

Appendix A. - Definitions

Biological diversity - the variety of life and processes that govern life. Biological diversity has four major components: genetic-variation of genes within a species; species-variation of the kinds of plants and animals; community/ecosystem-variation of the ways in which the many species of plants and animals aggregate into interacting groups; and process-variation in the physical, chemical, and biological forces to which genes, species, communities, and ecosystems respond.

Cultural or historic landscape - a geographic area that includes both cultural and natural resources that are associated with a historic event, activity, or person. The Presidio's cultural landscape reflects merging of people and place spanning the period of occupancy by native peoples through settlement of the area by Europeans more than 200 years ago. It includes the buildings, vegetation, land use patterns, circulation, vistas, and other features that reflect cultural values and human use of the land over time. Cultural landscapes are evolving, rather than static, because they include living components (such as vegetation) and are affected by natural processes that constantly change the character of the landscape.

Even-aged stand - a stand of trees with individuals that are approximately the same age.

Hazardous tree - a tree, alive or dead, which due to outwardly visible defects could fall down (in part or in entirety) and strike a person or property within a development zone that has facilities and improvements.

Historic forest - forested areas of the Presidio that were planted by the U.S. Army from the afforestation plan developed by Major W. A. Jones. The earliest aerial photograph, taken in 1935, most accurately depicts the extent and generally defines the boundary of the forest. In terms of this plan, the category "historic forest management zone" in Figure 3 defines the area that will be managed as the historic forest.

Landscape vegetation - plant material, usually ornamental trees, shrubs, grass, and plants, growing around buildings or grounds that has been planted to beautify the site or for a utilitarian purpose such as screening a view.

Monotypic stand - a stand dominated by a single species with little or no species diversity.

Native plant community - a group of plants growing together that is composed primarily of native plants that were most likely found on that particular site prior to European settlement.

Naturalized forest - places where forest trees have naturally reproduced through seeds or sprouts, and have expanded to areas outside of original planted sites. All four of the primary forest species have naturalized to some extent - usually by invading nearby native plant communities or other open areas such as scenic road vistas.

Natural regeneration - reproduction and establishment of plants by natural means (through reseeding or sprouting) without replanting.

Non-native plants - plant species that have been introduced (or have invaded through natural dispersal from a site where they were introduced) and did not occur on a given site prior to European settlement. Even though a plant grows as a native species in a nearby location, if habitat for that species does not occur on the site and if it did not occur there as part of a native plant community, it is considered to be non-native. (For example, coast redwood occurs naturally within the Bay area, but it is considered non-native to the Presidio.)

Plant community - a group of plants growing in an interrelated manner on a particular site. Important attributes of a plant community are its species composition, the spatial arrangement of individuals, and interactions among the members and with their environment.

Rehabilitation (as it relates to historic forest and landscapes) - the act or process of making possible a compatible or contemporary use for a property through repair, alterations, and additions while preserving those portions or features which convey its historical values. In rehabilitation, a cultural landscape's character-defining features and materials are protected and maintained; however, damaged or deteriorated portions may require repair and replacement.

Restoration (as it relates to native plants) - a process of replacing existing vegetation on a site with desired vegetation. Desired vegetation for restoration in this plan consists of native plants that would have been found on the site as part of a native plant community prior to European settlement.

Special-status species - plants and animals with limited numbers or distribution that have special legal and policy protection. They are protected under federal and state Endangered Species Acts or other regulation, or are sufficiently rare to either be candidates for or under consideration for such designation.

Uneven-aged stand - a stand of trees with individuals of many different or mixed ages.

APPENDIX B. SUSTAINABLE PRACTICES AT THE PRESIDIO

Sustainable landscapes reflect principles of conservation and an explicit acknowledgment that natural and cultural resources must be preserved, strengthened, and perpetuated. By stressing the interrelatedness between humans and their environment, it is possible to create a landscape that strikes a balance between human resource consumption and resource conservation. However, achieving sustainable landscapes in an urban environment often presents a challenging task for resource managers.

Humans directly benefit from living proximate to sustainable urban landscapes and natural areas. Improved air quality, recreation, inspiration opportunities, noise abatement,

wind reduction, erosion control, watershed protection, wastewater management, and air pollution control are all associated with urban landscapes that are managed according to the conditions of sustainability. When sustainable practices guide the management of urban natural areas, humans gain an appreciation of, and respect for, the interrelationships of all contributing parts to natural systems, including their own cultural context.

Though the rationale for promoting sustainable urban natural areas is straightforward, the implementation of associated resource management objectives is far more challenging. Urban natural areas often experience direct and indirect disturbance from humans, are physically isolated from other similar landscapes, and support plant species that have adapted well to sustained human impacts.

Sustainable landscapes are similarly challenging to achieve on the Presidio, given the complex assemblage of native and non-native plant communities, urban encroachment, recreational impacts, National Historic Landmark designation requirements, and state and federal laws that protect a dozen rare or threatened plant species.

The National Park Service identified many of these issues in the Presidio General Management Plan Amendment (NPS 1994a). The plan states that "The Presidio will be a model of sustainability with use and demonstration of innovative environmental technology applications. The Park Service's Guiding Principles of Sustainable Design (NPS 1993b) will provide the basis for sustainable facility design, operations and management, and energy conservation." The plan lays out a strong framework for achieving the following objectives that relate to this Vegetation Management Plan.

- Adopt the principles of sustainable design and technology when upgrading the built environment.
- Promote and demonstrate conservation practices, including energy conservation, water conservation, and waste reduction and recycling. Include the criterion of drought-tolerance in selection of plant palettes, minimize irrigation water use, and use reclaimed water wherever possible.
- Ensure that the Presidio utilizes alternative pest control methods and minimizes the use of pesticides and herbicides in accordance with policies of Integrated Pest Management.
- Ensure that the Presidio meets strict environmental standards for pollution abatement.

Because the Presidio has a unique combination of natural, historic, and cultural landscapes, the vegetation has been broken down into component parts to permit flexibility in dealing with the complex issues associated with each type of landscape. The three vegetation categories identified in this plan for the Presidio (native plant communities, historic forests, and landscape vegetation) contribute to a unique patchwork quilt of landscapes. Given the diverse qualities associated with each vegetation type, a framework of sustainable landscape conditions is needed to guide the management of all Presidio vegetation communities.

For the purposes of this plan, five primary conditions are necessary for sustainable practice on the Presidio:

1. Ensure that all projects result in no net loss of resources, or maintenance of the total natural capital stock at or above the current levels as identified in the objectives established for the Presidio under the Government Performance Review Act. A no-net-loss-of-resources mandate requires that all proposed disturbance to vegetative resources be accompanied by an approved mitigation or remediation plan.
2. Current generations must conduct themselves with respect to the welfare and rights of future generations. Specifically, all Presidio vegetation management projects should be assessed in terms of a multi-generation time frame rather than a short one.
3. Minimize energy consumption and recycle all byproducts whenever feasible and practical. Sustainable landscapes require minimal energy subsidies (e.g., irrigation and fossil fuels) to thrive while maximizing the degree to which byproducts are reused as part of the natural system.
4. Maintain and strengthen the genetic diversity of Presidio native plant species, while simultaneously reducing levels of genetic contamination and other threats to the ecological health of these communities.
5. Promote education and awareness for all park employees, as well as the public, regarding the way in which humans may contribute to achieving sustainable urban landscapes.

To ensure that all historic forest, native plant restoration, and designed landscape projects are sustainable, the following steps should be taken prior to restoration or landscape modification:

- Identify how the proposed vegetation management project conforms to the five conditions of sustainability. If necessary, identify the factors that contribute to making the proposed project unsustainable.
- Assess the nonconforming factors with respect to programmatic objectives of the proposed project. If the factors that contribute to unsustainable practices must be integrated into the proposed project, it may be necessary to perform a weighting or benefit cost analysis of the unsustainable portions of the project with respect to project objectives.
- Develop project alternatives that reflect the various ways in which project objectives may be achieved in accordance with the conditions for sustainability.
- Evaluate project alternatives using a forecasting model that integrates quantitative measures whenever possible.
- Select a preferred alternative that maximizes sustainable practices to the greatest extent feasible and document the decision-making process (conditions 1 through 5, above).

- Develop a maintenance and monitoring plan to ensure that the conditions for sustainability are achieved in the short and long term.
- Create extensive opportunities for park employees and the public to learn about sustainability, gain hands-on experience with sustainable practices, and participate in stewardship activities on the Presidio.

APPENDIX C. PLANT SELECTION LIST

The following plant lists will be supplemented, refined, and adjusted over time as more information is collected and approved sources for plant stock are developed. The lists are available for review in the Office of Resource Management and Planning at GGNRA and the Planning Department at the Presidio Trust.

7.1 LIST 1: PLANTS FOR CONSIDERATION IN DESIGNED LANDSCAPES

These plants can be considered for any designed landscape project. They either have been successfully grown at the Presidio or have demonstrated tolerance to similar soil and weather conditions. Their use is recommended but not required. This list consists of a variety of plants, including trees, shrubs and groundcovers, that:

- were used historically or have similar characteristics (form, size, color, texture, etc.) to plants used historically;
- meet sustainability goals of being low maintenance, long-lived, drought tolerant (once established), are not commonly subject to pests or diseases, and
- do not pose a threat to native plant species or plant communities because of potential cross-pollination, hybridization, or invasive tendencies.

7.2 LIST 2: CONDITIONAL USE PLANTS IN DESIGNED LANDSCAPES

It is important when selecting species for landscaping purposes to avoid the use of plant species that can escape into natural, historic forest or other landscaped areas. Two important factors that can indicate the invasiveness of plant species are their dispersal mechanisms (such as seed dispersal by wind or animals, or vegetative spreading by underground stems or roots) and their competitive ability. Use of these plants is permitted except where historic forests or natural areas are adjacent to the project area. In areas that are adjacent to historic forests or natural areas, permission to use these plants would be contingent upon design review by NPS natural resource staff in conjunction with NPS/Trust landscape architects to ensure protection of adjacent natural and historic resources.

This list includes horticultural species with high invasive potential that spread aggressively by runners, root sprouts, or seed but can be confined to formal landscape areas. These plants should be isolated from all natural areas by enough distance to preclude impact to natural or historic forested areas.

7.3 LIST 3: RESTRICTED USE PLANTS IN DESIGNED LANDSCAPES

To ensure that landscape plantings do not promote the spread of invasive species, certain plants are prohibited from any planting list. However, if any historically significant plants on this list are critical to maintain the historic appearance of the landmark district, their use could be considered after review and approval by both the NPS/Trust landscape architect and park plant ecologist. This list contains:

- Horticultural (commercial nursery) species that are difficult to confine to formal landscape areas and become aggressive competitors with native species or are difficult to eradicate once established in natural areas.
- Horticultural species which have the potential to cross-pollinate/hybridize with native plants in natural areas of the Presidio. This potential for hybridizing is a serious threat to native plants in the Presidio where specific genotypes still thrive in these remnant native plant communities.
- Species, that for reason of pest management, inappropriate soil, or climatic conditions, should not be used on the Presidio.
- Commercially available native plants that could potentially impact Presidio native plants or plant communities.

APPENDIX D. PHOTO SIMULATIONS OF VISUAL RESOURCE IMPACTS

Computer enhanced photographic simulations were produced to facilitate assessing the visual impacts associated with the forest treatments in the proposed actions.

Photographs of three existing treatment sites were enhanced to theoretically illustrate Initial, Intermediate, and Established plantings at each site over a period of 20 to 25 years. Treatments and sites selected are as follows:

Forest Rehabilitation Site

- Regeneration with Age/Species Diversification: Illustrates the diversification of plant species, ages, height, and density over time for a more sustainable forest community.

Key Historic Stand

- Regeneration with Uniform Age/Same Species: Replacement over time of the historic forest through systematic replanting of the same species in small, even-aged blocks.

