

BW-1787

Installation-Wide Multispecies Habitat Management Plan for Former Fort Ord, California



U.S. Army Corps
of Engineers
Sacramento District

April 1997

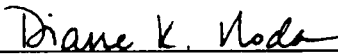
Habitat Management Plan
for Former Fort Ord, California

The Habitat Management Plan for former Fort Ord, California, will be completed and in effect once signed by the Army and the U.S. Fish and Wildlife Service. Other agencies will be asked to sign Memoranda of Agreement for implementation of portions of the Habitat Management Plan designated for each agency.



Daniel D. Devlin
Colonel, U.S. Army
Commanding, Presidio of Monterey

The U.S. Fish and Wildlife Service finds that the Habitat Management Plan for the former Fort Ord fulfills reasonable and prudent measure 1 in its October 19, 1993 Biological Opinion for the disposal and reuse of Fort Ord. Additionally, the U.S. Fish and Wildlife Service issued an amended Biological/Conference Opinion in April 1997 that analyzed the effects of the Habitat Management Plan on the federally listed Smith's blue butterfly, western snowy plover, California red-legged frog, sand gilia, Monterey spineflower, and robust spineflower and the proposed black legless lizard and Yadon's piperia. The Habitat Management Plan does not authorize incidental take by entities acquiring land at the former Fort Ord of any species listed as threatened or endangered under the federal Endangered Species Act of 1973, as amended. Entities would submit the Habitat Management Plan in combination with additional documentation, including an implementation agreement signed by all parties receiving lands that are to be managed for wildlife values, to the U.S. Fish and Wildlife Service to receive authorization for incidental take through Section 10(a)(1)(B) permits.

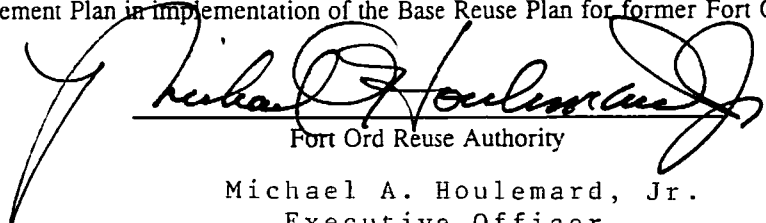


Diane K. Noda
Field Supervisor
U.S. Fish and Wildlife Service

Concurring Agencies

The following agency signs to indicate its concurrence with the Habitat Management Plan.

The Fort Ord Reuse Authority concurs with the Habitat Management Plan and agrees to comply with the conditions in the Habitat Management Plan in implementation of the Base Reuse Plan for former Fort Ord.



Michael A. Houlemard, Jr.
Executive Officer

**Concurrence with Management Requirements for Habitat Reserve, Habitat Corridor,
Borderland Development Areas Along NRMA Interface, and Development with
Reserve Areas or Development with Restrictions**

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California Department of Transportation

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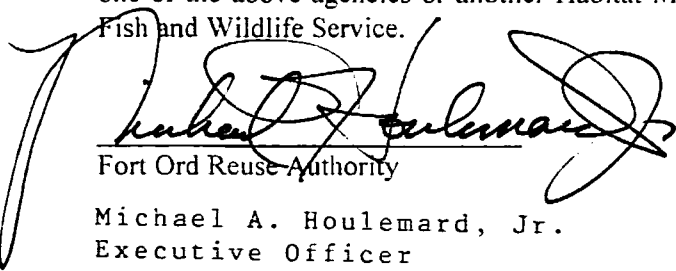
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City of Marina

York School

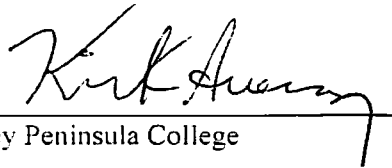
**Concurrence with Provisions for Land Transfers of
Parcels with Habitat Management Plan Requirements**

These agencies are agencies who, in addition to those above, may receive land having Habitat Management Plan requirements. However, the agency plans to execute the Habitat Management Plan requirements via one of the above agencies or another Habitat Management Plan managing agency acceptable to the U.S. Fish and Wildlife Service.



Fort Ord Reuse Authority

Michael A. Houlemard, Jr.
Executive Officer



Monterey Peninsula College

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Ed Harbey
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A. K. Janner

California Department of Transportation
District 5 Division Chief
Division of Planning & Programming

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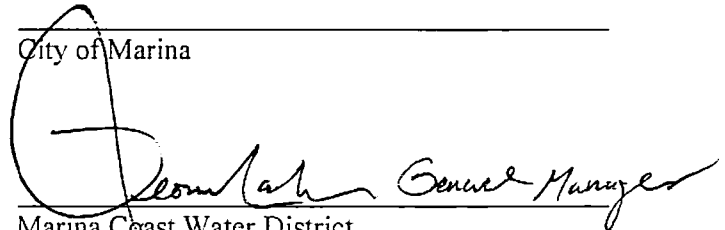
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Marina Coast Water District

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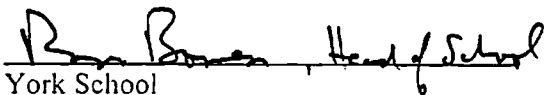
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Mark Greenwald
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BW-1787J

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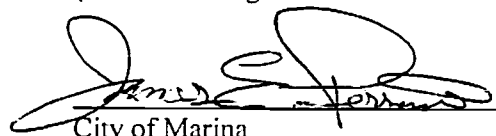
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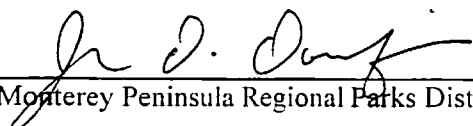
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Habitat Management Plan for Former Fort Ord, California

Prepared by:

U.S. Army Corps of Engineers
Sacramento District
1325 J Street, 12th Floor
Sacramento, CA 95814-2922
Contact: Bob Verkade
916/557-7423

With Technical Assistance from:

Jones & Stokes Associates, Inc.
2600 V Street, Suite 100
Sacramento, CA 95818-1914
Contact: Michael D. Rushton
916/737-3000

April 1997

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Table of Contents

	Page
Executive Summary	S-1
Chapter 1. Purpose of and Need for the Habitat Management Plan	1-1
INTRODUCTION AND BACKGROUND	1-1
Army Disposal Process	1-3
Mitigation Agreement for the HMP	1-4
Grazing	1-6
Species Addressed in the HMP	1-6
ORGANIZATION OF THE HMP	1-13
GOALS AND OBJECTIVES	1-13
FLEXIBILITY OF THE HMP	1-14
Pre-Transfer Modifications to This HMP	1-14
Post-Transfer Modifications to the HMP	1-14
HMP STEPWISE ANALYSIS	1-15
Step 1: Identify Species and Habitats to Be Considered in the HMP	1-15
Step 2: Develop a Conservation Area and Corridor System	1-16
Step 3: Compare Land Requests with Conservation Area and Corridor System	1-16
Step 4: Create Final Conservation Area and Corridor System	1-17
Step 5: Develop HMP Guidelines	1-17
Step 6: Implement the HMP	1-17
Chapter 2. Minimum Conservation Area and Corridor System	2-1
INTRODUCTION	2-1
SPECIES AND COMMUNITY BIOLOGICAL DATA	2-1
HABITAT MANAGEMENT PLAN HABITATS	2-1
Maritime Chaparral	2-1
Coastal Dunes	2-5
ECOLOGICAL CONCEPTS FOR CONSERVATION AREA AND CORRIDOR SYSTEM DESIGN	2-6
Conservation Area Size	2-6
Conservation Area Shape	2-6
Conservation Area Location	2-7
Conservation Area Connectivity	2-7
Management Considerations for Conservation Areas and Corridors	2-8
METHODS USED TO DEVELOP A MINIMUM CONSERVATION AREA AND CORRIDOR SYSTEM	2-8
Habitat Management Plan Species Richness Study	2-9
Mapping the Minimum Conservation Area	2-9
DESCRIPTIONS OF MINIMUM CONSERVATION AREAS AND CORRIDORS	2-9
Inter-Garrison - Former Fritzsche Field Conservation Area	2-9
Coastal Dunes Conservation Area	2-13
Eucalyptus Road Conservation Area	2-13
North-South Road Conservation Area	2-13
Corridors	2-13

RELATIONSHIP OF FORMER FORT ORD TO OTHER MARITIME	
CHAPARRAL AND DUNE HABITATS	2-13
Coastal Dune Habitat	2-15
Chapter 3. Habitat Management for Predisposal Actions	3-1
CONTAMINATED SOILS TREATMENT	3-1
Impacts	3-1
Mitigation	3-2
LANDFILL REMEDIATION	3-2
Impacts	3-2
Mitigation	3-4
REMOVAL OF LEAD AND OTHER HEAVY METALS	3-4
Impacts	3-4
Mitigation	3-5
Success Criteria	3-12
Monitoring	3-13
Corrective Measures	3-15
ORDNANCE AND EXPLOSIVES REMOVAL	3-16
Background	3-16
Impacts	3-19
Mitigation	3-20
Success Criteria	3-22
Monitoring	3-24
Corrective Measures	3-25
INTERIM USES	3-25
Public Access to Dunes and Beaches	3-25
Chapter 4. Habitat Management for Disposal and Reuse	4-1
INTRODUCTION AND BACKGROUND	4-1
FUTURE REGULATORY COMPLIANCE	4-9
IMPACTS ON LISTED AND PROPOSED HMP SPECIES	4-10
ANALYSIS OF REUSE ALTERNATIVES FROM THE FEIS AND FSEIS	4-13
ANALYSIS OF IMPACTS TO HMP TARGET SPECIES FROM THIS HMP	4-14
MANAGEMENT GUIDELINES FOR RECIPIENTS	
AND/OR HABITAT MANAGERS OF DISPOSED LAND	4-20
Implementation Strategies	4-20
ANALYSIS OF ROAD CORRIDORS	4-21
Description of Parcels	4-23
PARCELS F1.1-F1.11 (EXCLUDING PARCEL F1.7.2)	
<u>U.S. BUREAU OF LAND MANAGEMENT</u>	
<u>NATURAL RESOURCE MANAGEMENT AREA</u>	4-23
Parcel Description	4-23
Resources Present	4-23
Resource Conservation Requirements	4-24
Management Requirements	4-24
Responsible Parties	4-26
PARCEL S3.1.2	
<u>COASTAL DUNE ZONE</u>	4-26
Parcel Description	4-26
Resources Present	4-26
Resource Conservation Requirements	4-26
Management Requirements	4-27
Responsible Parties	4-27

