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RARE PLANT SURVEY

Presidio of San Francisco

Prepared for:

U.S. Army Corps of Engineers
Sacramento District
Sacramento, California

Prepared by:



Jones & Stokes Associates, Inc.
Sacramento, California

July 1990

**Rare Plant Survey
Presidio of San Francisco**

Prepared for:

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Sacramento District
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Sacramento, CA 95814-4794

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July 1990

Introduction

A survey for rare plants was conducted at the Presidio of San Francisco (Presidio) in conjunction with the environmental impact statement (EIS) for the base closure and transferral to the Golden Gate National Recreation Area (GGNRA). Survey results are included in the final EIS and are treated in more detail in this report. For the purpose of this report, plant species are considered rare if they have been assigned a special listing status by government agencies or private organizations because of risks of extirpation or extinction. Special-status plant species include:

- o species listed or candidates for listing as threatened or endangered under the federal Endangered Species Act (50 CFR 17.12; 55 FR 6184, February 21, 1990);
- o species listed or candidates for listing as rare, threatened, or endangered under the California Endangered Species Act or Native Plant Protection Act (California Department of Fish and Game 1989); and
- o species listed as "rare and endangered in California" by the California Native Plant Society (CNPS) (Smith and Berg 1988).

Methods

The survey area was designated by the U. S. Army Corps of Engineers (USACE) (Figure 1). Urban and horticulturally landscaped sites and land already administered by GGNRA were not part of the survey area.

A list of rare plants known to occur or potentially occurring in the Presidio was developed from the following sources:

- o the California Department of Fish and Game's Natural Diversity Data Base (1989),
- o a letter from the U. S. Fish and Wildlife Service (USFWS) pursuant to Section 7 (c) of the Endangered Species Act (White pers. comm.),
- o a list provided by CNPS (S. Smith pers. comm.), and
- o the guidelines for rare plant management in the GGNRA (Thomas 1986).

Rare plant species known to occur or potentially occurring in the Presidio are given in Table 1. These species were the "target species" of the survey.

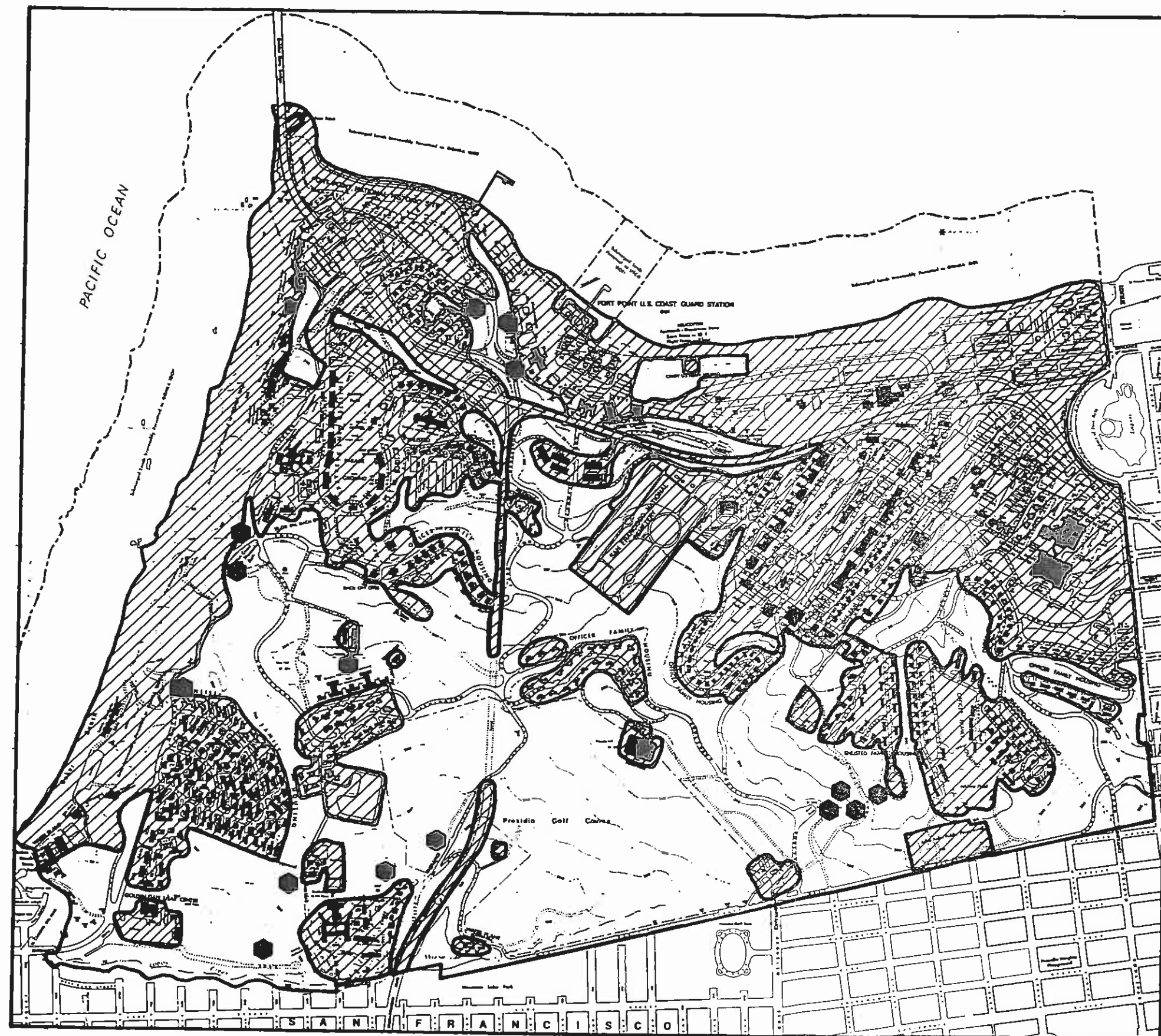


Figure 1.
Rare Plant Survey Areas at the
Presidio of San Francisco

-  Areas surveyed for rare plants
-  Urbanized and horticultural areas not surveyed
-  Location of populations of one or more rare plant species found during 1990 survey

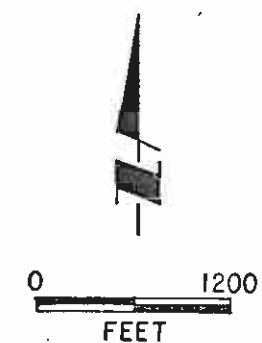


Table 1. Known or Potentially Occurring Special-Status Plant Species

Common Name	Scientific Name	Legal Status ^a	
		Federal/State/CNPS	Habitat
Laurel Hill manzanita	<i>Arctostaphylos hookeri</i>	C1**/-/1A	Coastal serpentine scrub
Raven's manzanita ^b	<i>Arctostaphylos hookeri</i> var. <i>ravenii</i>	E/E/1B	Serpentine chaparral; coastal prairie endemic to the Presidio
Marsh sandwort	<i>Arenaria paludicola</i>	C1/E/1B	Freshwater marsh
Coast rock cress ^b	<i>Arabis blepharophylla</i>	-/-/2	Coastal prairie and scrub; broadleaved upland forest
Point Reyes bird's-beak	<i>Cordylanthus maritimus</i> ssp. <i>palustris</i>	C2/-/1B	Coastal salt marsh ^d
Presidio clarkia ^b	<i>Clarkia franciscana</i>	C1/E/1B	Coastal scrub; valley and foothill grassland, often on serpentine endemic to the Presidio
San Francisco wallflower	<i>Erysimum franciscanum</i>	C2/-/4	Coastal dunes; coastal scrub, often serpentine
San Francisco gumplant ^b	<i>Grindelia maritima</i>	C2/-/3	Coastal scrub and bluff scrub; valley and foothill grassland
Marin dwarf flax ^b	<i>Hesperolinon congestum</i>	C1/-/1B	Serpentine grassland
Wedge-leaved horkelia	<i>Horkelia cuneata</i> ssp. <i>sericea</i>	C2/-/1B	Closed-cone conifer forest; coastal scrub
Beach layia	<i>Layia carnosa</i>	C1/E/1B	Coastal dunes ^d
San Francisco lessingia ^b	<i>Lessingia germanorum</i> var. <i>germanorum</i>	C1/E/1B	Coastal scrub endemic to the Presidio
Coast lily	<i>Lilium maritimum</i>	C1/-/1B	Closed-cone pine forest; coastal prairie and scrub
San Francisco owl clover ^b	<i>Orthocarpus floribundus</i>	C2/-/1B	Coastal prairie; valley and foothill grassland
San Francisco popcorn flower ^c	<i>Plagiobothrys diffusus</i>	C2*/E/1A	Valley and foothill grassland
Marin checkerbloom	<i>Sidalcea hickmanii</i> ssp. <i>viridis</i>	C2/-/1B	Chaparral
San Francisco campion	<i>Silene verecunda</i> ssp. <i>verecunda</i>	C2/-/1B	Coastal scrub; valley and foothill grassland

^a Status definitions:

Federal = U. S. Fish and Wildlife Service (50 CFR 17.12; 55 FR 6184, February 21, 1990).

E = Listed endangered under the federal Endangered Species Act.

C1 = A candidate species under review for federal listing. Category 1 includes species for which the USFWS has substantial information on biological vulnerability and threats to support the appropriateness of proposing to list them as threatened or endangered.

C2 = A candidate species under review for federal listing. Category 2 includes species for which the USFWS presently has some information indicating that proposing to list them as threatened or endangered is warranted but for which further biological research and field study are needed to determine biological vulnerability and threats.

* = Possibly extinct.

** = Believed to be extinct in the wild but extant in cultivation.

State = California Department of Fish and Game (1987).

E = Listed as endangered under the state Endangered Species Act.

CNPS = California Native Plant Society (Smith and Berg 1988).

1A = Presumed extinct in California.

1B = Considered rare and endangered in California and probably meets state definition for listing as rare, threatened, or endangered.

2 = Considered rare and endangered in California but more common elsewhere.

