United States Department of the Interior
BUREAU OF LAND MANAGEMENT
Central Coast Field Office
Fort Ord National Monument
940 2nd Avenue
Marina, California 93933
July 5, 2016

In Reply Refer To:
1790 (CA190.50) P

Dear Reader:

We are pleased to provide you with the Final Dog Management Plan and Environmental Assessment, and approved Decision Record and Finding of No Significant Impact for the Fort Ord National Monument in Monterey County, California. The plan provides dog management and other key public use direction in our agency's management of the Fort Ord National Monument. The management plan replaces the "interim" dog-leash restriction on Fort Ord National Monument that has been in place since April 8, 2015.

Work on this important dog management plan began immediately after issuance of the "interim" dog leash restriction last year. Preparation of the plan is a required component of the BLM's approved Record of Decision for the Southern Diablo Mountain Range and Central Coast of California Resource Management Plan (RMP) of 2007. The BLM is aware that this plan covers a topic that is important to many people that recreate on the national monument, and we appreciate your patience in waiting for the plan to be prepared, analyzed and released for public review and comment, and finally approved.

The BLM released a draft plan for public review on May 13, 2016 and accepted written comments on the document until June 13, 2016. The BLM received 15 written comments on the plan and responded to those comments within the Environmental Assessment. The Final Dog Management Plan is the culmination of a 14 month long planning process.

Sincerely,

Eric Morgan
Fort Ord National Monument Manager

Sincerely,

Rick Cooper
Central Coast Field Office Manager

CHAPTER 1 4
Purpose and Need for Action 4
I. Introduction 4
II. Planning Area 4
III. Purpose and Need 5
IV. Planning Criteria and Objectives 6
V. Rulemaking Process 14
VI. Dog Management Issues and Impact Topics 14
CHAPTER 2 15
Dog Management Plan Alternatives 15
I. Introduction 15
II. Dog Management Planning Units 15
III. Alternative Development Process 17
IV. Dog Management Direction Common to All Alternatives 17
V. Dog Management Direction Common to All Action Alternatives 19
VI. No Action Alternative 19
VII. Dog Prohibition Alternative 20
VIII. Dog Leash Requirement Alternative 21
IX. Designated Off-Leash Opportunities Route Alternative 22
X. Preferred Action Alternative 25
XI. Alternatives and Options Considered But Not Fully Analyzed 29
XII. Comparison of Alternatives 31
XIII. Rationale for the Preferable Alternative 31
CHAPTER 3 39
Affected Environment 39
I. Introduction 39
II. General Project Area Setting 39
III. Recreational Resources 40
IV. Munitions and Explosives Hazards 44
V. Wildlife and Plant Communities 50
VI. Special Status Plant and Animal Species 66

VII. Summary of Special Status Species and Plant Community Impacts for Each Dog Management Unit Fenced Inland Range (Planning Unit 1) 94
VIII. Cultural and Historical Resources 98
IX. Range Management and Livestock Operations 100
X. Adjacent Land-Uses and Jurisdictions 104
XI. Regional Recreation and Tourism Setting 108
CHAPTER 4 112
Impacts and Environmental Consequences 112
I. Introduction 112
II. Impacts Topics Analyzed in Detail 112
III. Impact Topics Considered But Not Analyzed in Detail 112
IV. Impacts of the No Action Alternative 114
V. Impacts of the Dog Prohibition Alternative 121
VI. Impacts of Dog Leash Requirement Alternative 125
VII. Impacts of Designated Off-Leash Opportunities Route (OLOR) Alternative 133
VIII. Impacts of the Preferred Action Alternative 144

CHAPTER 1

Purpose and Need for Action

I. Introduction

The establishment of an appropriate dog management strategy on Fort Ord surfaced as a critical need within the Bureau of Land Management's (BLM's) planning process for the Southern Diablo Mountain Range and Central Coast of California Resource Management Plan (2007 RMP). Due to concerns over impacts of dogs to wildlife, livestock and other visitors to BLM administered lands at Fort Ord, the 2007 RMP called for the development of a site specific pet (i.e. dog) policy. The 2007 RMP reads:

> *"Establish pet restrictions (e.g., leash policy, exclusion areas) to reduce user conflicts and protect wildlife and livestock on Fort Ord Public Lands.*
>
> *Establish an education program addressing impacts and the minimization of impacts of dogs and cats on BLM lands."*

Public use, including dog use, has been steadily increasing since 2007 on BLM administered lands at Fort Ord. The designation of the current and future BLM administered lands as the Fort Ord National Monument (FONM) on April 20, 2012 has contributed to the increase in public use. Today, recreation use is estimated to be 400,000 annual visits, and dog visitation is estimated to be 75,000 annual visits. On April 8, 2015 the BLM enacted an interim dog leash restriction under the authority of 43 CFR 8364.1 across the FONM in response to a munitions cleanup plan released by the Army on April 7, 2015, and continued concern of the impact of off-leash dogs on livestock. Following the announcement of the interim dog leash restriction, the BLM hosted a series of meetings to solicit input from the community on the development of a suitable long-term dog management plan.

II. Planning Area

The planning area for consideration is restricted to the 14,651 acre FONM which currently contains approximately 7,205 acres of land that has been transferred to the BLM for administration, and 7,446 acres of Army land that will be transferred to the BLM. Most of this land is located within the unincorporated political subdivision of Monterey County, California; however, some of the region is located within the City of Seaside, California. The planning area is shown within Figure 1.1.

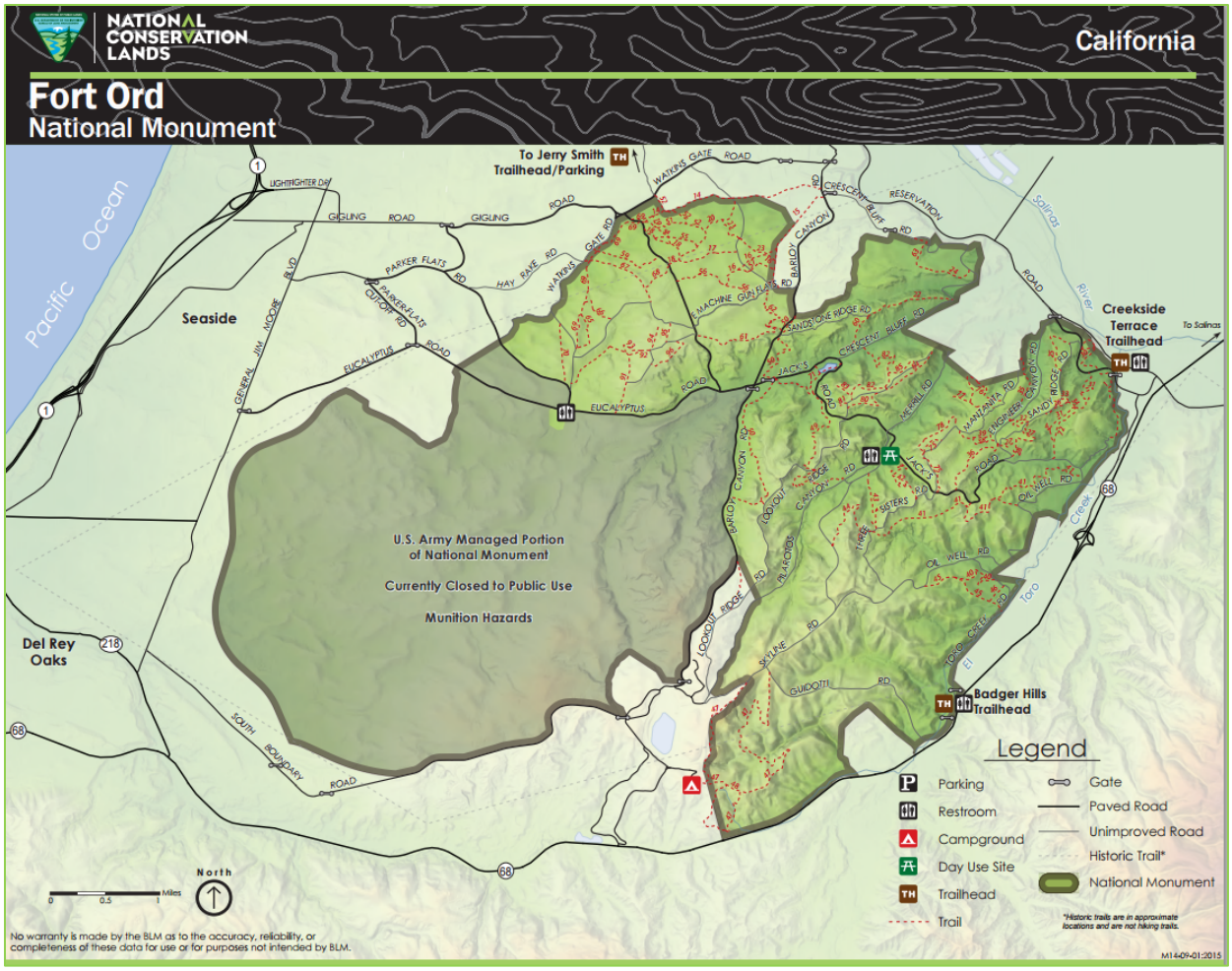


Figure 1.1 - Planning Area, Fort Ord National Monument

III. Purpose and Need

The purpose of the proposed action is to establish an appropriate dog management strategy on the FONM as directed by the 2007 RMP, and to replace the current interim leash restriction with a long-term strategy developed with public input. The proposed action will be accompanied by a 43 CFR 8365.1-6 rule-making as published within the Federal Register. The need for the proposed action is to be responsive to: 1) the protection of the "objects" and "values" of the Fort Ord National Monument as identified with the monument proclamation; 2) the natural resources protection goals of the 1997 Installation-Wide Multispecies Habitat Management Plan (1997 HMP; 3) the munitions hazards of the former Fort Ord areas; 4) the continued protection of livestock that are used to further natural resources habitat goals; 5) the desire of some visitors to bring dogs with them while recreating on the FONM; 6) the desire of all visitors to have a high-quality and safe recreation experience; and 7) dog management policies with adjacent jurisdictions.

IV. Planning Criteria and Objectives

Planning criteria and objectives describe what the BLM intends to accomplish by preparing this dog management plan. These planning criteria and objectives come from a variety of sources, including BLM management policies, laws, and regulations. The criteria and objectives help guide alternatives for evaluation and public review.

A. Protect the Objects and Values of the National Monument

The Fort Ord National Monument was designated on April 20, 2012 by presidential proclamation 8803 under the authority of the Antiquities Act of 1906 (34 Stat. 225, 16 U.S.C. 431). It is part of the BLM's National Landscape Conservation System (NLCS) that was established by the Omnibus Public Land Management Act of 2009 (OPLMA). Under OPLMA, the BLM is mandated to manage the monument in a manner that protects the objects and values for which the monument was designated.

Within the monument proclamation, the president described the unique natural, social, cultural and economic resources (i.e. objects and values) that were worthy of special protection. These resources include: 1) "military heritage and history" of the former Fort Ord; 2) "plants, flora, grasslands and oak values" (especially federally and state protected species that are part of the 1997 HMP); 3) "wildlife" values (especially federally and state protected species that are part of the 2007 HMP); 4) "Juan Bautista National Historic Trail" and the cultural significance of this historic path; and 5) "recreational and tourism" values and the health, educational, social and economic benefits of such. ***Accordingly, the BLM strives to manage the Fort Ord National Monument in a manner that protects natural values, honors the military and cultural heritage of the landscape, and offers high-quality, non-motorized outdoor recreation opportunities.***

Prior to being designated a national monument, the BLM managed these lands as an *Area of Critical Environmental Concern* to protect rare maritime chaparral habitat and special status species; to promote scientific research and education; and to avoid public safety hazards from previous military operations, including the presence of munitions and explosives of concern. These lands continue to form the centerpiece of a habitat protection/mitigation strategy identified in the Installation-Wide Multispecies Habitat Management Plan for the Former Fort Ord (1994, as amended).

Specific Objectives:

- *Protect historic and cultural resources, and interpretive facilities developed to foster the appreciation and understanding of such resources, from damage or destruction that can occur from public and/or pet use.*
- *Minimize public and/or pet intrusion into sensitive animal and plant habitats – especially that of BLM special status species.*

- *Minimize public use conflicts on the Juan Bautista de Anza National Historic Trail that stretches from Creekside Terrace Trailhead to Badger Hills Trailhead over Trail 1, Station One Road, Oilwell Road, and Toro Creek Road.*

- *Maximize the opportunities for non-motorized recreation visitors to have access to a high quality route network with minimal segregations of user groups.*

B. Honor the Natural Resources Protection Goals of 1997 Installation-Wide, Multispecies Habitat Management Plan (HMP)

When the former Fort Ord closed in 1994, the local community, through the Fort Ord Reuse Authority (FORA), developed a reuse plan to oversee the future use of the installation. This reuse plan strived to provide "*economic recovery*" to the region that was losing the Army's regional economic stimulus that had a local payroll of around $565 million annually. Furthermore, the local community wanted to integrate the reuse scenarios around an "*educational emphasis*" to help replace the youth-based, service opportunities that the Army once provided. Finally, the local community recognized that the former installation was home to 35 species of rare plant and animal species, and wanted "environmental protection" as a keystone of reuse. Collectively, these are known as the "Three E's of Success" for guiding reuse of the former Fort Ord.

In ensuring environmental protection of the former Fort Ord, the reuse plan sequestered large tracks of land containing the most sensitive of natural resources and designated them as "habitat reserves" and/or "natural resource management areas". The 14,650 acres that is now the FONM is the largest of the protected areas. These habitat reserves have specific goals within the 1997 HMP to ensure that rare plants and animals are protected and habitat is enhanced in a manner that fully mitigates and/or minimizes biological impacts from development proposed across other portions of the former military installation.

The plant and animal species receiving special protection are referred to as HMP species and include the following plant species: Sand Gilia (*Gilia tenuiflora ssp. arenaria*), Contra Costa Goldfields (*Lasthenia conjugens*), Yadon's Piperia (*Piperia yadonii*), Robust Spineflower (*Chorizanthe robusta var. robusta*), Monterey Spineflower (*Chorizanthe pungens var. pungens*), Seaside Bird's beak (*Cordylanthus rigidus var. littoralis*), Coast Wallflower (*Erysimum ammophilum*), Toro Manzanita *(Arctostaphylos montereyensis*), Sandmat Manzanita (*Arctostaphylos pumila*), Monterey Ceanothus (*Ceanothus rigidus*), Eastwood's Ericameria (*Ericameria fasciculate*), and Hooker's Manzanita (*Arctostaphylos hookeri*). The following animal species are also protected as HMP species: Smith's Blue Butterfly (*Euphilotes enoptes smithi*), Western Snowy Plover (*Charadrius nivosus spp. Nivosus*), California Tiger Salamander

(*Ambystoma californiense*), California Red-legged Frog (*Rana draytonii*), and Black Legless Lizard (*Anniella pulchra nigra*), Monterey Ornate Shrew (*Sorex ornatus salaries*) and California Linderiella (*Linderiella occidentalis*). The distribution of the HMP species across the former Fort Ord is shown in Appendix B.

Functionally, the 1997 HMP is facilitating closure, transfer, and subsequent reuse of the former Fort Ord under the Endangered Species Act (ESA) by ensuring that development related reuses for economic-recovery and educational-related reuses are accompanied by appropriate habitat mitigation. The mechanism for base-reuse compliance with the ESA is a Section 7 Consultation on the 1997 HMP between the Army and U.S. Fish and Wildlife Service that all land recipient agencies must adhere to in order to be transferred lands.

Specific Objective

- *Minimize impacts of public and pet uses to HMP plant and animal species that could jeopardize the Army's ESA compliance for base closure.*

C. Ensure Public Safety Relative to the Presence of Munitions and Explosives of Concern

Since its establishment in 1917, until the inactivation of the 7th Infantry Division in 1994, Fort Ord was primarily used for training and staging for the infantry. Many areas of the base had been used for ordnance training. In 1993, the Army conducted an archival investigation to identify areas where military munitions may have been used. Additional archive searches, follow-on interviews and visual inspections conducted since 1993 indicate that approximately 12,000 acres are known or suspected to contain munitions and explosives of concern (MEC). Types of MEC used at the former Fort Ord include artillery projectiles, rockets, hand grenades, practice land mines, pyrotechnics, bombs, demolition materials and other items. The Army follows MEC cleanup procedures under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) that is governed by the Environmental Protection Agency (EPA) in coordination with the state Department of Toxics and Substance Control (DTSC).

In 1996, the Army transferred to the BLM approximately 7,205 acres of the former Fort Ord that was considered at the time to be used almost exclusively as troop training and maneuver areas, and therefore, low risk of MEC exposure. The Army retained approximately 7,446 acres of what was known to be ranges where live fire was conducted and MEC risk was considered to be high. The inland range area (approximately 6,000 acres) was encircled with a barbed wire fence and the Army augmented that fence with concertina wire in several places in order to discourage public entry. Open public trails across the lands that were transferred to the BLM

were investigated by Army officials, and MEC risk was considered to be extremely low if visitors stayed on the designated trail systems.

Subsequent investigations of the Army have led to the recognition that additional MEC cleanup not only needs to occur over 7,446 acres that the Army retained, but also portions of the 7,205 acres that were transferred to the BLM. The Army described this MEC risk within the "Track 2 RI/FS for BLM Area B and MRS 16" that was released as a proposed plan on April 8, 2015. Within this plan, the Army, EPA and DTSC identified portions of the FONM that were currently open to the public, but needed additional MEC remediation. The region of most concern is located north of Eucalyptus Road where MEC is considered to be on the surface, or under the ground, beneath brush growing near trails.

In response to this MEC information, the BLM strengthened safety protocols for employees and the public in consultation with the Army. Off trail entry into certain regions by BLM employees for habitat management purposes was restricted. Special training was required for BLM employees for entry into certain areas, and Army safety escorts were required for entry into others. For the public, the BLM increased patrols and instituted restrictions to ensure that off-trail public use was less prevalent. The BLM imposed an interim dog leash restriction across the FONM under the emergency action authority of 43 CFR 8364.1 to help keep people and their pets on trails where MEC risk is extremely low. This emergency action ushered in a commitment by the BLM to prepare a long-term dog management plan as required under the 2007 RMP.

Specific Objectives

- *Minimize MEC-related risk to public safety on portions of the FONM that are currently open to the public, but need additional MEC remediation. The region of most concern is located north of Eucalyptus Road (i.e. "BLM Area B") where MEC is considered to be on the surface, or under the ground, beneath brush growing near trails.*

- *Minimize MEC-related risk to public safety within the fenced inland range areas in the short-term (i.e. 8-10 years) and following transfer to the BLM. Within this region and elsewhere, the MEC cleanup premise is that public uses will be restricted to a designated route network where MEC is removed from the surface and subsurface. Off this route network, MEC is likely to be present under the surface – and occasionally be exposed to the surface through the forces of erosion.*

D. Reduce Conflicts between Dogs and Livestock

There are approximately 2,500 acres of annual and perennial valley needlegrass (*Nassella pulchra*) grasslands. Most of this important habitat type is in the Toro Creek watershed near Highway 68 and the Pilarcitos Canyon watershed. Valley needlegrass (also known as purple needlegrass) is a bunchgrass that helps prevent soil erosion by establishing a large, fibrous root system which holds the soil in place. It was designated as the California state grass in 2004 and is a more desirable rangeland cover grass than introduced annual grasses such as Ripgut Brome (*Bromus diandrus*).

The BLM has used livestock grazing through cooperators to help reduce fuel loadings, reduce competition to native perennial bunch grasses from non-native vegetation, and control Coyote Brush intrusion into grasslands. Since 1996, the BLM has used sheep under a cooperative grazing program. Under the program, up to 2,700 sheep have been used from January through August. The length of the grazing season may change and is dependent upon a number of factors (i.e. rainfall and number of sheep), and sheepherders are onsite with herding dogs and guard dogs. Since 2014, the BLM has also utilized a goat herd on a trial basis to reduce Coyote Brush encroachment into areas where sheep grazing has not been effective. The goat grazing season has generally been from October through March.

Direct interactions between dogs and goats have been minimal because herders have typically placed temporary electric fences around grazing units that reduces livestock contact with dogs. The interactions between off-leash dogs and sheep, however, have been a source of concern since BLM authorized sheep grazing in 1996. According to sheep herders, incidents between off-leash dogs chasing, harassing or attacking sheep has limited their ability to graze near some of the roads at FONM. Before 2013, sheep herders estimated that around 2-3 sheep were killed or fatally wounded by off-leash dogs each year. Not all dog interactions result in fatal injury, other dog interactions result in livestock running away from dogs leading to weight loss which is an economic loss to the livestock owner. Since 2013, the BLM has posted signs in the grasslands asking visitors to leash their pets during the grazing season. This has reduced off-leash dog harassment from around 15 incidents each year to around 8 incidents each year, and no sheep have been killed by dogs since that time.

Specific Objective

- *Prevent off-leash dogs from chasing, harassing, or attacking livestock.*

E. Provide High Quality Recreation Opportunities

Many visitors who enjoy hiking/riding with their dogs off-leash value the opportunities provided at Fort Ord. The BLM is also aware that there are visitors at FONM that have had poor experiences with dogs, including serious injuries to themselves or their pet. Fortunately, serious injuries documented to be caused by dog bites are rare at FONM, however, staff observed that the number of off-leash complaints had been on the rise prior to the interim leash restriction. This does not necessarily mean that the rate of off-leash dog conflict was on the rise, but overall visitation had increased since becoming a national monument and more people were having interactions with off-leash pets.

In 2009, the BLM conducted a visitor satisfaction survey at FONM. The finding from the survey was that visitors sampled had a high overall quality of recreation experience at FONM: 60% indicating a very good experience, 37% had a good experience and 3% had an average experience.

In concert with that 2009 survey, the BLM asked 123 visitors (53% bicyclists, 42% hikers/joggers, and 5% equestrians) about their experiences with dogs on FONM and their preferences regarding leash restrictions. Sixty-eight percent (68%) of respondents reported never having a bad encounter with a dog at FONM. Twenty-six percent (26%) reported having a few bad encounters, but admitted that these encounters were rare. Five percent (5%) reported that they frequently had bad encounters with dogs; and one percent (1%) reported bad encounters every time.

Specific Objective

- *Improve visitor satisfaction and recreation experience by reducing potential for negative encounters with dogs.*

F. Accommodate Appropriate Opportunities to Recreate With Dogs

During the winter and spring of 2014, BETA volunteers sampled 891 visitors at the FONM during random patrols – this is just a small sample of the total number of visitors. Those visitors were accompanied by 170 dogs – the number on leash versus off leash was not part of that sample survey, but BLM park rangers estimate that about 50% of those pets were on leash all the time, or leashed when BLM personnel encountered them. If the BETA sample was representative of the visitor-use population of FONM, this would suggest that there is one dog for every 5.24 human visitors (i.e. hiker, biker, equestrian). Furthermore, because visitation was considered to be around 400,000 annual visitors in 2014, this would suggest that there were about 76,336 dog visits to the FONM in 2014 and possibly half of those dog visits were not leashed. For illustrative purposes only, if this visitation was spread evenly across the days of the week and

the months of the year (which it certainly is not) that would suggest that there was around 209 dog visits every day at FONM in 2014.

Many people who attended BLM's dog management planning workshops articulated that they enjoyed hiking or riding with their dog at FONM. Many also voiced their preference for off-leash dog opportunities and explained why it was important to them and their pet. Many people felt that their pet received more exercise when allowed to run off leash. Others cited that their dogs benefitted from the freedom, exploration and socialization opportunities that came with being leash free. Still others suggested that off-leash opportunities contributed to training benefits of their pet, general play and happiness benefits, or increased the safety of their pet or others. Regardless of their motivation, FONM became a destination for many off-leash dog enthusiasts, and specifically, those visitors that live in the Salinas, Toro Park and San Benancio areas.

Since 1996, the BLM had a rule in place that prohibited public use off the designated (i.e. signed open) roads and trails at FONM. Many dog enthusiasts did not think that the restriction applied to their pet. Prior to the interim leash rule, the BLM generally did not enforce that restriction unless the handler was off trail with the pet. As such, wetlands and ponds became popular pit stops for many hikers to take their dogs to during the summer to cool off, and it was commonplace to see dogs splashing through the ponds near Toro Park School or Anza Drive.

At trailhead parking areas, it wasn't uncommon to see pets running around vehicles and landscaping islands unattended prior to being signed with a leash requirement. The trailhead leash requirement signing precluded the monument-wide, interim leash restriction and enacts a BLM-wide leash requirement across the nation under 43 CFR 8365.2 that pertains to "developed recreation sites". That restriction (i.e. dogs must be leashed or physically restrained in all BLM managed developed recreation sites across the country) is nondiscretionary and not subject to modification under this dog management plan.

Nevertheless, the BLM recognizes that many people enjoyed having their pet off leash at FONM, and a majority of the people that attended the planning workshops were supportive of having at least some off-leash opportunities at FONM.

Specific Objective

- *Consider recreation use opportunities with dogs that contribute to training, exercise and general play benefits for visitors and their dogs.*

G. Provide Complimentary Dog Management Policies with Adjacent Jurisdictions Where Possible

The rulemaking process provides an opportunity for the BLM to consider the policies of other jurisdictional entities adjoining or within the FONM, and prescribe policies that are complimentary where possible. In relation to the FONM, most of the lands are within the unincorporated jurisdiction of Monterey County where Title 8 of the Monterey County Code applies. Other parts of the FONM within the fenced range area are within the limits of the City of Seaside where Chapter 6.04 and Chapter 9.08 are relevant. Furthermore, some of the land adjacent to FONM is under the jurisdiction of Monterey County Parks where Chapter 14.12 of the Monterey County Code Applies. Excerpts of each code and chapter are provided within Appendix C.

Monterey County Parks enforces a leash requirement, and proof of rabies inoculation and license on dogs within the County Park System. This is particularly relevant to roads and trails on the FONM that cross both jurisdictions. Lookout Ridge Road, Skyline Road, Pilarcitos Canyon Road, Trail 47, and Trail 48 all cross segments of land administered through the Monterey County Parks Department.

Most of the FONM is within the unincorporated jurisdiction of Monterey County where County codes do not allow dogs to run at-large (especially where livestock is grazed). Dogs under 4 months of age must be physically restrained or confined at all times, and female dogs in season (estrus) must be confined or restrained. The County also requires pets to be inoculated and licensed. Proof of licensing must be affixed to the dog collar or harness, or within a chip implanted in the animal.

Finally, portions of the city of Seaside spans into the FONM along the western edge. City codes also do not allow dogs to run at large. In the City, any dogs or other animals shall be deemed to be running at large within the meaning of the code unless such dog or other animal is led or restrained by a chain, strap, cord or leash attached to its collar or harness, and actually held by some person or made fast to some stationary object. Furthermore, dogs are prohibited in City parks; however, a provision is in the code for Pacchetti off-leash dog park.

Specific Objective

- *Consider the policies of other jurisdictional entities adjoining or within the FONM, and prescribe policies that are complimentary where possible.*

V. Rulemaking Process

The BLM is using the dog management planning process and the associated environmental review process under the National Environmental Policy Act (NEPA) of 1969 (42 U.S.C. §4321 et seq.) to choose a proposed dog management strategy for the entire FONM. The proposed plan disclosed within Chapter 2 (Dog Management Alternatives) will require a rulemaking (i.e. supplemental rules) under the authority of 43 CFR 8365.1-6 in order to implement and enforce. Once approved, the supplemental rules will replace the interim dog leash requirement that was enacted on April 8, 2015 at FONM under the authority of 43 CFR 8364.1.

The draft supplementary rules are shown in Appendix F and will be submitted to the Federal Register for publication once the plan is approved. The supplementary rules apply to the entire FONM which contains both Army and BLM administered lands. The BLM will apply those rules as they pertain to BLM administered public lands, or interests in lands in the FONM.

As disclosed above, the proposed plan and the supplemental rules in no way modify or eliminate existing rules pertaining to dog use under other federal titles, most notably 43 CFR 8365.2. Under the 43 CFR 8365.2 title, no person shall, unless otherwise authorize, bring an animal into such an area (i.e. a developed recreation site) unless the animal is on a leash not longer than 6 feet and secured to a fixed object, or under control of a person, or is otherwise physically restrained at all times. The plan, however, will identify and define the limits of what the BLM considers to be a "developed recreation site" where this title is applicable.

VI. Dog Management Issues and Impact Topics

The likely consequences of implementing the proposed dog management plan, or the alternatives to the proposed plan, are described within Chapter 4. Impact topics selected for analysis were identified through agency-wide policies implementing NEPA, internal scoping with BLM staff, and public involvement through scoping workshops, correspondence and discussions. Public scoping results are shown in detail within Appendix A.

CHAPTER 2

Dog Management Plan Alternatives

I. Introduction

This chapter describes current management and the various actions that could be implemented for future dog management at FONM. The National Environmental Policy Act of 1969 (NEPA) requires that federal agencies explore a range of reasonable alternatives and provide an analysis of what impacts the alternatives could have on the natural and human environment. Chapter 4 – Impacts and Environmental Consequences, of this Draft Dog Management Plan presents the results of the analysis. Table 2.1 at the end of this chapter provides a comparison of the recreation opportunities available to dog owners/handlers of each alternative.

The alternatives under consideration must include a "no action" alternative as prescribed by 40 CFR 1502.14. The no-action alternative in this draft plan is the continuation of the dog-use policy prior to enactment of the "interim" dog leash requirement across FONM. The four action alternatives presented in this chapter were developed from consideration of current laws, regulations, policies and sources of information as described in Appendix A – "Consultation and Coordination", as well as consideration of the selected planning criteria and objectives.

II. Dog Management Planning Units

In order to assist with alternative development, the FONM was split into four planning units with a mixture of unique resource issues. Those planning units are shown in Appendix D, Figure D.1 and are briefly described below. Additional details of the planning units are located within Chapter 3 – Affected Environment.

A. Fenced Inland Range

This fenced region is approximately 6,600 acres and is bound by Eucalyptus Road on north, Barloy Canyon Road on east, South Boundary Road on south, and the "Blue Line Road" on the west. The Army currently manages almost all of this planning unit except for the 12 acre BLM Work Center parcel. About ¼ of this unit is in the city limits of Seaside, ¾ is in unincorporated Monterey County. The city of Del Rey Oaks borders some of the unit boundary. The unit vegetation is predominately maritime chaparral with some grassy meadows and scattered oak groves. There are several vernal pools in the planning unit. There is no livestock grazing in this unit. The transportation system consists of 15' wide (or wider) administrative access roads and/or fuelbreak roads that are graveled, natural surfaced, or paved. Public use opportunities are currently limited to a few annual guided, hiking tours across the access roads with Army escorts. Dogs are not allowed on the tours. Military training was extensive in the unit with live-

fire across multiple ranges. Munitions exposure risk is high to extremely high off the designated administrative route network. The Army is actively performing a cleanup in this region where munitions will be removed from the surface and subsurface across approximately 10% of the area (including the roads), and the other 90% of the area will be surface swept only.

B. North of Eucalyptus Road

This region is approximately 2,000 acres and is bounded by Eucalyptus Road on the south, Parker Flats Road on the west, Watkins Gate Road on the north, and Barloy Canyon Road on the east. The BLM manages about ½ of this planning unit, and the Army currently manages the other half. This entire unit is in unincorporated Monterey County. The Monterey County Parks Department oversees land that borders some of the unit boundary near East Garrison. The unit vegetation is predominately maritime chaparral with some grassy meadows and scattered oak groves. There are many vernal pools in the planning unit. There is no livestock grazing in this unit. The transportation system consists of many 4' wide, single-track trail, and a few 15' wide (or wider) administrative access roads and/or fuelbreak roads that are graveled, natural surfaced, or paved. Public use is moderate and has a relatively high ratio of road bikers and/or mountain bikers who use the paved roads, or single track trails that are a distance from informal trailheads. Military training was both for maneuver and live-fire range training. Munitions exposure risk is moderate to high off the designated route network. The Army is actively performing a cleanup in some of the region (i.e. within BLM Area B) where munitions will be removed from the surface and subsurface across approximately 10% of the area (including the roads and trails and the other 90% of the area will be surface swept only.

C. North of Jack's Road

This region is approximately 2,100 acres and is bounded by Jack's Road on the south, Station One Road on the east, private property and Reservation Road on north, and Barloy Canyon Road on the west. The BLM manages this entire planning unit. This entire unit is in unincorporated Monterey County. The unit vegetation is diverse with some maritime chaparral, coastal scrub, grasslands, and scattered oak groves. There are only a few vernal pools in the planning unit. There is limited livestock grazing in this unit between Station One Road and Trail 72. The transportation system consists of many 4' wide, single-track trails, and a few 15' wide (or wider) administrative access roads and/or fuelbreak roads that are graveled, natural surfaced, or paved. Public use is high to very high and has a diverse mixture of hikers, joggers, bikers and equestrians. It is served by Creekside Terrace Trailhead. Military training was almost entirely for maneuver and minimal live-fire. Munitions exposure risk is low off the designated route network.

D. South of Jack's Road

This region is approximately 4,000 acres and is bound by Highway 68 and private property on the south, Barloy Canyon Road on west, Jack's Road on the north, and Toro Creek Road and private property on the east. The BLM manages all of this planning area. This entire unit is in unincorporated Monterey County. Monterey County Parks Department oversees some land that borders the unit boundary. The unit vegetation is primarily grasslands, with some coastal scrub, oak groves and scattered maritime chaparral. There are several vernal pools in the planning unit. There is extensive livestock grazing in this unit. The transportation system consists of some 4' wide, single-track trails, and a several 15' wide (or wider) administrative access roads and/or fuelbreak roads that are graveled, natural surfaced, or paved. Public use is moderate to high and has a diverse mixture of hikers, joggers, bikers and equestrians. It is served by Badger Hills Trailhead. Military training was almost entirely for maneuver and minimal live-fire. Munitions exposure risk is low to moderate off the designated route network.

III. Alternative Development Process

An interdisciplinary team of BLM resource specialists and rangers developed the range of alternatives. The BLM considered the dog management policies of other local agencies, and relevant research shown in Appendix C and Appendix E.

Public comment during the scoping workshops was considered with the alternative formulation process. All input was valuable, whether it was an individual verbal comment or comment letter, or groups of citizens that provided suggestions to the BLM. In order to adhere to the Federal Advisory Committee Act of 1972 (FACA), the BLM did not appoint a special interest group or special community groups to generate a recommendation. Instead, the BLM cast a wide net, asking for comment and participation at workshops. That public process is disclosed in Appendix A – Consultation and Coordination.

IV. Dog Management Direction Common to All Alternatives

Irrespective of which alternative is selected and implemented, the measures below are applicable to each alternative, including the no action alternative. Some of this direction has been in place from the BLM emergency closure rule of 1996 under the authority of 43 CFR 8364.1. Other direction clarifies developed recreation site rules nationwide under 43 CFR 8365.2. Still other guidance is from Monterey County ordinances that are applicable to most of the FONM.

A. General FONM Public Use Direction From 1996 Order

- Public use on FONM is restricted to day-use activities only. Day-use is defined as ½ hour before sunrise to ½ hour after sunset.
- Public use on FONM is restricted to non-motorized uses only. Motorized vehicles and equipment (including e-bikes) are not allowed on the FONM. Exceptions to the non-

motorized prohibition include properly licensed street-legal motor vehicles using the paved driveways to the Creekside Terrace Trailhead (i.e. Creekside Terrace Road) and Badger Hills Trailhead (i.e. Badger Hills Road).

- Public use on FONM is restricted to the road and trail network that is signed open for public use and shown on FONM trail maps, and the parking and public use facilities associated with developed recreation sites.
- Public use subject to the day-use, non-motorized, and designated route/facility rules above include both human uses and animal uses (i.e. dogs, cats, horses, and any other pet).

B. FONM Dog Use Direction From 43 CFR 8365.2 (Developed Recreation Sites)

- No person shall, unless otherwise authorized, bring an animal into such an area (i.e. a developed recreation site) unless the animal is on a leash not longer than 6 feet and secured to a fixed object, or under control of a person, or is otherwise physically restrained at all times.
- At FONM, the developed recreation sites include Badger Hills Trailhead, Creekside Terrace Trailhead, Work Center Developed Site, Lightfighter LZ (Day Use Area), Guidotti Bridge and Display Site, Watkins Gate Kiosk, Spirit of Volunteers Display Site, Anza National Historic Trail and Ohlone Display Site and any new developed recreation site constructed in the future.
- The boundaries of the aforementioned developed recreation sites where 43 CFR 8365.2 is applicable are shown in Appendix D, figures D.1 through D.9.

C. FONM Dog Use Direction From Monterey County Codes

- It is unlawful for the owner or person having custody of any dog, either willfully or through failure to exercise due care or control, to allow said dog to defecate and to allow the feces thereafter to remain on FONM. This includes bagged feces that are occasionally seen lying along monument trails - reference Monterey County ordinance, 8.36.030.
- All dogs under four months of age on FONM shall be kept under physical restraint or leash by the owner, keeper, or handler - reference Monterey County ordinance, 8.20.020.
- Dogs on FONM shall wear a license tag with or without a chip implant at all times. Licensed cats should wear a license tag or chip implant at all times. License tags must be secured from the Animal Control Officer or his or her designee. The tag shall be attached at all times to a collar, harness or other suitable device upon the dog for which the license tag was issued - reference Monterey County ordinance, 8.08.040.
- Dogs Running-At-Large Are Prohibited. Dogs are presumed to be running-at-large unless they are:

- Restrained by a chain, strap or cord attached to their collars or harness, of no more than six feet in length, actually held by some person capable of exercising physical restraint, or made fast to some stationary object, or confined within a cage or other dog tight enclosure such as an electric or electronic fence; or
- Accompanied by a person, the dog being sufficiently trained to be reliably responsive to the recall command and control of such person - reference Monterey County ordinance, 8.20.010.

V. Dog Management Direction Common to All Action Alternatives

Irrespective of which action alternative is selected and implemented, the measures below are applicable to each action alternative, but not the no-action alternative.

- Install additional trash dispensers to aid in the collection and disposal of pet feces.
- Require guard dogs used by livestock operators to protect flocks/herds from depredation to be leashed during the time that FONM is open for day-use, or enclosed within temporary fences.
- Develop and distribute a brochure that describes proper pet management on FONM and the affect that pets have on flora and fauna in protected habitat areas.
- Develop supplementary rules that prohibit dogs from being left unattended, and require owners/handlers to carry a leash with them for each dog on FONM under their care.
- Develop supplementary rules that prohibit dogs from entering any vernal pool or pond, or wandering within 20 feet of such and area unless on a route designated for public use.
- Develop supplementary rules that prescribe proper interactions between bike riders, hikers/joggers, and equestrians when passing from behind and from ahead. These supplemental rules would codify and clarify the commonly accepted "non-motorized user group, yield triangle". Specifically:

    - Bikers and hikers/joggers must yield the path to equestrians.
    - Bikers must yield the path to hikers/joggers and equestrians.
    - Yielding to another approaching user means that the yielding visitor has slowed or stopped their forward progress to a point where the yielding visitor can safely pass without the need for the other visitor to be injured, startled or surprised. For passing bicycles, the passing speed should be no faster than 10 mph on roads, and 5 mph on single-track trails.

VI. No Action Alternative

This alternative describes the dog management direction and policy prior to applying the interim dog-leash requirement across the FONM. This alternative also discloses where dog

management direction was unclear or consistent enforcement was not being applied for various reasons. Under this alternative, dogs would be prohibited on 31.8 miles of non-motorized road within the inland range, and dogs would be allowed off-leash on 44.1 miles of non-motorized, single-track trail and 45.0 miles of non-motorized road. Dogs would need to be leashed or physically restrained on 0.5 miles of developed recreation site driveway (i.e. Creekside Terrace Road and Badger Hills Driveway).

A. Fenced Inland Range Planning Unit

- Non-motorized public use is restricted to a few guided hiking tours conducted by Army personnel each year.
- The guided hiking tours are restricted to administrative roads and/or fuelbreak roads that have had surface and subsurface munitions removals.
- Dogs are prohibited from entry into this planning area and are not allowed on the guided hikes.
- Dogs are allowed at the Fort Ord Work Center developed recreation site and must be on leash as per 43 CFR 8365.2.

B. North of Eucalyptus Road Planning Unit, North of Jack's Road Planning Unit and South of Jack's Road Planning Unit

- Public use is restricted to day-use that is defined as ½ hour before sunrise to ½ hour after sunset.
- Public use is restricted to non-motorized uses only and hikers, bikers and equestrians are generally welcome on the authorized route network together.
- Public use is restricted to the authorized route network of trails and roads that are signed open for use, and shown on BLM trail maps.
- Dogs are not required to be leashed outside developed recreation sites as per 43 CFR 8365.2 , but are considered "public use" where the other provisions above apply:

    - In the past, the BLM generally did not restrict dogs from wandering off the designated route network unless the owner/handler was also off trail and wildlife or livestock was clearly being harassed.

VII. Dog Prohibition Alternative

Under this alternative, dogs would not be allowed into the Fenced Inland Range Planning Unit, North of Eucalyptus Road Planning Unit, North of Jack's Road Planning Unit and South of Jack's Road Planning Unit. Exceptions could be granted by written permission from a BLM authorized officer for leashed service dogs (see below) that accompany individuals with a disability, and working dogs that benefit mutual operations (i.e. livestock operator herding and/or guard dogs, search and rescue dogs conducting a missing person search, etc.). Exceptions would also

include the following developed recreation sites where dogs would be allowed on leash or other physical restraints as per 43 CFR 8365.2: Creekside Terrace Trailhead (Appendix D, Figure D.3), Badger Hills Trailhead (Appendix D, Figure D.4), and Work Center Staging Area (Appendix D, Figure D.6). Dogs would be prohibited on 77.3 miles of non-motorized road, and 44.1 miles on non-motorized, single-track trail on current and future BLM administered lands on FONM.

On September 15, 2010, the United States Department of Justice, Civil Rights Division, Disability Rights Section, issued "ADA 2010 Revised Requirements; Service Animals." It states that: "Service animals are defined as dogs that are individually trained to do work or perform tasks for people with disabilities. Examples of such work or tasks include guiding people who are blind, alerting people who are deaf, pulling a wheelchair, alerting and protecting a person who is having a seizure, reminding a person with mental illness to take prescribed medications, calming a person with Post Traumatic Stress Disorder (PTSD) during an anxiety attack, or performing other duties. Service animals are working animals, not pets. The work or task a dog has been trained to provide must be directly related to the person's disability. Dogs whose sole function is to provide comfort or emotional support do not qualify as service animals under the ADA."

As a prescription across all of the planning units in the FONM, this alternative does not meet the planning criteria and objective of accommodating appropriate opportunities to recreate with dogs (See Chapter 1). Nevertheless, the prescription is a valid consideration for individual planning units and is being included as a basis to evaluate the other action alternatives.

VIII. Dog Leash Requirement Alternative

Under this alternative, dogs would be prohibited within the Fenced Inland Range Planning Unit, North of Eucalyptus Road Planning Unit, North of Jack's Road Planning Unit and South of Jack's Road Planning Unit unless the animal was on a leash not longer than 6 feet and secured to a fixed object, or under control of a person, or was otherwise physically restrained at all times. This leash restriction would apply on 77.3 miles of non-motorized road, and 44.1 miles of non-motorized single track trail on current and future BLM administered lands on FONM. Exceptions could be granted by written permission from a BLM authorized officer for working dogs that benefit mutual operations (i.e. livestock operator herding and/or guard dogs, search and rescue dogs conducting a missing person search, etc.). Under adaptive management, the BLM would monitor the effectiveness of the dog management prescriptions in meeting the planning criteria and objectives identified within Chapter 1. If monitoring showed that the prescription was not leading to desired outcomes, the BLM could modify the prescription for each planning unit through a plan amendment, or development of a new plan prescription.

IX. Designated Off-Leash Opportunities Route Alternative

Under this alternative, owners/handlers would have the opportunity to have their dog(s) off-leash on select non-motorized roads under specific circumstances as described below. Of the 77.3 miles of non-motorized road, 13.5 miles would be available for off-leash opportunities subject to specific requirements. Dogs would be required to be leashed or physically restrained at all times on 44.1 miles of non-motorized, single track trail. Under adaptive management, the BLM would monitor the effectiveness of the dog management prescriptions in meeting the planning criteria and objectives identified within Chapter 1. If monitoring showed that the prescription was not leading to desired outcomes, the BLM could modify the prescription for each planning unit through a plan amendment, or development of a new plan prescription. The prescription for each unit is found below.