Southeast Boundary Site

- Replacement with Lower Growing Species: Replacing the regularly topped cypress grove over time with a lower growing related species for view preservation.

FOREST REHABILITATION SITE

Regeneration with Age/Species Diversification - Initial Planting



Regeneration with Age/Species Diversification - Existing



Regeneration with Age/Species Diversification - Established Planting



Regeneration with Age/Species Diversification - Intermediate Planting



KEY HISTORIC STAND

Regeneration with Uniform Age/Same Species - Initial Planting



Regeneration with Uniform Age/Same Species - Existing



Regeneration with Uniform Age/Same Species - Established Planting



Regeneration with Uniform Age/Same Species - Intermediate Planting



SOUTHEAST BOUNDARY SITE

Replacement with Lower Growing Species - Initial Planting



Replacement with Lower Growing Species - Existing



Replacement with Lower Growing Species - Established Planting



Replacement with Lower Growing Species - Intermediate Planting



APPENDIX E. VMP FINDING OF NO SIGNIFICANT IMPACT (FONSI)

PRESIDIO VEGETATION MANAGEMENT PLAN
ENVIRONMENTAL ASSESSMENT

FINDING OF NO SIGNIFICANT IMPACT

Prepared by
The National Park Service
and
The Presidio Trust

The Department of the Interior, National Park Service (NPS) and the Presidio Trust (Trust) have prepared this Finding of No Significant Impact (FONSI) on the Presidio Vegetation Management Plan Environmental Assessment (VMP EA) in accordance with the National Environmental Policy Act (NEPA). The NPS and the Trust collaborated in the preparation of the Environmental Assessment (EA), which analyzes the potential impacts of the Vegetation Management Plan (VMP) for the Presidio of San Francisco, part of the Golden Gate National Recreation Area. The NPS and Trust have separate jurisdictional responsibilities in the Presidio. The Trust administers the interior of the Presidio, roughly 80% of the park. The NPS administers the coastal areas.

The NPS initiated the NEPA process and has acted as lead agency in the preparation of the VMP EA (1999). The Trust assumed the role of a cooperating agency under NEPA following the transfer of jurisdiction of Area B of the Presidio from the NPS to the Trust on July 8, 1998. The NPS and the Trust worked closely presenting the VMP to the public, soliciting and considering public comment and designating a Selected Alternative for the VMP. This Finding of No Significant Impact (FONSI) is a decision document signed jointly by the NPS and the Trust that will apply to actions of and satisfy the independent legal responsibilities under NEPA of both agencies throughout the Presidio. Subsequent site-specific implementation plans proposed by the NPS and the Trust will be reviewed for conformance with the VMP and this FONSI.

The purpose of this FONSI is to describe why the Selected Alternative would not have a significant effect on the human environment, and therefore, does not require the preparation of an environmental impact statement. In addition, it affirms the commitment of the NPS and the Trust to the VMP and EA and describes the reasons for choosing the Selected Alternative. The FONSI is based on the analysis of impacts in the "Presidio Vegetation Management Plan Environmental Assessment (VMP EA (1999)) and input received from the public and agencies during the more than 4 months of public review that ended on November 18, 1999.

The FONSI consists of:

- a summary of the background, purpose and need for the plan, plan alternatives and environmental consequences as presented in the VMP EA (1999);
- a description of the public planning process;
- a synopsis of the comments raised by the public and agencies.

- discussions of how the decisions to choose the Selected Alternative and environmentally preferred alternative, were made;
- a description of the modification and clarifications made to the Selected Alternative following consideration of public and agency comment; and
- measures for environmental protection that are incorporated into the Selected Alternative and an implementation program to guide compliance.

A revised and finalized "Final Vegetation Management Plan and Environmental Assessment (Final VMP EA)," dated August 2001 is incorporated herein by reference. It includes text changes, clarifications and additional measures developed after consideration of public and agency comment. A summary of the comments received from the public and agencies and NPS/Trust staff responses to these comments are included as an attachment to the Final VMP EA. The Final VMP EA and this FONSI represent the completed NEPA documentation for the VMP.

STATEMENT OF THE DECISION MADE

The NPS and the Trust will implement the Selected Alternative, as described in the Final VMP EA. The Selected Alternative is a modification of the Proposed Action Alternative in the VMP EA (1999), modified to include additional mitigation measures (see Modifications to the Selected Alternative). This decision allows for the gradual restoration and rehabilitation of the historic forest of the Presidio under the guidance and treatment strategies developed in the Historic Forest Characterization and Treatment Study (Historic Forest Study) using the Secretary of the Interior's Standards for Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes. Modifications also convert the zoning for a portion of the southwest corner of the Presidio to a Special Management Zone to be the subject of a future planning effort.

Framework of the NPS Decision. This alternative was selected by the NPS as it best accomplishes the legislated purposes of GGNRA and the statutory mission of the NPS. The underlying goal of the VMP is the fulfillment of the National Park Service mission, which states:

"The fundamental purpose of all units of the National Park Service is to conserve the scenery and the natural and historic objects and the wildlife therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations."

To assure fulfillment of NPS' mission, NPS Management Policies (NPS 2000) require decision-makers to consider impacts, and determine in writing, that a proposed action will not lead to an impairment of park resources and values before approving the action. The Management Policies state that impairment prohibited by the Organic Act is an impact that, in the professional judgment of the responsible NPS manager, would harm the integrity of park resources or values, including the opportunities that would otherwise be present for the enjoyment of those resources or values." The Management Policies

further provide specific guidance for NPS managers to use in analyzing whether a proposed action would result in impairment. The Policies states that "...an impact would be more likely to constitute an impairment to the extent that it affects a resource or value whose conservation is:

- Necessary to fulfill specific purposes identified in the establishing legislation or proclamation of the park(1) ;
- Key to the natural or cultural integrity of the park or to the opportunities for enjoyment of the park; or
- Identified as a goal in the park's general management plan or other relevant National Park Service planning documents(2)." (NPS 2000, p.12)

FOOTNOTES:

(1) - GGNRA was established to "...preserve for public use and enjoyment...outstanding natural, historic, scenic, and recreation values, and in order to provide for the maintenance of needed recreational open space necessary to urban environment and planning." (Public Law 92-589)

(2) - Such as the 1994 GMPA and 1996 Crissy Field Plan.

As with many of the management actions considered by NPS decision-makers today, the careful balance of sometimes competing park resources and values is an important component of the review and decision-making process. However, NPS decision-makers are given little leeway when considering impairment of park resources. All elements of an NPS action must avoid impairing park resources. If avoidance is not possible, the elements of the NPS action must be modified or deleted. However, "an impact would be less likely to constitute an impairment to the extent that it is an unavoidable result, which cannot reasonably be further mitigated, of an action necessary to preserve or restore the integrity of park resources or values" (NPS, 2000, p. 12). The Management Policies provide guidance in this regard by reaffirming that the "fundamental purpose" of the national park system begins with a mandate to conserve park resources and values. Though providing for the enjoyment of park resources and values by the people of the United States is also a National Park Service mandate, the NPS is directed by Congress that, in cases where there is a conflict between conserving resources and values and providing for enjoyment of them, conservation is considered predominant (NPS 2000, p. 12).

The VMP provides the NPS with the framework through which the NPS statutory requirements, NEPA commitments and GMPA objectives for managing the vegetation resources of the Presidio can be attained while assuring protection of cultural, natural, scenic and recreational resources. The VMP will guide the actions of the National Park Service within Area A and when collaborating with the Presidio Trust in Area B. NPS actions must be determined to avoid impairment of national park resources or values.

Framework of the Trust Decision. The Selected Alternative is supported by the Trust as it also accomplishes the legislated purposes of the Trust. The Presidio Trust Act (P. L. 104-333, as amended) requires the Trust to manage the Presidio in accordance with the

purposes of the Act establishing the GGNRA (3) and with the general objectives of the GMPA. The VMP provides the Trust with the framework through which the Trust's statutory requirements, NEPA commitments, and planning objectives for managing the vegetation resources of the Presidio can be attained while assuring protection of the scenic beauty and natural character of the area. The VMP will guide the actions of the Trust within Area B and when collaborating with the NPS in Area A. The objectives, actions, and zoning set forth for the native plant community zone in the VMP would guide the protection, enhancement and restoration activities for vegetation within natural habitats. The objectives and zoning set forth in the historic forest management zone section of the VMP would guide the rehabilitation of the historic planted forest. The VMP would also provide guidance for the management and rehabilitation of other landscaped areas.

FOOTNOTES:

(3) - The purposes of the GGNRA Act are stated in its preamble as follows: "In order to preserve for public use and enjoyment certain areas of Marin and San Francisco Counties, California, possessing outstanding natural, historic, scenic, and recreational values, and in order to provide for the maintenance of needed recreational open space necessary to urban environment and planning, the Golden Gate National Recreation Area is hereby established. In the management of the recreation area, the Secretary of the Interior shall utilize the resources in a manner which will provide for recreation and educational opportunities consistent with sound principles of land use planning and management. In carrying out the provisions of this Act, the Secretary shall preserve the recreation area, as far as possible, in its natural setting, and protect it from development and uses which would destroy the scenic beauty and natural character of the area."

Management of the 1,480-acre Presidio was officially transferred from the U.S. Army to the NPS in October 1994, to be managed as part of GGNRA. The NPS now manages 316 acres in the northern and western perimeter of the Presidio, known as "Area A" of the Presidio. The Presidio Trust, a federal corporation established in 1996 by Public Law 104-333, became the land management agency of the interior 1,164 acres of the Presidio, known as "Area B," on July 8, 1998. In anticipation of the transfer from the Army to the NPS, a planning effort to define future use of the Presidio was initiated by the NPS in the early 1990's. After data gathering, analysis and public input, this effort produced the 1994 Final General Management Plan Amendment (GMPA) and Environmental Impact Statement (GMPA EIS) for the Presidio that identified parkwide principles and concepts, and assessed the potential effect of uses and implementation strategies to management and use of this portion of park. The GMPA and GMPA EIS called for a planning effort to manage vegetation resources in the Presidio.

The Presidio Trust is updating the GMPA and supplementing the GMPA EIS for Area B as part of its Presidio Trust Implementation Plan (PTIP) process. The PTIP and PTIP EIS will address Presidio Trust Act requirements, changed circumstances since the GMPA was completed, and new policies and management approaches of the Trust. No approvals for specific projects are being built into the PTIP, but future projects will either conform to the VMP or support a proposal to modify it. The PTIP will incorporate the VMP

zoning map unless it specifies otherwise, and future planning to implement the PTIP will document the rationale for adjustments to the VMP zoning map, if proposed. The VMP would also be modified as appropriate if aspects of the plan prove not to be financially feasible. The public will have opportunities for additional review and input as site-specific plans are developed and environmental analysis is conducted.

Purpose and Need for the Vegetation Management Plan. The scope of the VMP was developed from the park-wide principles in the GMPA (1994a) and further clarified in the mitigation measures for the GMPA EIS (1994b). These principals and mitigations focus on rehabilitation of the historic forest and the cultural landscape; restoration of historic vistas; enhancement and expansion of remnant native plant communities, protection and management of special status plant species, protection of wildlife and their habitats, conservation of water resources, and use of alternative pest management practices (NPS 1994a, pp. 33-41 & 52-54; NPS 1994b, pp. 29-31). The scope of the VMP is broad, to respond to this array of objectives and mitigation requirements.

The GMPA recognized that the historic forest is in an advanced state of maturity and in need of rehabilitation. The boundary of the forest has also shifted over time, expanding into some areas and receding from other areas as the Army developed the Presidio. Neighborhood views are an issue. Trees along the Presidio perimeter have been topped repeatedly over the years to maintain views of the Bay resulting in stands of unsightly, misshapen trees. Historic vistas and views along roadways and other viewpoints have disappeared behind overgrown vegetation requiring restoration and maintenance. Rare plant communities exist as islands in the Presidio and are threatened with displacement by the invasion of other more aggressive, exotic plant species. Soil erosion is a threat to both native plant communities and the historic forest. Within developed areas, historic landscape plantings are overgrown and in many cases disappearing without replacement. Landscaping associated with structures throughout the Presidio is in need of repair and revitalization. Old, weakened trees adjacent to buildings present a hazard and need attention.