3 = Suggested for listing, but necessary information is lacking that would allow assignment to one of the other lists or to reject assignment.

4 = Considered rare but not endangered (species that do not presently meet state criteria for listing under the Endangered Species Act).

Table 1. Continued

-
- b Known occurrence at the Presidio.
 - c Last known occurrence at the Presidio (1933).
 - d Habitat type not present on portion of Presidio managed by Army.

Sources: White pers. comm., Smith, S. pers. comm. and references above.

Field surveys were conducted for rare plants at the Presidio on May 7, 8, and 9, and June 4, 1990. The surveys were conducted during periods when rare plants were identifiable (in most cases during the flowering period). The surveys were floristic but focused on native species and native habitats. Disturbed sites; sites heavily forested with Monterey pine, Monterey cypress, and eucalyptus; and lawns were surveyed only cursorily because they do not support habitat suitable for rare plants.

Habitats likely to support the target rare species were surveyed intensively by two botanists walking "zigzag" transects. Habitats on the Presidio likely to support rare plants are coastal scrub, coastal prairie, coastal dunes, freshwater marsh, serpentine grassland, and serpentine scrub.

No attempt was made to list all the naturalized, exotic, and horticultural plants encountered during surveys.

Sites in the Presidio and on the coastal bluffs in GGNRA territory known to support populations of rare plants were surveyed first to familiarize the field botanists with the target species. Color photographs and line drawings were also available for most of the species (Thomas 1986, Abrams 1968).

Results

A list of plant species identified during the surveys is given in Table 2.

Populations of Raven's manzanita, San Francisco lessingia, Presidio clarkia, San Francisco gumplant, Marin dwarf flax, and San Francisco campion were found during field surveys (Figure 1). Field survey forms for populations of rare plants identified in the survey are given in Appendix 1.

Raven's manzanita is federally and state listed as endangered. This low-growing shrub is endemic to the Presidio. Only one naturally occurring individual apparently exists, near the World War II Memorial (Figure 2). Additional individuals of this species have been propagated and planted at Inspiration Point and near the World War II Memorial (Figures 2 and 3). These propagated individuals appear healthy.

San Francisco lessingia is state listed as endangered and is a candidate for federal listing as threatened or endangered. This annual plant, endemic to the Presidio, was not in flower at the time of the survey, but the species is readily recognizable in the vegetative stage. San Francisco lessingia occurs on stabilized dunes typically in open sand between patches of dune-stabilizing vegetation (e.g., ice plant, coast buckwheat, and mock heather). Five populations of San Francisco lessingia were located at scattered sites in the western half of the Presidio (Figures 2 and 4; Appendix 1). Population #1 at Battery McKinnon-Statsenburg supports approximately 154 individuals on stabilized sand with 40-60 percent total vegetative cover. Population #2 was artificially established by CNPS in 1988 on a

Table 2. Native and Naturalized Plants Identified during Rare Plant Surveys at the San Francisco Presidio, May 7, 8, 9, and June 4, 1990

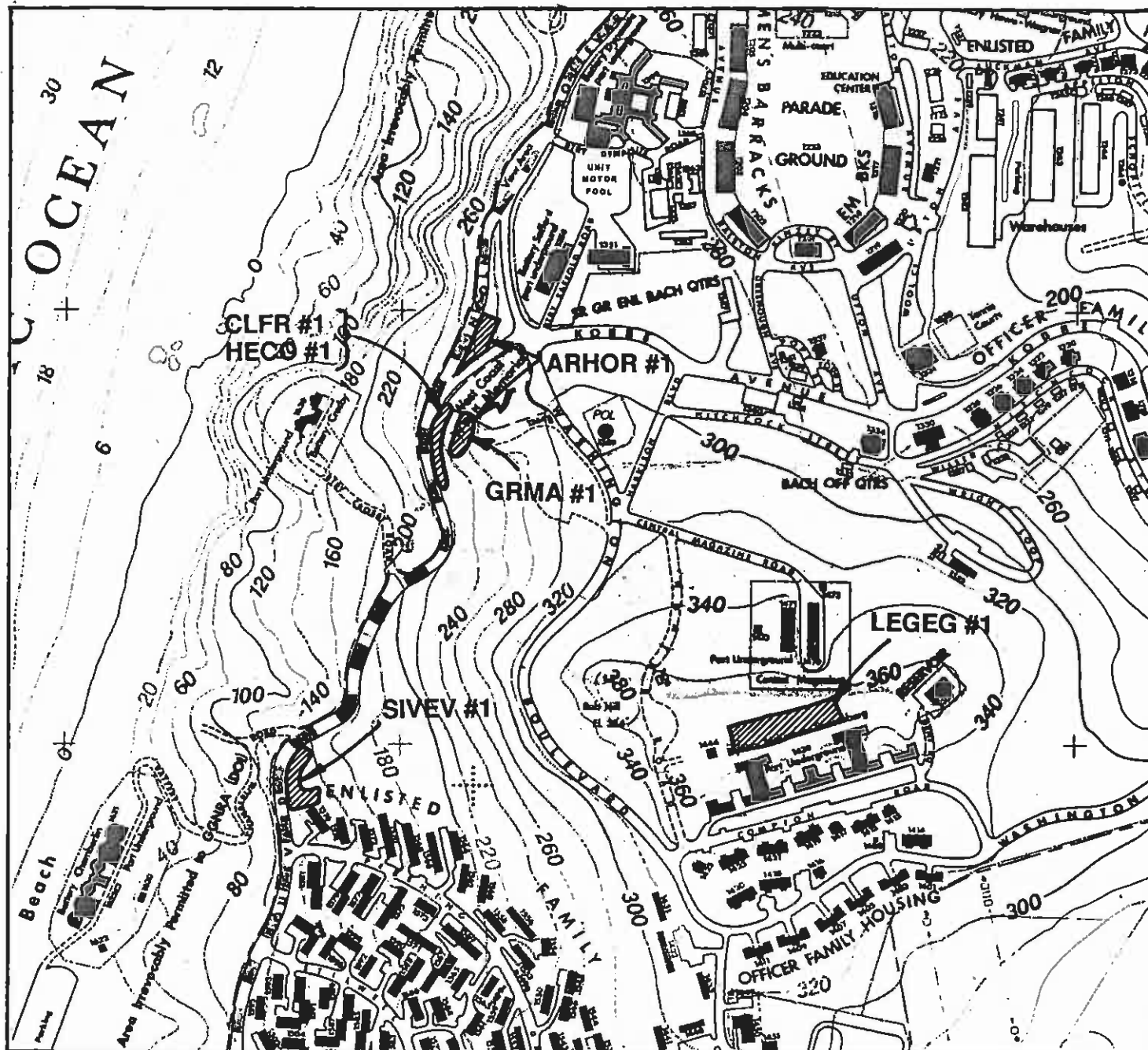
Native Plants Found at the Presidio		
<i>Abronia latifolia</i>	<i>Gilia capitata</i> var. <i>chamissonis</i>	<i>Pteridium aquilinum</i> var. <i>pubescens</i>
<i>Acaena californica</i>	<i>Gnaphalium purpureum</i>	<i>Quercus agrifolia</i>
<i>Achillea borealis</i> var. <i>californica</i>	<i>Grindelia maritima</i>	<i>Ranunculus californicus</i>
<i>Aesculus californica</i>	<i>Grindelia stricta</i>	<i>Ranunculus muricatus</i>
<i>Agoseris aspargioides</i>	<i>Habenaria elegans</i> var. <i>maritima</i>	<i>Rhamnus californica</i>
<i>Allium dichlamydeum</i>	<i>Haplopappus ericoides</i>	<i>Ribes sanguineum</i> var. <i>glutinosum</i>
<i>Amsinckia spectabilis</i>	<i>Hesperolinum congestum</i>	<i>Rosa californica</i>
<i>Anaphalis margaritacea</i>	<i>Heteromeles arbutifolia</i>	<i>Rubus ursinus</i>
<i>Arctostaphylos hookeri</i> var. <i>ravenii</i>	<i>Hordeum depressum</i>	<i>Salix lasiolepis</i>
<i>Artemisia pycnocephala</i>	<i>Iris douglasiana</i>	<i>Sambucus</i> sp.
<i>Aster chilensis</i>	<i>Iris longipetala</i>	<i>Sanicula bipinnatifida</i>
<i>Athyrium filix-femina</i>	<i>Juncus bufonius</i>	<i>Scirpus californicus</i>
<i>Baccharis pilularis</i> var. <i>consanguinea</i>	<i>Juncus effusus</i>	<i>Scirpus cernuus</i> var. <i>californicus</i>
<i>Baccharis pilularis</i> var. <i>pilularis</i>	<i>Juncus falcatus</i>	<i>Scrophularia californica</i>
<i>Brodiaea congestum</i>	<i>Juncus lesueurii</i>	<i>Sequoia sempervirens</i> ^a
<i>Brodiaea coronaria</i> var. <i>macropoda</i>	<i>Juncus patens</i>	<i>Sidalcea malvaeflora</i>
<i>Brodiaea pulchella</i>	<i>Koeleria micrantha</i>	<i>Silene verecunda</i> var. <i>verecunda</i>
<i>Brodiaea laxa</i>	<i>Lasthenia chrysostoma</i>	<i>Sisyrinchium bellum</i>
<i>Bromus carinatus</i>	<i>Layia platyglossa</i>	<i>Stachys bullata</i>
<i>Bromus marginatus</i>	<i>Lessingia germanorum</i> var. <i>germanorum</i>	<i>Stipa lepida</i>
<i>Bromus maritimus</i>	<i>Lomatium dasycarpum</i>	<i>Stipa pulchra</i>
<i>Carex brevicaulis</i>	<i>Lonicera hispidula</i>	<i>Tanacetum camphoratum</i>
<i>Carex densa</i>	<i>Lonicera involucrata</i> var. <i>ledebourii</i>	<i>Toxicodendron diversiloba</i>
<i>Carex obnupta</i>	<i>Lotus scoparius</i>	<i>Wyethia angustifolia</i>
<i>Carex subbracteata</i>	<i>Lotus subpinnatus</i>	
<i>Carpobrotus chilense</i>	<i>Lupinus arboreus</i>	
<i>Castilleja wightii</i>	<i>Lupinus chamissonis</i>	
<i>Ceanothus thyrsiflorus</i> var. <i>repens</i>	<i>Lupinus micranthus</i>	
<i>Chlorogalum pomeridianum</i>	<i>Lupinus nanus</i>	
<i>Cirsium occidentale</i>	<i>Lupinus variicolor</i>	
<i>Cirsium quercetorum</i>	<i>Luzula multiflora</i>	
<i>Clarkia franciscana</i>	<i>Lythrum hyssopifolia</i>	
<i>Convolvulus occidentalis</i>	<i>Marah fabaceus</i>	
<i>Convolvulus subacaulis</i>	<i>Melica californica</i>	
<i>Croton californicus</i>	<i>Melica torreyana</i>	
<i>Cupressus macrocarpa</i>	<i>Mimulus guttatus</i>	
<i>Danthonia californica</i>	<i>Monardella villosa</i> var. <i>neglecta</i>	
<i>Daucus pusillus</i>	<i>Montia perfoliata</i>	
<i>Dentaria californica</i>	<i>Myrica californica</i>	
<i>Diplacus aurantiacus</i>	<i>Oenothera cheiranthifolia</i>	
<i>Dudleya farinosa</i>	<i>Oenothera contorta</i> var. <i>strigulosa</i>	
<i>Eleocharis acicularis</i>	<i>Oenothera hookeri</i>	
<i>Elymus glaucus</i>	<i>Oenothera ovata</i>	
<i>Elymus triticoides</i>	<i>Paronychia franciscana</i>	
<i>Elymus X vancouverensis</i> var. <i>californicus</i>	<i>Phacelia ramossissima</i> var. <i>ramossissima</i>	
<i>Equisetum hyemale</i> var. <i>robustum</i>	<i>Pinus radiata</i> ^a	
<i>Erigeron glaucus</i>	<i>Pityrogramma triangularis</i>	
<i>Eriogonum latifolium</i>	<i>Plagiobothrys</i> sp. (not <i>diffusus</i>)	
<i>Eriophyllum staechadifolium</i> var. <i>artemisiaefolium</i>	<i>Plantago hookeriana</i>	
<i>Eschscholzia californica</i>	<i>Plantago maritima</i>	
<i>Evax sparsiflora</i>	<i>Poa douglasii</i>	
<i>Festuca octiflora</i>	<i>Polygonum paronychia</i>	
<i>Festuca rubra</i>	<i>Polygonum coccineum</i>	
<i>Fragaria chiloensis</i>	<i>Polypodium californicum</i>	
<i>Fraseria chamissonis</i>	<i>Polystichum munitum</i>	
<i>Fritillaria lanceolata</i>	<i>Polystichum munitum</i> var. <i>imbricans</i>	
<i>Galium</i> sp.	<i>Potentilla gracilis</i>	
	<i>Prunella vulgaris</i> var. <i>atropurpurea</i>	

