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ENVIRONMENTAL ASSESSMENT



5. ALTERNATIVES

A range of alternatives was considered in the development of the Comprehensive Design Plan. They are all viable alternatives which have been suggested by the public at various times in the past. All are possible, have common elements and all would solve the problems now attendant in the District to varying degrees. In addition all the alternatives are subject to legal compliance with applicable environmental review and historic preservation legislation, other acts and executive orders, and NPS policy. The following laws are applicable to the plan and alternatives for the Sutro District:

- Fish and Wildlife Coordination Act of 1934 (16 U.S.C. Sec. 661 et seq.);
- National Historic Preservation Act of 1966 as amended 1980, 1992 (16 U.S.C. Sec. 470 et seq.);
- Executive Order 11593 (Protection and Enhancement of the Cultural Environment);
- Endangered Species Act of 1973 (Public Law 93-205);
- Archaeological Resources Protection Act of 1979 (16 U.S.C. Sec. 4702 et seq.)
- Clean Water Act of 1977 (Public Law 95-217);
- Executive Orders 11988 and 11990 (Floodplain Management and Protection of Wetlands);
- Coastal Zone Management Act of 1972 (Public Law 92-583); and
- Antiquities Act of 1906 (16 U.S.C. Sec. 431).

5.1 PROPOSED COMPREHENSIVE DESIGN (PROPOSAL)

For a complete description of the proposal, please refer to Section 2 of this document.

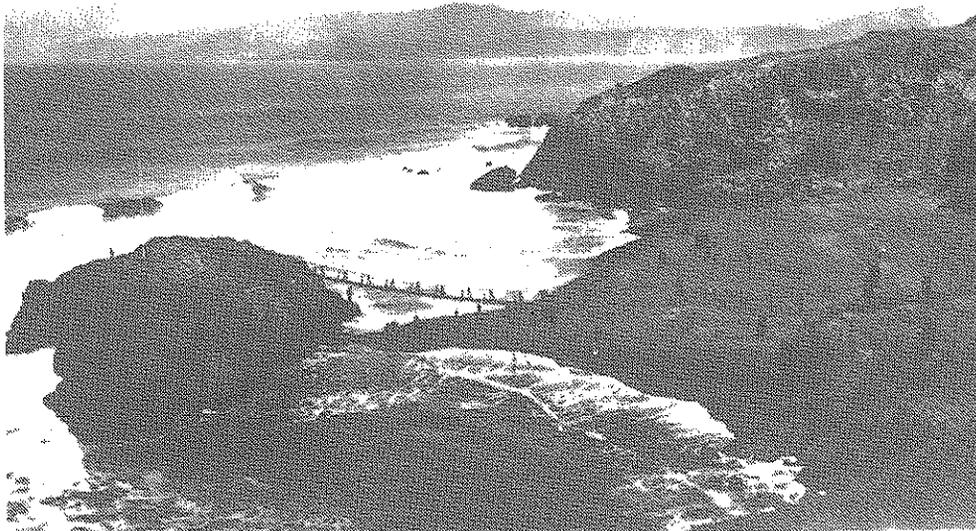
5.2 OTHER ALTERNATIVES CONSIDERED

5.2.1 *Remove Bath Ruins/Restore Naiad Beach*

Under this alternative, most existing man-made facilities and significant historic resources in the Sutro Baths area would be removed in their entirety. The area's natural qualities would be restored to maximize its natural appearance. Major actions would include demolition of existing ruins, extensive regrading, stabilization of the hillside, removal of alien species and replanting with natives, and extensive shoreline/beachfront restoration. New planting would include native shrubs, ground covers and herbaceous plants. Development would be held to a minimum and would be limited to facilities required for visitor use activities, beach access, public safety, and management and protection of natural and adjacent cultural resources. Management activities would be directed primarily at protecting vegetation and wildlife from misuse and overuse and at maintaining the Baths area for undeveloped water recreation. The rocky cliffs and northern shoreline would remain untouched as important habitat for birds and marine organisms. Landscape improvements would increase the natural appearance of the Baths area. Sutro Heights Park, the Cliff House and the USS San Francisco Memorial would be restored in a manner similar to the proposal.

5.2.2 *No Action (Continuing the Status Quo)*

This alternative would provide for the continuation of present trends and conditions within the area (business-as-usual). Actions and developments would be limited to those necessary to meet existing District objectives for visitor use and safety, access and circulation, interpretation and resource management and protection. Minimum visible changes would occur and



Naiad Beach Before Construction of Sutro Baths

would be limited to those required for effective operation of the District consistent with law and NPS policy. The remnants of Sutro Baths would be stabilized against further deterioration, safety hazards would be corrected, and trails and walkways would be constructed through the ruins. Cleanup and improved maintenance would continue at Sutro Heights Park.

5.2.3 Reconstruct Sutro Baths

This alternative was considered but rejected during the planning and environmental review process for the District. This alternative would entail the removal of all existing buildings and a major historic reconstruction effort throughout the District, featuring accurate replicas of the Sutro Baths and the Cliff House of the 1890s, with some interior modifications to satisfy contemporary needs. Similar to the proposal, improvements would be made to the USS San Francisco Memorial Complex. The Cliff House would serve its present function with the addition of overnight accommodations, a historical interpretation facility, and a major information center within its new structure. The landscaping and garden structures at Sutro Heights would be restored to the condition in which they appeared when Adolph Sutro made his home there.

Historic reconstruction of the baths would involve significant costs (greater than \$50 million) and there is little evidence to indicate that funding of the project (public or private) is feasible. Furthermore, reconstruction would result in significant traffic increases generated by the large number of visitors who would be initially attracted to the area. Excessive pedestrian and vehicle congestion would be unacceptable to community residents and probably even to Park visitors.



Historic View of Sutro Baths

5.3 MITIGATING MEASURES

The following mitigation measures would be incorporated into the alternatives:

5.3.1 *Water Resources/Wetlands*

In order to carry out wetland restoration, a survey of plant species within the potentially affected wetlands would be conducted. Also, a more detailed study of the feasibility of the proposed enlargement of the upper marsh area would be prepared to determine topography, soil conditions and hydrology.

Goals for the design of the wetlands to accomplish a specific type of habitat development, educational use, and historic interpretation would be established. Once these studies are complete, a detailed plan would be written identifying all elements and techniques necessary to permit a successful restoration effort and to ensure the integrity of wetland habitat.

Appropriate erosion control actions (i.e., straw mulch and filter fabric) would be implemented in construction areas. All exposed areas would be immediately revegetated and stabilized. Fertilization would be monitored for early detection of an influx of nutrients in surface waters, and immediate action would be taken to avoid affects to aquatic organisms.

5.3.2 *Vegetation and Soils*

An integrated erosion survey would identify, inventory and prioritize serious erosional features and unstable landforms within the District. Erosional features attributable to prior human alterations and activities, which are contributing to significant soil loss and sedimentation, would be identified and prioritized for mitigation. Once the survey is complete, the corrective measures identified to mitigate the impacts of soil erosion problems would be implemented according to the priority established by the survey. A long term monitoring program would be established to assess results of the mitigation measures.

The vegetation/habitat enhancement projects would be carried out by NPS staff, volunteers and contract labor. Native plant materials for most of the revegetation projects would originate within the Golden Gate National Recreation Area and would depend on its native plant nursery facilities for propagation prior to planting. Each restoration project would be well planned and include the following components: project planning, plant production, project implementation and project evaluation. The elements of each component to be considered in the development of the revegetation plans would follow those discussed in detail in the Revegetation and Nursery Manage-

ment Program, Draft Golden Gate National Recreation Area Natural Resources Project Statements (U.S. Dept. of the Interior, 1992).

A strategy for controlling target alien plant species identified as the highest priority for control within the District would be developed. An Integrated Pest Management (IPM) approach and a plan of action (IPM Plan) for each species would be developed. Treatment alternatives could include physical, mechanical, environmental, cultural and biological means. Chemical treatments may be selected if other treatments are not feasible. Every population of target species would be located to assure that all plants are treated once a control program commences. A baseline would be established for assessing the spread of individual alien plant populations. Removal success would be monitored, the area would be mapped, and necessary illustrations of each effective control program would be provided. The monitoring results would be evaluated to alter any future treatment.

5.3.3 Wildlife

No adverse consequences to wildlife have been identified. Therefore, no mitigating measures are warranted.

5.3.4 Special Status Species

All new construction or provisions for new activities near valuable vegetation or habitat would be preceded by a site-specific survey of special status species to confirm that there would be no effect on these species. The National Park Service would consult with the U.S. Fish and Wildlife Service, both formally and informally, to comply with Section 7 of the Endangered Species Act whenever any activities could affect a species that is on or proposed for addition to the threatened or endangered species list. Any conflict areas would be resolved and avoided through additional investigation into the ecology, range and occurrence of listed and candidate species. A monitoring effort would be implemented to accomplish these measures.

A program would be developed to monitor the effects of visitor use so that unacceptable impacts can be detected early and corrective action can be taken. Monitoring of marine resources in the intertidal zone and of important bird habitat would provide information upon which to base closure of certain sections or other use limitations necessary for protecting sensitive wildlife and marine organisms.

5.3.5 Cultural/Historic Properties

More extensive research and archaeological investigations would be required prior to replacement of missing historic features or before undertaking projects involving new construction or land-disturbing activities near exist-

ing sites. Any ground disturbance for archaeological investigations would be reviewed in advance by a historical landscape architect qualified to evaluate the potential impact on significant landscape features. Sufficient study and documentation would be undertaken before making any decisions to modify and replace historic material. Documentation of all historic features before modification may aid in future research and interpretive efforts and would mitigate significant effects.

An archaeologist would be onsite during the construction period to ensure that no impacts on important archaeological resources would result. All lands not adequately surveyed for archaeological resources would be surveyed prior to the implementation of any project involving land disturbance. The National Park Service procedures for archaeological clearance would document determinations of no effect on archaeological resources and would pinpoint projects where caution or monitoring is necessary. Any construction activity which is found to involve adverse or potential adverse effects would be submitted for consultation under the procedures of the Advisory Council on Historic Preservation.

5.3.6 Visitor Safety and Access

Visitors use levels and accidents would be monitored to ensure that overcrowding and visitor injury would not become a problem.

5.3.7 Traffic and Parking

The proposal and alternatives incorporate many elements that improve access, circulation, vehicle and pedestrian safety, and therefore no additional measures would be necessary.

5.3.8 Visual Resources

Mitigating measures to reduce or eliminate adverse consequences to the visual environment have been integrated into the proposal and alternatives. Therefore, no additional measures are warranted.

5.3.9 Air Quality

No mitigating measures for air quality will be warranted because no significant impacts have been identified.

5.3.10 Economic Impacts

Mitigating measures to reduce or eliminate adverse economic consequences have been integrated into the proposal and alternatives. Therefore, no additional measures are warranted.

6. ENVIRONMENTAL IMPACTS OF THE ALTERNATIVES

6.1 WATER RESOURCES/WETLANDS

Affected Environment

Water resources in the District consist of a number of seeps (once used to supply freshwater to the baths), marshes, the remnant baths and aquarium structure, and a wetland fringing the remnant baths (Figure 6-1 and Table 6-1). These resources provide wildlife habitat, recreational/educational sites and sources of biological productivity. However, these resources have been degraded by decades of human manipulation, including plant harvesting, culverting, trampling, litter deposition and soil compaction. Past management practices have added sediment loads to the system and decreased water quality.



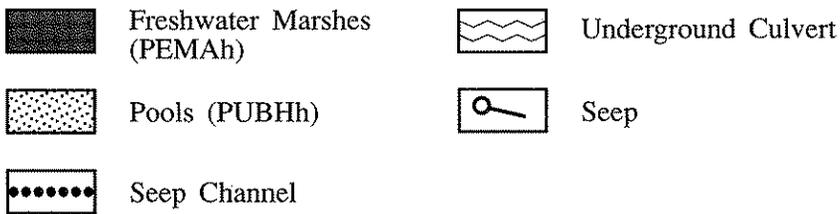
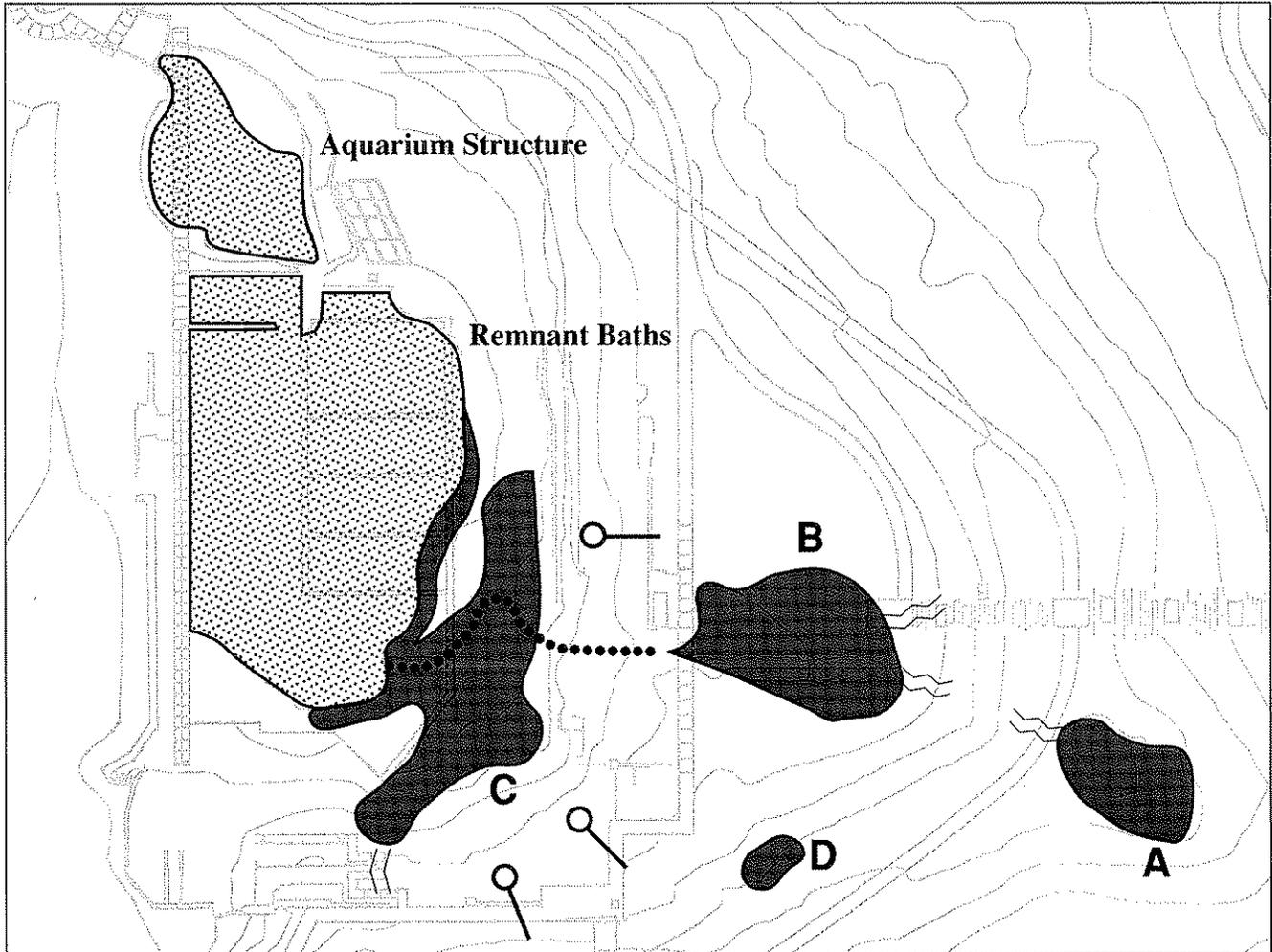
Freshwater Marsh Area

Environmental Consequences of Proposal

The Plan has been designed in such a way that proposed activities would occur with the least damage to water resources. All visitor activities would be planned for upland areas, while the freshwater seeps and marsh areas would receive special protection as areas of biotic sensitivity in the proposal.

