscape Management/Night Sky Source: NPS <i>Management Policies 2001</i></p> <p>Policy Direction: Excellent opportunities to see the night sky are available. Artificial light sources both within and outside the national monument do not unacceptably adversely affect opportunities to see the night sky.</p> <p>Threatened and Endangered Species Source: Endangered Species Act; equivalent state protective legislation; NPS <i>Management Policies 2001</i>; NPS-77, "Natural Resources Management Guidelines" Marine Mammal Protection Act, Bald Eagle Protection Act, Migratory Bird Protection Act, California Environmental Quality Act (CEQA)</p> <p>Key Requirements: Establishes United States Fish & Wildlife Service (USFWS) and or NOAA - National Marine Fisheries Service as the lead agencies for endangered species. Under Section 7, of the Endangered Species Act (1973), federal agencies must consult with the two agencies regarding any actions that may adversely impact endangered species. Under Section 10, the two agencies can authorize the take of endangered species for certain actions.</p> <p>Policy Direction: Federally listed and state-listed threatened and endangered species and their habitats are protected and sustained. Native threatened and endangered species populations that have been severely reduced in or extirpated from the national monument are restored where feasible and sustainable.</p> <p>Natural Soundscape Source: NPS <i>Management Policies 2001</i>, DO 47, "Sound Preservation and Noise Management"; Executive memorandum signed by President Clinton on April 22,</p>

	<p>1996</p> <p>Policy Direction:</p> <p>An important part of the NPS mission is to preserve or restore the natural soundscapes associated with national park system units. The sounds of nature are among the intrinsic elements that combine to form the environment of our national park system units. The National Park Service preserves the natural ambient soundscapes, restores degraded soundscapes to the natural ambient condition wherever possible, and protects natural soundscapes from degradation due to human-caused noise. Disruptions from recreational uses are managed to provide a high-quality visitor experience in an effort to preserve or restore the natural quiet and natural sounds.</p>
<p>Needs</p>	<ul style="list-style-type: none"> • Identify, prioritize, and implement management actions required to restore and maintain a healthy forest and watershed, including addressing the following issues: prescribed fire, sudden oak death, creek flooding and natural processes (including impacts of cultural resources), continued scientific research. • Develop a strategy to balance visitor use and facility needs with desired future resource conditions (management zoning). • Develop strategies to protect important resources and enhance a visitor's primeval experience through the establishment of user capacity indicators and standards, including modification of visitor behavior to preserve the natural soundscape.

2. Conservation Movement

The role of Muir Woods National Monument in the early conservation movement.

<p>Importance of this Resource</p>	<p>Muir Woods is significant for the place that it holds in the history of American Conservation. It was among the first National Monuments designated under the Antiquities Act, and the very first made up from privately-donated lands. In this, it set the precedent for the designation of other monuments and parks through private donation.</p> <p>Muir Woods was an early achievement in the movement to preserve California redwoods, serving as the rallying point around which the Save the Redwoods League organized its broad movement for the preservation of these national, natural treasures. William Kent, the benefactor of the National Monument, was both a regionally and nationally significant figure in American Conservation. His sponsorship of the congressional legislation establishing the National Park Service links Muir Woods to the founding of the agency.</p> <p>The monument's forest of giant trees is complemented by a system of heritage trails and cultural features including rustic timber and stone buildings and bridges. Commemorative markers recalling the likes of Gifford Pinchot and William Kent have made Muir Woods a shrine to the American conservation movement.</p>
<p>Current Conditions, Trends, and Potential Threats</p>	<p>Muir Woods today has international recognition (by the United Nations) of its symbolic role in the establishment and interpretation of the conservation ethic, allowing visitors to connect with conservation ideals. There are 21 structures on the 2003 update to the List of Classified Structures, roughly half of which are in good condition. These structures are linked with the early conservation movement which brought people into the parks in order to present the conservation message.</p> <p>Sound management of the watershed is at the core of an intact ecosystem, which protects the old growth ecosystem resources, and our ability to interpret conservation themes. Without the intact natural resources, we cannot celebrate their conservation.</p> <p>For the same reasons, parking, traffic and other effects of unmanaged visitation are potential threats to protection Muir Woods' symbolic value to the conservation movement.</p>
<p>Stakeholders</p>	<ul style="list-style-type: none"> - California State Office of Historic Preservation (SHPO) - Sierra Club and other national conservation organizations,
<p>Laws and Policies</p>	
<p>Needs</p>	<ul style="list-style-type: none"> • Preserve the healthy forest. • Preserve cultural resources to the extent that it can be done while preserving the healthy forest. • Tell the conservation story.

