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report)

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**Presidio of San Francisco
Forest Management Plan
1990-2010**

Prepared under the Direction of:

**U. S. Army Corps of Engineers
Sacramento District
Sacramento, CA**

Prepared for:

**Presidio of San Francisco
U. S. Army
San Francisco, CA**

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PREFACE

This forest management plan was prepared as a long-range management tool for Army operation of the Presidio of San Francisco. The plan was developed with the cooperation and assistance of the staff of the Golden Gate National Recreation Area. A process of public review and comment on a draft plan was planned along with coordination of an environmental document before the plan was finalized and adopted.

The process of developing and adopting the forest management plan was terminated at the draft plan stage because the Base Closure and Realignment Act (Public Law 100-526 at 102 STAT 2623) requires that the Army installation at the Presidio of San Francisco close and that approximately 1,234 acres of the Presidio transfer to the jurisdiction of the U.S. Department of the Interior. The draft plan and supporting information are being provided to the National Park Service for use in planning for the Presidio as part of the Golden Gate National Recreation Area. The Army is taking no further long-range actions for forest management at the Presidio. Forest management is one of the resource categories that will be addressed in the National Park Service's planning efforts to develop a general management plan for the Presidio.

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Chapter 1. Introduction

Purpose and Scope of Plan

The purposes of this forest management plan are to establish directions for management actions taken on the Presidio forest over a 20-year planning period (about 1990-2010) and to outline the direction of forest management in the decades that follow. This introduced forest, located at the windswept tip of the San Francisco peninsula (Figure 1-1), is now in a stage of advanced maturity and demands vigorous management action. A plan for its long-term care and evolution is also needed.

Included within the scope of this plan is vegetation in all open space lands of the Presidio managed by the U. S. Army, including forest stands, landscaping vegetation, and native vegetation. Because the forest vegetation is largely introduced at the Presidio, the plan scope must be wide. The plan is essentially a vegetation management plan, conforming to all U. S. Army requirements for a forest management plan (U. S. Department of Army Regulation 420-74 and Technical Manual 5-631).

Certain lands at the Presidio are no longer managed by the U. S. Army, and this plan does not apply to those lands. These exclusions include most of the coastal bluffs and beaches of the Pacific Ocean, the Fort Point National Historic Site, and most of the remaining bayshore, all of which are now managed by the Golden Gate National Recreation Area (GGNRA). Exclusions also include the San Francisco National Cemetery, managed by the Veterans Administration, and transportation corridors and the Golden Gate Bridge, Highway and Transportation District managed by the California Department of Transportation (Caltrans). The plan area is shown in Figure 1-2.

Relationship to Presidio Master Plan

This forest management plan is intended to be fully compatible with the Presidio Master Plan and to assist in its implementation. The plan provides direction for managing vegetation in both designated development areas and in designated open space areas (Figure 1-2), providing different approaches in each to reflect the differing management purposes.

Environmental Impact Evaluation

Adoption of this plan is an action of the U. S. Department of the Army subject to provisions of the National Environmental Policy Act (42 U.S.C. 4371 et seq.). Accordingly, an environmental assessment of the effects of implementing the plan is required (40 CFR

Parts 1500-1508). Preparation of an environmental impact statement (EIS) would be required if potential, unmitigable, significant environmental effects of implementing the plan are revealed by the environmental assessment. It is noted, however, that one underlying intent of this plan is to avoid or reduce future environmental degradation and to guide protection or restoration of native habitats.

Alternatives to the preferred action are defined and considered in Chapter 8, "Program Implementation." Alternatives are related directly to funding levels, allowing for relevant analysis. The alternatives are: 1) full implementation of the plan, 2) action only to reduce tree failure hazards, and 3) actions only to reduce hazards and regenerate the original windbreak forest.

Plan Adjustments, Supplements, and Revisions

This plan may be adjusted at any time by the (Commanding Officer of the) Directorate of Engineering and Housing as conditions during implementation warrant. Such adjustments would not be made to the goals or guiding policies of the plan, but would be shifts in management emphases in particular areas to better implement the goals and policies. These adjustments shall be recorded on the management emphasis maps of this plan. Changes in forest management practices constituting amendments to Chapter 6 ("Best Forest Management Practices") shall be recorded within a permanent forest management plan file maintained by the Directorate of Engineering and Housing.

This plan should be supplemented whenever implementing plans are prepared or inventories are updated. Cutting and reforestation plans, native vegetation enhancement plans, insect or disease treatment plans, and hazardous tree inventories should be made a part of this plan.

Plan revision should be done no longer than 20 years following adoption of this plan, but it should be revised earlier if conditions warrant. Such conditions could include catastrophic damage, major disease or insect infestation, substantial changes in disposal opportunities for woody material, or a change in the purposes of forest management on the Presidio grounds.

Although the plan considers a planning horizon of 80 years in Chapter 5, forest inventory and an appropriate revision to the forest management plan should occur every 20 years. At this time, sampling of the forest stands should be repeated, and native vegetation should be mapped. Inventory information, experience gained in implementing this plan, and changed public values will undoubtedly warrant policy revision of the plan by that time.

Plan Organization

The plan is divided into three major parts: background information, the policy and practices of the plan, and an assessment of implementation levels and costs.

Background information is in two parts. Chapter 2 describes the history of native vegetation and the introduced forest at the Presidio, concluding with a recent expression of forest management issues and concerns. Chapter 3 describes the natural and man-induced processes at work in the forest, presents inventories of the forest's dimensions and hazards, and explains the value of the forest to different users.

The plan itself is presented in Chapters 4, 5, and 6. Goals and guiding policies are given in Chapter 4, establishing the overall policy direction of this plan. The implementing policy, which emphasizes pursuit of different goals in various parts of the forest, is presented in Chapter 5. The best practices for implementing these policies on the ground are described in Chapter 6.