In general, water resources would be better managed and protected. Uncontrolled access into marsh areas would be prevented through fencing or other physical barriers. Seep channels would also be protected with catwalks and footbridges. Wetland areas would be rehabilitated through such methods as alien plant eradication, revegetation with native species and removing cul-

Figure 6-1
WETLANDS



Source: BioSystems Analysis, Inc. 1992

Table 6-1
Water Resources in the Sutro Historic District

Resource	NWI ¹ Classification	Size (acres)		
		Existing	Proposed	Net Change
Remnant Baths	PUBHh ²	.69	.80	+11
Aquarium Structure	PUBHh	.14	.18	+04
Subtotal		.83	.98	+15
Freshwater Marshes	PEMAh ³	A ⁴ .10	.10	-
		B ⁴ .19	.35	+16
		C ⁴ .27	.19	-.08
		D ⁴ .01	.01	-
Subtotal		.57	.65	+08
Total		1.40	1.63	+23

Source: BioSystems Analysis, Inc. 1992

¹ National Wetlands Inventory

² Palustrine unconsolidated bottom, permanently flooded, diked/impounded.

³ Palustrine emergent, temporarily flooded, diked/impounded.

⁴ See Figure 6-1 for location.

verts. Other management practices would include enhancing waterfowl/shorebird habitat through wetland restoration and enlargement and interpretive signing.

Excavation to reveal the boundary of the remnant bath structure, as called for in the proposal, would remove .08 acres of freshwater marsh (Marsh C in Figure 6-1). Re-establishment of the boundary would allow for interpretation of the historical recreational use and would increase habitat for migratory water and shorebirds. The Plan also recommends enlarging the upper marsh area by .16 acres to increase biological diversity of the site and offer significant ecological and educational values. This would also serve to replace the vegetated marsh area removed by the excavation on a 2:1 basis.

Construction activities have the potential to decrease water quality in local areas as sediments are transported into water resources by runoff. Construction area runoff resulting from the Visitor Center and parking would temporarily increase siltation and erosion into the seeps and marsh areas. However, sedimentation increases would not significantly affect water quality because of the small amount of sediment that would be contributed. Ocean water quality would be affected in a very minor way by sediment runoff from earth movement and landscaping to improve the Baths area. Nutrient levels in runoff may increase periodically near landscaped areas where fertilization and irrigation are necessary to establish a new plant cover or maintain manicured gardens and landscapes, such as in Sutro Heights. Any runoff that would occur following implementation of the Plan would be minimized through limiting paved surfaces and diverting stormwater to the City's existing system.

Environmental Consequences of No Action Alternative

Increased sedimentation loads and impaired water quality would continue at unknown rates, and may increase in severity. Water resources would be managed as necessary to avoid to the extent possible any long and short term adverse impacts associated with the destruction or modification of wetlands. Visitor use would continue without knowledge of its effect on the resources.

Environmental Consequences of Beach Restoration Alternative

Construction and shoreline modification at the Baths area would most likely result in sediment runoff that might temporarily degrade local water quality. Allowing the natural flow of water by seawall removal would damage the .83 acres of built (artificially created) wetlands in the remnant baths/aquarium structure and .27 acres of fringe area (Marsh C in Figure 6-1), and their associated resource values.

6.2 VEGETATION AND SOILS

Affected Environment

Most of the land in the Sutro District has been altered by humans in some way. In fact, many of the site's characteristics that are enjoyed today and perhaps assumed to be natural are the result of some degree of human intervention with natural processes. Before the activities of Adolph Sutro to vegetate the area, the plant communities present may have been periodically burned by Native Americans and consisted primarily of dune scrub, northern coastal bluff scrub and coastal terrace prairie. In the early 1800s, the site was probably grazed by livestock (as indicated by the historic goat ponds in the vicinity of Marshes A and B on Figure 6-1) and annual grasses from the Mediterranean regions were inadvertently introduced. During construction of the Baths, much of the site was reshaped and many new plant species were introduced. Monterey cypress trees were planted to provide protection from the wind (and are now mature and showing decline and some local mortality). A marsh arising among the bath ruins is currently a bathing area for seabirds and waterfowl. Dense thickets of shrubs, many of which are alien species, have invaded native plant communities or were planted for erosion control and recreation and currently provide habitat for birds and small mammals. Despite those changes, the native remnants that have survived are important vestiges of the past that need preserving and enhancing for natural, cultural and interpretive values.

McBride and Gerhard (1992) recognized ten vegetation types in the District area (Table 6-2). Non-native dominate types are common. Through competition, alien plants have come to dominate extensive areas previously supporting native species. Few areas of native vegetation are present and while these have been greatly altered by alien species, natives are presently intertwined in these areas. The distribution of the vegetation types is shown in Figure 6-2. A list of species observed by vegetation type is presented in Appendix A.

Erosion, including severe gullying, is active on the steep, unvegetated slopes and along trails within the Sutro Baths area. Erosion, accelerated by past land use practices (such as grazing), persistent human disturbance and the presence of highly erodible soils have resulted in prominent visual scars (as shown on Figure 6-3 in Section 6.8, Visual Resources).

Environmental Consequences of Proposal

Impacts on vegetation and soils can be broadly grouped into several general categories: those caused by construction and demolition; increases in visitor use and changes in visitor activities; and changes in resource management

Table 6-2
Vegetation Types in the Sutro Historic District

Native Species Dominated Types

- Northern Foredunes (21210)*
- Central Dune Scrub (21320)*
- Northern Coastal Bluff Scrub (31100)*
- Coastal Brackish Marsh (52200)*
- Coastal Freshwater Marsh (52410)*

Non-native Species Dominated Types

Ruderal

- Succulents
- Herbaceous
- Shrub
 - Mixed
 - Albizia
 - Acacia
 - Coprosma

Grassland

- Non-native Grassland (42200)*

Tree Plantings

- Monterey Cypress Plantations
- Monterey Cypress Grove or Individual Tree
- Monterey Pine Grove or Individual Tree
- Sutro Park Mixed Tree Plantings
- Pittosporum Grove

Marsh

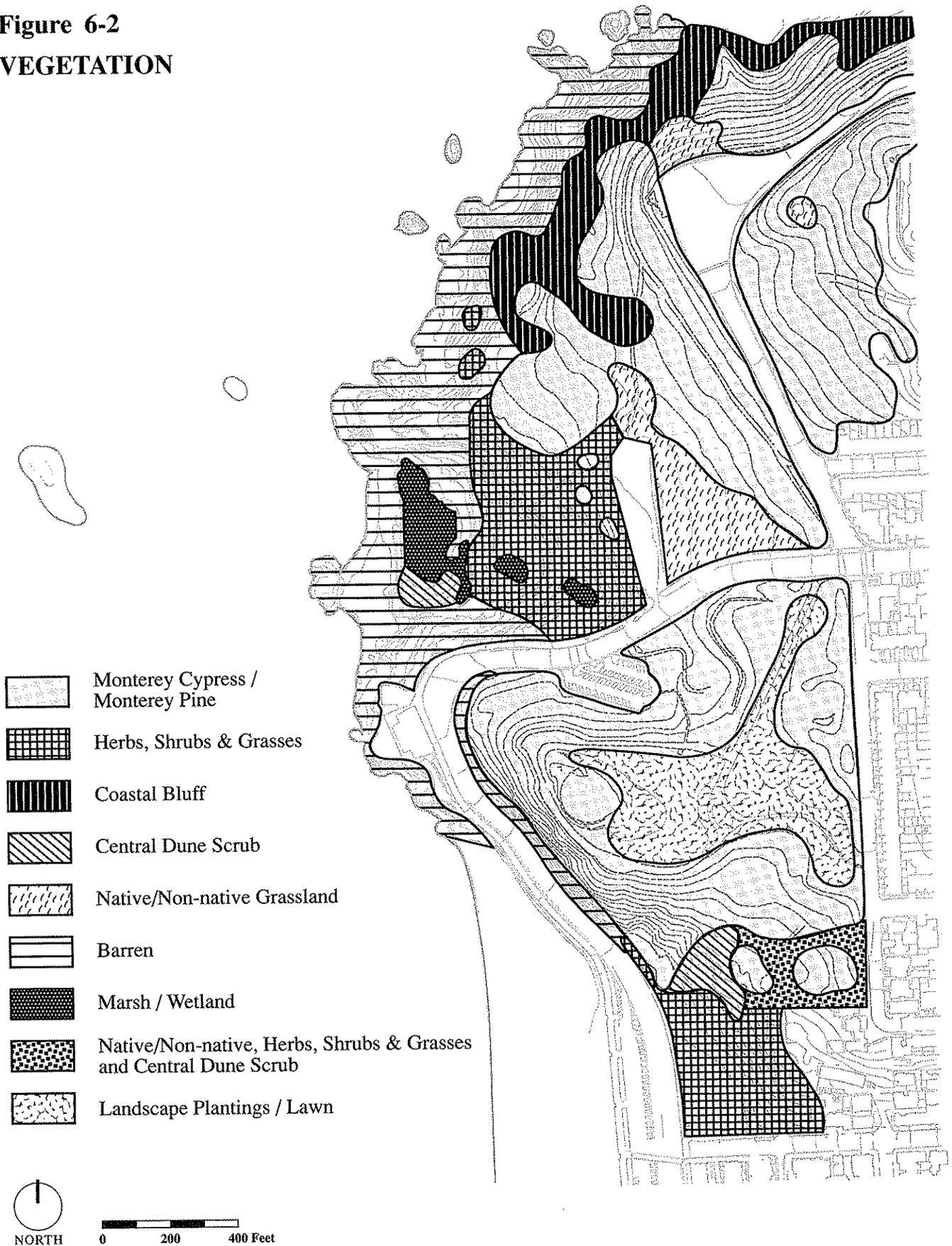
- Non-native Freshwater Marsh

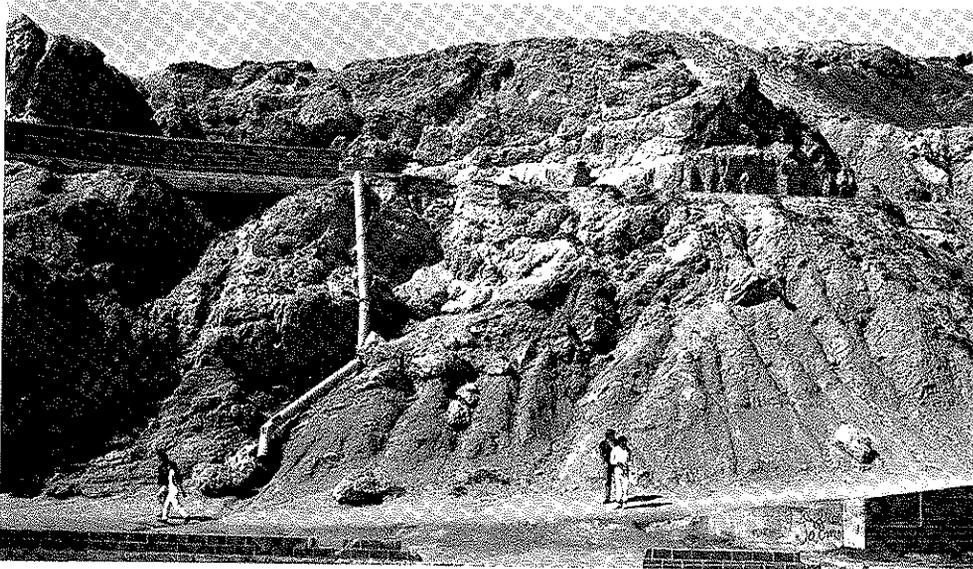
Stabilized Bluff

- Exposed Rock
- Imitation Rock
- Gunnite

* California Natural Diversity Data Base Community Number

Figure 6-2
VEGETATION





Severe Erosion in Sutro Baths Area

programs (Table 6-3). The only effects of the project on soils and vegetation would occur in the Sutro Baths and USS San Francisco Memorial Complex areas. Expansion of the Merrie Way parking lot has been designed to avoid the removal of mature trees. Approximately 5 trees would be thinned to open up views from the USS San Francisco Memorial Complex. Implementation of the proposal would involve limited earth movement to provide for the Visitor Center parking lot, walkways and landscaping. The area has already been extensively trampled, and invaded by alien plant species, displacing native plants and reducing native habitat for wildlife. Therefore, disturbance of natural vegetation and soils would be minimal. The construction of walkways would reduce vegetation trampling by encouraging visitors to stay on the paths and would allow recovery of previously trampled areas. Approximately 31 acres would be restored through plantings including 0.75 acres of the Central Dune Scrub at Sutro Meadows.