CHAPTER 3. FORT POINT NATIONAL HISTORIC SITE

Park Purpose

The purpose of Fort Point National Historic Site is to preserve and interpret the Civil War-era fortifications at the Golden Gate.

Built on the site of a tiny Spanish gun battery, called Castillo de San Joaquin, Fort Point was one of the first major U.S. Army installations in the Bay Area. Constructed during the 1850s, the fort became the front line of American defense on the Pacific Ocean. Long regarded as an outstanding example of masonry fort construction, Fort Point, a classic brick and granite fortification that is the only one of its style on the west coast of the United States, had been the subject of preservation interests since the 1920s. In 1926 the barracks closed and the fort was abandoned.

During the design of the Golden Gate Bridge in the 1930s, serious discussion about Fort Point's demolition began. Only the intervention of Joseph Strauss, the powerful and authoritarian chief engineer of the Golden Gate Bridge project, prevented its destruction. Strauss initially thought that the site offered the best location for the caisson that would anchor the San Francisco end of the bridge, but a tour of the fort persuaded him that it was worth preserving. He redesigned the bridge and moved the caisson several hundred feet. During World War II, soldiers were stationed at Fort Point, but after the end of the war the fort was abandoned again and stood vacant in the shadow of the bridge.

In 1959 a group of military retirees and civilian engineers – impressed with the structure – formed the Fort Point Museum Association. The association raised funds for preservation and lobbied for establishment of the fort as a national historic site. A decade-long grassroots movement to save the fort from decay took shape with the moral and financial support of the Sixth Army and the local business community. In 1968 local congressional representatives introduced bills to establish the national historic site, and on October 16, 1970, President Richard M. Nixon signed the bill that authorized Fort Point National Historic Site "to preserve and interpret for future generations the historical significance of Fort Point in the Presidio of San Francisco, California."

Park Significance & Primary Interpretive Theme

Fort Point National Historic Site - Park Significance Statement

Fort Point, one of only two remaining intact third system forts in the United States, represents the culmination of American military technology, architecture, and construction during the first half of the 19th century—the most fundamental of which was the arrangement of guns in multiple tiers.

Primary Interpretive Theme

Fort Point, guardian of the Golden Gate, reflects the strategic importance of San Francisco Bay, starting from the establishment of the Presidio by the Spanish, through the Gold Rush and Civil War. The fort, a multi-tiered masonry third system fortification³, is the only example of its kind on the West Coast.



Fundamental Resources and Values

The following fundamental resource is critical to maintaining the park significance of Fort Point National Historic Site. The associated fundamental resources and values are listed along side the park significance statement.

Park Significance	Associated Fundamental Resources and Values
Fort Point, one of only two remaining intact third system forts in the United States, represents the culmination of American military technology, architecture, and	1. Fort Point - The historic fort at Fort Point includes the masonry third system fortification, the Fort Point Light mounted on the barbette tier, Batteries East and West, and associated structures and buildings within the legislated boundaries.

³ Work with Steve Haller to:

1. define third system fort and 2. identify the different military era's that are represented by military architecture in the park.

construction during the first half of the 19th century— the most fundamental of which was the arrangement of guns in multiple tiers.