A. Fenced Inland Range Planning Unit

- Owners/handlers would have the opportunity to allow their dog(s) to be off-leash on a designated "off-leash-opportunity-route (OLOR)" subject to the following OLOR requirements:
    - Dogs would be required to remain on the designated OLOR route (off-route and/or off-trail would be prohibited) and within 50' of the owner/handler.
    - Dogs would be required to be leashed or physically restrained by an owner/handler on an OLOR when another person (with or without dogs) was within 100' of the owner/handler and/or their dog(s).
- When not on a designated OLOR, but on a route or developed recreation facility open to the public, dogs would be prohibited unless the animal was on a leash not longer than 6 feet and secured to a fixed object, or under control of a person, or was otherwise physically restrained at all times.
- Designated OLOR's would be clearly signed on the monument and shown on trail maps to distinguish them from other open routes.
- The BLM would require dogs to be leashed or physically restrained at all times (or prohibited altogether) temporarily or permanently from an OLOR should monitoring indicate that compliance with the OLOR requirements was not sufficient.
- The initial designated OLOR would be the following route segments that total 3.1 miles shown in Appendix D, Figure D.11:
    - Watkins Gate Road from BLM Work Center to intersection with Chinook Road.
    - Chinook Road to intersection of Broadway Avenue.
    - Broadway Avenue from Chinook Road intersection to BLM Work Center.

B. North of Eucalyptus Road Planning Unit

- Owners/handlers would have the opportunity to allow their dog(s) to be off-leash on a designated "off-leash-opportunity-route (OLOR)" subject to the following OLOR requirements:
    - Dogs would be required to remain on the designated OLOR route (off-route and/or off-trail would be prohibited) and within 50' of the owner/handler.
    - Dogs would be required to be leashed or physically restrained by an owner/handler on an OLOR when another person (with or without dogs) was within 100' of the owner/handler and/or their dog(s).
- When not on a designated OLOR, but on a route or developed recreation facility open to the public, dogs would be prohibited unless the animal was on a leash not longer than 6 feet and secured to a fixed object, or under control of a person, or was otherwise physically restrained at all times.
- Designated OLOR's would be clearly signed on the monument and shown on trail maps to distinguish them from other open routes.
- The BLM would require dogs to be leashed or physically restrained at all times (or prohibited altogether) temporarily or permanently from an OLOR should monitoring indicate that compliance with the OLOR requirements was not sufficient.
- The initial designated OLOR would be the following route segments that total 4.0 miles shown in Appendix D, Figure D.12:
    - Addington Road from Watkin's Gate Road intersection to East Machine Gun Flats Road.
    - East Machine Gun Flats Road from Addington Road intersection to Henneken's Ranch Road.
    - Henneken's Ranch Road from East Machine Gun Flats Road intersection to Watkin's Gate Road.
    - Watkin's Gate Road from Henneken's Ranch Road intersection to Addington Road.

C. North of Jack's Road Planning Unit

- Owners/handlers would have the opportunity to allow their dog(s) to be off-leash on a designated "off-leash-opportunity-route (OLOR)" subject to the following OLOR requirements:
    - Dogs would be required to remain on the designated OLOR route (off-route and/or off-trail would be prohibited) and within 50' of the owner/handler.
    - Dogs would be required to be leashed or physically restrained by an owner/handler on an OLOR when another person (with or without dogs) was within 100' of the owner/handler and/or their dog(s).
- When not on a designated OLOR, but on a route or developed recreation facility open to the public, dogs would be prohibited unless the animal was on a leash not longer than 6 feet and secured to a fixed object, or under control of a person, or was otherwise physically restrained at all times.
- Designated OLOR's would be clearly signed on the monument and shown on trail maps to distinguish them from other open routes.
- The BLM would require dogs to be leashed or physically restrained at all times (or prohibited altogether) temporarily or permanently from an OLOR should monitoring indicate that compliance with the OLOR requirements was not sufficient.
- The initial designated OLOR would be the following route segments that total 2.3 miles shown in Appendix D, Figure D.13:
    - Old Reservation Road from Sandy Ridge Road intersection to Engineer Canyon Road.
    - Engineer Canyon Road from Old Reservation Road intersection to intersection of Sandy Ridge Road.
    - Sandy Ridge Road from Engineer Canyon Road intersection to Old Reservation Road.

D. South of Jack's Road Planning Unit

- Owners/handlers would have the opportunity to allow their dog(s) to be off-leash on a seasonally designated "off-leash-opportunity-route (OLOR)" subject to the following OLOR requirements:

- Dogs would be required to remain on the designated OLOR route (off-route and/or off-trail would be prohibited) and within 50' of the owner/handler.
- Dogs would be required to be leashed or physically restrained by an owner/handler on an OLOR when another person (with or without dogs) was within 100' of the owner/handler and/or their dog(s).
- Dogs would be required to be leashed or physically restrained by an owner/handler on an OLOR when livestock were grazing nearby.

- When not on a designated OLOR, but on a route or developed recreation facility open to the public, dogs would be prohibited unless the animal was on a leash not longer than 6 feet and secured to a fixed object, or under control of a person, or was otherwise physically restrained at all times.
- Designated OLOR's would be clearly signed on the ground and shown on trail maps to distinguish them from other open routes.
- When livestock were grazing near the OLOR, the OLOR would be clearly signed on the ground and enforced as a leashed at all times route.
- The BLM would require dogs to be leashed at all times (or prohibited altogether) temporarily or permanently from an OLOR should monitoring indicate that compliance with the OLOR requirements was not sufficient.
- The initial designated OLOR would be the following route segments that total 4.1 miles shown in Appendix D, Figure D.14:
    - Toro Creek Road from Trail 46 intersection to Oilwell Road.
    - Oilwell Road from Toro Creek Road intersection to Skyline Road.
    - Skyline Road from Oilwell Road intersection to Guidotti Road.
    - Guidotti Road from Skyline Road intersection to Guidotti Bridge.

X. Preferred Action Alternative

The preferred action includes all of the direction common to all alternatives and action-alternatives (see section IV above) and the selected alternative prescription for each Planning Unit that is identified below. This alternative would require that dogs be leashed or physically restrained at all times on 44.1 miles of non-motorized, single-track trail and 39.1 miles of non-motorized road. Dogs would be prohibited from 31.8 miles of non-motorized road within the fenced range area, and owners/handlers would have the opportunity to have their dog(s) off-

leash on 6.4 miles of non-motorized road. Under adaptive management, the BLM would monitor the effectiveness of the dog management prescriptions in meeting the planning criteria and objectives identified within Chapter 1. If monitoring showed that the prescription was not leading to desired outcomes, the BLM could modify the prescription for each planning unit through a plan amendment, or development of a new plan prescription. The prescription for each unit is found below.

A. Fenced Inland Range Planning Unit

The preferred alternative prescription for this Planning Unit is the ***Dog Prohibition Alternative***. Under this prescription, dogs would be prohibited in this Planning Unit. Exceptions could be granted by written permission from a BLM authorized officer for leashed service dogs (see below) that accompany individuals with a disability, and working dogs that benefit mutual operations (i.e. search and rescue dogs conducting a missing person search, etc.). Exceptions would also include the Work Center Staging Area (Appendix D, Figure D.6) where dogs would be allowed on leash or other physical restraint as per 43 CFR 8365.2.

On September 15, 2010, the United States Department of Justice, Civil Rights Division, Disability Rights Section, issued "ADA 2010 Revised Requirements; Service Animals." It states that: "Service animals are defined as dogs that are individually trained to do work or perform tasks for people with disabilities. Examples of such work or tasks include guiding people who are blind, alerting people who are deaf, pulling a wheelchair, alerting and protecting a person who is having a seizure, reminding a person with mental illness to take prescribed medications, calming a person with Post Traumatic Stress Disorder (PTSD) during an anxiety attack, or performing other duties. Service animals are working animals, not pets. The work or task a dog has been trained to provide must be directly related to the person's disability. Dogs whose sole function is to provide comfort or emotional support do not qualify as service animals under the ADA."

B. North of Eucalyptus Road Planning Unit

The preferred alternative prescription for this Planning Unit is the ***Dog Leash Requirement Alternative***. Under this alternative prescription, dogs would be prohibited within the North of Eucalyptus Road Planning Unit unless the animal was on a leash not longer than 6 feet and secured to a fixed object, or under control of a person, or was otherwise physically restrained at all times. Exceptions could be granted by written permission from a BLM authorized officer for working dogs that benefit mutual operations (i.e. livestock operators herding and/or guard dogs, search and rescue dogs conducting a missing person search, etc.).

C. North of Jack's Road Planning Unit

The preferred alternative prescription for this Planning Unit is the ***Designated Off-Leash Opportunities Route Alternative***. Under this alternative prescription:

- Owners/handlers would have the opportunity to allow their dog(s) to be off-leash on a designated "off-leash-opportunity-route (OLOR)" subject to the following OLOR requirements:
    - Dogs would be required to remain on the designated OLOR route (off-route and/or off-trail would be prohibited) and within 50' of the owner/handler.
    - Dogs would be required to be leashed or physically restrained by an owner/handler on an OLOR when another person (with or without dogs) was within 100' of the owner/handler and/or their dog(s).
    - Dogs would be required to be leashed or physically restrained by an owner/handler on an OLOR when livestock or wildlife was within 100' of the owner/handler and/or their dog(s).
- When not on a designated OLOR, but on a route or developed recreation facility open to the public, dogs would be prohibited unless the animal was on a leash not longer than 6 feet and secured to a fixed object, or under control of a person, or was otherwise physically restrained at all times.
- Designated OLOR's would be clearly signed on the ground and shown on trail maps to distinguish them from other open routes.
- The BLM would require dogs to be leashed at all times (or prohibited altogether) temporarily or permanently from an OLOR should monitoring indicate that compliance with the OLOR requirements was not sufficient.
- The initial designated OLOR would be the following route segments that total 2.3 miles shown in Appendix D, Figure D.13:
    - Old Reservation Road from Sandy Ridge Road intersection to Engineer Canyon Road.
    - Engineer Canyon Road from Old Reservation Road intersection to intersection of Sandy Ridge Road.
    - Sandy Ridge Road from Engineer Canyon Road intersection to Old Reservation Road.

D. South of Jack's Road Planning Unit

The preferred alternative prescription for this Planning Unit is the ***Designated Off-Leash Opportunities Route Alternative***. Under this alternative prescription:

- Owners/handlers would have the opportunity to allow their dog(s) to be off-leash on a seasonally designated "off-leash-opportunity-route (OLOR)" subject to the following OLOR requirements:
    - Dogs would be required to remain on the designated OLOR route (off-route and/or off-trail would be prohibited) and within 50' of the owner/handler.
    - Dogs would be required to be leashed or physically restrained by an owner/handler on an OLOR when another person (with or without dogs) was within 100' of the owner/handler and/or their dog(s).
    - Dogs would be required to be leashed or physically restrained by an owner/handler on an OLOR when livestock were grazing nearby.
- When not on a designated OLOR, but on a route or developed recreation facility open to the public, dogs would be prohibited unless the animal was on a leash not longer than 6 feet and secured to a fixed object, or under control of a person or was otherwise physically restrained at all times.
- Designated OLOR's would be clearly signed on the ground and shown on trail maps to distinguish them from other open routes.
- When livestock were grazing near the OLOR, the OLOR would be clearly signed on the monument and enforced as a dog leash requirement route.
- The BLM would require dogs to be leashed at all times (or prohibited altogether) temporarily or permanently from an OLOR should monitoring indicate that compliance with the OLOR requirements was not sufficient.
- The initial designated OLOR would be the following route segments that total 4.1 miles shown in Appendix D, Figure D.14:
    - Toro Creek Road from Trail 46 intersection to Oilwell Road.
    - Oilwell Road from Toro Creek Road intersection to Skyline Road.
    - Skyline Road from Oilwell Road intersection to Guidotti Road.
    - Guidotti Road from Skyline Road intersection to Guidotti Bridge.

XI. Alternatives and Options Considered But Not Fully Analyzed

A. Designate and Develop Off-Leash Play Areas (i.e. Dog Parks)

Some citizens suggested that the BLM explore designating and/or developing a small to medium sized area where dogs could be allowed off-trail and off-leash. Some who made this recommendation thought that the area should be near Toro Park Estates not too far from the Badger Hills Trailhead and/or Guidotti Bridge.

Although this suggestion has some merit, the BLM chose to evaluate options for dog use that did not partition out parts of the landscape and/or route network for exclusive uses for one user group over another. The available route system on FONM is available for hikers/joggers, bicyclists and equestrians, and one of the goals of the dog management planning effort is to minimize user conflict on this route network through various management actions while minimizing exclusive uses of the route network. Consideration of the development of an exclusive facility (such as a dog park) would be more appropriately evaluated independently as a stand-alone proposal.

B. Designate a Time of Day Dogs Can be Off-Leash

Several citizens who lived nearby to the monument suggested that allowing dog's off-leash during certain times of the day was a viable option to reduce conflict between users. Many thought that visitation by others during the time of day they normally hiked with their pet off-leash was minimal, and conflict was easy to manage.

The BLM agrees that there are certainly times of the day when visitation is lower than others. Options for allowing dogs off leash are considered within this document, including prescriptions when and where dogs would need to be leashed in order to reduce impacts. Impacts to wildlife, vegetation, munitions hazards and livestock are generally independent of the time of day, so the BLM did not focus on that variable as a controlling factor in developing off-leash dog use opportunities.

C. Designate a Day of Week Dogs Can be Off-Leash

Some citizens thought that weekend use was more crowded on the monument than weekdays, and suggested that dogs should be leashed during the weekends and allowed off-leash during the weekdays to minimize conflicts between users.

The BLM agrees that there are certainly days of the week when visitation is lower than others. Options for allowing dogs off leash are considered within this plan, including prescriptions when and where dogs would need to be leashed in order to reduce impacts. Impacts to wildlife, vegetation, munitions hazards and livestock are generally independent of the day of week, so the BLM did not focus on that variable as a controlling factor in developing off-leash dog use opportunities.

D. Designate Seasons of the Year that Dogs Can be Off-Leash

Some citizens thought that certain seasons of the year were more critical for controlling dogs than other seasons. Sheep and goats normally graze on the monument in the late fall to spring and that dogs should be leashed during that time of the year. Others thought that if wildlife was more sensitive to dog harassment during certain seasons, then dogs should be on-leash during those times, but allowed off-leash during the other seasons.

The BLM did not develop a stand-alone alternative that used this variable as a controlling prescription, but the BLM did consider this variable in two alternatives: the "designated off-leash opportunity route" alternative, and the "preferred action" alternative. In both of those alternatives, a designated route would have seasonal opportunities (i.e. outside the grazing season) to have a dog off leash.

E. Require a Training Program for Dogs to be Off-Leash

Some citizens thought that off-leash dogs were only a problem with a handful of owners/handlers and that visitors should be authorized to have their dog off-leash if they attended a pet handler competency training program. One program that was suggested is used by the City of Boulder Colorado. Under that program, people are allowed to have dog(s) off-leash in select park areas after they have completed a Voice and Site Training Program and registered their animals that are required to display a special tag. There is a fee associated with the training and registration.

The BLM agrees that dog handlers and owners that were properly educated could have a better understanding of the impact that their pet would have on other users of the FONM and natural resources. As such, this could translate into lower conflicts between visitors and lower impacts to other resources. At this time, the BLM considers a mandatory program like this to be too burdensome and bureaucratic to implement as a requirement to have a dog off-leash. Under all action alternatives, the BLM does propose to improve the distribution of educational materials on FONM that would hopefully lead to better informed visitors with dogs, and hopes that visitors will review that information voluntarily.

XII. Comparison of Alternatives

Table 2.1 Miles of Route With Various Dog Restrictions By Alternative

Range of Alternatives	No Action Alternative	Dog Prohibition Alternative	Dog Leash Requirement Alternative	Designated Off-Leash Opportunities Route Alternative	Preferred Action Alternative
Miles of Road Dogs Prohibited	31.8 miles	77.3 miles	0.0 miles	0.0 miles	31.8 miles
Miles of Trail Dogs Prohibited	0.0 miles[3]	44.1 miles	0.0 miles	0.0 miles	0.0 miles
Miles of Road Dogs Allowed Off-Leash	45.0 miles	0.0 miles	0.0 miles	13.5 miles[2]	6.4 miles[2]
Miles of Trail Dogs Allowed Off-Leash	44.1 miles	0.0 miles	0.0 miles	0.0 miles	0.0 miles
Miles of Road Dogs Required to be On Leash	0.5 miles[1]	0.0 miles	77.3 miles	63.8 miles	39.1 miles
Miles of Trail Dogs Required to be On Leash	0.0 miles	0.0 miles	44.1 miles	44.1 miles	44.1 miles
TOTAL ROUTE MILEAGE	121.4 miles	121.4 miles	121.4 miles	121.4 miles	121.4 miles

Footnotes

1. Dogs are required to be leashed or physically restrained at developed recreation facilities and associated roads (Creekside Terrace Road leading to trailhead, and Badger Hills Driveway leading to trailhead).

2. Designated off-leash opportunity route (OLOR) requires that dogs are leashed when within 100' of people that are not part of the owner/handlers party. OLOR's may also be dog leash-required routes when livestock is grazing.

3. There are no single-track trails within the Fenced Inland Range Planning Unit.

XIII. Rationale for the Preferable Alternative

The preferred alternative is the planning area summation of the selected alternative prescription for each planning unit. The preferred alternative addresses the planning objectives and goals that were described within Chapter 1 and are listed below:

- *Protect historic and cultural resources, and interpretive facilities developed to foster the appreciation and understanding of such resources, from damage or destruction that can occur from public and/or pet use.*
- *Minimize public and/or pet intrusion into sensitive animal and plant habitats – especially that of BLM special status species.*

- *Minimize public use conflicts on the Juan Bautista de Anza National Historic Trail that stretches from Creekside Terrace Trailhead to Badger Hills Trailhead over Trail 1, Station One Road, Oilwell Road, and Toro Creek Road.*

- *Maximize the opportunities for non-motorized recreation visitors to have access to a high quality route network with minimal segregations of user groups.*

- *Minimize impacts of public and pet uses to HMP plant and animal species that could jeopardize the Army's ESA compliance for base closure.*

- *Minimize MEC-related risk to public safety on portions of the FONM that are currently open to the public, but need additional MEC remediation. The region of most concern is located north of Eucalyptus Road (i.e. "BLM Area B") where MEC is considered to be on the surface, or under the ground, beneath brush growing near trails.*

- *Minimize MEC-related risk to public safety within the fenced inland range areas in the short-term (i.e. 8-10 years) and following transfer to the BLM. Within this region and elsewhere, the MEC cleanup premise is that public uses will be restricted to a designated route network where MEC is removed from the surface and subsurface. Off this route network, MEC is likely to be present under the surface – and occasionally be exposed to the surface through the forces of erosion.*

- *Prevent off-leash dogs from chasing, harassing, or attacking livestock.*

- *Improve visitor satisfaction and recreation experience by reducing potential for negative encounters with dogs.*

- *Consider recreation use opportunities with dogs that contribute to training, exercise and general play benefits for visitors and their dogs.*

- *Consider the policies of other jurisdictional entities adjoining or within the FONM, and prescribe policies that are complimentary where possible.*

A. Rationale for Dog Prohibition Alternative Prescription for the Fenced Inland Range Planning Unit

Public use options within this planning unit are largely influenced by munitions and explosives of concern (MEC), and rare plant and animal habitats (i.e. maritime chaparral and vernal pool habitats). Options are also influenced by local dog ordinances applicable within the City of Seaside. Currently, public use is restricted to guided tours into this planning unit over a few roads, and dogs are prohibited (excluding service animals).

When the Army transfers around 6,600 acres of Army land in this planning unit to the BLM in 5 to 10 years, MEC will continue to limit public use options. Dog entry into MEC areas located off the route network is a great concern for the BLM. Dogs can dig into the ground and become sources of MEC detonation, or can lure the owner/handler into areas where they can come into contact with MEC.

The BLM considered the leash requirement prescription for this region, but did not feel that it was protective of human health and safety because leash compliance has not been 100% in other areas at FONM where the interim leash restriction has been in place since April 2015. About 38% of the dogs observed at FONM have been off-leash during the interim leash restriction, and 7% of the dogs have been at least 25' away from their owner handler. Having that many dogs (and their handlers) venture into MEC sites puts the public at an unnecessary risk within this planning unit.

Furthermore, this planning unit contains some of the most sensitive biological resources at FONM and is the linchpin of the habitat reserve system under the Habitat Management Plan (HMP) and pending Habitat Conservation Plan (HCP) that is mitigating for base reuse development elsewhere at the former Fort Ord. The planning unit contains numerous vernal pools that support California tiger salamanders during the winter, and egg masses can be damaged or destroyed by pet entry. Similarly, rare shrubs and herbs associated with maritime chaparral habitat can be damaged or destroyed by digging and defecation of pets. While dog entry into these protected areas could be controlled by an effective leash program, the BLM is not confident that an appropriate level of compliance would ever be achieved based upon compliance monitoring of the interim dog leash restriction elsewhere on FONM.

Finally, a sizable portion of this planning unit is within the City of Seaside. Although the FONM is not a City operated park area, City of Seaside Code 9.08.060 prohibits dogs from entering City park areas. If the City of Seaside established a park area immediately adjacent to the FONM, then the dog prohibition alternative prescription would be the most complimentary to the adjacent City jurisdiction.

B. Rationale for Dog Leash Requirement Prescription for the North of Eucalyptus Road Planning Unit

Public use options within this planning unit are largely influenced by MEC, rare plant and animal habitats (i.e. maritime chaparral and vernal pool habitats), a relatively high ratio of road bike and mountain bike riding visitation, occasional vehicle use on the paved roads, and dog ordinances of the adjacent Monterey County Parks Department.

Military training within this planning unit included live fire ranges and the Army still has a considerable amount of cleanup to perform. The type of MEC known and/or suspected in this

unit is similar to the fenced inland range; however, the densities of the MEC are lower than that fenced unit. Like the inland range planning unit, MEC will remain under the surface just off the network of roads and trails available for public use following the munitions response. It will be important to keep pets and the public out of these MEC sites. Although prior to April 2015 dogs were allowed off-leash in this region without known MEC-related accidents, as a management prescription it is not considered protective to allow dogs and humans to occasionally wander off trails into these sites.

This planning unit also contains some of the most sensitive of biological resources at FONM and is part of the habitat reserve system under the HMP and pending HCP that is mitigating for base reuse at the former Fort Ord. The planning unit contains numerous vernal pools that support California Tiger Salamanders during the winter, and egg masses can be damaged or destroyed by pet entry. Similarly, rare shrubs and herbs associated with maritime chaparral habitat can be damaged and destroyed by digging and defecation of pets. Dog entry into some of these protective habitats will certainly occur, even with a leash requirement, but this limited unauthorized use does not warrant a complete dog prohibition prescription in this unit.

This planning unit has a high proportion of bicyclists that use the paved roads, or the numerous single-track trails that wind through oak woodlands and maritime chaparral. Coupled with motorized vehicles using the paved roads to access the Monument Work Center, the Military Operations Urban Terrain (MOUT) facility, and the Laguna Seca Raceway, there is an important need to keep dogs near their owners for safety purposes and conflict minimization. The dog leash requirement will help minimize conflicts with other visitors and authorized vehicles in this planning unit.

Finally, this planning unit is adjacent to undeveloped property that is under the jurisdiction of the Monterey County Parks Department (MCPD) near the former Travel Camp. The MCPD code under Chapter 14.12.110 requires that dogs be physically restrained at all times or on a leash not to exceed 7 feet in length. Retaining a leash requirement on the adjacent FONM land is complimentary with the MCPD code.

C. Rationale for Designated Off-Leash Opportunities Route Prescription for the North of Jack's Road Planning Unit

Public use options within this planning unit are strongly influenced by high-levels of visitation by hikers and mountain bikers, prior conflict between visitors with dogs that were off-leash and others, rare plant and animal habitats (i.e. maritime chaparral and vernal pools), and occasional livestock grazing in a few areas of the planning unit.

Due to fewer concerns with MEC safety in this planning unit and fewer vernal pools, there are more options to allow appropriate opportunities for people to recreate with their dogs and

offer some enhanced exercise options that are afforded handlers with their pet off-leash. Nevertheless; it is still important for people and pets to remain on the designated route system so that habitat impacts are minimized and wildlife is not bothered or pursued by off-leash animals. In that regard, routes considered for off-leash opportunities were limited to non-motorized, fuelbreak roads that were wider than single-track trails and had a better line of sight.

Single-track trails are normally the location that conflict with pets had been highest based upon previous complaints over the years. This is most evident on trails nearer to the Creekside Terrace Trailhead (i.e. trail 32, trail 30 and trail 1) where there is high public use. Because the single-track trails do not have the best visibility due to their winding and twisting nature, an unsuspecting hiker, biker, dog walker or equestrian can be easily surprised and/or startled by an off-leash dog without the ability for the pet to be immediately restrained by the owner and handler.

The designation of a loop route that utilizes Engineer Canyon Road, Sandy Ridge Road and a short segment of Old Reservation Road provides some opportunity for dog walkers to let their dog(s) off-leash. These road segments do not have vernal pools nearby and provide a reasonably close location for dog walkers to access via the Creekside Terrace Trailhead. Although there is considerable public use over these road segments, most of the road segments have good line of sight excluding the ¼ mile segment of Sandy Ridge Road near the intersection with Old Reservation Road that has some blind spots.

On the proposed off-leash opportunity routes, it is important for owners/handlers to leash their dog(s) when other visitors (outside their party) approach and the proposed rulemaking that would require that is appropriate. That should reduce interactions (as infrequent as they are already) between visitors and pets that have resulted in bites. Furthermore, there are many people that recreate on FONM that are fearful of off-leash dogs or have had bad experiences before. It is unreasonable for people with pet fears to be required to recreate elsewhere when it is a simple thing for a visitor with a dog to hold or leash their dog when they are within 100 feet of another visitor.

Over the years, the BLM at FONM has urged visitors to voluntarily comply with the ethic of "leash your pet around others" through interpretive brochures and signage. Being a voluntary ethic as opposed to a rule, it was not enforceable and did not lead to a satisfactory level of voluntary compliance. In many circumstances, BLM fielded complaints from visitors who were jumped on by dogs or otherwise annoyed, and a few of the offending parties occasionally told those visitors that they needed to go to another park because FONM was an off-leash park.

Furthermore, many dog walkers on FONM were already using a leash when walking their pet. When confronted by an off-leash dog, some of the leashed dogs behaved as if threatened by such interaction and conflicts between leashed and unleashed pets were fairly common prior to the interim leash restriction. This conflict can reduce user satisfaction to all parties involved.

Finally, the BLM uses sheep and/or goats over a small portion of this planning unit. Prior to instituting the interim leash requirement in April of 2015 it was not unusual for dogs to harass and/or kill livestock authorized to be on the FONM to treat vegetation and fuels. The continuance of the leash restriction over most of this planning effort will continue to reduce the risk of off-leash dogs interfering with grazing operations.

D. Rationale for Designated Off-Leash Opportunities Route Prescription for the South of Jack's Road Planning Unit

Public use options within this planning unit are strongly influenced by high-levels of visitation by hikers and mountain bikers, prior conflict between visitors with dogs that were off-leash and others, occasional livestock grazing most areas of the planning unit, adjacent dog policies of local government, and rare plant and animal habitats (i.e. maritime chaparral and vernal pools).

Due to fewer concerns with MEC safety in this planning unit, there are more options to allow appropriate opportunities for people to recreate with their dogs and offer some enhanced exercise options that are afforded handlers with their pet off-leash. Nevertheless; it is still important for people and pets to remain on the designated route system so that habitat impacts are minimized, and livestock and wildlife is not bothered or pursued by off-leash animals. In that regard, routes considered for off-leash opportunities were limited to non-motorized, fuelbreak roads that were wider than single-track trails and had a better line of sight.

Toro Creek Road behind Toro Park Estates was a route that several dog walkers had an interest in being designated for off-leash opportunities. This road connects Badger Hills Trailhead with Oilwell Road and there are a few County administered greenbelts that intersect with this road. Off-leash dog conflict in the Toro Park neighborhood is source of concern in the residential area; as such, the County has required that dogs be leashed in the greenbelts and paths that cross through and encircle the residential area. Toro Creek Road is not different than the County managed paths that encircle the residential areas so the leash requirement designation for that route is consistent with adjoining uses and appropriate because it minimizes conflict on a high use trail.

Elsewhere in the planning unit, there are opportunities to provide some opportunities for pet owners to have their dogs off-leash. The designation of an off-leash opportunity loop route that utilizes Guidotti Road, a segment of Skyline Road and a segment of Oilwell Road provides

some opportunity for dog walkers to let their dog(s) off-leash. These road segments do not have vernal pools immediately nearby and provide a reasonably close location for dog walkers to access via the Badger Hills Trailhead and Toro Park Estates neighborhood. Although there is considerable public use over these road segments, most of the road segments have good line of sight.

On the proposed off-leash opportunity routes, it is important for owners/handlers to leash their dog(s) when other visitors (outside their party) approach and the proposed rulemaking that would require that is appropriate. That should reduce interactions (as infrequent as they are already) between visitors and pets that have resulted in bites. Furthermore, there are many people that recreate on FONM that are fearful of off-leash dogs or have had bad experiences before. It is unreasonable for people with pet fears to be required to recreate elsewhere when it is a simple thing for a visitor with a dog to hold or leash their dog when they are within 100 feet of another visitor.

Over the years, the BLM at FONM has urged visitors to voluntarily comply with the ethic of "leash your pet around others" through interpretive brochures and signage. Being a voluntary ethic as opposed to a rule, it was not enforceable and did not lead to a satisfactory level of voluntary compliance. In many circumstances, BLM fielded complaints from visitors who were jumped on by dogs or otherwise annoyed, and a few of the offending parties occasionally told those visitors that they needed to go to another park because FONM was an off-leash park.

Furthermore, many dog walkers on FONM were already using a leash when walking their pet. When confronted by an off-leash dog, some of the leashed dogs behaved as if threatened by the restriction and conflicts between leashed and unleashed pets were fairly common prior to the interim leash restriction. This conflict can reduce user satisfaction to all parties involved.

Finally, the BLM uses sheep and/or goats extensively across this planning unit and there is great interactions with the public and livestock during the times of the year. Prior to instituting the interim leash requirement in April of 2015, it was not unusual for dogs to harass and/or kill livestock authorized to be on the FONM to treat vegetation and fuels. It is appropriate to require dogs to be leashed when the sheep and goats are nearby (even on a designated off-leash opportunity route) to protect livestock.

E. Rationale for Guidance Common to All Alternatives

Under all action alternatives, the BLM proposes to codify existing Monterey County dog codes into supplementary rules. It is appropriate to codify these existing rules that so BLM law enforcement rangers can assist local law enforcement officers with the provisions of the local statutes. The statutes are consistent with the objectives of the BLM for managing the FONM and are already enforceable by the County Sheriff's Department.

Under all action alternatives, the BLM proposes to codify as a supplementary rule the proper yielding interactions between hikers, bikers and equestrians. Public use at FONM has increased and will continue to increase and rules of conduct should not be just limited to visitors with dogs. It is appropriate to require bikers to slow (or stop) when passing hikers and equestrians on the trails, especially the single-track trails where speeding bicyclists have on occasion hit or startled another visitor. The BLM has posted the FONM with trail courtesy triangles (i.e. yield manner signs) for years and this has led to some improved trail etiquette, but compliance was voluntary and conflict has been on the rise.

Requiring proper yielding procedures as a supplementary rule is not necessarily a new restriction because BLM rangers have always had the ability to enforce a statute that prohibits creating a hazard or nuisance via 43 CFR 8365.1-4. A speeding bicyclist that runs a hiker off a trail or collides with someone or a group of joggers that carelessly spook an equestrian by failing to exercise reasonable care in passing already can already be cited as creating a hazard if the behavior was egregious. The proposed supplementary rule codifies these manners into a rule.

CHAPTER 3

Affected Environment

I. Introduction

This "Affected Environment" chapter describes the resources of Fort Ord National Monument (FONM or monument) that could influence or be affected as a result of implementation of any of the dog management alternatives. The resource descriptions provided in this chapter help provide a basis off which to compare the potential effects of the management actions considered in this Dog Management Plan. The resource topics presented in this chapter and the organization of the topics correspond to the resource impact discussions contained in the "Environmental Consequences" chapter. The general project setting has been included to provide the background necessary to understanding the monument resources and environment. The following resource topics are included: recreation resources, munitions and explosives hazards, vegetation (including special status species), wildlife (including special-status species), cultural and historical resources, range management and livestock operations, and regional recreation and tourism setting.

II. General Project Area Setting

The 14,650 acre FONM is located on the former Fort Ord. Fort Ord is a former Army installation located along the Pacific Ocean in the northern part of the County of Monterey in central California. The former Fort Ord occupied approximately 28,000 acres adjacent to Monterey Bay, a national marine sanctuary. Approximately 72% of the former base lies within unincorporated portions of the County of Monterey, with about 15% within the city limits of the City of Seaside, about 11% within the city limits of the City of Marina, about 1% within the City of Del Rey Oaks, and less than 1% within the City of Monterey. The city of Sand City shares a portion of its boundaries with the former Fort Ord, and Salinas, Pacific Grove and Carmel are all within 5 miles of the former installation.

The former Fort Ord has a generally mild climate because of the Pacific Ocean's effect on the coastal area. Temperatures near the coast are uniform throughout the year, with an average annual temperature of 55°F. Precipitation amounts vary greatly as a result of the maritime influence and terrain. The average annual precipitation is 14.2 inches and is concentrated from November through April. The maritime influence also results in foggy weather during the summer.

The topography of the former Fort Ord is dome-like; the center of the installation within the FONM has the greatest elevation, while the boundaries are low-lying areas. The most notable

topographical features are the coastal dunes and the steep slopes in the eastern portion of the installation, both of which have high erosion potential.

As disclosed within Chapter 2 – Dog Management Plan Alternatives, the planning area was broken down into four planning units. The planning units are shown in more detail within Appendix D – Figure D.1. Additional details of the planning area/planning units follow.

III. Recreational Resources

The FONM is open for non-motorized, day-use activities and has become a popular recreation destination for local residents and visitors alike. In 2011, BLM estimated that visitation to the FONM was 87,361; in 2012 (the national monument was designated April of that year) visitation was estimated at 167,091. In 2013, visitation measured at sites where BLM maintains beam counters (Creekside Terrace Trailhead, Badger Hills Trailhead, Jerry Smith Corridor and Portola Greenbelt) tabulated 318,288 visitors. In 2014 those same counters tabulated 357,619 visitors; and in 2015 those counters tabulated 288,316 visitors. Counters are not installed at intersection of 8th Avenue and Gigling Road, or Laguna Seca portals to FONM which combined are thought to contribute at least 100,000 annual visitors to the FONM.

Beam counter data suggests that 2015 was a relatively low year of recreation visitation, and the lowest full year since becoming a National Monument. The 288,316 visitors that were counted in 2015 are 19% lower than 2014, and 9% lower than 2013. This reduction may be attributed (at least partially) to the interim dog leash rule at FONM that was implemented April 8, 2015. Between January through March of 2015 (prior to the leash rule), counts were 6% higher than the same period in 2014.

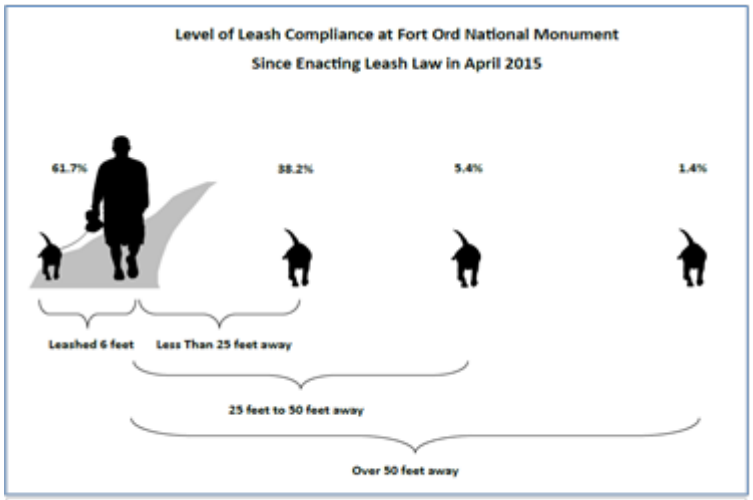


Figure 3.1 - Four month compliance level with interim leash law.

Compliance with the interim leash rule has been moderate. From July 15th to November 25th, BLM Park Rangers while on patrol tallied the number of dogs they saw during their shifts. Park Rangers saw 829 dogs, of which 512 were on leash and 317 were off leash. This is a level of compliance of 61.7%. Of the dogs that were off-leash, 31.3% were within 25' of their handler, 5.4% were within 25'-50' of their handler, and 1.4% were over 50' away from their handler. Most of the dog handlers carried leashes (97.8%), but some did not carry leashes for their pet (2.2%). See Figure 3.1.

Visitor surveys performed at FONM between 2010 and 2013 by the Bicycle Equestrian Assistance (BETA) group illustrate that the ratio of visitors has taken a marked increase in the number of hikers/joggers versus bicyclists and equestrians. In 2013, a survey sample of 1,117 visitors to the FONM indicated that 60% were hikers, 37% were bikers and 3% equestrians. This is a change from a survey in 2010 that sampled 727 visitors to the FONM and found 40% were hikers, 54% were bikers and 6% equestrians. Both samples excluded race event visitors, such as those participating in the Sea Otter Classic. The BLM suspects that local and regional mountain bikers were already aware of the riding opportunities at FONM due to events such as Sea Otter Classic and that is why proportionately their ratio did not increase with the increase in visitation.

During the winter and spring of 2014, BETA volunteers sampled 891 visitors at the FONM during random patrols – this is just a small sample of the total number of visitors. Those visitors were accompanied by 170 dogs – the number on leash versus off leash was not part of that sample survey, but BLM park rangers estimate that about 50% of those pets were on leash all the time, or leashed when BLM personnel encountered them. If the BETA sample was representative of the visitor-use population of FONM, this would suggest that there is one dog for every 5.24 human visitors (i.e. hiker, biker, equestrian). Furthermore, because visitation was estimated to be around 400,000 annual visitors in 2014, this would suggest that there were about 76,336 dog visits to the FONM in 2014 and possibly half of those dog visits were not leashed. For illustrative purposes only, if this visitation was spread evenly across the days of the week and the months of the year (which it certainly is not) that would suggest that there was around 209 dog visits every day at FONM in 2014.

In 2009, the BLM conducted a visitor satisfaction survey at FONM. The finding from the survey was that visitors sampled had a high overall quality of recreation experience at FONM: 60% indicating a very good experience, 37% had a good experience and 3% had an average experience.

In concert with that 2009 survey, the BLM asked 123 visitors (53% bicyclists, 42% hikers/joggers, and 5% equestrians) about their experiences with dogs on FONM and their preferences regarding leash restrictions. Sixty-eight percent (68%) of respondents reported never having a bad encounter with a dog at FONM. Twenty-six percent (26%) reported having a few bad encounters, but admitted that these encounters were rare. Five percent (5%) reported that they frequently had bad encounters with dogs; and one percent (1%) reported bad encounters every time.

A. Fenced Inland Range (Planning Unit 1)

This planning unit has some of the best views of the Monterey Bay of the entire monument, but has very little shade. Public use opportunities are currently limited to a few annual guided,

hiking tours across the access roads with Army escorts. Dogs are not allowed on the tours. Access is greatly restricted due to munitions hazards located off the route network. The region is crossed by about 31.8 miles of 15' wide (or wider) administrative access roads that also serve as fuelbreaks. These routes are primarily graveled or natural surfaced.

There is one developed recreation site in this planning unit, Work Center Staging Area (see Appendix D, figures D.2 and D.6. This is a day-use parking area with restroom that is available for special events and activities. Vehicles access is controlled to this site to reduce motor vehicle travel over the roadways that are managed as non-motorized recreation routes. The developed recreation facility is subject to agency-wide regulations under 43 CFR 8365.2 that require pets to be leashed or physically restrained at all times.

The historic path followed by Juan Bautista de Anza in 1776 crosses through this area. Due to the closed status of the planning unit, the BLM has not designated a National Historic Trail (NHT) path with the National Park Service for public use and enjoyment as has been done elsewhere on the FONM. The historic corridor generally follows an alignment that is now Broadway (i.e. Obama Way) in Seaside, and crosses this planning unit in a northeastern direction towards the Fort Ord Work Center. From the Work Center, the historic path is understood to head easterly across what is now Eucalyptus Road towards the Salinas River.

B. North of Eucalyptus Road (Planning Unit 2)

This planning unit has the most moderate slopes of the FONM and a fairly diverse transportation system. There are numerous single-track trails, and graveled/natural surfaced roads for visitors to use. There are also paved roads that form loops accommodating a moderate amount of road bike visitation. Some of the most popular sing-track trails span this planning unit: Trail 19, Trail 59 (Blair Witch trail), Trail 61 (Burmese Trail), and Trail 62 (Chain Gang Trail). Popular destinations in this planning unit are the Comanche Gravesite near Trail 14, and the Kyle bench near Trail 61.

There is one developed recreation site in this planning unit, Watkins Gate Kiosk (see Appendix D, figures D.2 and D.7). This facility serves as a trailhead delineator. Vehicles access is prohibited to this site to reduce motor vehicle travel over the roadways that are managed as non-motorized recreation routes. The developed recreation facility is subject to agency-wide regulations under 43 CFR 8365.2 that require pets to be leashed or physically restrained at all times.

The region has a high ratio of mountain bike visitors, and lower ratios of hikers/joggers and equestrians because trailhead access is not very convenient. The closest places for people to park are at informal trailheads near the intersection of 8th Avenue and Gigling Road, and the

intersection of the Jerry Smith trail and Intergarrison Road. The first access point is 1.2 miles away from the monument, and the latter is 0.6 miles away.

This planning unit is popular for CSU Monterey Bay students living on campus, and East Garrison community residents who are nearby. This planning unit is also the most accessible section of the monument for peninsula residents who do not want to drive down Highway 68 or Reservation Road to access the southeastern portions of the monument.

C. North of Jack's Road (Planning Unit 3)

This planning unit is served by Creekside Terrace Trailhead that has the highest visitation rate of all the other access locations to the monument. The transportation system is mostly single track trail with a few administrative access roads and fuel break roads that are graveled/natural surfaced or paved. One of the popular routes in this planning unit include Trail 1 to Station One Road that traverses Toro Creek Road about Creekside Condominium Complex and Serra Village. Another popular trail is Trail 31 that winds its way above the trailhead towards a bench that overlooks Spreckles and Salinas. There have been several reports of conflicts between dogs and other visitors along this popular trail.

The region has a balanced ratio of mountain bike visitors and hikers/joggers, but a very small ratio of equestrians. Equestrians over the years have complained that the graveled parking area at Creekside Terrace Trailhead has been overtaken by passenger vehicles which limit places for trailers to park. The trailhead is the only location where public potable water is available, and features pet-friendly fountains. There are three trails that exit the trailhead (Trail 30, Trail 1 and Old Reservation Road. There is a mutt mitt dispenser at each of those trail entrances.

Because Creekside Terrace Trailhead is only 2 miles from the city of Salinas, it is a popular launching point for many Salinas residents. In 2015, this trailhead accounted for 141,000 visits; in 2014, 180,000 visits; and in 2013, 135,000 visits.

D. South of Jack's Road (Planning Unit 4)

This planning unit is served by Badger Hills Trailhead that has the second highest visitation rate of all the other access locations to the monument. Other visitors stage from Laguna Seca Recreation Area or park in adjacent neighborhoods. The transportation system is mostly administrative access roads that are graveled, natural surfaced or paved; and several high-quality single track trails. One of the popular hiking loops in this planning unit includes Guidotti Road to Skyline Road to Oilwell Road to Toro Creek Road. This loop is used by many residents who live in the Toro Park Estates and San Benancio Canyon neighborhoods. Popular trails for mountain bikers include Trail 41 (Goat Trail), Trail 42 (Red Rock), Trail 43 (Ewok), and Trail 44

(Outhouse) that connect with Three Sisters Road. Trail 49 and Trail 50 are arguably the highest quality trails on the monument for mountain bikers.

Including the Badger Hills Trailhead, there are five developed recreation sites in this planning unit: Guidotti Bridge and Interpretive Site, Lightfighter LZ, Spirit of Volunteers Display Site, Anza NHT/Ohlone Display Site (see Appendix D, figures D.4, D.5, D.8, D.9, D.10). These developed recreation facilities are subject to agency-wide regulations under 43 CFR 8365.2 that require pets to be leashed or physically restrained at all times.

Because Badger Hills Terrace Trailhead is only 5 ½ miles from the city of Salinas, it is a popular launching point for many Salinas residents. In 2015, this trailhead accounted for 88,000 visits; in 2014, 130,000 visits; and in 2013, 158,000 visits. The region has a slightly higher ratio of hikers/joggers to mountain bikers, but a very small ratio of equestrians.