Facility designs would take into account possible effects on resources and the potential for erosion. Development would be located in areas previously disturbed by human activity. Adverse impacts would be controlled through maintenance of appropriate gradients, surfaces, and drainage structures, and by locating new facilities in areas that have been previously disturbed, do not currently support extensive native vegetation types, nor which are sensitive to visitor use. Implementation of management actions aimed at elimination of undesirable alien species would reduce the amount of nonnative vegetation. Habitat would be protected and enhanced through effective, interdisciplinary management, including but not limited to planning, interpretation, user education and maintaining a law enforcement presence. These techniques would include modifying use levels, signing, controlling erosion,

**Table 6-3
Impacts on Vegetation and Soils**

Activity / Area	Acres		Net Change
	Vegetation Disturbed	Restored /Revegetated	
Construction and Demolition			
Visitor Center	.15	0	-.15
Merrie Way Parking Lot	1.25	.79	-.46
Walkways	.44	.35	-.09
Total	1.84	1.14	-.70
Vegetation / Habitat Enhancement			
Sutro Baths	1.84 ^a	8.75	+6.91
Sutro Heights	0.11	.06 ^b	-.05
Sutro Meadows	0	3.64 ^c	+3.64
USSF Memorial Complex	0	.80	+.80
Monterey Cypress Plantation	0	29.16	+29.16
Total	1.95	42.41	+40.46

^a Includes new proposal facilities in Baths area (Visitor Center, parking lot, walkways). See Table 6-1 for impacts on wetlands within the area.

^b Point Lobos Parking Lot only.

^c As part of Coastal Dune Scrub native restoration plan.

reseeding and establishing plants, weed control and/or installing physical barriers where fragile resources could be threatened.

The health and continued existence of the 42.4 acres of Monterey Cypress plantation would be assured by managing the stands. Individual planting when necessary and eventual stand replacement would allow maintenance of the Monterey Cypress plantation.

Environmental Consequences of No Action Alternative

The problems of trampling, accelerated erosion, soil compaction and top soil loss would continue, with spot treatments to attempt to control traffic, revegetate and stabilize. Areas of high erosion hazard may not be identified. Detrimental practices may continue in some areas, and could contribute to additional soil erosion and sedimentation. Restoration of serious erosion problems would not be accomplished, and public concern for solutions may not be adequately addressed.

Vegetation type change (from native to those dominated by alien species) would continue unabated. The few areas of remnant native vegetation would continue to be threatened or may be entirely lost to alien species. Exotic and noxious weed control would be sporadic and possibly ineffective. The original planted trees would die at an increasing rate. Visitor use would continue without knowledge of its effect on the resources. Unique opportunities for environmental education could be lost. Vegetation management practices may be inconsistent at best and could be detrimental to natural vegetation types. Reestablishment of a more natural mosaic of plant communities would be delayed for an indeterminate period of time.

Environmental Consequences of Beach Restoration Alternative

With the exception of the loss of 1.05 acres of wetlands in the remnant baths/aquarium structure and fringe area, effects of shoreline restoration on vegetation and soils would be similar to those of the proposal. Efforts would be made to minimize human-caused or accelerated impacts and processes including erosion, invasion by alien species and trampling of vegetation.

6.3 WILDLIFE

Affected Environment

In spite of modifications of habitat, proximity to the urban environment, intensity of human activity and exposure to oceanic elements, the Sutro District contains important habitat for wildlife. Habitat types found in the project area include rocky shoreline, coastal bluffs, large stands of Monterey cypress, scattered Monterey Pine, central dune scrub, freshwater seeps, a brackish pool, and urban parkland. A preliminary list (Appendix B) includes seven kinds of amphibians, seven reptiles, 140 birds and 41 mammals as having the potential to occur within or near the District area.

One of the most important features of the site are the remnant baths that provide a permanent source of brackish water. This unique habitat element provides a bathing area for seabirds and waterfowl close to the coast. The only similar habitat in the urban areas of San Francisco is at Lake Merced. The tufted duck, an irregular winter migrant along the coast of California, is occasionally sighted in the baths.

Coastal bluffs, Monterey Cypress stands, and ruderal (disturbed) areas provide habitat for common wildlife such as resident and migratory songbirds, raccoons, striped skunks and opossums. Sandy soils with ruderal vegetation around the baths provides habitat for a colony of California ground squirrels. The woodland areas of Lands End attract migratory birds flying south across the Golden Gate. Freshwater seeps and the small wet-



Remnant Baths are an Important Wildlife Feature of the Sutro District

lands provide a source of fresh water and cover for songbirds and other wildlife. They may also provide breeding habitat for amphibians.

The project area also includes rocky shoreline and intertidal habitats. Seal Rocks provides important roosting sites for brown pelicans and haul out areas for California sea lions and Steller sea lions. Intertidal areas at Lands End and Sutro Baths Rock display sparse marine life because of water turbulence and high soil erosion. However, anemones, mussels, limpets, and barnacles can be observed in the wave catch basin and the rocks that form the sea wall.

Environmental Consequences of Proposal

General effects on wildlife are directly associated with the loss or gain of habitat and the sensitivity and adaptability of wildlife to human use. Removal or restoration of vegetation would change food and shelter availability and would affect both primary consumers and predators who inhabit the area. Important wildlife habitat has been identified in the proposal as biologically sensitive areas. Development would be located in areas previously disturbed by human activity. The 40.4 acres of restored areas, including 1.6 acres of riparian habitat, would provide food and shelter habitat for birds and small mammals. Overall, the acreage to be restored would significantly exceed the amount of habitat to be disturbed by construction (two acres disturbed compared to 42.4 acres restored as shown in Table 6-3).

Increased visitor use may increase the potential for disturbance of feeding, resting and breeding habitats for a large number of species. Use levels would be kept low in sensitive wildlife areas. Management actions would be undertaken to limit or relocate visitor activities if ongoing monitoring by Golden Gate National Recreation Area staff determines that wildlife is being affected by visitor use in particular locations. Measures may include placement of warning signs at visitor access areas, increased patrol, or temporary closure of areas during particularly sensitive periods. Therefore, there would be no effect on resident and migratory wildlife as a result of the proposal.

Environmental Consequences of No Action Alternative

Under the no action alternative, visitor use and alien species expansion would continue to degrade wildlife habitat and resources. Losses of soils and plants would occur from accelerated erosion and vegetation trampling, and siltation of sensitive habitat, such as the wetlands and remnant baths, would continue unabated. Priority wildlife projects would only be accomplished as they become emergency in nature.

Environmental Consequences of Beach Restoration Alternative

Impacts of this alternative would include elimination of .81 acres of the brackish water habitat along the shoreline and restoration to a more sandy beach habitat. Efforts would be made to minimize human-caused or accelerated impacts and processes including silting and erosion, invasion by alien species and trampling of vegetation.

6.4 SPECIAL STATUS SPECIES

Affected Environment

Based on a search of the California Natural Diversity Database (BioSystems Analysis, Inc., April 1992) two special status species (threatened, endangered, rare or candidates for such status) are known or thought to occur in the Sutro District area. The bumblebee scarab beetle (*Lichnanthe ursina*), a federal category 2 candidate, has been found on the sand dunes near the Cliff House. Specimens of this beetle have been collected from dunes along the coast from April to August, with a peak in May and June.

In addition, the California red-legged frog (*Rana aurora draytoni*), a federal category 2 candidate and California species of special concern, has been reported from several locations in Golden Gate Park and Lands End. Red-legged frogs range from the coast to the northern Sierra Nevada foothills. They are found in slow-moving streams and pools (usually at least one meter deep), freshwater marshes, or coastal estuaries; they breed between January and July, with a peak in February. Red-legged frogs are typically associated with permanent water bodies surrounded by willows or emergent aquatic vegetation, but they can also occur in ephemeral pools if the water remains long enough for breeding and larvae development (approximately 20 weeks). Mature frogs disperse from aquatic habitats after rains and may inhabit damp woods and meadows far from water. Because the small freshwater seeps and associated marshes in the project area are highly disturbed, they represent marginal habitat for red-legged frogs.

The American peregrine falcon (*Falco peregrinus*), a federal and state endangered species, has been documented in Sutro Heights Park. A peregrine was observed perched in a snag above the artificial cliff on several occasions. This perch site offers a wide view of potential prey such as pigeons, shorebirds, and ducks flying along the cliffs near the Cliff House.

The dune tansy (*Tanacetum camphoratum*) which is present on old sand dunes throughout the site had previously been considered rare and endangered by the California Native Plant Society. However, they no longer

consider it a candidate species because its taxonomic status remains uncertain.

Environmental Consequences of Proposal

Any disturbance, whether caused by construction, demolition, or change in use, has the potential to affect special status species if they are found to be in the area to be affected. However, the proposal devotes special preservation and enhancement efforts to fragile and unique vegetation types (such as dune and wetland communities) and special status species. These efforts include avoiding development and use of areas where valuable vegetation is found, actively protecting such areas, and if feasible, reintroducing rare or endangered plants. Because critical and unique vegetation areas were defined by the information base prior to the development of the proposal, activity and project locations were adjusted to avoid special status species and to prevent disruption of their habitat. Any impact from recreational activity would be avoided by redirecting visitor use from known habitat areas.

Environmental Consequences of the No Action Alternative

Special status species would remain vulnerable to visitor use. Some of these threats would go undetected by the park. Monitoring efforts would continue to be minimal and intermittent and would depend on the availability of NPS staff and volunteers. Routine activities may contribute to their endangerment or their disappearance.

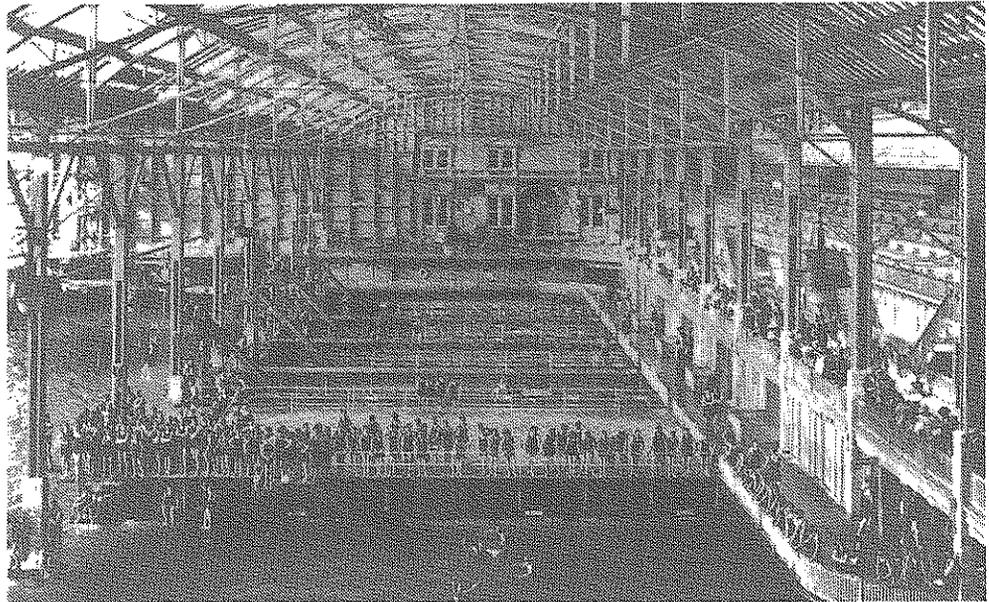
Environmental Consequences of Beach Restoration Alternative

Similar to the proposal, beach restoration would require restriction of human use in special status species habitats. Techniques would require fencing, the routine presence of Golden Gate National Recreation Area staff and increased maintenance.

6.5 CULTURAL/HISTORIC PROPERTIES

Affected Environment

As documented in the accompanying Cultural Landscape Report, the historic landscape within the Sutro District has significance because of (1) its association with the history of recreation in the United States; (2) its close association with Adolph Sutro, an individual who achieved national recognition for the design and construction of the tunnel system which drained and ventilated Nevada silver mines; (3) its engineering and design as a major West Coast oceanside recreational complex and public garden; and (4) because it has yielded important prehistoric information. The Cliff House Sutro Baths site and Sutro Heights were nominated to the National Register of Historic Places as the Adolph Sutro Historic District in 1979. The nomina-



Sutro Baths Interior (Historic Photo)

tion was determined ineligible as a district. It is currently being revised and resubmitted by the NPS based on an evaluation of the cultural landscape values present in the entire district. The evaluation includes research concerning the history of the landscape as a whole, and inventory and documentation of the existing conditions and attributes.

The Point Lobos Archaeological District, listed on the National Register of Historic Places in 1976, is located within the Sutro District. Three prehistoric sites are known to exist in the Point Lobos Archaeological District. The prehistoric resources include evidence of aboriginal or native occupation of the area.

Environmental Consequences of Proposal

The proposal calls for rehabilitation of the District's landscape to retain its historic character while making changes to the property for new recreational uses and interpretation. The project includes improvements that make efficient contemporary uses possible while preserving those portions or features that are significant. Management and monitoring of the historic landscape would be provided to ensure that rehabilitation does not diminish the District's integrity. Recreational use is a character-defining feature (e.g., contributing to the general character of the Sutro era) of the District. Continued recreational use, additional contemporary facilities and interpretation of historic recreational uses would be accommodated in a way that would not adversely affect significant landscape features or impede public understanding of the history of recreation in the District.

Project needs, such as individual and group parking, visitor centers, restrooms, site furnishings, signs, universal accessibility and other contem-

porary needs associated with continued recreational uses and with NPS interpretation would be designed to be compatible with the historic landscape values of the District. Facility design, placement, construction materials or other attributes would not create a false historical impression that they existed in this manner during the period of historic significance.

All landscape management would be in accordance with the Secretary of the Interior's Standards for Historic Preservation Projects. In addition, all landscape management would be developed to be compatible with the most recent drafts or the adopted versions of the Draft Guidelines for the Treatment of Historic Landscapes (U.S. Department of the Interior, May 1992) and Draft Management of Cultural Landscapes, Cultural Resources Management NPS-28. All rehabilitation work would be prepared and carried out by qualified professionals, including historical landscape architects, horticulturalists and skilled artisans and craftspeople. Required consultation and legal compliance would be established before any physical work affecting the District is initiated.

The increase in use could destroy features, materials or physical relationships that characterize the District's landscape, and increase security problems. Public education about cultural resource values and the presence of park staff would minimize destructive vandalism.