Analysis of the Fundamental Resources and Values

1. Fort Point

The historic fort at Fort Point includes the masonry third system fortification, the Fort Point Light mounted on the barbette tier, Batteries East and West, and associated structures and buildings within the legislated boundaries.

Importance of this Resource

Fort Point was established as a National Historic Site on October 16, 1970. It is the West Coast's only example of a multi-tiered casemated third system fort and **is one of two remaining in the United States**. Its location at the base of the south pier of the Golden Gate Bridge makes it one of the most visible properties within the park.

Current Conditions, Trends, and Potential Threats

According to the Golden Gate and Fort Point List of Classified Structures (LCS), there are 21 structures associated with Fort Point National Historic Site that are being preserved and maintained. Of these, 10% are in poor condition, 28% are in fair condition, and 62% are in good condition. The fort is in good condition; however, the marine climate is extremely harsh on it. In 2000 a project was implemented that addressed seismic deficiencies. Smaller projects have been undertaken over the years to restore and paint the metalwork, and to replace and repoint the brickwork, although the climate is generally deteriorating these elements faster than they are being maintained.

The fort is currently open to the public for interpretive purposes Friday through Sunday. It is closed Monday through Thursday because of seismic retrofit work happening directly above the fort on the Golden Gate Bridge, expected to be completed in 200█.

The biggest threat to the fort is the lack of continuous maintenance in the face of the harsh weather conditions. Metalwork in a marine environment needs to be painted with regularity. Absent regular painting, any metalwork that is repaired or replaced will rust prematurely. The fort is also susceptible to sea level rise due to the effects of global warming and its low-lying ocean-side location.

There are also pest management issues at the fort. There are many locations for pigeons to roost and their guano has caused a potential health threat. If this problem is not addressed more areas of the fort are likely to be closed off as the bird population multiplies.

Threats associated with seismic retrofit of the Golden Gate Bridge have already caused minor damage to the believed long-lost Counterscarp Gallery and require constant vigilance on the part of the park.

Potential threats associated with modifications in the area to increase homeland security will raise preservation issues that will be a challenge.

Stakeholders

- Golden Gate National Parks Conservancy (the park's cooperating association and manages the bookstore at Fort Point)
- Golden Gate Bridge Highway and Transportation District (The district has jurisdiction for the Golden Gate Bridge which arches directly above Fort Point)

	<ul style="list-style-type: none"> - Various law enforcement agencies, including California Highway Patrol, Golden Gate Bridge District Police, U.S. Park Police, and U.S. Coast Guard, have bridge and Homeland Security responsibilities in the immediate vicinity of the fort. - California Heritage Council - California Office of Historic Preservation - Fort Point and Presidio Historical Association - Foundation for San Francisco's Architectural Heritage - Coast Defense Study Group - Council on America's Military Past (CAMP) - National Trust for Historic Preservation - Fishermen, surfers, and trail users
<p>Laws and Policies</p>	<p>Archeological Resources Source: National Historic Preservation Act; Archeological Resources Protection Act; the <i>Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation</i>; Programmatic Agreement among the National Park Service, the Advisory Council on Historic Preservation, and the National Conference of State Historic Preservation Officers (1995); <i>NPS Management Policies 2001</i>, DO 28 "Cultural Resource Management Guideline"</p> <p>Policy Direction: Archeological sites are identified and inventoried and their significance is determined and documented. Archeological sites are protected in an undisturbed condition unless it is determined through formal processes that disturbance or natural deterioration is unavoidable. When disturbance or deterioration is unavoidable, the site is professionally documented and excavated and the resulting artifacts, materials, and records are curated and conserved in consultation with the California state historic preservation office (and American Indian tribes if applicable). Some archeological sites that can be adequately protected may be interpreted to the visitor.</p> <p>Cultural Landscapes According to the National Park Service's <i>Cultural Resource Management Guideline</i> (DO-28), a cultural landscape is a reflection of human adaptation and use of natural resources and is often expressed in the way land is organized and divided, patterns of settlement, land use, systems of circulation, and the types of structures that are built. The character of a cultural landscape is defined both by physical materials, such as roads, buildings, walls, and vegetation, and by use reflecting cultural values and traditions.</p> <p>Source: National Historic Preservation Act of 1966, as amended (16 USC 470); Advisory Council on Historic Preservation's implementing regulations regarding the "Protection of Historic Properties" (36 CFR 800); <i>Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes</i> (1996); National Park Service's <i>Management Policies</i> (2001); National Park Service's <i>Cultural Resources Management Guideline</i> (DO-28, 1996)</p> <p>Policy Direction: Cultural landscape inventories are conducted to identify landscapes potentially eligible for listing in the national register and to assist in future management decisions for landscapes and associated resources, both cultural and natural.</p> <p>The management of cultural landscapes focuses on preserving the landscape's physical attributes, biotic systems, and use when that use contributes to its historical significance.</p> <p>The preservation, rehabilitation, restoration, or reconstruction of cultural landscapes is undertaken in accordance with the <i>Secretary of the Interior's Standards for the Treatment of Historic Properties with</i></p>