To address the numerous challenges in managing the vegetation communities in the Presidio, the GMPA developed principles, set broad goals for agency management and recommended studies and general implementation strategies to achieve those goals. The scope of the VMP was developed to respond to the guidance of the GMPA and foster a comprehensive management strategy for vegetation resources in the new park.

SUMMARY OF THE ALTERNATIVES

The VMP EA (1999) considered three action alternatives (Alternatives 1, 3 and 4) and a No Action Alternative (Alternative 2); the No Action Alternative is a requirement of NEPA. All action alternatives conform to the guidance for vegetation management in the GMPA and implement the GMPA EIS mitigation but with differing management strategies for the Presidio historic forest zone. The principal elements common to all VMP action alternatives include:

- Definition of the baseline extent and the significant characteristics of the most visible cultural landscape feature of the Presidio - the historic forest.
- Establishment of broadly defined vegetation management zones for the Presidio and development goals, objectives, and strategies for each management zone that will foster a coordinated effort in rehabilitating and restoring the native plant, historic forest, and landscaped areas of the Park.
- Development of strategy for rehabilitating the historic forest including varying degrees of integration of native species and natural ecological processes to reduce long-term management and maintenance requirements.
- Development of guidelines and standard practices for project planning, implementation, inventorying and monitoring that will assure the avoidance of adverse impacts to park resources and the visitor experience as the VMP is implemented.
- Development of enhancement recommendations for special status plant populations and communities in all vegetation management zones.
- Preservation of valuable wildlife habitat and enhancement of future wildlife diversity through plan implementation.
- Annual work plans with specific treatments for specific areas to be developed following on-site evaluations and monitoring by resource professionals.

All action alternatives (Alternatives 1, 3 and 4) rely on the zoning map delineating areas of the Presidio where dominant vegetation would be historic forest, landscape vegetation and native plant community. The zoning is derived from the guidance in the GMPA. Guidance addressing cultural resources that was identified in the Final GMPA EIS, is stated in the Presidio Programmatic Agreement between the National Park Service, the California State Historic Preservation Officer, and the Advisory Council on Historic Preservation, and is included in the VMP(4). The three action alternatives also share the same management strategy for the native plant community zone and the landscape vegetation zone. The action alternatives each present a different implementation strategy for rehabilitating the historic forest zone. A more detailed description of the alternatives is in Chapter 4 of the VMP EA. The summary below outlines the management actions proposed for the three vegetation zones under each of the alternatives.

FOOTNOTES:

(4) - As part of the upcoming Presidio Trust Implementation Plan, the Presidio Trust will execute a Programmatic Agreement with the National Park Service, the California State Historic Preservation Officer, and the Advisory Council on Historic Preservation pursuant to Section 106 of the National Historic Preservation Act. This agreement will provide the methodology for assessing impacts to historic resources and detail requirements of the consultation process for Trust actions implementing the VMP in areas under the Trust jurisdiction.

The Selected Alternative (Alternative 1). Following the assessment of potential effects and careful consideration of public and agency comment, modified Alternative 1 (as described in the Final VMP EA and herein) is designated as the Selected Alternative for the VMP. NPS Guidelines for NEPA compliance (NPSb, 2000) directs the NPS to

identify an Environmentally Preferred Alternative - the action alternative that causes the least damage to the biological and physical environment and provides the best protection, preservation and enhancement of historic, cultural, and natural resources. Following the assessment of impacts and consideration of public and agency comment, the NPS designates the Selected Alternative as the environmentally preferred alternative. The following describes treatment strategies for the three vegetation zones under Alternative 1.

Historic Forest Zone. Under the Selected Alternative, the historic forest would be rehabilitated within the historic forest management zone as fallen trees and storm events provide openings and opportunities for replacement. Over time, the historic forest management zone would be managed to incrementally increase age- and species-diversity and to increase conditions that would encourage natural regeneration. Species that were historically planted would continue to dominate. Buffer areas using native trees and shrubs would be considered between native plant communities and historic forest to contain forest trees within the historic forest management zone. Key historic stands with high visibility would be managed to maintain historic species and configuration. Substitution of historically planted forest species would be considered in a few situations, such as to reduce tree height and to increase pest resistance if needed, following testing of potential replacement trees. Decisions for forest treatment would be made following site-specific evaluation by an interdisciplinary vegetation management team. Historic views and vistas would be maintained. Wood from fallen trees and debris would be recycled and reused.

Native Plant Communities. Restoration would bring the total acreage of native plants in the Presidio to 380 acres. Native plant restoration would occur where forest trees have spread outside of the historic forest management zone, or in place of nonnative weedy species, non-historic development, and overgrown vegetation obscuring historic vistas. Twelve special status species would be monitored and protected, and their habitat increased and enhanced. Riparian and wetland habitats would be restored throughout the Presidio including Lobos Creek and El Polin Springs/Tennessee Hollow. Community volunteer efforts would be expanded to implement additional restoration projects. Invasive weedy species and forest trees would be controlled and restricted to appropriate management zones.

Landscape Vegetation. Replacement of horticultural plants within historic landscape areas would be based upon sustainability concerns, the species that were historically planted and potential impacts to native species from cross-pollination and invasive tendencies of some nonnative plants. Hazardous trees would be identified, treated, and replaced. Identified erosion problems, as well as drainage and visitor use patterns that could initiate future erosion, would be corrected. Prescriptive management in the landscape vegetation management zone would address existing safety hazards, correct erosion and sedimentation problems and rehabilitate the landscape plantings as directed in the GMPA.

No Action Alternative (Alternative 2). The No Action Alternative, which assesses the effects of continuing present management actions, is a NEPA requirement. It is a viable alternative, and provides an important baseline against which to measure the effects of plan alternatives.

Historic Forest Zone. The historic forest would be preserved and protected, but rehabilitation activities would not be initiated. Unsightly, topped trees along the southeast boundary would not be treated or replaced. Forest trees would continue to obscure scenic vistas. Hazardous trees in developed areas and near structures would be removed, but proactive pruning to reduce future hazards and prolong tree life would not be conducted. Projects to inventory and rehabilitate landscape vegetation, to implement sustainability practices and to correct erosion problems would be considered as human resources become available or as specific or emergency needs arose.

Native Plant Community Zone. The No Action Alternative would continue existing management actions and protections for special status plant species, but would not provide expanded habitat areas for native plants. Current restoration programs, inventorying and monitoring activities would continue.

Landscape Vegetation Zone. Identified hazardous trees in developed areas and near structures would be removed to protect public safety and reduce liability. Proactive pruning to reduce future hazards and prolong tree life would not be conducted. Trees in very visible areas along roadways and near development that die or that are removed because they are hazardous would be replaced by replanting. Inventorying and rehabilitating landscape vegetation and implementing sustainability practices would be considered as human resources become available and as specific or emergency needs arose. Existing erosion problems would continue and would not be corrected unless hazardous conditions developed.

Selective Forest Cuts (Alternative 3).

Historic Forest Zone. Alternative 3 provides an option for more quickly rehabilitating the historic forest by removing selected blocks of trees, in areas ranging from 200 feet in diameter up to 0.75 acres, and replanting with tree species historically found in the forest. The areas of removed trees would be distributed throughout the historic forest so adjacent blocks would have a minimum of a 10-year difference in their treatment dates. The Alternative would create small blocks of even-aged forest, but the forest stand overall would consist of a mosaic of several age classes. The signature stands of historic forest would be intensively managed to preserve their present character. Scenic vistas and historic views would be maintained. Replacement tree species would be used only to meet specific needs (such as pest resistance or height modification).

Native Plant Community Zone and Landscape Vegetation Zone. Same prescriptions as Alternative 1.

Increase Tree Diversity (Alternative 4).

Historic Forest Zone. Alternative 4 would expand the variety of species that could be considered for replacement of historic species beyond those considered under the Selected Alternative. Rehabilitation of the historic forest would proceed as in the Selected Alternative, except many other tree species would be considered as additions to the three historically planted tree species throughout the historic forest management zone. No diversification would be proposed for the key historic tree stands. In contrast, the Selected Alternative would expand the variety of species in the historic forest zone in conformance with the recommendations of the Historic Forest Study prepared under the *Secretary of the Interior's Standards for Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes*. Replacement tree species would include many native trees found in the Presidio vicinity as well as other non-native trees that would help diversify the canopy and understory by introducing a wider range of eucalyptus species and conifers.

Native Plant Community Zone and Landscape Vegetation Zone. Same prescriptions as Alternative 1.

Alternatives Considered but Rejected. Three additional VMP alternatives are considered but rejected from further consideration in the EA because they did not maintain the historic forest character; would result in unacceptable resource, visitor use, or visual impacts; or are not compatible with the direction established in the GMPA.

Replace tree species in the historic forest zone with native trees.

Restore native plant communities to the historic forest zone.

Rehabilitate the historic forest over a shorter period of time by large block cuts and reforestation.

ENVIRONMENTAL CONSEQUENCES OF THE SELECTED ALTERNATIVE

Mitigation measures incorporated into the Selected Alternative are listed in the table "Adopted Protection Measures". These protective measures are adequate to avoid potential adverse effects to Presidio resources and the neighboring residential communities. Each summary of effect concludes with a NPS finding regarding impairment (see Framework for NPS Decision). This is a policy requirement for the NPS and does not apply to the Trust or the Framework for Trust Decision.

Water. The Selected Alternative would benefit water resources in the Presidio through the restoration of stream drainages and riparian areas at Lobos Creek and Tennessee Hollow. Natural drainage patterns would be restored, water quality improved through the correction of ongoing erosion and increasing riparian and wetland habitat. Site-specific

plans for wetland and creek projects will be prepared and assessed for conformance with the VMP and any requirements of the Clean Water Act. A minor increase in soil erosion could occur over the short-term as areas are cleared of invasive plants and trees. Though increasing temporarily, erosion would be minimized through the application of the standard erosion control practices such as revegetation and leaving tree stumps in place. When rehabilitating landscape vegetation, drought tolerance and maintenance requirements will also be considered to promote sustainability and reduce demand on the Presidio water supply. The Selected Alternative would enhance water resources in the Presidio and improve water quality. Some limited soil erosion would occur in the following restoration actions but this short-term impact would not constitute an impairment of park resources or values for the NPS.

Native Plants. Native plant communities and associated wildlife habitat would benefit from the implementation of the VMP through expansion of native plant areas, enhancement through weed removal, soil improvements, erosion correction, and plantings. All ground disturbing activities would be scrutinized to reduce and control expansion of exotic invasive plant species. A buffer strip of native vegetation would be created inside the boundary of the historic forest adjacent to the native plant community zone to help contain the spread of trees species beyond the historic forest boundary. Over time, maintenance of the native plant community zone would decrease as the weed seed bank is depleted and soil composition is normalized. The VMP would enhance existing native plant communities and direct the restoration and monitoring of expanded areas of native plant community - activities that will benefit park resources and not constitute an impairment for the NPS.

Special Status Species. The Selected Alternative will promote the restoration and enhancement of special status species and no negative impacts are anticipated from implementation. The U.S. Fish and Wildlife Service (USFWS) submitted comments on the VMP but did not require consultation. The USFWS requests that consultation occur as site specific implementation actions are developed. All site-specific actions will be reviewed for compliance with the VMP, and where required, additional environmental documents will be prepared. Only beneficial impacts to special status species are anticipated from the VMP and these would not constitute an impairment of special status species for the NPS.