All archaeological sites would be protected and preserved. Construction activities proposed near existing sites would be carefully designed to avoid archaeological resources. NPS would satisfy the requirements of the Advisory Council on Historic Preservation's Regulations (Section 106 Compliance, 36 CFR Part 800) prior to any irreversible or irretrievable commitment of funds or efforts toward implementation of the proposal beyond planning.

Environmental Consequences of No Action Alternative

All activities would demonstrate continued compliance with applicable federal legislation and departmental cultural resource procedures. These compliance procedures would serve to mitigate adverse impacts on cultural resources.

Environmental Consequences of Beach Restoration Alternative

Removal of the Sutro Baths ruins would destroy many features and materials that characterize the historic landscape of the District. This action would foreclose options for future use of the ruins and would result in an irretrievable loss of landscape features that are removed. If the Baths ruins are found to be a contributing element of the District, then removal of the ruins would be an adverse effect in accordance with the Advisory Council on Historic Preservation's Regulations for Section 106 Compliance, 36 CFR Part 800.

6.6 VISITOR SAFETY AND ACCESS

Affected Environment

The Sutro District contains many natural hazards, including the rocky shoreline, steep cliffs, pounding surf and unpredictable ocean currents. During the past ten years, ten fatalities, 25 serious injuries, and 75 minor injuries due to falls from cliffs and tidal incidents have been recorded in the area. In addition, rubble from partially demolished structures, foundations which have not been removed, advanced deterioration of exposed metal, and an unsafe pedestrian crosswalk (to the parking lot on the south side of Point Lobos Avenue) also create dangerous conditions for visitors. Access to the ruins is not encouraged because of the hazards associated with the deteriorating structures, but some individual exploration does occur, and fishermen frequent the rocky shoreline. The NPS has posted warnings and waged an education campaign to alert users to the potential dangers of the area.



Existing Safety Hazards are a Major Issue within the District

Environmental Consequences of Proposal

Proposed improvements would correct a number of existing safety hazards, primarily by constructing safer trails, blocking access to cliffs and rocks, posting additional signs, redirecting visitors and pedestrians, and rejuvenating and utilizing currently little used areas (such as the Merrie Way parking lot) for new activities. Rehabilitation of historic features and removal of nonconforming deteriorated structures would reduce possible hazards to visitors who might otherwise explore unsafe areas. Trail relocations and improvements would help rectify a dangerous potential for falling off coastal cliffs. However, providing new activities and increasing access would attract

more visitors to an inherently dangerous area. While only modest new visitor facilities (such as the stepped seating area) and activities (specific events) are proposed, some risk would be involved in inviting visitor use of the coastal zone. This risk is not considered to be sufficient to preclude shoreline recreation use.

Environmental Consequences of No Action Alternative

Unless access to hazardous cliff zones is restricted, the high incidence of accidents resulting from persons falling off or being washed off rocks by waves and tidal urges would continue.

Environmental Consequences of Beach Restoration Alternative

This alternative would offer new opportunities for many visitors. The restored beach would attract people who had previously considered the area remote and inaccessible, or the ruins an eyesore. Removal of the Baths ruins would eliminate the hazards inherent with deteriorating structures. Removal of the seawall to restore the beach would require engineering studies to determine if stabilization is necessary to restore a natural-appearing beach.

6.7 TRAFFIC AND PARKING

Affected Environment

Currently, all of the intersections in the Sutro District vicinity operate at an acceptable level of service. However, traffic congestion occurs within the District as a direct result of visitor traffic. Traffic congestion is compounded by a sharp curve in the roadway, poor sight distance, and parking problems created by automobiles and tour buses. People arriving to the area generally attempt to park as close to the Cliff House as possible. The number of on- and off-street parking spaces is shown in Table 2-1. A parking deficit only occurs on peak use days, which typically are weekends and occasional summer weekdays. The existing pedestrian crosswalk across Point Lobos Avenue is unsafe.

The nearest designated bikeway is the Great Highway, which links the District to Golden Gate Park.

Transit service to the District is provided by San Francisco Municipal Railway (MUNI) buses. Primary routes serving the District are the 18-46th Avenue, 31-Balboa and 38-Geary.

Environmental Consequences of Proposal

Vehicular circulation would be improved by relocating bus activity to the Merrie Way parking lot, as buses would no longer congregate in front of the



Traffic Congestion at the Cliff House

Cliff House. Only minibuses (passenger sized tour vans) would be accommodated to drop off passengers at the Visitor Center in the Merrie Way parking lot and would then drive to assigned parking areas in both the Merrie Way and Point Lobos lots. They would then return to the Visitor Center drop-off area to reboard their passengers. Larger buses would not be given permits to bring visitors to the District. The existing bus parking spaces near the Cliff House would be converted into automobile parking spaces with a 10 minute time limit. Only those vehicles with passengers destined for the Cliff House would continue to circulate while looking for parking spaces close to the Cliff House.

The parking lot on the south side of Point Lobos Avenue will remain but will be designated as employee and tour bus parking. Pedestrians who are unfamiliar with the area would no longer have to cross the street to get to the Cliff House.

The creation of a pedestrian pathway between the Merrie Way parking lot and the Point Lobos Avenue/El Camino del Mar/48th Avenue intersection would improve access to Sutro Heights Park while allowing for a safer crossing of Point Lobos Avenue. Since the intersection currently operates at a very high level of service with available excess capacity, the operation of this signalized intersection would not be adversely affected by the additional pedestrians. The new and upgraded pedestrian pathways that would be located around the Sutro Baths area would also improve safety by clearly marking where pedestrians should and should not go (see the Visitor Safety and Access section of this EA).

By upgrading the El Camino del Mar parking lot near the USS San Francisco Memorial, vehicle and pedestrian safety would be improved. Vehicles would have a clear direction in which to proceed, unlike the existing condition where the cul-de-sac is unmarked except for the parking along the outer edge. Pedestrian safety would improve as the potential for vehicle-pedestrian conflicts would be reduced.

None of the nearby intersections would be adversely affected as a result of the project. The roadways and intersections currently have excess capacity, and the proposed project is expected to generate additional trips. However, because it will be developed incrementally and because an aggressive Transportation System Management (TSM) program is incorporated in the Plan, impacts to the existing roadways and adjacent neighborhoods are expected to be negligible.

The project includes a left turn bay for eastbound left turns on Point Lobos Avenue into the Merrie Way parking lot, and a left turn acceleration lane for vehicles exiting the parking lot onto Point Lobos Avenue eastbound. These measures would improve the traffic flow along Point Lobos Avenue, and reduce the potential for left turn conflicts.

MUNI bus service would continue to be provided throughout the District. Bus stops for the 18-46th and 38-Geary lines would remain in the same locations pending further study by the NPS in concert with MUNI. On the other side of the District, the 31-Balboa would continue to serve the southern portion of the area.

Environmental Consequences of No Action Alternative

This alternative would result in continued traffic congestion near the Cliff House. Pedestrian and vehicle safety would continue to decline.

Environmental Consequences of Beach Restoration Alternative

This alternative would result in similar traffic congestion as is experienced today.

6.8 VISUAL RESOURCES

Affected Environment

The Sutro District is within a magnificent setting. The District is the leading edge of the San Francisco side of the Golden Gate NRA. It represents the western extremity of the city and provides a striking panorama of the Pacific, the rugged Marin coastline, and the full sweep of Ocean Beach (Figure 6-3). The vertical cliffs along the water's edge impart a feeling of drama to the area. The natural scene is augmented impressively by an unusual wildlife display on Seal Rocks, 600 feet offshore. Above the ruins, the parking area is a popular place to view the ocean, especially at sunset. Sutro Heights is not as well known as the other vantage points, but it affords magnificent viewpoints of its own. Facing northward toward the Marin coast, Cliff House visitors look out over a cove-like structure in the coastline filled with an interesting arrangement of concrete foundations, some of them filled with water. Embraced on the north and east by groves of windswept Monterey Cypress, the Sutro Baths ruins present an intriguing scene to some and an eyesore to others. However, the area is visually impacted by makeshift trails, severe erosion scars and the appearance and visibility of the significant commercial development near the Cliff House. Visual problems are also created by bus traffic, parked cars and the efforts of visitors to enjoy the dramatic view.

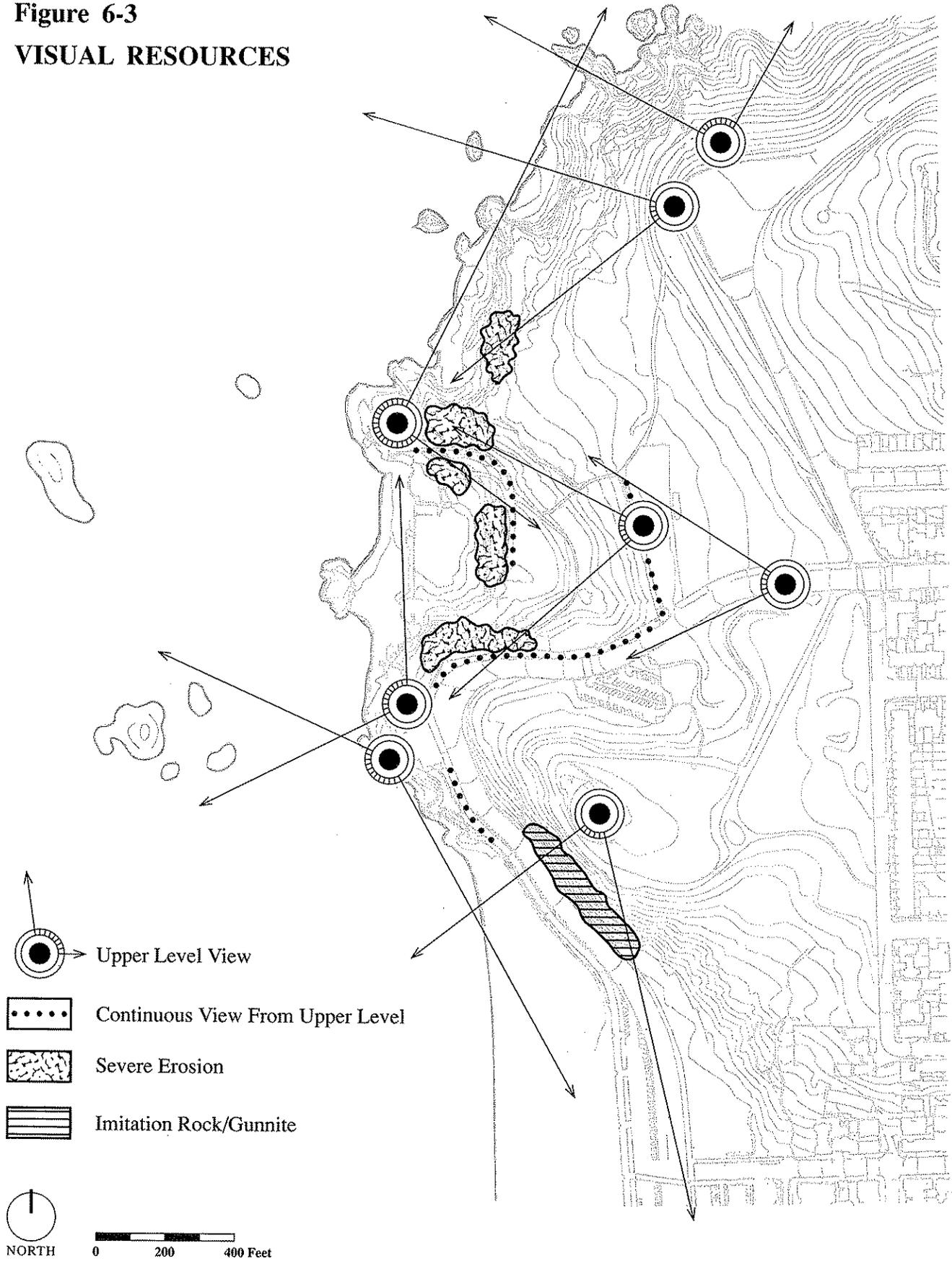
Environmental Consequences of Proposal

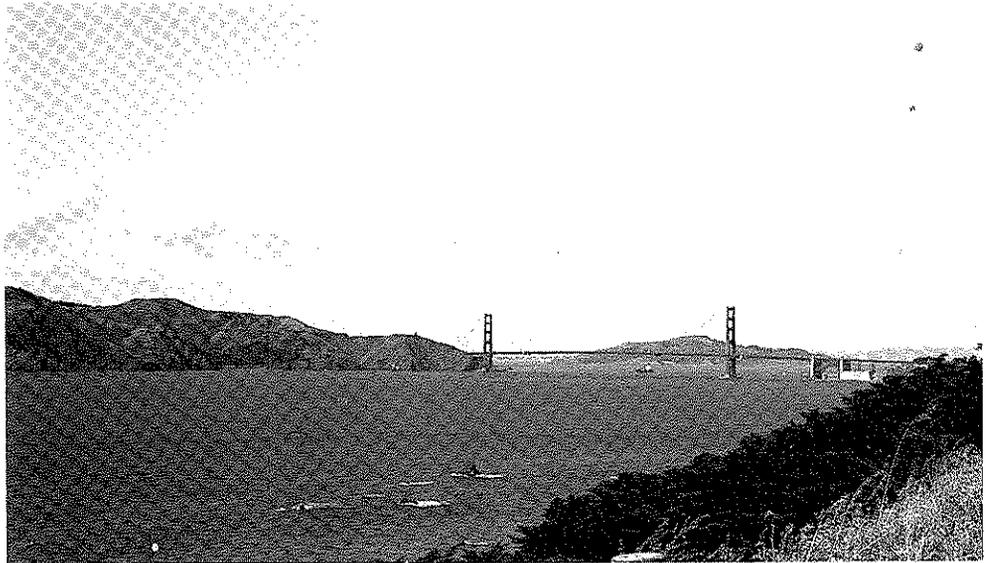
Visual integrity was an important factor in the placement and design of the new park facilities, including the Visitor Center and parking lots. Changes in visual quality would result primarily from removing/rejuvenating the unsightly development, control of accelerated erosion (human caused), increasing the natural appearance of the site, creation of additional open space and construction of new features in the Baths (walkways, trails and stairs). The Sutro District's appearance would be greatly enhanced by expanding vistas and landscaping new open areas. The visual character of the Baths area would change from poorly maintained ruins to an urban park. Improved pathways and coastal overlooks, and overall strengthening of visual connections would help visitors to better enjoy the views. The substantial facelift, including general cleanup, renovation of existing character-defining buildings and structures, removal of non-contributing features and buildings and compatible landscape design for new facilities, would increase the aesthetic appeal of the site and reduce the general unsightliness of the park area.