PARCELS S2.1.2, S2.1.3, and S2.1.5	
<u>UC/NRS FORT ORD NATURAL RESERVE</u>	4-27
Parcel Description	4-27
Resources Present	4-27
Resource Conservation Requirements	4-28
Management Requirements	4-28
Responsible Parties	4-29
PARCEL S2.3.2	
<u>RESERVATION ROAD HABITAT RESERVE</u>	4-29
Parcel Description	4-29
Resources Present	4-29
Resource Conservation Requirements	4-29
Management Requirements	4-30
Responsible Parties	4-30
PARCEL S2.4	
<u>HABITAT RESERVE/CORRIDOR</u>	4-30
Parcel Description	4-30
Resources Present	4-30
Resource Conservation Requirements	4-30
Management Requirements	4-31
Responsible Parties	4-31
PARCEL L5.1.12	
<u>SALINAS RIVER HABITAT AREA</u>	4-31
Parcel Description	4-31
Resources Present	4-31
Resource Conservation Requirements	4-31
Management Requirements	4-32
Responsible Parties	4-32
PARCEL L6	
<u>NATURAL AREA EXPANSION</u>	4-32
Parcel Description	4-32
Resource Conservation Requirements	4-33
Management Requirements	4-33
Responsible Parties	4-33
PARCEL E11a	
<u>EAST GARRISON</u>	4-33
Parcel Description	4-33
Resources Present	4-33
Resource Conservation Requirements	4-34
Management Requirements	4-34
Responsible Parties	4-34
PARCELS L20.2.1 and L20.2.2	
<u>HABITAT CORRIDOR/RECREATIONAL</u>	
<u>VEHICLE PARK/YOUTH CAMP</u>	4-34
Parcel Description	4-34
Resources Present	4-35
Resource Conservation Requirements	4-35
Management Requirements	4-35
Responsible Parties	4-37
PARCELS S3.1.1 and S3.1.3	
<u>DISTURBED HABITAT ZONE</u>	4-37
Parcel Description	4-37
Resources Present	4-38
Resource Conservation Requirements	4-38

Management Requirements	4-39
Responsible Parties	4-40
PARCELS S4.1.1, S4.1.2, AND S4.1.3	
<u>HIGHWAY 1 CORRIDOR</u>	4-40
Parcel Description	4-40
Resources Present	4-40
Resource Conservation Requirements	4-41
Management Requirements	4-41
Responsible Parties	4-41
PARCEL L5.1.11	
<u>NORTH FRITZSCHE HABITAT RESERVE</u>	4-41
Parcel Description	4-41
Resources Present	4-42
Resource Conservation Requirements	4-42
Management Requirements	4-42
Responsible Parties	4-42
PARCELS L20.3 and L20.5	
<u>RECREATION AREA EXPANSION #1</u>	4-42
Parcel Description	4-42
Resources Present	4-43
Resource Conservation Requirements	4-43
Management Requirements	4-44
Responsible Parties	4-44
PARCEL L20.4	
<u>RECREATION AREA EXPANSION #2</u>	4-44
Parcel Description	4-44
Resources Present	4-44
Resource Conservation Requirements	4-45
Management Requirements	4-45
Responsible Parties	4-45
PARCELS E8a.1 and E8a.2	
<u>LANDFILL PARCEL</u>	4-46
Parcel Description	4-46
Resources Present	4-46
Resource Conservation Requirements	4-46
Management Requirements	4-47
PARCEL E31	
<u>OFFICE PARK</u>	4-47
Parcel Description	4-47
Resources Present	4-47
Resource Conservation Requirements	4-47
Management Requirements	4-48
Responsible Parties	4-48
PARCEL E2a	
Parcel Description	4-48
Resources Present	4-48
Resource Conservation Requirements	4-49
Management Requirements	4-49
Responsible Parties	4-49
PARCELS E11b.1-E11b.8 and E11b.11	
<u>EAST GARRISON</u>	4-49
Parcel Description	4-49
Resources Present	4-49
Resource Conservation Requirements	4-50

Management Requirements	4-50
Responsible Parties	4-50
PARCELS F1.4.1, F1.7.2, F1.12, , F2.1, F2.2, F2.3, F2.4, F2.5, F2.6, F2.7.1, F2.7.2, F2.7.3, F2.8, F2.9, F3, F4, F5.1, F5.2, AND F6	
<u>FEDERAL AGENCY PARCELS WITH NO HMP REQUIREMENTS</u>	4-51
Resource Conservation Requirements	4-51
Management Requirements	4-51
PARCELS S1.1, S1.2.1, S1.2.2, S1.2.3, S1.3.1, S1.3.2, S1.3.3, S1.3.4, S1.4, S1.5.1, S1.5.2, S1.6, S1.7, S2.1.1, S2.1.4, S2.2.1, S2.2.2, S2.2.3, S2.3.1, S2.5.1, S2.5.2, S3.1.4, S3.2, S4.2.1, S4.2.2, S4.2.3, S4.3	
<u>STATE AGENCY PARCELS WITH NO HMP REQUIREMENTS</u>	4-51
Resource Conservation Requirements	4-51
Management Requirements	4-51
PARCELS L1.1, L1.2, L2.1, L2.2, L2.3, L3.1, L4.1, L4.2, L5.1, L5.1.1, L5.1.2, L5.1.3, L5.1.4, L5.1.5, L5.1.6, L5.1.7, L5.1.8, L5.1.9, L5.1.10, L5.2, L5.4.1, L5.4.2, L5.5, L5.6, L5.7, L5.8.1, L5.8.2, L5.9.1, L5.9.2, L5.10, L7.1, L7.2, L7.3, L7.4, L7.5, L7.6, L7.7, L8.1, L8.2, L8.3, L9.1.1, L9.1.2, L9.2, L9.3, L10.1, L10.2, L10.3, L10.4, L11, L12.1, L12.3, L13.1, L13.2, L14, L15.1, L15.2, L15.3, L16, L17.1, L17.2, L18, L19, L20, L20.6, L20.7, L20.9, L20.10.1, L20.10.2, L20.10.3, L20.11.1, L20.11.2 L20.12, L20.13, L20.14.2, L20.15, L20.16, L20.17.1, L20.17.2, L20.18, L21, L22, L23.1.1, L23.1.2, L23.1.3, L23.1.4, L23.1.5, L23.2, L23.4, L23.5, L24, L25, L27, L28, L29, L30, L31, L32, L33, L34, LE5.9, LE12.2, LE20.16	
<u>LOCAL AGENCY PARCELS WITH NO HMP REQUIREMENTS</u>	4-52
Resource Conservation Requirements	4-52
Management Requirements	4-52
PARCELS L20.8, L20.14.1, L20.19, L20.20, L20.21, L20.22, LE20.18, LE20.19	
<u>EXISTING ROADS IN HMP MANAGEMENT AREAS</u>	4-52
PARCELS E2b.1, E2b.2, E2b.3, E2c.1, E2c.2, E2c.3, E2c.4, E2d, E2e, E4.1, E4.2, E4.3, E4.4, E4.5, E4.6, E4.7, E5a, E5b, E11b.9, E11b.10, E11b.12, E15.1, E15.2, E17b.1, E17b.2, E18.1, E18.2, E18.3, E18.4, E19a.3, E20b, E20c.1.1, E20c.1.2, E20c.1.3, E20c.2.1, E20c.2.2, E21a, E29, E29b.3, E29e, E35, E36	
<u>ECONOMIC DEVELOPMENT CONVEYANCE PARCELS WITH NO HMP REQUIREMENTS</u>	4-53
Resource Conservation Requirements	4-53
Management Requirements	4-53
<u>TRANSPORTATION EASEMENT STATE ROUTE 68 CORRIDOR</u>	4-53
Parcel Description	4-53
Resources Present	4-53
Resource Conservation Requirements	4-54
Management Requirements	4-54
Responsible Parties	4-55
PARCELS L3.2, E19a.1, E19a.2, E21b.1, E21b.2, E21b.3, E23.1, E23.2, E24, E29a, E29b.1, E29b.2, AND E34	
<u>BORDERLAND DEVELOPMENT AREAS ALONG NRMA INTERFACE</u>	4-56
Parcel Description	4-56
Resource Conservation Requirements	4-56
Management Requirements	4-57
Responsible Parties	4-57
Coordinated Resource Management and Planning	4-58
Chapter 5. Citations	5-1
PRINTED REFERENCES	5-1
PERSONAL COMMUNICATIONS	5-3

Chapter 6. List of Preparers and Acknowledgments	6-1
LIST OF PREPARERS	6-1
U.S. Army Corps of Engineers	6-1
Jones & Stokes Associates	6-1
ACKNOWLEDGMENTS	6-1
Appendix A. Agreement for the Revised Habitat Management Plan	A-1
Appendix B. HMP Species Occurrence Data	B-1
Table B-1. Occurrence of HMP Species in Parcels	
Table B-1. Habitat Acreages Supporting HMP Target Species within HMP Reserve Areas, Corridors, and Development Areas	
Figures B-1 – B-18. Target Species Distribution	
Figure B-19. Approximate Location of Lead Removal Areas and Buckwheat Habitat within the Beach Range Area	
Appendix C. Posttransfer Modifications to the HMP	C-1
Appendix D. Sample Deed and Memorandum of Agreement	D-1

List of Tables

Table	Page
S-1 Plant Species Considered in This Habitat Management Plan (HMP Plants)	S-18
S-2 Wildlife Species Considered in This Habitat Management Plan (HMP Species)	S-21
S-3 HMP Target Species Supported by Habitat Within HMP Reserve Areas, Corridors, and Development Areas	Follows S-22
1-1 Vegetation and Wildlife Summary: Alternative 7, Revised Alternative 7, and Alternative 8 and the Reuse Scenario Contained in the 1993 NEPA ROD	1-5
1-2 Plant Species Considered in This Habitat Management Plan (HMP Plants)	1-7
1-3 Wildlife Species Considered in This Habitat Management Plan (HMP Species)	1-10
2-1 Ecological Characteristics of HMP Wildlife	2-2
2-2 Ecological Characteristics of HMP Plants	2-3
3-1 Example of Seed Mixes for Restoring Coastal Strand and Dune Scrub Communities	3-9
3-2 Approximate Acres of Habitat Supporting Sand Gilia, Monterey Spineflower, and Seaside Bird's-Beak in Areas in the Inland Range Expected to Contain Unexploded Ordnance	3-23
4-1 Fort Ord HMP Parcel Designations	4-5