Wildlife. The Selected Alternative would benefit the wildlife population of the Presidio through the preservation and restoration and enhancement of native plant communities and riparian forests providing increased foraging habitat for raptors, other birds, native mammals, reptiles, and amphibians. Restoration of riparian habitat and natural creek channels would benefit aquatic animals, invertebrates, and riparian bird species by increasing habitat and plant species used as food sources. Native plant communities would provide an increased winter food source and additional shelter for large flocks of wintering birds and nesting sites for ground nesting birds. The value of the historic forest would increase for wildlife habitat with the gradual change of much of the historic forest from monotypic, single-aged stands to more mixed species and mixed-aged stands. An understory of native plants would be encouraged in historic forest areas through

additional canopy openings and removal of aggressive nonnative plants and would provide additional food sources for wildlife. Forest rehabilitation and native plant restoration activities would increase the forest/native plant community edge zone, which would also increase habitat diversity. Trees and forest stands that are used, or have recently been used, for raptor nesting would be excluded from any forest management activity with the exception of hazardous trees that require urgent treatment. In general, vegetation management activities that would be disruptive to breeding birds would not be conducted between February and July 15. Measures that are included in the plan (such as biological evaluation to determine any site-specific impact to wildlife, seasonal timing of operations, and protection of critical habitat elements) would avoid adverse wildlife impacts and would not constitute an impairment of park resources for the NPS. Site-specific implementation plans would be reviewed for potential effect in accordance with the VMP.

Cultural Resources. The VMP would have a beneficial effect on Presidio cultural resources through the rehabilitation of the historic forest, preserving historically significant forest stands and retaining the unique character of the forest within the management zone. By rehabilitating the forest in small increments in response to storm damage or natural events, the cycle of even-age maturation can be modified. Removal of exotic understory plants, planting native shrubs and trees along forest transition areas, and encouragement of several age classes in an area would increase structural diversity. Over the long term, the forest would be managed to mimic more natural forest conditions, increasing the degree to which the forest is self-sustaining as well as increasing forest health and longevity. These changes are not adverse impacts of the Selected Alternative, and would not constitute an impairment for the NPS, but rather are changes to a dynamic, and living, historic resource.

If pine pitch canker or eucalyptus longhorn borer become serious pests of Presidio trees, the historic forest and the character of this historic resource could undergo a drastic change in appearance in a relatively short time. Monitoring and sanitary cutting and wood disposal practices will be used to reduce the potential of a pest outbreak. If considerable losses to historic forest trees occur from pest infestation, replacement species that maintain the character of the historic forest would be considered.

Viewshed. Clearing to restore historic view sites would enhance the Presidio's historic setting by reestablishing visual linkages and reinforcing original forest design plans. The overall appearance of the historic landscape would gradually change as the age and size of trees change. As small areas within the forest are rehabilitated, a short-term impact would affect the visual quality of the historic forest as dead or down trees are cleared and replaced. However, continual planting, natural regeneration, and growth would retain the overall appearance of the forest.

From a regional perspective, the appearance of a forest canopy on ridges and the green open space would remain. Rapidly passing highway travelers would not experience a perceptible change in vista. From the perimeter residential neighborhoods, the replacement of topped trees with trees of lower stature would benefit the aesthetics of the

current perimeter condition and views of the bay. At the Presidio Gate and along the southwestern perimeter, forest rehabilitation and native plant restoration programs would provide screening vegetation. Historic vistas within the Presidio would be cleared. Treatment of these areas would be highly visible as it is conducted, but would greatly enhance the visual quality of the Presidio, maintain it over the long term and would not constitute an impairment of park resources or values for the NPS.

Visitor Experience. The effect on the visitor experience at the national park would be beneficial by providing increased opportunities for the public to participate in restoration of native plant communities and forest rehabilitation. These programs provide important environmental education and stewardship components. Education programs including cultural use of original plants by Native American Indians, cultural uses of resources and the landscape throughout periods of European settlement, and the contributions to and changes in land use throughout the Presidio's history can be demonstrated and interpreted. The changes in appearance of the forest and the natural vegetation communities will be undesirable over the short-term to some visitors and inspirational to others. While VMP projects are being implemented, there could be a temporary, localized increase in noise levels that could disturb the quiet experience of park visitors, but these periods of high noise level would be relatively brief as the size of tree removal projects is limited to 0.5 acre in size. Exposure of park visitors to higher noise levels during implementation of VMP projects would be a short term impact restricted to the vicinity of work area and would not constitute an impairment of park resources or values for the NPS.

Wind. Wind patterns may change as windfall areas are cleared and rehabilitated and the wind-screening effect of mature trees is lost. As forest vegetation is rehabilitated on ridgelines and along the western buffer and mature trees are lost or replaced with young trees, the effectiveness of the trees as windscreens would temporarily be lost. To reduce the effects of wind on the remainder of the forest, important windbreak areas west of Lincoln Boulevard and along ridgetops would be replanted promptly. When possible, tree clearings of storm-damaged trees or sanitation cuts to control disease would be designed to lie perpendicular to winter storm winds that generally blow from the southwest to reduce wind funneling and excessive forest damage. The current lack of an understory in many forest stands creates a wind tunneling effect. As uneven-aged stands are created with uneven heights and more understory, this wind tunneling effect will be minimized. Minor and gradual changes in wind patterns caused by the loss of mature trees would not constitute an impairment of park resources or values for the NPS.

Archaeology. The restoration of native plant communities and riparian corridors could have an impact on undiscovered archeological resources, particularly prehistoric sites. To reduce the impact on surface and subsurface resources, stumps would be cut at the ground surface and left in soils. Ground disturbing activities associated with VMP implementation could have an impact on the subsurface archeological resources. This would be mitigated by immediately stopping work upon discovery of archaeological resources or potential archaeological resources and consulting with appropriate parties as required by federal law and regulation before proceeding. All site specific

implementation plans would be reviewed for potential impacts to cultural resources. The VMP mitigation measures would ensure that NPS actions would not impair cultural resources in the Presidio.

Fire. Fire hazard will be managed by proactive fire prevention and the maintenance of an on-site suppression capability. Fire risk and hazard, which is much lower than in warmer Bay Area communities because of cool summers and ocean influence on the Presidio, would remain unchanged. Forest debris and dead trees that could increase fuel loads would generally be removed so that hazardous conditions would not develop. Hazardous tree identification, tree removal, and treatment would maintain an acceptable level of risk to life and property, would not affect the integrity of the historic forestand would not constitute an impairment for the NPS.

SUMMARY OF PUBLIC INVOLVEMENT

The public involvement program for the VMP included notices, workshops, site visits and public meetings. Elements of this public involvement program are summarized in the table below:

Date	Description of Public Involvement
September, 1997	Newsletter mailed to 1,400 nearby homeowners, neighborhood organizations, Presidio tenants, and agencies asking for input on vegetation management and announcing public workshops.
September 30 & October 1, 1997	NPS public workshops on issues and guidelines for vegetation management.
December, 1997	Summary of scoping comments sent to an expanded mailing list. Over 100 individuals and organizations provided input on issues addressed during the scoping phase.
September, 1998	Preliminary VMP EA presented to GGNRA Advisory Commission at a public meeting.
June 9, 1999	Presidio Trust held a public workshop on VMP EA issues. Summaries of the plan were sent out to 2000 individuals and organizations.
July 1, 1999	VMP EA released to the public. Formal public comment period initiated.
July 20, 1999	VMP EA presented at a joint meeting of the GGNRA Advisory Commission and the Presidio Trust.
July 10, August 5, October 30, 1999	NPS and Trust staff conduct public field trips to discuss plan proposals on site.
July 20, August 17, Sept. 21, Oct. 19, 1999	Oral comments received from the public at GGNRA Advisory Commission meetings.

October 28, 1999	Presidio Trust in cooperation with NPS gathered an interdisciplinary group of academic, government, and other specialists to solicit technical comments on the VMP EA.
November 17, 1999	NPS and Presidio Trust staff present the VMP EA to the Presidio Trust Board of Director's meeting and oral comments were received from the public.
November 18, 1999	The formal comment period closed.
October 17, 2000	NPS and Presidio Trust staff present a summary of public and agency comments and staff responses at the GGNRA Advisory Commission meeting.

Comments Received. The following is a breakdown of oral and written comments received during workshops prior to the public comment period and during the public comment period from July 1, 1999 to November 18, 1999. Comments were received from a total of 478 agencies, organizations, and individuals. Note there is some overlap in comments since some respondents presented both written and oral comments.

Comment Type	Meeting Date	Number of Commentors
Oral Comments	June 9, 1999	50
	July 20, August 17, Sept. 21, and October 19, 1999 meetings	23
	October 28, 1999 workshop	10
	November 17, 1999 hearing	38
Written comments	Agencies and organizations	17
	Individuals	105
	Signed duplicated postcard	235
Total received		478

Summary of Agency and Organization Comments Received

General Position of Commenting Agency or Organization	Agencies and Organizations
Agencies and organizations offering general support of the proposed actions	CA Exotic Pest Plant Council CA Native Plant Society, Marin Chapter CA Native Plant Society, Milo Baker Chapter CA Native Plant Society, Yerba Buena Chapter Cultural Conservancy (Proposed Action in

	combination with Alt. 4) Fort Point and Presidio Historical Association (Proposed Action in combination with Alternative 4) Golden Gate Audubon Society National Parks Conservation Association Natural Resources Defense Council Sierra Club (Proposed Action in combination with Alternative 4) US Dept. of the Interior, Fish and Wildlife Service Urban Watershed Project
Agencies and organizations that provided comments with no stated support for an alternative	Dunes Guild Port of San Francisco
Organizations expressing serious concern with the preferred alternative	Lake Street Residents Association Neighborhood Associations for Presidio Planning Planning Association for the Richmond Presidio Heights Association of Neighbors West Presidio Neighborhood Association

Summary of Preferences on VMP Alternatives. The preferences below provide a general sense of the magnitude of public preference for various plan elements.

Preference	# of respondents
Expressed general support of proposed actions (Alternative 1)	52
Expressed general support for proposed actions and Alternative 4	42 and 235 postcards
Expressed disapproval of plan elements or Disapproved of forest trees loss and/or restoration of native plant communities	45
Disapproved of the size limit of the Native Plant Communities Management Zone and/or want native habitat zone increased.	14

Principal Issues Raised in Comments and Responses. As shown in the above table, "Summary of Preferences on VMP Alternatives," most respondents expressed general support for the proposed actions, but there were several areas of concern regarding the future treatment of the forest and the relative amount of the Presidio devoted to management of each of the three vegetation categories. Concerns about the size of the zoned categories and the balance between the zones and the treatments proposed for each

zone reflected the intrinsic and often conflicting values that individual viewers place on the cultural forest and native plant communities. These concerns include:

Preference for increased diversification of the historic forest by planting of native tree species. A significant number of respondents preferred Alternative 4 as the best means to rehabilitate and diversify the Presidio's historic forest. Alternative 4 would devote more area to reestablishment of native plants using a more aggressive diversification or "change out" of the non-native forest plantation to native trees.

Preference for rehabilitation of the historic forest through increased planting of the four historically planted tree species. A contrasting view was also expressed by those who prefer the mature, even-aged character of the existing forest trees and groves to the more open landscape resulting from conversion to native coastal dune/scrub vegetation. Many respondents are Presidio neighbors who are concerned with the continuing loss of trees from storms, age and construction activities and wish to see more trees planted. The southwest corner of the Presidio is the major focus of much of this discussion because of its proximity to a residential neighborhood and the many changes that have recently occurred there.

Concern over loss of viewshed from neighboring residential areas. Tree height management along the Presidio perimeter and view-shed protection are serious concerns for neighboring residents. Maturing trees have grown to obstruct views of the Bay. Some neighbors have repeatedly topped offending trees at their own expense, and others wish to expand the practice to reclaim or create new views. The repeated topping of the trees is unsightly and requires high maintenance. This issue has been the focus of an ongoing dialog for a number of years, first with the U.S. Army and more recently the NPS and the Trust.