Environmental Consequences of No Action Alternative

The visual quality of the District would be somewhat improved by cleanup and routine maintenance activities. However, land losses due to accelerated

Figure 6-3
VISUAL RESOURCES





One of the Many Spectacular Views from the District

erosion and the deterioration of the Merrie Way parking lot would reduce the visual quality of the landscape and continue to contribute to the general unsightliness of the park area. Visual intrusions would continue to detract from the natural scene. Significant erosion scars would remain.

Environmental Consequences of Beach Restoration Alternative

Restoration of the ocean shoreline and landscape improvements would greatly enhance the natural character of the setting. Removal of the rubble, debris and crumbling structures and alteration of the terrain would result in a better maintained appearance and return the visual quality of the Baths area to that of its pre-Sutro past.

6.9 AIR QUALITY

Affected Environment

Air quality within the Sutro District is good, considering its proximity to an urban area. Incoming offshore winds generally keep the air in good condition. However, visitors arriving to the area in private cars typically drive around looking for parking close to the Cliff House. Tour bus parking in front of the Cliff House is highly congested. Both types of District-related emissions have contributed to air pollution in the immediate vicinity.

Environmental Consequences of Proposal

Construction and demolition activities would temporarily increase noise and dust levels, as well as emissions from construction machinery. These effects would be short lived and would affect a local area only.

Any increase in the total amount of visitor automobile traffic would potentially degrade air quality in the immediate area. Increased concentrations may be expected for major automotive pollutants (carbon monoxide, hydrocarbons, nitrogen oxides, sulfur oxides, and total suspended particulates). District related emissions would be additive with other urban pollution sources. Closure of the congested bus parking area would also reduce the potential for deterioration of air quality. Proposed improvements in automobile parking and circulation patterns would reduce congestion and air pollution from automotive emissions. Additionally, the presence of a more attractive park setting that is close to home and serviced by transit systems and the parking limitations and TSM strategies incorporated in the proposal should ultimately reduce overall recreational traffic and related emissions in the larger region.

Other sources of pollutants (new facilities unrelated to vehicular traffic) would not be created by the plan.

Environmental Consequences of No Action Alternative

Congestion and air pollution from automotive emissions would remain unchanged under the no action alternative.

Environmental Consequences of Beach Restoration Alternative

Air quality would not be affected by this alternative.

6.10 ECONOMIC IMPACTS

Affected Environment

The Cliff House and the cluster of structures associated with it presently form the focus of the District and one of the most significant commercial developments in the Golden Gate National Recreation Area. The Cliff House complex continues to attract numerous visitors for dining and souvenir shopping. Roughly 1 million visitors per year travel to the commercial promontory, many arriving by tour bus as part of a standard package of San Francisco sites. Facilities include three restaurants, two bars, a fast-food service facility, two gift shops, several “vintage” amusement features and the NPS Visitor Center.

Environmental Consequences of Proposal

The project would strengthen the District’s identification as a San Francisco landmark. Visitors’ experience would be enhanced through the wider variety of activities and recreational opportunities onsite, improved access and traffic flow, interpretation program, and NPS management practices. Higher visitor use levels would increase the demand for commercial services, in-

cluding food and souvenirs in the immediate and surrounding areas. The North Annex structures would be removed and space in new or renovated character-defining facilities would be developed for most existing and/or new businesses. Remaining businesses would be stimulated, but these are already heavily used by residents and tourists alike, and may experience little noticeable change. No services are likely to be unduly strained.

The provision of additional facilities would also lengthen the time people spend in the District, making the area a full day outing for many. With additional activities and attractions available, even tour bus operators might extend the portion of their itineraries devoted to the Sutro District.

Environmental Consequences of No Action Alternative

This alternative would result in no significant change to the area's general character or visitation levels, unless through lack of new investment, the area were to decline into an image of a run-down tourist trap, in which case visitation could diminish.

Environmental Consequences of Beach Restoration Alternative

This alternative would attract some new visitors who would be more likely to spend more time and explore the entire area. However, the Cliff House visitation would remain about the same.

6.11 RELATIONSHIP TO OTHER PLANS

General Management Plan

The approved General Management Plan (U.S. Dept. of the Interior, National Park Service, September 1980) for Golden Gate National Recreation Area provides Development Concept level direction for managing the lands within the park that are associated with Adolph Sutro. The management zoning classification in the GMP for these lands is the preservation and enhancement of historic resources, with the surrounding landscape managed for natural values. Specifically, the plan calls for continued NPS information and orientation, exhibit facilities and concession operated visitor services at the Cliff House location. The Sutro Baths ruins are to be interpreted, and improved safe visitor access is to be provided. Sutro Heights is to retain its quiet neighborhood orientation, with its gardens partially restored and interpreted.

The proposed Comprehensive Design Plan would be consistent with the objectives of the General Management Plan, and no substantial conflicts have been identified.

California Coastal Plan

The California Coastal Plan (California Coastal Zone Conservation Commissions, December 1975) sets forth policies for coastal conservation and development. The plan provides that federal agencies to the extent applicable under federal law, be required to conduct their activities in full compliance with Coastal Plan policies. Plan maps specifically apply the policies to areas along the coastal zone, including the Golden Gate National Recreation Area, for government agencies' use in their own implementation of the plan. The San Francisco portion of Golden Gate National Recreation Area, as a high use zone, is to provide active, intense recreation opportunities. While the plan recognizes a relatively high level of use of the shoreline, it recommends that very little facility construction take place in the area. The specific recommendations for the Sutro District are to continue commercial recreation use of the site (limited to its present area), permit construction of a modest non-commercial Visitor Center below the line of sight from the roadway, and to prohibit public access to the nearshore rocks due to the hazardous cliff and surf.

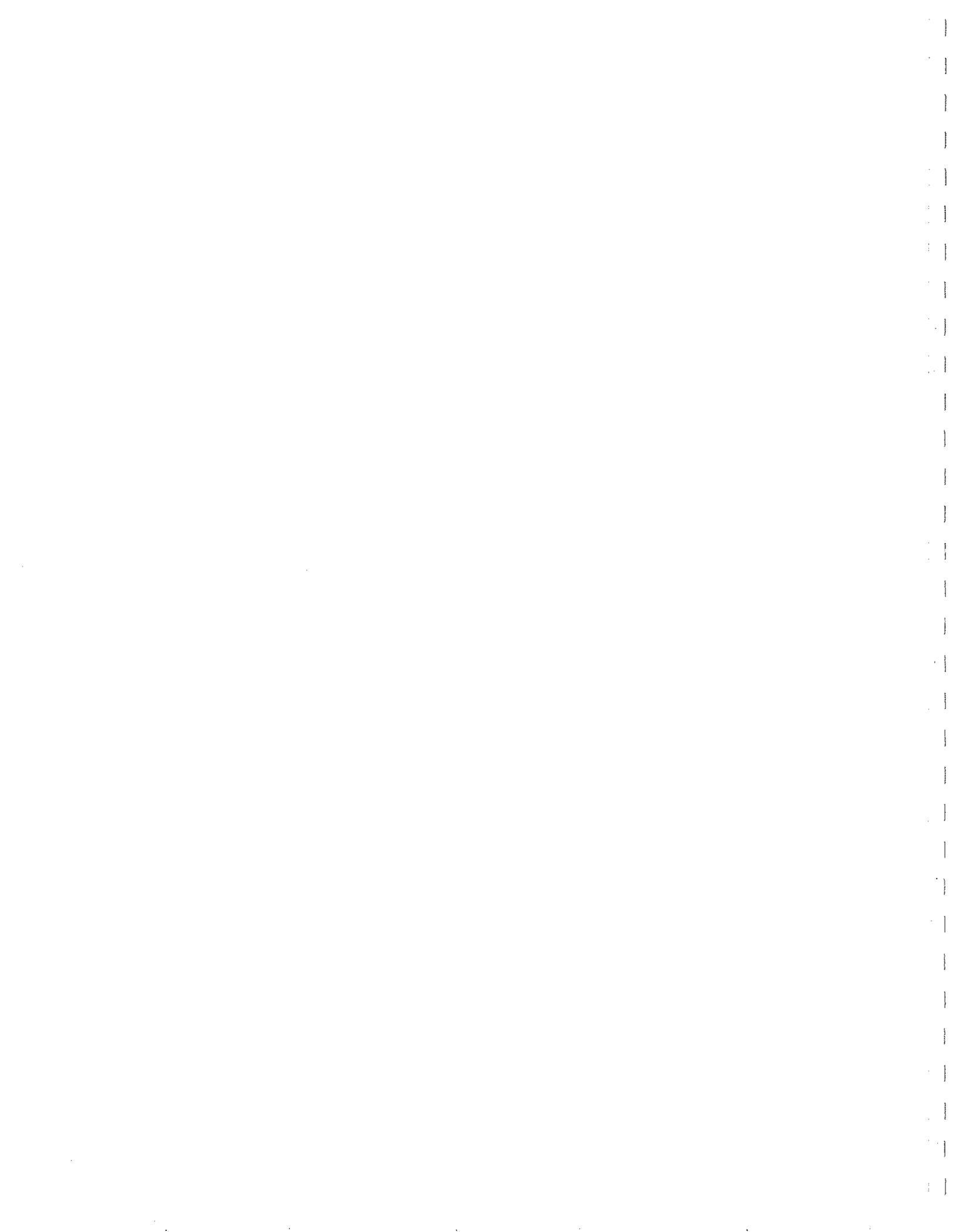
Implementation of the proposed Comprehensive Design Plan would be consistent with the objectives of the California Coastal Plan, and no substantial conflicts are apparent.

Western Shoreline Plan

The Western Shoreline Plan, which is part of the San Francisco Master Plan (City and County of San Francisco Department of City Planning, n.d.) is the City's plan for the Local Coastal Zone. The plan includes objectives and policies pertaining to open space along the shoreline, including the Cliff House-Sutro Baths and Sutro Heights. The objective for the Cliff House-Sutro Baths is to maintain its visitor attractiveness. Policies call for developing the area as a nature-oriented shoreline park, limiting commercial recreation uses to preserve the natural character of the site, and selectively developing the Sutro Bath ruins with stairs, walkways and ramps, seating and landscape improvements to permit increased public use and enjoyment. Hiker safety is to be ensured by providing a clearly marked and well maintained pathway system. Parking and vehicular circulation is to be redesigned to relieve congestion and provide for the safety of pedestrians (particularly those crossing Point Lobos). Noise and air pollution caused by tour buses is to be mitigated by relocating bus waiting areas, thereby increasing visitor enjoyment. The plan's objective for Sutro Heights is preservation and restoration. Specific policies are to continue its park use (retaining its quiet neighborhood orientation), preserve historic and natural features, restore selected landscape elements, improve trail access to Golden Gate Park, and protect the natural bluffs. Policies also include keeping the Sutro Heights

hillside undeveloped to protect the hilltop landform, and maintaining views to and from the area.

No substantial conflicts have been identified. Implementation of the proposed Comprehensive Design Plan would be consistent with the objectives of the Western Shoreline Plan.



7. FINDING OF NO SIGNIFICANT IMPACT

FINDING OF NO SIGNIFICANT IMPACT

SUTRO HISTORIC DISTRICT
COMPREHENSIVE DESIGN PLAN

PROPOSED ACTION

The National Park Service has completed a Comprehensive Plan and Environmental Assessment for the Sutro Historic District in Golden Gate National Recreation Area. The Plan proposes actions to rehabilitate the Districts cultural and natural resources and interpret them for the Park visitor. Proposed actions in the Plan include removal of the north annex building and construction of a new visitor center at Merrie Way then restructuring parking and vehicular circulation. Resource management actions include stabilizing the Sutro Bath ruins, rehabilitation of the existing Cliff House, wetland and native plant habitat restoration and partial restoration of the Sutro Heights gardens.

ALTERNATIVES CONSIDERED

Four alternatives, including the Proposal, were considered and analyzed in the Environmental Assessment for the Comprehensive Design Plan. Other than the Proposal, alternatives considered included No Action (continuing the status quo); Reconstructing Sutro Baths, Cliff House and Sutro Heights to their 1890's appearance and Demolition of Sutro Baths ruins with reconstruction of presettlement environment (Naiad Beach). All of the alternatives have elements common with the Proposal and all have been discussed as resource management and treatment options in the past.

PUBLIC INVOLVEMENT

A Draft Plan and Environmental Assessment was released to the public through the Park's Citizens Advisory Commission on July 30, 1992. An extensive public comment period followed that extended into the spring of 1993. Over 400 copies of the Plan/EA were distributed, workshops were conducted with neighborhood groups, environmental organizations and San Francisco City Planning Department. The Plan was also presented to interested civic planning groups and commissions. A detailed Staff Report prepared in April 1993 summarized public comment received and delineated recommended changes in the Plan based on those comments. The Staff Report and Recommendations were adopted by the Citizens Advisory Commission in a public meeting on May 27, 1993. The Final Plan was then prepared based on the Staff report Recommendations.

IMPACTS/ MITIGATIONS

Impacts associated with the Plan include:

Impacts to Vegetation and Soils

Construction activities, particularly at the Merrie Way parking area, will disturb approximately 1.84 acres of degraded native and cultural vegetation. Approximately 1.14 acres will be revegetated and restored with a net change of .7 acre converted to parking and visitor center construction. This area has been extensively

trampled, native vegetation displaced and invaded by alien plant species. Mitigating measures include preparation of erosion surveys for the District and implementation of corrective measures, natural and cultural revegetation projects and a program of exotic species control and hazard tree treatment. Approximately 41 acres of the District will benefit from these enhancement measures.

Impacts to Wildlife and Wetlands

There will be a net increase of .23 acres of wetlands in the District from 1.40 acres to 1.63 acres resulting from the proposal. The quality of this aquatic habitat will also be upgraded and water quality improved through the exotic species control program and prescribed erosion control measures. Wildlife in the District will generally benefit from the 41 acres of vegetation enhancement in the District through improvements in habitat conditions. Developments will be located in areas previously disturbed therefore no adverse impacts to wildlife are anticipated from implementing the plan.