Table 2. Continued

Naturalized Plants Found at the Presidio

<i>Abelia</i> sp.	<i>Picris ecioides</i>
<i>Acacia</i> spp.	<i>Plantago coronopus</i>
<i>Aira caryophyllea</i>	<i>Plantago lanceolata</i>
<i>Ammophila arenaria</i>	<i>Plantago major</i>
<i>Anagallis arvensis</i>	<i>Raphanus sativus</i>
<i>Anthriscus neglecta</i> var. <i>scandix</i>	<i>Rumex acetosella</i>
<i>Avena barbata</i>	<i>Rumex crispus</i>
<i>Avena fatua</i>	<i>Rumex pulcher</i>
<i>Bellis perennis</i>	<i>Senecio mikanioides</i>
<i>Brassica campestris</i>	<i>Silene gallica</i>
<i>Briza maxima</i>	<i>Silybum marianum</i>
<i>Bromis mollis</i>	<i>Solanum nodiflorum</i>
<i>Bromus diandrus</i>	<i>Sonchus oleraceus</i>
<i>Cakile maritima</i>	<i>Spergularia bocconii</i>
<i>Carduus pycnocephalus</i>	<i>Stellaria media</i>
<i>Carpobrotus elongatum</i>	<i>Tragopogon porrifolius</i>
<i>Carpobrotus edule</i>	<i>Trifolium repens</i>
<i>Centranthus ruber</i>	<i>Urtica holosericea</i>
<i>Cerastium arvense</i>	<i>Vicia</i> sp.
<i>Chenopodium</i> sp.	<i>Vinca major</i>
<i>Conium maculatum</i>	
<i>Cordyline australis</i>	
<i>Cortadaria seloana</i>	
<i>Cotoneaster</i> sp.	
<i>Cupressus macrocarpa</i>	
<i>Cyperus eragrostis</i>	
<i>Cytisus monspessulanus</i>	
<i>Dactylis glomerata</i>	
<i>Ehrharta erecta</i>	
<i>Erodium cicutarium</i>	
<i>Eucalyptus globulus</i>	
<i>Euphorbia peplus</i>	
<i>Festuca arundinacea</i>	
<i>Fumaria parviflora</i>	
<i>Galium spurium</i> var. <i>echinospermum</i>	
<i>Geranium dissectum</i>	
<i>Geranium molle</i>	
<i>Hedera helix</i>	
<i>Holcus lanatus</i>	
<i>Hordeum geniculatum</i>	
<i>Hordeum leporinum</i>	
<i>Hypochaeris radicata</i>	
<i>Hypochaeris glabra</i>	
<i>Iris</i> (bearded <i>Iris</i>)	
<i>Lagurus ovatus</i>	
<i>Lathyrus odoratus</i>	
<i>Lolium multiflorum</i>	
<i>Lolium perenne</i>	
<i>Lupinus</i> sp.	
<i>Malva parviflora</i>	
<i>Matricaria matricarioides</i>	
<i>Melilotus indicus</i>	
<i>Muehlenbeckia complexa</i>	
<i>Nasturtium officinale</i>	
<i>Oxalis pes-caprae</i>	

^a Plants native to California, but not to the Presidio.



LEGEND

- ARHOR = Arctostaphylos hookeri var. ravenii
- GRMA = Grindelia maritima
- CLFR = Clarkia franciscana
- HECO = Hesperolinum congestum
- SIVEV = Silene verecunda var. verecunda
- LELEG = Lessingia germanorum var. germanorum

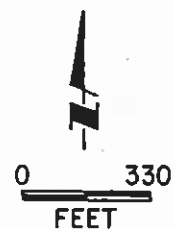


Figure 2. Locations of Populations of Rare Plants



LEGEND

ARHOR = Arctostaphylos hookeri var. ravenii

CLFR = Clarkia franciscana

 = Suitable habitat for CLFR

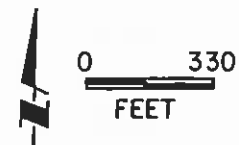


Figure 3. Locations of Populations and Suitable Habitat for Rare Plants

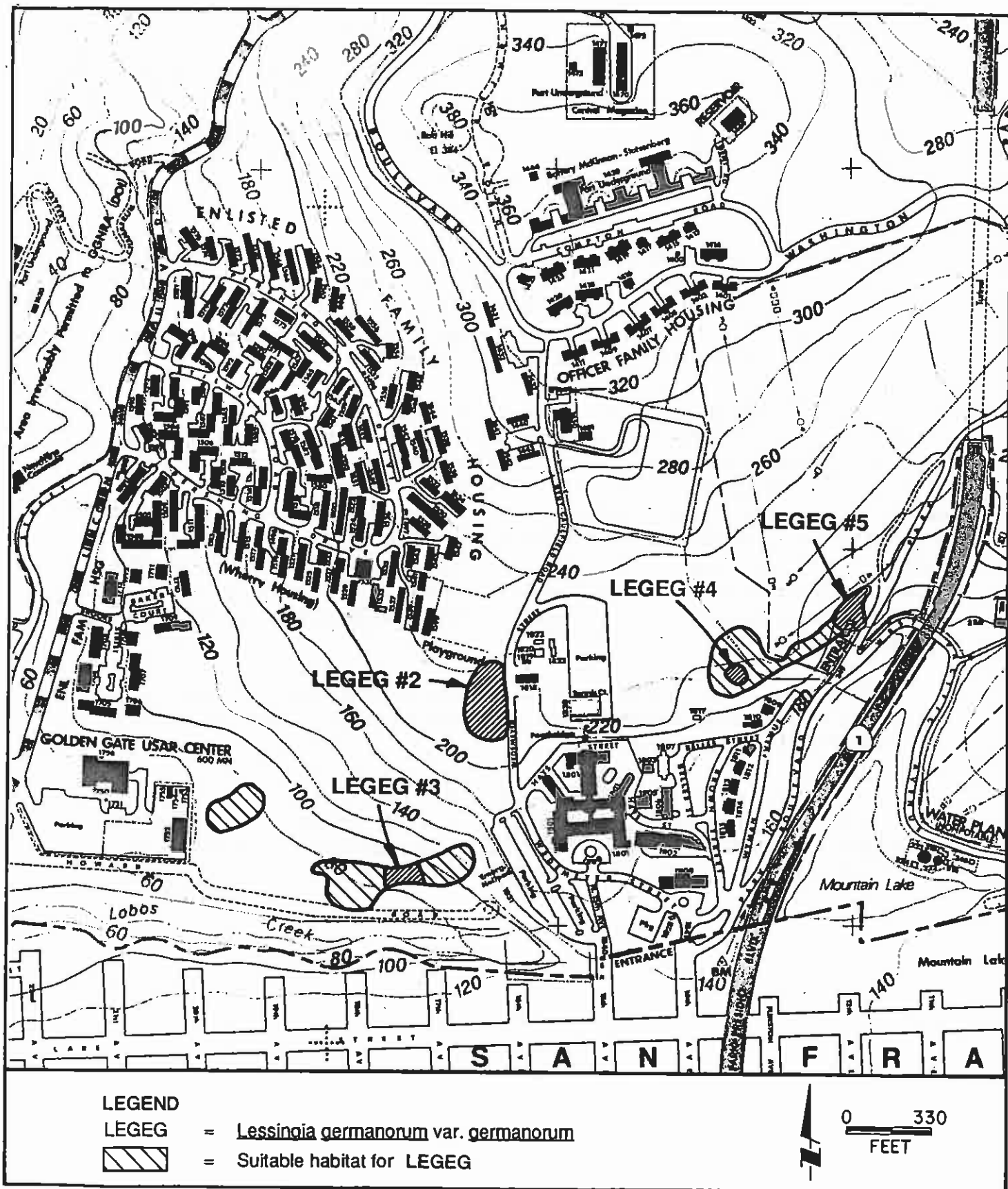


Figure 4. Locations of Populations and Suitable Habitat for Rare Plants

restored landfill site along Wedemeyer Street. This population was established from seed and currently supports more than 300 individuals. Population #3 supports between 50 and 100 individuals on old dunes near the east end of Howard Road. Population #4 occurs on partially excavated sand dunes and supports eight individuals. Population #5 supports approximately 200 individuals on stabilized sand south of the tee for the fourth hole of the Presidio Golf Course.