From 2013 to April 2015, the BLM signed the grasslands in this planning unit asking visitors to voluntarily leash their pets during the grazing season. In April 2015, the interim leash restriction extended beyond the grazing season. Prior to the interim leash restriction, this planning unit was perhaps the most popular for off-leash dog enthusiasts. Toro Pond along Trail 45 was a popular dog swimming location for many dog enthusiasts.

From approximately 2006 to 2014, the BLM accommodated one local dog tracking organization in this planning unit under a special recreation use permit to use BLM lands at Fort Ord for one weekend each year in February. This permit allowed around 20 or more individuals to conduct an organized dog-tracking event competition that included off-trail use (something that is not casual use at FONM) and motor vehicle access into the interior of the FONM (also something that is not casual use). Existing rules prohibit off-trail travel or motorized use of the road systems on FONM.

Beginning in 2012, the BLM notified the dog tracking organization that it was phasing out permits that allowed off-trail use and greatly restricting motor vehicle driving into the interior of the Fort Ord since becoming a National Monument. Because visitation more than doubled since becoming a National Monument in 2012, more people were on the trails recreating and many new people were bringing dogs with them. Allowing a small group of individuals off trail and with motorized vehicles into the backcountry of FONM in a permitted scenario was leading to a misperception of the general public that off-trail use was allowed everywhere and at all times. Furthermore, vehicles coming and going to the interior staging area during the event weekend was causing some conflict on the roads that are used for non-motorized travel.

IV. Munitions and Explosives Hazards

Fort Ord was used by the Army for various training operations from 1917 through 1994. Included among the numerous training operations at the former Fort Ord were firing ranges

that were used for training in the use of various weapons and military munitions. As a result, a wide variety of conventional munitions and explosives of concern (MEC), both unexploded ordnance (UXO) and discarded military munitions (DMM) items, have been encountered at sites throughout the former Fort Ord.

The Fort Ord Munitions Response Remedial Investigation / Feasibility (MR RI/FS) program addresses the physical or explosive risk from MEC. The RI/FS cleanup program includes the following:

- identification of historical site use by review of historical literature and archived documentation;
- evaluation of previous munitions response actions performed;
- development of applicable work plans and sampling and analysis plans for additional characterization;
- completion of an Ordnance Detection and Discrimination Study (ODDS);
- identification of potential Applicable or Relevant and Appropriate Requirements (ARARs); and
- evaluation of potential risks and long-term risk management requirements

The Fort Ord MR RI/FS program is organized as a “tracking” process whereby sites with similar characteristics are grouped to expedite cleanup, reuse, and/or transfer based on current knowledge. A site or area is assigned to a specific "track" (i.e., Track 0, 1, 2, or 3) according to the level of military munitions usage and military munitions investigation, sampling, or removal conducted to date, as described in the OE RI/FS Work Plan (USACE, 2000).

Track 0 areas at the former Fort Ord contained no evidence of MEC and have never been suspected as having been used for military munitions-related activities of any kind. Track 1 sites were suspected to have been used for military training with military munitions, but based on a remedial investigation, no further action was required. Track 2 sites are areas at the former Fort Ord where MEC items were present, and MEC removal has been conducted or continues to be performed. Track 3 sites are those areas where MEC items are known to be present, MEC investigation had not yet been completed in 2000, and the cleanup continues today.

Readers interested in getting a detailed description of the MEC hazards on the monument are strongly encouraged to review Army documents located at fortordcleanup.com. The descriptions for the planning units below are gross summaries of the detailed evaluations and descriptions found within the various reference documents that are incorporated by reference into this environmental assessment.

A. Fenced Inland Range (Planning Unit 1)

The munition hazards of this planning unit are high to extremely high and are described within the Final Track 3 Impact Area Munitions Response Area, Munitions Response Remedial Investigation/Feasibility Study, Volumes 1 and 2 (June 25, 2007). The cleanup remedy is ongoing by the Army and is expected to be completed around 2020. The cleanup remedy selected by the Army and EPA for this region is summarized as follows:

- MEC on the surface will be removed across the entire planning unit;
- MEC under the surface will be removed across approximately 10% of the planning unit and includes:
    - Under fuelbreak roads and administrative access roads that cross the region;
    - Within 100' of the monument boundary from land that has been transferred to the city of Seaside, Del Rey Oaks and others near General Jim Moor Boulevard and South Boundary Road or other developed parcels;
    - Under other sites where subsurface disturbance is planned or likely (i.e. parking areas, helicopter landing zones, restoration sites, etc.); and
    - Anywhere sensitively-fuzed munitions (i.e. 40 mm) are expected to be present in high concentrations.

This 6,450 acre region was referred to as the Impact Area Multiple Range Area (MRA) within the former Fort Ord Impact Area, and was previously the location of the Fort Ord Range Complex, which was used for live fire training exercises with a variety of weapons. At the time of base closure in 1994, twenty-eight of thirty ranges (numbered 18 through 48) were active or considered operational. The ranges were positioned around the perimeter of the Impact Area, with firing directed toward the center of the Impact Area at targets that were positioned down range.

By 1945 eighteen ranges and training areas had been established within the boundaries of the Impact Area. These ranges included an antitank range, anti-aircraft range, a close combat course, small arms ranges (rifle and machine gun), mortar range, infiltration course, hand grenade range, booby trap training area, bazooka demonstration area, and a moving vehicle range (Army, 1945). Ranges were added to the Impact Area throughout the 1950s. During the 1940s and the early 1950s, the firing points for the ranges on the north side of the Impact Area were adjacent to Eucalyptus Road. The firing points for the ranges on the western side were mostly located several thousand feet inland from General Jim Moore Boulevard.

Ranges identified on 1950s-era training maps included 60mm and 81mm mortar ranges, a 57mm recoilless rifle range, a rocket launcher range, a rifle grenade range, small arms ammunition ranges, and hand grenade assault, infiltration, close combat, and small arms firing courses (Army, 1956, 1957, and 1958). The majority of the ranges present on the western side

of the Impact Area were abandoned by 1958 and the firing points for the ranges that remained active were pulled back to locations closer to General Jim Moore Boulevard.

By 1961 the Impact Area ranges had been assigned numbers following the numbering scheme already in use at the beach trainfire ranges. A training map from 1964 indicates that by this time all of the ranges within the Impact Area were consecutively numbered (Army, 1964). It is also during this time period that the position of the Impact Area ranges remained relatively static and the locations and limits of the individual trainfire ranges have not changed appreciably since that time. Ranges identified on the 1960s –era training maps included small arms ammunition ranges, a 90mm and 106mm recoilless rifle sub-caliber range, a 40mm grenade range, a mortar range, a 3.5-inch rocket range, a 90mm recoilless and M72 LAW range, a hand grenade range, close combat and infiltration courses, and an explosive ordnance disposal range (USACE, 1968).

The configuration of the Impact Area ranges remained relatively constant throughout the 1970s, 1980s and 1990s (Army, 1976, 1987, 1992). Additionally, the type of weapons that were being used at each of the ranges also remained relatively constant. Documentation including training facilities maps, range control records, and range regulation standard operating procedures from this time period, indicate that military munitions authorized for use at the Impact Area ranges included small arms ammunition, hand grenades, 60mm, 81mm and 4.2-inch mortars and mortar sub-caliber devices, 14.5mm sub-caliber devices (artillery), Dragon missiles, 90mm and 20mm projectiles, LAW rockets and sub-caliber devices, 40mm grenades, claymore mines, C4 and TNT. At the time of base closure twenty-eight of thirty ranges (numbered 18 through 48) were active or considered operational within the Impact Area (Army, 1992).

In addition to ranges identified within the Impact Area, four artillery firing points located outside the Impact Area were identified from former Range Control files and training facility drawings. Range control records and interviews indicate the firing points were used by artillery units utilizing 105mm howitzers and were fired at targets within the Impact Area. According to interviews with range control personnel conducted in 1994, these areas experienced light use from 1978 to 1982 (HLA, 1994); however, the firing points continued to be listed on range control documents dated 1984, 1987, and 1992.

According to the former Range Control Officer present during the periods of firing point use, all rounds fired from the firing points landed in the target area within the Impact Area (HLA, 2000a).

B. North of Eucalyptus Road (Planning Unit 2)

The munition hazards of this planning unit are moderate to high and are described within the Final, Revision 2, Track 2 Remedial Investigation/Feasibility Study BLM Area B and MRS 16 (May 6, 2015). The cleanup remedy is ongoing by the Army and is expected to be completed around 2020. The cleanup remedy selected by the Army and EPA across certain parts of this planning unit shown is summarized as follows:

- MEC on the surface will be removed across the cleanup region;
- MEC under the surface will be removed across approximately 10% of the cleanup region and includes:
    - Under fuelbreak roads, administrative access roads and open public use trails that cross the region;
    - Under other proposed sites where subsurface disturbance is planned (i.e. new roads, new trails, new parking areas, restoration sites, etc.) and
    - Anywhere sensitively-fuzed munitions (i.e. 40 mm) are expected to be present in high concentrations.

Former military use of this planning unit is described in detail within the Final, Revision 2, Track 2 Remedial Investigation/Feasibility Study BLM Area B and MRS 16 (May 6, 2015). The planning unit has had previous MEC investigations across munitions response sites (MRS) since 1996. The MRS within the planning unit include MRS-09, MRS-10A, MRS-10B, MRS-16, MRS-19, MRS-27G, MRS-27H, MRS-27I, MRS-27J, MRS-41, MRS-53, MRS-54, MRS-56 and MRS-58. Each of these MRS had different types of military training since 1917.

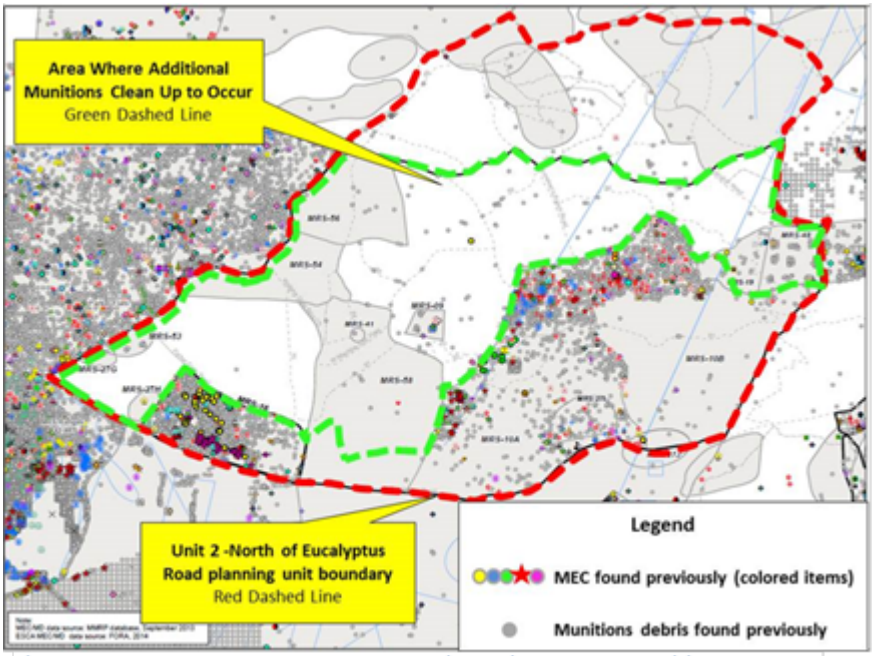


Figure 3.2 - North of Eucalyptus Road Planning Unit and MEC conditions nearby.

The regions requiring additional munitions cleanup are illustrated in figure 3.2. These regions may expand once cleanup crews remove the brush covering most of the area and evaluate the density and type of munitions found beneath. In concert with Track 2 protocol, following munitions remediation in this planning unit, land-use covenants and restrictions

will be placed across the MRS by Army and EPA to reduce the risk of munitions hazards left behind. These restrictions have yet to be prescribed by the Army and EPA, but would be applicable to MRS located in the region highlighted in green on Figure 3.2

C. North of Jack's Road (Planning Unit 3)

The munition hazards of this planning unit are low and are described within the Final Track 1 Remedial Investigation/Feasibility Study Former Fort Ord, California (June 21, 2004). Additional investigations documented within Plug-In Approval Memorandums provide further descriptions of the MEC hazards and are available for review at fortordcleanup.com where Track 1 documents are available.

The planning unit has had previous MEC investigations and removals across numerous MRS since 1996. The MRS within the planning unit includes MRS-11, MRS-17, MRS-23, MRS-27L, MRS-27M, MRS-27N, MRS-27S, MRS-27T, MRS-27V, MRS-27W, MRS-27X, MRS-33, MRS-42, MRS-60, MRS-61, MRS-64, MRS-65, ,RS-68 and MRS-69. Each of these MRS had different types of military training since 1917, and various munitions were associated with that training.

MRS evaluated in Track 1 documents across this planning unit have been characterized as "no further action required". As such, no land-use covenants and restrictions have been placed across the MRS located within this planning unit by Army and EPA to reduce the risk of munitions hazards.

D. South of Jack's Road (Planning Unit 4)

The munition hazards of this planning unit are low to moderate and are described within the Final, Revision 2, Track 2 Remedial Investigation/Feasibility Study BLM Area B and MRS 16 (May 6, 2015) and within the Final Track 1 Remedial Investigation/Feasibility Study Former Fort Ord, California (June 21, 2004). Additional investigations documented within Plug-In Approval Memorandums provide further descriptions of the MEC hazards and are available for review at fortordcleanup.com where Track 1 and Track 2 documents are available.

The planning unit has had previous MEC investigations and removals across MRS since 1996, and additional evaluations were done in Track 2 investigations. The MRS within the planning unit includes MRS-12, MRS-14A, MRS-14B, MRS-14C, MRS-15, MRS-14A, MRS-21, MRS-25, MRS-26, MRS-27K, MRS-27O, MRS-27P, MRS-27Q, MRS-27R, MRS-27U, MRS-29, MRS-30, MRS-32A, MRS-32B, MRS-32C, MRS-61, MRS-62, and MRS-70. Each of these MRS had different types of military training since 1917, and various munitions were associated with that training.

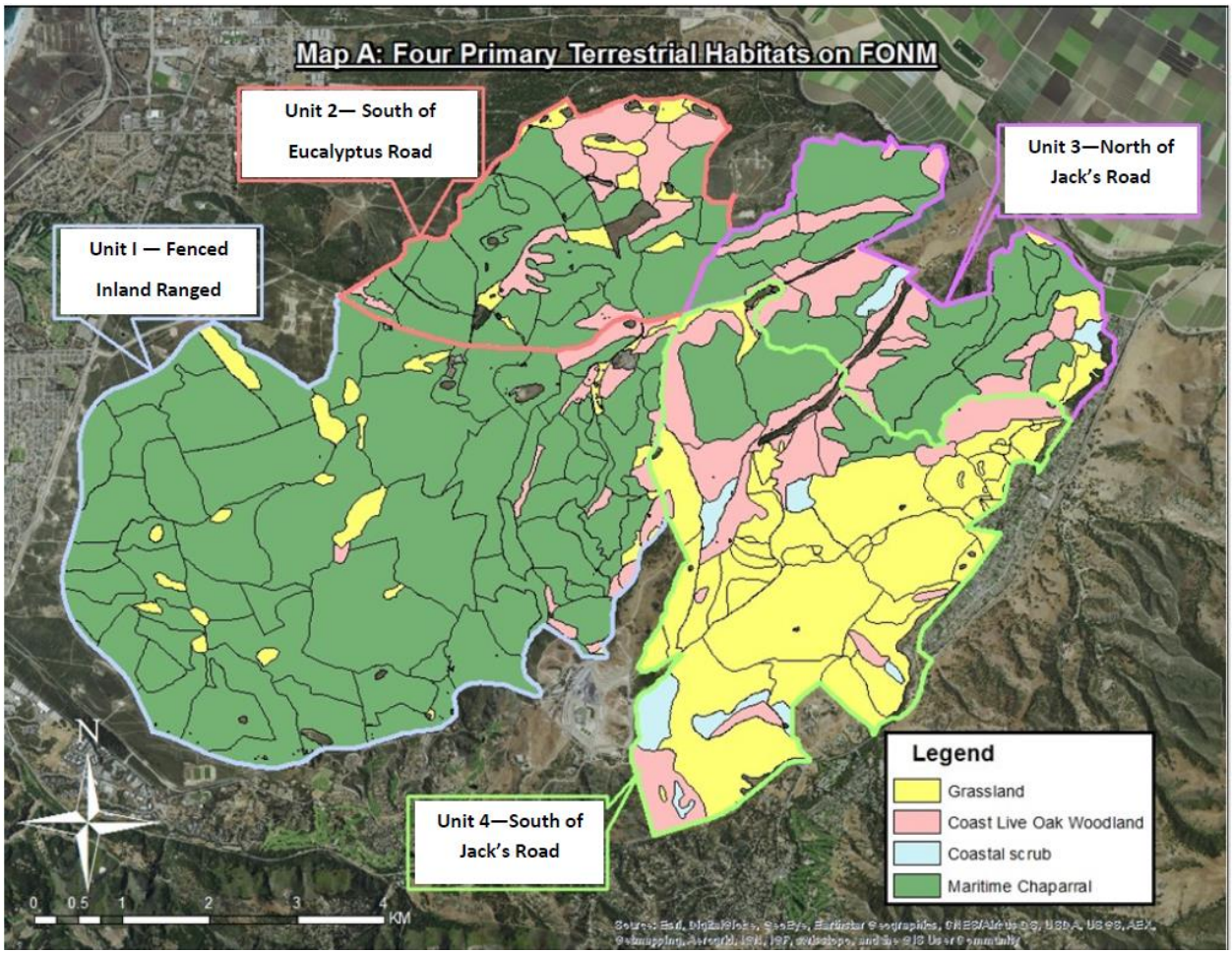
In concert with Track 2 protocol, following munitions remediation in this planning unit, land-use covenants and restrictions will be placed across the MRS by Army and EPA to reduce the risk of munitions hazards left behind. These restrictions have yet to be prescribed by the Army and

EPA, but would be applicable to MRS located near Mudhen Lake, Lookout Ridge and Picnic Canyon.

V. Wildlife and Plant Communities

When the former Fort Ord closed, the BLM worked with the Army, the Fort Ord Reuse Authority and others on development of the Installation-Wide, Multispecies Habitat Management Plan (HMP) that sets aside open space and habitat reserves which contain most of the rare plant and animal habitat. Most of that rare habitat is now part of what is now the Fort Ord National Monument. Appendix B contains numerous maps showing the base-wide distribution of various rare plant and animal habitats. The discussion below centers largely on the wildlife and plant communities that are found on FONM. Various plant communities on FONM are known to support 809 plant species including 543 native and 266 non-native species (Styer, 2015).

Terrestrial (sometimes referred to as upland) plant communities on FONM such as Grassland, Coast Live Oak Woodland, Maritime Chaparral, and Coastal Scrub are known to provide habitat for many special status and common plant and animal species (Map A).



Each of these four terrestrial communities and FONM's two aquatic communities are discussed below regarding their extent in acres on FONM, definition, range of occurrence on FONM, ecological importance, summary of common plant and animal species, special status plants and animals found within them, vulnerabilities of each or threats they face on FONM, history of BLM management of each on FONM, and partner agencies involved in their management on FONM.

A. Grassland

Extent

There are approximately 2983 acres of grasslands within the FONM (Map A).

Definition

Grassland is defined as land where the natural vegetation is dominated by grasses, sedges, rushes, and broad-leaved forbs. Woody plants may be present in grassland, but if so, they do not cover more than 10% of the ground surface. FONM grasslands have a strong component of native perennial grasses such as the California State Grass, Purple Needlegrass (*Stipa pulchra*) in drier areas and Creeping Wild Rye (*Leymus triticoides*) in moister areas.

Range of occurrence on FONM

Most FONM grasslands are in Planning Unit 4 although they also occur in Units 1-3 with a patchy distribution usually associated with vernal pool basins.

Ecological importance

The grasslands on FONM are valuable because the acreage of grasslands near California's coast has declined substantially due to urbanization and other habitat changes (e.g. grassland conversion to Coyote Brush Scrub).

Common Plant Species

Besides perennial grasses, FONM grasslands support many non-native annual grasses originating from the Mediterranean region such as Ripgut Brome (*Bromus diandrus*) and Slender Wild Oats (*Avena barbata*). Many native and non-native forbs (aka herbs or non-woody plants usually with showy flowers and loosely referred to as "wildflowers"), and isolated individuals or clusters of Coast Live Oak *(Quercus agrifolia*), Valley Oak (*Quercus lobata*), and Coyote Brush (*Baccharis pilularis*) are also common in FONM Grasslands. Some of the more common forbs are the non-native Filaree (*Erodium botrys*), and showy natives such as Sky Lupine (*Lupinus nanus*), Checkerbloom (*Sidalcea malvaeflora*), California Buttercups (*Ranunculus californicus*), and Blue Dicks (*Dichelostemma capitatum*).

Special Status Plant Species

Special status plants found in the FONM grasslands include Congdon's Tarplant (*Centromadia parryi ssp. Congdonii*), and Pacific Grove Clover (*Trifolium Polyodon*).

Common Animals

Typical wildlife in the FONM grasslands are birds such as Western Meadowlark (*Sturnella neglecta*), American Kestrel (*Falco sparverius*), Red-tailed Hawk (*Buteo jamaicensis*), Northern Harrier(*Circus cyaneus*), and Grasshopper Sparrow(*Ammodramus savannarum*). Of note, the population of Grasshopper Sparrow declined by 67% between 1966 and 2010 according to the North American Breeding Bird Survey and this sparrow is declining throughout its range from habitat loss, fragmentation, and degradation (Cornell Lab of Ornithology, 2015). Examples of mammals occurring in the grassland include Black-tailed Deer (*Odocoileus hemionus columbianus*), Mountain Lion (*Puma concolor*), American Bobcat (*Lynx rufus*), American Badger (*Taxadea taxus*), Botta's Pocket Gopher (*Thomomys bottae*), and California Ground Squirrel (*Otospermophylos beechii*).

Special Status Animals

Grasslands on FONM are known to support BLM special status birds including Burrowing Owl (*Athene cuniculata*), Golden Eagle (*Aquila chrysaetos*), Tricolored Blackbird (*Agelaius tricolor*), and White-tailed Kite (*Elanus leucurus*). Other BLM special status wildlife found in the FONM grasslands are Coast Horned Lizard (*Phrynosoma blainvillii*), California Tiger Salamander (*Ambystoma califrorniense*), and Western Spadefoot Toad (*Scaphiopus hammondi*).

Threats

The largest threats to FONM Grasslands are non-native grasses (e.g. Ripgut Brome and Slender Oats) and forbs (e.g. Filaree) as well as a general lack of fire. Starting in the 1700's Europeans transported seeds of Mediterranean region (e.g. Spain, France, Greece, and Italy) grasses which have become dominant in most California grasslands due to the similarity of growing conditions found in California and the Mediterranean region. These non-native grasses germinate with the first fall rains and grow rapidly thus competing with native grasses and forbs for moisture, sunlight, and soil nutrients. These grasses were subject to heavy grazing for centuries in their native environments so are well adapted to domestic livestock grazing in California and can out-compete native grasses and forbs.

Non-native invasive weed species such as Yellow Star Thistle (*Centaurea solstitialis)*, Russian Thistle (*Salsola tragus)*, Horehound (*Marrubium vulgare)*, and other thistles can be spread by their seed lodging in shoe treads, bicycle tires, or fur of domestic dogs and livestock. BLM is beginning to take precautions (e.g. 5-day quarantine to clean out digestive tracts of goats) with livestock before they arrive on FONM. BLM staff attempts to recognize new infestations of

weed species not yet well established on FONM and to respond quickly to abate them before they spread.

Native grassland plant species on FONM and elsewhere in California can also be outcompeted by encroaching woody vegetation such as Coyote Brush Scrub. Native Americans are likely to have burned FONM grasslands prior to European colonization and the U.S. Army and fire departments throughout Monterey County conducted frequent fire training exercises on FONM until the early 1990's. Verbal accounts from local fire personnel disclose that entire canyons such as Pilarcitos Canyon and large areas of FONM grasslands were burned during such training exercises (McCoun 2015). Such burning likely severely reduced the extent of shrublands such as Coyote Brush scrub. Conversely, the lack of burning over the last 25 years has correlated with an increase of acreage on FONM covered by thick Coyote Brush Scrub with a coincident loss of open grassland. BLM has been using a combination of domestic goat and sheep grazing to decrease the amount of non-native grass and Coyote Brush. This grazing program is discussed in more detail below.

Native wildlife species are threatened by attack and injury due to domestic dogs. In approximately 2006 a dog owner reported his dog was injured by a mountain lion while running off leash on Pilarcitos Canyon Road. Apparently, the dog had run into the brush off the road after the lion and the lion defended itself. California Department of Fish and Wildlife personnel responded to this incident and confirmed fresh mountain lion tracks at the site of the incident. In approximately 2007 BLM received a report from an upset mountain biker employed by California State Parks describing an incident on Pilarcitos Canyon Road involving two Doberman Pincers attacking a badger. The cyclist reported that he had advised the dogs' owner to call off her dogs and she replied "don't worry; they do this all the time". In approximately 2007, while the International Mountain Biking Association was conducting a trail building workshop for BLM staff in area of Engineer Canyon Road a large dog owned by an IMBA representative attacked and killed baby rabbits in a ground nest. These examples demonstrate the kind of incidents about which BLM staff are aware and it is likely other incidents have not been reported to BLM staff.

BLM Past Management

Since 1993 BLM has been active controlling invasive weeds and maintaining roads and trails in Grasslands within what is now FONM. Domestic sheep grazing was authorized by BLM beginning in 1997 and goat grazing began here in 2014. BLM's grazing program is discussed in more detail below. Beginning in 1999, BLM has been conducting habitat restoration in the grasslands where former roads cause substantial erosion and gully formation. Starting in 2006 BLM has removed what had since 2004 become a destructive wild pig population. BLM has

hosted research focused on American Badger and California Tiger Salamander (CTS) and this is further discussed below in the respective American Badger and CTS sections.

In 2006, BLM completed a Resource Management Plan that included Management Actions directing BLM to do the following:

- Manage the native perennial grassland as a sensitive community to maintain and increase populations.
- Use livestock grazing to improve ecological conditions and increase forage production.
- Allow livestock grazing as a tool to reduce noxious and invasive weeds, maintain perennial grasses, and improve habitat for special status species.

BLM Partners

California State University Monterey bay (CSUMB) and UC Davis faculty and students have assisted greatly with BLM's livestock grazing program and researching the American Badger and California Tiger Salamander (CTS) populations in the FONM grasslands. These efforts are described below in the California Tiger Salamander and Livestock Grazing sections. The Return of the Natives Education and Restoration Program has been instrumental since 1996 in the implementation of habitat restoration projects in the grasslands.

B. Maritime Chaparral

Extent

There are approximately 8971 acres of Maritime Chaparral within the FONM (Map A).

Definition

Maritime Chaparral refers to a shrub dominated plant community that is within the influence of maritime or coastal fog. The shrubs that dominate Maritime Chaparral on FONM are primarily manzanitas (*Arctostaphylos species*) and wild lilac (*Ceanothus species*). Other species that are common in FONM Maritime Chaparral include Wedge-leaf Horkelia (*Horkelia cuneata*), Rush Rose (*Helianthemum scoparium*), Pitcher Sage (*Lepechinia calycina*), and various popcorn flowers (*Cryptantha and Plagiobothrys spp*.).

Ecological Importance

The Maritime Chaparral on FONM is important due to the loss and fragmentation of this plant community over much of California coast due primarily to urbanization and agriculture. FONM contains one of the two largest areas of Maritime Chaparral left in California. Vandenberg Air Force Base and FONM each contain approximately 9,500 acres of this plant community.

Common Plant Species

Fire is important to Maritime Chaparral and whenever a fire occurs in this habitat on FONM it is followed by a fairly predictable post-fire re-vegetation process. Usually the first spring after a fire on FONM, various native and non-native annual forbs (aka wildflowers or herbaceous, non-woody plant species) germinate in December and produce a rather spectacular display of wildflowers in April and May. These annual plants only live approximately 5-7 months and produce seed before dying that is stored on or below the soil surface and this seed either germinates during subsequent rainy seasons or remains in the soil until fire recurs. Annual plants of Maritime Chaparral include among others Phacelias (Phacelia spp.), wild carrots (Sanicula spp. and Lomatium spp.), and popcorn flowers.

Also in the first year after a fire, shrub seeds germinate and grow into small seedlings. Between 2-10 years after a fire the growth of annual species occupies less percent cover of a burned area each year and shrubs grow larger to begin to dominate the area. Between 10-20 years after a fire short-lived shrubs such as Monterey Ceanothus (*Ceanothus rigidus ssp. Montereyensis*) and Pitcher Sage are displaced by longer lived shrubs such as Sandmat Manzanita (*A. pumila*), Woolly Leaf Manzanita (*A. tomentosa*), and Monterey Manzanita (*A. montereyensis*). If after many decades fire doesn't return to a burned area Coast Live Oak will displace the longer lived shrubs and begin to convert the area to Coast Live Oak Woodland. At any time if fire returns to Maritime Chaparral location vegetation would begin anew with the dominant growth of annual plant species.

Special status plant species

Special status plant species found in Maritime Chaparral on FONM include Monterey Manzanita, Sandmat Manzanita, Hookers Manzanita (*A. hookeri*), Eastwoods, Goldenfleece *(Ericameria fasciculata*), Monterey spineflower (*Chorizanthe pungens ssp. Pungens*), Sand Gilia (*Gila tenuiflora ssp. Arenaria*), and Seaside Birds Beak (*Cordylanthus littoralis*).

Common Animals Species

Typical wildlife in FONM Maritime Chaparral include birds such as Wrentit (*Chamaea fasciata*), California Thrasher (*Toxostoma redivivum*), various sparrows (*Passeridae Family*), and California Quail (*Callipepla californica*). Of note, Bell's Sparrow (*Artemisiospiza belli)* populations on FONM's recently burned areas represent some of the best habitat for this sparrow on the Central Coast. Examples of mammals occurring in Maritime Chaparral include Black-tailed Deer (*Odocoileus hemionus columbianus*), Mountain Lion (Puma concolor), American Bobcat (*Lynx rufus*), and American Badger. One somewhat overlooked but interesting wildlife species in FONM Maritime Chaparral is the Monterey Ensatina (*Ensatina eschscholtzii ssp. Eschscholtzii*). Monterey Ensatina is species of salamander which lacks lungs but instead

respires through its skin and mouth tissues. This requires Monterey Ensatina to live in damp environments and to move about on the ground only during times of high humidity.

Special status animal species

Special status animal species found in Maritime Chaparral on FONM include Black Legless Lizard (Anniella pulchra nigra) and California Tiger Salamander.

Threats

The threat of too frequent or infrequent of fire in Maritime Chaparral is discussed above. Other threats to Maritime Chaparral on FONM are road and trail construction and invasive weeds. Many locations of Maritime Chaparral on FONM are on steep or loose and sandy soils (e.g. the south and north facing slopes on both sides of Eucalyptus Rd.). Routes that have been constructed in the past on steep slopes tend to erode and form gullies which reduce the ability of Maritime Chaparral to persist in such disturbed locations. Weeds such as iceplant (*Carpobrotus edulis*), Jubata Grass (*Cortaderia jubata*), Tocalate (*Centaurea melitensis*) and South African Grass (*Tribolium obliterim*), can outcompete and spread through areas of Maritime Chaparral (e.g. "Jubata Grass Forest" on Trail 61) on FONM. Such weeds tend to do best along roads, trails, and other disturbed locations.

BLM Past Management

In 2006, BLM completed a Resource Management Plan that included Management Actions directing BLM to do the following:

- Use a mixture of management activities, including prescribed burn and mechanical treatments, to manage and maintain the composition, mixed aged classes, and native wildlife habitat of Maritime Chaparral.

Starting in 1995, BLM has had 2-15 year round staff members whom have at least partially focused on removal of invasive weeds (e.g. Jubata Grass, French Broom (*Genista monspessulana*), and Iceplant) in Maritime Chaparral. Hundreds of locations of these species continue to be treated by a 4-5 person year round staff of weed abatement professionals.

Since 1996, BLM has also implemented an ambitious habitat restoration program that, due to the high frequency of rare species in this plant community, prioritizes restoration of degraded Maritime Chaparral locations. Approximately 125 such degraded locations have been reshaped to natural contours, seeded with barley, temporarily protected with rice straw, and planted with native species. At some locations follow-up maintenance is needed for weed or erosion control but at most locations successful re-vegetation has occurred after initial treatments were completed. Wild Pig abatement and American Badger research has been conducted in

Maritime Chaparral on FONM as it has been in grasslands and is discussed in the grassland section above.

BLM Partners

The U.S. Army, California State Parks, Return of the Natives Education and Restoration Program, Elkhorn Slough National Estuarine And Research Reserve, Monterey County Agricultural Commission, Monterey Peninsula Unified School District, City of Marina, county of Monterey, and the California Native Plant Society, have served as partners with BLM over time allowing access or sharing in abatement and/or public education regarding the abatement of Maritime Chaparral weeds common to multiple jurisdictions on former Fort Ord.

C. Coast Live Oak Woodland

Extent

There are approximately 1897 acres of oak woodland within the FONM (Map A).

Definition

Coast Live Oak Woodland is dominated by Coast Live Oak (Quercus agrifolia) and usually represented by individual trees growing densely enough such that very little direct sunlight reaches the ground except along woodland edges and occasional gaps in the oak canopy.

Ecology

Coast Live Oak Woodland occurs in the more shaded or moist areas along the Pacific Coast of California and Mexico. Oaks in this area are benefitted by commonly foggy conditions and often well drained soils. On FONM Coastal Live Oak Woodlands are common on north-facing slopes and valley bottoms.

Fire is important to Coastal Live Oak woodland ecology. Thick bark and the ability to "crown sprout" from below the ground and at times from burnt trunk and branch segments result in high survivorship of these oaks after fire even when most of the above ground tree portion is killed. Fire helps to remove pests that could reduce oaks' health and converts nutrients to ashes that subsequently are leached back into the soil by rain as a nutrient source for surviving oak trees. Too frequent of fires can decimate oak woodlands by killing young and mature trees while too infrequent of fires can allow pest populations to increase to unhealthy levels.

Common Plant Species

Typical species of plants that grow under coast live oak on Fort Ord are miner's lettuce (*Claytonia perfoliata*), California blackberry (*Rubus ursinus*), poison oak (*Toxicodendron diversilobum*), ferns such as bracken fern (*Pteridium aquilinum*), fuchsia-flowered gooseberry

(*Ribes speciosum*), fiesta flower(Pholostima spp.), and grasses such as blue wild rye (Elymus glaucus).

Special Status Plant Species

Because Coast Live Oak Woodlands on FONM share fire ecology with Maritime Chaparral many of the special status plant species found in Maritime Chaparral can also be found within the gaps between clusters of oak trees in Coast Live Oak Woodland. These include Monterey Manzanita, Sandmat Manzanita, Hookers Manzanita, Eastwoods, Goldenfleece, Monterey spineflower, Sand Gilia, and Seaside Birds Beak.

Common Animal Species

Typical wildlife in FONM Coast Live Oak Woodland include birds such as Bushtits (*Psaltriparus minimus*), California Thrasher, various sparrows, California Quail, and hawks such as Coopers Hawk (*Accipiter cooperii*), Red-shouldered Hawk (*Buteo lineatus*), Red-tailed Hawk, and Sharp-shinned Hawk(*Accipiter striatus*). Of note, Sage Sparrow populations on FONM's recently burned areas represent some of the best habitat for this sparrow on the Central Coast. Examples of common mammals occurring in Maritime Chaparral include Black-tailed Deer, Mountain Lion, and American Bobcat. Typical reptiles include Western Fence Lizard (*Sceloporus occidentalis*), and various snake species such as California King Snake (*Lampropeltis getula californiae*), Ring-necked Snake (*Diadophis punctatus*) and Gopher Snake (*Pituophis catenifer*). Amphibians include Western toad and Monterey Ensatina.

Special Status Animal Species

Special status animal species found in Coast Live Oak Woodland on FONM include Black Legless Lizard and California Tiger Salamander, and American Badger.

[redacted]

Threats to Coast Live Oak Woodland on FONM include insect and other pest outbreaks and drought. California Oak Moth (*Phryganidia californica) is a native moth species which has caused widespread defoliation of Coast Live Oaks on FONM in the recent past. Adult Oak Moths lay clusters of eggs on Coast Live Oak branches which hatch as black larvae (catepillars) in summer and fall. These larvae primarily feed on Coast Live Oak leaves and in outbreaks of high numbers larvae can defoliate oaks. Outbreaks historically were thought to occur approximately every seven years but since 2000 have occurred on consecutive years. This stress in combination with other threats such as drought can reduce survivorship of Coast Live Oak trees.*

[redacted]

Sudden Oak Death can injure and kill species such as Coast Live Oak and Toyon which are

common on FONM but this disease has not been documented on FONM or its adjacent lands such as Toro County Park. The nearest locations of SOD to FONM are in Santa Cruz County to the north and upper Carmel Valley to the south.

[redacted]

seemed to be dying quickly as evidenced by leaves of entire or large portions of trees within a few weeks turning a golden brown then brown. After the rainy season of 2012-2013 most affected trees seemed to be recovering. In fall of 2014 it was apparent that Coast Live Oak die-off was still prevalent. Samples of affected trees were provided to Monterey County Agricultural Commissioner Biologist Brad Oliver who confirmed no external pest such as scale insects or oak moths were present on the affected samples. Given that there are widespread pine tree die-offs in the Sierra Nevada presumed to be caused by current drought conditions and that the Coast Live Oak die-off being observed on FONM appears to extend throughout the Hwy 68 corridor to the south and into Prunedale to the north, it is reasonable to presume drought conditions are at least part of the reason many Coast Live Oaks are dying on FONM.

[redacted]

French Broom, Italian (*Carduus pycnocephalus ssp. Pycnocephalus) and Milk Thistle* (*Silybum marianum). If left unabated such invasive weeds such as these can dominate the understory of Coast Live Oak Woodland to the detriment of the diversity of native plant species that typically grow under oaks at FONM.*

D. Coastal Scrub

Extent

There are approximately 242 acres of Coastal Scrub within the FONM (Map A).

Definition

Coastal Scrub plant communities occur in California west of the Sierra Nevada and usually grow on dry, shallow soils. Coastal Scrub is similar to Maritime Chaparral on FONM in some ways such as existing on harsh soils and sharing many plant and animal species such as Coyote Brush, Sticky Monkeyflower (*Mimulus aurantiacus*), Black Sage (Salvia mellifera), Deerweed (*Lotus scoparius*), Poison oak, Western Rattlesnake (*Crotalus oreganus*), Western Fence Lizard, various sparrows, bobcat, Black-Tailed Deer, American Badger and many others.

Ecological Value

Although more abundant throughout California than Maritime Chaparral, Coastal Scrub is decreasing in some areas due to conversion of wildlands for urban and other uses.

Common Plant Species

Dominant plant species of Coastal Scrub on FONM are California Sagebrush (*Artemisia californica*) (not usually occurring in Maritime Chaparral), Coyote Brush, California Coffeeberry (*Rhamnus californica*), and Yellow Bush Lupine (*Lupinus arboreus*).

Special Status Plant Species

Special status plant species found within FONM Coastal Scrub are Sand Gilia, Seaside Birds-beak, Eastwood's Goldenfleece, and Monterey Manzanita.

Common Animal Species

Common wildlife species found in Coastal Scrub on FONM include those mentioned above as well and many other relatively common birds, small mammal, reptiles, and insects.

Special Status Animal Species

The only special-status wildlife species known to occur in Coastal Scrub of FONM is the California Black Legless Lizard.

Threats

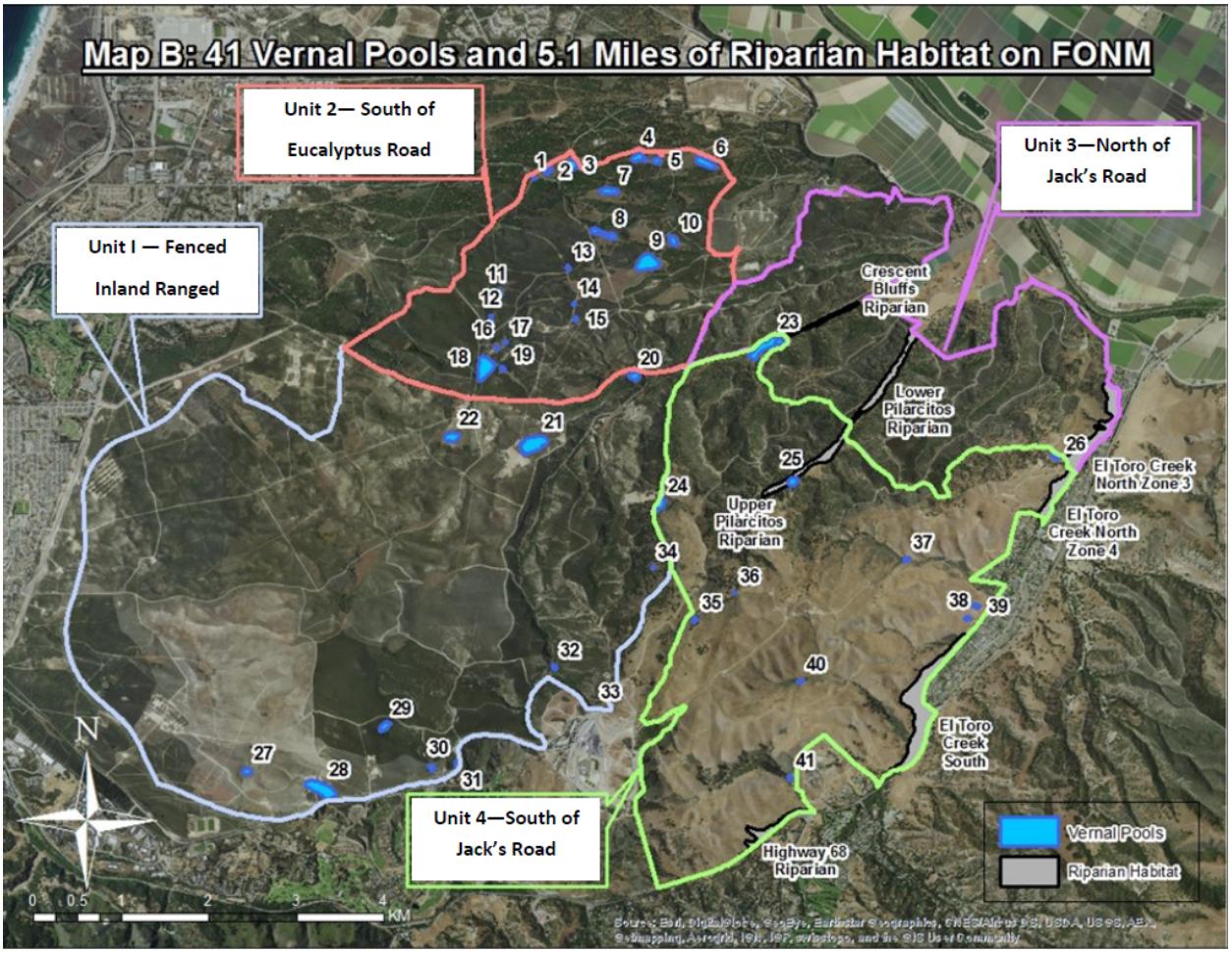
Like in Maritime Chaparral and Coast Live Oak Woodland, fire is important for the ecology of Coastal Scrub and poses a threat depending on its frequency on any given site of Coastal Scrub. Many plant species in Coastal Scrub regrow after fire from their root crowns or their seeds are stimulated to germinate by heat, presence of ash, or other conditions created by fire. Too infrequent of fires on FONM could result in Maritime Chaparral or Coast Live Oak Woodland replacing Coastal Scrub. If fire recurs too frequently, non-native grasslands can replace Coastal Scrub through a process called "Type Conversion" when the plant community type is permanently changed from one community to another.

Other threats to Coastal Scrub on FONM are road and trail construction and invasive weeds. Many locations of Coastal Scrub on FONM are on steep or loose and sandy soils (e.g. the east end of Sandstone Ridge). Routes that have been constructed in the past on steep slopes tend to erode and form gullies which reduce the ability of Coastal Scrub to persist in such a disturbed location. Weeds such as iceplant, tocalote (*Centaurea melitensis*), Filaree, and non-native grasses are another threat to Coastal Scrub on FONM. Such weeds tend to do best along roads, trails, and other disturbed locations.

E. Vernal Pools

Extent

There are approximately 41 Vernal pools (not including what are likely to be tens of other pools smaller than 100 square meters which have not been mapped). There are 90 acres of mapped vernal pools (Map B).



Definition

Vernal pools on FONM are depressions usually much smaller than an acre and which temporarily fill with water usually for a few weeks to a few months before completely drying during most years in summer or fall. More generally they occur under Mediterranean climate conditions of the West Coast and in glaciated areas of Northeastern and Midwestern states.