Impacts to Cultural Resources

The Cultural Landscape Report prepared during the planning process recommends Rehabilitation as the proper treatment for the District's cultural resources. Plan proposals to facilitate continued recreational use and contemporary needs for NPS interpretation such as new visitor center, parking improvements and uniform accessibility were designed not to adversely affect cultural resources. Plan actions will be implemented in full compliance with the Secretary of Interior's Standards for Rehabilitation. National Park Service procedures for archeological clearance will be adhered to and all actions involving ground disturbance closely monitored.

Impacts to Visitor Use and Safety

Plan proposals will correct a number of conditions hazardous to visitors such as unrestricted access to unstable cliffs and shoreline and an ill-defined trail system. The general upgrading of resource conditions and improved visitor facilities may attract more visitation to the District. Restrictions on tour buses and improved, more efficient access to the area is expected to offset the impacts of any increases in visitation.

Impacts to Traffic and Access

The total number of parking spaces, both off and on street, will increase in the District from 576 to 605 if the proposal is implemented. However, actual square footage devoted to parking decreases from over 223,000 sq. ft. to less than 197,000 sq. ft. This is a result of more efficient space utilization, striping and down sizing tour buses. The addition of overflow parking at Merrie Way would increase total parking to 669 spaces but total space required is 214,350 sq. ft., still less than existing. Pedestrian and vehicular movements are expected to be more efficient because of the relocation of tour bus operations and elimination of traffic congestion in front of the Cliff House.

Impacts to Visual Resources

A general upgrading in the quality of the visual resources in the District is expected with actions proposed in the Plan. Air quality is presently good and will profit from elimination of oversized tour buses and the congestion they create. Increased traffic in the District may lower air quality, however more efficient circulation patterns will tend to lessen overall emissions. Therefore any net change is expected to be minimal.

Economic Impacts

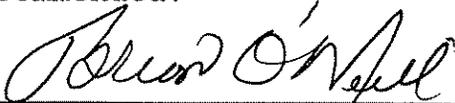
There will be no net loss of concession operated commercial square footage in the Plan. The type and location of several commercial services in the North Annex building will change, but these will be accommodated in the Visitor Center or the rehabilitated Cliff House complex.

DETERMINATION

Implementation of the Comprehensive Design Plan is consistent with the protection of historic, natural and scenic resource values, safety considerations and National Park Service management policies. The objectives of the California Coastal Management Program will be met with Plan implementation.

The Plan does not constitute an action that normally requires the preparation of an Environmental Impact Statement (EIS). The Plan will not have a significant impact on the human environment. There are no unmitigated adverse impacts on public health, public safety, threatened or endangered species, sites or districts listed in or eligible for inclusion in the Register of Historic Places, or other unique characteristics of the region. Implementation of the Plan will not violate any federal, state or local law. Therefore in compliance with the National Environmental Policy Act, an Environmental Impact Statement will not be prepared.

Recommended:

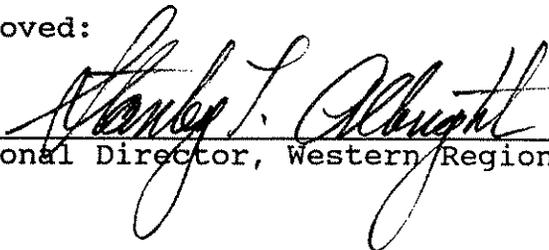


General Superintendent
Golden Gate National Recreation Area

29 September 93

Date

Approved:



Regional Director, Western Region

10/1/93

Date

IMPACT MITIGATION MATRIX

SUTRO HISTORIC DISTRICT
COMPREHENSIVE DESIGN PLANImpacts to Vegetation and Soils

Approximately .7 acre of open land will be converted to development.

Revegetation and erosion control measures planned on approximately 41 acres. Responsibility: NPS Resource Management/Maintenance.

Impacts to Wildlife and Wetlands

There will be a net increase of .23 acres of wetland habitat.

No mitigation required.

Impacts to Cultural Resources

Historic features will be treated under the Secretary of Interior's Standards for Rehabilitation.

All ground disturbance will be monitored for impacts on potential archeological resources. Responsibility: NPS Resource Management.

Impacts to Visitor Use and Safety

Visitation may increase upon implementation of the Plan. Safety hazards to visitors will be reduced.

Restrictions on tour buses and upgrading of facilities will increase quality of visitor experience.

Impacts to Traffic and Access

Total parking will increase from 576 to 605 spaces and 64 overflow spaces. Area devoted to parking will decrease from 223,000 sq ft to 214,350 sq ft

No mitigation required.

Impacts to Visual Resources

Plan actions will upgrade visual resource quality. Increased traffic may increase emissions and lower air quality.

More efficient circulation and traffic flow will lessen overall emissions.

Economic Impacts

There will be no net loss of sq ft devoted to revenue generation from Plan actions.

No mitigation required.



3

APPENDICES



APPENDIX A

PLANT SPECIES OBSERVED AT THE SUTRO HISTORIC DISTRICT



Appendix A
Plant Species Observed at the Sutro Historic District¹

Species ²	Vegetation Type ³										
	NFD	CDS	NCBS	CBM	CFM	R-Su	R-H	R-Sh	NNG	MCP	SB
<i>Abronia latifolia</i> [n] (sand verbena)	x						x				
<i>Abronia umbellata</i> [n] (beach sand verbena)	x										
<i>Acacia longifolia</i> [e] (Sydney golden wattle)								x			x
<i>Acacia melanoxylon</i> [e] (Blackwood acacia)									x	x	
<i>Achillea millefolium</i> [e] (yarrow)		x	x				x		x		
<i>Agapanthus africanus</i> [e] (lily of the Nile)	x						x	x	x		
<i>Agave</i> sp. [e] (agave)								x			
<i>Albizia distachya</i> [e] (plume albizia)		x	x					x			
<i>Ammophila arenaria</i> [e] (european beachgrass)								x			
<i>Artemisia californica</i> [n] (California sagebrush)	x	x	x					x			
<i>Artemisia pycnocephala</i> [n] (beach sagebrush)	x							x			
<i>Avena fatua</i> [e] (wild oat)		x	x				x	x		x	
<i>Baccharis pilularis</i> [n] (dwarf coyote brush)	x	x	x				x	x			

¹ Observed during December 1991, and January and February 1992.

² e - exotic, n - native, n* - native to California, but not to the District.

³ NFD - Northern Foredune, CDS - Central Dune Scrub, NCBS - Northern Coastal Bluff Scrub, CBM - Coastal Brackish Marsh, CFM - Coastal Freshwater Marsh, R-Su - Ruderal Succulent, R-H - Ruderal Herbaceous, R-Sh - Ruderal Shrub, NNG - Non-native Grassland, MCP - Monterey Cypress Plantation, SB - Stabilized Bluff

Species	Vegetation Type										
	NFD	CDS	NCBS	CBM	CFM	R-Su	R-H	R-Sh	NNG	MCP	SB
<i>Brassica campestris</i> [e] (field mustard)		x	x					x			
<i>Bromus rigidus</i> [e] (ripgut brome)		x	x					x	x		
<i>Brugmansia</i> sp. [e] (angel's trumpet)								x	x		
<i>Cakile maritima</i> [e] (sea rocket)	x					x		x			
<i>Calindrinia ciliata</i> <i>var. menziesii</i> [n] (red maids)								x		x	
<i>Cardamine oligosperma</i> [n] (bitter-cress)										x	
<i>Carex pansa</i> [n] (dune sedge)	x										
<i>Coprosma repens</i> [e] (mirror plant)								x		x	x
<i>Cotula coronipifolia</i> [e] (brass buttons)				x							
<i>Cupressus macrocarpa</i> [n*] (Monterey cypress)	x							x	x	x	x
<i>Cynodon dactylon</i> [e] (Bermuda grass)							x	x			x
<i>Cyperus</i> sp. [e/n] (umbrella sedge)					x						
<i>Distichlis spicata</i> [n] (salt grass)				x							
<i>Dudley farinosa</i> [n] (live-forever)						x		x			x
<i>Equisetum arvense</i> [n] (common horsetail)					x			x			
<i>Erigeron glaucus</i> (n) (seaside daisy)	x					x		x			

Species	Vegetation Type										
	NFD	CDS	NCBS	CBM	CFM	R-Su	R-H	R-Sh	NNG	MCP	SB
<i>Eriophyllum staechadifolium</i> [n] (lizard tail)	x								x		
<i>Erodium botrys</i> [e] (filaree)							x		x		
<i>Erodium cicutarium</i> [e] (storksbill)									x		
<i>Eschscholzia californica</i> [n] (California poppy)	x	x	x					x	x		
<i>Foeniculum vulgare</i> [e] (common fennel)									x	x	
<i>Fragaria chiloensis</i> [n] (beach strawberry)	x						x	x	x		
<i>Fritillaria liliacea</i> [n] (lily-like fritillary)							x				
<i>Galium aparine</i> [e] (climbing bedstraw)								x		x	
<i>Galium</i> sp. {e/n} (bedstraw)										x	
<i>Haplopappus ericoides</i> [n] (mock heather)	x										
<i>Hebe franciscana</i> [e] (hebe)											x
<i>Hedera canariensis</i> [e] (Algerian ivy)								x		x	
<i>Heracleum lanatum</i> [n] (cow parsnip)							x		x		
<i>Hordeum hystrix</i> [e] (cheat grass)							x				
<i>Hordeum leporinum</i> [e] (wild barley)		x	x					x	x		
<i>Hypochoeris radicata</i> [e] (hairy cat's ear)							x				

Species	Vegetation Type										
	NFD	CDS	NCBS	CBM	CFM	R-Su	R-H	R-Sh	NNG	MCP	SB
<i>Iris douglasiana</i> [n] (Douglas iris)							x				
<i>Iris</i> sp. [e] (iris)					x						
<i>Juncus</i> sp. [n] (rush)	x				x			x	x		
<i>Lampranthus filicaulis</i> [e] (Redondo creeper)						x					x
<i>Lavatera arborea</i> [e] (tree mallow)		x	x					x	x	x	x
<i>Lobularia martina</i> [e] (sweet alyssum)	x	x	x			x	x	x	x	x	x
<i>Lupinus arboreus</i> [n] (coastal bush lupine)	x	x	x				x	x	x		
<i>Lupinus</i> sp. [n] (lupine)								x			
<i>Malva parviflora</i> [e] (cheeseweed)		x					x	x	x	x	
<i>Marah fabaceus</i> [n] (wild cucumber)	x	x					x	x	x		
<i>Medicago hispida</i> [e] (bur clover)							x	x	x		
<i>Melaleuca nesophila</i> [e] (pink melaleuca)										x	x
<i>Mesembryanthemum chilense</i> [e] (sea-fig)	x					x	x	x	x		
<i>Mesembryanthemum edule</i> [e] (Hottentot-fig)						x	x	x	x		x
<i>Mimulus guttatus</i> [n] (monkey flower)				x	x						
<i>Muehlenbeckia complexa</i> [e] (mattress vine)								x			

Species	Vegetation Type										
	NFD	CDS	NCBS	CBM	CFM	R-Su	R-H	R-Sh	NNG	MCP	SB
<i>Oxalis pes-caprae</i> [e] (Bermuda-buttercup)	x	x				x	x	x	x	x	x
<i>Pennisetum clandestinum</i> [e] (kikuyugrass)	x							x			
<i>Phalaris canariensis</i> [e] (canary grass)									x		
<i>Picris echioides</i> [e] (prickly ox tongue)							x	x	x		
<i>Pinus radiata</i> [n*] (Monterey pine)								x		x	x
<i>Pittosporum undulatum</i> [e] (victorian box)								x			x
<i>Plantago lanceolata</i> [e] (buckhorn plantain)		x	x					x	x		
<i>Plantago major</i> [e] (common plantain)						x	x				
<i>Poa annua</i> [e] (annual bluegrass)									x		
<i>Polypogon monspeliensis</i> [e] (rabbitfoot grass)						x					
<i>Ranunculus californica</i> [n] (California buttercup)							x				
<i>Raphanis sativus</i> [e] (wild radish)	x	x	x		x	x	x	x	x		
<i>Ribes sanguineum</i> [n] (pink flowering currant)										x	
<i>Rorippa nasturtium-aquaticum</i> [n] (watercress)				x	x						
<i>Rubus procerus</i> [e] (Himalaya berry)	x							x			
<i>Rubus vitifolius</i> [n] (California blackberry)					x		x	x		x	

Species	Vegetation Type										
	NFD	CDS	NCBS	CBM	CFM	R-Su	R-H	R-Sh	NNG	MCP	SB
<i>Rumex crispus</i> [e] (curly dock)					x		x	x	x		
<i>Salix lasiolepis</i> [n] (arroya willow)					x		x	x			
<i>Scrophularia californica</i> [n] (California figwort)									x		
<i>Sedum</i> sp. [n/e] (stonecrop)						x		x			x
<i>Senecio mikanioides</i> [e] (German-ivy)								x		x	
<i>Senecio vulgaris</i> [e] (common groundsel)		x				x	x		x		
<i>Silybum marianum</i> [e] (milk thistle)									x	x	
<i>Solanium nodiflorum</i> [e] (nightshade)								x		x	
<i>Sonchus asper</i> [e] (sow thistle)		x	x			x	x	x	x		
<i>Stellaria media</i> [e] (common chickweed)							x	x	x	x	
<i>Tamarix pentandra</i> [e] (tamarisk)											x
<i>Tanacetum camphoratum</i> [n] (dune tansy)	x							x			
<i>Taraxacum officinale</i> [e] (dandelion)									x		x
<i>Trifolium</i> sp. [e/n] (clover)							x		x		
<i>Tropaeolum majus</i> [e] (nasturtium)					x			x			
<i>Typha</i> sp. [n] (cattail)					x						

Species	Vegetation Type										
	NFD	CDS	NCBS	CBM	CFM	R-Su	R-H	R-Sh	NNG	MCP	SB
<i>Urtica</i> sp. [n/e] (nettle)						x					
<i>Vicia gigantea</i> [n] (giant vetch)								x			
<i>Vinca major</i> [e] (giant periwinkle)									x		
<i>Zantedeschia aethiopica</i> [e] (cala lily)						x					

Plant species which were reported by Jake Sigg, Sue Smith, and Peter Rubtsoff of the California Native Plant Society following a reconnaissance of the Sutro Bath Wetlands and Hill Slope Area on May 23, 1991.