List of Figures

Figure	Page
S-1	Habitat Management Plan Map for Former Fort Ord (April 1997) S-3
2-1	High- and Medium-Density Occurrences of Federally Listed Species 2-10
2-2	HMP Species High Richness Sites 2-11
2-3	Conceptual Conservation Areas and Corridors 2-12
2-4	Maritime Chaparral and Coastal Dune Habitats in the Vicinity of Former Fort Ord 2-14
3-1	Locations of Sand Gilia and Monterey Spineflower Populations in and Adjacent to Parcels E8.1 and E8.2 3-3
3-2	Conceptual Multi-Range Area Land Reuse Plan 3-17
4-1	Habitat Management Plan Map for Former Fort Ord (December 1996) 4-2
4-2	Proposed Road Corridors Passing through Areas with HMP Conservation Requirements . . . 4-22
4-3	Development and Conservation Areas in the Habitat Corridor/Recreational Vehicle Park/Youth Camp Parcel 4-36
B-1a	Known Distribution of Sand Gilia (<i>Gilia tenuiflora</i> ssp. <i>arenaria</i>) at Former Fort Ord
B-1b	Sand Gilia Populations Identified in 1993 Spring Surveys
B-2	Known Distribution of Monterey Spineflower (<i>Chorizanthe pungens</i> var. <i>pungens</i>) at Former Fort Ord
B-3	Known Distribution of Robust Spineflower (<i>Chorizanthe robusta</i> var. <i>robusta</i>) at Former Fort Ord
B-4	Known Distribution of Seaside Bird's-beak (<i>Cordylanthus rigidus</i> var. <i>littoralis</i>) at Former Fort Ord
B-5	Known Distribution of Toro Manzanita (<i>Arctostaphylos montereyensis</i>) at Former Fort Ord
B-6	Known Distribution of Sandmat Manzanita (<i>Arctostaphylos pumila</i>) at Former Fort Ord
B-7	Known Distribution of Monterey Ceanothus (<i>Ceanothus rigidus</i>) at Former Fort Ord
B-8	Known Distribution of Eastwood's Ericameria (<i>Ericameria fasciculata</i>) at Former Fort Ord
B-9	Known Distribution of Coast Wallflower (<i>Erysimum ammophilum</i>) at Former Fort Ord

- B-10 Known Distribution of Yadon's Piperia (*Piperia yadoni*) at Former Fort Ord
 - B-11 Known Distribution of Hooker's Manzanita (*Arctostaphylos hookeri* ssp. *hookeri*) at Former Fort Ord
 - B-12a Potential and Occupied Habitat for Smith's Blue Butterfly Based on 1992 Survey Data
 - B-12b Occupied Smith's Blue Butterfly Habitat Based on 1996 Inventories
 - B-13 Potential and Occupied Habitat for California Linderiella
 - B-14 Potential Habitat for California Red-Legged Frog
 - B-15 Potential and Occupied Habitat for Western Snowy Plover
 - B-16 Potential and Occupied Habitat for California Black Legless Lizard
 - B-17 Potential and Occupied Habitat for California Tiger Salamander
 - B-18 Potential Habitat for Monterey Ornate Shrew
 - B-19 Approximate Location of Lead Removal Areas and Buckwheat Habitat within the Beach Range Area
- Attachment A** Map Pocket

Executive Summary

INTRODUCTION

The Installation-Wide Multispecies Habitat Management Plan (HMP) for former Fort Ord complies with the U.S. Fish and Wildlife Service (USFWS) final Biological/Conference Opinion for disposal and reuse of former Fort Ord lands and establishes the guidelines for the conservation and management of wildlife and plant species and habitats that largely depend on former Fort Ord land for survival. The HMP was developed with input from federal, state, local, and private agencies and organizations concerned with the natural resources and reuse of former Fort Ord. Implementation of this HMP will assist in the orderly disposal and reuse of former Fort Ord.

PURPOSE AND NEED FOR THE MULTISPECIES HABITAT MANAGEMENT PLAN

The Department of the Army in 1991 was directed to close and dispose of Fort Ord, California. The Army's action is considered a major federal action that could affect eight species proposed for listing or listed as threatened or endangered under the federal Endangered Species Act (ESA). A Biological Assessment (BA) was prepared that identifies the potential loss of populations and habitat of federally listed species, species proposed for listing, and species that are candidates for listing, resulting from caretaker actions, disposal actions, and six reuse alternatives (U.S. Army Corps of Engineers 1993a). A supplement to the draft BA was prepared that describes the loss of populations and habitat of these same species resulting from an additional reuse alternative (Alternative 6R) (U.S. Army Corps of Engineers 1993b). The USFWS's October 19, 1993, Final Biological Opinion on the disposal and reuse of former Fort Ord required that an HMP be developed and implemented to reduce the incidental take of listed species and loss of habitat that supports these species.

The 1993 Final Environmental Impact Statement (FEIS) for the disposal and reuse of former Fort Ord identified the need to develop and implement a multispecies Habitat Management Plan (HMP) as a mitigation measure for impacts on vegetation and wildlife resources. An HMP was published, initially, in February 1994 in response to both the biological opinion and mitigation measures identified in the FEIS and the December 1993 National Environmental Policy Act Record of Decision (1993 NEPA ROD). The February 1994 HMP (1994 HMP) addressed impacts resulting from predisposal, disposal, and reuse actions. Reuse actions addressed were those proposed under Alternative 6R Modified as included in the 1993 NEPA ROD.

Since publication of the FEIS and 1994 HMP, the U.S. Army (Army) has prepared a Final Supplemental Environmental Impact Statement (FSEIS) (U.S. Army Corps of Engineers 1996) to include additional data and an analysis of the following:

- disposal of additional land excess to the Army needs resulting from changes in the Army's Presidio of Monterey (POM) Annex boundary;
- those reuse areas that, as agreed to by the Army in the 1993 NEPA ROD associated with the FEIS, require additional analysis to cover disposal for new land uses;
- uses contained in the Fort Ord Reuse Authority (FORA) Final Base Reuse Plan (December 1994) that were not covered fully in the FEIS and ROD; and

- three additional reuse alternatives:
 - Alternative 7, which represents the December 12, 1994 FORA Final Base Reuse Plan;
 - Revised Alternative 7 is not significantly different from Alternative 7 and includes land uses established through property transfers or memoranda of agreement (MOA) for property transfers already completed by the Army; land uses proposed through federal, state, local, and McKinney Act screening completed in April 1996 for recently excessed lands; land uses required in the draft Revised HMP; land uses for remaining areas as proposed in the Draft FORA Fort Ord Reuse Plan (March 1996) that do not conflict with laws and other federal regulations, policies, and requirements or the draft Revised HMP (April 1996 Concept Agreement); relocation of a resort hotel; and utility easements needed for transfer of utility systems; and
 - Alternative 8, a land use scenario very similar to Alternative 7, contains most of the land use proposals of the FORA Final Base Reuse Plan (December 1994), but it also includes uses for specific parcels that were received through the scoping process for the Supplemental EIS.

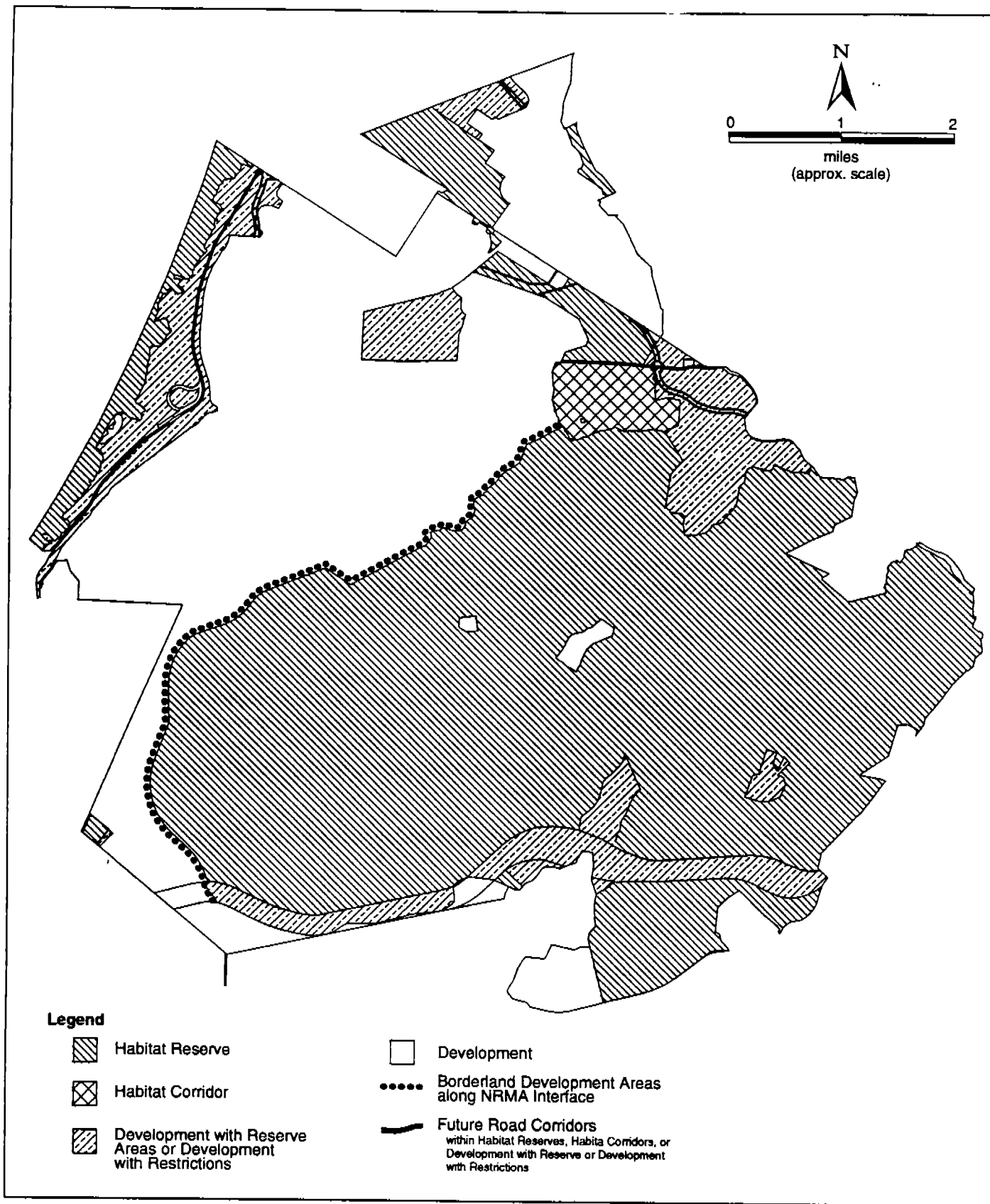
During development of the FSEIS and through an agreement between the Army, USFWS, U.S. Bureau of Land Management (BLM), University of California (UC), and Fort Ord Reuse Authority (FORA) related to minimizing impacts on biological resources, it was determined that a revised HMP would be developed to replace the 1994 HMP. This document (this HMP) serves as a revised HMP. It follows a format similar to that presented in the 1994 HMP and has the same goals and objectives as the original document. The primary differences are modification of the HMP reuse scenario to reflect the planned methods for remediation of the beach trainfire ranges to the health-based level of concern, revisions in development and reserve areas, replacing parcel-specific land use descriptors from a specific reuse alternative with a generic development designation that would include a potential range of reuses considered in the FEIS and the June 1996 FSEIS, and inclusion of the mitigation measures agreed to by the Army, USFWS, and other agencies included in the agreement mentioned above.

A general goal of this HMP is to promote preservation, enhancement, and restoration of habitat and populations of HMP species while allowing development on selected properties that promotes economic recovery after closure of Fort Ord. (Specific HMP goals are described in Chapter 1.) As an installation-wide plan, all parcels to be disposed of by the Army are addressed in this HMP and are considered in achieving HMP goals. However, management guidelines and specifications for reuse may vary from parcel to parcel based on future plans for the parcel associated with this HMP and overall reuse planning.