MODIFICATIONS TO THE SELECTED ALTERNATIVE

In response to public comments, Alternative 1, as defined in the VMP EA (1999), was modified to provide further clarification on the implementation process for the VMP. These and other modifications, set forth in more detail below, were presented and discussed before the GGNRA Advisory Commission at a public meeting on October 17, 2000.

Historic Forest Characterization and Treatment Study (Historic Forest Study).

Alternative 1 was modified to respond to public concerns about implementation of the VMP altering the unique characteristics that comprise the historic forest of the Presidio if a broader range of native trees and shrubs were introduced into the forest management zone. Other members of the public strongly supported diversifying the historic forest with native plants and shrubs. To address the concerns of both groups and to protect the integrity of the historic forest, the Historic Forest Study will be prepared to guide historic forest rehabilitation. The Historic Forest Study will determine the character-defining features of the historic forest that need to be preserved. The Historic Forest Study will determine to what degree the forest can be "diversified" and yet remain a contributing

element to the Presidio's status as a National Historic Landmark. The Historic Forest Study will be conducted by a qualified professional in conformance with the National Historic Preservation Act and the Secretary of Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes and with concurrence by the State Historic Preservation Office. Future site-specific forest rehabilitation plans will rely on the treatment strategies developed in the Historic Forest Study to ensure that the qualities that define the historic forest are not diminished.

The basic elements of this Historic Forest Study are described in the VMP Proposed Management Actions for the historic forest zone and in the mitigation measure for the historic forest restoration in the GMPA EIS (1994b, p. 29). The VMP and GMPA recognize the need to rehabilitate the aging forest within the historic forest management zone and manage it to become more self-sustaining by increasing structural and species diversity and encouraging natural regeneration. The VMP identifies the Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes as the appropriate standards to be applied in the selection of appropriate forest treatment. The Historic Forest Study will clarify the guidance in the VMP by providing a clearer definition of this important next step. The addition of the Historic Forest Study does not change the impact analysis in the EA, which concluded that the VMP would have a beneficial impact on the historic forest by rehabilitating and preserving historically significant forest stands and retaining the unique character of the forest. The Historic Forest Study will define the degree of diversity allowable to achieve the dual goals of protecting the cultural landscape and improving the natural values of the forest management zone.

Special Management Zone. Alternative 1 was also modified to reflect a change in the zoning designation of the southwest corner of the Presidio from native plant community and historic forest zones to a Special Management Zone (SMZ). The GMPA provides guidance on the scope of issues to be addressed in the VMP. However, the GMPA could not foretell the unforeseen and significant changes to the physical environment that have occurred in the southwest area since the 1994 adoption of the GMPA. Since that time, this area has been subject to the Richmond Transport Sewer construction project, slope failures, soil erosion and revegetation. Residents of the adjacent residential neighborhood have witnessed the changes to the physical setting and viewshed and are concerned that zoning would further affect their viewshed and local wind patterns. The southwest area also is presently the subject of a USFWS Recovery Plan (Coastal Plants of the Northern San Francisco Peninsula), exploring the potential for the area to provide habitat for a federally-listed endangered plant species, the San Francisco lessingia (*Lessingia germanorum*).

The modification of the Selected Alternative to include the southwest Special Management Zone will allow a separate planning effort for this area to take place once the USFWS Recovery Plan recommendations are finalized. The resource protection guidance from the USFWS Recovery Plan, input from agencies, and comments of the public and adjacent landowners will inform a future planning process that will convert the SMZ to appropriate vegetation zone designations. The SMZ designation does not

change the assessment in the VMP EA (1999) but recognizes the delay in the release of the USFWS Recovery Plan and the need for the VMP to be responsive to the guidance in that plan. The SMZ designation does not limit or preclude future implementation of the VMP in this area but does delay the implementation until informed decisions on the protection of endangered species in the Presidio can be made. Identifying the SMZ is beneficial to the VMP as it allows the needed implementation of the VMP while reserving the decision for this one area until the USFWS Recovery Plan is released. Delaying adoption of the larger VMP until the USFWS Recovery Plan is released would delay rehabilitation and protection efforts in the remainder of the park and would produce no clear benefit to the resources.

Other Modifications to the Selected Alternative. The following modifications build on the protections afforded in the VMP EA (1999) or clarify guidance in that document regarding implementation of the VMP. The recommendations do not change the impact assessment conclusions; rather these measures strengthen the conclusions in the VMP EA (1999).

- Down Wood. The VMP EA (1999) is revised to clarify the intent to enhance wildlife habitat through the use of down wood as appropriate in conjunction with comprehensive fire fuel management.
- Environmental Remediation Program. Environmental remediation activities will result in site-specific opportunities for VMP implementation. The revegetation components of projects under the Environmental Remediation Program will conform to the VMP zone map. If the revegetation is not consistent with the VMP, then the VMP zoning will be amended before implementation.
- Key Forest Stands. A pilot project will test intensive tree care strategies for mature trees within key historic forest stands to prolong the life of some of the more visible historic forest stands under the direction of a qualified urban forester.
- Minor VMP Zoning Map Edits. Three map edits were made to the Figure 3 in the VMP EA (1999). The areas are changed from native plant community to landscape zone because the areas are predominately landscape vegetation now and adjacent to or within developed parts of the Presidio.
- Photographic Simulations. Several series of photos depicting present conditions and simulating future conditions will be developed for various vegetation types in the Presidio to demonstrate the long-term visual and physical effect of VMP implementation.
- Replacement Plantings for the Hazardous Trees. The hazardous tree program will consider the need for replacement plantings when hazardous trees are removed.
- Site-Specific Pilot Programs. Small-scale, site-specific pilot programs will be developed. The pilot programs will vary in location and type of project focus concentrating on projects that can be initiated within the next one to three years. The plans for these site-specific programs will be developed by an interdisciplinary team and will be made available for public review and input prior to implementation and monitoring.
- Tennessee Hollow Restoration Project. Discussion of the Tennessee Hollow Restoration Plan has been added to the VMP EA (1999). This planning effort will

determine the degree of restoration possible for the corridor. A minor map modification to Figure 3 in the VMP EA (1999) corrects the zoning in this corridor to show the connection of Tennessee Hollow to the Crissy Field marsh as directed by the GMPA.

ADOPTED MEASURES FOR ENVIRONMENTAL PROTECTION

The July 1999 VMP EA (pp. 74 - 75) contains text describing the range of measures, incorporated into the proposed action, that provide for environmental protection. Additional measures noted in the table below were developed by the NPS and the Trust after consideration of public and agency comment. These additional measures clarify VMP implementation procedures. . The added measures strengthen the protection of park resources and the visitor experience during VMP implementation and support the success of VMP projects by expanding on steps required during project planning. All measures are incorporated into the Selected Alternative. In the table below, the measures are grouped by issue area along with a description of the potential environmental effect. The table below will appear in the revised Final EA replacing the text discussion of protection measures with the clearer structure of the table format.

Adopted Measures for Environmental Protection :

POTENTIAL IMPACT OR EFFECT :

Potential impact on the unique character of the historic forest due to the introduction of a more diverse suite of tree and understory species could jeopardize the NHL Status of the Presidio (Mitigated by CU-1 and CU-2)

MITIGATION MEASURES:

CU-1 - A Historic Forest Characterization and Treatment Study (HFCTS) shall be conducted by the National Park Service Olmsted Center for Landscape Preservation, or an affiliated group, to document, analyze and evaluate the characteristic features inherent in the historic forest and to develop a set of treatment recommendations consistent with the Secretary of the Interior's Standards for Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes. This study shall explore whether and to what extent alternate tree species could be introduced into the zones of the historic forest without adversely affecting the unique cultural landscape and character of the historic forest as guided by the National Historic Preservation Act.

PHASE:

Phase I

RESPONSIBILITY FOR COMPLIANCE:

Presidio Trust VMP Project Manager / NPS VMP Program Manager

METHOD:

Section 106 Process

ENFORCEMENT:

Incorporate Historic Forest Study into VMP Implementation Strategy

MITIGATION MEASURES:

CU-2 - Future site-specific implementation plans and forestry management practices shall follow the recommendations of the Historic Forest Study to the extent necessary to ensure that the characteristics and qualities that define the Presidio historic forest are protected.

PHASE:

Phase II

RESPONSIBILITY FOR COMPLIANCE:

Presidio Trust VMP Project Manager / NPS VMP Program Manager

METHOD:

Section 106 Process

ENFORCEMENT:

Incorporate Recommendations into Implementation Plans

POTENTIAL IMPACT OR EFFECT :

The historic forest, including the key stands, has reached a mature stage and is in decline. Without active forest management, the decline will continue, and potentially impact the singular character of the forest. (Mitigated by CU-3 and CU-4)

MITIGATION MEASURES:

CU-3 - The Historic Forest Study shall be prepared in a timely manner to allow for early identification of pilot projects and implementation strategies necessary to rehabilitate the historic forest's key stands. Forestry pilot projects, that both address the management of the historic forest's key stands and test these intensive tree care strategies shall be developed and implemented in a timely manner.

PHASE:

Phase I

RESPONSIBILITY FOR COMPLIANCE:

Presidio Trust VMP Project Manager / NPS VMP Program Manager

METHOD:

Section 106 Process

ENFORCEMENT:

Incorporate Historic Forest Study Recommendations into Pilot Projects

MITIGATION MEASURES:

CU-4 - All historic forest preservation efforts shall occur under the direction of a qualified urban forester.

PHASE:

Phases I, II & III

RESPONSIBILITY FOR COMPLIANCE:

Presidio Trust VMP Project Manager / NPS VMP Program Manager

METHOD:

Presidio Trust / NPS Grounds Maintenance Program

ENFORCEMENT:

Require as Part of VMP Implementation Strategy

POTENTIAL IMPACT OR EFFECT :

Rehabilitation and replacement of the landscape vegetation could result in a loss in the historic integrity of the cultural landscape (Mitigated by CU-5 and CU-6)

MITIGATION MEASURES:

CU-5 - Prior to implementation of rehabilitation projects in the landscape vegetation zone, additional historic research (including site assessments and historic plant inventory), evaluation, and compatibility guidelines shall be prepared for specific sites to ensure compliance with the Secretary's Standards.

PHASE:

Phase II

RESPONSIBILITY FOR COMPLIANCE:

Presidio Trust VMP Project Manager / NPS VMP Program Manager

METHOD:

Section 106 Process

ENFORCEMENT:

Incorporate Guidelines into Rehabilitation Projects

MITIGATION MEASURES:

CU-6 -The need to rehabilitate landscape vegetation shall be reduced by maximizing the use to the extent feasible and promoting the longevity of existing plant materials where they can meet program requirements. Use of existing plant material shall include salvaging and replanting existing vegetation, propagating Presidio plant stock from historic plant stock, and integrating core cultural landscape features (such as heritage trees) into site plans and designs. See also SUS-1.

PHASE:

Phases I & II

RESPONSIBILITY FOR COMPLIANCE:

Presidio Trust / NPS Historic Landscape Architect

METHOD:

Presidio Trust and NPS Leasing Program

ENFORCEMENT:

Require in Site Planning

POTENTIAL IMPACT OR EFFECT :

Disturbance and changes to the cultural landscape could affect contributing elements of the Presidio National Historic Landmark District. (Avoided by CU-7 and CU-8)

MITIGATION MEASURES:

CU-7 - In accordance with the governing Programmatic Agreement under Section 106 of the NHPA, the following conditions shall apply to the implementation of the VMP.