	<p><i>Guideline's for the Treatment of Cultural Landscapes.</i></p> <p>Historic Structures</p> <p>Source: National Historic Preservation Act; Archeological and Historic Preservation Act; the Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation; Secretary of the Interior's Standards for the Treatment of Historic Properties; Programmatic Agreement among the National Park Service, the Advisory Council on Historic Preservation, and the National Conference of State Historic Preservation Officers (1995); NPS Management Policies 2001, DO 28 "Cultural Resource Management Guideline."</p> <p>Policy Direction: Historic structures are inventoried and their significance and integrity are evaluated under National Register of Historic Places criteria. The qualities that contribute to the listing or eligibility for listing of historic structures on the national register are protected in accordance with the <i>Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation</i> (unless it is determined through a formal process that disturbance or natural deterioration is unavoidable).</p>
<p>Needs</p>	<ul style="list-style-type: none"> • Identify site needs and develop long-term stewardship strategies to address them. • Prepare, submit, and pursue funding increases for annual maintenance program to address the effects of weathering, climate control and pest management. • Ensure that site alterations for Homeland Security purposes do not compromise the historic fabric and integrity of the site • Understand and address the effects of sea-level rise on the site; explore the utility of a water capture and return system compatible with the historic setting.

**Appendix A.
Proclamation establishing Muir Woods National Monument**

Appendix B.
Legislation establishing to Fort Point National Historic Site

Appendix C. Legislation related to Golden Gate National Recreation Area

Appendix D.

Description of Fortifications and Military Installations within Golden Gate National Recreation Area and Fort Point National Historic Site

The Presidio of San Francisco—Established in 1776 by the Spanish and continued as a military post under the Mexicans and the Americans, the Presidio possesses a visual unity and a high degree of integrity that relates well to its historical importance and continuity through successive periods of development.

The Presidio of San Francisco was the oldest Army installation operating in the American West and was one of the longest-garrisoned posts in the country. More than 200 years of military occupation of the Presidio have resulted in the development of a complex historic district of several overlaid historic landscapes, each composed of buildings, structures, objects, sites, and other features that represent at least eight distinct phases of development.

The breadth and diversity of contributing resources are vast and include a veritable outdoor museum of military and related architecture. The significance of the Presidio is unequaled by any post in the country and rests not only on resources within post boundaries, but also on the preeminence of two adjacent and interrelated landscapes: the urban development of the city of San Francisco and the natural geography of San Francisco Bay. Further, no other military reservation within a major United States city is as large as the Presidio and so prominently located within the surrounding urban setting. For more than 100 years, the post served San Francisco as a man-made forested reserve amidst the city's dense residential development; the lush character of the Presidio as a wooded reserve has endured to the present day.