Ecology

Many of FONM vernal pools are connected to each other by small drainages known as vernal swales, forming complexes. This is important because it indicates that migration of animals and seed as well as pollutants occurs between pools connected by vernal swales. Beneath FONM vernal pools lies a hard clay layer in the soil that helps keep water in the pool from draining via percolation, therefore evaporation is the mechanism that allows vernal pools to dry on FONM. Annual seasonal changes cause dramatic changes in the appearance of vernal pools because

their volume increases and decreases in response to rainfall events. During a single season, pools may fill and dry several times. In years of drought, some pools may not fill at all. On FONM vernal pools generally begin filling with rainwater in late December after their underlying soils are saturated by storm runoff in November and early December.

Ecological Importance

Over 90% of California's Vernal Pools have been lost through conversion to urbanization, agriculture, and other human uses. Existing Vernal Pools provide important resting and foraging habitat for migrating waterfowl and other bird fauna.

Common Plant Species

Brilliant displays of spring and early summer wildflowers occur around FONM Vernal Pools during most years. These displays are typically dominated by Hickman's Popcornflower (*Plagiobothrys chorisianus var. hickmanii*) and Dwarf Brodiaea (*Brodiaea terrestris*). Other plants commonly present in these pools are Hickman's Onion (*Allium hickmanii*), Rayless Layia (*Lasthenia glaberrima*), Annual Hairgrass (*Deschampsia danthonioides*) California Oatgrass (*Danthonia californica*), Coyote Thistle (*Eryngium armatum*).

Special Status Plant Species

Special status plant species in Vernal Pool habitat include Contra Costa Goldfields and Johnny Nip (*Castilleja ambigua ssp. Insalutata*). Although by fall in most years vernal pools have dried and appear dusty and barren, many plants and animals survive through the harsh dry season as seeds, eggs, or cysts, and then grow and reproduce after the ponds fill again during the subsequent rainy season.

Common Animal Species

Vernal pools on FONM are breeding habitat for numerous aquatic animals such as various crustaceans (a subphylum within the Arthropod phylum) including lentil clam shrimp (*Lynceus spp.*), and California clam shrimp (*Cyzicus calfiornicus*). The pools support abundant smaller crustaceans such as water fleas (Order *Cladocera*), copepods (Subclass *Copepoda*), and seed shrimp (Class *Ostracoda*). These aquatic animals provide an important food source for waterfowl and shorebirds such as mallard ducks (*Anas platyrhynchos*) and Lesser ducks. yellowlegs (*Tringa flavipes*) respectively. Amphibian populations on FONM such as those of western toads (*Anaxyrus boreas*), Pacific Chorus (tree) Frog (*Pseudacris regilla*), California newt (Taricha tarosa), and California Tiger Salamander also depend on aquatic habitat for mating, breeding, egg and larval portions of their life cycles. Approximately 40 shorebirds, waterfowl, and other aquatic-dependent bird species have been observed at FONM vernal pools (Styer, 2012).

Special Status Animal Species

Special status wildlife known to occur in FONM vernal pools include the federally endangered California Tiger Salamander *(Ambystoma californiense*), and Contra Costa Goldfields (*Lasthenia conjugens*) which is an annual species in the Sunflower family, as well as Western Fairy Shrimp (*Linderiella occidentalis*). Larvae of the federally threatened California Red-legged Frog (*Rana draytonii*) were documented in "Toro Pond" (Pond #38 on Map A) in 2012.

Threats

Vernal pools are susceptible to damage from wild pigs and humans and their pets. Wild pigs have been known to damage vernal pools on FONM by trampling, wallowing, and foraging for food. Interestingly, from 1993-2004 no wild pig sign was observed by BLM staff or reported to BLM staff. No Army or other documents have been located by BLM staff that document wild pig presence on FONM prior to 1993 although several living local residents of the Monterey Bay area have reported hunting wild pigs on former Fort Ord. BLM and U.S. Army have shared resources to remove 108 wild pigs from the FONM between 2006 and 2010. Two more pigs were removed from 2012-2015 for a total of 110 wild pigs removed from FONM. Very few signs of wild pigs have been observed on FONM since the 110 individuals were removed but it is expected there will be a long-term need to monitor wild pig activity on FONM.

When horses, dogs, and people recreate in vernal pools there is the potential to dislodge or trample amphibian eggs attached to vertical vegetation or to cause injury to aquatic animal larvae.

Past BLM Management

In 2006, BLM completed a Resource Management Plan that included Management Actions directing BLM to do the following:

- Protect ponds, wetlands, or riparian areas known to support or that could potentially support California Tiger Salamander, California Red-legged Frog, or Western Fairy Shrimp to maintain natural corridors between pools/wetlands and upland habitat so that continuous native plant coverage allows adequate gestation periods.
- Restrict public and pet access to all ponds on Fort Ord Public Lands … known or suspected to support special status aquatic species during important breeding and gestation periods.
- Mitigate or relocate activities that disturb, alter, or interrupt hydrologic or ecological processes that support special status species.
- Upon completion, fulfill aquatic and wetland habitat management and restoration requirements outlined in the Fort Ord Habitat Conservation Plan.

Since approximately 1999, BLM has been rerouting roads and trails to make it easier for pets and people to avoid vernal pools and to separate recreation routes from vernal pools. Only 4 remaining vernal pools are adjacent to recreation trails. These include Trails 20, 46, 57, and 65. An approved BLM plan will likely re-route Trail 57 to avoid Little Machine Gun Flats Pool (Vernal Pool #10 on Map B). It is possible that in future years BLM will design reroutes to separate Trails 20, 46, and 65 from nearby pools.

BLM Partners

Vernal pools on FONM have received much attention from BLM staff, California State University Monterey Bay (CSUMB), California State University San Jose, University of California at Los Angeles, and University of California at Davis (UC Davis). This attention is due to the presence in many FONM vernal pools of the special status species listed above. Classes from these universities, masters and doctorate thesis have provided important data regarding these pools' special status species such as the presence/absence and number of larvae or individual plants being produced in these vernal pools. BLM staff has spent substantial time and effort at FONM vernal pools to check on potential threats (e.g. invasive weeds, wild pigs, and recreation) to the pools, and to mitigate those threats wherever possible.

All stream corridors on FONM are ephemeral in that they only flow after substantial rain events and usually no more than several consecutive days at a time. The majority of each year they are dry stream channels. Vegetation along these riparian corridors is dominated by Arroyo Willow *(Salix lasiolepis*) with small numbers of individuals of Yellow Willow (*S. lasiandra*), Red Willow (*S. laevigata*), Sandbar Willow (*S. exigua*), and Black Cottonwood (*Populus trichocarpa*). Commonly seen plants growing under the riparian tree canopy include Coyote Brush, Sneezeweed (*Helenium puberulum*), and various native and non-native grasses, sedges, rushes. Congdon's Tarplant (*Centromadia parryi ssp. congdonii*) is the only special status plant species known to occur within FONM riparian areas.

F. Riparian(Streams)

Extent

There are 5.1 miles of ephemeral riparian habitat within the FONM which support 178 acres of riparian habitat (Map B).

Ecological Value

Riparian habitat on FONM is important for wildlife to use for nesting, foraging, and as protective travel corridors. Young hawks which have fledged from their nest but are not yet strong flyers have been observed on multiple occasions by BLM staff amidst riparian habitat of El Toro Creek.

Common Plant Species

Riparian areas on FONM are dominated by an Arroyo Willow (Salix lasiolepis) canopy. Other willow trees such as yellow willow and red willow, as well as Fremont Cottonwood (*Populus fremontii*) are also present in FONM riparian habitat but likely number 200 or less individuals. Understories of riparian habitat on FONM usually include Coyote Brush, California Blackberry and less commonly Sneezeweed, Blue Wild Rye, and Yellow Bush Lupine.

Special Status Plant Species

Congdon's Tarplant is the only special status species in riparian habitat on FONM.

Common Animal Species

Remote cameras employed by staff at the Big Sur Land Trust have documented mountain lion, bobcats, wild pigs, and coyotes in the El Toro Creek riparian channel.

Special Status Animal Species

El Toro Creek has been documented to support the federally endangered California Tiger Salamander (CTS) and, along with other riparian corridors on Fort Ord, provides long-term opportunities for CTS, the federally threatened California Red-legged Frog and other wildlife to move back and forth between vernal pools on FONM and the Salinas River.

Past BLM Management

In 2006, BLM completed a Resource Management Plan that included Management Actions directing BLM to do the following:

- Protect ponds, wetlands, or riparian areas known to support or that could potentially support California Tiger Salamander, California Red-legged Frog, or Western Fairy Shrimp to maintain natural corridors between pools/wetlands and upland habitat so that continuous native plant coverage allows adequate gestation periods.
- Mitigate or relocate proposed activities within 250 feet of riparian vegetation if the activities have long-term impacts on riparian resources.

- Initiate riparian restoration/improvement projects within systems that have been identified as not functioning or functioning at risk with a downward or static trend.
- Include mitigation measures to protect or enhance riparian areas in all activity or project plans.
- Upon completion, fulfill riparian habitat management and restoration requirements outlined in the Fort Ord Habitat Conservation Plan.
- Maintain stable watershed conditions and implement passive and active restoration projects to protect beneficial uses of water and meet Total Minimal Daily Loads.

BLM management of most riparian habitat on FONM has focused on increasing the amount of willow trees in stream channels and rerouting former roads and trails away from riparian areas to minimize the amount of human related disturbances. Those segments of El Toro Creek and other riparian habitats which are officially closed to recreation use likely maintain a higher degree of protection for wildlife than those segments that have recreational use (e.g. hikers, dogs, equestrians, cyclists). In 2013, 2,200 locations along a 1 mile stretch of El Toro Creek were planted with 3-5 willow branches (e.g. cuttings) and during the summer of 2013 and 2014 BLM staff irrigated the willows such that most have survived into 2016 and are growing larger.

BLM Partners

California Conservation Corps has provided significant funding and labor toward the willow tree restoration efforts in El Toro Creek. Regular BLM volunteers and occasional groups from organizations such as the Sierra Club have provided important contributions toward removal of invasive weeds and maintenance of planted willow trees.

VI. Special Status Plant and Animal Species

Special status species include: 1) federally listed or proposed for listing as Endangered or Threatened (under authority of the Endangered Species Act) and 2) species designated as Sensitive by the Bureau of Land Management's State Directors. The 1973 Endangered Species Act requires Federal agencies such as BLM to evaluate their actions with respect to any species that is listed as endangered or threatened. Federal agencies must also insure that activities they authorize, fund, or carry out are not likely to jeopardize the continued existence of any listed species.

BLM policy is to manage BLM-administered lands so as to not contribute to the need for future listing of any "Sensitive" species as threatened or endangered. Table 3.1 lists special status plant and animal species known to occur on FONM. In 2006, BLM completed a Resource Management Plan for BLM lands that included Management Actions directing BLM to do the following on the Central Coast that includes FONM:

- Maintain, restore, or enhance special species habitat.
- Improve the condition of special status species and their habitats to a point where their special status recognition is no longer warranted.
- Prevent the need for listing … sensitive species under the Endangered Species Act.

Table 3.1 Special Status Species Known Occurrence in Dog Plan Units and Natural Communities.

Special Status Species	Dog Plan Area(s)	Maritime Chaparral	Coastal Scrub	Coast Live Oak Woodland and Savanna	Grassland	Riparian	Vernal Pools
Plants							
Sand Gilia	All	X	X	X	X		
Contra Costa Goldfields	2						X
Yadon's Piperia	1	X					
Monterey Spineflower	1,2,3	X		X	X		
Seaside Bird's Beak	All	X	X		X		
Coast Wallflower	1	X					
Eastwood's Ericameria	All	X	X				
Monterey Ceanothus	All	X					
Sandmat Manzanita	All	X		X			
Monterey Manzanita	All	X		X			
Hooker's Manzanita	All	X					
Congdon's Tarplant	4						X
Johnny Nip	2						X
Santa Cruz Clover	2,3						X
Pacific Grove Clover	4						X

Special Status Species	Dog Plan Area(s)	Maritime Chaparral	Coastal Scrub	Coast Live Oak Woodland and Savanna	Grassland	Riparian	Vernal Pools
Wildlife							
California Tiger Salamander							
Upland	All			X	X		
Breeding	All						X
California Red-legged Frog							
Upland	4				X	X	
Breeding	4						X
Monterey Ornate Shrew	All			X		X	
Silvery and Black Legless Lizard	All	X	X	X	X	X	
Spadefoot Toad	4						X
Western Fairy Shrimp	1,2,3						X
American Badger	All	X	X	X	X		
Coast Horned Lizard	All	X	X	X	X	X	
Grassland Sparrow	1,2,4				X		
Loggerhead Shrike	1	X		X	X		
Southwestern Pond Turtle	3,4					X	X
Tri-colored Blackbird	4				X		
Burrowing Owl	4				X		
Golden Eagle	All	X	X	X	X	X	
Sharp-shinned Hawk	All			X		X	
Sage Sparrow	1,2	X					
Peregrine Falcon	4				X		
Prairie Falcon	4				X		

Special Status Species	Dog Plan Area(s)	Maritime Chaparral	Coastal Scrub	Coast Live Oak Woodland and Savanna	Grassland	Riparian	Vernal Pools
Northern Harrier	1,4				X		
Bank Swallow	none						
Yellow Warbler	none						

Notes: Planning Unit 1-fenced inland range, Unit 2-north of Eucalyptus Rd., Unit 3-north of Jacks Rd., Unit 4-south of Jacks Rd. Table 3.1 is derived and updated from Table 3.2 of Fort Ord HCP Admin Draft (2009)

In general, those special-status plant and animal species that are relatively small in size and that could be easily damaged if trampled are the most vulnerable to impacts from dog and other recreation on FONM. Plant species such as Sand Gilia, Yadons Piperia, Monterey Spineflower, Seaside Birdsbeak, Coast Wallflower (*Erysimum ammophilum*), and Congdon's Tarplant and animal species such as coast horned lizard, spade foot toad, California Tiger Salamander, California Red Legged Frog, and Southwestern Pond Turtle (*Clemmys marmorata pallida*) are examples of species that could be injured or killed if trampled by dogs, pedestrians, cyclists, or equestrian users. All other plant and animal species that may occur near roads and trails on FONM are either heartier and therefore not prone to damage from trampling or are common species whose FONM populations would not be substantially be impacted by any expected changes in recreation use due to the proposed action.

Specific summaries of special status species, Monterey Spineflower Critical Habitat designation, and threats to them are separately discussed below. For those special status species listed as Endangered or Threatened by the U.S. Fish and Wildlife Service or where critical habitat is designated, BLM and other Federal agencies "must ensure that activities they authorize, fund, or carry out are not likely to jeopardize the continued existence of such a species or to destroy or adversely modify its critical habitat" (Federal Register 70, No. 154, August 11, 2005).

Sand Gilia

Status

Sand Gilia (*Gilia tenuiflora ssp. arenaria*) was listed as federally endangered on June 22, 1992 (57 Federal Register 27858). Descriptions of this plant species and its habitat are provided in the 1997 Habitat Management Plan (HMP) (Army, 1997).

Sand Gilia survey methods

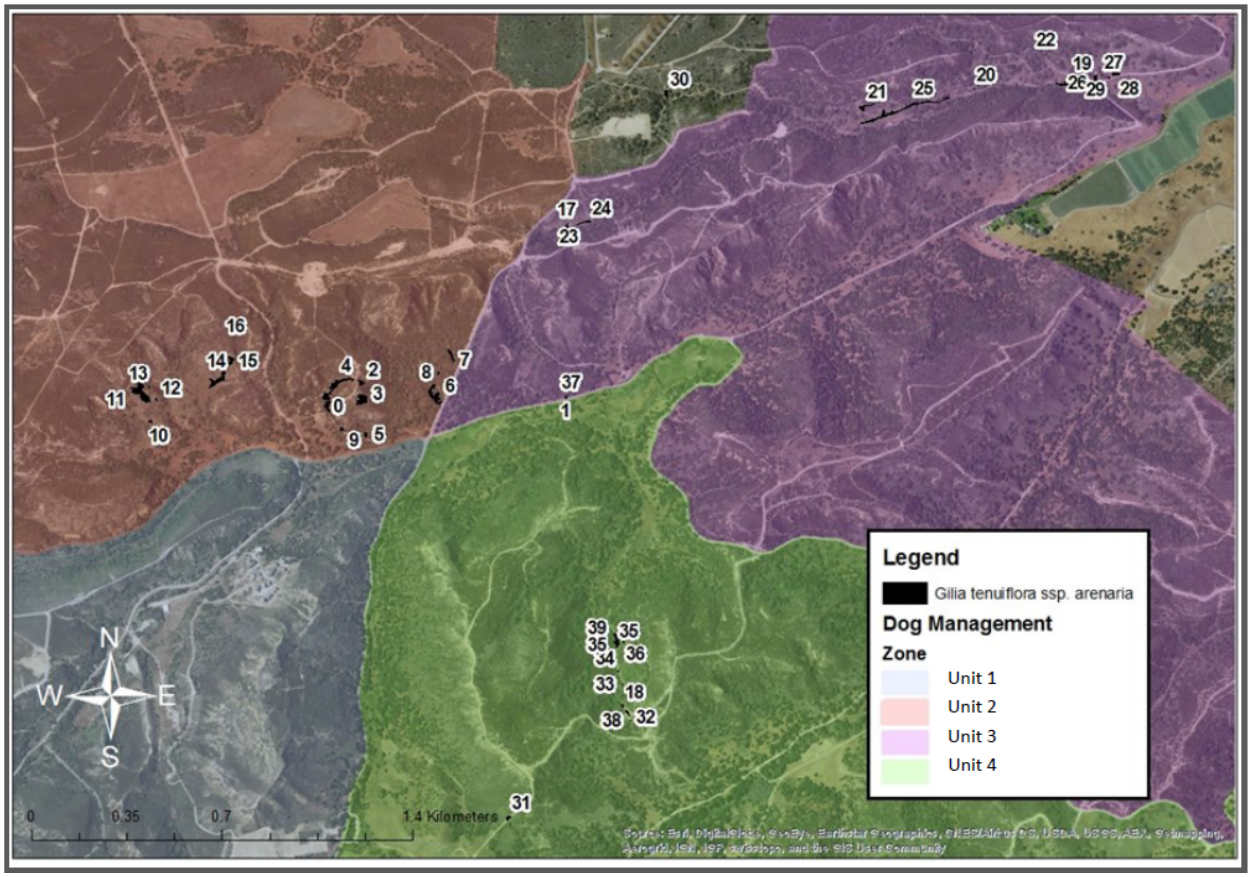
In 1992, field surveys for Sand Gilia were conducted throughout Fort Ord. A morphological similarity between Sand Gilia and Slender Gilia, and the potential for interbreeding between them, has made their taxonomic (species) identification difficult. The 1992 Flora and Fauna Baseline report considered all observations of Gilia tenuiflora to be of the Sand Gilia subspecies Gilia tenuiflora ssp. arenaria. For the purposes of this document's analysis, all Gilia tenuiflora found on FONM are also presumed to be of the subspecies Gilia. t. ssp. arenaria. Survey methods used in 1992 involved dividing Fort Ord into polygons that were dominated by a given plant community such as Maritime Chaparral or Coast Live Oak Woodland. These polygons ranged in size from a few to several hundred acres and were considered to be 100% occupied habitat for Sand Gilia if this species was observed anywhere within a given polygon. During the spring of 1996 and 1997, BLM resurveyed all polygons documented during 1992 surveys as supporting Sand Gilia and all polygons not documented to support Sand Gilia during 1992 surveys but which were thought by BLM staff to have moderate or high potential for Sand Gilia (mostly openings between shrubs or along sides of road and trails or within former roadways). Since 1998 BLM staff and volunteers have continued to survey for Sand Gilia as an incidental task when planning or implementing projects which had a primary purpose such as habitat restoration, weed abatement, development projects, etc. BLM utilizes GPS technology to define and map the boundaries of Sand Gilia locations in such a way that any portion of a given location occupied by Sand Gilia would be at least 20 meters distant from any other location occupied by Sand Gilia.

Sand Gilia survey results

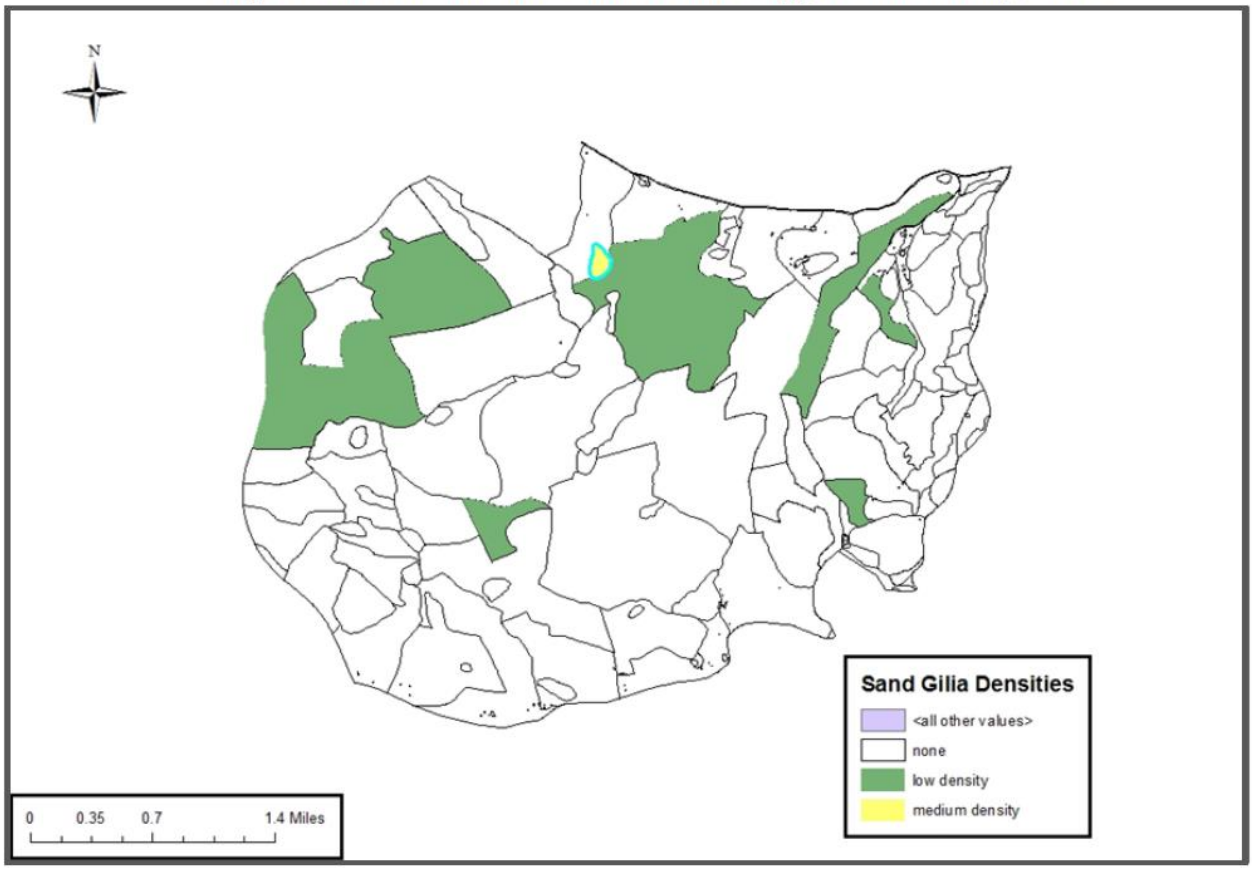
The 1992 Army surveys documented approximately 3,757 acres of occupied Sand Gilia habitat on Fort Ord, including approximately 400 acres of the BLM-administered portion of the FONM. BLM surveys (1996-2003) documented 32 locations comprising 2.85 acres within Dog Management Units 2, 3, and 4 to be occupied by Sand Gilia. Map C shows the known distribution of Sand Gilia based upon the most recent surveys for this species in Units 2, 3, and 4. Map D shows the approximate distribution of Sand Gilia in Planning Unit 1 based upon low and medium density polygons (there were no high density polygons) documented in 1992 surveys. Surveys completed during 1992 documented 1135 acres of low density Sand Gilia (13 polygons) and 11 acres of medium density (1 polygon). There were no polygons with high density Sand Gilia.

The large decrease from approximately 400 acres documented in 1992 to less than one acre documented since 1996 is attributed to the method used to map Sand Gilia since 1996. Assuming that 1992 Sand Gilia acreage estimates are accurate for Army and University of California Santa Cruz-administered lands, there would be approximately 3,357 acres of occupied Sand Gilia habitat on former Fort Ord with most of that within what is now FONM.

Map C. Known Sand Gilia Distribution in Planning Units 2, 3 and 4



Map D. Known Sand Gilia Distribution Polygons in Planning Unit 1

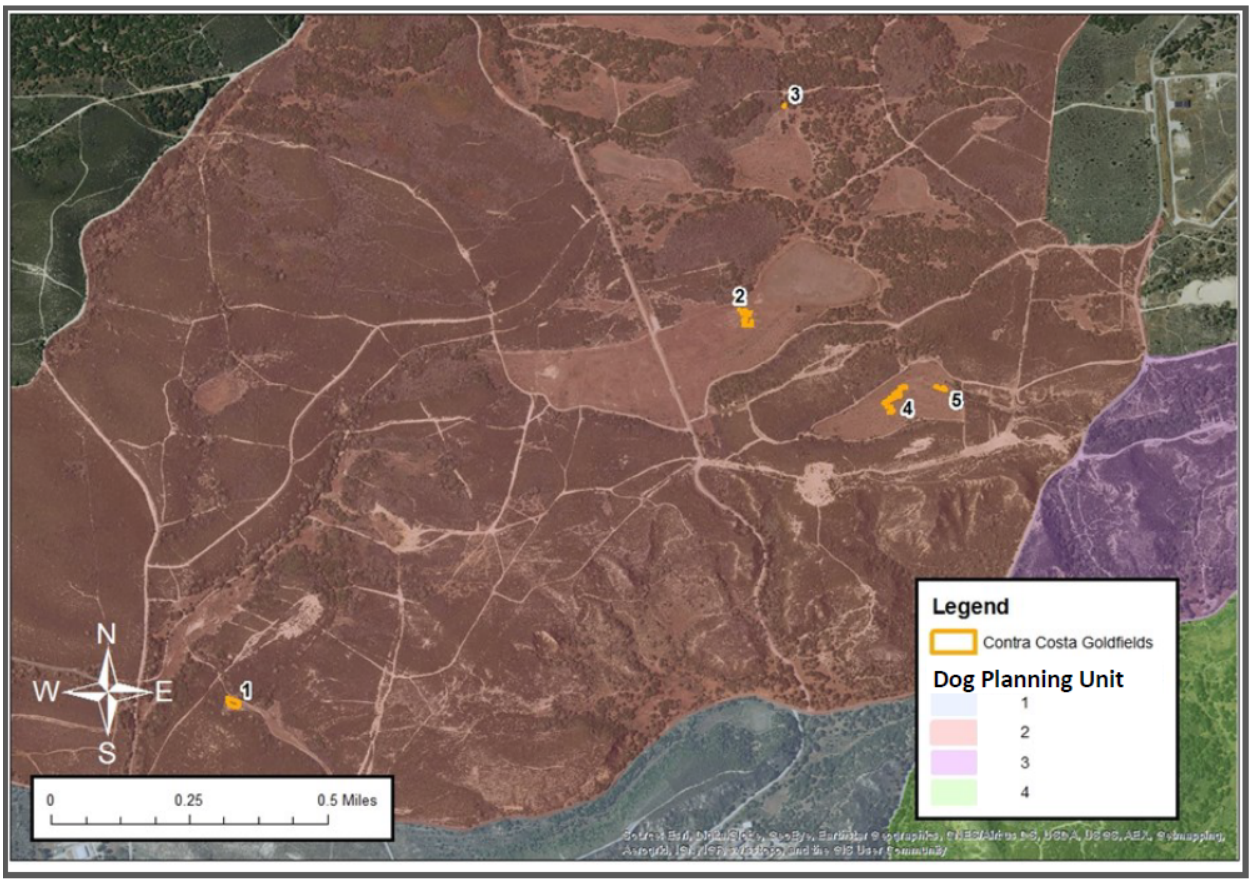


Contra Costa Goldfields

Status

Contra Costa goldfields was listed as federally endangered on June 18, 1997(62 Federal Register 33029). Descriptions of this plant species and its habitat are provided in the 1998 Army request for reinitiating of formal consultation (Willison 1998) and in the Service's Biological and Conference Opinion on the Closure and Reuse of Fort Ord (U.S. Fish and Wildlife Service, 1999). During June of 1998 BLM staff detected and identified the first known Fort Ord location of Contra Costa Goldfields. During subsequent weeks Army staff detected an additional three locations, one on BLM land at Machine Gun Flats, and two on Army lands near Eucalpytus Road and Henneken's Ranch Road respectively. These four known locations of Contra Costa Goldfields all occur within Planning Unit 2 and total 0.36 acres (Map E).

Map E. Contra Costa Goldfields Distribution in Planning Unit 2



Contra Costa Goldfields survey methods and results

From May - July 1999 all mapped wetland locations and six unmapped wetland locations within what are now Planning Units 2, 3, and 4 were surveyed for Contra Costa Goldfields during optimum bloom time and these included all four known locations of Contra Costa Goldfields on former Fort Ord. Each location visited was surveyed using a meandering "zigzag" transect. All plant species observed were recorded and nine of the 23 locations visited were photographed.

A total of 100 hours were spent surveying the 23 locations. Contra Costa Goldfields was observed at all four known locations however no additional locations were found.

Seaside birdsbeak

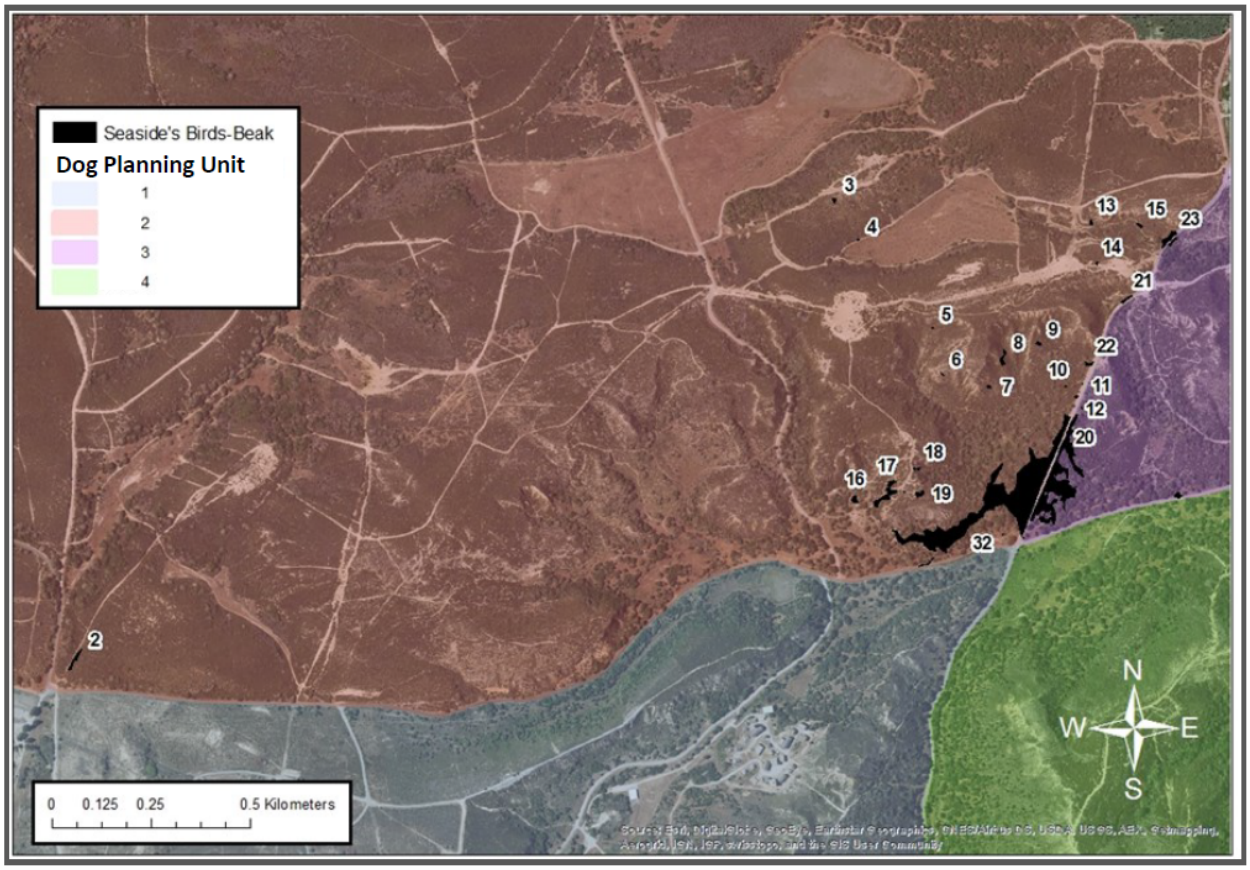
Status

Seaside Birdsbeak is listed as endangered by the State of California. It is an annual species found in sandy soils within Maritime Chaparral, Oak Woodland, and Coastal Scrub habitats at FONM. This species distribution and ecology is more specifically described in the Fort Ord HMP (U.S Army Corps of Engineers, 1997) and Basewide Flora and Fauna Study (U.S Army Corps of Engineers).

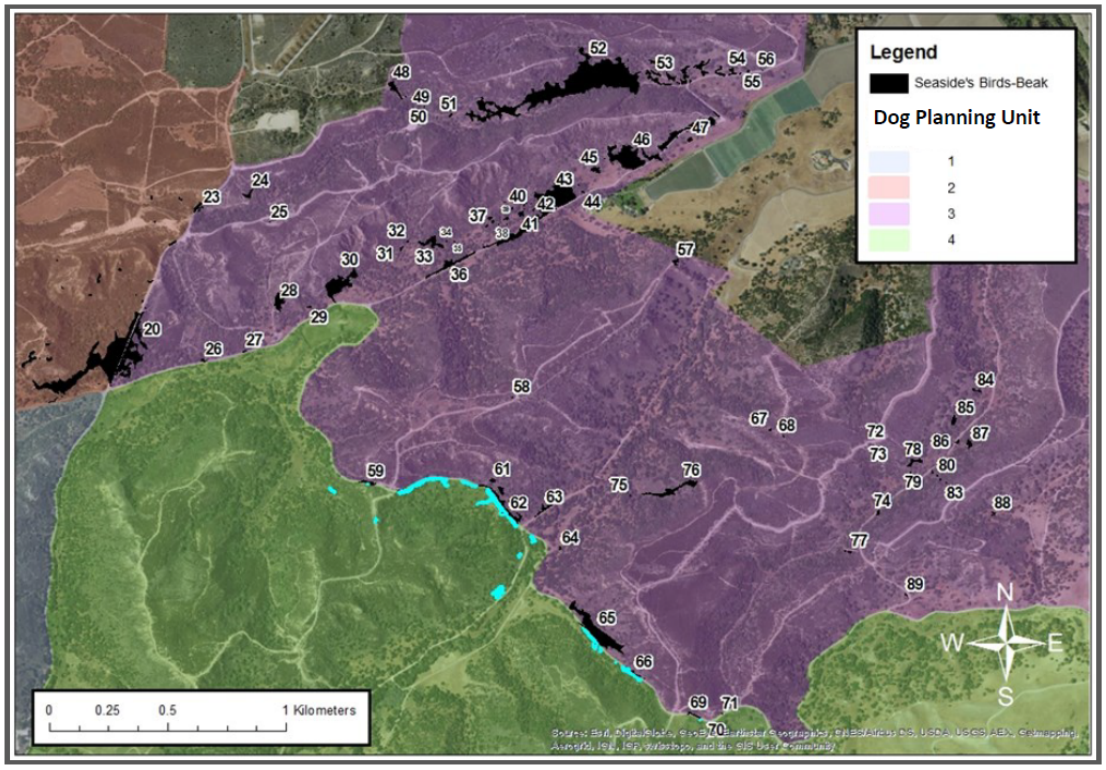
Survey Methods and Results

In 1992 and from 1996-present field surveys for Seaside Birdsbeak were conducted throughout Fort Ord by the U.S. Army and BLM respectively. The survey and mapping methods used were the same as those used for surveying Sand Gilia and these are described above for Sand Gilia. The 1992 surveys documented approximately 732 acres of occupied Seaside Birdsbeak habitat on former Fort Ord within Planning Units 2, 3, and 4. Subsequent BLM surveys have documented 98 locations comprising 30 acres occupied by Seaside Birdsbeak in Planning Units 2, 3, and 4 (Maps F-I). The distribution of 30 acres occupied by Seaside Birdsbeak includes 6 acres (23 locations) in Planning Unit 2, 23 acres (65 locations) in Planning Unit 3, and 1 acre (10 locations) in Planning Unit 4. The large decrease from approximately 732 acres reported in 1992 to 30 acres since 1996 surveys began is attributed to the more detailed survey method used to map Seaside Birdsbeak since 1996. Map I shows the approximate distribution of Seaside Birdsbeak in Planning Unit 1 based upon low, medium, and high densities documented in 1992 surveys. These surveys documented 46 acres of low density Seaside Birdsbeak (6 polygons) and 16 acres of medium density (1 polygon). There were no polygons with high density Seaside Birdsbeak.

Map F. Seaside Birdsbeak Distribution in Planning Unit 2

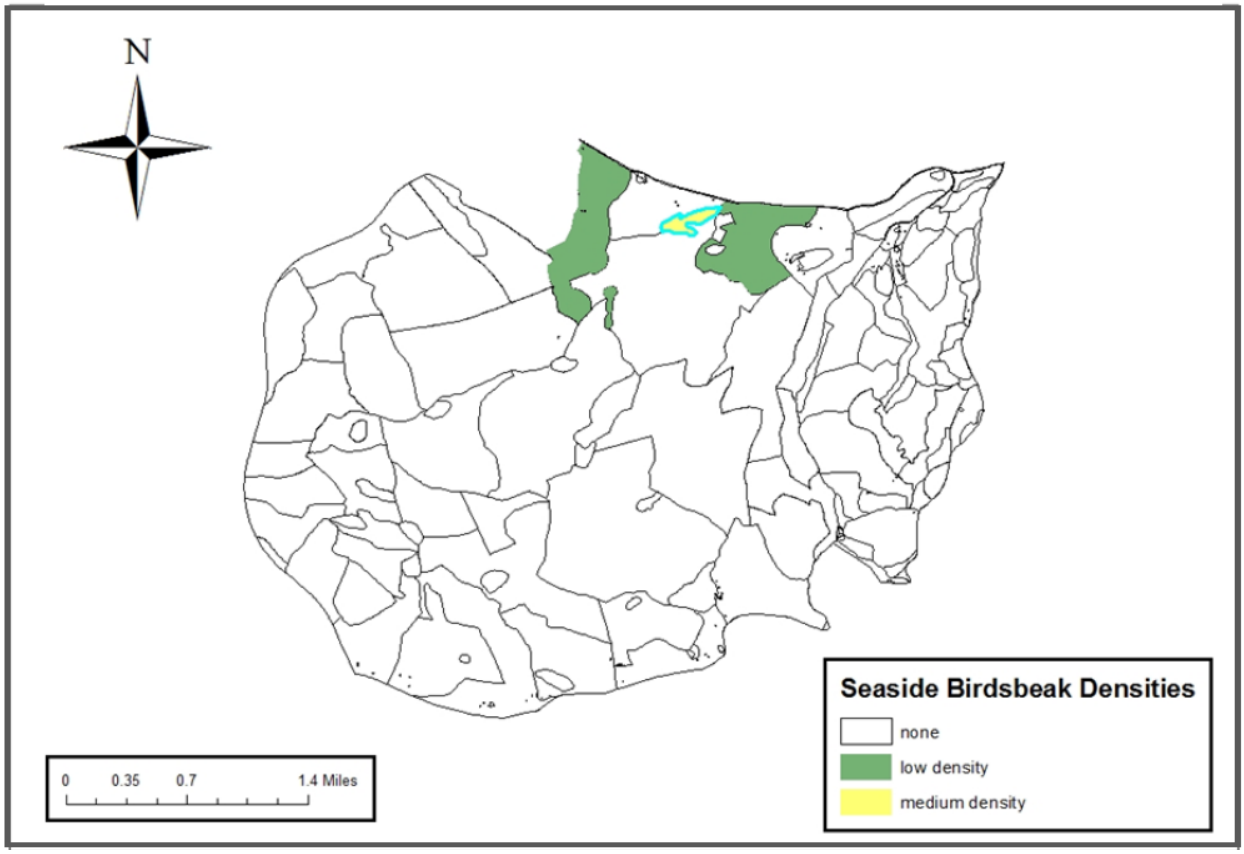


Map G. Seaside Birdsbeak Distribution in Planning Unit 3



Map H. Seaside Birdsbeak Distribution in Planning Unit 4

Map I. Seaside Birdsbeak Distribution in Planning Unit 1



Monterey Spineflower

Status

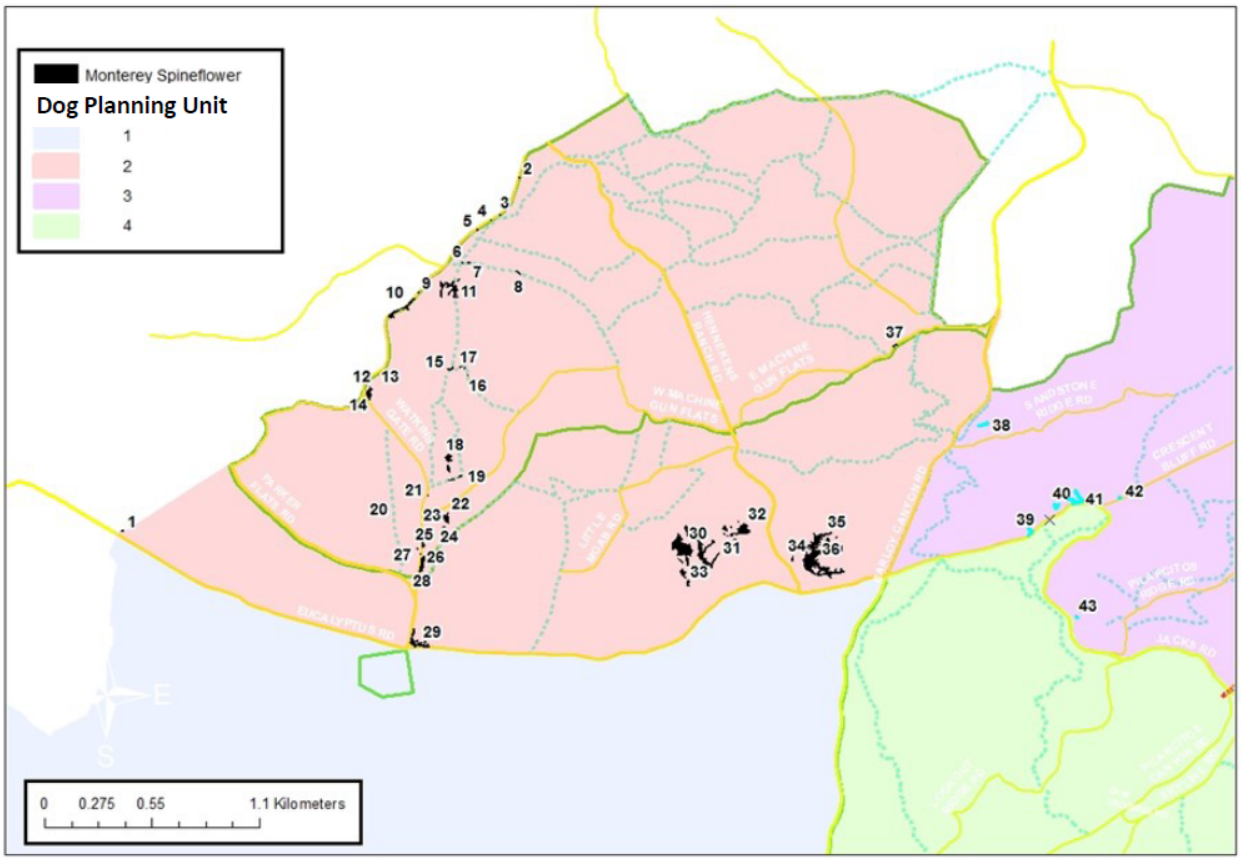
Monterey Spineflower was listed as federally threatened on February 4, 1994 (59 Federal Register 5499). Descriptions of this plant species and its habitat are provided in the 1997 HMP (Army, 1997).