- *a. All actions and projects that involve ground disturbance and changes to the cultural landscape implemented under the VMP shall be certified by historic preservation personnel through the applicable PA for conformance with the Secretary of the Interior's Standards for the Treatment of Historic Properties according to the requirements of the applicable PA for that action or project.*
- *b. Action and projects that involve ground disturbance shall be subject to the provisions of the PA addressing archeological monitoring and the process followed if unexpected archeological resources are uncovered.*

- *c. Consistent with the findings of the Historic Forest Study (see CR-1), any substitute species considered for planting in the historic forest (for example, other species of cypress or eucalyptus of lower stature) or in historic landscape areas shall be tested through pilot projects to assess the ability to survive site conditions and evaluated as to its physical appearance and characteristics.*

PHASE:

Phases I, II & III

RESPONSIBILITY FOR COMPLIANCE:

Presidio Trust VMP Project Manager / NPS VMP Program Manager

METHOD:

Section 106 Process

ENFORCEMENT:

Require as Part of VMP Implementation Strategy

MITIGATION MEASURES:

CU-8 -Hazardous trees within the historic forest shall be documented under procedures outlined in the appropriate Landscape Preservation Maintenance Plan before removal. Sound forestry criteria for pruning all trees will be developed concurrently with planning for hazardous tree abatement.

PHASE:

Phases I, II & III

RESPONSIBILITY FOR COMPLIANCE:

Presidio Trust Forester

METHOD:

Presidio Trust / NPS Grounds Maintenance Program

ENFORCEMENT:

Require as Part of VMP Implementation Strategy

POTENTIAL IMPACT OR EFFECT :

Conformance of Environmental Remediation Program with VMP treatments (Mitigated by ER-1)

MITIGATION MEASURES:

ER-1 - Vegetation treatments that occur in conjunction with the Environmental

Remediation Program for the Presidio shall conform to the VMP zoning map(5) , and shall be subject to site-specific planning and environmental review prior to implementation.

PHASE:

During Environmental Remediation Program

RESPONSIBILITY FOR COMPLIANCE:

Presidio Trust Environmental Remediation Program Manager / NPS Environmental Remediation Personnel

METHOD:

Presidio Trust Remediation Program

ENFORCEMENT:

Incorporate into Presidio Trust Environmental Remediation Program

FOOTNOTES:

(5) - The VMP zoning map can be amended with appropriate NEPA review.

POTENTIAL IMPACT OR EFFECT :

*Potential erosion due to surface disturbance and change to existing ground cover
(Mitigated by SO-1)*

MITIGATION MEASURES:

SO-1 - *Projects that disturb soil and groundcover vegetation shall minimize soil erosion by complying with the following best management practices (BMPs):*

- Stumps shall be left and cut at ground level in erosive soils and erosion control measures shall be taken to reduce compaction, reduce the size of area disturbed, and stabilize soils with approved erosion control techniques including blankets, netting, wattles and straw when needed.*
- Unless there are no feasible alternatives, the use of heavy equipment shall be avoided in areas where soils are wet and in areas where compaction could occur that would cause significant soil damage.*
- Disturbed soils shall be returned to a stable condition by ensuring installation of appropriate erosion control measures and by replanting in the native plant community and historic forest areas consistent with the VMP zones.*
- Site grading and drainage plans shall include drainage design measures that promote groundwater percolation through soil decompaction and use of permeable ground cover.*

PHASE:

Phases I, II & III

RESPONSIBILITY FOR COMPLIANCE:

Presidio Trust VMP Project Manager / NPS VMP Program Manager

METHOD:

Presidio Trust / NPS Grounds Maintenance Program

ENFORCEMENT:

Incorporate BMPs into Implementation Plans

POTENTIAL IMPACT OR EFFECT :

*The mature forest is in decline and needs active management to enhance forest health
(Mitigated by FM-1 and FM-2)*

MITIGATION MEASURES:

FM-1 - The effectiveness of the forest rehabilitation efforts shall be monitored annually, and evaluated every 5 years to consider: changes in the number and size of windthrow areas; progress in moving toward more uneven-aged stands; experience gained from active management of the Presidio forest as well as experiences of other land managers of similar forests; and past and estimated future costs of forest maintenance. The findings shall be used to determine whether changes to forestry strategies, treatments and management will be required.

PHASE:

Phases II & III

RESPONSIBILITY FOR COMPLIANCE:

Presidio Trust VMP Project Manager / NPS VMP Program Manager

METHOD:

Presidio Trust / NPS Grounds Maintenance Program

ENFORCEMENT:

Incorporate Findings into Annual Forestry Workplan

MITIGATION MEASURES:

FM-2 - Monitoring of historic forest conditions shall be undertaken to collect data such as soil types, site conditions and seed release and dispersal factors, in order to increase the potential for voluntary reseedling of tree species. See also CR-1 - CR-4.

PHASE:

Phase II

RESPONSIBILITY FOR COMPLIANCE:

Presidio Trust Forester

METHOD:

Presidio Trust / NPS Grounds Maintenance Program

ENFORCEMENT:

Incorporate Findings into Annual Forestry Workplan

POTENTIAL IMPACT OR EFFECT :

Potential impacts on forest health due to infection from pests and diseases (Mitigated by FM-3)

MITIGATION MEASURES:

FM-3 - Periodic monitoring and seasonal inspection of selected forest stands shall be conducted to detect disease and pest problems at an early stage. An integrated pest management plan shall be developed if monitoring indicates the presence of the pine pitch canker (a fungus), the eucalyptus longhorn borer, or other known pests and diseases in the Presidio.

PHASE:

When Required

RESPONSIBILITY FOR COMPLIANCE:

Presidio Trust Forester and Presidio Trust / NPS Integrated Pest Management Specialists

METHOD:

Presidio Trust / NPS Grounds Maintenance Program

ENFORCEMENT:

Incorporate Monitoring into Annual Forestry Workplan

POTENTIAL IMPACT OR EFFECT :

Potential impact of increased wild fire hazard as the result of high fire fuel loads (Mitigated by FM-4)

MITIGATION MEASURES:

FM-4 - Forest fuel loads shall be frequently inspected, and shall be altered when necessary by removing dead and fallen trees and branches, pruning trees to remove dead branches that can act as a fuel ladder, and removing excessive forest litter. Clearing or

mowing of understory vegetation shall occur in areas that are frequently visited when necessary to reduce fire hazard.

PHASE:

All Phases

RESPONSIBILITY FOR COMPLIANCE:

Presidio Trust Forester and NPS Fire Management Personnel.

METHOD:

Presidio Trust / NPS Grounds Maintenance Program

ENFORCEMENT:

Incorporate Monitoring into Annual Forestry Workplan

POTENTIAL IMPACT OR EFFECT :

Potential impacts of changed viewshed and wind patterns due to VMP projects within historic forest and native plant communities (Mitigated by LU-1 --LU-3)

MITIGATION MEASURES:

LU-1 - Public involvement and plan review shall be incorporated into site-specific planning for projects adjacent to residential boundaries. Modifications to projects in response to concerns raised by adjacent communities shall be considered as part of the project planning and design.

PHASE:

Phase II

RESPONSIBILITY FOR COMPLIANCE:

Presidio Trust VMP Project Manager / NPS VMP Program Manager

METHOD:

Presidio Trust and NPS NEPA Compliance Processes

ENFORCEMENT:

Incorporate Public Involvement into Project Planning and Design

MITIGATION MEASURES:

LU-2 - The size and configuration of forest openings shall depend largely on the effects of storms, but when storm-damaged trees are cleared to prepare a site for rehabilitation, the effect of wind on regeneration success and windbreak functions shall be considered.

Clearings will generally be oriented perpendicular to the prevailing wind in a southwest-northeast pattern. See also NO-2, NO-3, PP-1, and VR-1 - VR-5.

PHASE:

Phase II

RESPONSIBILITY FOR COMPLIANCE:

Presidio Trust Forester

METHOD:

Presidio Trust / NPS Grounds Maintenance Program

ENFORCEMENT:

Require as Part of VMP Implementation Strategy

MITIGATION MEASURES:

LU-3(6) -- Where practicable, conduct an analysis of the potential changes to both the local wind patterns and forest windbreak integrity that could occur as the result of tree removal activities prior to project implementation. Incorporate findings into project design.

PHASE:

Phases I & II

RESPONSIBILITY FOR COMPLIANCE:

Presidio Trust Forester and VMP Project Manager/ NPS VMP Program Manager

METHOD:

Presidio Trust and NPS Compliance Processes

ENFORCEMENT:

Require as Part of VMP Implementation Strategy

FOOTNOTES:

(6) - This mitigation measure was omitted from previous versions of this table and subsequently added on 11/07/01 upon the concurrence of all signatories.

POTENTIAL IMPACT OR EFFECT :

Potential impacts on native plant communities due to the spread of invasive exotic plant species (Mitigated by NP-1)

MITIGATION MEASURES:

NP-1 - The following strategies shall be employed to control the spread of invasive exotic plants in the Presidio:

- *A list of approved plant material for horticultural use shall be developed, and periodically revised, in planting plans.*
- *Integrated pest management practices shall be used to control and/or remove targeted invasive exotic species threatening sensitive native habitat.*
- *Tests shall be conducted to evaluate the most ecological and cost effective methods for controlling and/or removing targeted invasive exotic species.*

PHASE:

All Phases

RESPONSIBILITY FOR COMPLIANCE:

Presidio Trust VMP Project Manager and Forester / NPS VMP Program Manager

METHOD:

Presidio Park Stewardship Program

ENFORCEMENT:

Incorporate Strategies into Implementation Plans

POTENTIAL IMPACT OR EFFECT :

Potential impacts on native plant communities, due to VMP-related activities, which could accelerate erosion, change surface hydrology or remove vegetation (Mitigated by NP-2 - NP-6)

MITIGATION MEASURES:

NP-2 - Systematic monitoring shall occur to evaluate the success of the native plant community restoration projects. Monitoring results shall be used to document population and species composition changes and provide a baseline for measuring the effectiveness of enhancement and restoration efforts as they are implemented. If negative trends occur, the project would be carefully reviewed and further actions would cease. The project would be revised to determine the necessary corrective action. Annual monitoring activities shall include:

- *Photo documentation of the pre-project condition, restoration activities and annual photo points.*
- *Continuation of regular qualitative evaluation of most existing native plant communities.*
- *Establishment of permanent quantitative transects in reference areas and restored habitat.*

- *Establishment and/or modification of protocols necessary for assessing the development of re-created native plant communities.*
- *Annual censusing and/or range mapping of all thirteen special status plant species and any other special status species that may occur in the future.*

PHASE:

Phases II & III

RESPONSIBILITY FOR COMPLIANCE:

Presidio Trust Natural Resources Program Manager and NPS VMP Program Manager

METHOD:

Presidio Park Stewardship Program

ENFORCEMENT:

Incorporate Monitoring into Implementation Plans

MITIGATION MEASURES:

NP-3 - Native plant material shall be salvaged to the greatest extent feasible, as directed by a qualified restoration specialist, prior to tree removal activities within both the native plant communities and historic forest zones.

PHASE:

All Phases

RESPONSIBILITY FOR COMPLIANCE:

Presidio Trust Natural Resources Program Manager and NPS VMP Program Manager

METHOD:

Presidio Park Stewardship Program and Presidio Trust / NPS Grounds Maintenance Program

ENFORCEMENT:

Require as Part of VMP Implementation Strategy

MITIGATION MEASURES:

NP-4 - Heavy equipment use shall be scheduled, to the greatest extent feasible, to avoid areas where soils are wet and prone to compaction.

PHASE:

All Phases

RESPONSIBILITY FOR COMPLIANCE:

Presidio Trust VMP Project Manager and Forester / NPS VMP Program Manager

METHOD:

Presidio Park Stewardship Program and Presidio Trust / NPS Grounds Maintenance Program

ENFORCEMENT:

Incorporate Condition into Implementation Plans

MITIGATION MEASURES:

NP-5 - Existing vegetation shall be fenced, if deemed appropriate by a qualified restoration specialist, to prevent accidental incursions during VMP project implementation. An education strategy for work crews shall be conducted onsite, to include training in plant and sensitive resource identification.