Presidio clarkia is state listed endangered and a federal candidate for listing as threatened or endangered. This annual herb occurs in serpentine grassland at the Presidio and in the Oakland hills. Population #1 occurs along a roadcut near the World War II Memorial (Figure 2). Populations #2 and #3 at Inspiration Point support approximately 110 and more than 1,000 individuals, respectively (Figure 3).

San Francisco gumplant is a federal candidate for listing as threatened or endangered. This perennial herb occurs on serpentine outcrops, often on steep slopes. Populations of San Francisco gumplant occur at the northwest corner and eastern edge of the Presidio. Population #1 is near the World War II Memorial surrounding the lone individual of Raven's manzanita (Figure 2). Population #2 is near the guest house on a road cut above Hoffman Street and supports approximately 50 individuals (Figure 2). Population #3 is on a steep slope above the maintenance shops and supports approximately 29 individuals in serpentine grassland and scrub (Figure 5). Population #4 is on a steep slope between Crissy Field Avenue and Lincoln Boulevard and supports approximately 48 individuals (Figure 5).

Marin dwarf flax is a federal candidate for listing as threatened or endangered. This tiny, annual herb occurs on serpentine soils. A population of Marin dwarf flax occurs near the World War II Memorial (Figure 2).

San Francisco campion is a federal candidate for listing as threatened or endangered. A newly described population of 100 individuals occurs near the enlisted family housing at the southwest corner of the Presidio. About half of the population occurs along the road cut of Lincoln Boulevard and half on a stabilized dune (Figure 2).

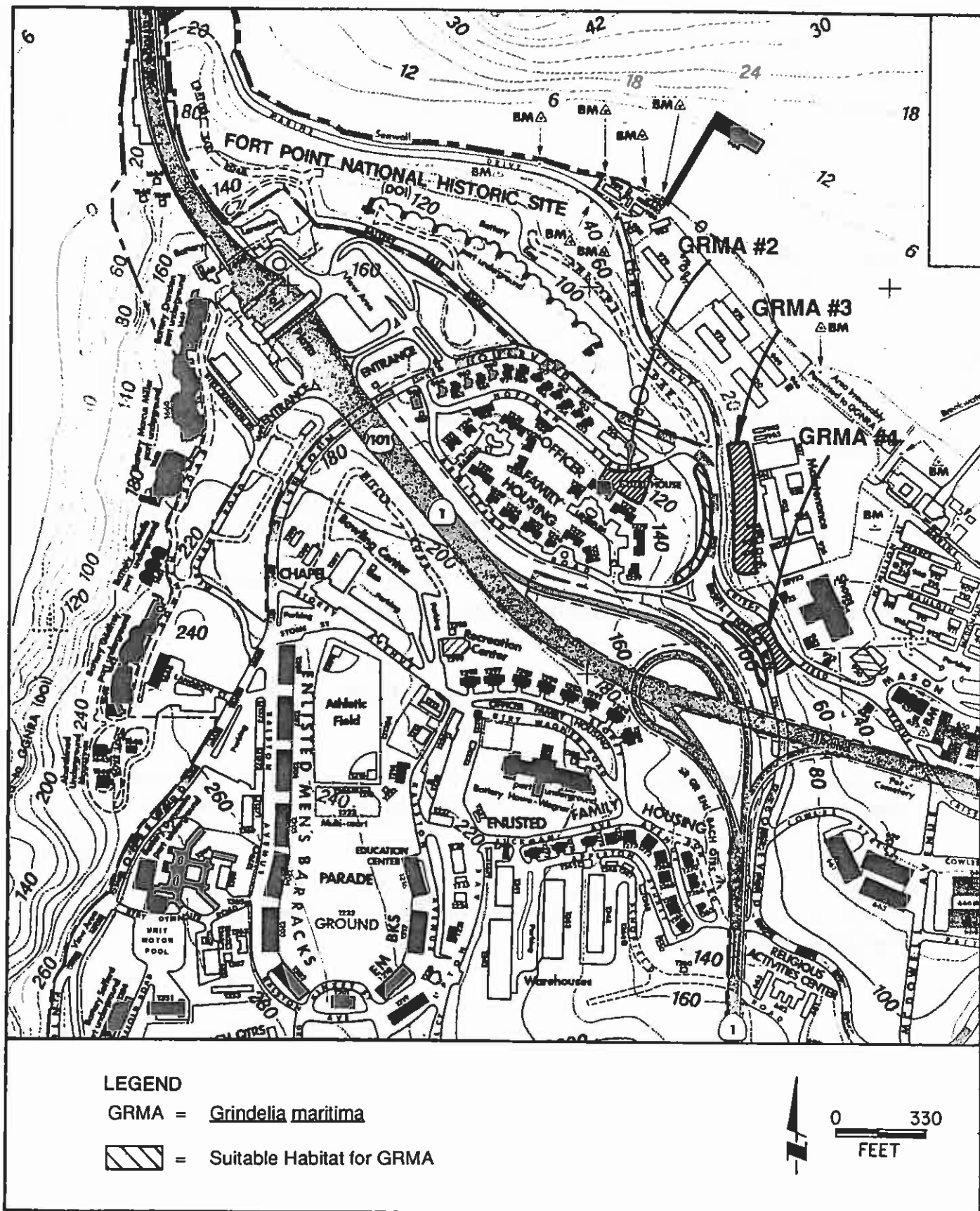


Figure 5. Locations of Populations and Suitable Habitat for Rare Plants

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Personal Communications

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- White, Wayne, S. Field Supervisor. U. S. Fish and Wildlife Service, Sacramento, CA. January 17, 1990 - letter to USACE with species list pursuant to Section 7 of the Endangered Species Act.

**Appendix 1. California Native Plant Species
Survey Forms**

ARTHOR #1

CALIFORNIA NATIVE SPECIES FIELD SURVEY FORM

OFFICE USE ONLY

PLEASE ENTER ALL INFORMATION AVAILABLE TO YOU.
USE THE BACK FOR COMMENTS IF NECESSARY. PLEASE
ATTACH OR DRAW A MAP ON BACK.

Document Code _____ Quad Code _____
Index Code _____ Occurrence # _____
Copy Sent To _____

Scientific name (no codes): Arctostaphylos hookeri var. ravenii

Reporter: _____ Phone: () _____

Address: _____

Date of Field Work: 7-5-1990 County: SF Collection? If yes, # No Mus./Herb _____

Location: South of WW II Memorial along Lincoln Blvd and on median between Lincoln Blvd and Kobbé Ave.

Quad Name: S. F. North T 15 R 6W 1/4 of _____ 1/4 Sec _____

_____ 7 1/2' _____ 15' Elevation: 260' ft(m) T _____ R _____ 1/4 of _____ 1/4 Sec _____

Landowner/Manager DOD-U.S. Army 122°28'44"W Long., 37°47'55"N Lat.

Species found? ☒ Yes _____ No _____ If not, reason: _____

Is this a new location record? _____ Yes ☒ No _____ Unknown

Total # of Individuals = _____ Is this a subsequent visit? _____ Yes _____ No Compared to your last visit: _____ more _____ same _____ fewer

Phenology (plants): ☒ # vegetative _____ # flowering _____ # fruiting

Population Age Structure (animals): _____ # adults _____ # juveniles _____ # other _____

Site Function for Species (animals): _____ breeding _____ foraging _____ wintering _____ roosting _____ denning _____ other _____

Habitat Description: (plant communities, dominants, associates, other rare spp., substrate/soils, aspect/slope)

Only known wild individual on serpentine South of WW II Memorial.
Healthy mat. With Ceanothus thyrsiflorus, stipa pulchra, Grindelia maritima, Elymus glaucus. Planted cuttings on median, all are establishing well.

Current Land Use/Visible Disturbances/Possible Threats

Possible disturbance from Memorial visitors.

Overall Site Quality: _____ Excellent ☒ Good _____ Fair _____ Poor

Comments:

Should/Could this site be protected? How?

Yes. Boardwalk trail w/ interpretive signs.

Other comments:

DETERMINATION (Check one or more, fill in blanks)

_____ Keyed in a site reference: _____
_____ Compared with specimen housed at: _____
_____ Compared with photo/drawing in: _____
_____ By another person (name): _____
_____ Other _____

OTHER KNOWLEDGE _____ INDIVIDUALS (Name/Address)

PHOTOGRAPHS (Check one or more)

Subject _____ Type _____
_____ Plant/Animal _____ Slide
_____ Habitat _____ Print
_____ Diagnostic Feature
_____ Other

May we obtain duplicate? _____

OFFICE USE ONLY

PLEASE ENTER ALL INFORMATION AVAILABLE TO YOU.
USE THE BACK FOR COMMENTS IF NECESSARY. PLEASE
ATTACH OR DRAW A MAP ON BACK.