Survey Methods and Results

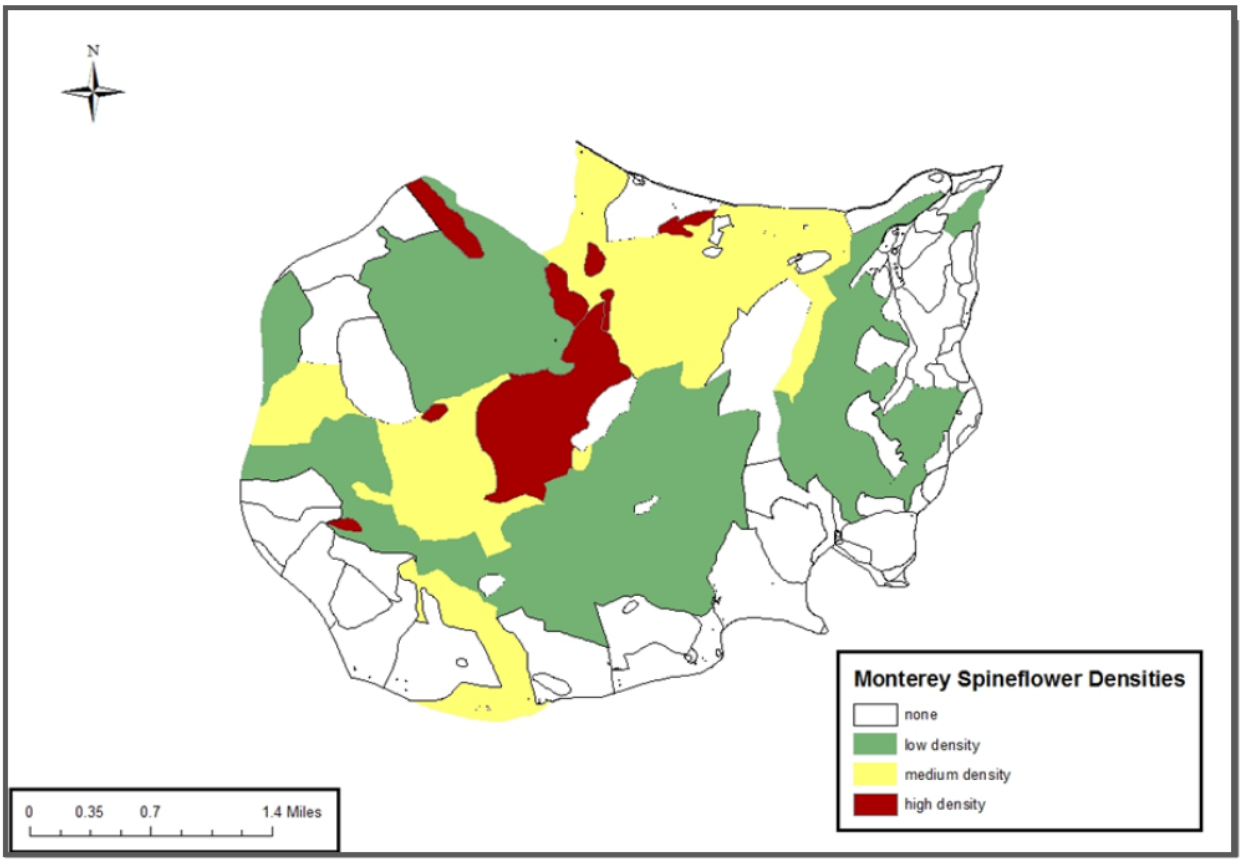
In 1992 and from 1996-present field surveys for Monterey Spineflower were conducted throughout Fort Ord by the U.S. Army and BLM respectively. The survey and mapping methods used were the same as those used for surveying Sand Gilia and these are described above for Sand Gilia. The 1992 surveys documented approximately 10,400 acres of occupied Monterey Spineflower habitat on former Fort Ord including 732 acres within Planning Units 2 and 3. Subsequent BLM surveys have documented 43 locations comprising 9.3 acres occupied by Monterey Spineflower in Planning Units 2(37 locations, 9 acres) and 3(6 locations, 0.3 acres)(Map D). There has been no Monterey Spineflower documented in Planning Unit 4. The large decrease from approximately 732 acres reported in 1992 to 9.3 acres since 1996 surveys began is attributed to the less-thorough method used to map Monterey Spineflower since

1996. Map J shows the known distribution of Monterey Spineflower based upon the most recent surveys for this species in Units 2, 3, and 4. Map K shows the approximate distribution of Monterey Spineflower in Planning Unit 1 based upon low, medium, and high densities documented in 1992 surveys. Surveys completed during 1992 documented 2387 acres of low density Monterey Spineflower (27 polygons), 1337 acres of medium density (14 polygons), and 429 acres (8 polygons) of high density Monterey Spineflower.

Map J. Known Distribution of Monterey Spineflower in Planning Units 2, 3 and 4



Map K. Known Distribution of Monterey Spineflower in Planning Unit 1



Monterey Spineflower Critical Habitat

Status

On January 9, 2008, the U.S. Fish and Wildlife Service designated 11,055 acres of Monterey Spineflower Critical Habitat. Approximately 8,000 of the 11,055 acres designated Monterey Spineflower Critical Habitat are within FONM.

Definition

Critical habitat is the geographical area occupied by a species where physical or biological features exist that are necessary for the conservation of a given species and may require special management considerations or protection.

The four primary constituent elements (those habitat features considered essential to the conservation of the Monterey Spineflower) of critical habitat for the Monterey Spineflower have been defined as follows:

1) Sandy soils associated with active coastal dunes, coastal bluffs with a deposition of windblown sand, inland sites with sandy soils, and interior flood plain dunes;

2) Plant communities that support associated species, including coastal dune, coastal scrub, grassland, maritime chaparral, oak woodland, and interior floodplain dune communities, and have a structure such that there are openings between the dominant elements (e.g. scrub, shrub, oak trees, clumps of herbaceous vegetation);

3) No or little cover by non-native species which compete for resources available for growth and reproduction of Monterey Spineflower;

4) Physical processes, such as occasional soil disturbance that supports natural dune dynamics along coastal areas.

Threats to Monterey Spineflower Critical Habitat include invasive species that crowd out this species munitions clean-up methods on former ranges that remove and chip all standing vegetation, and recreational activities and road and trail maintenance that could trample plants (Federal Register 73, No.6, January 9, 2008).

California Tiger Salamander

Status

The California Tiger Salamander's Central California distinct population segment (DPS) was proposed for federal threatened status on May 23, 2003 (68 Federal Register 28647). A DPS is a portion of a species' distribution that is determined by the Service to be both separated from other portions of the species distribution by physical, ecological, or other means, and to be significant for the species as a whole. The Central California DPS of the California Tiger Salamander includes all Fort Ord and other CTS population areas that are not part of the already-protected DPSs found in Sonoma and Santa Barbara Counties.

Description

Only brief descriptions of CTS habitat needs are included in the 1992 Fort Ord Flora and Fauna Baseline Study and 1997 Fort Ord HMP. Below are relevant excerpts from the Federal Register Volume 68, May 23, 2003, that are relevant to CTS protection on Fort Ord.

"The CTS is a large and stocky terrestrial salamander.... Adults may reach a total length of 208 millimeters (mm) (8.2 inches [in])).... Coloration consists of white or pale yellow spots or bars on a black background on the back and sides" (Stebbins 1962; Loredo and Van Vuren 1996, as cited by 68 Federal Register 2003).

Ecology

The range of CTS "does not naturally overlap with any other species of tiger salamander" (Stebbins 1985; Petranka 1998, as cited by 68 Federal Register, 2003). "CTS is restricted to vernal pools and seasonal ponds in grassland and oak savannah plant communities from sea

level to 460 meters (m) (1500 feet [ft])" (Stebbins 1989; Shaffer et al. 1993; Jennings and Hayes 1994; Petranka 1998; CNDDB 2002, as cited by 68 Federal Register, 2003). Subadults and adult CTS spend the dry summer and fall months of the year estivating (existing in a state of dormancy or inactivity in response to hot, dry weather) in the burrows of small mammals, such as California ground squirrels (Spermophilus beechyi) and Botta's pocket gopher (*Thomomys bottae*) (Storer 1925, Loredo and Van Vuren 1996, Petranka 1998; Trenham 1998a, Loredo and Van Vuren 1996,as cited by 68 Federal Register, 2003). CTS spend the vast majority of their lives in upland habitats, and "management plans that focus only on preserving ponds or wetlands, without consideration for associated terrestrial habitat, are likely to fail to maintain viable amphibian populations" (Marsh and Trenham 2001, as cited by 68 Federal Register, 2003). The upland component of CTS habitat typically consists of grassland savannah with scattered oak trees. Salamanders settle most commonly in burrows in open grassland or under isolated oaks, and less commonly in oak woodlands(68 Federal Register, 2003). Active ground burrowing rodent colonies probably are required to sustain CTS because inactive burrow systems become progressively unsuitable over time, often due to collapsing, and CTS apparently do not use collapsed burrows (68 Federal Register, 2003).

The larval stage of the CTS usually lasts 3 to 6 months, because most seasonal ponds and pools dry up during the summer (Patrinka 1998, as cited by 68 Federal Register, 2003). Amphibian larvae must grow to a critical minimum body size before they can metamorphose to the terrestrial stage (Wilbur and Collins 1973, as cited by 68 Federal Register, 2003). The larvae perish if a site dries before they complete metamorphous (P. Anderson 1968; Feaver 1971, as cited by 68 Federal Register, 2003). This occurred in at least one vernal pool on Fort Ord in March 2003 when several thousand amphibian larvae, including an unknown number of CTS, perished when a portion of the Hennekens Lake basin dried before these larvae could metamorphose. Typically, before the pools dry completely, metamorphosed juveniles leave their aquatic habitat and relocate to small upland burrows (Zeiner et al. 1988; Schaffer et al. 1993, as cited by 68 Federal Register, 2003). Juveniles do not typically return to the breeding pools until they reach sexual maturity, at several years of age (Trenham 1998b; Hunt 1998, as cited by 68 Federal Register, 2003). Given that all adult CTS reside in upland habitat at least 9 months each year, and that CTS adults spend all of some years in upland habitat without returning to aquatic habitat, and that juveniles spend up to several years in upland habitat prior to their first re-entry into aquatic habitat, it is critical that land managers understand the importance of upland habitat to CTS.

Of the 14 locations known to support CTS populations on the BLM-administered portion of FONM, 8 of these are likely to represent a "metapopulation" in the Henneken's Ranch Road area. A metapopulation is a set of local populations or breeding sites within an area, where

typically migration from one local population or breeding site to other areas containing suitable habitat is possible, but not routine (68 Federal Register, 2003).

California Tiger Salamander Survey Methods

During 2002 "wetland wildlife surveys" for salamanders and other aquatic fauna were conducted March 25-27 and April 21-22 as part of a Fort Ord-wide flora and fauna baseline study (U.S. Army Corps of Engineers, 1992). Dip net "swipes" and visual searches were used around the perimeter of a total of 26 permanent and ephemeral water bodies surveyed including 12 on the BLM-administered portion of FONM. These 12 locations include Locations #34, 36, 37, 38, Mudhen Lake East, Mudhen Lake West, #101, 102, 103, 104, 105, 106.

On February 13 and March 26, 2003, students and faculty from UC Davis surveyed for CTS at a total of 14 locations using a seine (an approximately 6ft wide, 12 ft. long net). On March 26 three locations were sampled twice using a mark and recapture technique to provide an estimate (simple Peterson Estimate) of the number of CTS larvae in each of the three ponds. This estimate was based upon the formula $N = r\ n / m$, where r is the number of individuals initially marked, n is the total number caught subsequent to marking, and m is the number of recaptures (Fitzpatrick 2003).

California Tiger Salamander survey results

A total of 14 locations have been documented to support CTS on the BLM-administered portion of FONM since 1992. During 1992 surveys CTS larvae were documented at four locations (Locations #5, 101, 105, and 999) on Fort Ord Public Lands (U.S. Army Corps of Engineers, 1992). During 2002 CTS larvae were again observed at Location #101 (Ready, pers. comm. 2003). During 2003 surveys CTS juveniles were observed at two of these previously documented locations (Locations 5 and 999) and an additional 10 other locations on Fort Ord Public Lands (Locations 37, 59, 104, 995, 998, Leslie Pool, West Twin Pool, East Twin Pool, Machine Gun Flats Pool, and Lower Machine Gun Flats Pool) (Figure 5). Two of these 10 additional locations (59 and Leslie Pool) were visited twice (February 13 and March 26) in 2003 while the other seven were only visited once. During the March 26, 2003, field visit, Leslie Pool was observed to contain CTS larvae likely to metamorphose (due to 1-2 foot water depths remaining in March). At Location #59, CTS larvae appeared to be nearing 100% mortality on March 26, 2003, due to the drying up of formerly inundated areas. Machine Gun Flats, Lower Machine Gun Flats, and Location #36 were estimated (simple Peterson estimate) to contain 318, 324, and 156 CTS larvae respectively (Fitzpatrick, pers. comm. July 9, 2003).

Threats

Research led by faculty at UC Davis has concluded that Toro Pond (Pond #38 on Map B near the eastern boundary of the FONM) is a suspected introduction site for the Barred salamander

(*Ambystoma tigrinum mavortium*). In 2007 BLM and UC Davis researchers removed 78 paedomorph (sexually mature but with larval morphology) individuals found in Toro Pond. Follow-up genotyping and visual assessments suggest Toro Pond supports a CTS population with relatively high frequency of non-native genes (Ryan, 2007).

Toro Pond was also a study site regarding hybridization between CTS and Barred salamanders (Fitzpatrick et al, 2009). This study found non-native alleles at high frequencies at 68 allele markers within the salamander genome at Toro Pond, suggesting that salamanders there are hybrids with extremely low native identity. This study also concluded that for 65 of the allele markers genotyped from CTS samples taken at 18 other Fort Ord ponds, there was no evidence of introduced alleles, but that markers for two of the introduced alleles were fixed throughout the 18 breeding ponds. This suggests that a small subset of hybrid alleles have spread from Toro Pond to the rest of the Fort Ord breeding populations. A third additional marker was fixed at ponds adjacent to Toro Pond (e.g. Guidotti Pond). It is inferred by Fitzpatrick et. al. that most introduced alleles have remained within the immediate vicinity of introduction sites such as Toro Pond while a consistent set of three other alleles have introgressed into otherwise native Fort Ord breeding populations.

Sporadic recreation emanating from authorized routes including the use of horses, mountain bikes, aquatic dog training, recreational dog use, and occasional trespass off-route vehicle use could result in direct mortality to CTS by trampling juvenile and adult CTS individuals in upland habitat or trampling all stages of CTS growth forms (including larvae) in aquatic breeding locations.

Although stock ponds are important habitats for CTS throughout its range (H. Schaffer, pers. comm. 2003, as cited by 68 Federal Register, 2003) they can also be problematic for CTS. Livestock on the perimeters of stock ponds probably tramples some eggs and larvae of CTS. "Repeated trampling of pond edges by cattle also can increase the surface area of ponds which may increase water temperature and evaporation rate, thus reducing the amount of time the pond contains water" (S. Sweet, pers. comm. 1998, as cited by 68 Federal Register, 2003). "Reduction in water quality caused by livestock excrement may negatively affect the CTS by increasing nitrogen and silt levels. High nitrogen levels are associated with bacterial blooms and lowered dissolved oxygen (Worthylake and Hovingh 1989 as cited by 68 Federal Register, 2003), and silt has been associated with fatal fungal infections (Lefcort et al. 1997, as cited by 68 Federal Register, 2003). Overall however, livestock grazing "generally is compatible with the continued use of rangelands by the Central California salamander as long as grazing is not excessive and intensive burrowing rodent control programs are not implemented" (T. Jones, in litt. 1993; Shaffer et al. 1993; S. Sweet, pers. comm. 1998 as cited by 68 Federal Register, 2003).

Non-native predators such as mosquito fish, other alien fish, and bullfrogs sometimes become established in stock ponds and have been implicated in the decline of CTS (Fisher and Shaffer 1996, as cited in 68 Federal Register, 2003). A strong negative correlation exists between bullfrog presence and CTS presence (Shaffer et al. 1993, Seymour and Westphal 1994, as cited by 68 Federal Register, 2003).

Bullfrogs are known to travel at least 2.6km (1.6 miles) from one pond to another (Bury and Whalen 1984, as cited by 68 Federal Register, 2003). Freshwater marshes on Fort Ord have been observed to support several hundred to thousands of bullfrogs at such locations as Boy Scout Lake in Planning Unit 4.

In 2006, BLM completed a Resource Management Plan that included Management Actions directing BLM to "monitor and maintain upland habitat for the CTS".

California Red-legged Frog

Status

The California Red-legged Frog (CRLF) was federally listed as Threatened on April 13, 2004.

Extent

The historic range of this species extended along the coast from the vicinity of Point Reyes National Seashore, Marin County, California, and inland from the vicinity of Redding, Shasta County, California, southward to northwestern Baja California, Mexico. CRLF are locally abundant within portions of the San Francisco Bay area and the central coast. Within the remaining distribution of the species, only isolated populations have been documented in the Sierra Nevada, Northern Coast, and northern Transverse ranges of California. The species is assumed to be extirpated from the southern Transverse and Peninsular ranges, but is still present in Baja California, Mexico.

Fort Ord National Monument Extent

CRLF have been documented in the Salinas River and at Vernal Pool #38 ("Frog Pond"). In 2015 University of Tennessee biologists observed CRLF at Vernal Pool #38 (Carter, Pers. Comm., 2016). There are also numerous ponds on private lands near Hwy. 68 adjacent to FONM Planning Unit 4 that could support California red-legged frogs.

Ecology

CRLF adults require dense, shrubby, or emergent riparian vegetation closely associated with deep (greater than 2 1/3-feet deep) still or slow moving water. They have been found up to 100 feet from water in adjacent dense riparian vegetation.

Threats

The California Red-legged Frog has sustained a 70 percent reduction in its geographic range in California as a result of several factors acting. Habitat loss and alteration, combined with over-exploitation and the introduction of exotic predators, were significant factors to its decline in the early to mid-1900s. CRLF is threatened within its remaining range by a wide variety of human impacts, including urban encroachment, construction of reservoirs and water diversions, land conversions, industrial and non-industrial forest practices, introduction of exotic predators and competitors, livestock grazing, and habitat fragmentation. Remaining populations in the Sierra foothills became fragmented and have been nearly extirpated by reservoir construction, continued expansion of exotic predators, grazing, and prolonged drought.

CRLF in Vernal Pool #38 are threatened by unauthorized recreation (e.g. domestic dog use), introduction of non-native larval predators (e.g. goldfish and bullfrogs), and prolonged drought.

Condon's Tarplant

Status

Congdon's Tarplant is classified as "BLM sensitive" and is an annual forb in the sunflower family (Asteraceae).

Extent

It occurs on FONM in a scattered distribution within vernal pools and riparian corridors (e.g. Trail 47 off Guidotti Rd. and adjacent to Hwy 68) or along edges of ponds (e.g. Vernal Pool #24["Barloy Pond"]) on FONM within Planning Unit 4. Congdon's Tarplant is known to exist at a few other locations along the Highway 68 corridor on private land, inside the Hwy 68 Right-of-Way, and on private lands within the City of Salinas.

Threats

In general, Congdon's Tarplant is currently experiencing habitat loss at many of its locations due to agriculture and urban development as well as livestock grazing. On FONM, Congdon's Tarplant is threatened by invasive plant species and prolonged drought.

Pacific Grove Clover

Pacific Grove clover was listed as Rare under the California Endangered Species Act (CESA) in February 1979. It is an annual forb in the pea family (Fabaceae).

Extent

The only known location of Pacific Grove Clover on FONM is in a wet meadow area adjacent to Skyline Rd. in lower Pilarcitos Canyon across from sheep corrals and ¼ mile south of Lightfighter

LZ Recreation Site. There are also other wet meadows on FONM that could support Pacific Grove Clover and should be surveyed during years of especially high rainfall.

Ecology

Pacific Grove Clover occurs in moist grassland areas in the vicinity of the Monterey Peninsula. On FONM The Pacific Grove Clover is threatened by invasive plant species and prolonged drought.

Western (California) Fairy Shrimp

Status

California Fairy Shrimp is a small crustacean which is federally listed as a Species of Concern. It is a member of the Linderiellidae family.

Extent

Numerous ponds and vernal pools on FONM have been documented to support California linderiella but this species. There are also numerous ponds on private lands near Hwy. 68 on private land which could support Western Fairy Shrimp.

Ecology

This Fairy Shrimp, like most others, tend to live in large, fairly clear vernal pools and lakes, but can survive in clear to turbid water with a pH from 6.1 to 8.5 or even very small pools. They are tolerant of water temperatures from 41° to 85° F, making them the most heat-tolerant Fairy Shrimp in California.

Threats

In general, threats to this species include habitat loss, altered hydrology, and contamination, off-road vehicle use, dumping, invasion of non-native species, erosion, and sedimentation. On FONM threats include unauthorized recreation (e.g. domestic dog use), introduction of non-native larval predators (e.g. goldfish), and prolonged drought.

Western Spadefoot Toad

Status

The Western Spadefoot Toad is a BLM sensitive species, USFWS Species of Concern, and a California Species of Special Concern. This species prefers grassland, scrub, and chaparral but also could occur in oak woodlands.

Extent

Historically, the Western Spadefoot Toad ranged from Redding to northwestern Baja California. In California, the species was found throughout the Central Valley, and in the Coast Ranges and

coastal lowlands from San Francisco Bay to Mexico. Western Spadefoot Toad has been eliminated from many locations within its range.

Western Spadefoot Toad has been documented only once on FONM. In 2002, BLM Volunteer David Styer observed one individual in a small depression of water on the east side of Skyline Rd. approximately ¼ mile north of Oil Well Road's junction with Skyline Rd. in Planning Unit 4. There are also numerous ponds on private lands near Hwy. 68 and that could support this species of toad.

Threats

The principal factors contributing to the decline of the Western Spadefoot Toad are loss of habitat due to urban development and conversion of native habitats to agricultural lands, the introduction of non-native predators, and unpredictable events that particularly impact small, isolated populations. On FONM threats include unauthorized recreation (e.g. domestic dog use), introduction of non-native larval predators (e.g. goldfish), and prolonged drought.

Southwestern Pond Turtle

Status

This subspecies of the Western pond Turtle is a BLM Sensitive Species.

Extent

Southwestern Pond Turtle is found over a wide area of California west of the Sierra Nevada crest but in mostly isolated locations. There are numerous ponds on private lands near Hwy 68 and likely much potential habitat within the Salinas River corridor. On FONM, the Southwestern Pond Turtle is known to occur at Merrill Ranch Pond and Mudhen Lake within Planning Units 3 and 4 respectively.

Ecology

Southwestern Pond Turtle depends on streams, or lakes and reservoirs for part of its life cycle and is known to survive in open woodland, grassland, or open forest even when riparian areas are subject to periods of drought or ephemerally wet conditions.

Threats

In general, threats to this species include drought, livestock activity, introduced exotic aquatic predators, and fishing (e.g. accidental capture of this species without removal of the hook). On a few occasions individuals have been observed within FONM walking on Barloy Canyon Rd. north of Eucalyptus Rd. and along Crescent Bluffs Rd. In these instances these turtles were extremely vulnerable to motorized vehicles, potential harassment or handling by people, or injury from curious or aggressive domestic dogs.

Coast Horned Lizard

The Coast Horned Lizard is a California Species of Special Concern and a USFWS Species of Concern. They are known to occur in a variety of habitats, including chaparral, grassland, and coniferous forests. It is abundant only in localized areas along the South Coast Ranges (e.g., Pinnacles National Monument, San Benito County), and in isolated sections of natural habitat remaining on the valley floor (e.g., Pixley Vernal Pools Preserve, Tulare County). Coast Horned Lizard is most commonly sighted in open shrub-dominated communities where loose, fine soils and an abundance of native ants occur. It relies on open areas for sunning and nearby brush for cover.

The Coast Horned Lizard is known to occur throughout FONM and most often in open sandy areas where it is most easily seen as compared to grassy or brushy areas where there is a lot of biomass that makes observations of this species by humans more difficult.

This species has disappeared from approximately 35 percent of its range in central and northern California and extant populations are becoming increasingly fragmented as a result of continued development of the region. In the Central Valley, the conversion of a large percentage of the historical habitat from relict lake sand dunes and alluvial fans, through development such as pipelines, canals, and roads, has resulted in the disappearance of this taxon from many areas. This activity continues and has been significantly extended into the surrounding foothills over the last 20 years as technological advances have allowed farmers to cultivate crops such as wheat, grapes, and fruit orchards on increasingly steeper slopes previously only used for livestock grazing. Because the California Horned Lizard is probably long-lived, individuals may continue to be observed for some years along the fringes of agricultural developments. However, this lizard seems inevitably likely to disappear after several generations if its edge habitat is altered, or its food resources are reduced due to pesticides or habitat takeover by Argentine ants. Negative effects of human disturbance are not limited to the immediate vicinity of land disturbance or human habitation; sometimes effects are manifest at considerable distances (e.g., domestic cats have been observed to eliminate Horned Lizards within several square kilometers of the area from a cat's home base).

On FONM threats include trampling by cyclists or pedestrians and competition from Argentine ants.

Silvery Legless Lizard and Black Legless Lizard

These two lizard subspecies are considered together here because of overlapping habitat and their range of occurrence. Both subspecies are California Species of Special Concern. These lizards spend most of their life underground (e.g. they are fossorial) where soil moisture is essential for their survival.

California Legless Lizards can be abundant in suitable habitats within California's Coast Ranges from Antioch, Contra Costa County south to the Mexican border. They occur with spotty occurrence throughout the rest of their range, which includes the floor of the San Joaquin Valley from San Joaquin County south, the west slope of the southern Sierra, the Tehachapi Mountains west of the desert, and the mountains of southern California. They are common in several habitats but especially Coastal Dunes, various oak woodlands, chaparral, and Coastal Scrub.

The California Legless Lizard is known to occur throughout FONM and has been documented at more locations on the sandy soils of FONM in Planning Units 1, 2, and 3 than in clay soils that dominate most of Planning Unit 4.

High confidence exists that California Legless izards cannot survive in urbanized, agricultural, or other areas if loose soil needed for burrowing is removed or radically altered (e.g., the substrate severely disturbed by plowing or bulldozing). A suite of other factors, including livestock grazing, off-road vehicle activities, sand mining, beach erosion, excessive recreational use of coastal dunes, and the introduction of exotic plant species are likely to alter the substrate in ways that reduce the quality of their habitat. On FONM the only significant threat would be prolonged drought due to the fossorial life habit of this species.

Grasshopper Sparrow

Grasshopper Sparrow is designated a Species of Special Concern by the U.S. Fish and Wildlife Service. Its National Heritage ranking is S2 which is defined as Imperiled (typically having six to twenty occurrences, or 1,000 to 3,000 total breeding individuals). This sparrow occupies a variety of tall- and mixed-grass habitats including native prairies, hayfields, pastures, and grassy fallow fields. In recent decades, however, this sparrow has experienced population declines throughout most of its breeding range. Except when the males are singing, Grasshopper Sparrows tend to be very secretive and spend most of their time moving through grassy cover.

Grasshopper Sparrows are fairly common during the breeding season in the grasslands of Planning Unit 4 (approximately March – June) and may support approximately 50 singing males (Styer, 2016 personal communication). There is also a small breeding population of Grasshopper Sparrows on Machine Gun Flats in Planning Unit 2. (Styer, 2016). Singing males have also been heard recently during multiple spring seasons in the grassland in the area of Vernal Pool #22 on the south side of the BLM National Monument Work Center in Planning Unit 1. It is potential that this sparrow occupies other similar habitat throughout Planning Unit 1 (Wagoner, 2016).

As is true for most grassland birds, habitat loss is the factor primarily responsible for the recent declines in Grasshopper Sparrow populations. In the northeastern states, the abandonment of

farmlands and subsequent reforestation has caused the greatest loss of suitable breeding habitats. Elsewhere, urbanization and the conversion of grasslands to cultivated cropland are the most important factors. Additionally, the early cutting of hayfields can result in the abandonment of breeding territories and contribute to the annual fluctuations in abundance in some areas.

Loggerhead Shrike

A common resident and winter visitor in lowlands and foothills throughout California, the Loggerhead Shrike is a BLM Sensitive Species and a California Species of Special Concern. Loggerhead Shrike prefers open habitats with scattered shrubs, trees, posts, fences, utility lines, or other perches. Highest density occurs in open-canopied valley foothill hardwood, valley foothill hardwood-conifer, valley foothill riparian, pinyon-juniper, juniper, desert riparian, and Joshua tree habitats. Although populations have declined elsewhere, they have remained fairly stable in the Pacific states. Individual Loggerhead Shrikes have been observed almost annually the last few years in the northern portion of Planning Unit 1 (Styer, 2016 Personal Communication). Loggerhead Shrikes are also almost annually winter residents in Planning Unit 4 and, in some years, they are present in this area throughout the year (Styer, 2016 Personal Communication).

Tri-colored Blackbird

The Tri-colored Blackbird, a BLM Sensitive species, a USFWS Species of Concern, and a California Species of Special Concern, is mostly a resident in California. Common locally throughout the Central Valley and in coastal districts from Sonoma County south, it breeds near freshwater, preferably in emergent wetlands with tall, dense cattails or tules, but also in thickets of willow, blackberry, wild rose, and tall herbs. In winter, the Tri-colored Blackbird becomes more widespread along the central coast and San Francisco Bay area; however, numbers appear to be declining in California. Dense breeding colonies are vulnerable to massive nest destruction by mammalian and avian predators, including Swainson's hawks (*Buteo swainsoni*).

There is one known nesting colony of Tri-colored Blackbirds adjacent to Oil Well Rd. in the grasslands of FONM and several hundred acres of potential habitat in these grasslands. The nesting colony supports approximately 50-100 nesting pairs of birds each year and is dominated by stinging nettle (*Urtica urens*) and Poison Hemlock (*Conium maculatum*) and is located in an atypical habitat for the Tri-colored Blackbird which normally nests in marsh-like habitat much closer to wetland habitat than the FONM nesting colony which is located in a dry grassland habitat.

Western Burrowing Owl

The Western Burrowing Owl, a BLM sensitive species and California Species of Special Concern, is a small ground-dwelling owl. Burrowing Owls are found in open, dry grasslands, agricultural and range lands, and desert habitats often associated with burrowing animals. They can also inhabit grass, forb, and shrub stages of pinyon and ponderosa pine habitats. They are found at elevations ranging from 200 feet below sea level to 9,000 feet. These owls can be found at the margins of airports and golf courses and in vacant urban lots.

Conversion of grasslands and pasturelands to agriculture and destruction of ground squirrel colonies have been the main factors causing the decline of the Western Burrowing Owl population. Assimilation of poisons applied to ground squirrel colonies has probably also taken a toll. Their propensity for nesting in roadside banks also makes them particularly vulnerable to roadside shooting, being hit by cars, road maintenance operations, and general harassment.

Burrowing Owls are frequently seen in the grasslands of the FONM outside of nesting season. Between June – December they inhabit former FONM grasslands as wintering habitat.

Golden Eagle

The Golden Eagle is a BLM Sensitive species, a California Species of Special Concern, and a California Fully Protected Species. Further protection is afforded to this species under the 1940 Federal Bald Eagle Protection Act, as amended. The Golden Eagle was once a common permanent resident in open rangeland, but is now reduced to an estimated 500 nesting pairs in California. Natural population densities are very low, and its reproductive rate is very low as well. Golden Eagles nest on rocky cliffs within the Pinnacles National Monument, approximately 10 miles west of the Central Coast Management Area (CCMA). This large eagle species occurs regularly within the CCMA along Clear Creek and in other open areas. It is found in a wide range of elevations in the park, needs open terrain for hunting, and nests on cliffs and in large trees in open areas.

Habitat destruction (reclamation of grasslands for agriculture), shooting, and human disturbance at nest sites are major threats. Disturbance by humans during the breeding season was found to be the major source of nest failure in other western states.

Golden Eagles use FONM for hunting purposes but no nests of Golden Eagles have ever been documented on the monument.

Bank Swallow

Bank Swallows have been extirpated from Southern California and are listed as Threatened under the CESA. The species nests in colonies and creates nests by burrowing into vertical banks consisting of fine-texture soils. Currently, Bank Swallows are locally common only in restricted portions of California where sandy, vertical bluffs or riverbanks are available for the

birds to dig their burrows and nest in colonies. Most of California's remaining populations nest along the upper Sacramento River where it still meanders in a somewhat natural manner. In this alluvial plain, the river system provides suitable soil types and erosion needed for prime nesting habitat. It is estimated that the range of Bank Swallows in California has been reduced by 50 percent since 1900. Seventy-five percent of the State's population is concentrated on the banks of Central Valley streams, including several colonies on the Sacramento River.

Historically, they occurred principally along the coast. Bank Swallows were eliminated from Southern California because virtually every river and natural waterway where it was known to occur was converted to flood control channels. Former coastal colonies have been abandoned by swallows due to increased human disturbance. Remaining, scattered populations exist in portions of Inyo and Mono counties and northern, north coastal, and central coastal regions of the State.

There have been significant changes in the degree and type of endangerment factors for the Bank Swallow since the 1992. The rip-rapping of natural stream bank associated with bank protection projects is the single most serious, human-caused threat to the long-term survival of the Bank Swallow in California. It is projected that as much as 50 percent of the remaining population of Bank Swallows could be lost if all bank protection projects currently proposed are completed.

Recent survey information indicates a continuing decline in Bank Swallow populations on the Sacramento River. Based on an average occupancy rate of about 45 percent of all burrows dug into river banks, an estimated population of 13,170 pairs of Bank Swallows nested in Sacramento River habitats in 1986. In 1997, the breeding population had declined to about 5,770 pairs.

Factors responsible for the declines from 1986 to the present are not completely understood, but the drought years followed by flooding may have had a major influence along with the loss of several major breeding colonies to bank protection projects. Further monitoring will be necessary to determine the true population trend, if any.

A State Recovery Plan for the Bank Swallow was completed and adopted by Fish and Game Commission in 1992. The Recovery Plan identifies habitat preserves and a return to a natural, meandering riverine ecosystem as the two primary strategies for recovering the Bank Swallow.

In 2008 Bank Swallows were documented for the first time on former Fort Ord and were seen nesting along the coastal dune faces on the immediate coastline of Fort Ord Dunes State Park. Steep cliff-like stream banks along El Toro Creek are potential habitat for this species.

Northern Harrier (Marsh Hawk)

The Northern Harrier is a California Species of Special Concern. This species has greatly declined in California as a breeding bird, the decline being already conspicuous by the 1940s. At present, nesting localities are still scattered throughout the state, but numbers are much reduced. This species nests on or near the ground primarily in emergent vegetation, wet meadows, or near rivers or lakes and may nest in grasslands away from water.

Destruction of marsh habitat is undoubtedly the major reason for the decline. Grazing has certainly had an adverse effect on populations nesting in grasslands. The bulk of the breeding population is concentrated in ungrazed portions of state and Federal wildlife refuges. Wintering populations are much larger, but these have also declined.

Northern Harriers are frequently seen hunting in the FONM grasslands of Planning Unit 4 but no nests of this species have been documented on former Fort Ord.

Peregrine Falcon

Generally, the Peregrine Falcon, a listed endangered species under the CESA, is found in open habitats such as savannah, and coastal areas. The species is most commonly associated with tall cliffs with wide open views that are used for perching and nesting, and are usually near a water source. Cliffs, ledges, caves, or small holes with protection from the weather provide nesting sites. Typically, this species breeds in woodland, forest, and coastal habitats. It is also found in many cities throughout North America, nesting on the window or other ledges of tall buildings, and taking advantage of the abundance of pigeons (as prey).

During migration, Peregrine Falcons may be found near marshes, lakes, and ponds with high concentrations of waterfowl, shorebirds, and other birds. Peregrine Falcon populations have seriously declined since the 1940s due to eggshell thinning from pesticides, particularly DDT, and polychlorinated biphenyl (PCB) poisoning. In 1985, 77 nesting pairs were known in California, up from the five known active sites in 1970. Other threats to this species include competition with ravens (*Corvus corax*) and prairie falcons (*Falco mexicanus*) for nest sites.

In California, Peregrine Falcons are considered uncommon residents. Active nesting sites of this species are known from along the coast north of Santa Barbara. Individuals that breed farther north migrate into California for the winter months. Spring and fall migrations occur along the coast and in the western Sierra Nevada Mountains.

Peregrine Falcons are an infrequent visitor to former Fort Ord but there it is unlikely that this falcon would nest on Fort Ord.

Prairie Falcon

The Prairie Falcon, a California Species of Special Concern, was once a common permanent resident throughout California, but has declined in recent decades. They inhabit dry, open country, grasslands, and woodlands, and nest on cliffs. They have declined in California due to several probable factors, including nest robbing by humans, control of prey species, and use of pesticides.

Like Peregrine Falcons and Golden Eagles, Prairie Falcons are infrequent visitors to FONM can be seen occasionally.

Sharp-shinned Hawk

The Sharp-shinned Hawk, a California Species of Special Concern, is the smallest accipiter raptor species. It formerly bred in small numbers throughout northern California and in even smaller numbers in southern California. Only a few individuals are reported during the summer months, and a small breeding population in Contra Costa and Alameda counties has apparently disappeared. Winter populations are larger and appear to be stable. Sharp-shinned Hawks occupy forested and woodland habitats

The total population breeding within California is very small, and thus vulnerable to impact from falconry, although at present this species is not taken by falconers to a significant extent. Logging is another potential hazard.

Sharp-shinned Hawks are frequently seen on former Fort Ord but the riparian woodland, eucalyptus trees, and oak savannah near the proposed project site are probably of marginal habitat quality for this hawk species.

Yellow Warbler

The Yellow Warbler is a California Species of Special Concern that prefers riparian woodlands, but also breeds in chaparral, ponderosa pine, and mixed conifer habitats with substantial amounts of brush. In recent decades, numbers of breeding pairs have declined dramatically in many lowland areas of California. A major cause of this decline has apparently been Brown-headed Cowbird (*Molothrus ater*) parasitism. On FONM the only potential habitat is located along El Toro Creek's riparian woodland and in similar riparian woodland along Barloy Canyon (Jones and Stokes, 1992).

Sage Sparrow

Sage Sparrow is listed as a Species of Special Concern in California. Sage Sparrows are extremely vulnerable to nest predation. Research suggests that nest predation can strongly reduce reproductive success and threaten population persistence. On FONM and elsewhere Sage Sparrow prefers recently burned chaparral perhaps because it has a low, open shrub structure.

Sage Sparrows are present year round in Planning Units 1 (Wagoner , 2016) and are often detected in Planning Unit 2.

VII. Summary of Special Status Species and Plant Community Impacts for Each Dog Management Unit Fenced Inland Range (Planning Unit 1)

Wildlife and Plant Communities.

There are approximately 6052 acres of Maritime Chaparral which dominates this 6,642-acre Planning Unit and also represents two-thirds of the Maritime Chaparral known to occur in the FONM. Conversely, there are only approximately 251 acres of Grasslands and approximately 166 acres of Oak Woodlands (Map A) within this area both of which are a very small percentage of these habitats acreages on FONM. There are approximately 11 Vernal Pools and no riparian habitat within this unit (Map B). These Vernal Pools comprise 31 acres which represent one-third of the total 90 acres of Vernal Pool habitat on FONM. In summary, Planning Unit 1 is the most valuable Area in the FONM for resource values associated with Maritime Chaparral, and is the second most valuable Unit for Vernal Pool related resource values.

Special status plant and animal species.

Ten of the 15 special status plant species and 12 of the 19 special status animal species found on FONM are known to occur in Planning Unit 1 (Table 3.1).

The special status plant species not found in this unit are the wetland-dependents Contra Costa Goldfields, Johnny Nip, Pacific Grove Clover, Santa Cruz Clover and the Congdon's Tarplant however suitable habitat for these 5 species exists in the Fenced Inland Ranges area thus requiring consideration of these species in any land use decision for this unit. The total area of this Planning Unit has not been surveyed for any special status species therefore approximate acres of occupied habitat are not known. Instead, the best available information remains the 1992 estimated number of acres for each special status species in this Planning Unit 1 of low, moderate, and high density distributions. Even though no comprehensive rare plant acreage figures exist for Planning Unit 1 the overwhelming number of acres occupied by two special status plant species (Sand Gilia and Monterey Spineflower) occurs in this Planning Unit.

All ten of the special status plant species known to occur in this area are known to grow or could potentially occur next to trails and where they do they would be vulnerable to trampling given the proposed dog/pedestrian recreation for this area. However, only a few of these species (e.g. Sand Gilia and Seaside Birds-beak) are so rare and/or small that trampling could result in substantial damage to a population or species.

Six of the 12 special status animal species found within this planning unit could be vulnerable to trampling or harassment by equestrian, cyclists, pedestrians, and dogs on or off leash. These include Western Fairy Shrimp, California Tiger Salamander, Coast Horned Lizard, and Grassland Sparrow. These potential impacts are because of recreation proximity to breeding sites (e.g. wetland species and Grassland Sparrow), resting sites (Burrowing Owl), or in the case of the Coast Horned Lizard, the fact that these lizards depend on camouflage for protection and use trails and trailside open areas for resting and foraging.

A. North of Eucalyptus Road (Planning Unit 2)

Wildlife and Plant Communities.

There are approximately 1300 acres of Maritime Chaparral within this 1967-acre Unit (Map A) which represents only 10% of this habitat in the FONM. Of note however is that approximately 40% of high density Hookers Manzanita acreage occurs in this Planning Unit's Maritime Chaparral. There are also approximately 391 acres of Oak Woodland and 145 acres of Grasslands within this unit both of which are a fairly small portion of these habitats distribution on FONM.

There are approximately 19 vernal pools and no riparian habitat within the North of Eucalyptus Road portion of FONM (Map B). These vernal pools comprise 50 acres which represent over half of the total 90 acres of vernal pool habitat on FONM.

Planning Unit 2 is the most valuable Unit for resource values associated with vernal pools and is the second most valuable Unit for resource values related to Hookers Manzanita habitat.

Special status plant and animal species.

Eleven of the fifteen special status plant species and 10 of the 19 special status animal species found on FONM are known to occur in the North of Eucalyptus Road portion of the FONM (Table 3.1).

All eleven of the special status plant and animal species known to occur in this unit are known to grow or could potentially grow next to trails and where they do they would be vulnerable to trampling given the proposed dog/pedestrian recreation for this unit.. However, only a few of these species (e.g. Sand Gilia and Seaside birds-beak) are so rare and/or small that trampling could result in substantial damage to a population or species. The four special status plant species not found in this unit are Yadon's Rein-orchid (*Piperia yadonii*), Pacific Grove Clover, Condgon's Tarplant, and Coast Wallflower, however, suitable habitat for all four of these plants exists in this unit thus requiring consideration of these species in any land use decision for this unit.

Four of the ten special status animal species known to occur in the North of Eucalyptus Road portion of the FONM could be vulnerable to trampling or harassment by equestrian, cyclists, pedestrians, and dogs on or off leash. These include Western Fairy Shrimp, California Tiger Salamander, Coast Horned Lizard, and Grassland Sparrow. These potential impacts result from the proximity of recreation use to breeding sites (e.g. wetland species and Grassland Sparrow) or, in the case of the Coast Horned Lizard, the fact that these lizards depend on camouflage for protection and use trails and open trailside areas for resting and foraging.

B. North of Jack's Road (Planning Unit 3)

Wildlife and Plant Communities.

There are approximately 1384 acres of Maritime Chaparral within this 2,079-acre Unit (Map A). There are also approximately 456 acres of Oak Woodland and 105 acres of Grasslands within this unit. There is one Vernal Pool and 2.0 miles of riparian habitat within the North of Jack's Road portion of FONM (Map B). These aquatic habitats comprise 1 acre of Vernal Pools and 86 acres of riparian habitat. Relative to the other 3 units of FONM, Planning Unit 3 doesn't have the highest value for any of the six primary habitats found on FONM however its most notable contributions are as the second most important of the Planning Units for resources related to Riparian(42%), Coast Live Oak Woodland(24%) and Coastal Scrub(22%).

Special status plant and animal species.

Nine of the fifteen special status plant species and nine of the nineteen special status animal species found on FONM are known to occur in the North of Jacks Road portion of FONM (Table 3.1).

All nine of the special status plant species known to occur in this area are known to grow or could potentially grow next to trails and where they do they would be vulnerable to trampling given the proposed dog/pedestrian recreation for this unit(note: as they would if equestrian, cycling use were allowed). However, only a few of these species (e.g. Sand Gilia and Seaside birds-beak) are so rare and/or small that trampling could result in substantial damage to a population or species. The six special status plant species not found in this area include the wetland-dependent Contra Costa Goldfields, Johnny Nip, Congdon's Tarplant, and Pacific Grove Clover as well as two upland species, Yadon's Rein-orchid and Coast Wallflower. Suitable habitat exists north of Jacks Road for all of these six species except Coast Wallflower thus requiring consideration of these species in any land use decision for this unit.