PHASE:

Phase II

RESPONSIBILITY FOR COMPLIANCE:

Presidio Trust VMP Project Manager and Forester / NPS VMP Program Manager

METHOD:

Presidio Park Stewardship Program

ENFORCEMENT:

Incorporate Condition into Implementation Plans

MITIGATION MEASURES:

NP-6 - All native plants shall be grown from existing Presidio genetic stock propagated at the Presidio-based nursery or in accordance with established practices within the Nursery System Standard Operating Procedures. If no on-site seeds or cuttings are available, documentation of the justification for the reintroduction decision shall be prepared, and an evaluation shall be conducted to determine the most appropriate off-site source for reintroduction. Temporary fencing, to prevent visitors on the trail and overlooks from disturbing existing and newly planted habitat areas after construction, shall be installed where necessary.

PHASE:

Phase II

RESPONSIBILITY FOR COMPLIANCE:

Presidio Trust Natural Resources Program Manager and NPS VMP Program Manager

METHOD:

Presidio Park Stewardship Program

ENFORCEMENT:

Incorporate Condition into Implementation Plans

POTENTIAL IMPACT OR EFFECT :

Potential impacts on native plant communities due to the spread of the historic forest beyond the historical boundaries (Mitigated by NP-7 and NP-8)

MITIGATION MEASURES:

NP-7 - Temporary fencing shall be installed to protect native plant communities, as necessary, when removing stands of invasive trees outside of the historic forest, or as needed for forest diversification. Disturbance will be limited to areas prescribed by the fencing.

PHASE:

Phase II

RESPONSIBILITY FOR COMPLIANCE:

Presidio Trust Natural Resources Program Manager and Forester / NPS VMP Program Manager

METHOD:

Presidio Park Stewardship Program

ENFORCEMENT:

Incorporate Condition into Implementation Plans

MITIGATION MEASURES:

NP-8 - To reduce the workload needed to contain the spread of forest species and increase the diversity of forest species, transition and buffer areas shall be established where historic forest plantings abut native plant communities. Buffers shall not be established on the perimeters of key historic forest stands to avoid altering their historic character. Site-specific planting plans for buffer areas shall be guided by both the Historic Forest Study and ecological restoration action plans.

PHASE:

Phase II

RESPONSIBILITY FOR COMPLIANCE:

Presidio Trust VMP Project Manager and Forester / NPS VMP Program Manager

METHOD:

Presidio Park Stewardship Program

ENFORCEMENT:

Incorporate Condition into Implementation Plans

POTENTIAL IMPACT OR EFFECT :

Ensure protection of rare and endangered species (Mitigated by NP-9 - 11)

MITIGATION MEASURES:

NP-9 - The southwest corner of the Presidio in Area A is designated as a Special Management Zone (SMZ) for future planning pending the forthcoming U.S. Fish and Wildlife Service (USFWS) Recovery Plan for Coastal Plants of the Northern San Francisco Peninsula. The USFWS Recovery Plan will recommend areas of the Presidio, including the SMZ, that could provide habitat critical for the long-term recovery of the San Francisco lessingia, a federally-listed endangered species. During NEPA review of the VMP, public comment indicated a range of issues for consideration in future planning of the SMZ. These issues include effects on viewshed, wind patterns, noise, native plant restoration, historic forest, rare plant species and wildlife habitat. SMZ planning will proceed when the USFWS Recovery Plan is finalized. At that time, an interdisciplinary group, comprised of resource experts and interested public, will work in a collaborative setting to develop the vegetation zoning and treatment of the SMZ.

PHASE:

Upon Completion of the USFWS Recovery Plan for Coastal Plants of the Northern San Francisco Peninsula

RESPONSIBILITY FOR COMPLIANCE:

Presidio Trust VMP Project Manager, Natural Resources Program Manager and Forester / NPS VMP Program Manager and Natural Resource Specialist

METHOD:

USFWS Section 7 Consultation Process

ENFORCEMENT:

Incorporate Critical Habitat into Implementation Plan for SMZ

MITIGATION MEASURES:

NP-10 - Monitoring of all known special-status species populations shall be conducted

annually until the natural variation in population size is well documented; after that, monitoring shall be conducted at least once every 3 years. If declining trends are observed, then consultation with USFWS to develop corrective management actions shall occur.

PHASE:

Phases I, II & III

RESPONSIBILITY FOR COMPLIANCE:

Presidio Trust Natural Resources Program Manager / NPS Natural Resource Specialist

METHOD:

USFWS Section 7 Consultation Process

ENFORCEMENT:

Incorporate Monitoring and Management Actions into Annual Workplan

MITIGATION MEASURES:

NP-11 - The Section 7 consultation process shall be followed for all management actions for federally-listed species.

PHASE:

Phases I, II & III

RESPONSIBILITY FOR COMPLIANCE:

Presidio Trust Natural Resources Program Manager / NPS Natural Resources Division Chief and Natural Resource Specialist

METHOD:

USFWS Section 7 Consultation Process

ENFORCEMENT:

Require as Part of VMP Implementation Strategy

POTENTIAL IMPACT OR EFFECT :

Potential impact to visitors and residents due to noise generated from power equipment associated with VMP projects (Mitigated by NO-1-3)

MITIGATION MEASURES:

NO-1 - Work areas will be temporarily closed to the public when loud machinery is in operation to avoid exposing visitors to high noise levels.

***NO-2** - Tasks that generate high noise levels, such as wood chipping, will be conducted at less intrusive areas or moved offsite whenever feasible.*

***NO-3** - Activities that generate high noise levels will be limited to daylight and weekday hours and will be scheduled to minimize noise impacts for visitors and residents.*

PHASE:

During Demolition and Construction

RESPONSIBILITY FOR COMPLIANCE:

Presidio Trust VMP Project Manager and Forester / NPS VMP Program Manager

METHOD:

Presidio Park Stewardship Program and Presidio Trust / NPS Grounds Maintenance Program

ENFORCEMENT:

Incorporate Noise Provisions into Implementation Plans

POTENTIAL IMPACT OR EFFECT :

Ensure effectiveness of Pilot Project Programs (Mitigated by PP-1)

MITIGATION MEASURES:

***PP-1** - Site-specific pilot programs shall be developed and implemented over the next 5-8 years to test and assess the effectiveness of restoration and forestry techniques, and monitor results and performance. Results of the pilot projects shall be used to inform future VMP implementation actions. Pilot projects shall conform to the following:*

- Pilot programs shall be small in scale, varied in location (but generally in less visible areas), and representative of a variety of options for historic forest treatment and native plant community restoration.*
- Plans for site-specific programs shall be developed through careful site evaluation and biological assessment by an interdisciplinary team.*
- Site-specific restoration projects shall be subject to NEPA review prior to implementation.*
- A monitoring analysis, post-construction evaluation and documentation program shall be conducted for each pilot project thereby providing analysis and information to guide the implementation of future projects.*

PHASE:

Phase I

RESPONSIBILITY FOR COMPLIANCE:

Presidio Trust VMP Project Manager and Forester / NPS VMP Program Manager

METHOD:

Presidio Trust and NPS NEPA Compliance Processes

ENFORCEMENT:

Incorporate Conditions into Pilot Projects

POTENTIAL IMPACT OR EFFECT :

Potential impacts to volunteer programs and interpretive opportunities as the result of VMP implementation activities (Mitigated by RV-1 - RV-3)

MITIGATION MEASURES:

RV-1 - Education, interpretation and public relations programs would be developed and publicized to convey the reasons for the VMP projects.

PHASE:

Phase II

RESPONSIBILITY FOR COMPLIANCE:

Presidio Trust VMP Project Manager and Forester / NPS VMP Program Manager

METHOD:

Presidio Trust / NPS Public Education, Interpretation and Public Relations Programs

ENFORCEMENT:

Require as Part of VMP Implementation Strategy

MITIGATION MEASURES:

RV-2 - The Presidio Park Stewardship Program and future stewardship programs shall be continued collaboratively between the NPS and Presidio Trust to provide interpretive experiences and volunteer opportunities for the community.

PHASE:

Phases I, II & III

RESPONSIBILITY FOR COMPLIANCE:

Presidio Trust Natural Resources Program Manager / NPS Natural Resource Specialist

METHOD:

Presidio Trust Parkwide Improvements Program

ENFORCEMENT:

Require as Part of VMP Implementation Strategy

MITIGATION MEASURES:

RV-3 - The Presidio Trails and Bikeways Master Plan shall conform to guidance of the VMP.

PHASE:

Construction of Presidio Trails and Bikeways Plan

RESPONSIBILITY FOR COMPLIANCE:

NPS VMP Program Manager

METHOD:

NPS NEPA Compliance Process

ENFORCEMENT:

Incorporate into Presidio Trails and Bikeways Plan

POTENTIAL IMPACT OR EFFECT :

Potential hazards presented to visitors through tree fall or limb breakage (Mitigated by SA-1)

MITIGATION MEASURES:

SA-1 - Hazardous trees that pose direct and unavoidable threats to human health and safety shall be removed following consideration of measures WI 1-3. Hazardous tree reports shall be reviewed annually to determine the need for replacement plantings. The ratio used for replacement plantings shall depend on site-specific conditions such as the level of natural regeneration in the area, effects on visitor experience, and screening requirements.

PHASE:

Phases I, II & III

RESPONSIBILITY FOR COMPLIANCE:

Presidio Trust Forester

METHOD:

Presidio Trust / NPS Grounds Maintenance Program

ENFORCEMENT:

Incorporate into Annual Forestry Workplan

POTENTIAL IMPACT OR EFFECT :

Potential for hazards to visitors from VMP implementation activities (Mitigated by SA-2)

MITIGATION MEASURES:

SA-2 -Implementation activities could pose hazards to the public if uncontrolled access is permitted in VMP project areas during implementation. During implementation, the project area, including the portions of any adjacent trail systems and recreational resources, shall be fenced and closed to the public.

PHASE:

Phase II

RESPONSIBILITY FOR COMPLIANCE:

Presidio Trust Forester

METHOD:

Presidio Trust / NPS Grounds Maintenance Program

ENFORCEMENT:

Incorporate Condition into Implementation Plans

POTENTIAL IMPACT OR EFFECT :

Potential interim impacts to visitor experience, due to changed visual effects and landscape features during tree removal and vegetation clearing activities (Mitigated by VS-1 - VS-5)

MITIGATION MEASURES:

VS-1 - Reforestation of forestry project areas shall occur as soon after clearing of the dead and down trees as possible (when feasible, within one year). Temporary irrigation shall be installed to ensure the survivorship of saplings.

PHASE:

Phase II

RESPONSIBILITY FOR COMPLIANCE:

Presidio Trust Forester

METHOD:

Presidio Trust / NPS Grounds Maintenance Program

ENFORCEMENT:

Incorporate Condition into Implementation Plans

MITIGATION MEASURES:

VS-2 - Revegetation of restoration project areas with native plants shall be completed as expeditiously as resources permit. If revegetation takes more than one year, an exotic species control strategy shall be implemented to prevent the establishment of invasive exotic weeds.

PHASE:

Phase II

RESPONSIBILITY FOR COMPLIANCE:

Presidio Trust Natural Resources Program Manager / NPS VMP Program Manager

METHOD:

Presidio Park Stewardship Program

ENFORCEMENT:

Incorporate Condition into Implementation Plans

MITIGATION MEASURES:

VS-3 - Forestry rehabilitation areas that require tree removal within the historic forest shall be restricted to a size of less than ½-acre to minimize visual impacts, unless otherwise approved.

PHASE:

Phase II

RESPONSIBILITY FOR COMPLIANCE:

Presidio Trust Forester

METHOD:

Presidio Trust / NPS Grounds Maintenance Program

ENFORCEMENT:

Incorporate Condition into Implementation Plans

MITIGATION MEASURES:

VS-4 - Photographic simulations shall be developed for a repertoire of typical vegetation management projects to serve as examples of proposed forest rehabilitation and native plant restoration treatments.