Document Code _____ Quad Code _____
Index Code _____ Occurrence # _____
Copy Sent To _____

Scientific name (no codes):

Arctostaphylos hookeri var. *ravenii*

Reporter: _____

Phone: () _____

Address: _____

Date of Field Work:

9-5-1990

County: _____

SF

Collection? If yes, # _____

No

Mus./Herb _____

Location: _____

East of Inspiration Point, West of Quarry Road

Quad Name: _____

S.F. North

T _____

25

R _____

SW

1/4 of _____

1/4 Sec _____

7 1/2' _____

15' _____

Elevation: _____

200'

ft(m) _____

T _____

R _____

1/4 of _____

1/4 Sec _____

Landowner/Manager _____

DOD-US Army

122°27'17"W Long.

37°47'32"N Lat.

Species found? ☒ Yes _____

No _____

If not, reason: _____

Is this a new location record? _____

Yes ☒ No _____

Unknown _____

Total # of Individuals= _____

Is this a subsequent visit? _____

Yes _____

No _____

Compared to your last visit: _____

more _____

same _____

fewer _____

Phenology (plants): _____

☒ # vegetative _____

flowering _____

fruiting _____

Population Age Structure (animals): _____

adults _____

juveniles _____

others _____

Site Function for Species (animals): _____

breeding _____

foraging _____

wintering _____

roosting _____

denning _____

other _____

Habitat Description: (plant communities, dominants, associates, other rare spp., substrate/soils, aspect/slope)

Serpentine. Planted cuttings.

Current Land Use/Visible Disturbances/Possible Threats _____

Overall Site Quality: _____

Excellent _____

Good _____

Fair _____

Poor _____

Comments: _____

Should/Could this site be protected? How? _____

Other comments: _____

DETERMINATION (Check one or more, fill in blanks)

Keyed in a site reference: _____

Compared with specimen housed at: _____

Compared with photo/drawing in: _____

By another person (name): _____

Other _____

OTHER KNOWN REASONABLE INDIVIDUALS (Name) _____

(Phone) _____

PHOTOGRAPHS (Check one or more)

Subject _____

Type _____

Plant/Animal _____

Slide _____

Habitat _____

Print _____

Diagnostic feature _____

Other _____

May we obtain _____

at our cost? _____

No _____

CLFR #1

CALIFORNIA NATIVE SPECIES FIELD SURVEY FORM

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ATTACH OR DRAW A MAP ON BACK.

Document Code _____	Quad Code _____
Index Code _____	Occurrence # _____
Copy Sent To _____	

Scientific name (no codes): Clarkia franciscana

Reporter: _____ Phone: () _____

Address: _____

Date of Field Work: 7-5-1990 County: SF Collection? If yes, # No Mus./Herb _____

Location: Road cut along Lincoln Blvd southwest of WWII memorial.

Quad Name: S.F. North T 15 R 6W _____ 1/4 of _____ 1/4 Sec _____

_____ 7 1/2' _____ 15' Elevation: 240' ft(m) T _____ R _____ 1/4 of _____ 1/4 Sec _____

Landowner/Manager: DoD - U.S. Army 122°28'44"W. Long., 37°47'55"N. Lat.

Species found? ☒ Yes _____ No If not, reason: _____

Is this a new location record? _____ Yes ☒ No _____ Unknown

Total # of Individuals = _____ Is this a subsequent visit? _____ Yes ☒ No Compared to your last visit: _____ more _____ same _____ fewer

Phenology (plants): ☒ # vegetative ☒ # flowering _____ # fruiting

Population Age Structure (animals): _____ # adults _____ # juveniles _____ # others

Site Function for Species (animals): _____ breeding _____ foraging _____ wintering _____ roosting _____ denning _____ other

Habitat Description: (plant communities, dominants, associates, other rare spp., substrate/soils, aspect/slope)

On serpentine slope with *Lasthonia chrysostoma*, *Lotus scoparius*, *Danthonia californica*, *Anagallis arvensis*.

Current Land Use/Visible Disturbances/Possible Threats

Road cut. Any road work or road widening.

Overall Site Quality: _____ Excellent ☒ Good _____ Fair _____ Poor

Comments:

Should/Could this site be protected? How?

Other comments:

DETERMINATION (Check one or more, fill in blanks)

- _____ Keyed in a site reference: _____
- _____ Compared with specimen housed at: _____
- _____ Compared with photo/drawing in: _____
- _____ By another person (name): _____
- _____ Other _____

* KNOWLEDGEABLE INDIV _____ Name/Address/Phone)

PHOTOGRAPHS (Check one or more)

- | Subject | Type |
|--------------------------|-------------|
| _____ Plant/Animal | _____ Slide |
| _____ Habitat | _____ Print |
| _____ Diagnostic Feature | |
| _____ Other | |

At _____ obtain duplicates at our cost: _____ Yes _____

MAILED 10: NATURAL DIVERSITY DATA BASE, CALIFORNIA DEPARTMENT OF FISH AND GAME, 1416 NINTH ST., SACRAMENTO, CA 95814

CLFR 2

CALIFORNIA NATIVE SPECIES FIELD SURVEY FORM

OFFICE USE ONLY

PLEASE ENTER ALL INFORMATION AVAILABLE TO YOU.
USE THE BACK FOR COMMENTS IF NECESSARY. PLEASE
ATTACH OR DRAW A MAP ON BACK.

Document Code _____ Quad Code _____
Index Code _____ Occurrence # _____
Copy Sent To _____

Scientific name (no codes): Clarkia Franciscana

Reporter: _____ Phone: () _____

Address: _____

Date of Field Work: 9-5-1990 County: SF Collection? If yes, # No Mus./Herb _____

Location: slope below Inspiration point parking lot. Northeast and east facing slopes.

Quad Name: S.F. North T 25 R 5W 1/4 of _____ 1/4 Sec _____

☒ 7 1/2' _____ 15' Elevation: 260' ft(m) T _____ R _____ 1/4 of _____ 1/4 Sec _____

Landowner/Manager DOD - U.S. Army 122° 27' 20" W Long, 37° 47' 30" N Lat.

Species found? ☒ Yes _____ No If not, reason: _____

Is this a new location record? _____ Yes ☒ No _____ Unknown

Total # of Individuals = 109 Is this a subsequent visit? _____ Yes _____ No Compared to your last visit: _____ more _____ same _____ fewer

Phenology (plants): ☒ # vegetative ☒ # flowering _____ # fruiting

Population Age Structure (animals): _____ # adults _____ # juveniles _____ # others

Site Function for Species (animals): _____ breeding _____ foraging _____ wintering _____ roosting _____ denning _____ other

Habitat Description: (plant communities, dominants, associates, other rare spp., substrate/soils, aspect/slope)

Serpentine slope. 9 plants on NE facing slope and ~100 plants on east facing slope. Mostly grass cover with: Bromus diandrus, Avena barbata, Stipa pulchra, Lolium perenne, Lasiolepis chrysostoma, Bromus mollis, Carpobrotus edule, Danthonia californica etc.

Current Land Use/Visible Disturbances/Possible Threats

Overall Site Quality: _____ Excellent _____ Good ☒ Fair _____ Poor

Comments:

Should/Could this site be protected? How?

Need to remove Carpobrotus.

Other comments:

DETERMINATION (Check one or more, fill in blanks)

_____ Keyed in a site reference: _____
_____ Compared with specimen housed at: _____
_____ Compared with photo/drawing in: _____
_____ By another person (name): _____
_____ Other: _____

OTHER: _____ (Name) _____ (Phone) _____

PHOTOGRAPHS (Check one or more)

Subject _____ Type _____
_____ Plant/Animal _____ Slide
_____ Habitat _____ Print
_____ Diagnostic Feature
_____ Other _____

May we use _____ photos at our cost? _____ No

CLFR #13

OFFICE USE ONLY

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USE THE BACK FOR COMMENTS IF NECESSARY. PLEASE
ATTACH OR DRAW A MAP ON BACK.

Document Code _____ Quad Code _____
Index Code _____ Occurrence # _____
Copy Sent To _____

Scientific name (no codes): Clarkia franciscana

Reporter: _____ Phone: () _____

Address: _____

Date of Field Work: 9-5-1990 County: SF Collection? If yes, # No Mus./Herb _____

Location: East and West of Quarry Road above El Polin Loop
and below Inspiration Point

Quad Name: S.F. North T 2S R 5W _____ 1/4 of _____ 1/4 Sec _____

_____ 7 1/2' _____ 15' Elevation: 150-180' ft(m) T _____ R _____ 1/4 of _____ 1/4 Sec _____

Landowner/Manager DOT - U.S. Army 122°27'16" W Long., 37°47'30" N Lat.

Species found? ☒ Yes _____ No _____ If not, reason: _____

Is this a new location record? _____ Yes ☒ No _____ Unknown

Total # of Individuals = >1000 Is this a subsequent visit? _____ Yes _____ No Compared to your last visit: _____ more _____ same _____ fewer

Phenology (plants): ☒ # vegetative ☒ # flowering _____ # fruiting

Population Age Structure (animals): _____ # adults _____ # juveniles _____ # others

Site Function for Species (animals): _____ breeding _____ foraging _____ wintering _____ roosting _____ denning _____ other

Habitat Description: (plant communities, dominants, associates, other rare spp., substrate/soils, aspect/slope)

35 individuals in old quarry site east of Quarry Road. >1000 individuals on
serpentine outcrop westside of Quarry Road. Clarkia in open sites (~20% cover)
With Stipa pulchra, Eriogonum latifolium, Brodiaea congestum, Danthonia californica
Plantago hookeriana, Sisyrinchium bellum, Chlorogalum pomeridianum, etc.