Implementation of the plan is addressed in two parts. Chapter 7 estimates the volume of wood produced by the proposed forest management and examines prospects for recovery and utilization of wood resources. Chapter 8 considers plan implementation, including manpower and equipment needs and costs. The fiscal analysis describes a range of human and fiscal resources and the nature of foreseeable revenues. Plan implementation at two reduced funding levels is also addressed.

**Appendix K. Common and Scientific Names of Plants Mentioned
in the Presidio Forest Management Plan**

Common Name	Scientific Name	Native Status ^a
Arroyo willow	<i>Salix lasiolepis</i>	N
Beach strawberry	<i>Fragaria chiloensis</i>	N
Bedstraw	<i>Gallium</i> sp.	N
Blackberry	<i>Rubus</i> sp.	N
Blue-eyed grass	<i>Sisyrinchium bellum</i>	N
Bracken fern	<i>Pteridium aquilinum</i>	N
Bush lupine	<i>Lupinus arboreus</i>	N
California bay	<i>Umbellularia californica</i>	N
California buttercup	<i>Ranunculus californica</i>	N
California coffeeberry	<i>Rhamnus californicus</i>	N
California hedge nettle	<i>Stachys bullata</i>	N
California honeysuckle	<i>Lonicera hispidula</i>	N
California polypody	<i>Polypodium californicum</i>	N
California poppy	<i>Eschscholzia californica</i>	N
California rose	<i>Rosa californica</i>	N
California strawberry	<i>Fragaria californica</i> spp. <i>franciscana</i>	N
Ceanothus	<i>Ceanothus</i> sp.	N
Clover	<i>Trifolium</i> sp.	I
Coast buckwheat	<i>Eriogonum latifolium</i>	N
Coast elderberry	<i>Sambucus callicarpa</i>	N
Coast live oak	<i>Quercus agrifolia</i>	N
Coast redwood	<i>Sequoia sempervirens</i>	N*
Coast rock cress	<i>Arabis belpharophylla</i>	Ns
Coast sagebrush	<i>Artemisia californica</i>	N
Common chickweed	<i>Stellaria media</i>	I
Cotoneaster	<i>Cotoneaster</i> sp.	I
Coyote bush	<i>Baccharus pilularis</i> spp. <i>consanguinea</i>	N
Deerweed	<i>Lotus scoparius</i>	U
Douglas iris	<i>Iris douglasiana</i>	N
Dwarf chaparral broom	<i>Baccharus pilularis</i> spp. <i>pilularis</i>	N
Elderberry	<i>Sambucus</i> sp.	N
English ivy	<i>Hedera helix</i>	I
Eucalyptus	<i>Eucalyptus</i> spp.	I
Fennel	<i>Foeniculum vulgare</i>	I
French broom	<i>Cytissus monspessulanus</i>	I
Geranium	<i>Geranium</i> sp.	I
German ivy	<i>Senecio milkanioides</i>	I
Goldenback fern	<i>Pityrogramma triangularis</i>	N
Gumplant	<i>Grindelia</i> sp.	N
Ice plant	<i>Carpobrotus edule</i>	I
Iris	<i>Iris</i> sp.	N
Kikuyu grass	<i>Pennisetum clandestinum</i>	I
Knotweed	<i>Polygonum paronychia</i>	N

Appendix K. Continued

Common Name	Scientific Name	Native Status ^a
Long-leafed ice plant	<i>Carpobrotus elongatum</i>	I
Mallow	<i>Malva</i> sp.	I
Marin dwarf flax	<i>Hesperolinon congestum</i>	Ns
Miner's lettuce	<i>Montia perfoliata</i>	N
Mock heather	<i>Haplopappus ericoides</i>	N
Monterey cypress	<i>Cupressus macrocarpa</i>	N*
Monterey pine	<i>Pinus radiata</i>	N*
Nasturtium	<i>Tropaeolum majus</i>	I
Needlegrass	<i>Stipa</i> sp.	N
Nightshade	<i>Solanum</i> sp.	N
Pea	<i>Lathyrus</i> sp.	?
Pearly everlasting	<i>Anaphalis margaritacea</i>	N
Periwinkle	<i>Vinca major</i>	I
Plantain	<i>Plantago</i> sp.	I
Poison-oak	<i>Toxicodendron diversiloba</i>	N
Presidio clarkia	<i>Clarkia franciscana</i>	Ns
Presidio manzanita	<i>Arctostaphylos hookeri</i> spp. <i>ravenii</i>	Ns
Rose	<i>Rosa</i> sp.	N
Rush	<i>Juncus</i> sp.	?
San Francisco campion	<i>Silene verecunda</i> ssp. <i>verecunda</i>	Ns
San Francisco gumplant	<i>Grindelia maritima</i>	Ns
San Francisco lessingia	<i>Lessingia germanorum</i> spp. <i>germanorum</i>	Ns
San Francisco popcorn flower	<i>Plagiobothrys diffusus</i>	Ns
Sanicle	<i>Sanicula</i> sp.	N
Smartweed	<i>Polygonum</i> sp.	?
Soap plant	<i>Chlorogalum pomeridianum</i>	N
Strawberry	<i>Fragaria</i> sp.	N
Toyon	<i>Heteromeles arbutifolia</i>	N
Wild blackberry	<i>Rubus vitifolius</i>	N
Wild radish	<i>Raphanus sativa</i>	I
Willow	<i>Salix</i> spp.	N
Yarrow	<i>Achillea millifolium</i>	N

^a Native species:

N = species native to the Presidio.

I = introduced species.

N* = species native to California but not to the Presidio.

Ns = native species with federal, state, or CNPS special status.

? = native status uncertain because plant was not identified to species.