Five of the nine special status animal species known to occur in the North of Eucalyptus Road portion of the FONM could be vulnerable to trampling or harassment by equestrian, cyclists, pedestrians, and dogs on or off leash. These include Western Fairy Shrimp, California Tiger

Salamander, Southwestern Pond Turtle, Coast Horned Lizard, and American Badger. These potential impacts result from the proximity of recreation use to breeding sites(e.g. wetland species), resting sites(American Badger), or in the case of the Coast Horned Lizard, the fact that these lizards depend on camouflage for protection and use trails and trailside open areas for resting and foraging.

C. South of Jack's Road (Planning Unit 4)

Wildlife and Plant Communities.

There are approximately 2464 acres of Grassland within this unit (Map A) which dominates this 4,014-acre Planning Unit. There are also approximately 839 acres of Oak Woodland and 650 acres of Maritime Chaparral within this unit. There are 11 Vernal Pools and 3.1 miles of riparian habitat within the South of Jack's Road portion of FONM (Map B). These aquatic habitats comprise 17 acres of Vernal Pools and 92 acres of Riparian habitat. Relative to the other 3 Units of FONM, Planning Unit 4 by far the most valuable Unit for resource values associated Grasslands (83%). It is also the most valuable Unit for resource values related to Coastal Scrub (77%), Riparian (58%), and Coast Live Oak Woodland (44%).

Special status plant and animal species.

Nine of the fifteen special status plant species and sixteen of the nineteen special status animal species found on FONM are known to occur in the South of Jacks Road portion of the FONM (Table 3.1).

All nine of the special status plant species known to occur in this unit are known to grow or could potentially grow next to trails and where they do they would be vulnerable to trampling given the proposed dog/pedestrian recreation for this unit (note: as they would if equestrian, cycling use were allowed). However, as with other Planning Units, only a few of these species (e.g. Sand Gilia, Seaside birds-Beak) are so rare and/or so small that trampling could result in substantial damage to a population or species. The special status species not found in this unit are the wetland-dependent Contra Costa Goldfields, Johnny Nip, and California fairy shrimp as well as Yadon's Rein-orchid, Monterey Spineflower, and Coast Wallflower. However, potential habitat for the California fairy shrimp (e.g. Guidotti Pond and Pilarcitos Canyon ponds) does exist in this unit thus requiring consideration of this species in any land use decision for this unit.

Eight of the sixteen special status animal species known to occur in the North of Eucalyptus Road portion of the FONM could be vulnerable to trampling or harassment by equestrian, cyclists, pedestrians, and dogs on or off leash. These include Coast Horned Lizard, and American Badger. These potential impacts result from the proximity of recreation use to breeding sites

(e.g. include California Tiger Salamander, California Red Legged Frog, Southwestern Pond Turtle, Spadefoot Toad, and Grassland Sparrow), resting sites (e.g. American Badger and Burrowing Owl), or in the case of the Coast Horned Lizard, the fact that these lizards depend on camouflage for protection and use trails and trailside open areas for resting and foraging.

VIII. Cultural and Historical Resources

The Planning Area encompassing the Monument lands was the traditional home of the Costanoan (Ohlone) Native American California Indians. Archeological sites in the southern Monterey Bay region demonstrate that these people lived in the area for hundreds of years, perhaps thousands. They used the former Fort Ord area for hunting and gathering and there were villages nearby; however, there are no known village sites on FONM.

The Monument lands are associated with the eighteenth century Spanish Explorer Juan Bautista de Anza. In 1772, Anza proposed an overland expedition to Alta California to the Viceroy of New Spain. This proposal was finally approved by the King of Spain and on January 8th, 1774, 3 padres, 20 soldiers, 11 servants, 35 mules, 65 cattle, and 140 horses set forth from Tubac Presidio (south of present-day Tucson, Arizona) and headed north and east to Alta California. Anza reached Monterey, Alta California's capital, on April 19th, 1774. The last stretch of the expedition traverses what is now a corridor of land where State Route 68 (SR 68) exists. California Department of Transportation (CalTrans) worked with the National Park Service (NPS) to designate SR 68 as an Auto Tour Route component of the Juan Bautista de Anza National Historic Trail (NHT). BLM worked with NPS to designate a non-motorized trail component of the NHT that roughly parallels SR 68 on FONM.

Anza's second expedition got under way in October 1775, and arrived at Mission San Gabriel Arcángel in January 1776. Having fulfilled this task from the Viceroy, he continued north with Father Pedro Font and a party of 12 others found an inland route to the San Francisco Bay. In March of 1776, Anza and the explorers located the sites for the present day Presidio of San Francisco and Mission San Francisco. The route the expedition took from Monterey to San Francisco traverses north of SR 68 and crosses diagonally across FONM eastward from Broadway Avenue in Seaside towards South Davis Road.

During the late 1800's and early 1900's, large Spanish and Mexican land grants became the property of small ranching families. Spanish grants "Pueblo (or City) Tracts Number One and Two" were the outlands of Monterey, what would become the Inland Ranges Area (Area 1, Planning Area Map). Mexican-era land grants "El Toro" and "El Chamisal" were created to support ranching and today constitute most of the Monument's southeastern lands (Areas 3 and 4, Planning Area Map). Most of the land that is now the FONM was purchased by the Army in 1917 from the David Jacks Corporation; other purchases that filled out what later became Fort Ord occurred around 1940.

The United States Army used the Monument lands for various training operations as early as 1911. Before the establishment of Fort Ord the lands were known as the Gigling Military Reservation, created to support the Presidio of Monterey training activities. The Army purchased their first tract of land from the Gigling family. Sometimes referred to as "Giggling," their family emigrated from Baden Baden, Germany in the mid-nineteenth century and settled in the Marina-Salinas area as farmers. Later in the mid-1930s Camp Clayton and Camp Pacific were created near present day Marina and Camp Huffman near the center of the Post; then in 1938 Camp Ord was created on the eastern side of the Post. These camps were initially was used by the 11th Cavalry and 76th Field Artillery stationed at the Presidio of Monterey. By 1940, the Camps were consolidated into one unit - Fort Ord, and designated a permanent Army post with the activation of the 7th Infantry Division (and subsequent activations and re-activations of the 4th, 5th, and 6th Divisions). Fort Ord was a basic training center from 1947 to 1974. In 1991, Fort Ord was identified for Base Realignment and Closure (BRAC), and the facility was closed officially in September 1994 as part of the Cold War "Peace Dividend."

A. Fenced Inland Range (Planning Unit 1)

This part of the planning area is covered under an existing Memorandum of Understanding between the United States Army and the Advisory Council of Historic Preservation which addresses the effects to cultural resources under the National Historic Preservation Act (NHPA). Known cultural resources within this area are two prehistoric-era isolate discoveries (projectile points) and a segment of the historic-era Monterey-Coalinga Oil Pipeline. This area also includes the former site of the historic-era Monterey-Coalinga Oil Pipeline Heating Station 8H and the Army's "Camp Huffman," co-located within the existing Monument Work Center location.

B. North of Eucalyptus Road (Planning Unit 2)

This part of the planning area contains one recorded historic-era archeological site: CA-Mnt-1818H ("Henneken Ranch"). There is also the presence of the modern cultural feature "Comanche's Grave" – a horse grave site for a former Fort Ord Parade horse which was buried within the site boundaries of CA-Mnt-1818H. Kaspar Henneken was a German immigrant to California in the 1850s, and was the Monterey County beekeeper in the mid-to-late nineteenth century. He maintained a homestead site in Carmel Valley in addition to the ranch on FONM; the Hennekens lived between the Valley and the ranch site until the late 1930s when the Army finally purchased the remaining lands and converted the Reservation into a Fort.

C. North of Jack's Road (Planning Unit 3)

This part of the planning area contains one recorded historic-era archeological site: CA-Mnt-933H. This site is located off the existing FONM trail network. There are also unrecorded linear pipeline segments of the historic-era Monterey-Coalinga Oil Pipeline feature; some of these

segments can be seen from the exiting FONM trail network (e.g., Trail 49). This area also contains a sedge (*Carex* sp.) bed stand that is currently used and maintained by local Native Americans; sedge is a common material used in traditional and contemporary basket weaving. A part of Crescent Bluff Road within this planning unit was also used for the construction of a mock Vietnamese village for combat training purposes during the early 1970s.

D. South of Jack's Road (Planning Unit 4)

This part of the planning area has two recorded archeological resources: CA-Mnt-416 and CA-Mnt-1800H. CA-Mnt-416 is a small prehistoric-era bedrock mortar feature above Toro Creek and off of the existing FONM trail network. During Base Closure activities, the archeological site was tested for National Register of Historic Places (NRHP) eligibility and was determined not eligible. CA-Mnt-1800H is a small historic-era trash dump (ca. early twentieth century) adjacent to Toro Creek and off of the existing FONM trail network. There are also two unrecorded historic-era features within this area: one site is located near the intersection of Barloy Canyon Road and Eucalyptus Road; the other is a single concrete trough feature. Neither resource is located on the existing FONM trail network and likely related to U.S. Army mid-twentieth century use. This area also has two adaptively reused structures that are not historic in age but characterize the cultural resource values espoused in the Presidential Proclamation of the Monument in 2012: they are a mess-line shelter structure and a mess-eating area structure, both relate to U.S. Army training related to the late 1960s-early 1970s and neither appear to exhibit any unique architectural elements.

IX. Range Management and Livestock Operations

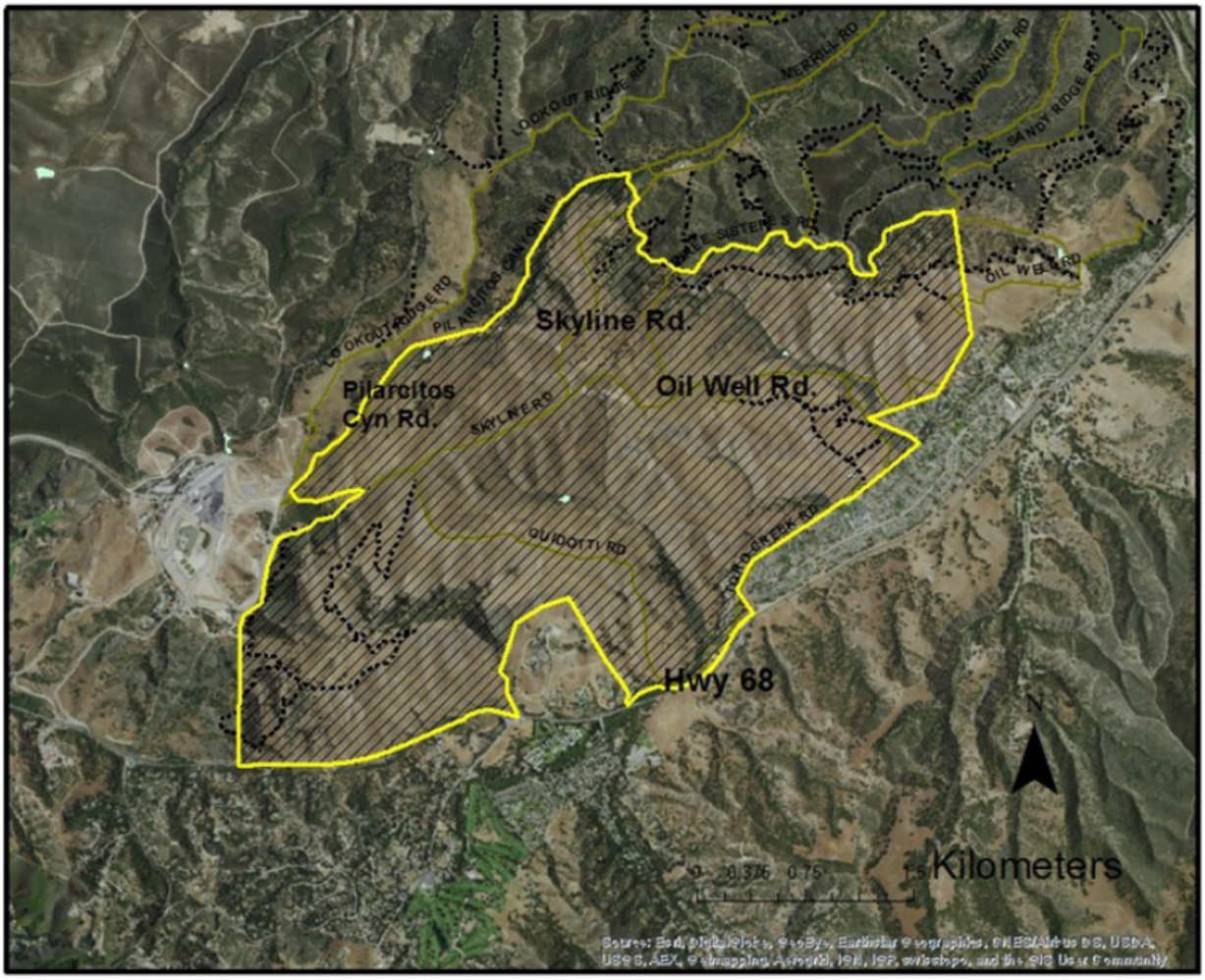
A. Fenced Inland Range, North of Eucalyptus Road, and North of Jacks Road

Livestock has not been used as a management tool within these three planning units. Occasionally sheep have been used across a small stretch of grasslands above Station One Road within the North of Jacks Road Planning Unit; however, this treatment is not continuous.

B. South of Jack's Road

The U.S. Army authorized grazing with up to 5,200 sheep (ewes and lambs combined) on former Fort Ord within the area referred to in this document as Planning Unit 4 of FONM from the 1960's until Fort Ord closed in 1994.

Map L. Sheep Grazing Region in Planning Unit 4
(2500 acres)



Sheep were the only domestic livestock used on former Fort Ord during this period. The U.S. Army canceled its sheep grazing lease in 1994 and no livestock grazed on FONM during 1995-1996. BLM hosted a 2-day grazing symposium in 1996 to solicit information on livestock grazing from various grassland experts and decided to resume sheep grazing and monitoring of sheep grazing impacts beginning in 1997.

In 2006, BLM completed a Resource Management Plan that included Management Actions directing BLM to do the following:

- Manage native perennial grasslands as a sensitive community to maintain or increase populations.
- Use livestock grazing to improve ecological conditions and increase forage production.

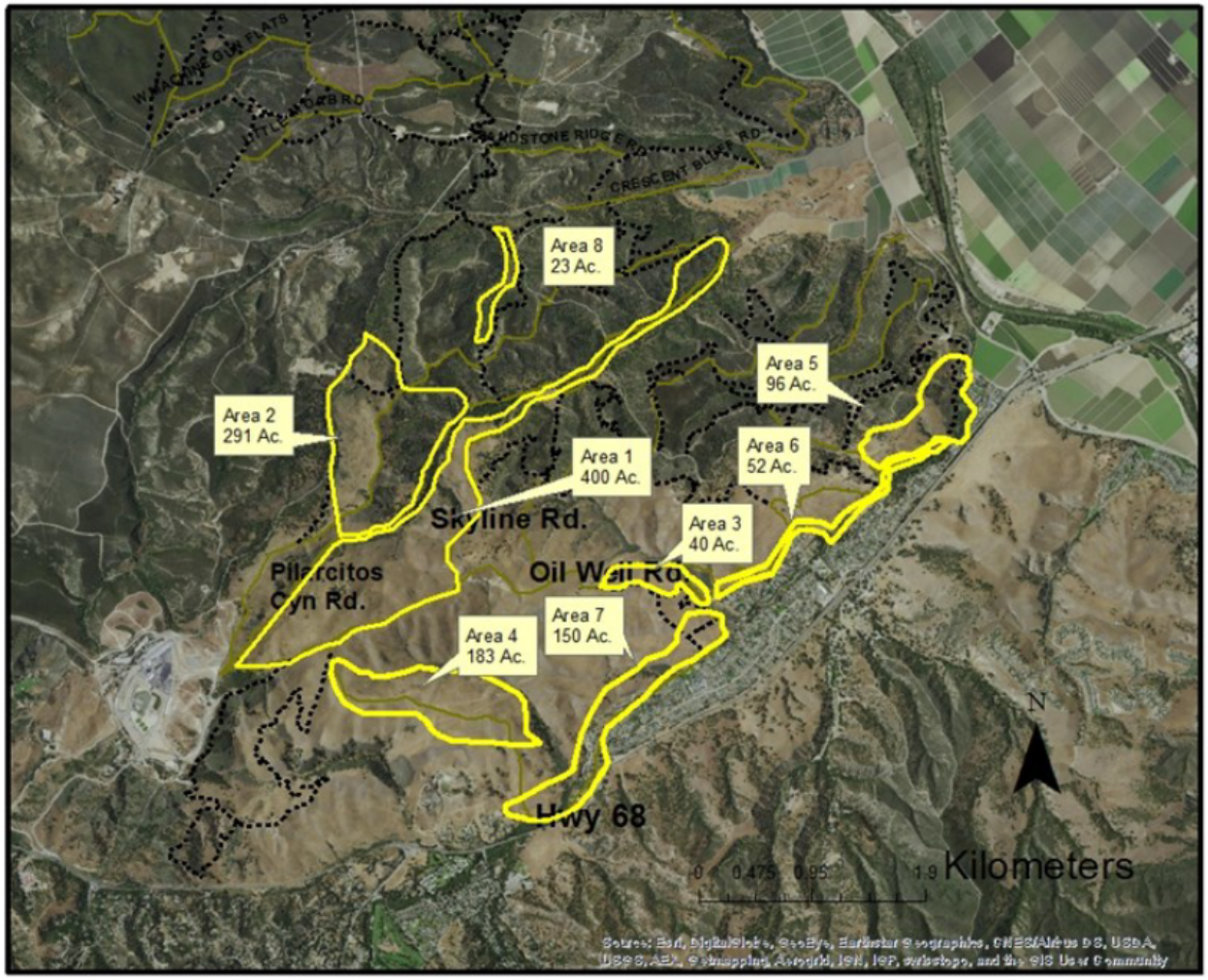
- Allow livestock grazing as a tool to reduce noxious and invasive weeds, maintain perennial grasses, and improve habitat for special status species.

BLM typically allows 1300 sheep (ewes and lambs) to graze 2500 acres of FONM from February to July. This is a significant reduction in grazing animals compared to grazing levels prior to 1997. Until 2014, the purposes of livestock grazing on FONM were to control invasive nonnative grasses and forbs (broad-leaved annual plants) and the buildup of their mulch as well as to reduce fire hazard along the wildland-urban interface near Hwy 68 and adjacent residential areas. The U.S. Army activities on the former Fort Ord included frequent prescribed and unintentional fires. Pilarcitos Canyon and other areas within the FONM grasslands were used every 1-2 years for fire training purposes until approximately 1992. In recent years BLM staff has observed, and aerial photos confirm, that Coyote Brush is becoming dominant in areas formerly dominated by grasses and other non-woody vegetation such as forbs and sedges. It is likely that the combination of cessation of burning and reduction in the number of sheep grazing on FONM have allowed Coyote Brush to encroach into former grassland areas.

Beginning in 2014 BLM has authorized up to 1,400 domestic goats to graze areas of encroaching Coyote Brush and primarily north-facing grassland slopes where sheep only very lightly graze resulting in buildup of dead grass (e.g. mulch or thatch) overlying the ground surface. Goats typically graze on FONM from October to March. Given that sheep are on Fort Ord approximately March to July, only August and September are without livestock in Planning Unit 4 on FONM.

Map M. Goat Grazing Region in Planning Unit 4

(1235 Acres)



There have been many incidents involving pet dogs off leash leading to altercations with professional livestock herders and their livestock. The incidents of which BLM staff is aware include the following:

- 2008, a hiker on FONM, reported that his two dogs were off leash and ran away over a hill out of sight. When the owner found his dogs they had already killed two sheep. This dog owner stated he didn't know his dogs would harm sheep.

- 2008, sheepherder was struck in the face by a dog owner who had his dog off leash. The herder was protectively holding a lamb at the time he was struck in the face and asking the dog owner to leash his dog because this dog had attacked a lamb when off leash earlier that year.

- 2009, while BLM was conducting a site visit on Butterfly Ridge habitat restoration site a dog off leash ran into the brush after a family of wild pigs. The sow mother charged toward the group of people when the dog retreated in their direction.

- 2009, a Rottweiler off-leash attacked and killed two sheep.

- 2011-2012, two-three sheep were killed in each of these years by domestic dogs.

- 2013, one sheep was severely wounded by dog as observed and reported by nearby homeowner and BLM Ranger. This sheep died later of its injuries.

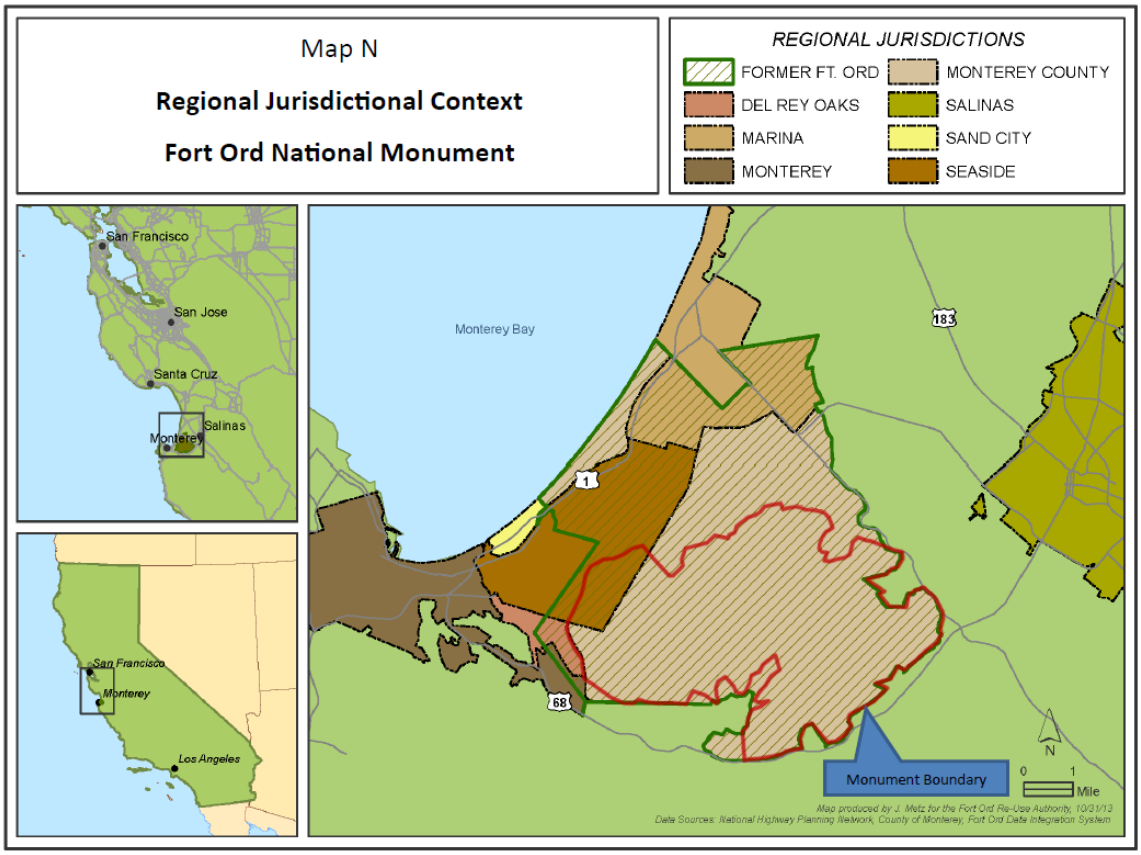
- 2014, there were no sheep kills or injuries due to domestic dogs. Approximately 8 incidents were observed by sheepherder of dogs off leash harassing sheep.

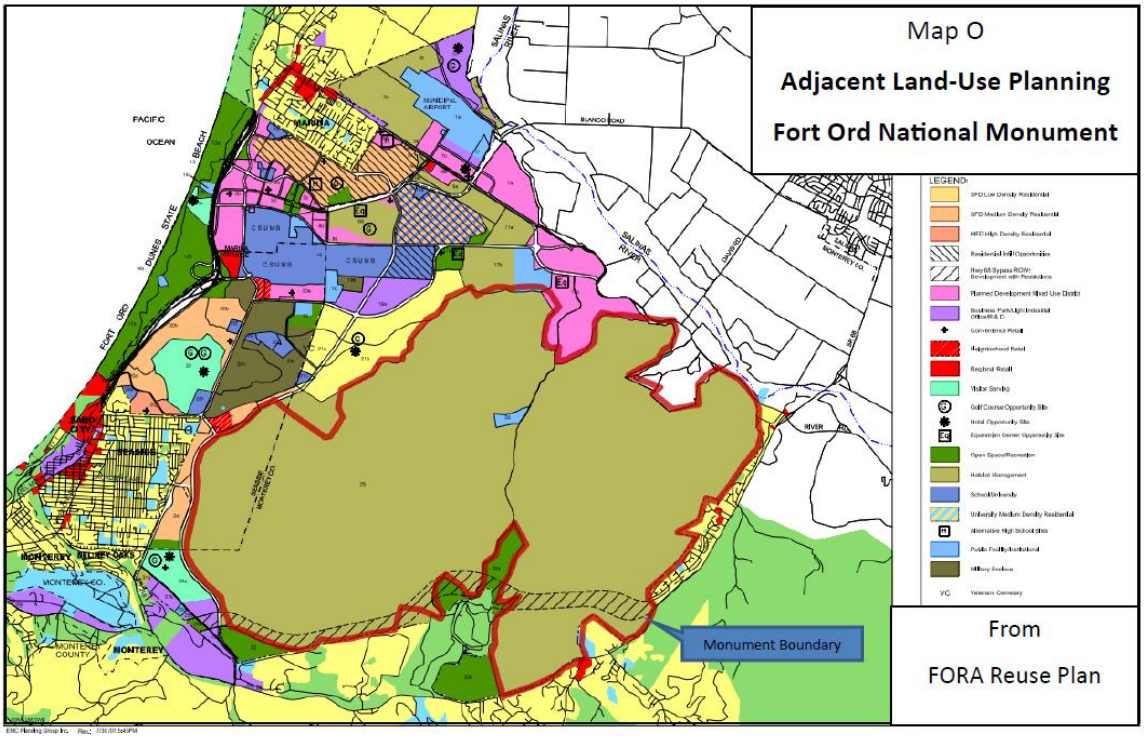
- 2015, a dog was separated from owner's control and jumped into sheep water-trough which had to be emptied afterwards because sheep wouldn't drink the fouled water. This type of incident affects the time management of the sheep herder and the sheep operation.

X. Adjacent Land-Uses and Jurisdictions

The former Fort Ord occupied approximately 28,000 acres and is undergoing a tremendous change in land-uses as local communities implement the vision for their jurisdictions as described within the Fort Ord Reuse Plan. Approximately 72% of the former base lies within unincorporated portions of the County of Monterey, with about 15% within the city limits of the City of Seaside, about 11% within the city limits of the City of Marina, about 1% within the City of Del Rey Oaks, and less than 1% within the City of Monterey. The city of Sand City shares a portion of its boundaries with the former Fort Ord, and Salinas, Pacific Grove and Carmel are all within 5 miles of the former installation.

FONM is strongly affected by land-use planning decisions of Monterey County, City of Seaside and City of Del Rey Oaks that all share a common boundary or overlap with the monument. Map N illustrates the complex and often confusing jurisdictional boundaries around FONM. How these jurisdictions affect (and are affected by) FONM decisions regarding dog management is described in more detail for each planning unit below. Map O depicts some of the land-use planning designations around the FONM both on, and off, the former Fort Ord.


Map N
Regional Jurisdictional Context
Fort Ord National Monument
REGIONAL JURISDICTIONS
FORMER FT. ORD
MONTEREY COUNTY
DEL REY OAKS
SALINAS
MARINA
SAND CITY
MONTEREY
SEASIDE
San Francisco
San Jose
Santa Cruz
Salinas
Monterey
Los Angeles
Monterey Bay
183
1
68
Monument Boundary
N
0
1
Mile
Map produced by J. Metz for the Fort Ord Re-Use Authority, 10/31/13
Data Sources: National Highway Planning Network, County of Monterey, Fort Ord Data Integration System


Map O
Adjacent Land-Use Planning
Fort Ord National Monument
PACIFIC
OCEAN
MARINA
CSUMB
MONTEREY
SEASIDE
SALINAS RIVER
Monument Boundary
LEGEND:
From
FORA Reuse Plan

A. Fenced Inland Range (Planning Unit 1)

This western edge of the planning unit is adjacent to the cities of Seaside, Del Rey Oaks, and Monterey. The Seaside, Del Rey Oaks, Monterey and FONM common boundary will always be separated by a fence to control access to the monument due to the long-term MEC hazard that will persist within this planning unit. The BLM expects that public access into this planning unit will continue to be highly regulated in the future to help alleviate MEC hazards.

The undeveloped land that the City of Seaside will soon be transferred immediately adjacent to the monument is governed by the Fort Ord Reuse Plan and most is zoned as RS-8 (single-family residential), and to a lesser degree OSR (open-space recreation), and NR (neighborhood retail). The City is in the process of updating their general plan and the relevant zoning. In 2010, the City prepared a conceptual master plan for a 700 acre region adjacent to the monument that was referred to as Seaside East, and this might help guide the general plan update. Within that conceptual plan, the adjacent land uses include Recreation/Open Space, Business Park / Employment, and Mixed Use.

The Fort Ord Reuse Plan currently has most of the adjacent City of Del Rey Oaks land zoned for visitor serving and the City is currently entertaining proposals that would include an RV park in addition to some residential and retail opportunities. The project site is situated between the FONM and the Frog Pond Wetland Reserve that is administered by the Monterey Peninsula Regional Park District at the intersection of SR 218 and General Jim Moor Boulevard. That park is available for leashed dog walking opportunities.

The city of Monterey land near the FONM is most associated with the Ryan Ranch Business Park. Lands immediately adjacent to the monument that will be transferred to the City are zoned as Business Park / Light Industrial in anticipation of future expansion of the Business Park.

Along the northern edges of the planning unit is land that the Army has retained as part of the Ord Military Community. The Army requires that dogs be leashed within the residential community and an off-leash dog park is available to Army residents and others along Parker Flats Road. Also along the northern edges is the Central Coast Veterans Cemetery that is approximately ¾ mile away from the FONM, and land designated for transfer to Monterey Peninsula College to serve the future needs of their Police Officer Safety Training (POST) academy.

B. North of Eucalyptus Road (Planning Unit 2)

Land adjacent to this planning unit is largely undeveloped and often confused as part of the FONM. Some of this land has (or will) be transferred to Monterey County Parks Department and be managed as a County Park. Other lands will be kept in County ownership and managed

as habitat reserves. Still other lands are designated for possible development under the FORA Reuse Plan and the City of Seaside is considering a project called "Monterey Downs" and "Monterey Horse Park". Monterey Downs is a mixed-use residential project with visitor serving components, and Monterey Horse Park is an equestrian themed recreation facility. Still other lands near the former Ammunition Supply Point off Barloy Canyon Road are zoned for mixed-use development and could be a future phase of the residential community at East Garrison.

Lands along this northern edge are important to the FONM because they provide access and currently there are no formal trailheads or parking areas available. The County Park lands would be subject to Chapter 14 of the Monterey County Parks Department code. Under this provision, dogs must be physically restrained at all times or on a leash not greater than 7 feet long.

C. North of Jack's Road (Planning Unit 3)

Land adjacent to this planning unit is largely agricultural in nature. There is a small residential area along Crescent Bluff Road called Crescent Bluff Estates and future phases of the East Garrison residential community could span southwards towards the FONM near the Ammunition Supply Point. The Creekside Condominium complex is also adjacent to this planning unit.

D. South of Jack's Road (Planning Unit 4)

Land adjacent to this planning unit is largely residential and includes Toro Sunshine, Serra Village and Toro Park Estates. Each of these residential subdivisions have undeveloped lands that are managed as parks (i.e. Kelton Park), or undeveloped service areas (i.e. greebelts). Important access for residents to the FONM include greenbelts along Anza Drive, Davenrich Drive and Veronica Drive, Ordonez Drive and Guidotti Court, and Portola Drive.

The Homeowner Associations (HOA's) representing these Toro Park residential communities regularly tell landowners dogs must be leashed on the roads, sidewalks and greenbelts within the subdivisions. It is unclear what specific County codes apply to the residential areas and whether local government authorities enforce the dog leash requirements.

Also adjacent to this planning area is land administered by the Monterey County Parks Department at the Laguna Seca Recreation Area. There are some roads and trails on the FONM that cross both BLM and County Park jurisdictions including segments of Skyline Road, Pilarcitos Road, Lookout Ridge Road, Barloy Canyon Road, Trail 47, and Trail 48. Dog use on the County Park is governed by Chapter 14 of the Monterey County Parks Department code. Under this provision, dogs must be physically restrained at all times or on a leash not greater than 7 feet long.

XI. Regional Recreation and Tourism Setting

Recreation and tourism in Monterey County is a 2.3 billion dollar industry. With six County Parks, fourteen State Parks, two Regional Parks, one National Forest, two National Monuments, one Wilderness Area, one National Marine Sanctuary, and one National Estuarine Research Reserve, there are multiple open space areas that serve as regional destinations. According to County officials, there were over 7 million visits to open space parks and other attractions within the region in 2013. The Monterey Bay Aquarium continues to be the single most popular recreation destination in the Monterey area with nearly 2 million annual visitors. The 400,000 annual visitors (mostly local) to the FONM is an important contributor to the recreation and tourism industry.

In regards to special events held in the area, the Sea Otter Classic bike event that stages out of Laguna Seca Recreation Area and uses roads and trails on the FONM brings in the third most visitors to the region. The top 12 spectator/participant events for the County in 2013 are below:

- AT&T Celebrity Pro AM at Pebble Beach – 140,000 visitors
- Monterey County Fair in Monterey – 70,000 visitors
- Sea Otter Classic Festival at FONM/Laguna Seca – 60,000 visitors
- Monterey Auto Week and Pebble Beach Concours d'Elegance – 50,000 visitors
- California Rodeo in Salinas – 50,000 visitors
- Porsche Rennsport Reunion at Laguna Seca – 50,000 visitors
- Rolex Monterey Historic Automobile Races at Laguna Seca – 50,000 visitors
- California International Airshow in Salinas – 45,000 visitors
- Monterey Jazz Festival in Monterey– 40,000 visitors
- American Le Mans Series at Laguna Seca – 36,000 visitors
- Pacific Grove Good Old Days – 35,000 visitors
- Artichoke Festival in Castroville – 30,000 visitors

Historically, the region has been generally considered to be "dog friendly". Recently though, restrictions on pets in and around the Monterey area have been on the increase. In nearby Santa Cruz, new dog restrictions have been enacted and more enforcement actions taken within many popular dog areas including Live Oak Beach, Brommer Street Park, Highlands Park, Seascape Park, Anna Jean Cummings Park, Jose Avenue Park and Aptos Polo Grounds. Also, an organization called "Leash Law Advocates of Santa Cruz County" formed to encourage more restrictive policies regarding dogs in local parks and beaches.

In Monterey County, pet policies vary depending upon the jurisdiction that manages the open space areas. Map P illustrates some of the regional recreation assets of the Monterey area.

Federal agencies that administer lands within Monterey County have a variety of dog policies as described below:

- Los Padres National Forest (305,000 acres in Monterey County) – dogs are generally allowed off-leash everywhere on the National Forest; however, at campgrounds and other developed recreation facilities pets must be leashed.
- Salinas River National Wildlife Refuge (367 acres) – dogs are prohibited on the Wildlife Refuge except hunting dogs being used during the course of a lawful hunt.
- Pinnacles National Park – dogs are allowed on leash within picnic areas, most paved roads and parking areas; however, pets are prohibited from Park trails.
- Fort Hunter Liggett – dogs are allowed off-leash within the primitive campground and hunting dogs are generally allowed to accompany hunters for waterfowl and upland game.

Within the State Parks and State Reserves in the area, pet policies are generally more restrictive especially where endangered species (such as snowy plovers) are found:

- Pfeifer Big Sur State Park – dogs are allowed on leash, but are not allowed on trails and near/within buildings.
- Monterey State Beach, Garrapata State Beach, Carmel River Beach - dogs are allowed on leash, but are not allowed on trails and near/within buildings.
- Asilomar State Beach - dogs are allowed on leash, and are allowed on leash across the coastal trail.
- Zmudowski State Beach, Moss Landing State Beach, Marina State Beach, Salinas River State Beach, Seaside State Beach, and Andrew Molera State Beach - dogs are not allowed.

Monterey County Parks are pet friendly; however, the parks and campgrounds require dogs to be leashed. Specific Monterey County Codes pertaining to dogs use are in Appendix C:

- Toro Regional Park - dogs are allowed on leash, including on trails.
- Jacks Peak County Park - dogs are allowed on leash, including on trails.
- San Lorenzo Park, Lake San Antonio, Lake Naciemento, Laguna Seca Recreation Area - dogs are allowed on leash, including on trails. Campers are limited to two dogs per campsite.

The Monterey County Regional Parks have, perhaps, pet policies that most closely resembled the pet policies of the Fort Ord National Monument before the interim leash restriction was enacted:

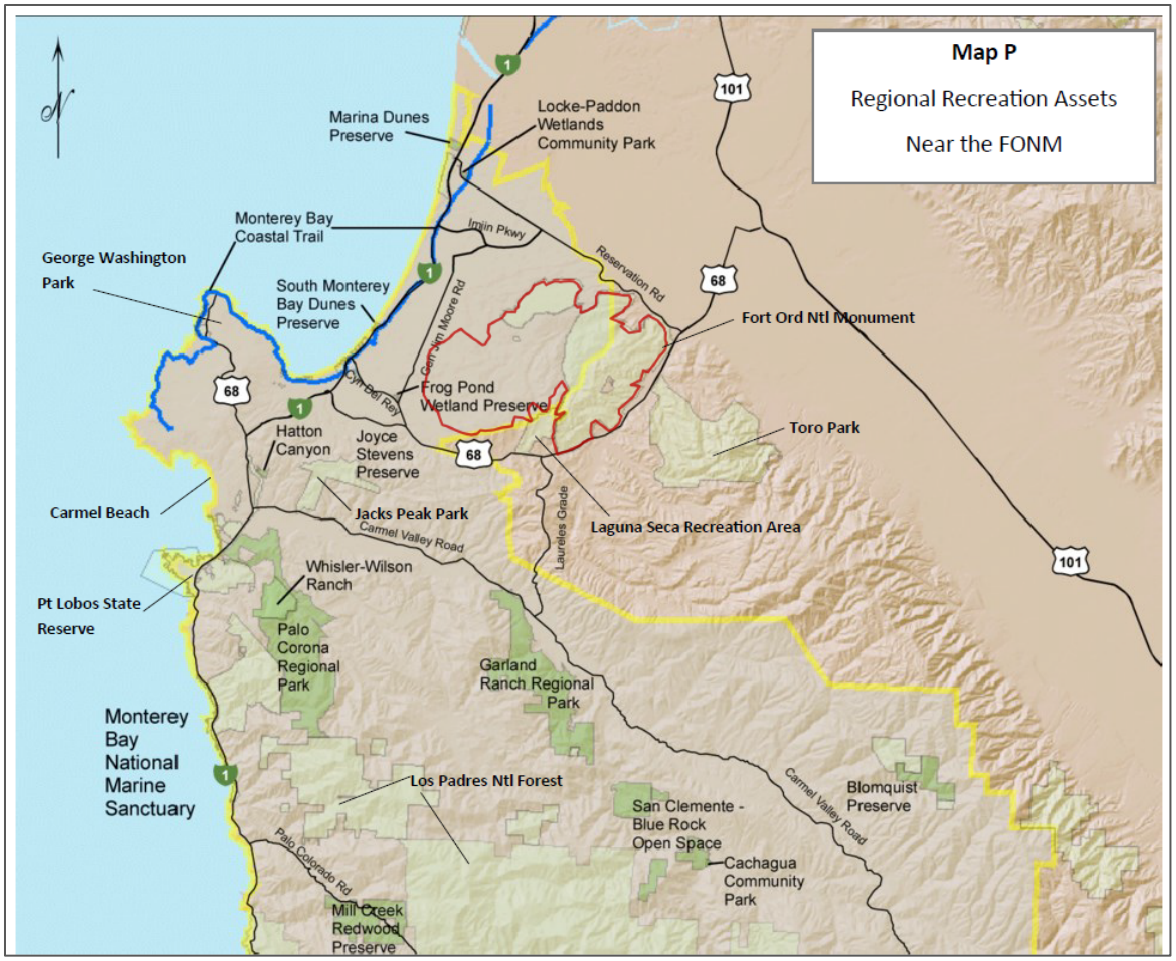
- Garland Ranch Regional Park and Frog Pond Preserve – dogs are allowed on leash, or under strict voice control. The Regional Park District code that governs dog use in these park areas is shown in Appendix C.
- Marina Dunes Preserve, Lock Paddon Wetlands Community Park, Monterey Bay Coastal Trail, South Monterey Bay Dunes Preserve, and Cachuga Community Park, dogs are allowed on leash.
- Palo Corona Regional Park and Millcreek Redwood Preserve, dogs are prohibited.

Within the City of Monterey, leashed dogs are allowed at El Estero Park, Del Monte Beach area, the Veterans Memorial Park, Quarry Park, and the Recreation Trail along the coastal edge. Dogs are prohibited at other City of Monterey park areas.

Within the City of Pacific Grove, dogs are allowed under voice control or leash at the George Washington Park and the Lynn "Rip" Van Winkle open space area.

Within the City of Salinas, leashed dogs are allowed at the Rossi Rico Linear Parkway and Natividad Creek Park.

Dog Parks are becoming increasingly more important to local residents who desire to have their pets socialize with other off-leash dogs. On the former Fort Ord, there is an off-leash dog park available for residents located along Schoonover Road on the CSU Monterey Bay campus area. There is also an off-leash dog park located on Army lands located along Parker Flats Cutoff Road near the military housing area. Both of these dog parks are north of the FONM and are within 1 ½ miles of the monument.


Map P
Regional Recreation Assets
Near the FONM
Marina Dunes Preserve
Locke-Paddon Wetlands Community Park
Monterey Bay Coastal Trail
George Washington Park
South Monterey Bay Dunes Preserve
Imjin Pkwy
Reservation Rd
Fort Ord Ntl Monument
Frog Pond Wetland Preserve
Hatton Canyon
Joyce Stevens Preserve
Toro Park
Carmel Beach
Jacks Peak Park
Carmel Valley Road
Laureles Grade
Laguna Seca Recreation Area
Whisler-Wilson Ranch
Pt Lobos State Reserve
Palo Corona Regional Park
Garland Ranch Regional Park
Monterey Bay National Marine Sanctuary
Los Padres Ntl Forest
San Clemente - Blue Rock Open Space
Blomquist Preserve
Cachagua Community Park
Palo Colorado Rd
Mill Creek Redwood Preserve
101
68
1

CHAPTER 4

Impacts and Environmental Consequences

I. Introduction

This chapter describes the potential impacts and environmental consequences of implementing any of the alternatives being considered. It is organized by resource topic and provides a qualitative and quantitative comparison (where possible) among alternatives based on topics described in chapter 3. Research and impact mechanisms that are relevant to dog use are described within Appendix E. In accordance with the National Environmental Policy Act of 1969 (NEPA), where applicable, impacts are described in terms of context, intensity, and duration. Cumulative impacts are also described.

II. Impacts Topics Analyzed in Detail

Impact topics selected for analysis were identified by consideration of comments made by participants at scoping workshops or prescribed within agency policy. Impact topics include: impacts to recreational resources (general impacts, conflicts and safety, off-site and distributive impacts, and changes in public use), impacts to biological resources (flora, fauna and special status species), impacts livestock use and range management, impacts to cultural and historic resources, and impacts to water quality.

III. Impact Topics Considered But Not Analyzed in Detail

A. Dog Aggression and Behavior

At public workshops, some participants explained that the Bureau of Land Management (BLM) should analyze in detail how the various dog management options would affect the individual aggression-level of their pet. These workshop participants explained that when their dog had more freedom to exercise and generally play in the outdoors, the aggression exhibited by their personal pet lessened. The BLM acknowledges that exercise is valuable for a pet's health and disposition. The amount and type of exercise opportunities available for each alternative are considered and evaluated within this plan and environmental assessment. How those recreation opportunities on FONM translate to the individual aggression-level and behavior of a particular pet is too speculative to analyze because owners/handlers with pets have other opportunities to exercise together even if the type and amount of opportunity changes on the Fort Ord National Monument (FONM) under various alternatives. Furthermore, not all pets and pet breeds have the same exercise abilities and needs.