The important interrelationship between the Presidio and the city of San Francisco has been part of a broader interrelationship between the Presidio the entire Bay Area. As headquarters for the protection of the Bay and for military expeditions throughout the West, the Presidio remained strategically the most significant military post on America's Pacific Coast during most of its extended history, until its closure in 1994. Contributing resources (approximately 660) include buildings and structures, archeological sites, and cultural landscapes and their features.

Fort Point National Historical Site— Constructed between 1853 and 1861, Fort Point is the only example of a casemated Third System fort completed on the Pacific Coast. It is also the most unaltered such fort left in the United States. Situated on the southern tip of the Golden Gate, the Fort was a vital part of San Francisco's harbor defense during the Civil War, and played a role in defending the harbor entrance in World War I and World War II.

San Francisco Port of Embarkation National Historic Landmark— During the early months after the United States entered World War II, the U.S. Army's San Francisco Port of Embarkation shipped more military supplies than all other military ports in the United States combined.

The statistical returns for the entire war showed that San Francisco was second only to New York in the numbers and amounts of personnel shipped to the war zones. Between December 1941 and August 1945, 1,745,000 personnel embarked at San Francisco. In addition, more than half a million veterans of the war debarked at San Francisco during the same period. An equal number came through the Golden Gate after conclusion of the hostilities.

All American dead being returned to the United States from the Pacific were brought through the port. Japanese and German prisoners of war were processed through this port's facilities.

More than 25 million measurement tons of cargo were shipped through San Francisco. For various periods of time between 1941 and 1944, the ports of Los Angeles, California; Portland, Oregon; and Seattle, Washington, were administered by San Francisco. In the Bay Area, Fort Mason oversaw port operations for no fewer than 13 other installations. San Francisco was the primary port for Army troops and supplies in the central, south, and southwest Pacific areas. Moreover, the task force that drove the Japanese from Alaska's Aleutian Islands was mounted from San Francisco.

Alcatraz Island National Historic Landmark—Alcatraz Island has been the site of events that have had an important impact on the nation as a whole from before the Civil War through an Indian Occupation of the 1970s. Its significance in the areas of military history, social history (penology), and maritime commerce is enhanced by the integrity of the resource because access to the island has been strictly limited by the U.S. government throughout its history.

By the start of the Civil War, Alcatraz was the key fort in the center of the most important Pacific Port in 19th century America, had mounted the first permanent cannons on the West Coast of the United States, and featured a brick and masonry defensive barracks that may have been unique in the annals of American military architecture. In the areas of both military and social history, Alcatraz is noteworthy because it was the first official army prison in the nation.

Forts Baker, Barry, and Cronkhite—These fortifications comprise some of the earliest coastal defense artillery batteries in Marin County and are significant in tracing the development of the American defense system. This land, strategically located at the northern point of the Golden Gate, commands the approaches to the San Francisco Bay entrance.

In 1866 Forts Baker and Barry were acquired by purchase to be used for military defense. Fort Cronkhite was acquired in the same manner in 1914 but was considered a portion of Fort Barry until officially designated as Fort Cronkhite in 1937. The fortifications proposed for construction on this land were to augment those at the Presidio of San Francisco and elsewhere in San Francisco to prevent successful passage of hostile ships through the Golden Gate into the Bay. The batteries and their ancillary

structures (observation posts and garrisons) span five systems of defense against attack, from the Civil War to the Cold War eras, and equipment ranged from smoothbore breach-loading guns to rifled, break loading guns, including emplacements for 155 mm anti-motor torpedo and 90 mm anti-aircraft guns to Nike anti-aircraft missiles.

Fort Mason Historic District - Beginning in 1797 and lasting through the Spanish and Mexican administrations of Alta Paige California, Fort Mason (including *Bateria San José, Punta Medanos, Battery Yerba Buena, Point San José, Black Point, and Post of Point San José*) was one of two sites in San Francisco Bay that was armed with artillery for the defense of the harbor.

For over forty years of American administration, Fort Mason has played a role in the coastal defenses of the bay from the Civil War to post-Spanish-American War. It also served as an important element in the first submarine mining of San Francisco Bay, during the Spanish-American War. From the Spanish-American War to the Korean War, Fort Mason's was the the headquarters of the San Francisco Port of Embarkation.