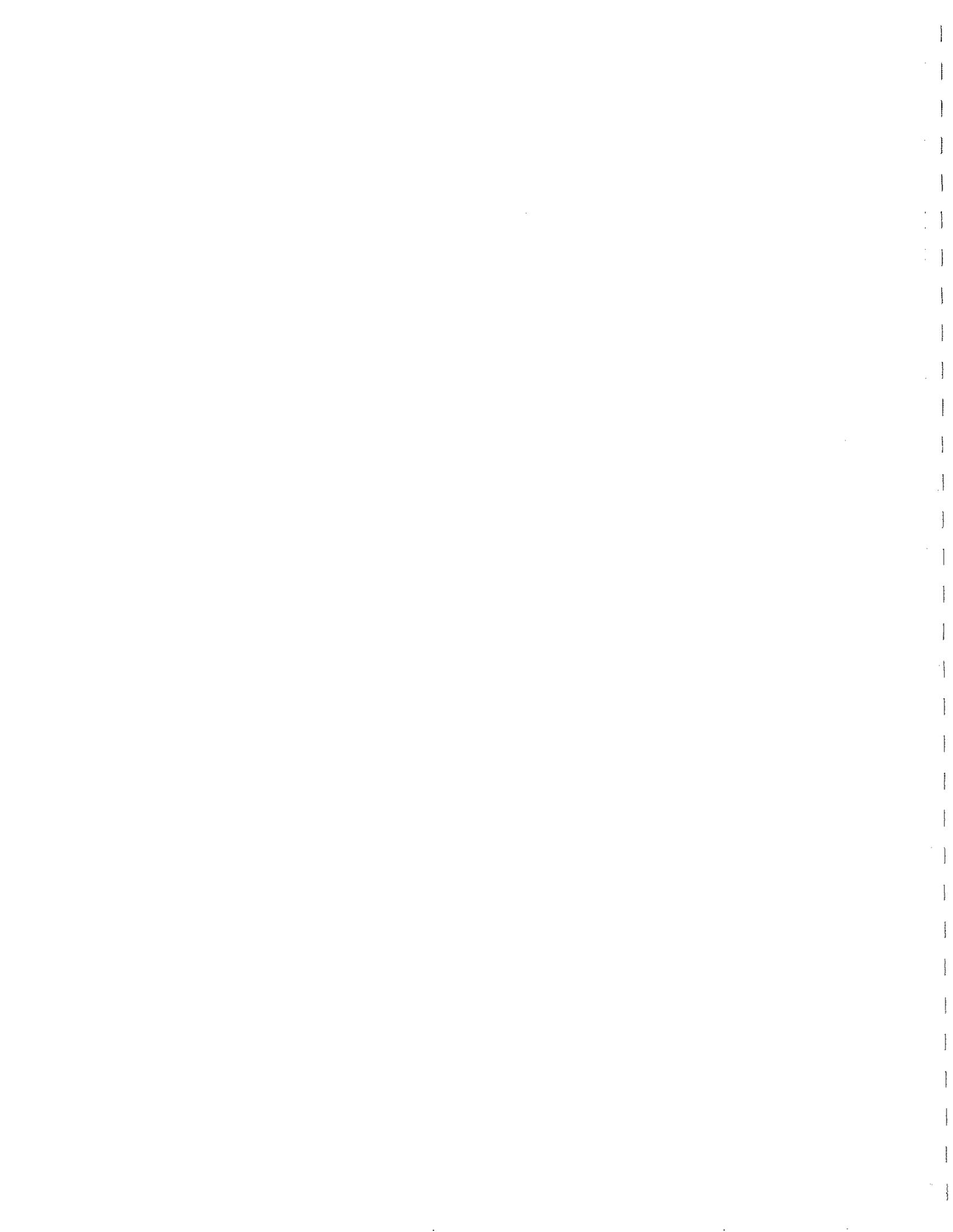
Scientific Name	Native Species	Common Name
<i>Agrostis sp.</i>		Agrostis grass
<i>Atriplex hastata</i>		Saltbush sp.
<i>Bromus maritimus</i>		Brome
<i>Camissonia cheiranthifolia</i>		Beach primrose
<i>Distichlis spicata</i>		Salt-grass
<i>Elymus mollis</i>		American dune grass
<i>E. triticoides</i>		Elymus grass
<i>Epilobium watsonii v. franciscana</i>		S.F. willow-herb
<i>Equisetum telmateia</i>		Horsetail
<i>Franseria chamissonis</i>		Beach bur
<i>Gnaphallium chilense</i>		Cudweed
<i>Jaumea carnosa</i>		Jaumea
<i>Juncus bufonius</i>		Toad rush
<i>J. leseurii</i>		Rush
<i>Ludwigia peploides</i>		Ludwigia
<i>Plantago maritima</i>		Plantain
<i>Polypogon interruptus</i>		Polypogon
<i>Potentilla egedii v. grandis</i>		Pacific silverweed
<i>Potamogeton sp.</i>		Potamogeton
<i>Ribes sanguineum var. glutinosum</i>		Coast red current
<i>Rubus ursinus</i>		California blackberry
<i>Rumex salicifolius</i>		Willow-leaved dock
<i>Ruppia maritima</i>		Ruppia
<i>Scirpus paludosus</i>		Tule
<i>S. pungens</i>		Tule
<i>Salix lasiolepis v. bigelovii</i>		Arroyo willow
<i>Spergularia macrotheca</i>		Large-flowered sand spurry
<i>S. marina</i>		Sand spurry
<i>Urtica holosericea</i>		Stinging nettle

Introduced Native or Escaped Exotic Species

<i>Albizia lophantha</i>	Plume albizia
<i>Anagallis arvensis</i>	Scarlet pimpernell
<i>Avena barbata</i>	Wild oats
<i>Carduus pycnocephalus</i>	Italian thistle
<i>Cyperus alternifolius</i>	Umbrella sedge
<i>Erodium cicutarium</i>	Red-stemmed filaree
<i>Festuca arundinacea</i>	Tall fescue
<i>Foeniculum vulgare</i>	Fennel
<i>Geranium dissectum</i>	Cut-leaved geranium
<i>Hedera helix</i>	English ivy
<i>Hedypnois cretica</i>	Hedypnois
<i>Lobularia maritima</i>	Lobularia
<i>Lolium sp.</i>	Grass sp.
<i>Malva sylvestris</i>	High mallow
<i>Matthiola sp.</i>	Stock
<i>Melilotus indicus</i>	Clover
<i>Mesembryanthemum sp.</i>	Ice plant
<i>Monerma cylindrica</i>	Grass sp.
<i>Parapholis incurva</i>	Sickle grass
<i>Plantago coronopus</i>	Common plantain
<i>Solanum aviculare</i>	New Zealand solanum
<i>S. furcatum</i>	Nightshade
<i>Sonchus oleraceus</i>	Sow thistle
<i>Tetragonia tetragonioides</i>	New Zealand spinach

APPENDIX B

WILDLIFE SPECIES KNOWN OR POTENTIALLY OCCURRING IN THE SUTRO HISTORIC DISTRICT



Appendix B
Vertebrate and Invertebrate Wildlife Species Known or Potentially Occurring
in the Sutro Historic District, San Francisco County, California

COMMON NAME ¹	SCIENTIFIC NAME ¹	STATUS ²	SOURCE ³
Invertebrates			
Bumblebee scarab beetle	<i>Lichnanthe ursina</i>	FC2	G
Amphibians			
California newt	<i>Taricha torosa</i>		D
Ensatina	<i>Ensatina eschscholtzi</i>		D
California slender salamander	<i>Batrachoseps attenuatus</i>		D
Arboreal salamander	<i>Aneides lugubris</i>		D
Western toad	<i>Bufo boreas</i>		D
Pacific treefrog	<i>Hyla regilla</i>		D
California red-legged frog	<i>Rana aurora draytonii</i>	CSC, FC2	D
Reptiles			
Western fence lizard	<i>Sceloporus occidentalis</i>		D
Southern alligator lizard	<i>Gerrhonotus multicarinatus</i>		D
Northern alligator lizard	<i>Gerrhonotus coeruleus</i>		D
Rubber boa	<i>Charina bottae</i>		D
Gopher snake	<i>Pituophis melanoleucus</i>		D
Common kingsnake	<i>Lampropeltis getulus</i>		D
Western terrestrial garter snake	<i>Thamnophis elegans</i>		D
Birds			
Red-throated loon	<i>Gavia stellata</i>		C
Arctic loon	<i>Gavia arctica</i>		C
Common loon	<i>Gavia immer</i>	CSC(b)	C
Pied-billed grebe	<i>Podilymbus podiceps</i>		F
Horned grebe	<i>Podiceps auritus</i>		C
Red-necked grebe	<i>Podiceps grisegena</i>		C
Western grebe	<i>Aechmophorus occidentalis</i>		C
Clark's grebe	<i>Aechmophorus clarkii</i>		C
Pink-footed shearwater	<i>Puffinus creatopus</i>		C
Sooty shearwater	<i>Puffinus griseus</i>		C
Brown pelican	<i>Pelecanus occidentalis</i>	CE, FE	A
Double-crested cormorant	<i>Phalacrocorax auritus</i>	CSC(r)	A
Brandt's cormorant	<i>Phalacrocorax penicillatus</i>		C
Pelagic cormorant	<i>Phalacrocorax pelagicus</i>		C
Great blue heron	<i>Ardea herodias</i>		F
Great egret	<i>Casmerodius albus</i>		F
Snowy egret	<i>Egretta thula</i>		C
Cattle egret	<i>Bubulcus ibis</i>		F
Black-crowned night heron	<i>Nycticorax nycticorax</i>		C
Greater white-fronted goose	<i>Anser albifrons</i>		F
Brant	<i>Branta bernicla</i>		C
Mallard	<i>Anas platyrhynchos</i>		C
Northern pintail	<i>Anas acuta</i>		C

COMMON NAME ¹	SCIENTIFIC NAME ¹	STATUS ²	SOURCE ³
Canvasback	<i>Aythya valisineria</i>		A
Ring-necked duck	<i>Aythya collaris</i>		A
Tufted duck	<i>Aythya fuligula</i>		E
Greater scaup	<i>Aythya marila</i>		C
Lesser scaup	<i>Aythya affinis</i>		F
Black scoter	<i>Melanitta nigra</i>		C
Surf scoter	<i>Melanitta perspicillata</i>		C
White-winged scoter	<i>Melanitta fusca</i>		C
Common goldeneye	<i>Bucephala clangula</i>		C
Barrow's goldeneye	<i>Bucephala islandica</i>	CSC(b)	F
Bufflehead	<i>Bucephala albeola</i>	CSC(b)	F
Hooded merganser	<i>Lophodytes cucullatus</i>		F
Red-breasted merganser	<i>Mergus serrator</i>		C
Ruddy duck	<i>Oxyura jamaicensis</i>		A
Turkey vulture	<i>Cathartes aura</i>		C
Sharp-shinned hawk	<i>Accipiter striatus</i>	CSC(b)	C
Cooper's hawk	<i>Accipiter cooperii</i>	CSC(b)	C
Red-shouldered hawk	<i>Buteo lineatus</i>		F
Broad-winged hawk	<i>Buteo platypterus</i>		F
Red-tailed hawk	<i>Buteo jamaicensis</i>		A
American kestrel	<i>Falco sparverius</i>		C
Merlin	<i>Falco columbarius</i>	CSC	F
Peregrine falcon	<i>Falco peregrinus</i>	SE, FE	B
California quail	<i>Callipepla californica</i>		C
American coot	<i>Fulica americana</i>		A
Killdeer	<i>Charadrius vociferus</i>		C
Black oystercatcher	<i>Haematopus bachmani</i>		A
Greater yellowlegs	<i>Tringa melanoleuca</i>		C
Willet	<i>Catoptrophorus semipalmatus</i>		C
Wandering tattler	<i>Heteroscelus incanus</i>		A
Spotted sandpiper	<i>Actitis macularia</i>		A
Whimbrel	<i>Numenius phaeopus</i>		C
Long-billed curlew	<i>Numenius americanus</i>	CSC(b), F3C	C
Marbled godwit	<i>Limosa fedoa</i>		C
Ruddy turnstone	<i>Arenaria interpres</i>		C
Black turnstone	<i>Arenaria melanocephala</i>		A
Surfbird	<i>Aphriza virgata</i>		C
Sanderling	<i>Calidris alba</i>		C
Semipalmated plover	<i>Charadrius semipalmatus</i>		C
Western sandpiper	<i>Calidris mauri</i>		C
Least sandpiper	<i>Calidris minutilla</i>		C
Dunlin	<i>Calidris alpina</i>		C
Short-billed dowitcher	<i>Limnodromus griseus</i>		C
Common snipe	<i>Gallinago gallinago</i>		C
Red-necked phalarope	<i>Phalaropus lobatus</i>		
Bonaparte's gull	<i>Larus philadelphia</i>		C
Heermann's gull	<i>Larus heermanni</i>		C
Mew gull	<i>Larus canus</i>		C
Ring-billed gull	<i>Larus delawarensis</i>		C
California gull	<i>Larus californicus</i>	CSC(c)	C