Some parcels to be disposed of by the Army are intended to promote economic recovery after disposal and will be designated for development with no restrictions or guidelines described in this HMP. Other parcels will have development designated as the primary use, but recipients of disposed land will be obligated to implement certain guidelines and/or preserve specific areas through this HMP and deed covenants. Other parcels are designated as habitat reserves or corridors and have specific management guidelines and restrictions on development and uses. This HMP also includes consideration of specific transportation corridors planned by the local community. (Refer to the "HMP Analysis of Road Corridors" section in Chapter 4.)

Attachment A shows each parcel proposed for reuse and indicates the HMP management categories planned for the parcel: Habitat Reserve, Habitat Corridor, Development with Reserve Areas or Development with Restrictions, Borderland Development Areas Along NRMA Interface, Development, and Future Road Corridors. Figure S-1 shows the areas where these categories apply.

Each parcel is also numbered in Attachment A. The letter before each parcel number identifies the type of agency expected to receive the parcel and/or the anticipated method of transfer. The letter F before a parcel number indicates a Federal Transfer Parcel; an S indicates a State Transfer Parcel; an L indicates a Local Transfer Parcel under a public benefit conveyance (PBC); and an E indicates a parcel available for



**Figure S-1
Habitat Management Plan Map for
Former Fort Ord (April 1997)**

an Economic Development Conveyance (EDC) or other method of transfer. Parcel numbers beginning with an E correspond to polygon numbers included in the Draft FORA Fort Ord Reuse Plan (March 1996).

ARMY DISPOSAL PROCESS

Upon completion of this HMP and the FSEIS ROD, the Army intends to continue with property disposal at the former Fort Ord. The Army does not intend to adopt a specific reuse plan or alternative. The Army intends for the disposal process to be consistent with FORA's Final Base Reuse Plan where it is not in conflict with laws and other federal regulations, policies, and requirements. As stated in the 1993 NEPA ROD, "The disposal process will consider federal requests received in the screening process for transfer of federal land that is required under the Federal Property and Administrative Services Act of 1949, as well as all McKinney Act requests. The Army will honor, where possible and appropriate, all state and local requests for conveyance from separately authorized federal programs for transportation, education, recreation and open space, public health and safety, and airports." In addition, the Army will proceed with transfers for which memoranda of agreement (MOA) have been completed, e.g., California State University Monterey Bay and University of California Santa Cruz. Lands that are not transferred through these processes will be available for FORA to include in its economic development conveyance (EDC) application. Any remaining property will be available for negotiated sale to public bodies and for private sale.

Key disposal actions have been initiated or committed to by the Army based on the 1993 FEIS and ROD, the 1994 HMP, and the then-existing reuse plan, to federally sponsored PBC recipients, to Health and Human Services sponsored McKinney Act providers, and to the University of California and California State University Monterey Bay via EDC.

The 1993 Biological Opinion describes the concepts for disposal and habitat preservation within portions of Fort Ord (based on Alternative 6R) with habitat reserve lands to be transferred with binding habitat management and conservation requirements. The 1993 Biological Opinion provides for other parcels to be transferred that contain habitat for special-status species as development parcels. The management requirements of the 1993 Biological Opinion have been consolidated into six principal management categories for parcels in this HMP. These include the following:

- **Habitat Reserve** - no development allowed; management goal is conservation and enhancement of threatened and endangered species;
- **Habitat Corridor** - lands between major reserve areas; to be managed to promote connections between conservation areas;
- **Development with Reserve Areas or Development with Restrictions** - lands slated for development that contain inholdings of reserve or require specific restrictions to protect biological resource values; management of reserve inholdings must match that for habitat reserves, while management in developable areas must proceed with certain specific restrictions identified in this HMP;
- **Borderland Development Areas Along NRMA Interface** - areas abutting the Natural Resources Management Area that are slated for development; management of these lands includes no restrictions except along the development/reserve interface;
- **Development** - no management restrictions are contained in this HMP; some plans for salvage of biological resources from these lands may be specified; and
- **Future Road Corridors** - lands within habitat reserve set aside for future road development; to be managed as habitat reserve until road development occurs.

The Development areas, Development with Reserve Areas or Development with Restrictions areas, and Borderland Development Areas Along NRMA Interface (described in this HMP) will be available for disposal and development for reuse. For the 1993 Biological Opinion, it is assumed that a complete loss of biological resources would occur in the development parcels. The development parcels could be transferred with no covenants, deed restrictions, or conservation easements required. Lands designated as Development have no management restrictions placed on them as a result of this HMP.

Several reuse alternatives have been analyzed in the Army FEIS and FSEIS and these include the 1993 NEPA ROD land use map (Alternative 6RM), the December 1994 FORA Final Base Reuse Plan (Alternative 7) and elements of the March 1996 Draft FORA Fort Ord Reuse Plan (Revised Alternative 7). The 1994 HMP supports reuse within development areas based on Alternative 6RM. The FSEIS concluded that Alternative 7 would result in the removal of approximately 6,180 acres of habitat, approximately 240 acres more habitat removed from reserve areas than provided for in the February 1994 HMP. Alternative 7 would have adverse effects on biological resources and while the land uses proposed in the December 1994 FORA Plan could be accommodated within the development areas of the 1994 HMP, avoidance and mitigation measures are needed to avoid significant impacts to HMP target species. These measures have been included in this HMP and in Revised Alternative 7 and Alternative 8 of the FSEIS. The land uses described in these alternatives can be accommodated within the Development, Development with Reserve Areas or Development with Restrictions Areas, Borderland Development Areas Along NRMA Interface, and Habitat Corridor lands in this HMP. Other development land uses may also be accommodated within this HMP's development areas.

ORGANIZATION OF THE HMP

This HMP is organized in the same manner as the 1994 HMP. It is presented in six chapters. Chapter 1, "Purpose of and Need for the Habitat Management Plan", describes the purpose and need, goals and objectives, and procedure followed in developing this HMP. Chapter 2, "Minimum Conservation Area and Corridor System", describes methods used to develop a minimum conservation area and corridor system for former Fort Ord. Chapter 3, "Habitat Management for Predisposal Actions", presents habitat management procedures to accompany Army actions taken before disposal of former Fort Ord land. Chapter 4, "Habitat Management for Disposal and Reuse", describes the habitat management procedures to be taken by recipients of disposed land. Chapter 5, "Citations", lists the sources cited in this HMP. Chapter 6, "List of Preparers and Acknowledgments", describes the contributions of key staff and agency representatives.

GOALS AND OBJECTIVES

The goals and objectives of this HMP are the same as those for the 1994 HMP.

- Preserve, protect, and enhance populations and habitat of federally listed threatened and endangered wildlife and plant species.
- Avoid reducing populations or habitat of federal proposed and candidate wildlife and plant species to levels that may result in one or more of these species becoming listed as threatened or endangered.
- Preserve and protect populations and habitat of state-listed threatened and endangered wildlife and plant species.

- Avoid reducing populations or habitat of species listed as rare, threatened, and endangered by the California Native Plant Society (CNPS) (List 1B), or with large portions of their range at former Fort Ord, to levels that may result in one or more of these species becoming listed as threatened or endangered.
- Conduct the disposal of land to public and private entities in a manner that is compatible with the preservation of federally listed threatened and endangered wildlife and plants within the HMP conservation area.
- Inform potential recipients of former Fort Ord land and the general public of methods that provide a suitable mechanism for protecting natural resources while allowing implementation of a community-based reuse plan that promotes economic recovery after closure of former Fort Ord.
- Provide the basis for recipients of former Fort Ord lands to seek Section 10(a) permits pursuant to the federal ESA and achieve compliance for conservation of state-listed threatened and endangered species and other special-status species recognized by California Department of Fish and Game (DFG) under the California ESA and the California Environmental Quality Act (CEQA).
- Provide a foundation for a prelisting agreement between USFWS and recipient landowners.

The overall goal of this HMP is to provide for, at a minimum, no net loss of populations or important habitat for any of the subject species of this HMP. This goal can be met through the careful selection of areas designated as reserves and corridors. The beneficial enhancement of habitat by the selected management agencies is essential to the achievement of this goal.

FLEXIBILITY OF THE HMP

Pre-Transfer Modifications to the HMP

This HMP has adjusted the development and reserve areas to reflect changes proposed in the community reuse plan and information relating to the Army environmental remediation actions. The specific land use designations for individual development parcels have been replaced with a generic development designation, allowing for broad flexibility in reuse of specific development parcels. Changes in specific use of development parcels within the range of uses described in the FEIS and the FSEIS would not require revision to this HMP. During disposal by the Army, it may be necessary to alter management agencies for reserve areas or portions of reserve areas because of changes in anticipated land recipients. Any such change would be coordinated with USFWS and agreed to by both parties. Any further revision to habitat reserves or corridors before transfer would necessitate revisions in this HMP.

The Army will remain responsible for any changes to this HMP in areas that have not been transferred (pre-transfer). The Army will also remain responsible for revisions to this HMP relating to hazardous, toxic, and radiological waste and ordnance and explosives response actions. Changes undertaken in parcels after they are transferred are the responsibility of the land recipient.

Polygon boundaries in development areas may be modified, and development polygons may be subdivided or aggregated before transfer. These types of changes in development polygons will not require modifications to this HMP.

Post-Transfer Modifications to the HMP

All recipients of former Fort Ord lands will be required to abide by management guidelines and procedures addressed in this HMP. However, situations may arise during the life of this HMP that make changes in the plan's guidelines after lands have been transferred (post-transfer) appropriate. Several types of changes may occur. Land recipients may wish to change the boundaries of their parcels or land uses within their parcels. Actions such as additional infrastructure development in reserve areas may be necessary. Changes in management guidelines within a land use may be required to better preserve or enhance a resource. These kinds of changes may be made if the affected landowners and USFWS can agree that the overall goals and objectives of this HMP will not be compromised.

Such post-transfer revisions do not involve the Army and would be the responsibility of future landowners, subject to the terms of the reservation placed on the lands in the MOAs and/or deeds at the time the lands are transferred from the Army. Such revisions will be funded by the responsible agency/land recipient. The agency or land recipient will also be responsible for any necessary documentation and any coordination with USFWS, BLM, or other agencies.

Polygon boundaries in development areas may be modified, and development polygons may be subdivided or aggregated after transfer. These types of changes in development polygons will not require modifications to this HMP.

HABITAT MANAGEMENT PLAN SPECIES AND HABITATS

Species Addressed in the HMP

Wildlife and plant species and habitats addressed in this HMP are the same as those included in the 1994 HMP (Tables S-1 and S-2). These species are a subset of the species analyzed in the FEIS. Species addressed in the 1994 HMP were included based on their legal protection, listing status at the time of publication, and the relative importance of populations and habitats at former Fort Ord to the continued survival of the species.