Fort Mason contains a collection of military structures dating from the 1850s to the Korean War that illustrates the evolution of an army post and seacoast fortifications over a period of 100 years. The contrasts and many moods of the architecture, the effect of the Army's caste system on the quarters, the charm of the earliest officers' row, the simple lines of the Endicott battery, the WPA architecture of the Great Depression, the Army's determination in landscaping—all these blend together to present a history of this place and its times.

Six-inch Gun No. 9 (Baker Beach)— This six-inch breech-loading rifle on disappearing carriage is one of only two such guns that survived the scrapping of coastal defense ordnance following Word War II, is the only one with a recoiling mechanism that can be moved between firing and loading positions. It embodies the distinctive characteristics of a type, of a period, and of a method of construction, of Endicott-period seacoast defense ordnance, representative of the golden age of coast artillery dating from the last decade of the 19th Century and the early decades of the 20th Century. It is a rare, surviving example of once common weaponry. This gun was manufactured at the Waterville Arsenal at Troy, New York, in 1908 and was the still earlier Model of 1905. The carriage was Model of 1903. [*Six-Inch Rifled Gun No.9, Model of 1905, on Disappearing Carriage, No. 2, Model of 1903 National Register of Historic Places Registration Forms, 1979*]

Fort Miley—The battery emplacements, fire control stations, and searchlight facilities of East and West Fort Miley were part of the defense of the strategic harbor of San Francisco, long regarded by army engineers and strategists as the most important harbor on the West Coast of the United States.

The fortification of Point Lobos in 1899 marked the final phase of the Endicott system of seacoast defense, when it was realized that the guns and mortars should be placed as far toward the sea as possible and that

the inner harbor defense represented by the early Endicott-type batteries was of less importance.

The guns of Fort Miley, together with those of Fort Barry on the northern side of the Golden Gate, became the important "outer line of defense" at the turn of the century. The massive concrete and earth batteries, Chester and Livingston, represented the latest in design and engineering of the Endicott works as of 1900. Later installations at Fort Miley, such as a coastal searchlight powerhouse and fire control stations for other and later batteries, mark further advances in the theory, practice, and technology of seacoast defenses.

Fort Miley's continuing importance in the harbor defenses of San Francisco is illustrated by the construction there of a 6-inch gun battery during World War II and the subsequent arming of this battery as late as 1948—the last of the coastal guns to be mounted in the San Francisco Bay Area.

Fort Funston— Also known as *Rancho Laguna de La Merced* and Laguna Merced Military Reservation, this historic district contributed as a coastal defense of strategic importance to San Francisco Bay through the crucial period of World War II, during which its armament was the primary defense against an enemy approach from the south.

Fort Funston contributed to the advancement of engineering and design of seacoast fortifications. The planning and construction developed the prototypical casemates of Battery Davis, which were used for the protection of guns from aircraft bombing attacks. Battery Davis's construction marked the introduction of the mighty 16-inch gun batteries on the Pacific Coast of the United States. Later, the site became the location for a Nike missile battery—the defensive weapon that first replaced the traditional cannon.

Hill 640 Military Reservation - This reservation and the remains of its radar set and the fire control stations are prime examples of the methods that evolved for the better direction of coast artillery fire against enemy vessels at sea. They are the best surviving representatives of the most northerly complexes of fire control installations for the defense of San Francisco Bay during the critical years of World War II. The radar, a surface detector set, was the first of its type assigned to the San Francisco Harbor defenses.

Area Fortification Managed by California State Parks

Fort McDowell— With concern mounting over threats to the Bay Area from Confederate sympathizers and naval forces, the federal government established Camp Reynolds (West Garrison) on Angel Island in 1863.