B. Change in Property Values

At public workshops, some participants explained that the BLM should analyze in detail how the various dog management options would affect their property values in and around FONM due to various pet management alternatives. According to some real estate brokers, the presence of pet friendly parks nearby is an often requested amenity for home buyers within residential communities. Case in point is the East Garrison residential community just north of FONM. Marketing materials provided by the developer for East Garrison highlight that nearby FONM and County owned open space lands are pet friendly.

While the BLM acknowledges that proximity to pet friendly open space and/or developed pet parks can be a valuable amenity for many potential buyers, to some it can also be a liability and the BLM is aware of no study that can be used to provide a meaningful gauge of the actual change in selling price or value of a home/neighborhood adjacent to open space where dogs are prohibited versus allowed on or off leash. The BLM did review several sources of information that described how developed dog parks affected residential communities and quality of life issues. In several of the articles and postings (i.e. "*Beyond the Dog Park: Providing Community Benefits Via Innovative Off-Leash Recreation*" and *"Dog Parks: Benefits and Liabilities,* University of Pennsylvania 2007), dog parks were perceived as increasing the property values of nearby residential areas. In other articles, developed dog parks were perceived as decreasing property values and quality of life issues by some residents (i,e. *Columbia residents unleash opposition to planned dog park"*, Baltimore Sun 2007). Other than the dog prohibition alternative, the action and no action alternatives considered within this plan and environmental assessment prescribe varying levels of pet friendly opportunities. It would be too speculative to describe in detail how much those varying levels may or may not affect property values.

C. Change in the Amount of Donations and Community Support

At public workshops, some participants explained that the BLM should analyze in detail how the various dog management options would affect the amount of monetary donations that BLM receives from citizens in managing FONM. Each year, generous citizens donate around $5,000 to the BLM to help maintain facilities on the FONM. Although some individual citizens may donate more money, less money, or no money depending upon how BLM manages pet use, this impact topic is too speculative to predict and more a function of changes in the amount and type of recreation use which is an impact topic that is analyzed. Donations made to the BLM since the April 2015 interim dog-leash requirement have not been significantly different (higher or lower) than prior to the leash restriction.

Furthermore, some participants felt that BLM should analyze in detail how residents in nearby communities felt or supported BLM in relation to various dog management options. The BLM

recognizes that pet use options can be divisive. Surveys conducted on Fort Ord in 2009 show that visitors are split fairly evenly about their attitudes about leash laws. As such, options that prescribe more leash restrictions are expected to generate the same level of overall support or opposition as options that prescribe less leash restrictions.

D. Critical Elements Germane to the Planning Area – Air Quality, Environmental Justice, Floodplains and Native American Values

These impact topics are mandatory disclosures under agency policy, statute and/or executive order. These resource topics are relevant to the Planning Area, but are not expected to be affected by the various alternatives described within this plan.

E. Critical Elements Not Within the Planning Area - Ecologically Critical Area, Prime or Unique Farm Lands, Wilderness, and Wild and Scenic Rivers

These impact topics are mandatory disclosures under agency policy, statute and/or executive order. None of the resources above are within the Planning Area. These elements would not be affected by the various alternatives described within this plan.

IV. Impacts of the No Action Alternative

A. Impacts to Recreation Resources

General Recreation Opportunities

Under this alternative, hikers, bikers and equestrians with or without dogs would have the greatest mileage of road and trail available for largely unrestricted use. Although public use on BLM lands at FONM has been restricted to the authorized road and trail network since 1996, this was generally not enforced in regards to pets. As such, unleashed dogs often had a full range of roaming opportunities across 45.0 miles of road and 44.1 miles of single track trail. Within the Fenced Inland Range Planning Unit, recreation access across 31.8 miles of road was limited to a few guided hikes each year where dog use was limited to service animals. Also, at developed recreation sites such as trailheads, dogs would continue to be required to be leashed or physically restrained at all times.

This alternative contributes to a high degree of freedom for visitors to make personal choices within Planning Units 2-4 which many people enjoy as opposed to following rules. This alternative also contributes to abundant opportunities for dogs to run, play, explore and generally satiate their natural, predator tendencies as animals. This alternative affords the most opportunity for dogs to pursue wildlife and livestock, or interact and socialize with other pets and humans. Often these interactions are unwanted by some visitors to the FONM. Other visitors enjoy seeing other people's dogs run and play, and don't mind interactions with the pets of strangers.

Conflicts and Safety

From 1996 to 2011, the No Action Alternative policy generally contributed to a high degree of visitor satisfaction for those that visited what was then referred to as the Fort Ord National Monument. In 2011, visitation to the BLM lands at Fort Ord was estimated at 87,361. Almost all visitors (i.e. 97%) generally had a good or very good experience when visiting the road and trail systems (GPRA Survey, 2009). In regards to dog conflicts, 32% of the visitors reported that they were having some conflicts with dogs. In regards to leash law preferences, Fort Ord visitors were split with 53% generally opposing a leash law, and 47% generally supporting a leash law.

From 2012 to today, visitation had been steadily increasing with visitation estimated at over 400,000 in 2015. National Monument designation in 2012 contributed greatly to the increase in use and changing demographics. The increase in visitation has led to some increases in conflict and additional concerns with safety. The BLM started receiving more numerous complaints about off-leash dogs, and hearing more about conflicts on the trails between visitors. Dog visits were estimated at 76,336 in 2014. Some of these conflicts were between hikers/riders with dogs and those without dogs, other conflicts were between hikers/riders with dogs on leash versus those off-leash.

In addition to conflicts that were dog-related, other conflicts began to surface more frequently such as concerns with speeding bicycles. Although the BLM has posted signage at trailheads and elsewhere explaining that bicycles needed to yield the right-of-way to equestrians and hikers/joggers, this was not a specific rule that could readily be enforced by law enforcement rangers outside the “hazard and nuisance” codes. The once rare occurrences of bikes speeding carelessly past hikers/joggers have become more commonplace and BLM has received a considerable amount of complaints. Also, the BLM has received some reports of speeding bicyclists hitting or having near misses with off-leash dogs, or motorized vehicles entering or exiting trailheads having near miss encounters with off-leash dogs.

Furthermore, MEC investigations in the North of Eucalyptus Road Planning Unit (Unit 2) have led Army officials to propose additional cleanup off the designated route network due to MEC hazards. The No Action Alternative would likely lead to continued off-route use by pets in MEC cleanup regions and this is contrary to safety protocols that would keep people and sources of detonation outside such regions. While it is true that there have been no reported incidents at Fort Ord of any off-route pet being a source of MEC detonation, it is a remote possibility that it could happen.

Although rare, off-leash dog entry into wildlife habitat has led to occasional dog injury. Coyotes have reportedly attacked some off-leash dogs at Fort Ord, and bobcats have reportedly

scratched others. What is perhaps more dangerous to pets is exposure to disease pathogens in animal remains or feces on the surface or within vernal pools at Fort Ord that, when ingested, can be harmful and even fatal. Furthermore, BLM officials are aware of reports of animals becoming sick from consuming mushrooms on Fort Ord. In all cases, off-leash opportunities present some level of exposure to natural hazards.

Off-Site and Distributive Impacts

Under the No Action Alternative, the FONM would continue to accommodate off-leash dog enthusiasts. As such, other off-leash recreation destinations in the Monterey Area such as Garland Park, Frog Pond Reserve, Carmel Beach, and George Washington Park would continue with previous levels of dog-related conflict that are likely growing with increased population pressures. Park managers at Monterey Peninsula Regional Park District (MPRPD) explain that providing off-leash dog opportunities at their units comes with considerable pet related conflict. Similarly, 77 dog-related incidents (including 20 of aggressive and dangerous dogs) were reported to Carmel police on the Carmel beach in 2014 (KION News, 2015). Implementation of the No Action alternative would be beneficial to other park units that experience dog conflict from off-leash animals as opportunities would be distributed across more units open to such use.

Changes in Public Use

From 1996 to 2011, the No Action Alternative policy was contributing to a relatively local visitor base that was comprised of about 54% mountain bike and road bike riders, 40% hikers and joggers, and 6 % equestrians (2010 survey of visitors). As public use increased as a result of the National Monument designation in 2012, the demographics have changed with more Latino visitors from Salinas area, and a higher degree of hikers and joggers. In 2013, the visitor base was approximately 60% hikers and joggers, 37% mountain and road biker riders, and 3% equestrians. The BLM has been told by many equestrians that they do not visit Fort Ord as much as they have previously done due to the conflict they often have with mountain bike riders over shared roads and trails.

B. Impacts to Biological Resources

Fenced Inland Range Planning Unit (Unit 1)

There would be no adverse impact of the No Action Alternative from dog use to biological resources occurring within the 6,600 acre Fenced Inland Range Planning Unit because dog use (other than service animals) would continue to be prohibited in this area. The overall beneficial impact of this alternative is that biological resources in Unit 1 would not be subject to the deleterious effects of dog-related recreation in the short term or long term. These deleterious

effects include harassment, predation, trampling, disease transmission, and alteration of habitat which are discussed in detail within Appendix E -Background and Reference Material.

Impacts Common to North of Eucalyptus Road Planning Unit, North of Jack's Road Planning Unit and South of Jack's Road Planning Unit (Units 2-4)

This alternative prohibits human, horse, and dog use anywhere off the designated route system and restricts such uses to daytime hours. If there was high compliance with these provisions, then there would be only limited adverse impact to biological resources including plant communities, common plant and animal species, and special status plant and animal species. Injury and mortality to plant and animal species could still result from trampling or harassment of these species within designated route corridors. Individuals of especially vulnerable special status species such as sand gilia, Monterey spineflower, Seaside birdsbeak, western pond turtle, California tiger salamander, American badger, and coast horned lizard could still be trampled or, in the case of the animal species, harassed and attacked within or along edges of route corridors where special status plants or animals mentioned above are known to occur (e.g. Trail 49, Crescent Bluffs Road, Jacks Road, and Watkins Gate Dirt Road).

Although the potential for trampling or injury to special status species is expected to be limited, there would likely be more adverse impacts to them under the No Action Alternative within Planning Units 1-3 as compared to the other action alternatives that further limit or prohibit dogs off leash. These higher levels of impacts would occur because collectively many dogs off leash visiting FONM would naturally cover more area than if all dogs visiting FONM were on leash or prohibited altogether. Dogs off leash tend to wander, explore nearby bushes, animal burrows, scents, etc. In addition, a minority of dog owners permit their off leash dogs to explore beyond the tread of authorized routes. This off-route use would impact special status species such as the burrowing owl, grassland sparrow, and American badger in proximity to Guidotti Road and Skyline Road, as well as California red legged frog and California tiger salamander in Toro Pond (Map B, Vernal Pool #38), and California tiger salamander in Boy Scout Pond (Map B, Vernal Pool #26). This off leash dog activity in vernal pools and open grassland would have adverse impacts to special status species mentioned above either by harassing wildlife or causing injury to them. Such impact would be less if dogs were required to be on leash such as under other alternatives.

Consistent with the discussion above, the following biological-related directives from the BLM's 2006 Resource Management Plan would be accomplished to a high degree in Unit 1 but would be accomplished to a very low degree in Units 2-4 under the No Action Alternative. These provisions specifically include:

- Restricting public and pet access to all ponds on Fort Ord National Monument known or suspected to support special status aquatic species during important breeding and gestation periods.
- Mitigating or relocating activities that disturb, alter, or interrupt hydrologic or ecological processes that support special status species.
- Protecting ponds, wetlands, or riparian areas known to support or that could potentially support California tiger salamander, California red-legged frog, or Western fairy shrimp to maintain natural corridors between pools/wetlands and upland habitat so that continuous native plant coverage allows adequate gestation periods.
- Mitigating or relocating proposed activities within 250 feet of riparian vegetation if the activities have long-term impacts on riparian resources.
- Maintaining, restoring, or enhancing special species habitat.
- Improving the condition of special status species and their habitats to a point where their special status recognition is no longer warranted.
- Preventing the need for listing … species under the Endangered Species Act.

C. Impacts to Livestock and Range Management

Fenced Inland Range Planning Unit, North of Eucalyptus Road Planning Unit, North of Jack's Road Planning Unit (Units 1-3)

There would be no impacts from the No Action Alternative to livestock grazing in these three units because there is no livestock grazing within these Units.

South of Jack's Road Planning Unit (Unit 4)

Under the No Action Alternative it is likely there would continue to be occasional incidents of domestic dog attacks or harassment on livestock. This is because a minority of dog owners not knowing or concerned about dangers off leash dogs pose to livestock would occasionally allow or be unable to prevent the harassment or injury to livestock from their pets such as that which occurred prior to the Interim Leash Restriction that began in April, 2015. Approximately 1 sheep or goat would be expected to be injured or killed each year and a few incidents of domestic dogs harassing livestock would also be expected to occur annually. When such incidents occur they also impact the sheep management staff (e.g. sheep herders) and BLM staff by redirecting staff resources to address these incidents and away from other duties required for the proper management of livestock and conservation of FONM grasslands.

Consistent with the discussion above, the following range-related directives from the BLM's 2006 Resource Management Plan would be accomplished to a low degree under the No Action Alternative:

- Establishing pet restrictions (e.g. leash law, exclusion areas) to reduce user conflicts and protect wildlife and livestock on Fort Ord National Monument.
- Using livestock grazing to improve ecological conditions and increase forage production).
- Allowing livestock grazing as a tool to reduce noxious and invasive weeds, maintain perennial grasses, and improve habitat for special status species.

D. Impacts to Cultural and Historic Resources

The No Action Alternative has been in place since 1996 until April 2015. Under this Alternative, public use is restricted to daylight hours and visitors must remain of designated roads and trails. As such, visitors desiring to illegally collect military-related or other historic-era artifacts (with or without a metal detector) have been generally restricted due to the overall public use restrictions for FONM. Despite these restrictions and regulations, during this time period some historic-era resources and other cultural landmarks were occasionally damaged. Examples of this include vandalism in the form of graffiti and gang tagging at the former site of the Guidotti Bridge and incidental impacts by geocachers tampering with the farming implement (a.k.a. the "hay rake") located off Watkins Gate Road. As a result, restrictions to geocaching have been in place at FONM since 2007 to help protect the public that "may expose themselves, and others, to munitions sites" as well as "reduce off-trail use that can have considerable adverse effects on soil, vegetation, wildlife, endangered species" and other resource values (per Federal Register Notice E7-18450 and analyzed under the Environmental Analysis (EA) NEPA document CA-190-07-54).

Impacts to cultural and historic-era resources associated with pet dogs over the last 20 years have been *de minimis*. Wildlife, especially burrowing animals, as well as dogs off-leash and off-trail occasional dig small holes near or around some cultural resources, however, unlike pet dogs under various degrees of human control, burrowing animal wildlife are part of the natural landscape of FONM. For cultural resources that are particularly sensitive to human-caused or wildlife-based disturbances and considered at-risk at FONM, BLM can protect these resources through fencing or route re-design; however, any observed or reported impacts of this type to cultural and historic-era resources has not been significant nor created an adverse effect to those resources.

With respect to the designated segments of the Juan Bautista de Anza National Historic Trail (JBNHT) on FONM, current management (No Action Alternative) does not impact the historic

characteristics of the Trail itself, however the presence of off-leash and off trail pet dogs potentially have a negative impact on the Trail experience for users, creating conflicts that detract from the enjoyable recreational and historical attributes related to a National Historic Trail. The JBNHT segment on FONM spans from the Creekside Terrace Trailhead to Badger Hills Trailhead across Trail 1, Station One Road, Oilwell Road and Toro Creek Road. This route system generally parallels El Toro Creek and the Toro Park Estates community and therefore receives a high rate of use and visitation.

E. Impacts to Water Quality

Vernal pools and ponds and El Toro Creek are located within the Project Area and could be affected by dog use. Water quality for these waterbodies is affected by pet waste and by chemicals associated with pet shampoos, flea and tick collars, flea dips or powders.

Under the No Action Alternative, owners and handlers would be more likely to leave pet waste behind within Planning Units 2-4 because dogs would likely be further away from their owners/handlers to manage and clean-up after. This is of particular concern in Unit 2 (North of Eucalyptus Road Planning Unit) that has a number of vernal pools near the authorized route networks. Pet waste can spread parasites including hookworms, ringworms, tapeworms and Salmonella. Pet waste also contains E. Coli and other harmful bacteria including fecal coliform bacteria, which causes serious kidney disorders, intestinal illness, cramps and diarrhea in humans. With an estimate 76,000 annual pet visits to FONM, pet waste has the potential to have a great impact on water quality.

Under the No Action Alternative, pets would also be more likely to enter vernal pools and ponds in Planning Units 2-4 washing flea and tick powder residues into these sensitive aquatic resources. Powders and solutions that contain pyrethrins as the active ingredient, and dipping solutions containing organophosphate chemicals such as dursban, diazinon or malathion are particularly toxic to aquatic wildlife.

F. Cumulative Impacts

The indirect and distributive impact of this alternative to regional recreational resources is disclosed above under the recreational resources impact discussion. In addition to those recreation related impacts, the cumulative impact of continuing with the No Action prescriptions in light of growing residential development around the FONM is that there would be growing conflict on the trails leading to lower visitor satisfaction, growing levels of off-trail use by pets and humans leading to a moderate level of impact to vegetative and biological resources, and notable impacts to vernal pool resources. These cumulative impacts would likely bring into the question of the effectiveness of the BLM's management of FONM in serving as a habitat mitigation reserve to facilitate redevelopment of the former Fort Ord, and as a National Monument for the purposes of protecting nationally important "objects" and "values".

V. Impacts of the Dog Prohibition Alternative

A. Impacts to Recreation Resources

General Recreation Opportunities

Under this alternative, hikers, bikers and equestrians with would have the least amount of opportunity to recreate with their pet on FONM. Under this alternative, dog use (excluding service animals) would be prohibited on 77.3 miles of road and 44.1 miles of single track trail. The only opportunities to bring a pet to the FONM would be at the developed trailheads where dogs would need to remain on leash or physically restrained at all times. This alternative would greatly affect the estimated 76,336 dog visits to FONM based upon 2014 visitation rates and would likely lead to a dramatic decline in public visitation to the monument.

For those that enjoy recreating at FONM with their pet, or those that enjoy seeing the pets of others while visiting FONM, this alternative would have a tremendous negative impact. Visitors that bring a dog to FONM for security purposes (something many solo visitors do) may choose to recreate elsewhere. Landowners living very close to the FONM (such as Toro Park Estates) who recreate with their pet regularly would be most notably affected.

For those that enjoy recreating at FONM without a pet and do not enjoy seeing the pets of others while visiting FONM, this alternative would have a tremendous positive impact. It is unknown exactly how many current or potential monument visitors fall under this category. Some current visitors to FONM exhibit signs of cynophobia (i.e. fear of dogs), but it would be too speculative to estimate the scale of that affliction. Suffice to say, BLM has talked to some visitors to FONM that clearly do not like dogs, many of these visitors hike on the monument with hiking sticks to fend off unwanted dog attention.

Conflicts and Safety

This alternative would lead to the least amount of conflict between the various user groups on FONM; however, conflict would still exist to a lesser degree. Management guidance common to all action alternatives would require (under a rulemaking) that bikers would need to slow or stop around other visitors per the safety courtesy triangle. By codifying this ethic into a rule, interactions between bikers, hikers and equestrians could improve as it is expected to lead to slower speeds of bicyclists around other visitors.

This alternative could reduce safety to single hikers, joggers and bicyclists that were used to bringing a pet to FONM during their visit for security reasons. The BLM is aware that many single hikers from the local area hike at FONM with their pet for security reasons. The pet undoubtedly serves as a deterrent to any would-be assailant, and also a deterrent against mountain lion attacks. The BLM is aware of no mountain lion attacks at FONM to humans;

however, the herders guard dogs have been an effective deterrent to lion and coyote predation of goats and sheep. Furthermore, the BLM is aware of only a handful of assaults to visitors on FONM, including one homicide, and it is unknown whether the presence or absence of a guard dog would have made a difference regarding those incidents.

This alternative would lead to the greatest amount of protection in regards to MEC hazards. Because dogs (excluding service animals) would be prohibited from the FONM, the likelihood of a pet entering a hazardous MEC site would be essentially nil. The chance of a dog detonating a munition is considered extremely unlikely, but it is still a possibility. The Army has reported some previous human entry into the fenced inland range planning unit due to people following their off-leash pet that ran into the region.

This alternative would also contribute to the highest degree of safety from dog bites to humans. Once again, reported dog bites on humans have been pretty low on FONM. What is more common are skirmishes or fights between dogs. Often this has been due to the interactions of off-leash dogs with on-leash dogs leading to altercations.

Off-Site and Distributive Impacts

Under the Dog Prohibition Alternative, the FONM would no longer serve as a regional asset accommodating dog enthusiasts. As such, other on-leash and off-leash recreation destinations in the Monterey Area such as Toro Park, Garland Park, Frog Pond Reserve, Carmel Beach, Asilomar Beach, Monterey Bay Coastal Trail, etc. would see marked increases in redistributed dog-related public use. This would likely lead to an increase in dog-related conflicts to those other park units. Toro Park would perhaps see the largest increase in pet use (albeit on-leash recreation) because it is the closest to FONM and many of the visitors with dogs are proximate to that recreation destination.

Changes in Public Use

Full implementation of this alternative would have a greater than proportionate, negative impact on the amount of hiker and jogger use, and equestrian use than mountain bike and road bike use. It is likely that there would be a dramatic decline in visitation as dog walkers would go to other park areas that were dog friendly. Although there would likely be some visitors who would be more attracted to FONM due to the dog prohibition, those numbers are expected to be far less than the number of visitors that would go elsewhere. Assuming 25% to 50% of the hikers at FONM are with dogs, this alternative would negatively affect 15% to 30% of the total visitation of FONM. This is estimated at around 60,000 to 120,000 annual visits.

B. Impacts to Biological Resources

Fenced Inland Range Planning Unit (Unit 1)

As with the No Action Alternative, there would be no adverse impact of the Dog Prohibition Alternative from dog use to biological resources occurring within the 6,600 acre fenced inland range planning unit because dog use (other than service animals) would continue to be prohibited in this area. The overall beneficial impact of this alternative is that biological resources in Unit 1 would not be subject to the deleterious effects of dog-related recreation in the short term or long term. These deleterious effects include harassment, predation, trampling, disease transmission, and alteration of habitat which are discussed in detail within Appendix E -Background and Reference Material.

North of Eucalyptus Road Planning Unit, North of Jack's Road Planning Unit, South of Jack's Road Planning Unit (Units 2-4)

There would be the least amount of impact to biological resources under this alternative as compared to other alternatives because dogs (excluding service animals) would not be allowed into the FONM. Therefore, even the limited adverse impacts to biological resources described in the No Action Alternative would not occur under this alternative.

Consistent with the discussion above, the following directives from the BLM's 2006 Resource Management Plan would be accomplished to the greatest extent under the Dog Prohibition Alternative as compared to other alternatives:

- Restrict public and pet access to all ponds on Fort Ord National Monument … known or suspected to support special status aquatic species during important breeding and gestation periods.
- Mitigate or relocate activities that disturb, alter, or interrupt hydrologic or ecological processes that support special status species.
- Protect ponds, wetlands, or riparian areas known to support or that could potentially support California tiger salamander, California red-legged frog, or Western fairy shrimp and to maintain natural corridors between pools/wetlands and upland habitat so that continuous native plant coverage allows adequate gestation periods.
- Mitigate or relocate proposed activities within 250 feet of riparian vegetation if the activities have long-term impacts on riparian resources.
- Include mitigation measures to protect or enhance riparian areas in all activity or project plans.
- Maintain, restore, or enhance special species habitat.

- Improve the condition of special status species and their habitats to a point where their special status recognition is no longer warranted.
- Prevent the need for listing … species under the Endangered Species Act.

C. Impacts to Livestock Use and Range Management

Fenced Inland Range Planning Unit, North of Eucalyptus Road Planning Unit, North of Jack's Road Planning Unit, South of Jack's Road Planning Unit (Units 1-3)

There would be no impact of the Dog Prohibition Alternative to livestock grazing in Dog Management Units 1, 2 or 3 because there is no livestock grazing within these Units.

South of Jack's Road Planning Unit (Unit 4)

There would be a beneficial impact to domestic livestock under the Dog Prohibitive Alternative because there would be virtually no incidents of domestic dog attacks or harassment on livestock in Dog Management Unit 4. This is because only occasional dog owners would be expected to violate such a prohibition. The few violators would be subject to peer pressure or BLM Law Enforcement action prompting them to cease their dog related recreation. The likelihood under this scenario that livestock would be harassed or injured would be essentially zero.

Consistent with the discussion above, the following directives from the BLM's 2006 Resource Management Plan would be accomplished to a high degree under the Dog Prohibition Alternative:

- Establish pet restrictions (e.g. leash law, exclusion areas) to reduce user conflicts and protect wildlife and livestock on Fort Ord National Monument.
- Use livestock grazing to improve ecological conditions and increase forage production).
- Allow livestock grazing as a tool to reduce noxious and invasive weeds, maintain perennial grasses, and improve habitat for special status species.

D. Impacts to Cultural and Historic Resources

Under the Dog Prohibited Alternative, public use is restricted to daylight hours and visitors must remain on designated roads and trails. This Alternative provides for the maximum protection to cultural and historic-era resources throughout FONM as no pet dogs would be allowed on FONM (service dogs are excluded, as they are not pets) thereby eliminating much of the possibility of incidental digging (physical disturbance) at or near a cultural or historic-era resource. With regards to cultural and historic-era values associated with the Juan Bautista de

Anza National Historic Trail (JBNHT), the Dog Prohibited Alternative provides maximum reduction of Trail user conflicts involving pet dogs, thereby lessening or perhaps eliminating altogether potentially negative impacts that that detract from the experience of a National Historic Trail experience at FONM.

E. Impacts to Water Quality

Vernal pools, ponds and El Toro Creek are located within the Project Area and could be affected by dog use. Water quality for these waterbodies is affected by pet waste and by chemicals associated with pet shampoos, flea and tick collars, flea dips or powders.

The Dog Prohibition Alternative would have the greatest level of protection against impacts caused from dog waste. Pet waste can spread parasites including hookworms, ringworms, tapeworms and Salmonella. Pet waste also contains E. Coli and other harmful bacteria including fecal coliform bacteria, which causes serious kidney disorders, intestinal illness, cramps and diarrhea in humans. With an estimate 76,000 annual pet visits to FONM in 2014, pet waste has the potential to have a great impact on water quality.

Under the Dog Prohibition Alternative, pets would be the least likely to enter vernal pools and ponds at FONM washing flea and tick powder residues into these sensitive aquatic resources. Powders and solutions that contain pyrethrins as the active ingredient, and dipping solutions containing organophosphate chemicals such as dursban, diazinon or malathion are particularly toxic to aquatic wildlife.

F. Cumulative Impacts

The indirect and distributive impact of this alternative to regional recreational resources is disclosed above under the recreational resources impact discussion. In addition to those recreation related impacts, the cumulative impact of the Dog Prohibited Alternative prescriptions in light of growing residential development around the FONM is that there would be lower conflict on the trails leading to higher visitor satisfaction for visitors without pets and lower visitor satisfaction for visitors with pets, much lowered levels of off-trail use by pets and humans leading to a lower level of impact to vegetative and biological resources, and lower impacts to vernal pool resources. These cumulative impacts would likely improve the effectiveness of the BLM's management of FONM in serving as a habitat mitigation reserve to facilitate redevelopment of the former Fort Ord.

VI. Impacts of Dog Leash Requirement Alternative

A. Impacts to Recreation Resources

General Recreation Opportunities

Under this alternative, leashed dog use would be allowed on 77.3 miles of road and 44.1 miles of single track trail. This would provide new access with leashed dogs into the Fenced Inland Range Planning Unit across 31.8 miles of road where pet use (excluding service animals) is currently prohibited once the site is transferred to BLM. This alternative has essentially been in place on the BLM administered portions of FONM as an "interim" measure since April 8, 2015.

For those that enjoy recreating at FONM with their off-leash pet, or those that enjoy seeing the off-leash pets of others while visiting FONM, this alternative would have a negative impact. For those that already leash their pet while visiting the FONM, this alternative could have a beneficial impact as other off-leash dogs would not attempt to socialize with their leashed dogs which occasionally leads to altercations. Visitors that bring a dog to FONM for security purposes could continue to bring their pet, although the dog would need to be leashed at all times.

Visitors who are unable to hold their dog on leash due to physical ailments would find that this alternative would be burdensome. There are several visitors in the Toro Park Estates area that fall in this category and many of them have not been visiting the FONM with their pet since the interim restriction was enacted.

Compliance with the leash rule would be expected to be similar to the level of compliance that has occurred since April 2015 unless enforced more frequently by law enforcement personnel. Since April of 2015, approximately 61.7% of visitors with dogs have had their pets leashed and 38.3% have had their pet off-leash while on FONM. Although this level of compliance is fairly low, visitors have generally been keeping their dogs close by with 6.8% of the pets being greater than 25' away from their handler when seen by BLM personnel. Although a relatively small percent, 6.8% of 76,336 dog visits (2014 estimate) is 2,748 visits each year in which an off-leash dog is greater than 25' away from their handler.

For those that enjoy recreating at FONM without a pet, and those that do not enjoy seeing the off-leash pets of others while visiting FONM, this alternative would have a tremendous positive impact. It is unknown exactly how many current or potential monument visitors fall under this category. Some current FONM visitors have cynophobia (i.e. fear of dogs), but it would be too speculative to estimate the scale of that affliction. Suffice to say, BLM has talked to some visitors to FONM that clearly do not like dogs, many of these visitors hike on the monument with hiking sticks to fend off unwanted dog attention.

Conflicts and Safety

This alternative would lead to the low-levels of conflict between the various user groups on FONM; however, conflict would still exist to a lesser degree. Management guidance common to all action alternatives would require (under a rulemaking) that bikers would need to slow or

stop around other visitors per the safety courtesy triangle. By codifying this ethic into a rule, interactions between bikers, hikers and equestrians could improve as it is expected to lead to slower speeds of bicyclists around other visitors.

This alternative would further provide safety to single hikers and joggers that bring a pet to FONM during their visit for security reasons. The BLM is aware that many single hikers from the local area hike at FONM with their pet for security reasons. The pet undoubtedly serves as a deterrent to any would-be assailant, and also a deterrent against mountain lion attacks. The BLM is aware of no mountain lion attacks at FONM to humans; however, the herders guard dogs have been an effective deterrent to lion and coyote predation of goats and sheep. Furthermore, the BLM is aware of only a handful of assaults to visitors on FONM, including one homicide, and it is unknown whether the presence or absence of a guard dog would have made a difference regarding those incidents.

This alternative would lead to the some enhanced safety in regards to MEC hazards in the North of Eucalyptus Road Planning Unit, but a reduced level of safety in the Fenced Inland Range Planning Unit that is currently closed to dog entry (excluding service animal use). If current leash compliance levels held true for dog entry into the Fenced Inland Range Planning Unit, then dog entry into areas where MEC could be located on the surface would lead to unsafe conditions for the dog and nearby recreating public.

This alternative would contribute to a moderate to high degree of safety from dog bites to humans. Once again, reported dog bites on humans have been pretty low on FONM. What is more common are skirmishes or fights between dogs. Often this has been due to the interactions of off-leash dogs with on-leash dogs leading to altercations. By requiring all dogs to be leashed, the interactions between dogs would be on a level playing field that would likely lead to fewer skirmishes between pets.

Off-Site and Distributive Impacts

Under this alternative, the FONM would no longer serve as a regional asset accommodating off-leash dog enthusiasts. As such, other off-leash recreation destinations in the Monterey Area such as Garland Park, Carmel Beach, Frog Pond Reserve, George Washington Park and various dog parks near Fort Ord could see marked increases in redistributed dog-related public use. This could lead to an increase in dog-related conflicts to those other park units. Park managers at Monterey Peninsula Regional Park District (MPRPD) explain that providing off-leash dog opportunities at their units comes with considerable pet related conflict, but have not noticed increased visitation since BLM has enacted an interim dog leash rule in 2015. Similarly, 77 dog-related incidents (including 20 of aggressive and dangerous dogs) were reported to Carmel police on the Carmel beach in 2014 (KION News, 2015). Overall, implementation of this

alternative is expected to negatively impact other park units that experience dog conflict from off-leash animals as fewer opportunities would be available to accommodate such use.

Changes in Public Use

Full implementation of this alternative would have a greater than proportionate, negative impact on the amount of hiker and jogger use, and equestrian use than mountain bike and road bike use. It is likely that there would be a moderate decline in visitation as dog walkers would go to other park areas that were off-leash dog friendly. Although there would likely be some visitors who would be more attracted to FONM due to the leash requirement, those numbers are expected to be less than the number of visitors that would go elsewhere. Assuming 25% to 50% of the hikers and equestrians at FONM are with dogs, this alternative would negatively affect 15% to 30% of the total visitor activity on FONM. This is estimated at around 60,000 to 120,000 annual visits. For the full year since enacting the interim leash law on FONM in April of 2015, visitation has declined about 19%. It is unknown whether this decline was entirely related to the leash policy (i.e. weather conditions could also have come into play due to wet winter), but the leash policy certainly had an impact of visitation.

B. Impacts to Biological Resources

Fenced Inland Range Planning Unit (Unit 1)

Under this alternative, there would be a higher level of adverse impacts to biological resources than under the No Action Alternative. Whereas the No Action Alternative would prohibit dogs in Fenced Inland Range Planning Unit, the Dog Leash Requirement Alternative would allow dogs in this unit. This difference is important because implementation of this Alternative would be the first time that dog recreation would be allowed throughout the 31.8 mile road network in the Fenced Inland Range Planning Unit. The impact of this introduction of dogs, their scent, waste, territorial marking, and occasional harassment or attacks on wildlife could be substantial.

In the only research done on FONM regarding impacts to large mammals (e.g. coyotes, fox, bobcat) on roads and trails used for recreation and proximity of urban areas, it was concluded that Gray Fox prefer areas away from high use areas (Kowalski et al, 2015). This research also predicted that the increase of human related activity on the former Fort Ord due to new residential and commercial developments will have an adverse effect on Gray Fox population. This research specific to FONM and Gray Fox is consistent with numerous other studies from outside FONM which have documented disturbance to wildlife species as a result of domestic dogs in similar habitats, with similar species, or with similar conditions that occur in FONM. These studies are summarized in Appendix E. Wildlife present in the Fenced Inland Range Planning Unit have had over two decades to adjust to reduced human activity in this area since

Army training ended here in 1994. Likewise, wildlife in this area have for centuries been able to establish their uses of this area without any notable dog recreation. The introductions of dog waste with its potentially transmittable diseases to wildlife and dog recreation with its impacts of wildlife harassment are summarized in Appendix E.

Aquatic animals, especially special status species that depend on ponds for breeding and reproduction, would be impacted by occasional unauthorized entry into ponds by dogs off leash. Although unauthorized, this use occurs frequently in the rest of FONM so the use would be expected to occur in the Fenced Inland Range Planning Unit if this area was available for dog recreation. These impacts would affect 18 known breeding ponds of California tiger salamander and two known breeding ponds of western fairy shrimp.

This alternative prohibits human, horse, and dog use anywhere off the designated route system and restricts such uses to daytime hours. In addition to the first-time impacts discussed above, and assuming some level of non-compliance with these measures, there would be some limited adverse impact to biological resources including plant communities, common plant and animal species, and special status plant and animal species. This is because injury and mortality to plant and animal species could still result from trampling or harassment of these species within designated route corridors.

Especially vulnerable to these impacts are special status species such as sand gilia, Monterey spineflower, Seaside birdsbeak, California tiger salamander, American badger, and coast horned lizard for which the most suitable habitat is found within open areas such as road edges and fuelbreaks. Although the potential of trampling or injury to vulnerable special status species is expected to be limited, there would likely be more adverse impacts to these under this alternative as compared to the No Action and Preferred Action Alternatives which would prohibit dogs in the Fenced Inland Range Planning Unit.

Also, a minority of dog owners permit their dogs to explore beyond the tread of authorized routes regardless of leash requirements. Dogs off leash tend to wander, explore nearby bushes, animal burrows, scents, etc. This off-route use would impact special status species in Fenced Inland Range Planning Unit in proximity to route corridors such as the following: burrowing owl, grassland sparrow, and American badger in grasslands and sparsely vegetated oak woodland and Maritime Chaparral, and California tiger salamander and Western fairy shrimp in vernal pools. This off leash dog activity in vernal pools and open grassland would have adverse impacts to special status species mentioned above either by harassing wildlife or causing injury to them. Such impacts would cease if dogs were continued to be prohibited in this Unit such as under the No Action and Preferred Action Alternatives.

The severity of the impacts discussed above on especially vulnerable special status species expected within and in proximity to route corridors is unknown because no comprehensive documentation of precise locations of special status species is available for Planning Unit 1. However, the vast majority of certain species such as Sand Gila and Monterey spineflower found on FONM occur in this unit so these species would likely be more adversely impacted by the this alternative than the No Action, Dog Prohibited or Preferred Action alternative which prohibit dog recreation in the Fenced Inland Range Planning Unit.

Consistent with the discussion above, the following directives from the BLM's 2006 Resource Management Plan would be accomplished to a low degree in Planning Unit 1 under this alternative:

- Restrict public and pet access to all ponds on Fort Ord National Monument … known or suspected to support special status aquatic species during important breeding and gestation periods.
- Mitigate or relocate activities that disturb, alter, or interrupt hydrologic or ecological processes that support special status species.
- Protect ponds, wetlands, or riparian areas known to support or that could potentially support California tiger salamander, California red-legged frog, or Western fairy shrimp to maintain natural corridors between pools/wetlands and upland habitat so that continuous native plant coverage allows adequate gestation periods.
- Maintain, restore, or enhance special species habitat.
- Improve the condition of special status species and their habitats to a point where their special status recognition is no longer warranted (Dept. of the Interior, 2006).
- Prevent the need for listing … sensitive species under the Endangered Species Act.

North of Eucalyptus Road Planning Unit, North of Jack's Road Planning Unit, South of Jack's Road Planning Unit (Units 2-4)

This alternative has General Dog Use and Public Use Direction that prohibits human, horse, and dog use anywhere off the designated route system and restricts such uses to daytime hours. Assuming this Direction would be enforced, there would only be minimal adverse impact possible to biological resources including plant communities, common plant and animal species, and special status plant and animal species.

Under this alternative, a minority of dog owners could be expected to violate leash requirements resulting in infrequent incidents of dogs entering vernal pools such as Pond #38(Toro Pond) and #26(Boy Scout Pond) (Map B) where either or both California red legged frogs and California tiger salamanders have been documented. Such off trail violations and pond entries occurred prior to the 2015 leash requirement and have occurred since implementation of the 2015 leash requirements. However, since dogs on leash aren't able to explore outside of trail routes as readily as dogs off leash, this Alternative would result in fewer dogs going off trail as compared to the No Action Alternative. This would result in fewer impacts from dogs in areas of open grassland with active animal burrows (e.g. American badger and California ground squirrel burrows along Guidotti Rd. and Skyline Rd.) as well as ponds (e.g. Toro and Boy Scout Ponds) as compared to the No Action Alternative.

In those natural communities such as maritime chaparral, coast live oak woodland, coastal scrub, and riparian which are more difficult to physically access than grassland or vernal pools there would likely be fewer violations and adverse impacts of dogs outside of authorized routes. Although injury and mortality to plant and animal species could still result from trampling or harassment of them within designated trail corridors or in proximity to routes, it is likely to occur at unsubstantial amounts. Individuals of especially vulnerable special status species such as sand gilia, Monterey spineflower, Seaside birdsbeak, California tiger salamander, American badger, and coast horned lizard are the most likely to be vulnerable to such trampling, or harassment and attack in the case of animals. Thus there would likely be less adverse impacts under the Dog Leash Requirement Alternative than the No Action Alternative because the latter allows dogs off leash and would lead to more dogs getting off routes for exploratory purposes with potentially harmful results.

Consistent with the discussion above, the following directives from the BLM's 2006 Resource Management Plan would be accomplished to a moderate and improved degree under the Dog Leash Requirement Alternative due to errant use of ponds and nearby open grassland areas by dogs off leash:

- Restrict public and pet access to all ponds on Fort Ord National Monument … known or suspected to support special status aquatic species during important breeding and gestation periods.
- Mitigate or relocate activities that disturb, alter, or interrupt hydrologic or ecological processes that support special status species.

C. Impacts to Livestock Use and Range Management

Fenced Inland Range Planning Unit, North of Eucalyptus Road Planning Unit, North of Jack's Road Planning Unit (Units 1-3)

There would be no impact of the Dog Leash Alternative to livestock grazing in these planning units because there is no livestock grazing within these units.

South of Jack's Road Planning Unit (Unit 4)

There would be less adverse impacts to domestic livestock under the Dog Leash Alternative as compared to the No Action Alternative. As compared to the No Action Alternative there would likely be likely fewer incidents of domestic dog attacks or harassment on livestock given that all dogs would be required to be on leash reducing the chance for an unleashed dog to chase or attack livestock. A minority of dog owners may still unleash their dogs which could chase or injure livestock but under this scenario it is expected such incidents would average less than once per year. At this level of impact such use would not substantially affect the livestock grazing program on FONM and the following directives from the 2006 Resource Management Plan(Dept. of the Interior, 2006) would be accomplished to a moderate to high degree under the Dog Leash Requirement Alternative:

- Establish pet restrictions (e.g. leash law, exclusion areas) to reduce user conflicts and protect wildlife and livestock on Fort Ord National Monument.
- Use livestock grazing to improve ecological conditions and increase forage production).
- Allow livestock grazing as a tool to reduce noxious and invasive weeds, maintain perennial grasses, and improve habitat for special status species.

D. Impacts to Cultural and Historic Resources

Under the Dog Leash Requirement Alternative, public use is restricted to daylight hours and visitors must remain on designated roads and trails. Potential impacts to cultural and historic-era resources associated with pet dogs would be reduced in comparison to the No Action Alternative because they would be restricted to a designated route system to a much higher degree than the No Action Alternative. With regards to cultural and historic-era values associated with the Juan Bautista de Anza National Historic Trail (JBNHT), the Dog Leash Requirement Alternative provides a prescription that leads to reduced user conflicts, thereby lessening the negative impacts to the National Historic Trail experience at FONM.

E. Impacts to Water Quality

Vernal pools, ponds and El Toro Creek are located within the Project Area and could be affected by dog use. Water quality for these waterbodies is affected by pet waste and by chemicals associated with pet shampoos, flea and tick collars, flea dips or powders.

The Dog Leash Requirement Alternative would have a moderate level of protection against impacts caused from dog waste because owners would be more likely to clean up after a leashed pet than an unleashed pet that wandered away from their owner. Pet waste can spread parasites including hookworms, ringworms, tapeworms and Salmonella. Pet waste also contains E. Coli and other harmful bacteria including fecal coliform bacteria, which causes serious kidney disorders, intestinal illness, cramps and diarrhea in humans. With an estimate 76,000 annual pet visits to FONM in 2014, pet waste has the potential to have a great impact on water quality.

Under the Dog Leash Requirement Alternative and the proposed rulemaking that pets would be prohibited from entering vernal pools, pets would be the less likely to enter vernal pools and ponds at FONM which would reduce the washing flea and tick powder residues into these sensitive aquatic resources. Powders and solutions that contain pyrethrins as the active ingredient, and dipping solutions containing organophosphate chemicals such as dursban, diazinon or malathion are particularly toxic to aquatic wildlife.

F. Cumulative Impacts

The indirect and distributive impact of this alternative to regional recreational resources is disclosed above under the recreational resources impact discussion. In addition to those recreation related impacts, the cumulative impact of the Dog Prohibited Alternative prescriptions in light of growing residential development around the FONM is that there would be lower to moderate conflict on the trails leading to higher visitor satisfaction for visitors without pets and lower to moderate visitor satisfaction for visitors with pets, lowered levels of off-trail use by pets and humans leading to a lower level of impact to vegetative and biological resources, and lower impacts to vernal pool resources. These cumulative impacts would likely improve the effectiveness of the BLM's management of FONM in serving as a habitat mitigation reserve to facilitate redevelopment of the former Fort Ord.

VII. Impacts of Designated Off-Leash Opportunities Route (OLOR) Alternative

A. Impacts to Recreation Resources

General Recreation Opportunities

Under this alternative, leashed dog use would be allowed on 63.8 miles of road and 44.1 miles of single track trail, and opportunities to have dogs off leash would be provided over 13.5 miles of road. Dog use over the 13.5 miles of designated OLOR route would be further restricted such that dogs would still need to remain on roadways, would need to remain within 50' of the handler, and be leashed within 100' of other visitors. Under an adaptive management strategy, compliance monitoring of the OLOR's coupled with continued visitor satisfaction surveys would

enable land managers to determine whether the prescription was leading to a desired outcome and adjustments could be made.