Since publication of the 1994 HMP, the legal status of several species has changed. On February 28, 1996, the Department of the Interior published in the Federal Register (FR) the Department of the Interior Endangered and Threatened Species, Plant and Animal Taxa; Proposed Rule (61 FR 7596 February 28, 1996). Under the rule, the Category 1 and 2 classifications for federal candidate species are removed. Species either are identified as Candidate species with a listing priority classification or are no longer given any federal status. Many species previously considered Category 1 or 2 candidates are retained under the new Candidate status. Other species that were previously considered candidate species are identified as no longer having status under the federal ESA.

Although several species included in the 1994 HMP are no longer considered federal candidates, they are still retained in this HMP because they may be listed under the California ESA, they have a significant portion of their range at former Fort Ord, or they are associated with a habitat that is important to a suite of many other sensitive species.

Maritime Chaparral

Maritime chaparral is a coastal form of chaparral associated with specific soil conditions. Two forms are recognized at former Fort Ord based on the substrate that supports them: sand hill maritime chaparral occurs on relict dunes of the late Pleistocene epoch, and Aromas formation maritime chaparral occurs on weakly consolidated red sandstone that is a relict of mid-Pleistocene epoch dunes.

Periodic disturbance or removal of vegetation caused by unstable substrate and fire are important factors in maintaining and rejuvenating the maritime chaparral community. Early successional sites appear to support the highest diversity of shrubs, including the largest number of HMP shrub species.

HMP species occurring in maritime chaparral are black legless lizard, Toro manzanita, sandmat manzanita, Hooker's manzanita, Monterey ceanothus, Eastwood's ericameria, Seaside bird's-beak, sand gilia, Monterey spineflower, coast wallflower, and Yadon's piperia.

Healthy maritime chaparral occurs as a patchwork of stands that have burned at different times and that support vegetation of various ages and structures. This habitat mosaic allows for high species and habitat diversity and provides sources of propagules for dispersal between patches.

Successful conservation of maritime chaparral is dependent on proper management of the habitat by using fire as a management tool and allowing or encouraging some forms of substrate disturbance. The goal of management is to achieve high species and habitat diversity through a program of controlled burning that creates and maintains a mosaic pattern of maritime chaparral of various aged stands. However, sand gilia, Monterey spineflower, and coast wallflower may be dependent on open habitat created by blowing sand rather than by fire. Promoting a dynamic system of moving sand by selective vegetation removal may encourage the formation of habitat for these HMP species.

Coastal Dunes

Coastal strand and dune scrub habitats of the coastal dunes are dynamic plant communities that respond to a moving sand substrate and changing dune configuration. Blowing sand undermines and buries plants, but most dune plants are adapted to shallow burial and blasting by sand. Large areas of destabilized sand, called "blowouts", result in large-scale removal of vegetation and change in dune structure. As plants reinvade the bare sand they stabilize the dune.

The highest diversity of dune habitat and species is best maintained in dunes with conditions ranging from active to stabilized and a variety of topography with foredunes and rear dunes, dune crests, interdune valleys, and north- and south-facing slopes.

HMP species occurring in coastal strand and dune scrub are Smith's blue butterfly, sand gilia, Monterey spineflower, robust spineflower, black legless lizard, and coast wallflower. Yadon's piperia may occur in these habitats.

HABITAT CONSERVATION AND MANAGEMENT FOR PREDISPOSAL ACTIONS

Predisposal actions include placing former Fort Ord into a caretaker status, remediating contaminated sites, and supporting interim uses. As the 7th Infantry Division (Light) (IDL) realigned from Fort Ord, the Army placed structures, utilities, and operation and maintenance systems into a caretaker status until property disposal decisions are implemented. Caretaker status is defined by Army regulation as "the minimum required staffing to maintain an installation in a state of repair that maintains safety, security, and health standards".

Cleanup of contaminated sites is required in preparing lands for disposal and proposed future uses. The entire former Fort Ord installation is listed on the National Priorities List as a Superfund site. A Federal Facilities Agreement, negotiated under Section 120 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), requires the Army to perform the Superfund cleanup process described in the Other Physical Attributes Baseline Study of Fort Ord, California (U.S. Army Corps of Engineers, Sacramento District 1992c). Cleanup activities that have potential to affect biological resources include excavation of contaminated soils, landfill remediation, removal of lead and other heavy metals, and ordnance and explosives removal. Impacts resulting from each of these actions are discussed separately in this chapter.

HMP guidelines for the cleanup of contaminated sites have been developed based on the best available information. Mitigation for cleanup activities may be modified in the future based on findings and conclusions in the Fort Ord Basewide Record of Decision for the Remedial Investigation/Feasibility Study, which is currently in preparation. Other mitigation measures may be considered based on site-specific information, results of human health and ecological risk assessments, and the development and screening of remedial alternatives. Any modifications to this HMP based on new information must be reviewed and approved by USFWS.

FUTURE REGULATORY COMPLIANCE

This HMP does not exempt future landowners from complying with environmental regulations enforced by federal, state, or local agencies. These regulations could include obtaining Section 7 or Section 10(a) permits from USFWS pursuant to the federal ESA, complying with federal ESA Section 9 prohibitions against take of listed species, complying with measures for conservation of state-listed threatened and endangered species and other special-status species recognized by DFG under the California ESA, CEQA compliance, and complying with local land use regulations and restrictions. This HMP is intended to form a basis for binding agreements between receiving jurisdictions, the Army and USFWS to establish detailed plans for natural resource conservation, and specific management goals for each land parcel with habitat management requirements.

The HMP does not authorize incidental take by entities acquiring land at former Fort Ord of any species listed as threatened or endangered under the ESA, as amended. Entities would submit the HMP in combination with additional documentation, including an Implementation Agreement signed by all parties receiving lands that are to be managed for wildlife values, to the USFWS to receive authorization for incidental take.

In addition, the HMP is intended to be the basis for a habitat conservation plan (HCP) that will support the issuance of incidental take permits under Section 10(a)(1)(B) of the ESA to the land recipients identified above. The provisions of the HCP(s) are expected to closely mirror the provisions of this HMP, and the implementing agreement developed to implement the HCP(s) is expected to establish detailed provisions for monitoring of the habitat conservation areas by the affected land recipients and reporting of habitat conditions to BLM, USFWS, and DFG consistent with the procedure outlined below.

Section 9 of the ESA prohibits any taking of a threatened or endangered animal species. The definition of "take" includes to harass, harm, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct. Exemptions to Section 9 can be obtained through Sections 7 and 10 of the ESA. The USFWS has recommended that all nonfederal entities acquiring land at former Fort Ord apply for Section 10(a)(1)(B) incidental take permits for the species covered in the HMP. Although the USFWS will not require further mitigation from entities that are in conformance with the HMP, those entities without incidental take authorization would be in violation of the ESA if any of their actions resulted in the take of a listed animal species.

To apply for a Section 10(a)(1)(B) incidental take permit, an entity must submit an application form (Form 3-200), a complete description of the activity sought to be authorized, the common and scientific names of the species sought to be covered by the permit, and a conservation plan (50 CFR 17.22[b]). Pursuant to 50 CFR 17.22(b)(1)(iii), the Habitat Conservation Plan (HCP) must specify (a) the impacts that will likely result from such takings; (b) what steps the applicant will take to monitor, minimize, and mitigate such impacts, the funding that will be available to implement such steps, and the procedures to be used to deal with unforeseen circumstances; (c) what alternative actions to such taking the applicant considered and the reasons why such alternative are not proposed to be utilized; and (d) such other measures that the director of the USFWS may require as being necessary or appropriate for purposes of the plan. For the USFWS to issue incidental take permits to any entities acquiring land at former Fort Ord, that entity will have to provide the above information.

Because this HMP addresses several unlisted species, the HMP provides a foundation for prelisting agreements between USFWS and recipient landowners.

To coordinate this HMP with CEQA compliance, DFG may take into account the conservation measures set forth in this HMP when considering CEQA requirements for sensitive species and habitat types. DFG would consider the conservation program for HMP species and their habitats included in this HMP as adequate mitigation for CEQA compliance for those natural resources during the implementation of land reuse and development planning at former Fort Ord. There may be issues, such as oak woodland mitigation, outside the scope of this HMP that would need to be considered under CEQA.

IMPACTS ON LISTED AND PROPOSED HMP SPECIES

The following sections summarize the impacts on federally and state-listed HMP target species and HMP species proposed for federal listing, if all development areas identified in this HMP were developed. Plant and animal species considered in this HMP are listed in Tables S-1 and S-2, respectively, at the end of this Executive Summary.

Appendix B identifies which species occur in each parcel at former Fort Ord. Table B-1 indicates the presence or absence of each target species based on the latest available information. Table B-2 describes acreage of low-, medium-, and high-density habitat suitable for each target species within each of the HMP reserves, HMP corridors, and the development areas based on 1992 survey information. Maps indicating the distribution of each HMP plant species at former Fort Ord and potential and occupied habitats for each HMP wildlife species are also included in Appendix B. Maps are based on data collected during preparation of the 1992 Flora and Fauna Baseline Study (U.S. Army Corps of Engineers, Sacramento District 1992a). Information in Appendix B has been updated where available; however, analysis of impacts in this HMP is based on the 1992 data. The tables, combined with the distribution maps, provide further understanding of impacts to HMP species associated with development in development areas. The losses of habitat within development areas, as well as acres of habitat to be protected and enhanced within the HMP reserves and corridors, are described in Chapter 4 in the "Analysis of Impacts to HMP Target Species from the HMP" section.

Robust Spineflower (Federal Endangered)

Robust spineflower occurs on sandy soils in coastal dune and coastal scrub habitat. Several plants were observed at one site on the dunes west of Highway 1 during the 1992 field surveys. No other occurrences of robust spineflower were observed. Under this HMP, the group of plants would be preserved.

Sand Gilia (Federal Endangered)

Sand gilia inhabits openings in maritime chaparral and coastal scrub communities. It also prefers disturbed sites, such as the borders of old roads and firebreaks. Based on 1992 survey results for all of former Fort Ord, approximately 5 acres of maritime chaparral and coastal scrub supporting sand gilia at high densities, 120 acres at medium density, and approximately 680 acres at low density will be removed under this HMP. Annually from 1993 to 1996, portions of former Fort Ord have been resurveyed to provide more site-specific data on sand gilia distribution and abundance. Results of the 1993 surveys for the northern portion of former Fort Ord are shown in Figure B-1b in Appendix B. These surveys have typically shown a greater abundance of sand gilia than indicated by the 1992 survey results. However, none of these surveys has covered the entire installation as was done in 1992.