Current Land Use/Visible Disturbances/Possible Threats

Foot traffic

Overall Site Quality: _____ Excellent ☒ Good _____ Fair _____ Poor

Comments:

Should/Could this site be protected? How?

Other comments:

DETERMINATION (Check one or more, fill in blanks)

_____ Keyed in a site reference: _____
_____ Compared with specimen housed at: _____
_____ Compared with photo/drawing in: _____
_____ By another person (name): _____
_____ Other _____

OTHER KNOWLEDGE INDIVIDUALS (Name/Address)

PHOTOGRAPHS (Check one or more)

Subject	Type
_____ Plant/Animal	_____ Slide
_____ Habitat	_____ Print
_____ Diagnostic Feature	
_____ Other	

May we obtain duplicate _____

GRMA #1

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USE THE BACK FOR COMMENTS IF NECESSARY. PLEASE
ATTACH OR DRAW A MAP ON BACK.

Document Code _____ Quad Code _____
Index Code _____ Occurrence # _____
Copy Sent To _____

Scientific name (no codes): Grindelia maritima

Reporter: _____ Phone: () _____

Address: _____

Date of Field Work: 7-5-1990 County: SF Collection? If yes, # No Mus./Herb _____Location: South of WW II memorial above Lincoln Blvd.Quad Name: S.F. North T 15 R 6W 1/4 of _____ 1/4 Sec __________ 7 1/2' _____ 15' Elevation: 250' ft(m) T _____ R _____ 1/4 of _____ 1/4 Sec _____Landowner/Manager DoD - U.S. Army 122°28'44" W Long, 137°47'55" N Lat.Species found? ☒ Yes _____ No _____ If not, reason: _____Is this a new location record? _____ Yes ☒ No _____ UnknownTotal # of Individuals = _____ Is this a subsequent visit? _____ Yes ☒ No _____ Compared to your last visit: _____ more _____ same _____ fewerPhenology (plants): ☒ # vegetative _____ # flowering _____ # fruiting

Population Age Structure (animals): _____ # adults _____ # juveniles _____ # others

Site Function for Species (animals): _____ breeding _____ foraging _____ wintering _____ roosting _____ denning _____ other

Habitat Description: (plant communities, dominants, associates, other rare spp., substrate/soils, aspect/slope)

On serpentine with Arctostaphylos hookeri var ravenii, Ceanothus thyrsiflorus,
Stipa pulchra, Elymus glaucus.

Current Land Use/Visible Disturbances/Possible Threats

Disturbance from WW II memorial site-seeing foot traffic.

Overall Site Quality: _____ Excellent ☒ Good _____ Fair _____ Poor

Comments:

Should/Could this site be protected? How?

yes, Put in boardwalk trail with interpretative signs.

Other comments:

DETERMINATION (Check one or more, fill in blanks)

_____ Keyed in a site reference: _____
_____ Compared with specimen housed at: _____
_____ Compared with photo/drawing in: _____
_____ By another person: _____
_____ Other: _____

OTHER KNOWLEDGEABLE: _____ (Name/Address/Phone)

PHOTOGRAPHS (Check one or more)

Subject _____ Type _____
_____ Plant/Animal _____ Slide
_____ Habitat _____ Print
_____ Diagnostic Feature
_____ Other

Obtain duplicates at our cost:

_____ Yes _____

Document Code _____ Quad Code _____
 Index Code _____ Occurrence # _____
 Copy Sent To _____

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Scientific name (no codes): Grindelia maritima

Reporter: _____ Phone: () _____

Address: _____

Date of Field Work: 8-5-1990 County: SF Collection? If yes, # No Mus./Herb _____

Location: On slope above Hoffman Street cut, behind Guest House
(building #951)

Quad Name: SF North T 1S R 6W 1/4 of _____ 1/4 Sec _____

7 1/2' _____ 15' Elevation: 120' ft(m) T _____ R _____ 1/4 of _____ 1/4 Sec _____

Landowner/Manager DOD - U.S. Army 122°28'15" W Long, 37°48'20" N Lat.

Species found? ☒ Yes _____ No _____ If not, reason: _____

Is this a new location record? ☒ Yes _____ No _____ Unknown _____

Total # of Individuals = ~50 Is this a subsequent visit? _____ Yes _____ No _____ Compared to your last visit: _____ more _____ same _____ fewer

Phenology (plants): ☒ # vegetative _____ # flowering _____ # fruiting _____

Population Age Structure (animals): _____ # adults _____ # juveniles _____ # others _____

Site Function for Species (animals): _____ breeding _____ foraging _____ wintering _____ roosting _____ denning _____ other _____

Habitat Description: (plant communities, dominants, associates, other rare spp., substrate/soils, aspect/slope)

Steep slope on road cut. About 10-20% cover with *Acaena californica*, *Prunella vulgaris*, *Carex* sp., *Iris douglasiana*, *Festuca rubra*, *Elymus glaucus* etc.
Open site surrounded by dense Toyon, poison oak, eucalyptus, cypress, etc.
Serpentine?

Current Land Use/Visible Disturbances/Possible Threats

Overall Site Quality: _____ Excellent _____ Good ☒ Fair _____ Poor

Comments:

Should/Could this site be protected? How?

Other comments:

DETERMINATION (Check one or more, fill in blanks)

_____ Keyed in a site reference: _____
 _____ Compared with specimen housed at: _____
 _____ Compared with photo/drawing in: _____
 _____ By another person (name): _____
 _____ Other _____

OTHER KNOWLEDGE OF SINGLE INDIVIDUALS (Name _____)

PHOTOGRAPHS (Check one or more)

Subject	Type
_____ Plant/Animal	_____ Slide
_____ Habitat	_____ Print
_____ Diagnostic Features	
_____ Other	
May we obtain _____	cost? _____

GKMH

CALIFORNIA NATURAL DIVERSITY FIELD SURVEY FORM

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ATTACH OR DRAW A MAP ON BACK.

Document Code _____ Quad Code _____
Index Code _____ Occurrence # _____
Copy Sent To _____

Scientific name (no codes): Grindelia maritima

Reporter: _____ Phone: () _____

Address: _____

Date of Field Work: 4-6-1900 County: SF Collection? If yes, # No Mus./Herb _____

Location: steep slope above Maintenance Shop and below Lincoln Blvd.

Quad Name: S.F. North T 1S R 6W 1/4 of _____ 1/4 Sec _____

7 1/2' _____ 15' Elevation: 20-60' ft(m) T _____ R _____ 1/4 of _____ 1/4 Sec _____

Landowner/Manager DOD-U.S. Army 122°28'8" W. Long., 48°15'20" N Lat.

Species found? ☒ Yes _____ No _____ If not, reason: _____

Is this a new location record? ☒ Yes _____ No _____ Unknown _____

Total # of Individuals = 29 Is this a subsequent visit? _____ Yes ☒ No _____ Compared to your last visit: _____ more _____ same _____ fewer

Phenology (plants): ~75% vegetative ~25% flowering _____ # fruiting _____

Population Age Structure (animals): _____ # adults _____ # juveniles _____ # others _____

Site Function for Species (animals): _____ breeding _____ foraging _____ wintering _____ roosting _____ denning _____ other _____

Habitat Description: (plant communities, dominants, associates, other rare spp., substrate/soils, aspect/slope)

Steep serpentine slope. 30-60% vegetative cover with Diplacus aurantiac
Heteromeda arbutifolia, Allium dichlamydeum, Rubus ursinus, Eriophyllum staechnadifolium
Stipa pulchra, Monardella villosa, etc.

Current Land Use/Visible Disturbances/Possible Threats

Overall Site Quality: ☒ Excellent _____ Good _____ Fair _____ Poor

Comments:

Should/Could this site be protected? How?

Other comments:

DETERMINATION (Check one or more, fill in blanks)

_____ Keyed in a site reference: _____
_____ Compared with specimen housed at: _____
_____ Compared with photo/drawing in: _____
_____ By another person (name): _____
_____ Other _____

_____ EDGEABLE INDIVIDUAL _____ Address/Phone) _____

PHOTOGRAPHS (Check one or more)

Subject _____ Type _____
_____ Plant/Animal _____ Slide
_____ Habitat _____ Print
_____ Diagnostic Feature _____

_____ indicates at our cost?
_____ Yes _____ No

GRMA # 4

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ATTACH OR DRAW A MAP ON BACK.

Document Code _____ Quad Code _____
Index Code _____ Occurrence # _____
Copy Sent To _____

Scientific name (no codes): Grindella maritima

Reporter: _____ Phone: () _____

Address: _____

Date of Field Work: 4-6-1990 County: SF Collection? If yes, # No Mus./Herb _____Location: steep slope between Crissy Field Avenue and Lincoln Blvd.Quad Name: S. F. North T 1S R 6W 1/4 of _____ 1/4 Sec _____7 1/2' _____ 15' _____ Elevation: 60-80' ft(m) T _____ R _____ 1/4 of _____ 1/4 Sec _____Landowner/Manager DOD - U. S. Army 122° 28' 7" W Long., 37° 48' 16" N Lat.Species found? ☒ Yes _____ No _____ If not, reason: _____Is this a new location record? ☒ Yes _____ No _____ Unknown _____Total # of Individuals = 48 Is this a subsequent visit? _____ Yes ☒ No _____ Compared to your last visit: _____ more _____ same _____ fewerPhenology (plants): ~90% vegetative ~10% flowering _____ # fruiting

Population Age Structure (animals): _____ # adults _____ # juveniles _____ # others

Site Function for Species (animals): _____ breeding _____ foraging _____ wintering _____ roosting _____ denning _____ other

Habitat Description: (plant communities, dominants, associates, other rare spp., substrate/soils, aspect/slope)

steep serpentine slope 50-70% vegetative cover with Stipa pulchra,
Danthonia californica, Heteromeles arbutifolia, Chlorogalum pomeridianum, Eriogonum latifolium,
Rubus ursinus, Carpobrotus edule, Centranthus ruber, monardella villosa, etc.