Artillery batteries were built near the camp and at Points Stuart, Knox, and Blunt. After the Civil War, Camp Reynolds became an infantry camp, serving as a depot for recruits and as a staging area for troops serving in campaigns against the Apache, Sioux, Modoc, and other Indian tribes.

In 1886 a report critical of Pacific Coast harbor defenses led to development of new gun batteries on the southwest side of the island

facing the Golden Gate. Batteries Ledyard, Wallace, and Drew (the remains of which are visible today) were in operation by 1904, but decommissioned as obsolete just five years later.

A quarantine station was built at Fort McDowell (East Garrison) on the eastern end of the island. Through World War II (with name changes, such as designating the entire island as Fort McDowell and various installations on the island with geographic designations), the island continued as a major part of the Army's presence in San Francisco Bay.

Appendix E. Golden Gate Biosphere Reserve

Background

The Man and the Biosphere Program (MAB) was established at the 1970 General Conference of the United Nations Educational, Scientific and Cultural Organization (UNESCO) for the purpose of addressing the economic, educational, scientific, cultural, and recreational needs of humankind. The MAB program is an interdisciplinary effort between the social and natural sciences that seeks to improve the relationship between people and their environment by supporting the sustainable use and conservation of biological diversity, and promoting the study of the interrelationships of the human and natural systems of the Earth. As an intergovernmental program, MAB presents an opportunity for international cooperation and a focus for the coordination of related programs aimed at improving the management of natural resources and the environment.

The U.S. MAB is part of the worldwide MAB effort. It utilizes UNESCO designated biosphere reserves as sites for promoting ecosystem management by incorporating a program of ecosystem protection with sustainable human use and development; documenting global change and biological diversity through monitoring, inventorying, and scientific research; and organizing regional cooperative institutions for resolving complex issues of multipurpose land use.

The U.S. MAB is supported by the Agency for International Development; Department of Agriculture - U.S. Forest Service; Department of Commerce - National Oceanic and Atmospheric Administration; Department of Energy; Department of the Interior - Bureau of Land Management, National Park Service, and U.S. Fish and Wildlife Service; Department of State; Environmental Protection Agency; National Aeronautics and Space Administration; National Institutes of Health; National Science Foundation; Peace Corps; and Smithsonian Institution.

Unique components of the MAB program consist of "Biosphere Reserves," where the principles of MAB are achieved in these living laboratories for learning and demonstrating sustainable management successes. In 1974, the Biosphere Reserve program attracted worldwide attention when the United States and the Soviet Union agreed at a summit in Moscow to support the MAB program, and specifically to designate natural areas as Biosphere Reserves. In that same year the U.S. Department of State established a U.S. National Committee for the MAB Program, composed of representatives from supporting federal agencies and state and private institutions, to guide the development of national education, research, and training activities.

In 1996 a misinformed but well-organized campaign alleged that Biosphere Reserves (and World Heritage Sites) were part of a United Nations experiment to take control of public and private lands in the United States. Although the Congressional Research Service found the allegations to be false in a report issued that same year, the result was reduced

political and financial support for MAB, and the termination of many reserve activities. In 2003 the United States rejoined UNESCO, initiating the renewal of the Biosphere Reserve program. This renewal included preparations for collaborative efforts with Canada and Mexico and the incorporation of a U.S. Biosphere Association, whose duties include assisting in the planning and development of the national program. In 2004 the U.S. MAB National Committee began the process of reconstituting and establishing a new vision for the U.S. MAB, including a workshop held in May that explored ways to rejuvenate the program and provide support to the 47 Biosphere Reserves in the U.S. MAB program.

Biosphere Reserves - What are they?

Biosphere reserves are internationally recognized terrestrial and coastal or marine areas where management seeks to achieve sustainable use of natural resources while ensuring conservation of the biological diversity of the areas. The first biosphere reserves were designated in 1976 as part of the UNESCO Man and the Biosphere Program. Biosphere reserves are nominated by national governments for inclusion in the world network of biosphere reserves. Each nation's sites remain under sovereign jurisdiction of the nominating country.