COMMON NAME ¹	SCIENTIFIC NAME ¹	STATUS ²	SOURCE ³
Herring gull	<i>Larus argentatus</i>		C
Western gull	<i>Larus occidentalis</i>		A
Glaucous-winged gull	<i>Larus glaucescens</i>		C
Caspian tern	<i>Sterna caspia</i>		C
Elegant tern	<i>Sterna elegans</i>	CSC(c), FC2	C
Common tern	<i>Sterna hirundo</i>		C
Forster's tern	<i>Sterna forsteri</i>		C
Common murre	<i>Uria aalge</i>		C
Pigeon guillemot	<i>Cepphus columba</i>		C
Rock dove	<i>Columba livia</i>		A
Band-tailed pigeon	<i>Columba fasciata</i>		C
Mourning dove	<i>Zenaida macroura</i>		A
White-throated swift	<i>Aeronautes saxatalis</i>		C
Anna's hummingbird	<i>Calypte anna</i>		A
Rufous hummingbird	<i>Selasphorus rufus</i>		C
Allen's hummingbird	<i>Selasphorus sasin</i>		A
Belted kingfisher	<i>Ceryle alcyon</i>		C
Downy woodpecker	<i>Picoides pubescens</i>		B
Northern flicker	<i>Colaptes auratus</i>		A
Olive-sided flycatcher	<i>Contopus borealis</i>		B
Western wood-pewee	<i>Contopus sordidulus</i>		C
Pacific-slope flycatcher	<i>Empidonax difficilis</i>		C
Black phoebe	<i>Sayornis nigricans</i>		A
Tree swallow	<i>Tachycineta bicolor</i>		B
Violet-green swallow	<i>Tachycineta thalassina</i>		B
Northern rough-winged swallow	<i>Stelgidopteryx serripennis</i>		C
Cliff swallow	<i>Hirundo pyrrhonota</i>		C
Barn swallow	<i>Hirundo rustica</i>		B
Scrub jay	<i>Aphelocoma coerulescens</i>		B
American crow	<i>Corvus brachyrhynchos</i>		B
Common raven	<i>Corvus corax</i>		A
Chestnut-backed chickadee	<i>Parus rufescens</i>		A
Bushtit	<i>Psaltriparus minimus</i>		B
Red-breasted nuthatch	<i>Sitta canadensis</i>		C
Pygmy nuthatch	<i>Sitta pygmaea</i>		A
Brown creeper	<i>Certhia americana</i>		B
Bewick's wren	<i>Thryomanes bewickii</i>		C
Winter wren	<i>Troglodytes troglodytes</i>		C
Golden-crowned kinglet	<i>Regulus satrapa</i>		C
Ruby-crowned kinglet	<i>Regulus calendula</i>		A
Swainson's thrush	<i>Catharus ustulatus</i>		C
Hermit thrush	<i>Catharus guttatus</i>		C
American robin	<i>Turdus migratorius</i>		A
Varied thrush	<i>Ixoreus naevius</i>		F
Wrentit	<i>Chamaea fasciata</i>		C
Northern mockingbird	<i>Mimus polyglottos</i>		B
Cedar waxwing	<i>Bombycilla cedrorum</i>		C
European starling	<i>Sturnus vulgaris</i>		A
Hutton's vireo	<i>Vireo huttoni</i>		A
Warbling vireo	<i>Vireo gilvus</i>		C

COMMON NAME ¹	SCIENTIFIC NAME ¹	STATUS ²	SOURCE ³
Orange-crowned warbler	<i>Vermivora celata</i>		C
Nashville warbler	<i>Vermivora ruficapilla</i>		F
Yellow warbler	<i>Dendroica petechia brewsteri</i>	CSC(b)	C
Black-throated blue warbler	<i>Dendroica caerulescens</i>		F
Yellow-rumped warbler	<i>Dendroica coronata</i>		A
Black-throated gray warbler	<i>Dendroica nigrescens</i>		C
Townsend's warbler	<i>Dendroica townsendi</i>		C
Hermit warbler	<i>Dendroica occidentalis</i>		C
Macgillivray's warbler	<i>Oporornis tolmiei</i>		C
Saltmarsh common yellowthroat	<i>Geothlypis trichas sinuosa</i>	CSC	C
Wilson's warbler	<i>Wilsonia pusilla</i>		C
Black-headed grosbeak	<i>Pheucticus melanocephalus</i>		C
Lazuli bunting	<i>Passerina amoena</i>		C
Rufous-sided towhee	<i>Pipilo erythrophthalmus</i>		C
California towhee	<i>Pipilo crissalis</i>		A
Fox sparrow	<i>Passerella iliaca</i>		A
Song sparrow	<i>Melospiza melodia</i>		A
Lincoln's sparrow	<i>Melospiza lincolni</i>		C
Golden-crowned sparrow	<i>Zonotrichia atricapilla</i>		A
White-throated sparrow	<i>Zonotrichia albicollis</i>		F
White-crowned sparrow	<i>Zonotrichia leucophrys</i>		A
Dark-eyed junco	<i>Junco hyemalis</i>		A
Red-winged blackbird	<i>Agelaius phoeniceus</i>		C
Western meadowlark	<i>Sturnella neglecta</i>		C
Brewer's blackbird	<i>Euphagus cyanocephalus</i>		A
Brown-headed cowbird	<i>Molothrus ater</i>		B
Hooded oriole	<i>Icterus cucullatus</i>		B
Northern oriole	<i>Icterus galbula</i>		B
Purple finch	<i>Carpodacus purpureus</i>		A
House finch	<i>Carpodacus mexicanus</i>		B
Red crossbill	<i>Loxia curvirostra</i>		F
Pine siskin	<i>Carduelis pinus</i>		B
Lesser goldfinch	<i>Carduelis psaltria</i>		C
American goldfinch	<i>Carduelis tristis</i>		C
House sparrow	<i>Passer domesticus</i>		B

Mammals

Virginia opossum	<i>Didelphis virginiana</i>		D
Vagrant shrew	<i>Sorex vagrans</i>		D
Ornate shrew	<i>Sorex ornatus</i>		D
Trowbridge's shrew	<i>Sorex trowbridgii</i>		D
Shrew-mole	<i>Neurotrichus gibbsii</i>		D
Broad-footed mole	<i>Scapanus latimanus</i>		D
Yuma myotis	<i>Myotis yumanensis</i>		D
Long-eared myotis	<i>Myotis evotis</i>		D
Long-legged myotis	<i>Myotis volans</i>		D
California myotis	<i>Myotis californicus</i>		D
Big brown bat	<i>Eptesicus fuscus</i>		D
Red bat	<i>Lasiurus borealis</i>		D

COMMON NAME ¹	SCIENTIFIC NAME ¹	STATUS ²	SOURCE ³
Townsend's western big-eared bat	<i>Plecotus townsendii townsendii</i>	CSC, FC2	D
Brazilian free-tailed bat	<i>Tadarida brasiliensis</i>		D
Brush rabbit	<i>Sylvilagus bachmani</i>		D
Desert cottontail	<i>Sylvilagus audubonii</i>		D
Black-tailed hare	<i>Lepus californicus</i>		D
California ground squirrel	<i>Spermophilus beecheyi</i>		A
Eastern gray squirrel	<i>Sciurus carolinensis</i>		D
Western gray squirrel	<i>Sciurus griseus</i>		D
Eastern fox squirrel	<i>Sciurus niger</i>		A
Botta's pocket gopher	<i>Thomomys bottae</i>		D
Western harvest mouse	<i>Reithrodontomys megalotis</i>		D
California mouse	<i>Peromyscus californicus</i>		D
Deer mouse	<i>Peromyscus maniculatus</i>		D
Pinyon mouse	<i>Peromyscus truei</i>		D
Dusky-footed woodrat	<i>Neotoma fuscipes</i>		D
California vole	<i>Microtus californicus</i>		D
Black rat	<i>Rattus rattus</i>		D
Norway rat	<i>Rattus norvegicus</i>		D
House mouse	<i>Mus musculus</i>		D
Gray fox	<i>Urocyon cinereoargenteus</i>		D
Raccoon	<i>Procyon lotor</i>		A
Long-tailed weasel	<i>Mustela frenata</i>		D
Striped skunk	<i>Mephitis mephitis</i>		D
Feral house cat	<i>Felis catus</i>		A
Northern sea lion	<i>Eumetopias jubatus</i>	FT	D
California sea lion	<i>Zalophus californianus</i>		D
Harbor seal	<i>Phoca vitulina</i>		D
Northern elephant seal	<i>Mirounga angustirostris</i>		D
Black-tailed deer	<i>Odocoileus hemionus</i>		D

1 Common and scientific names follow Laudenslayer et al. 1991.

2 CSC: California species of special concern, a designation given by California Department of Fish and Game (CDFG) to native taxa whose state breeding populations are of special concern because they may face extirpation.
 CSC(b,r,c): only breeding habitat (b), rookery sites (r), or nesting colonies (c) are being tracked by CDFG.
 CE: state-listed as endangered under the California Endangered Species Act; native taxa in serious danger of becoming extinct throughout all or a significant portion of their range.
 FE: federally endangered under the federal Endangered Species Act (ESA); taxa in danger of extinction throughout all or a significant portion of their range.
 FT: federally threatened under the federal ESA; taxa which are likely to become endangered in the foreseeable future throughout all or a significant portion of their range.
 FC2: category 2 candidate for federal listing as threatened or endangered; taxa for which existing information indicates listing may be warranted, but for which substantial biological information to support a proposal is not currently available.
 F3C: category 3C candidate for federal listing; taxa that have proven to be more abundant or widespread than previously believed and/or are not subject to any identifiable threat.

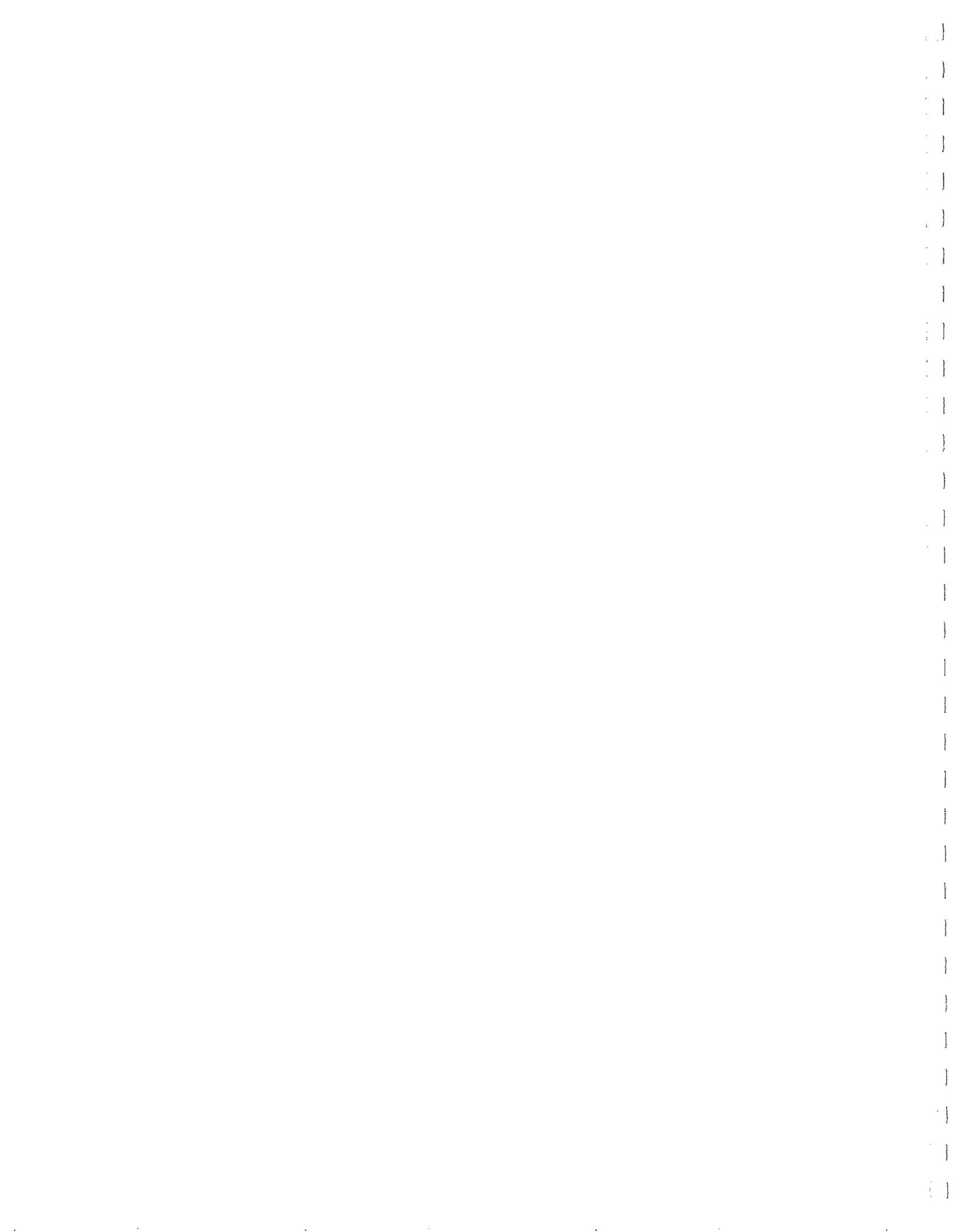
3 No specific field surveys were conducted by any of these sources. BioSystems' observations were recorded on site visits.

A = Observed by BioSystems biologists 1992.
 B = Observed by Fish 1989.
 C = Sutherland 1971 as cited in Royston, Hanamoto, Beck, and Abbey (1975).
 D = Environmental Impact Planning Corp. 1975 as cited in Royston, Hanamoto, Beck, and Abbey (1975).
 E = Steve Bailey, California Academy of Science, pers. comm.
 F = Golden Gate Audubon Society, pers. comm.
 G = California Natural Diversity Data Base (CNDDDB).



APPENDIX C

PERSONS AND AGENCIES CONTACTED



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Persons, organizations and agencies contacted for information, or that assisted in identifying important issues, developing alternatives or analyzing impacts are listed below.

Steven Bailey, California Academy of Sciences
Dr. Gordon Chan, College of Marin
Nellie Ejercito, Fine Arts Commission
Allen Fish, Golden Gate Raptor Observatory
Dale Hess, Suzanne Locarnini-Lee, SF Convention & Visitors Bureau
Mr. and Mrs. Dan Hontalas, Cliff House Concessioner
Jim Hontalas, Louis' Restaurant
Joe Rodriguez, Heron Institute, San Rafael
David Warren, Giant Camera
Alan Young, Seal Rock Gift Shop
Danny Zelinsky, Mechanical Museum

GOLDEN GATE NATIONAL RECREATION AREA

Nicholas Weeks, Project Manager
Nancy Horner, Environmental Specialist
Doug Nadeau, Chief of Resource Management and Planning
Terri Thomas, Natural Resources Specialist/Plant Ecologist
Garey Coatney, Business Manager
Judd Howell, Research Ecologist
Jim Milestone, District Ranger, Ocean District
Ric Borjes, Historic Architect
Martin Mayer, Archaeologist
Lee Shenk, Concession Management Analyst
Michael Adrian, Bob Burgoon, Steve Prokop, Ocean District Rangers

AGENCIES AND ORGANIZATIONS PROVIDING WRITTEN COMMENTARY ON THE DRAFT PLAN

Advisory Council on Historic Preservation
California State Historic Preservation Officer
California State Lands Commission
California Resources Agency (Department of Fish and Game)
San Francisco City Planning Department
American Institute of Architects (S.F. Chapter)
San Francisco Beautiful
Coalition to Save Ocean Beach
Friends of Sutro Park
California Native Plant Society
Golden Gate Audubon Society

APPENDIX D

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REFERENCES

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