Current Land Use/Visible Disturbances/Possible Threats

Overall Site Quality: _____ Excellent ☒ Good _____ Fair _____ Poor

Comments:

Should/Could this site be protected? How?

Other comments:

DETERMINATION (Check one or more, fill in blanks)

_____ Keyed in a site reference: _____
_____ Compared with specimen housed at: _____
_____ Compared with photo/drawing in: _____
_____ By another person (name): _____
_____ Other _____

OTHER KNOWLEDGEABLE: _____ S (Name/Address/Phone) _____

PHOTOGRAPHS (Check one or more)

Subject _____ Type _____
_____ Plant/Animal _____ Slide
_____ Habitat _____ Print
_____ Diagnostic Feature _____
_____ Other _____

obtain duplicates at our _____
Yes _____

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Document Code _____ Quad Code _____
Index Code _____ Occurrence # _____
Copy Sent To _____

Scientific name (no codes): Hesperolinum congestum

Reporter: _____ Phone: () _____

Address: _____

Date of Field Work: 8-5-1990 County: SF Collection? If yes, # _____ Mus./Herb _____

Location: On road cut southwest of World War II Memorial along Lincoln Blvd.

Quad Name: S.F. North T 1S R 6W ¼ of _____ ¼ Sec _____

_____ 7½' _____ 15' Elevation: 240' ft(m) T _____ R _____ ¼ of _____ ¼ Sec _____

Landowner/Manager DoD - U.S. Army 122°28'44" W Long., 37°47'55" N Lat.

Species found? ☒ Yes _____ No _____ If not, reason: _____

Is this a new location record? _____ Yes ☒ No _____ Unknown _____

Total # of Individuals = _____ Is this a subsequent visit? _____ Yes ☒ No _____ Compared to your last visit: _____ more _____ same _____ fewer

Phenology (plants): ☒ # vegetative ☒ # flowering _____ # fruiting

Population Age Structure (animals): _____ # adults _____ # juveniles _____ # others

Site Function for Species (animals): _____ breeding _____ foraging _____ wintering _____ roosting _____ denning _____ other

Habitat Description: (plant communities, dominants, associates, other rare spp., substrate/soils, aspect/slope)

On serpentine with Clarkia franciscana, Lasthenia chrysostoma, Stipa pulchra, Danthonia californica.

Current Land Use/Visible Disturbances/Possible Threats

Any new road work or widening could remove population.

Overall Site Quality: _____ Excellent ☒ Good _____ Fair _____ Poor

Comments:

Should/Could this site be protected? How?

yes

Other comments: Sepals are glabrous, which does not match the description of H. congestum.
All other characters present.

DETERMINATION (Check one or more, fill in blanks)

_____ Keyed in a site reference: _____
_____ Compared with specimen housed at: _____
_____ Compared with photo/drawing in: _____
_____ By other person (name): _____

OTHER KEY _____ 3LE INDIVIDUALS (Name _____ Phone _____)

PHOTOGRAPHS (Check one or more)

Subject _____ Type _____
_____ Plant/Animal _____ Slide
_____ Habitat _____ Print
_____ Diagnostic Feature
_____ Other

May we obtain our _____ at our cost?

_____ No

PLEASE ENTER ALL INFORMATION AVAILABLE TO YOU.
USE THE BACK FOR COMMENTS IF NECESSARY. PLEASE
ATTACH OR DRAW A MAP ON BACK.

Document Code _____ Quad Code _____
Index Code _____ Occurrence # _____
Copy Sent To _____

Scientific name (no codes): Lessingia germanorum var. germanorum

Reporter: _____ Phone: () _____

Address: _____

Date of Field Work: 8-5-1990 County: SF Collection? If yes, # No Mus./Herb _____

Location: South of Central magazine above Battery McKinnon -
Statenburg

Quad Name: S.F. North T 15 R 6W 1/4 of _____ 1/4 Sec _____

7 1/2' _____ 15' _____ Elevation: 360' ft(m) T _____ R _____ 1/4 of _____ 1/4 Sec _____

Landowner/Manager DOD - U.S. Army 122°28'29"W long., 37°47'45"N lat.

Species found? ☒ Yes _____ No _____ If not, reason: _____

Is this a new location record? _____ Yes ☒ No _____ Unknown _____

Total # of Individuals = 154 Is this a subsequent visit? _____ Yes _____ No _____ Compared to your last visit: _____ more _____ same _____ fewer

Phenology (plants): 154 # vegetative _____ # flowering _____ # fruiting _____

Population Age Structure (animals): _____ # adults _____ # juveniles _____ # others _____

Site Function for Species (animals): _____ breeding _____ foraging _____ wintering _____ roosting _____ denning _____ other _____

Habitat Description: (plant communities, dominants, associates, other rare spp., substrate/soils, aspect/slope)

Stabilized sand. 40-60% vegetative cover and thin organic layer of cover.
Dominant species: *Carpobrotus edulis*, *Polygonum paronychia*, *Bromus diandrus*,
Paronychia franciscana, *Croton californicus*.

Current Land Use/Visible Disturbances/Possible Threats

Continued encroachment of *Carpobrotus* could remove habitat.

Overall Site Quality: _____ Excellent _____ Good ☒ Fair _____ Poor _____

Comments:

Should/Could this site be protected? How?

Remove *Carpobrotus*.

Other comments:

DETERMINATION (Check one or more, fill in blanks)

_____ Keyed in a site reference: _____
_____ Compared with specimen housed at: _____
_____ Compared with photo/drawing in: _____
_____ By another person (name) _____
_____ Other _____

KNOWLEDGEABLE IN

ne/Address/Phone)

PHOTOGRAPHS (Check one or more)

Subject _____ Type _____
_____ Plant/Animal _____ Slide
_____ Habitat _____ Print
_____ Diagnostic Feature _____

uplicates at our cost?

_____ Yes _____ No

PLEASE ENTER ALL INFORMATION AVAILABLE TO YOU.
USE THE BACK FOR COMMENTS IF NECESSARY. PLEASE
ATTACH OR DRAW A MAP ON BACK.

Document Code _____ Quad Code _____
Index Code _____ Occurrence # _____
Copy Sent To _____

Scientific name (no codes): Lessingia germanorum var germanorum

Reporter: _____ Phone: () _____

Address: _____

Date of Field Work: 8-5-1990 County: S.F. Collection? If yes, # No Mus./Herb _____

Location: West side of Wedemeyer Street across from building #1818.

Quad Name: S.F. North T 2S R 6W _____ 1/4 of _____ 1/4 Sec _____

_____ 7 1/2' _____ 15' Elevation: 210' ft(m) T _____ R _____ 1/4 of _____ 1/4 Sec _____

Landowner/Manager DOD - U.S. Army 122°28'32"W Long., 37°47'22"N Lat.

Species found? ☒ Yes _____ No _____ If not, reason: _____

Is this a new location record? _____ Yes ☒ No _____ Unknown _____

Total # of Individuals = >300 Is this a subsequent visit? _____ Yes ☒ No _____ Compared to your last visit: _____ more _____ same _____ fewer

Phenology (plants): >300 # vegetative 0 # flowering _____ # fruiting _____

Population Age Structure (animals): _____ # adults _____ # juveniles _____ # others _____

Site Function for Species (animals): _____ breeding _____ foraging _____ wintering _____ roosting _____ denning _____ other _____

Habitat Description: (plant communities, dominants, associates, other rare spp., substrate/soils, aspect/slope)

Sand dunes. Restoration site. Native seed mix sown and hand weeding maintenance ongoing. ~50% vegetative cover: Gilia capitata, Festuca arundinacea, Lupinus micranthus, Silene gallica, Carpobrotus elongata, Achillea borealis, Erodium cicutarium, Oenothera cheiranthifolia, etc. Site was recontoured, covered w/sand, and seeded 2 years ago. Weeding crews have visited 5 times in 1990 (S. Smith)

Overall Site Quality: _____ Excellent _____ Good ☒ Fair _____ Poor _____

Comments:

Restoration of Lessingia and other annual forbs appears successful, but some dune stabilizing species should be established - e.g. Eriogonum latifolium, Carpobrotus chilense.

Should/Could this site be protected? How?

Other comments:

DETERMINATION (Check one or more, fill in blanks)

_____ Keyed in a site reference: _____
_____ Compared with specimen housed at: _____
_____ Compared with photo/drawing in: _____
_____ By another person (name): _____
_____ Other _____

OTHER KNOWN _____ INDIVIDUALS (Name/Address) _____

PHOTOGRAPHS (Check one or more)

Subject _____ Type _____
_____ Plant/Animal _____ Slide _____
_____ Habitat _____ Print _____
_____ Diagnostic Feature _____
_____ Other _____

May we obtain duplicates? _____

JEGEG #3

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USE THE BACK FOR COMMENTS IF NECESSARY. PLEASE
ATTACH OR DRAW A MAP ON BACK.

Document Code _____ Quad Code _____
Index Code _____ Occurrence # _____
Copy Sent To _____

Scientific name (no codes): Lessingia germanorum var. germanorum

Reporter: _____ Phone: () _____

Address: _____

Date of Field Work: 8-5-19 County: SF Collection? If yes, # No Mus./Herb _____

Location: Open, sandy area north of Howard Road (East end).
East of baseball field.

Quad Name: S.F. North T 2S R 6W 1/4 of _____ 1/4 Sec _____

_____ 7 1/2' _____ 15' Elevation: 90' ft(m) T _____ R _____ 1/4 of _____ 1/4 Sec _____

Landowner/Manager DOD - U.S. Army 122°28'39"W Long., 37°47'16"N Lat.

Species found? ☒ Yes _____ No If not, reason: _____

Is this a new location record? _____ Yes ☒ No _____ Unknown

Total # of individuals = 50-100 Is this a subsequent visit? _____ Yes ☒ No Compared to your last visit: _____ more _____ same _____ fewer

Phenology (plants): 50-100 # vegetative 0 # flowering _____ # fruiting _____

Population Age Structure (animals): _____ # adults _____ # juveniles _____ # others _____

Site Function for Species (animals): _____ breeding _____ foraging _____ wintering _____ roosting _____ denning _____ other _____

Habitat Description: (plant communities, dominants, associates, other rare spp., substrate/soils, aspect/slope)

Sandy soils, old dunes, with much open sandy. ~20% vegetative cover: Cilia capitata, Paronychia franciscana, Eschscholzia californica, Carpobrotus edule, Avena spp.