Currently, 391 biosphere reserves are recognized in 94 countries. Of these, 47 are recognized in the United States, with 23 involving 30 units of the National Park System.

Golden Gate Biosphere Reserve (GGBR)

General Description

Designated in 1988, the Golden Gate Biosphere Reserve (initially known as the Central California Coast Biosphere Reserve) is a partnership of 13 protected areas in the greater San Francisco Bay area. It extends through the central California coastal region from the Bodega Marine Laboratory and Reserve in the north to Jasper Ridge Biological Preserve in the south and includes the Farallon Islands, Angel Island, and Alcatraz within San Francisco Bay. The biosphere reserve is situated on both sides of the San Andreas Fault. Each side has a completely different type of bedrock, and the western side of the rift is moving northward.

The biosphere reserve's major ecosystem type is listed as "Evergreen sclerophyllous woodland and Grasslands to marine/coastal." Habitats in the biosphere reserve are diverse and include mixed evergreen forests, redwood forests, Douglas fir forests, Bishop pine forests, oak forests, woodlands and savannas, coastal scrub, chaparral, coastal dune, coastal strand, tide pools, kelp forests, grasslands, and marshes.

The associated fauna of the reserve is also rich with cougars, Tule elk, California sea lions, elephant seals, and many shorebirds. The Golden Gate Biosphere Reserve is unique in that it spans marine, coastal, and upland resources adjacent to a major metropolitan area, and thus provides easy access to outdoor education and recreation for the inhabitants of the

San Francisco Bay metropolitan area. The area supports many recreational activities such as sport fisheries, hiking, bicycling, and whale watching.

GGBR is organized under the Golden Gate Biosphere Reserve Association with three councils - Management, Science, and Education -- which are responsible for carrying out projects in the reserve. Current research and monitoring activities are organized under the following categories: ecosystem restoration, traditional land use systems, rare/endangered species, wildlife population dynamics, marine/terrestrial interactions, and biological survey and collection. Examples of conservation activities include member cooperation on tidal pool monitoring and public education in the area of Mt. Tamalpais State Park and joint activity in the Coho salmon restoration project which requires habitat inventorying and mapping of several critical watersheds. The reserve also cooperates with the Iroise Biosphere Reserve (France) in a comparison of coastal ecosystem recovery after human use changes. Current research in GGBR includes topics such as the management of commercially important resources (e.g., fisheries), threats to ecosystems (e.g., oil spills, pollutants, and invasive species), and episodic events (e.g., fires and climate extremes). In addition, the Golden Gate Biosphere Reserve Association has sponsored a symposium (funds for which were provided by private, university, and federal sources) on biodiversity of the Central California Coast which convened scientists, managers, and non-governmental organizations and conducted a workshop for educators to identify opportunities for cooperation and identify resources for environmental education in the San Francisco Bay area.

Administrative Authorities

The administrative authorities for the Golden Gate Biosphere Reserve are:

1. Audubon Canyon Ranch
2. University of California
3. National Oceanic and Atmospheric Administration
4. U.S. Fish and Wildlife Service
5. National Park Service
6. Stanford University
7. Marin Municipal Water District
8. California Department of Parks and Recreation
9. San Francisco Public Utilities Commission
10. Point Reyes Bird Observatory
11. Presidio Trust

The contact address for the Golden Gate Biosphere Reserve Association is:

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Designated Units

The 13 designated units of the Golden Gate Biosphere Reserve include:

1. Golden Gate National Recreation Area
2. Point Reyes National Seashore
3. Gulf of the Farallones National Marine Sanctuary
4. Farallon National Wildlife Sanctuary
5. Cordell Bank National Marine Sanctuary
6. Mt. Tamalpais State Park
7. Samuel P. Taylor State Park
8. Tomales Bay State Park
9. Bodega Marine Reserve
10. Marin County Municipal Water District
11. San Francisco Water District
12. Audubon Canyon Ranch
13. Jasper Ridge Biological Preserve