Smith's Blue Butterfly (Federal Endangered)

Smith's blue butterfly is completely dependent on seacliff and coast buckwheat for oviposition and as food sources for larvae and adults. Distribution and density of seacliff and coast buckwheat were recorded during the 1992 botanical surveys. Analysis of impacts to Smith's blue butterfly habitat is based on this data. Areas supporting medium or high densities of either buckwheat species are considered potential habitat for Smith's blue butterfly based on models included in the Flora and Fauna Baseline study. The 1994 HMP states that under that plan approximately 15 acres of potential Smith's blue butterfly habitat (areas supporting medium- and high-density populations of buckwheat) would be removed in the dunes west of SR1. In addition, an area of approximately 35 acres of dune habitat supporting buckwheat at low density would be removed and could potentially affect populations of Smith's blue butterfly. Habitat conservation and management requirements and land uses on the dunes west of Highway 1 under this HMP are consistent with those described for the 1994 HMP. Therefore, impacts to Smith's blue butterfly under this HMP are expected to be no greater than those described for the 1994 HMP.

Western Snowy Plover (Federal Threatened)

Western snowy plovers are known to nest on the beaches at former Fort Ord from the northern installation boundary to Stilwell Hall. They may also nest south of Stilwell Hall. The USFWS has proposed critical habitat for the Western snowy plover (60 FR 11768, March 2, 1995). The beaches at former Fort Ord are among the areas proposed as critical habitat. The HMP will not directly remove any western snowy plover nesting habitat. However, increased human presence on the beaches associated with the alternative could negatively affect snowy plover breeding success.

Monterey Spineflower (Federal Threatened)

Implementation of this HMP would result in the loss of approximately 3,910 acres of maritime chaparral, coastal dunes, coastal scrub, and grassland habitats occupied by Monterey spineflower. These habitat areas support Monterey spineflower at high densities on approximately 310 acres, medium densities on about 1,200 acres, and low densities on approximately 2,400 acres. Sand hill maritime chaparral, all coastal dune habitats, and grassland and coastal scrub habitats on sandy soils are potentially suitable habitat for Monterey spineflower. Monterey spineflower occurs in natural and artificial disturbance patches in these habitats.

Seaside Bird's-Beak (Species of Concern)

Seaside bird's-beak occurs in openings on sandy soils in maritime chaparral and oak woodland habitats. Implementation of this HMP would result in the removal of roughly 45 acres of maritime chaparral and oak woodlands supporting Seaside bird's-beak at low densities.

California Red-Legged Frog (Federal Threatened)

The California red-legged frog typically occupies cold water ponds with both emergent and submergent vegetation. No red-legged frogs have been observed on former Fort Ord; although potential habitat is available. Approximately 2 acres of potential California red-legged frog habitat would be removed under this HMP. However, part of this two acres consists of an artificial pond in parcel L20.2.2 (Attachment A) associated with the former Army Family Camp. The pond is filled from artificial sources and has been stocked with fish to provide recreational fishing for campers. Due to the presence of predatory game fish, it is unlikely that red-legged frogs would occur in this water body.

Almost all other potential red-legged frog habitat at former Fort Ord would be preserved within the Natural Resource Management Area (NRMA). The Salinas River is also considered potential red-legged frog habitat. One portion of former Fort Ord is within the river channel. This area is identified as a habitat reserve.

Yadon's Piperia (Federal Proposed Endangered)

The species occurs near established shrubs in maritime chaparral habitat. One population is known to occur on former Fort Ord in parcel E2a. This population would be preserved under this HMP. USFWS has proposed Yadon's piperia for federal listing as endangered.

Black Legless Lizard (Federal Proposed Endangered)

The California black legless lizard is found on dune habitats supporting native vegetation and where maritime chaparral and coastal scrub occur on loose sandy soils. Figure B-16 in Appendix B shows the occurrence of potential black legless lizard habitat at former Fort Ord based on habitat models developed during preparation of the 1992 Flora and Fauna Baseline study. Areas where potential habitat will be most affected include the western boundary of the multirange area (MRA) and where the former Fort Ord boundary abuts the City of Marina. USFWS has proposed the black legless lizard for federal listing as endangered.

ANALYSIS OF REUSE ALTERNATIVES FROM THE FEIS AND FSEIS

This HMP assumes, as described in the previous "Impacts on Listed and Proposed HMP Species" section, that development can occur through all development areas with the resultant loss of habitat. The following description provides a similar analysis of the full buildout of areas identified for development within Alternative 6R of the FEIS; Alternative 6RM of the 1993 NEPA ROD; and Alternative 7, Revised Alternative 7, and Alternative 8 of the FSEIS. These alternatives give an indication of the range of specific land uses that may occur within various development areas within this HMP.

This section summarizes impacts to biological resources associated with Alternative 6R from the 1993 FEIS; 6RM of the 1993 NEPA ROD; and Alternative 7, Revised Alternative 7, and Alternative 8 as described in the 1996 FSEIS. The 1993 FEIS, 1993 Biological Assessment, and the USFWS final Biological Opinion (October 19, 1993) describe Alternative 6R. Alternative 6RM is a modification of Alternative 6R that was contained in the 1993 NEPA ROD; it incorporated likely land uses in NPU areas based on an early version of the community reuse plan. Alternative 7 represents the December 12, 1994 FORA Final Base Reuse Plan. Revised Alternative 7 incorporates the Draft FORA Fort Ord Reuse Plan (March 1996) where it does not conflict with Army policies or agreements. Alternative 8, a land use scenario similar to Alternative 7, includes uses for specific parcels received during scoping processes. The full discussion of impacts to biological resources associated with Alternative 6R appears on pages 6-100 through 6-130 of Volume I of the FEIS. The full discussion of impacts to biological resources associated with Alternative 7 appears on pages 5-67

through 5-74 of the FSEIS. The full discussion of impacts to biological resources associated with Revised Alternative 7 appears on pages 5-112 through 5-121 of the FSEIS. The full discussion of impacts to biological resources associated with Alternative 8 appears on pages 5-125 through 5-127 of the FSEIS.

Alternative 6R was analyzed using a Geographic Information System (GIS) database of the 1992 biological survey data overlaid with a map of the alternative. For impact calculations, development-related land uses were assumed to remove all biological resources within the land use footprint and habitat conservation related land uses were assumed to preserve all biological resources in the land use footprint. Alternative 6R also included several areas with no proposed use (identified as NPU areas). NPU areas were assumed to have no effect on biological resources. However, it was acknowledged in the FEIS that lands designated as NPU could be subject to reuse in the future and would require future, separate environmental documentation.

The total effect of Alternative 6R would be the removal of approximately 2,507 acres of common and special native biological communities. Within this area of removed habitat, approximately 130 acres supporting low-density populations of sand gilia, 5 acres supporting medium-density populations, and 15 acres supporting high-density populations of sand gilia would be removed. The only other listed plant species that would be affected would be Monterey spineflower. This species would lose approximately 355 acres, 515 acres, and 70 acres respectively of areas supporting low-, medium-, and high-density populations. Alternative 6RM was analyzed using the same methodology described above for Alternative 6R, except that land uses were inserted into NPU areas based on the local reuse planning assumptions available at the time the 1993 NEPA ROD was completed.

The total effect of Alternative 6RM would be the removal of 5,941 acres of common and special native biological communities. Within this area of removed habitat, approximately 555 acres supporting low-density populations of sand gilia, 125 acres supporting medium-density populations of sand gilia, and 13 acres supporting high-density populations of sand gilia would be removed. The only other federally listed plant species that would be affected would be Monterey spineflower. This species would lose approximately 1,970 acres, 985 acres, and 260 acres, respectively, of areas supporting low-, medium-, and high-density populations.

Alternative 7 was analyzed using both a GIS database and manual overlaying of a proposed road network map with resource maps. The GIS analysis for Alternative 7 used the same methods as used for the Alternative 6R analysis. However, impact assumptions for some parcels were modified based on more recent information. Impact calculations using the GIS did not include impacts associated with a proposed road network because the digital mapping data for the road network was not compatible with the GIS biological resource data. Impacts from the road network were quantified by overlaying by hand road network maps with resource maps and planimetrying the acres of effect.

The total effect of Alternative 7 would be the removal of approximately 6,180 acres of common and special native biological communities. Within this area of removed habitat, approximately 595 acres supporting low-density populations of sand gilia, 120 acres supporting medium-density populations of sand gilia, and 6 acres supporting high-density populations of sand gilia would be removed. The only other federally listed plant species that would be affected would be Monterey spineflower. This species would lose approximately 1,965 acres, 1,065 acres, and 250 acres, respectively, of areas supporting low-, medium-, and high-density populations.

Revised Alternative 7 was analyzed through a comparison against the reuse scenario described in the 1994 HMP. Areas where the alternative differed from the 1994 HMP relative to locations of development and habitat reserved were identified. Locations where portions of the proposed transportation network conflicted with habitat reserve areas in the February 1994 HMP were included in this analysis. Acreages of loss or gain of areas identified as habitat reserve were calculated for each location where Revised Alternative 7 and the 1994 HMP differed. Losses and gains were also calculated for key HMP resources. For the analysis, key HMP resources include areas supporting sand gilia, Monterey spineflower, and Seaside bird's beak.

The total effect of Revised Alternative 7 on habitat reserve areas is the conversion of approximately 370 acres of area considered habitat reserve in the 1994 HMP to developed area or another use. The total effect on key HMP resources under Revised Alternative 7 would be a loss of approximately 114 acres of habitat supporting low-density sand gilia populations; a loss of approximately 3 acres of area supporting medium-density sand gilia populations; a gain of approximately 8 acres of area supporting high-density sand gilia populations; a loss of approximately 183 acres and 62 acres, respectively, of area supporting low- and medium-density Monterey spineflower populations; a gain of approximately 7 acres of area supporting high-density Monterey spineflower populations; and a loss of approximately 25 acres of habitat supporting low-density populations of Seaside bird's beak.

Alternative 8 is very similar to Alternative 7, with differences primarily associated with proposed changes in land uses in specific areas. Alternative 8 was analyzed by examining these specific areas. Differences between Alternatives 7 and 8 that could affect impacts to biological resources included expansion of a community park, removal of small areas from the NRMA (at the request of BLM due to the separation of these areas from the main body of the NRMA by existing roads), and construction of a golf course on the landfill parcel. The total effect of Alternative 8 would be the removal of approximately 6,230 acres of common and special native biological communities and removal of approximately 793 acres of area supporting sand gilia and 3,423 acres of area supporting Monterey spineflower at various densities.

ANALYSIS OF IMPACTS TO HMP TARGET SPECIES FROM THIS HMP

This section summarizes the habitat areas within each HMP reserve or corridor area that are going to be preserved for each HMP target species. In some cases, the HMP reserve area is actually a combination of Habitat Reserve parcels and parcels that are classified Development with Reserve or Development with Restrictions but contain primarily lands to be managed as reserve. The section also indicates the habitat acreage contained within the total development area allowed by this HMP. This Development Areas category includes parcels that are classified as Development and others that are classified as Development with Reserve or Development with Restrictions but have no reserve component, only restrictions.

Acreage totals for HMP target species were calculated by overlaying the current reserve, corridor and development area boundaries with the 1992 habitat data contained in the planning-level Geographic Information System (GIS) developed by the Army to support the disposal and reuse of Fort Ord. The totals have been summarized for low-, medium-, and high-density habitats for each species. For the detailed breakdown of low-, medium-, and high-density habitat for each species in each reserve, refer to Table B-2 in Appendix B.