PHASE:

Phases I & II

RESPONSIBILITY FOR COMPLIANCE:

Presidio Trust VMP Project Manager and Forester / NPS VMP Program Manager

METHOD:

Presidio Park Stewardship Program

ENFORCEMENT:

Incorporate Simulations into Implementation Plans

MITIGATION MEASURES:

VS-5 - The selection of projects for annual workplans shall take into account the cumulative effect of individual projects on the overall scenic resources and visitor experience of the park. Steps shall be taken to disperse the implementation activities throughout the park whenever possible, so as not to overwhelm any one area with dramatic changes. See also SO-1(a), SA-1 and NR-10.

PHASE:

Phase II

RESPONSIBILITY FOR COMPLIANCE:

Presidio Trust VMP Project Manager and Forester / NPS VMP Program Manager

METHOD:

Presidio Park Stewardship Program

ENFORCEMENT:

Incorporate into Annual Workplan

POTENTIAL IMPACT OR EFFECT :

Implementation of the VMP could result in an increased demand for scarce resources and generate increased solid waste (SU-1 - SU-3).

MITIGATION MEASURES:

SU-1 - The selection of landscape plants shall consider sustainability criteria including disease and pest resistance, drought-tolerance, suitability to the site's microclimate, and the degree of care required to reduce demands for energy and intensive ongoing maintenance.

PHASE:

Phase II

RESPONSIBILITY FOR COMPLIANCE:

Presidio Trust / NPS Landscape Architects

METHOD:

Presidio Trust and NPS Leasing Program

ENFORCEMENT:

Require in Site Planning

MITIGATION MEASURES:

SU-2 - Water conservation measures shall be factored into the planning, design and on-going maintenance of landscaped areas, including the establishment period for reforestation areas and native plant restoration sites.

PHASE:

Phase II

RESPONSIBILITY FOR COMPLIANCE:

Presidio Trust / NPS Landscape Architects

METHOD:

Presidio Park Stewardship Program and Presidio Trust / NPS Grounds Maintenance and Leasing Programs

ENFORCEMENT:

Incorporate Measures into Implementation Plans

MITIGATION MEASURES:

SU-3 - Sustainable green waste and composting facilities shall be increased and/or developed to ensure that organic debris is recycled and reused as much as possible within the Presidio.

PHASE:

Ongoing

RESPONSIBILITY FOR COMPLIANCE:

Presidio Trust Sustainability Coordinator

METHOD:

Presidio Trust Sustainability Program

ENFORCEMENT:

Incorporate into Presidio Trust Sustainability Program

POTENTIAL IMPACT OR EFFECT :

Potential impacts to wildlife habitat due to VMP project activities (Mitigated by WI-1 - WI-5)

MITIGATION MEASURES:

WI-1 - With the exception of unanticipated events requiring hazardous tree abatement, vegetation removal activities or activities using loud power or mechanical equipment will be scheduled outside of the annual bird-breeding season (currently March 1st to August 15th).

PHASE:

Phase II

RESPONSIBILITY FOR COMPLIANCE:

Presidio Trust Forester and Natural Resource Program Manager / NPS Wildlife Biologist

METHOD:

Presidio Park Stewardship Program and Presidio Trust / NPS Grounds Maintenance and Leasing Programs

ENFORCEMENT:

Incorporate Measures into Implementation Plans

MITIGATION MEASURES:

WI-2 - To reduce effects on wildlife and wildlife habitat, work areas will be delineated with habitat fencing, where necessary, and work crews shall be trained to minimize effects to habitat values.

PHASE:

Phase II

RESPONSIBILITY FOR COMPLIANCE:

Presidio Trust Forester and Natural Resource Program Manager / NPS Wildlife Biologist

METHOD:

Presidio Park Stewardship Program and Presidio Trust / NPS Grounds Maintenance and Leasing Programs

ENFORCEMENT:

Incorporate Measures into Implementation Plans

MITIGATION MEASURES:

WI-3 - Any removal of vegetation shall follow adopted guidelines for protection of nesting birds. These guidelines include restrictions on timing of vegetation removal and requirements for searching for nests prior to removal if activities can not be delayed. Unanticipated events requiring hazard tree abatement shall be conducted when necessary outside of the restrictive timelines, and conform to measures SA-1 and SA-2. Restriction of work areas and education of work crews may also be used to reduce possible wildlife impacts.

PHASE:

Phase II

RESPONSIBILITY FOR COMPLIANCE:

Presidio Trust Forester and Natural Resource Program Manager / NPS Wildlife Biologist

METHOD:

Presidio Park Stewardship Program and Presidio Trust / NPS Grounds Maintenance and Leasing Programs

ENFORCEMENT:

Incorporate Measures into Implementation Plans

MITIGATION MEASURES:

WI-4 - Prior to tree removal, each work site shall be evaluated by a qualified biologist to determine whether any element of the forest or the proposed restoration site provides habitat for any special status species. Measures shall be developed for avoiding any elements identified. If avoidance is infeasible, consultation would be completed consistent with Measure NP-11. Non-native forest stands with high wildlife values shall generally be retained, unless they will be replaced incrementally with rare native plant communities, such as serpentine communities, or native plant communities that also have high wildlife value, such as coast live oak or willow riparian plant communities or forest stands with greater wildlife value consistent with the HFCTS treatments.

PHASE:

Phase II

RESPONSIBILITY FOR COMPLIANCE:

Presidio Trust Forester and Natural Resource Program Manager / NPS Wildlife Biologist

METHOD:

Presidio Park Stewardship Program and Presidio Trust / NPS Grounds Maintenance and Leasing Programs

ENFORCEMENT:

Incorporate Measures into Implementation Plans

MITIGATION MEASURES:

WI-5 - Areas within the forest management zone shall be evaluated to determine where standing dead or downed limbs and trees will be allowed to decompose naturally to enhance wildlife habitat providing they neither harbor pests or diseases that can affect other Presidio resources, nor create a fire hazard, nor conflict with the Historic Forest Study treatments.

PHASE:

Phase II

RESPONSIBILITY FOR COMPLIANCE:

Presidio Trust Forester and Natural Resource Program Manager / NPS Wildlife Biologist

METHOD:

Presidio Trust / NPS Grounds Maintenance Programs

ENFORCEMENT:

Incorporate Measures into Implementation Plans

BASIS FOR THE DECISION

The Selected Alternative best accomplishes the purpose and need for the VMP -- to protect the integrity of and rehabilitate the historic forest, the cultural landscape, and historic scenic vistas, and to enhance native plant communities and protect special status plant species. The Selected Alternative gradually replaces forest stands where storms, hazardous tree removal, and fallen trees provide openings in the canopy. The Selected

Alternative provides for the consideration of planting native trees and shrubs within the historic forest zone, but ensures that the three historically planted tree species would continue to dominate the historic forest management zone. These revegetated areas will enhance wildlife values by the gradual change of much of the historic forest from monotypic, single-aged stands to more mixed species and mixed-aged stands. The forest will be gradually reduced over time to the area of the historic forest zone by cutting small outlying stands of 0.3 to 0.5 acres at a time. The Selected Alternative proscribes the type and number of native trees and shrubs that could be introduced to the historic forest and assures protection of the integrity of the cultural landscape and viewshed while improving natural values, wildlife habitat, stewardship opportunities and reducing maintenance requirements. The Selected Alternative reflects public concerns regarding the integrity of the historic forest and public support for expansion of native trees and shrubs in the Presidio. The ongoing rehabilitation of the historic forest in conjunction with a gradual introduction of native species is a strategy that responds to the comments of adjacent homeowners who expressed concern about changes to the Presidio viewshed.

Alternative 3 provides for the rehabilitation and replanting of the historic forest in block cuts of 0.5 to 0.75 acres distributed throughout the historic forest area. Alternative 3 was not chosen as the selected alternative for several reasons. First, Alternative 3 would not provide the flexibility requested by the public to study and alter the range of tree and shrub species in the historic forest. Second, larger forest cuts are allowed under Alternative 3, which would result in more wildlife disruption. Wildlife habitat is improved over the long-term by some increase in multi-storied, multi-aged forest stands and understory vegetation, but not to the full extent provided in the Selected Alternative. Alternative 3 calls for greater changes in viewshed both within and from outside the park.

Under Alternative 4, tree and understory replacement plantings will occur gradually as fallen trees and storm events provide openings and opportunities but a variety of California native tree species and other tree species would be introduced as replacements for the three tree species that currently dominate the forest. Implementation of Alternative 4 enhances habitat values and provides additional replacement options in the event of disease outbreaks that could threaten one or more of the three dominant species. Alternative 4 received support from many respondents during the public review, and the NPS and the Trust considered the advantages of Alternative 4 when developing the Selected Alternative. Alternative 4 was not designated the Selected Alternative as the introduction of a wide range of tree species would substantially alter the character of the historic forest, a contributing element to the National Historic Landmark status of the Presidio. The character of the historic forest is defined in part by the form, scale, and appearance of the historic forest that remains today -- i.e. a continuous canopy forest, the three dominate tree species, and the regimental appearance of the key forest stands. It is recognized that the Historic Forest Study, required in the Selected Alternative, will address to what extent the expanded list of tree species called for in Alternative 4 can be incorporated into rehabilitation efforts in the historic forest zone.

The No Action Alternative (Alternative 2) does not provide the level of protection necessary to meet the legal obligations of the NPS and the Trust to protect the significant

natural, historic, scenic, cultural and recreational values of the park. The No Action Alternative does not conform to GMPA management directives requiring proactive rehabilitation, enhancement, inventorying, and monitoring of the vegetation resources within the park. The No Action Alternative would not correct existing safety conditions through a hazard tree program; it would not protect the unique characteristics that comprise the historic forest, nor correct existing erosion problems. The No Action Alternative does not provide sufficient protections for existing native plant communities or special-status plants, nor does it systematically address protection of wildlife habitats or control of invasive exotic plant species.

The impacts resulting from the implementation of the VMP Selected Alternative will not impair any park resource or value necessary to fulfill the specific purposes identified in the enabling legislation for Golden Gate National Recreation Area (16 USC 460). The effects documented in the Final VMP EA and summarized in this FONSI will not affect resources or values key to the natural or cultural integrity of the park or alter opportunities for enjoyment of the park. This alternative, with the incorporated measures for environmental protections for environmental protection, will not violate the NPS Organic Act (16 USC 1 et seq.) or the Trust Act (16 U.S.C. 460bb appendix). The Selected Alternative also complies with the Endangered Species Act, the National Historic Preservation Act, and Executive Orders 11988 and 11990.

FINDING

In response to public comments received, the NPS and the Trust have further considered the range of alternatives, the significance of potential impacts that may be generated by the Selected Alternative, and the possible need to prepare a site-specific Environmental Impact Statement (EIS) for the Selected Alternative. This alternative best accomplishes the overall vegetation management of the park in keeping with the legislated purposes and the legal mandates of the NPS and the Trust. Based on this detailed review, the NPS and the Trust conclude that appropriate alternatives to the Selected Alternative have been analyzed, and that the proposal will not generate any significant new or different environmental impacts requiring preparation of an EIS.

In conclusion, the VMP does not constitute an action that would normally require the preparation of an EIS. It is tiered off of and is consistent with the GMPA/EIS. The proposal will not have a significant impact on the human environment. There are no significant impacts on public health, public safety, threatened or endangered species, sites listed on the National Register of Historic Places, or other unique characteristics of the region. Implementation of the action will not violate any federal, state, or local law. Therefore, in accordance with the National Environmental Policy Act of 1969 and regulations of the Council on Environmental Quality (40 CFR 1508.9), the Selected Alternative to the Vegetation Management Plan for the Presidio of San Francisco will be implemented and an environmental impact statement will not be prepared.

Recommended:

(Signed by) : Brian O'Neill

Date : August 23, 2001

Superintendent, Golden Gate National Recreation Area

Approved:

(Signed by) : John J. Reynolds

Date : September 06, 2001

Regional Director, Pacific West Region, NPS

(Signed by) : James Meadows

Date : August 24, 2001

Executive Director, Presidio Trust

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