Current Land Use/Visible Disturbances/Possible Threats

Expanding Carpobrotus mats could crowd-out Lessingia.

Overall Site Quality: _____ Excellent _____ Good ☒ Fair _____ Poor

Comments:

Should/Could this site be protected? How?

Weed Carpobrotus out.

Other comments:

DETERMINATION (Check one or more, fill in blanks)

_____ Keyed in a site reference: _____
_____ Compared with specimen housed at: _____
_____ Compared with photo/drawing in: _____
_____ by another person (name): _____

OTHER _____ FEASIBLE INDIVIDUALS _____ Address/Phone _____

PHOTOGRAPHS (Check one or more)

Subject _____ Type _____
_____ Plant/Animal _____ Slide
_____ Habitat _____ Print
_____ Diagnostic Feature _____
_____ Other _____

May we _____ at our cost? _____ No

MAIL: U.S. NATURAL HISTORY DATA BASE, CALIFORNIA DEPARTMENT OF FISH AND GAME, 1416 NINTH ST., SACRAMENTO, CA 95814

OFFICE USE ONLY

PLEASE ENTER ALL INFORMATION AVAILABLE TO YOU.
USE THE BACK FOR COMMENTS IF NECESSARY. PLEASE
ATTACH OR DRAW A MAP ON BACK.

Document Code _____ Quad Code _____
Index Code _____ Occurrence # _____
Copy Sent To _____

Scientific name (no codes): Lessingia germanorum var. germanorum

Reporter: _____ Phone: () _____

Address: _____

Date of Field Work: 8-5-1990 County: SF Collection? If yes, # No Mus./Herb _____

Location: Partially excavated site, just outside Golf Course fence, northeast of hospital complex

Quad Name: S.F. North T 2S R 6W 1/4 of _____ 1/4 Sec _____

7 1/2' _____ 15' Elevation: 220' ft(m) T _____ R _____ 1/4 of _____ 1/4 Sec _____

Landowner/Manager DOD-U.S. Army 122°28'20" W Long., 37°47'28" N Lat.

Species found? ☒ Yes _____ No If not, reason: _____

Is this a new location record? _____ Yes ☒ No _____ Unknown

Total # of Individuals = 8 Is this a subsequent visit? _____ Yes _____ No Compared to your last visit: _____ more _____ same _____ fewer

Phenology (plants): 8 # vegetative 0 # flowering _____ # fruiting

Population Age Structure (animals): _____ # adults _____ # juveniles _____ # others

Site Function for Species (animals): _____ breeding _____ foraging _____ wintering _____ roosting _____ denning _____ other

Habitat Description: (plant communities, dominants, associates, other rare spp., substrate/soils, aspect/slope)

Sand dune, mostly disturbed, some stabilized portions with:
Plantago hookeriana, Paronychia franciscana, Toxicodendron diversiloba, Oenothera contorta,
Eriogonum latifolium, Haplopappus ericoides, Quercus agrifolia, etc. About 10-20%
cover where Lessingia individuals occur.
Current Land Use/Visible Disturbances/Possible Threats

Overall Site Quality: _____ Excellent _____ Good ☒ Fair _____ Poor
Comments:

Should/Could this site be protected? How?

Other comments:

DETERMINATION (Check one or more, fill in blanks)
____ Keyed in a site reference: _____
____ Compared with specimen housed at: _____
____ Compared with photo/drawing in: _____
____ By another person (name): _____
____ Other _____
____ R KNOWLEDGEABLE IN: _____ LS (Name/Address/Phone) _____

PHOTOGRAPHS (Check one or more)
Subject _____ Type _____
____ Plant/Animal _____ Slide
____ Habitat _____ Print
____ Diagnostic Feature _____
____ Other _____
____ obtain duplicates at our _____
____ Yes _____

LEGG #5

PLEASE ENTER ALL INFORMATION AVAILABLE TO YOU.
USE THE BACK FOR COMMENTS IF NECESSARY. *PLEASE
ATTACH OR DRAW A MAP ON BACK.*

Document Code _____ Quad Code _____
Index Code _____ Occurrence # _____
Copy Sent To _____

Scientific name (no codes): Lessingia germanorum var. germanorum

Reporter: _____ Phone: () _____

Address: _____

Date of Field Work: 4-6-1990 County: SF Collection? If yes, # No Mus./Herb

Location: In Golf Course, south of tee for 4th hole, above Park
Bld.

Quad Name: S. F. North T 25 R 6W 1/4 of 1/4 Sec

_____ 7½' _____ 15' Elevation: 200' ft(m) T _____ R _____ ' ¼ of _____ ¼ Sec _____

Landowner/Manager DoD - U.S. Army 122°28'15" W Long, 37°47'27" N Lat.

Species found? ☒ Yes ☐ No If not, reason: _____

Is this a new location record? ☒ Yes ☐ No ☐ Unknown

Total # of Individuals = ~200 Is this a subsequent visit? ☐ Yes ☐ No Compared to your last visit: ☐ more ☐ same ☐ fewer

Phenology (plants): ^{~200} # vegetative _____ # flowering _____ # fruiting _____

Population Age Structure (animals): _____ # adults _____ # juveniles _____ # others

Site Function for Species (animals): _____ breeding _____ foraging _____ wintering _____ roosting _____ denning _____ other _____

Habitat Description: (plant communities, dominants, associates, other rare spp., substrate/soils, aspect/slope)

Sandy soil, stabilized dune, shallowly sloping, ~60% vegetative cover, with Carpobrotus edulis, Eriogonum latifolium, Paronychia franciscana, Haplopappus ericoides, Polygonum paronychia, Lotus scoparius, Toxicodendron diversiloba. Jessingia in scattered patches in open sand between Carpobrotus patches.

Current Land Use/Visible Disturbances/Possible Threats

Current Land Use/Visible Disturbances/Possible Threats
Some of the population is over a buried AT&T transcontinental cable line. Any work on this line would disturb the population.

Overall Site Quality: _____ Excellent _____ Good ✓ Fair _____ Poor

Comments:

Should/Could this site be protected? How?

Removal of surrounding horticultural plantings would open up more habitat for Lessigian.

Other comments:

DETERMINATION (Check one or more, fill in blanks)

Keyed in a site reference: _____

Compared with specimen housed at: _____

Compared with photo/drawing In: _____

By and for person (name): _____

OTHER KN

INDIVIDUALS (Name / Address / City / State / Zip)

PHOTOGRAPHS (Check one or more)

Subject	Type
---------	------

_____ Plant/Animal _____ Slide

Habitat

_____ Diagnostic Feature

_____ Other

May we obtain duplicate? If so, cost?

No

OFFICE USE ONLY

PLEASE ENTER ALL INFORMATION AVAILABLE TO YOU.
USE THE BACK FOR COMMENTS IF NECESSARY. PLEASE
ATTACH OR DRAW A MAP ON BACK.

Document Code _____ Quad Code _____
Index Code _____ Occurrence # _____
Copy Sent To _____

Scientific name (no codes): Silene verecunda var. verecunda

Reporter: _____ Phone: () _____

Address: _____

Date of Field Work: 7-5-1990 County: SF Collection? If yes, # No Mus./Herb _____

Location: Along Lincoln Blvd. at Northwest corner of Enlisted Family Housing.

Quad Name: S. F. North T ZS R 6W 1/4 of _____ 1/4 Sec _____

7 1/2' _____ 15' Elevation: 130' ft(m) T _____ R _____ 1/4 of _____ 1/4 Sec _____

Landowner/Manager DOD - U.S. Army 122°28'48" W long., 37°47'43" N lat.

Species found? ☒ Yes _____ No _____ If not, reason: _____

Is this a new location record? ☒ Yes _____ No _____ Unknown _____

Total # of Individuals = ~100 Is this a subsequent visit? _____ Yes ☒ No _____ Compared to your last visit: _____ more _____ same _____ fewer

Phenology (plants): ☒ # vegetative ☒ # flowering _____ # fruiting

Population Age Structure (animals): _____ # adults _____ # juveniles _____ # others

Site Function for Species (animals): _____ breeding _____ foraging _____ wintering _____ roosting _____ denning _____ other

Habitat Description: (plant communities, dominants, associates, other rare spp., substrate/soils, aspect/slope)

On stabilized dunes. About half the population is on the road cut along Lincoln Blvd. and half on a dune behind the first house at the NW corner of housing site. About 10% vegetative cover, sandy spils, in full sun with Lupinus chamissonis, Eriogonum latifolium, Pteridium aquilinum, Eschscholzia californica,

Current Land Use/Visible Disturbances/Possible Threats

Oenothera cheiranthifolia, Carpobrotus edule.

Any foot traffic will rapidly destabilize the dune;

Expansion of Carpobrotus mat could crowd out Silene; shading from Cupressus macrocarpa.

Overall Site Quality: _____ Excellent ☒ Good _____ Fair _____ Poor

Comments:

Should/Could this site be protected? How?

yes. Hand weed Carpobrotus. Thin or clear surrounding Cupressus to open new habitat.

Other comments:

DETERMINATION (Check one or more, fill in blanks)

_____ Keyed in a site reference: _____
_____ Compared with specimen housed at: _____
_____ Compared with photo/drawing in: _____
_____ By another person (name): _____
_____ Other _____

PHOTOGRAPHS (Check one or more)

Subject _____ Type _____
_____ Plant/Animal _____ Slide
_____ Habitat _____ Print
_____ Diagnostic Feature _____

CT KNOWLEDGEABLE INDIVIDUAL _____ (address/Phone)

May _____ notes at our cost? _____
_____ No