State Parks Reserve

The State Parks reserve is located along the coast, west of SR 1. It includes both Reserve and Development with Reserve Areas or Development with Restrictions parcels, as mapped in Figure 4-1. This reserve occupies approximately 970 acres. Table S-3 indicates which target species are supported by habitat on this reserve area.

Landfill Development with Reserve

The Landfill reserve is located northeast of the Main Garrison, just south of Imjin Road. It is composed of two Development with Reserve or Development with Restrictions parcels. This reserve occupies approximately 308 acres. Refer to Table S-3 for target species supported within the Landfill reserve.

UC/NRS Fort Ord Natural Reserve

The UC/NRS Fort Ord Natural Reserve is located in the southwestern corner of the former Fritzsche Army Airfield and south of Reservation Road; it has already been transferred to UC. It is being managed as part of the UC Natural Reserve System. This reserve includes approximately 590 acres. Table S-3 lists target species supported by this natural reserve.

Marina Reserve

The Marina reserve is located in the Fritzsche Army Airfield area, north and west of the developed portion of the airfield. It includes both Reserve and Development with Reserve or Development with Restrictions parcels. The reserve has approximately 175 acres. This reserve area has already been transferred to the City of Marina. Refer to Table S-3 for a list of species supported in this reserve area.

East Garrison Reserve

The East Garrison reserve is located in the easternmost portion of former Fort Ord, south of Reservation Road. The reserve includes both Reserve and Development with Reserve or Development with Restrictions parcels. The reserve totals approximately 855 acres. Refer to Table S-3 for a list of species supported in this reserve area.

Habitat Corridor

The Habitat Corridor, located immediately west of the East Garrison portion of former Fort Ord, includes both Reserve and Development with Reserve or Development with Restrictions parcels. The reserve totals approximately 400 acres. Table S-3 lists the target species supported within the Habitat Corridor.

BLM Natural Resource Management Area

The BLM NRMA is located in the southern and eastern portions of former Fort Ord. This reserve is largest natural area being retained in the HMP area. It totals approximately 15,000 acres. Some portions of the area have already been transferred to BLM and are being managed as reserve. This transfer includes most of the land east of Barloy Canyon Road. Refer to Table S-3 for a list of target species supported within the BLM NRMA.

Caltrans State Route 68 Easement

The Caltrans State Route (SR) 68 easement overlays the NRMA in the southern portion of former Fort Ord (Figure 4-1). A total of approximately 660 acres are contained within the corridor. Of this total, approximately 180 acres could be lost to development of a highway, assuming a 300-foot-wide construction corridor. Refer to Table S-3 for a list of species supported by habitat in this corridor.

MPRPD Reserve

The MPRPD Reserve is located in the extreme southwestern portion of former Fort Ord. It is a Reserve parcel containing approximately 20 acres. Refer to Table S-3 for a list of species supported by habitat in this reserve.

Caltrans State Route 1 Area

The SR 1 corridor passes through the western portion of former Fort Ord, separating the beach areas from the Main Garrison area. It is considered a Development with Reserve or Development with Restrictions area. The corridor totals approximately 225 acres. Refer to Table S-3 for a list of target species supported within the SR 1 corridor.

Development Areas

The Development Areas of former Fort Ord include the remaining parcels outside of reserve areas and corridors. Some of these parcels are developable with no restrictions, while several others are classified as Development with Restrictions. The Development Areas total approximately 10,500 acres. The developable areas are located primarily between the SR 1 corridor and the NRMA (Figure 4-1). Habitat supporting nearly all of the HMP target species is found within the Development Areas (Table S-3).

There are no resource conservation requirements in the HMP for most of the Development Areas. The habitat resources contained in the parcels are not considered critical to the long-term survival of the species. However, habitat may be preserved within and around the development areas within these parcels.

MANAGEMENT GUIDELINES FOR RECIPIENTS AND/OR HABITAT MANAGERS OF DISPOSED LAND

This section describes key resources, expected impacts on resources, and land management responsibilities for each recipient of disposed land in the HMP area. Land management responsibilities are divided into the following categories: Habitat Reserve, Habitat Corridor, Development with Reserve Areas or Development with Restrictions, Borderland Development Areas Along NRMA Interface, Development, and Future Road Corridors. The Army will include deed covenants in transfer of lands and may, as appropriate, enter into separate MOAs with recipients or habitat managers of disposed land to ensure implementation of HMP requirements. Land recipients may also agree to take part in a Coordinated Resource and Management Planning (CRMP) process. The CRMP is described in detail at the end of Chapter 4. Methods for updating or modifying this HMP after agencies or private parties have received Fort Ord lands are described in the "Flexibility of HMP" section in Chapter 1.

Habitat conservation and management responsibilities by recipients or habitat managers of disposed lands at former Fort Ord are discussed individually with each land use parcel in Chapter 4.

Implementation Strategies

Memoranda of Agreement and Deed Covenants

Before disposal of land, the Army will place appropriate deed covenants (restrictions and/or management requirements) on lands to be transferred and/or enter into MOAs with recipients and/or habitat managers of disposed lands identified in this HMP as Habitat Reserve, Habitat Corridor, Borderland Development Area Along NRMA Interface, or Development with Reserve Areas or Development with Restrictions. Appropriate HMP guidelines will be included in each document. A sample deed is included in Appendix D. USFWS will enforce the requirements of the federal ESA.

Monitoring Procedures and Responsibilities

Monitoring of habitat reserves and habitat corridors would be the responsibility of BLM, California Department of Parks and Recreation, UC, Monterey County, City of Marina, Monterey Peninsula Regional Park District, California Department of Transportation (Caltrans), FORA, and any other organization with management responsibilities for areas designated as Habitat Reserve, Habitat Corridor, or Development with Reserve Areas or Development with Restrictions in this HMP. These agencies would be responsible for ensuring that the HMP guidelines are implemented on parcels under their jurisdictions.

FORA or other organizations receiving Borderland Development Areas Along NRMA Interface will provide status reports for parcels adjacent to the NRMA on interim habitat management and/or firebreak construction and maintenance (according to Item c. in the agreement) and compliance with other management requirements associated with these parcels (see the "Borderland Development Areas Along NRMA Interface" section in Chapter 4).

Monitoring results for CRMP participants will be coordinated by BLM, and BLM will consolidate the results into a single monitoring report. Annual monitoring reports will be filed with USFWS and DFG, as well as with each of the participating agencies.

Program Costs and Funding

Funding to develop this HMP has been provided by the Army. Funding to implement the HMP prescribed habitat restoration, management, and monitoring for reuse will be provided by entities receiving properties or having management responsibilities for areas designated as Habitat Reserve, Habitat Corridor, Borderland Development Area Along NRMA Interface, or Development with Reserve Areas or Development with Restrictions in this HMP. These agencies will fund implementation of this HMP and implement conservation and/or management guidelines specific to parcels they receive. This HMP does not preclude other sources of funding for HMP implementation or preclude these agencies from securing funding from other sources to support their implementation of HMP guidelines. Requirements for each agency's minimal participation and accomplishments toward implementation of this HMP will be specified in covenants in the deed that will be completed at the time of land transfer or in a MOA with the Army.

ANALYSIS OF ROAD CORRIDORS

The analysis of impacts to biological resources in the FSEIS considered the effects of a proposed transportation network. The transportation network considered was based on the FORA December 12, 1994 Final Fort Ord Base Reuse Plan with mitigations and modifications agreed on with USFWS, UC, and FORA on March 15 and 28, 1996. Several road segments included in the proposed network pass through areas identified as Habitat Reserve, Habitat Corridor, or Development with Reserve Areas or Development with Restrictions in this HMP (Figure 4-2). These road corridors are accommodated within this HMP. Descriptions of individual parcels affected by these road segments each contain a reference to the road segment and how it may affect HMP habitat conservation or management requirements. The SR68 transportation easement is treated separately and is considered in the category of "Development with Reserve Areas or Development with Restrictions".

Table S-1. Plant Species Considered in This Habitat Management Plan (HMP Plants)

Plant Species	Listing Status ^a Federal/State/CNPS	CNPS RED Code ^b	Approximate Percent of Range at Former Fort Ord	Habitat	Distribution	Importance of Populations at Former Fort Ord
Robust spineflower <i>Chorizanthe robusta</i> var. <i>robusta</i>	E/--/4	1-1-3	<1	Found on sandy soils in coastal dune and coastal scrub habitats	Historically from Alameda and San Mateo Counties south to Santa Cruz County and near the coast from southern Santa Cruz County to northern Monterey County, much of which is now developed (4, 5, 8) ^c	Several plants of robust spineflower were found at one site on former Fort Ord; former Fort Ord does not provide important habitat for this species (7)
Sand gilia <i>Gilia tenuiflora</i> ssp. <i>arenaria</i>	E/T/1B	3-3-3	50-70	Sandy openings in coastal dunes and scrub and maritime chaparral	Occurs around Monterey Bay, Salinas River Beach, Asilomar State Beach, from Point Pinos to Point Joe, and Fort Ord (1, 2, 9)	Former Fort Ord provides extensive suitable habitat for sand gilia and constitutes a substantial portion of its range (at least half)
Yadon's piperia <i>Piperia yadoni</i>	PE/--/1B	N/A	<1	Occurs on sandy soils in maritime chaparral, coastal scrub, and closed-cone coniferous forest	Occurs in Monterey County from the Pajaro Hills to the Monterey Peninsula	Less than 1% of the individuals of Yadon's piperia are found on former Fort Ord; it is noteworthy that its habitat on former Fort Ord is intermediate between that of its occurrence in chaparral and pine forest habitats (7)
Monterey spineflower <i>Chorizanthe pungens</i> var. <i>pungens</i>	T/--/1B	3-3-3	75-95	Colonizes recently disturbed sandy sites in coastal dune, coastal scrub, grassland, and maritime chaparral habitats	Along the coast of southern Santa Cruz and northern Monterey Counties and inland to the coastal plain of the Salinas Valley (1, 4, 8)	Former Fort Ord supports the largest populations of Monterey spineflower known (7, 8)
Coast wallflower <i>Erysimum ammophilum</i>	SCI/--/1B	2-2-3	10-30	Occurs scattered on stabilized coastal dunes	Coastal dunes of Monterey Bay and Santa Rosa Island, and coastal scrub on former Fort Ord (10, 11)	Former Fort Ord provides a moderate amount of suitable habitat for coast wallflower and may constitute an important portion of its range because of the limited extent and high degree of disturbance to its habitat in California
Eastwood's ericameria <i>Ericameria fasciculata</i>	SCI/--/1B	3-3-3	70-90	Inhabits coastal dune and scrub, maritime chaparral, and closed-cone coniferous forest communities	Found in Monterey County, including Del Monte Forest, Monterey Airport, Toro Regional Park, near Prunedale, and former Fort Ord (1)	Former Fort Ord supports most of the remaining individuals of Eastwood's ericameria (3)
Monterey ceanothus <i>Ceanothus cuneatus</i> var. <i>rigidus</i>	SCI/--/4	1-2-3	50-70	Sandy hills and flats of maritime chaparral, closed-cone coniferous forests, and coastal scrub	Monterey County along the coast and former Fort Ord, Toro Regional Park, Monterey Airport, and near Prunedale (1, 6)	The most abundant and probably most vigorous population of Monterey ceanothus is found on former Fort Ord (3)

Plant Species	Listing Status* Federal/State/CNPS	CNPS RED Code ^b	Approximate Percent of Range at Former Fort Ord	Habitat	Distribution	Importance of Populations at Former Fort Ord
Sandmat manzanita <i>Arctostaphylos pumila</i>	SC/--1B	3-2-3	70-90	Sand hills of maritime chaparral and coast live oak woodland	Scattered locations around Monterey Peninsula and an extensive area on former Fort Ord (1, 3)	A large and important part of the range of sandmat manzanita is found on former Fort Ord
Seaside bird's-beak <i>Cordylanthus rigidus var. littoralis</i>	SC/E/1B	2-3-3	30-50 ^d	Inhabits sandy soils of stabilized dunes, maritime chaparral, coastal scrub, and closed-cone coniferous forests	Monterey and Santa Barbara Counties, including former Fort Ord, Monterey Airport, and between Carmel and Elkhorn Slough in Monterey County, and on Burton Mesa in Santa Barbara County (1, 2)	A substantial portion of the range of Seaside bird's-beak is found at former Fort Ord
Toro manzanita <i>Arctostaphylos montereyensis</i>	SC/--1B	3-2-3	70-90	Occurs on stabilized sandy soils and badlands in maritime chaparral	Restricted to several sites in Monterey County, including former Fort Ord, Toro Regional Park, and Monterey Airport (1, 3)	Former Fort Ord supports the largest expanse of Toro manzanita in existence
Hooker's manzanita <i>Arctostaphylos hookeri</i>	--/--1B	2-2-3	15-35	Sand hill and Aromas formation maritime chaparral and closed-cone coniferous forest	Del Monte Forest, Monterey Peninsula, Prunedale Hills, former Fort Ord, and sand hills in the Larkin Valley	Former Fort Ord supports large populations of Hooker's manzanita; although it is more common on the Monterey Peninsula and near Prunedale than at former Fort Ord, former Fort Ord provides important and extensive habitat (3,6)

* Status explanations (see the "Definitions of Special-Status Species" section above for citations):

Federal

- E = listed as endangered under the federal Endangered Species Act.
- T = listed as threatened under the federal Endangered Species Act.
- PE = proposed for federal listing as endangered under the federal Endangered Species Act.
- SC = Species of Concern are all former Category 1 and 2 candidate species that without additional conservation action are likely to become candidates for listing by the U.S. Fish and Wildlife Service under the federal Endangered Species Act.
- = no designation.

State

- E = listed as endangered under the California Endangered Species Act.
- T = listed as threatened under the California Endangered Species Act.
- = no designation.

California Native Plant Society

- 1B = List 1B species: rare, threatened, or endangered in California and elsewhere.
- 4 = List 4 species: plants of limited distribution.
- = no designation.

^b CNPS RED Code:**Rarity (R)**

- 1 = Rare, but found in sufficient numbers and distributed widely enough that the potential for extinction is low at this time.
- 2 = Occurrence confined to several populations or to one extended population.
- 3 = Occurrence limited to one or a few highly restricted populations, or present in such small numbers that it is seldom reported.

Endangerment (E)

- 1 = Not endangered.
- 2 = Endangered in a portion of its range.
- 3 = Endangered throughout its range.

Distribution (D)

- 1 = More or less widespread outside California.
- 2 = Rare outside California.
- 3 = Endemic to California.

^c Data sources:

- 1 = Natural Diversity Data Base 1992.
- 2 = Hillyard 1992.
- 3 = Griffin 1976.
- 4 = Reveal and Hardham 1989.
- 5 = Thomas 1961.
- 6 = Griffin 1978.
- 7 = Morgan 1992.
- 8 = U.S. Fish and Wildlife Service 1991.
- 9 = U.S. Fish and Wildlife Service 1992.
- 10 = Munz and Keck 1968.
- 11 = Abrams 1940.

^d This estimate incorporates locations of Seaside bird's-beak in Santa Barbara County, which may have formed as a result of hybridization. The estimate based only on Monterey County occurrences would increase the percent of range at former Fort Ord to 60-80%.

Table S-2. Wildlife Species Considered in This Habitat Management Plan (HMP Species)

Wildlife Species	Listing Status* Federal/State	Approximate Percent of Range at Former Fort Ord	Habitat	Distribution	Occurrence at Former Fort Ord	Importance of Former Fort Ord Population
Smith's blue butterfly <i>Euphilotes enoptes smithi</i>	E/-	5-10	Uses coastal dunes and hillsides that support seacliff buckwheat (<i>Eriogonum parvifolium</i>) or coast buckwheat (<i>Eriogonum latifolium</i>); these plants are used as a nectar source for adults and host plant for larvae	Restricted to localized populations along the coast of Monterey County; single populations reported in Santa Cruz and San Mateo Counties	Known to occur near the northern boundary of former Fort Ord and from Giggling Siding to the southern base boundary (5) ^b	Former Fort Ord has been identified as important to the recovery of Smith's blue butterfly
California black legless lizard <i>Anniella pulchra nigra</i>	PE/SSC	10-20	Requires moist, warm habitats with loose soil for burrowing and prostrate plant cover; may be found on beaches, in chaparral, pine oak woodland, or riparian areas	Restricted to small populations along the coast in Monterey and northern San Luis Obispo Counties; one population in Contra Costa County	Found in stabilized dunes, oak woodland, and oak savanna, and maritime chaparral with sandy soils at former Fort Ord (2, 4, 7)	Former Fort Ord supports one of the larger expanses of black legless lizard habitat within the species' range
California red-legged frog <i>Rana aurora draytoni</i>	T/SSC	<1	Requires coldwater ponds with emergent and submergent vegetation and riparian vegetation at the edges	Found along the coast and coastal mountain ranges from Humboldt to San Diego Counties, and in the Sierra Nevada from Butte to Fresno Counties	May occur at Ford Ord (1)	Former Fort Ord composes little of the species' total range; however, former Fort Ord provides potential habitat for California red-legged frog, which is relatively rare within the Monterey Bay region
Western snowy plover <i>Charadrius alexandrinus nivosus</i>	T/SSC	5-10	Found along beach above the high tide limit; also uses shores of salt ponds and alkali or brackish inland lakes	Intermittent nesting sites along the Pacific Coast from Washington to Baja California	Nests along the beaches at former Fort Ord north of Stillwell Hall (3)	Former Fort Ord supports one of 20 coastal breeding populations of western snowy plovers in California; Monterey Bay as a whole is considered one of eight primary coastal nesting areas; former Fort Ord beaches are one of the areas proposed by USFWS as critical habitat for this species (60FR 11768 March 2, 1995)

Wildlife Species	Listing Status* Federal/State	Approximate Percent of Range at Former Fort Ord	Habitat	Distribution	Occurrence at Former Fort Ord	Importance of Former Fort Ord Population
California tiger salamander <i>Ambystoma tigrinum californiense</i>	C/SSC	<1	Favors open woodlands and grasslands; requires water for breeding and burrows or cracks in the soil for summer dormancy	Occurs only in California from the coastline to the Sierra Nevada crest and from Sonoma to Santa Barbara Counties	Occurs in ponds and vernal pools throughout former Fort Ord (2, 6)	Former Fort Ord comprises little of the total range of California tiger salamander; however, vernal pool habitat is relatively rare in the Monterey Bay region
Monterey ornate shrew <i>Sorex ornatus salarius</i>	SC/--	15-25	Found in a variety of riparian, woodland, and upland communities where there is thick duff or downed logs	Restricted to the Monterey Bay region; historical occurrences at the mouth of the Salinas River and Moss Landing in Monterey County	May occur at former Fort Ord (1)	Former Fort Ord provides abundant potential habitat for Monterey ornate shrew within the species' limited range
California linderiella <i>Linderiella occidentalis</i>	--/--	<1	Ephemeral freshwater habitats such as vernal pools, rock outcrop pools, swales, and ponds	Found in the Central Valley from Tehama to Madera Counties, and the central and south Coast Ranges from Lake to Riverside County	Known from eight water bodies at former Fort Ord (2)	Former Fort Ord composes little of the total range of California linderiella; however, vernal pool habitat is relatively rare in the Monterey Bay region

* Status definitions:

Federal

- E = listed as endangered under the federal Endangered Species Act.
- T = listed as threatened under the federal Endangered Species Act.
- PE = federally proposed for listing as endangered.
- C = species for which USFWS has on file sufficient information on biological vulnerability and threat(s) to support proposals to list them as endangered or threatened.
- SC = Species of Concern are former Category 1 and 2 species that without additional conservation action are likely to become candidates for listing by the U.S. Fish and Wildlife Service under the federal Endangered Species Act.
- = no status.

State

- SSC = considered a State Species of Special Concern by California Department of Fish and Game.
- = no status.

^b Data sources.

- (1) Not found during field surveys.
- (2) Encountered during field surveys.
- (3) Source: George pers. comm.
- (4) Source: Bury 1985.
- (5) Source: Arnold 1983.
- (6) Source: Stanley pers. comm.
- (7) Source: Installation UXO surveys.

Table S-3. HMP Target Species Supported by Habitat Within HMP Reserve Areas, Corridors, and Development Areas

Parcel	Plants											Animals						
	Sand Gilia	Eastwood's Ericameria	Coast Wallflower	Seaside Bird's Beak	Robust Spineflower	Monterey Spineflower	Monterey Ceanothus	Sandmat Manzanita	Toro Manzanita	Hooker's manzanita	Yadon's Piperia	California Linderiella	California Tiger Salamander	Western Snowy Plover	California Red-Legged Frog	Monterey Ornate Shrew	California Black Legless Lizard	Smith's Blue Butterfly
State Parks Reserve			X		X	X		X						X			X	X
Landfill Development with Reserve	X		X			X	X	X								X	X	
UC/NRS Fort Ord Natural Reserve	X	X	X			X	X	X	X							X	X	
Marina Reserve	X					X		X							X	X	X	
East Garrison Reserve	X	X	X	X		X	X	X	X	X						X	X	
Habitat Corridor	X					X		X				X	X		X	X		
BLM Natural Resource Management Area	X	X	X	X		X	X	X	X	X		X	X		X	X	X	
Caltrans State Route 68 Easement	X					X	X	X	X	X		X	X			X		
MPPRD Reserve		X		X		X	X	X									X	
Caltrans State Route 1 Area	X	X	X			X	X	X			X						X	
Development Areas	X	X	X	X		X	X	X	X	X	X	X	X		X	X	X	X

If this image is not as legible as this overlay, it's due to the poor quality of the original document