This alternative would provide new access for leashed and unleashed dog entry into the Fenced Inland Range Planning Unit once the site was transferred to BLM across 31.8 miles of road where pet use (excluding service animals) is currently prohibited. Of that mileage, 3.1 miles would be a designated OLOR where off-leash opportunities would be available.

For those that enjoy recreating at FONM with their off-leash pet, or those that enjoy seeing the off-leash pets of others while visiting FONM, this alternative would provide some opportunity (i.e. 13.5 miles) across a few of the popular loop trails. For those that already leash their pet while visiting the FONM, this alternative could have a beneficial impact if the off-leash dogs of others on the designated OLOR's were leashed as per the prescription. It is unknown what percentage of dog walkers would leash their pet around others as per the alternative prescription, but it is probably less than the Dog Leash Alternative where pets would be expected to be leashed at all times. Visitors that bring a dog to FONM for security purposes could continue to bring their pet and there would be a few loops for off-leash use.

Visitors that enjoy mostly uninterrupted off leash dog walking/biking opportunities may find that they would need to leash or physically restrain their pet quite frequently on the designated OLOR's as others approached. Although many dog walkers currently leash their pet all of the time, or at least when others approach, others do not and would be burdened by this requirement. The designated OLOR's near Badger Hills Trailhead can receive substantial public use during the weekends. This would make it unlikely that a dog walker/biker would never need to physically restrain or leash their pet during their use.

Visitors who are unable to hold their dog on leash due to physical ailments would find some opportunities to walk a pet off-leash. There are several visitors in the Toro Park Estates area that fall in this category and many of them have not been visiting the FONM with their pet since the interim restriction was enacted. Some of these visitors would be accommodated with the designated OLOR's, others might find that the OLOR's were too far away to enjoy. The OLOR near Badger Hills Trailhead includes a segment of Guidotti Road that is about 400 yards west of the trailhead, and Oilwell Road that is about 1.3 miles east of the trailhead. The OLOR near Creekside Terrace Trailhead includes a segment of Sandy Ridge Road that is about 640 yards north of that trailhead, and Engineer Canyon Road that is about 0.7 miles north of that trailhead.

For the routes designated for leash use only (i.e. 63.8 miles of road and 44.1 miles of single track trail), compliance with the leash rule would be expected to be similar to the level of compliance that has occurred since April 2015 unless enforced more frequently by law

enforcement personnel. Since April of 2015, approximately 61.7% of visitors with dogs have had their pets leashed and 38.3% have had their pet off-leash while on FONM. Although this level of compliance is fairly low, visitors have generally been keeping their dogs close by with 6.8% of the pets being greater than 25' away from their handler when seen by BLM personnel. Although a relatively small percent, 6.8% of 76,336 dog visits (2014 estimate) is 2,748 visits each year in which an off-leash dog is greater than 25' away from their handler.

For the routes designated as OLOR's (i.e. 13.5 miles of road), the level of compliance with the requirement to leash a pet(s) around other visitors is unknown. At Golden Gate National Recreation Area (GGNRA), Park Managers have proposed a similar dog leash rule for regions called a Regulated Off-Leash Areas (ROLA's) and they are requiring for there to be at least 75% compliance if that opportunity is to be continued. If 75% of the visitors who allowed their dog off-leash on an OLOR leashed their pet when around other visitors, there would still be opportunities for conflict, but probably much less conflict than the No Action Alternative.

For those that enjoy recreating at FONM without a pet, and those that do not enjoy seeing the pets of others while visiting FONM, this alternative would have a positive impact. It is unknown exactly how many current or potential monument visitors fall under this category. Some current visitors to FONM have cynophobia (i.e. fear of dogs), but it would be too speculative to estimate the scale of that affliction. Suffice to say, BLM has talked to some visitors to FONM that clearly do not like dogs, many of these visitors hike on the monument with hiking sticks to fend off unwanted dog attention.

Conflicts and Safety

This alternative would lead to low or moderate amounts of conflict between the various user groups on FONM; however, conflict would still exist to a lesser degree. Management guidance common to all action alternatives would require (under a rulemaking) that bikers would need to slow or stop around other visitors per the safety courtesy triangle. By codifying this ethic into a rule, interactions between bikers, hikers and equestrians could improve as it is expected to lead to slower speeds of bicyclists around other visitors.

This alternative would further provide safety to single hikers and joggers that bring a pet to FONM during their visit for security reasons over OLOR routes and routes designated for leash at all times. The BLM is aware that many single hikers from the local area hike at FONM with their pet for security reasons. The pet undoubtedly serves as a deterrent to any would-be assailant, and also a deterrent against mountain lion attacks. The BLM is aware of no mountain lion attacks at FONM to humans; however, the herders guard dogs have been an effective deterrent to lion and coyote predation of goats and sheep. Furthermore, the BLM is aware of only a handful of assaults to visitors on FONM, including one homicide, and it is unknown

whether the presence or absence of a guard dog would have made a difference regarding those incidents.

This alternative would lead to the some enhanced safety in regards to MEC hazards in the North of Eucalyptus Road Planning Unit, but a greatly reduced level of safety in the Fenced Inland Range Planning Unit that is currently closed to dog entry (excluding service animal use). If dogs ventured off the designated OLOR route within the Fenced Inland Range Planning Unit, then dog entry into areas where MEC could be located on the surface would lead to unsafe conditions for the dog and nearby recreating public.

This alternative would contribute to a moderate to high degree of safety from dog bites to humans if compliance was high and visitors leashed their animal around other visitors on the OLOR routes. Once again, reported dog bites on humans have been fairly low on FONM. What is more common are skirmishes or fights between dogs. Often this has been due to the interactions of off-leash dogs with on-leash dogs leading to altercations.

Off-Site and Distributive Impacts

Under this alternative, the FONM would continue to accommodate dog enthusiasts who enjoyed having off-leash and on-leash opportunities, albeit off-leash opportunities would be curtailed. Other off-leash recreation destinations in the Monterey Area such as Garland Park, Frog Pond Reserve, Carmel Beach, and George Washington Park would continue with similar levels of dog-related conflict that are likely growing with increased population pressures. Park managers at Monterey Peninsula Regional Park District (MPRPD) explain that providing off-leash dog opportunities at their units comes with considerable pet related conflict. Similarly, 77 dog-related incidents (including 20 of aggressive and dangerous dogs) were reported to Carmel police on the Carmel beach in 2014 (KION News, 2015). Implementation of this alternative would be somewhat beneficial to other park units that experience dog conflict from off-leash animals as opportunities would be distributed across more units open to such use.

Changes in Public Use

Full implementation of this alternative would have a somewhat greater than proportionate, negative impact on the amount of hiker and jogger use, and equestrian use than mountain bike and road bike use. It is likely that there would be a slight to moderate decline in visitation as dog walkers would go to other park areas that were dog friendly. Although there would likely be some visitors who would be more attracted to FONM due to the leash requirements over most of the route networks, those numbers are expected to be less than the number of visitors that would go elsewhere. Assuming 25% to 50% of the hikers and equestrians at FONM are with dogs, this alternative would negatively affect 15% to 30% of the total visitor activity on FONM. This is estimated at around 60,000 to 120,000 annual visits. Because many of these

visits are to the same roads that are designated OLOR's under this alternative, the negative impact to dog walkers would be greatly reduced than from the complete Dog Leash Requirement Alternative.

B. Impacts to Biological Resources

Fenced Inland Range Planning Unit (Unit 1)

Overall, the Designated Off-leash Opportunities Route (OLOR) Alternative is similar in its impacts to the Dog Leash Alternative with additional impacts to the Fenced Inland Range Planning Unit expected due to the provision of an OLOR along a segment of Watkins Gate Road, Chinook Road and Broadway Road. This alternative would also result in more adverse biological impacts in this unit than under the No Action Alternative because the No Action Alternative would prohibit dogs in the unit while the OLOR Alternative allows dog recreation.

The impact of this introduction of dogs, their scent, waste, territorial marking, and occasional harassment or attacks on wildlife could be substantial. In the only research done on FONM regarding impacts to large mammals (e.g. coyotes, fox, bobcat) of roads and trails used for recreation and proximity of urban areas it was concluded that Gray Foxes prefer areas away from the urban edge (Kowalski et. al 2015). This may be due to higher recreational use near urban areas. There was an opposite response to proximity to urban edge by domestic dogs, which supports the hypothesis that domestic dogs may also act as potential interference competitors of foxes (Vanak and Gompper 2009). Kowalski et. al (2015) also predicted that the expansion of urban edge closer to FONM will decrease the Gray Fox occurrence across the Fort Ord National Monument. Based on these results and studies of wildlife in other areas, the combined effects of decreased available habitat outside of the FONM and increase in recreational and dog use in this unit under the designated OLOR Alternative may have a negative impact on Gray Fox populations.

This research specific to FONM and Gray Fox is consistent with numerous other studies from outside FONM which have documented disturbance to wildlife species as a result of domestic dogs in similar habitats, with similar species, or with similar conditions that occur in FONM. These studies are summarized in the Appendix E. Wildlife within the planning unit has had over two decades to adjust to reduced human activity in the area since Army training ended here in 1994. Likewise, wildlife in this area have for centuries been able to establish their uses of this area without any notable dog recreation. The introduction of dog waste and its potentially transmittable diseases to wildlife, and dog recreation with its impacts of wildlife harassment, are summarized in the Appendix E.

Aquatic animals, especially special status species that depend on ponds for breeding and reproduction would be impacted by occasional unauthorized entry into ponds by dogs off leash.

Although unauthorized, this use occurs frequently in the rest of FONM so would be expected to occur in Dog Management Unit 1, were this area to be authorized for dog recreation. These impacts would affect 18 known breeding ponds of California tiger salamander and two known breeding ponds of Western fairy shrimp.

In addition to impacts to wildlife described above, the designated OLOR Alternative would result in some amount of injury and mortality to plant and animal species due to trampling or harassment of them within designated road corridors or outside of these corridors by occasional unauthorized dog use. Especially vulnerable to these impacts are special status species such as sand gilia, Monterey spineflower, Seaside birdsbeak, California tiger salamander, American badger, and coast horned lizard for which the most suitable habitat is found within open areas such as road edges and fuelbreaks. The severity of these impacts is unknown because no comprehensive documentation of precise locations of special status species is available for this planning unit. However, the vast majority of certain species such as Sand Gila and Monterey spineflower found on FONM occur in this unit so these species would likely be substantially impacted.

Finally, the proposed OLOR route is located adjacent to existing locations of sand gilia, Monterey spineflower, and Seaside birdsbeak. The number of locations of these species along this OLOR is unknown because there is no comprehensive documentation available for any special status rare plants in this unit; however, based on 1992 density maps up to 72 acres or 6% of the 1135 acres of low density sand gilia habitat and none of the 11 acres of medium density habitat would be potentially impacted by dog recreation along this OLOR. One California tiger salamander and Western fairy shrimp breeding pond (Pond 22 just south of the BLM FONM Work Center) would likely be subject to unauthorized dog entry which, if during the reproductive season, could result in injury from trampling impact to eggs or other growth stages of California tiger salamander or Western fairy shrimp.

Under this alternative, a minority of dog owners could be expected to violate leash requirements resulting in infrequent incidents of dogs entering vernal pools nearby various ponds in Unit 1 where California tiger salamanders have been documented. Such off trail violations and pond entries occurred in other planning units prior to the 2015 leash requirement and have occurred since implementation of the 2015 leash requirements. Thus it is reasonable to expect that this type of violation would continue even with the proposed supplemental rule prohibiting dogs from entering any vernal pool or wandering within 20 feet of such an area.

Consistent with the discussion above, the following directives from the BLM's 2006 Resource Management Plan would be accomplished to a low degree in this unit under the OLOR Alternative:

- Restrict public and pet access to all ponds on Fort Ord National Monument … known or suspected to support special status aquatic species during important breeding and gestation periods.
- Mitigate or relocate activities that disturb, alter, or interrupt hydrologic or ecological processes that support special status species.
- Protect ponds, wetlands, or riparian areas known to support or that could potentially support California tiger salamander, California red-legged frog, or Western fairy shrimp to maintain natural corridors between pools/wetlands and upland habitat so that continuous native plant coverage allows adequate gestation periods.
- Maintain, restore, or enhance special species habitat.
- Improve the condition of special status species and their habitats to a point where their special status recognition is no longer warranted.
- Prevent the need for listing … sensitive species under the Endangered Species Act.

North of Eucalyptus Road Planning Unit, North of Jack's Road Planning Unit, South of Jack's Road Planning Unit (Units 2-4)

Overall, the designated OLOR Alternative has similar biological impacts as the Dog Leash Alternative with additional impacts expected due to the provision of an OLOR in each of the planning units. This alternative would be expected to result in less adverse biological impacts to these three planning units than under the No Action Alternative because the No Action Alternative would allow dogs off leash on all open routes not just selective OLOR's.

This alternative has general guidance that prohibits human, horse, and dog use anywhere off the designated route system and restricts such uses to daytime hours. Assuming a high rate of compliance with these requirements, there would only be minimal adverse impact to biological resources including plant communities, common plant and animal species, and special status plant and animal species.

Under this alternative, a minority of dog owners could be expected to violate leash requirements resulting in infrequent incidents of dogs entering vernal pools such as Pond #38 (Toro Pond) and #26 (Boy Scout Pond) shown on Chapter 3, Map B. These vernal pools are where either or both California red legged frogs and California tiger salamanders have been documented. Such off trail violations and pond entries occurred prior to the 2015 leash requirement and have occurred since implementation of the 2015 leash requirements, but to a

lesser extent. However, since dogs on leash aren't able to explore off trail routes as readily as dogs off leash, this alternative would result in fewer dogs going off trail as compared to the No Action Alternative. This would result in fewer impacts from dogs in areas of open grassland with active animal burrows (e.g. American badger and California ground squirrel burrows along Guidotti Road and Skyline Road) as well as ponds (e.g. Toro and Boy Scout Ponds) as compared to the No Action Alternative.

In those natural communities such as maritime chaparral, coast live oak woodland, coastal scrub, and riparian which are more difficult to physically access than grassland or vernal pools, there would likely be fewer violations and adverse impacts of dogs outside of authorized routes. Although injury and mortality to plant and animal species could still result from trampling or harassment of them within designated trail corridors or in proximity to routes, it is likely to occur at unsubstantial amounts. Individuals of especially vulnerable special status species such as sand gilia, Monterey spineflower, Seaside birdsbeak, California tiger salamander, American badger, and coast horned lizard are the most likely to be vulnerable to such trampling, or harassment and attack in the case of animals. Thus there would likely be less adverse impacts under the OLOR Alternative than the No Action Alternative because the latter allows dogs off leash on all routes and would lead to more dogs getting off routes for exploratory purposes with potentially harmful results.

North of Eucalyptus Road Planning Unit (Unit 2)

In addition to the impacts to biological resources listed above which are common to Planning Units 2-4, the OLOR proposed in Unit 2 under the OLOR Alternative would have additional impacts. The OLOR proposed for Unit 2 includes sections of Addington Road, East Machine Gun Road, and Watkins Gate Road. The sensitive resources that would be impacted along this route occur on the west side of Henneken's Ranch Road where it intersects with Watkins Gate Road (Vernal Pool #2) and Henneken Lake (Vernal Pool #4) where Trail 52 terminates at Watkins Gate Road. These are two known breeding sites for California tiger salamander and Western fairy shrimp (vernal pools 2 and 4). An increase in off-leash dog use here as compared to the No Action Alternative levels of use would be expected because the designation of this as part of an OLOR would undoubtedly attract more off-leash dog recreation than under past conditions. Under these latter two alternatives, dog rules would be consistent across FONM so as not to direct above average use to this area of Henneken's Ranch Road. However, designation of this area as an OLOR would attract users with dogs off leash. A minority of dogs off leash would likely enter these ponds on occasion and this use could trample or otherwise injure eggs, larvae, or adults of California Tiger Salamander and Western fairy shrimp.

North of Jacks Road Planning Unit (Unit 3)

In addition to the impacts to biological resources listed above which are common to Planning Units 2-4, the OLOR proposed in Planning Unit 3 under the OLOR Alternative would have additional impacts. The OLOR includes sections of Old Reservation Road, Engineer Canyon Road, and Sandy Ridge Road. The only special status species this OLOR would potentially impact is one location of Yadon's piperia which grows within the fuelbreak along Sandy Ridge Road. Designating this OLOR would undoubtedly attract more off-leash dog recreation to Sandy Ridge Road than under the No Action or Dog Leash Alternatives. Under these latter two alternatives, dog rules would be consistent across FONM so as not to direct above average use to this area of Sandy Ridge Road. However, designation of this area as an OLOR would attract users with dogs off leash. A minority of dogs off leash or on leash could trample individuals of the endangered Yadon's piperia and reduce its ability to reproduce. It is unlikely that such trampling would kill this perennial member of the rein-orchid family because it has robust tuberous roots underground, from which it produces flowering stems each year.

South of Jacks Road (Unit 4)

In addition to the impacts to biological resources listed above which are common to Planning Units 2-4, the OLOR proposed would have additional impacts. The proposed OLOR includes sections of El Toro Creek Road, Oil Well Road, Skyline Road, and Guidotti Road. The sensitive resources that could be impacted along this OLOR would be California tiger salamander breeding sites (Ponds 38 and 40) and one Red-legged Frog breeding site (Pond 38). An increase in off-leash dog use here compared to the No Action Alternative and Dog Leash Alternative levels would be expected because the designation of this OLOR would undoubtedly attract more dog recreation than under past use patterns. Under these latter two alternatives, dog rules would be consistent across FONM so as to not direct above average use to these road sections. However; designation of these road sections as an OLOR would attract users with dogs off leash. A minority of dogs off leash would likely enter these ponds on occasion and this use could trample or otherwise injure eggs, larvae, or adults of California tiger salamander and Western fairy shrimp. These violations would result in infrequent incidents of dogs entering vernal pools mentioned above where California tiger salamanders have been documented. Such off trail violations and pond entries occurred prior to the 2015 leash requirement and have occurred since implementation of the 2015 leash requirements. Thus it is reasonable to expect that this type of violation would continue even with the proposed supplemental rule prohibiting dogs from entering any vernal pool or wandering within 20 feet of such an area. However, since dogs would be required to be leashed within most of Unit 4 and while on leash dogs aren't able to explore off trail routes as readily as dogs off leash, this alternative would result in fewer dogs going off trail as compared to the No Action Alternative. This would result in fewer impacts from dogs in areas of open grassland with active animal burrows (e.g.

American badger and California ground squirrel burrows along Skyline and Guidotti Rds.) as well as ponds (e.g. along El Toro Creek Rd.) as compared to the No Action Alternative.

Consistent with the discussion above, the following directives from the BLM's 2006 Resource Management Plan would be reasonably but not fully achieved under the OLOR Alternative:

- Restrict public and pet access to all ponds on Fort Ord National Monument known or suspected to support special status aquatic species during important breeding and gestation periods.
- Mitigate or relocate activities that disturb, alter, or interrupt hydrologic or ecological processes that support special status species.

C. Impacts to Livestock Use and Range Management

Fenced Inland Range Planning Unit, North of Eucalyptus Road Planning Unit, North of Jack's Road Planning Unit (Units 1-3)

There would be no impact in these planning units because there is no livestock grazing within these units.

South of Jack's Road Planning Unit (Unit 4)

There would be the slightly fewer but similar impacts to domestic livestock under the Designated OLOR Alternative as compared to the No Action Alternative. Under the No Action Alternative dogs, would be allowed off leash on all roads and trails in the grazing area whereas under the Designated OLOR Alternative, dogs would only be allowed off leash along 4.1 miles of Guidotti Road, Oil Well Road, and Skyline Road, and a portion of El Toro Creek Road. These road segments of the proposed OLOR access a large proportion of grazed areas on FONM. A minority of dog owners could be expected to violate OLOR requirements resulting in infrequent incidents wherein dogs would harass or injure livestock even with the proposed supplemental rule prohibiting dogs from entering any vernal pool or wandering within 20 feet of such an area. However, since a large majority of dog owners are likely to comply with OLOR requirements to leash dogs when livestock are present in Unit 4, this alternative would result in fewer dogs harassing livestock as compared to the No Action Alternative.

It is expected that an average of one sheep or goat per year would be injured or killed by dog-related attacks. While unfortunate, this would not substantially affect the livestock grazing program on FONM.

Consistent with the discussion above, the following directives from the BLM' 2006 Resource Management Plan would be accomplished to a moderate degree under the Designated OLOR Alternative:

- Establish pet restrictions (e.g. leash law, exclusion areas) to reduce user conflicts and protect wildlife and livestock on Fort Ord National Monument.

- Use livestock grazing to improve ecological conditions and increase forage production).

- Allow livestock grazing as a tool to reduce noxious and invasive weeds, maintain perennial grasses, and improve habitat for special status species.

D. Impacts to Cultural and Historic Resources

Under the Designated Off-Leash Opportunity Route Alternative, public use is restricted to daylight hours and visitors must remain of designated roads and trails. Furthermore, pets would need to be leashed at all times of all trails, and most roads. Potential impacts to cultural and historic-era resources associated with pet dogs would be reduced in comparison to the No Action Alternative. The effects of this Alternative would be similar in scope to the Dog Leash Alternative, with the exception of the designated Off-Leash Opportunity Routes (OLOR) where a possibility of incidental or uncontrolled pet dog digging may occur. Currently all OLOR areas proposed under this Alternative do not contain any reported or recorded cultural or historic-era resources which could be impacted. If over the course of time a cultural or historic-era resource is discovered or identified near an OLOR, then some mitigation would occur, either through route re-design, fence protection, OLOR boundary adjustment, or a combination of the above depending the resource type. With regards to cultural and historic-era values associated with the Juan Bautista de Anza National Historic Trail (JBNHT), the designated Off-Leash Opportunity Route Alternative provides maximum reduction of Trail user conflicts involving pet dogs because there are no OLORs on the Trail with the exception of a segment of Toro Creek Road between the Trail 40 intersection and Oilwell Road. Overall this Alternative decreases potentially negative impacts from off-leash pet dogs that detract from the experience of a National Historic Trail experience at FONM in comparison to the No Action Alternative.

E. Water Quality

Vernal pools, ponds and El Toro Creek are located within the Project Area and could be affected by dog use. Water quality for these waterbodies is affected by pet waste and by chemicals associated with pet shampoos, flea and tick collars, flea dips or powders.

The designated OLOR Alternative would have a moderate level of protection against impacts caused from dog waste because owners would be more likely to clean up after a leashed pet than an unleashed pet that has wandered away from their owner over most of the route systems. Pet waste can spread parasites including hookworms, ringworms, tapeworms and Salmonella. Pet waste also contains E. Coli and other harmful bacteria including fecal coliform bacteria, which causes serious kidney disorders, intestinal illness, cramps and diarrhea in

humans. With an estimate 76,000 annual pet visits to FONM in 2014, pet waste has the potential to have a great impact on water quality.

Under the designated OLOR Alternative and the proposed rulemaking that pets would be prohibited from entering vernal pools, pets would be the less likely to enter vernal pools and ponds at FONM washing flea and tick powder residues into these sensitive aquatic resources. Powders and solutions that contain pyrethrins as the active ingredient, and dipping solutions containing organophosphate chemicals such as dursban, diazinon or malathion are particularly toxic to aquatic wildlife.

F. Cumulative Impacts

The indirect and distributive impact of this alternative to regional recreational resources is disclosed above under the recreational resources impact discussion. In addition to those recreation related impacts, the cumulative impact of the Dog Prohibited Alternative prescriptions in light of growing residential development around the FONM is that there would be low to moderate conflict on the trails leading to higher visitor satisfaction for visitors without pets and moderate visitor satisfaction for visitors with pets, lowered levels of off-trail use by pets and humans leading to a lower level of impact to vegetative and biological resources, and lower impacts to vernal pool resources. These cumulative impacts would likely improve the effectiveness of the BLM's management of FONM in serving as a habitat mitigation reserve to facilitate redevelopment of the former Fort Ord.

VIII. Impacts of the Preferred Action Alternative

A. Impacts to Recreation Resources

General Recreation Opportunities

Under this alternative, dogs would be prohibited on 31.8 miles of road, leashed dog use would be allowed on 39.1 miles of road and 44.1 miles of single track trail, and opportunities to have dogs off leash would be provided over 6.4 miles of road. Dog use over the 6.4 miles of designated OLOR route would be further restricted such that dogs would still need to remain on roadways, would need to remain within 50' of the handler, and be leashed within 100' of other visitors. Under an adaptive management strategy, compliance monitoring of the OLOR's coupled with continued visitor satisfaction surveys would enable land managers to determine whether the prescription was leading to a desired outcome and adjustments could be made.

This alternative continues the No Action Alternative relative to the Fenced Inland Range Planning Unit across 31.8 miles of road where pet use (excluding service animals) is currently prohibited. Once that site was transferred to BLM, that unit would remain off-limits to pet entry.

For those that enjoy recreating at FONM with their off-leash pet, or those that enjoy seeing the off-leash pets of others while visiting FONM, this alternative would provide some opportunity (i.e. 6.4 miles) across portions of two popular loop trails. For those that already leash their pet while visiting the FONM, this alternative could have a beneficial impact if the off-leash dogs of others on the designated OLOR's were leashed as per the prescription. It is unknown what percentage of dog walkers would leash their pet around others as per the alternative prescription, but it is probably less than the Dog Leash Alternative where pets would be expected to be leashed at all times. Visitors that bring a dog to FONM for security purposes could continue to bring their pet and there would be two loops for off-leash use.

Visitors that enjoy mostly uninterrupted off leash dog walking/biking opportunities may find that they would need to leash or physically restrain their pet quite frequently on the designated OLOR's as others approached. Although many dog walkers currently leash their pet all of the time, or at least when others approach, others do not and would be burdened by this requirement. The designated OLOR's near Badger Hills Trailhead can get substantial public use during the weekends. This would make it unlikely that a dog walker/biker would never need to physically restrain or leash their pet during their use.

Visitors who are unable to hold their dog on leash due to physical ailments would find some opportunities to walk a pet off-leash. There are several visitors in the Toro Park Estates area that fall in this category and many of them have not been visiting the FONM since the interim restriction was enacted. Some of these visitors would be accommodated with the designated OLOR's, others might find that the OLOR's were too far away to enjoy. The OLOR near Badger Hills Trailhead includes a segment of Guidotti Road that is about 400 yards west of the trailhead, and Oilwell Road that is about 1.3 miles east of the trailhead. The OLOR near Creekside Terrace Trailhead includes a segment of Sandy Ridge Road that is about 640 yards north of that trailhead, and Engineer Canyon Road that is about 0.7 miles north of that trailhead.

For the routes designated for leash use only (i.e. 39.1 miles of road and 44.1 miles of single track trail), compliance with the leash rule would be expected to be similar to the level of compliance that has occurred since April 2015 unless enforced more frequently by law enforcement personnel. Since April of 2015, approximately 61.7% of visitors with dogs have had their pets leashed and 38.3% have had their pet off-leash while on FONM. Although this level of compliance is fairly low, visitors have generally been keeping their dogs close by with 6.8% of the pets being greater than 25' away from their handler when seen by BLM personnel. Although a relatively small percent, 6.8% of 76,336 dog visits (2014 estimate) is 2,748 visits each year in which an off-leash dog is greater than 25' away from their handler.

For the routes designated as OLOR's (i.e. 6.4 miles of road), the level of compliance with the requirement to leash a pet(s) around other visitors is unknown. At Golden Gate National Recreation Area (GGNRA), Park Managers have proposed a similar dog leash rule for regions called a Managed Off-Leash Areas (MOLA's) and they are requiring for there to be at least 75% compliance if that opportunity is to be continued. If 75% of the visitors who allowed their dog off-leash on an OLOR leashed their pet when around other visitors, there would still be opportunities for conflict, but probably much less conflict than the No Action Alternative.

For those that enjoy recreating at FONM without a pet, and those that do not enjoy seeing the pets of others while visiting FONM, this alternative would have a positive impact. It is unknown exactly how many current or potential monument visitors fall under this category. Some current or potential visitors to FONM have cynophobia (i.e. fear of dogs), but it would be too speculative to estimate the scale of that affliction. Suffice to say, BLM has talked to some visitors to FONM that clearly do not like dogs, many of these visitors hike on the monument with hiking sticks to fend off unwanted dog attention.

Conflicts and Safety

This alternative would lead to low or moderate amounts of conflict between the various user groups on FONM; however, conflict would still exist to a lesser degree. Management guidance common to all action alternatives would require (under a rulemaking) that bikers would need to slow or stop around other visitors per the safety courtesy triangle. By codifying this ethic into a rule, interactions between bikers, hikers and equestrians could improve as it is expected to lead to slower speeds of bicyclists around other visitors.

This alternative would further provide safety to single hikers and joggers that bring a pet to FONM during their visit for security reasons over OLOR routes and routes designated for leash at all times. The BLM is aware that many single hikers from the local area hike at FONM with their pet for security reasons. The pet undoubtedly serves as a deterrent to any would-be assailant, and also a deterrent against mountain lion attacks. The BLM is aware of no mountain lion attacks at FONM to humans; however, the herders guard dogs have been an effective deterrent to lion and coyote predation of goats and sheep. Furthermore, the BLM is aware of only a handful of assaults to visitors on FONM, including one homicide, and it is unknown whether the presence or absence of a guard dog would have made a difference regarding those incidents.

This alternative would lead to enhanced safety in regards to MEC hazards in the North of Eucalyptus Road Planning Unit, and continue with the high-level level of safety within the Fenced Inland Range Planning Unit that is currently closed to dog entry (excluding service animal use) and would remain so.

This alternative would contribute to a moderate to high degree of safety from dog bites to humans if compliance was high and visitors leashed their animal around other visitors on the OLOR routes. Once again, reported dog bites on humans have been fairly low on FONM. What has been more common are skirmishes or fights between dogs. Often this has been due to the interactions of off-leash dogs with on-leash dogs leading to altercations.

Off-Site and Distributive Impacts

Under this alternative, the FONM would continue to accommodate dog enthusiasts who enjoyed having off-leash and on-leash opportunities, albeit off-leash opportunities would be greatly curtailed. Other off-leash recreation destinations in the Monterey Area such as Garland Park, Frog Pond Reserve, Carmel Beach, and George Washington Park would continue with similar levels of dog-related conflict that are likely growing with increased population pressures. Park managers at Monterey Peninsula Regional Park District (MPRPD) explain that providing off-leash dog opportunities at their units comes with considerable pet related conflict. Similarly, 77 dog-related incidents (including 20 of aggressive and dangerous dogs) were reported to Carmel police on the Carmel beach in 2014 (KION News, 2015). Implementation of this alternative would be somewhat beneficial to other park units that experience dog conflict from off-leash animals as opportunities would be distributed across more units open to such use.

Changes in Public Use

Full implementation of this alternative would have a somewhat greater than proportionate, negative impact on the amount of hiker and jogger use, and equestrian use than mountain bike and road bike use. It is likely that there would be a slight to moderate decline in visitation as dog walkers would go to other park areas that were dog friendly. Although there would likely be some visitors who would be more attracted to FONM due to the leash requirements over most of the route networks, those numbers are expected to be less than the number of visitors that would go elsewhere. Assuming 25% to 50% of the hikers and equestrians at FONM are with dogs, this alternative would negatively affect 15% to 30% of the total visitor activity on FONM. This is estimated at around 60,000 to 120,000 annual visits. Because many of these visits are to the same roads that are designated OLOR's under this alternative, the negative impact to dog walkers would be greatly reduced than from the complete Dog Leash Requirement Alternative.

B. Impacts to Biological Resources

Fenced Inland Range Planning Unit (Unit 1)

Under the Preferred Action Alternative, there would be no adverse impact to biological resources occurring within this Planning Unit because dog use would continue to be prohibited

in this area. The overall beneficial impact of this alternative is that biological resources in Unit 1 would not be subject to the deleterious effects of dog-related recreation in the short term or long term. These deleterious effects include harassment, predation, trampling, disease transmission, and alteration of habitat which are discussed in detail within Appendix E - Background and Reference Material. This is the same as the No Action and Dog Prohibition Alternatives.

North of Eucalyptus Road Planning Unit (Unit 2)

Under the Preferred Action Alternative for Unit 2, there would be the same impact to biological resources as under the Dog Leash Alternative because the proposed dog related policy for Unit 2 is the same in both of these alternatives. The Preferred Action Alternative has General Dog Use and Public Use Direction that prohibits human, horse, and dog use anywhere off the designated route system and restricts such uses to daytime hours. Assuming this Direction would be enforced, there would only be minimal adverse impact possible to biological resources including plant communities, common plant and animal species, and special status plant and animal species.

Under this alternative, a minority of dog owners could be expected to violate leash requirements resulting in infrequent incidents of dogs entering vernal pools such as Pond's 1-6 near Henneken's Ranch Road, Watkins Gate Road, and Border Road (Map B) where California tiger salamanders have been documented. Such off trail violations and pond entries occurred prior to the 2015 leash requirement and have occurred since implementation of the 2015 leash requirements. However, since dogs on leash aren't able to explore outside of trail routes as readily as dogs off leash, this Alternative would result in fewer dogs going off trail as compared to the No Action Alternative. This would result in fewer impacts from dogs in areas of open grassland with active animal burrows (e.g. American badger and California ground squirrel burrows along Henneken's Ranch Road as well as ponds (e.g. Pond #'s 1-6) as compared to the No Action Alternative.

In those natural communities such as maritime chaparral, coast live oak woodland, coastal scrub, and riparian which are more difficult to physically access than grassland or vernal pools there would likely be fewer violations and adverse impacts of dogs outside of authorized routes. Although injury and mortality to plant and animal species could still result from trampling or harassment of them within designated trail corridors or in proximity to routes, it is likely to occur at unsubstantial amounts. Individuals of especially vulnerable special status species such as sand gilia, Monterey spineflower, Seaside birdsbeak, California tiger salamander, American badger, and coast horned lizard are the most likely to be vulnerable to such trampling, or harassment and attack in the case of animals. Thus there would likely be less adverse impacts under the Dog Leash Requirement Alternative than the No Action Alternative

because the latter allows dogs off leash and would lead to more dogs getting off routes for exploratory purposes with potentially harmful results.

Consistent with the discussion above, the following biologically-related directives from the BLM's 2006 Resource Management Plan would be reasonably accomplished under the Preferred Action Alternative due to errant use of ponds and nearby open grassland areas by dogs off leash:

- Restrict public and pet access to all ponds on Fort Ord National Monument … known or suspected to support special status aquatic species during important breeding and gestation periods.
- Mitigate or relocate activities that disturb, alter, or interrupt hydrologic or ecological processes that support special status species.

North of Jacks Road Planning Unit (Unit 3)

Under the Preferred Action Alternative there would be the same impact to biological resources as under the designated Off-leash Opportunities Route (OLOR) Alternative because the proposed dog related policy for Unit 3 is the same in both alternatives.

Overall, the Preferred Action Alternative has similar biological impacts as the Dog Leash Alternative but with additional adverse impacts expected due to the provision of an OLOR in this Unit 3 under the Preferred Action Alternative. This alternative would be expected to result in less adverse biological impacts than under the No Action Alternative because the No Action Alternative would allow dogs off leash on all open routes not just the specific OLOR proposed for this Preferred Action Alternative.

This alternative has general guidance that prohibits human, horse, and dog use anywhere off the designated route system and restricts such uses to daytime hours. Assuming a high rate of compliance with these requirements, there would be limited adverse impact to biological resources including plant communities, common plant and animal species, and special status plant and animal species.

Under this alternative, a minority of dog owners could be expected to violate leash requirements resulting in infrequent incidents of dogs entering vernal pools along Crescent Bluffs Rd. where California tiger salamanders have been documented. Such off trail violations and pond entries occurred prior to the 2015 leash requirement and have occurred since implementation of the 2015 leash requirements, but to a lesser extent. Thus it is reasonable to expect that this type of violation would continue even with the proposed supplemental rule prohibiting dogs from entering any vernal pool or wandering within 20 feet of such an area.

However, since dogs would be required to be leashed within most of Unit 3 and while on leash dogs aren't able to explore outside of trail routes as readily as dogs off leash, this alternative would result in fewer dogs going off trail as compared to the No Action Alternative. This would result in fewer impacts from dogs in areas of open grassland with active animal burrows (e.g. American badger and California ground squirrel burrows along Eucalyptus and Crescent Bluffs Rds.) as well as ponds (e.g. along Crescent Bluffs Rd.) as compared to the No Action Alternative.

In those natural communities such as maritime chaparral, coast live oak woodland, coastal scrub, and riparian which are more difficult to physically access than grassland or vernal pools, there would likely be fewer violations and adverse impacts of dogs outside of authorized routes. Although injury and mortality to plant and animal species could still result from trampling or harassment of them within designated trail corridors or in proximity to routes, it is likely to occur at unsubstantial amounts. Individuals of especially vulnerable special status species such as sand gilia, Seaside birdsbeak, California tiger salamander, American badger, and coast horned lizard are the most likely to be vulnerable to such trampling, or harassment and attack in the case of animals. Thus there would likely be less adverse impacts under the Preferred Alternative than the No Action Alternative because the latter allows dogs off leash on all routes and would lead to more dogs getting off routes for exploratory purposes with potentially harmful results.

In addition to the impacts to biological resources listed above, the OLOR proposed in Planning Unit 3 under the Preferred Action Alternative would have additional impacts. The OLOR includes sections of Old Reservation Road, Engineer Canyon Road, and Sandy Ridge Road. The only special status species this OLOR would potentially impact is one location of Yadon's piperia which grows within the fuelbreak along Sandy Ridge Road. Designating this OLOR would undoubtedly attract more off-leash dog recreation to Sandy Ridge Road than under the No Action or Dog Leash Alternatives. Under these latter two alternatives, dog rules would be consistent across FONM so as not to direct above average use to this area of Sandy Ridge Road. However, designation of this area as an OLOR, as proposed under the Preferred Action Alternative, would attract users with dogs off leash. A minority of dogs off leash or on leash could trample individuals of the endangered Yadon's piperia and reduce its ability to reproduce. It is unlikely that such trampling would kill this perennial member of the rein-orchid family because it has robust tuberous roots underground from which it grows flowering stems each year.

Consistent with the discussion above, the following directives from the BLM's 2006 Resource Management Plan would be reasonably achieved under the Preferred Action Alternative:

- Restrict public and pet access to all ponds on Fort Ord National Monument known or suspected to support special status aquatic species during important breeding and gestation periods.
- Mitigate or relocate activities that disturb, alter, or interrupt hydrologic or ecological processes that support special status species.
- Maintain, restore, or enhance special species habitat.
- Improve the condition of special status species and their habitats to a point where their special status recognition is no longer warranted.

South of Jacks Road Planning Unit (Unit 4)

Under the Preferred Action Alternative there would be the same impact to biological resources as under the designated OLOR Alternative because proposed dog related policy would be the same under both alternatives.

Overall, the Preferred Action Alternative has similar biological impacts as the Dog Leash Alternative with additional impacts expected due to the provision of an OLOR in this Unit. This alternative would be expected to result in less adverse biological impacts to Unit 3 than under the No Action Alternative because the No Action Alternative would allow dogs off leash on all open routes not just along a selected OLOR.

This alternative has general guidance that prohibits human, horse, and dog use anywhere off the designated route system and restricts such uses to daytime hours. Assuming a high rate of compliance with these requirements, there would be limited adverse impact to biological resources including plant communities, common plant and animal species, and special status plant and animal species.

Under this alternative, a minority of dog owners could be expected to violate leash requirements resulting in infrequent incidents of dogs entering vernal pools such as Pond #38 (Toro Pond) and #26 (Boy Scout Pond) shown on Chapter 3, Map B. These vernal pools are where either or both California red legged frogs and California tiger salamanders have been documented. Such off trail violations and pond entries occurred prior to the 2015 leash requirement and have occurred since implementation of the 2015 leash requirements, but to a lesser extent. Thus it is reasonable to expect that this type of violation would continue even with the proposed supplemental rule prohibiting dogs from entering any vernal pool or wandering within 20 feet of such an area. However, since dogs would be required to be leashed within most of Unit 3 and while on leash dogs aren't able to explore off trail routes as readily as dogs off leash, this alternative would result in fewer dogs going off trail as compared

to the No Action Alternative. This would result in fewer impacts from dogs in areas of open grassland with active animal burrows (e.g. American badger and California ground squirrel burrows along Guidotti Road and Skyline Road) as well as ponds (e.g. Toro and Boy Scout Ponds) as compared to the No Action Alternative.

In those natural communities such as maritime chaparral, coast live oak woodland, coastal scrub, and riparian which are more difficult to physically access than grassland or vernal pools, there would likely be fewer violations and adverse impacts of dogs outside of authorized routes. Although injury and mortality to plant and animal species could still result from trampling or harassment of them within designated trail corridors or in proximity to routes, it is likely to occur at unsubstantial amounts. Individuals of especially vulnerable special status species such as sand gilia, Seaside birdsbeak, California tiger salamander, American badger, and coast horned lizard are the most likely to be vulnerable to such trampling, or harassment and attack in the case of animals. Thus there would likely be less adverse impacts under the Preferred Action Alternative than the No Action Alternative because the latter allows dogs off leash on all routes and would lead to more dogs getting off routes for exploratory purposes with potentially harmful results.

The OLOR proposed in Unit 4 would cause additional biological impacts to those listed above. The proposed OLOR includes sections of El Toro Creek Road, Oil Well Road, Skyline Road, and Guidotti Road. The sensitive resources that could be impacted along this OLOR would be California tiger salamander breeding sites (Ponds 38 and 40) and one Red-legged Frog breeding site (Pond 38). An increase in off-leash dog use here compared to the No Action Alternative and Dog Leash Alternative levels would be expected because the designation of this OLOR would undoubtedly attract more dog recreation than under past use patterns. Under these latter two alternatives, dog rules would be consistent across FONM so as to not direct above average use to these road sections. However; designation of these road sections as an OLOR would attract users with dogs off leash. A minority of dogs off leash would likely enter these ponds on occasion and this use could trample or otherwise injure eggs, larvae, or adults of California tiger salamander and Western fairy shrimp.

Consistent with the discussion above, the following directives from the BLM's 2006 Resource Management Plan would be reasonably achieved under the OLOR Alternative:

- Restrict public and pet access to all ponds on Fort Ord National Monument known or suspected to support special status aquatic species during important breeding and gestation periods.
- Mitigate or relocate activities that disturb, alter, or interrupt hydrologic or ecological processes that support special status species.

- Maintain, restore, or enhance special species habitat.
- Improve the condition of special status species and their habitats to a point where their special status recognition is no longer warranted.

C. Impacts to Livestock Use and Range Management

Fenced Inland Range Planning Unit, North of Eucalyptus Road Planning Unit and North of Jacks Road Planning Unit (Units 1-3)

Under the Preferred Action Alternative there would be no adverse impact to the livestock grazing program in these planning units because there is no livestock grazing in these planning units.

South of Jacks Road Planning Unit (Unit 4)

Under the Preferred Action Alternative there would be the same impact to the livestock grazing program as under the designated Off-leash Opportunities Route (OLOR) Alternative because the proposed dog related policy is the same under both alternatives.

There would be the slightly fewer but similar impacts to domestic livestock under the Preferred Action Alternative as compared to the No Action Alternative. Under the No Action Alternative dogs, would be allowed off leash on all roads and trails in the grazing whereas under the Preferred Action Alternative, dogs would only be allowed off leash along 4.1 miles of Guidotti Road, Oil Well Road, and Skyline Road, and a portion of El Toro Creek Road. These road segments of the proposed OLOR access a large proportion of grazed areas on FONM so would be expected to subject livestock to occasional harassment or injury from off leash dogs even though the designated OLOR. It is expected that an average of one sheep or goat per year would be injured or killed by dog-related attacks. While unfortunate, this would not substantially affect the livestock grazing program on FONM.

Consistent with the discussion above, the following directives from the BLM' 2006 Resource Management Plan would be moderately accomplished under the Dog Prohibition Alternative:

- Establish pet restrictions (e.g. leash law, exclusion areas) to reduce user conflicts and protect wildlife and livestock on Fort Ord National Monument.
- Use livestock grazing to improve ecological conditions and increase forage production).
- Allow livestock grazing as a tool to reduce noxious and invasive weeds, maintain perennial grasses, and improve habitat for special status species.

D. Impacts to the Cultural and Historic Resources

Under the Preferred Action Alternative, public use is restricted to daylight hours and visitors must remain of designated roads and trails. Potential impacts to cultural and historic-era resources associated with pet dogs vary depending on Planning Unit:

Fenced Inland Range Planning Unit - The preferred alternative prescription for this Planning Unit is the Dog Prohibition Alternative. This treatment provides for the maximum protection to cultural and historic-era resources throughout FONM as no pet dogs would be allowed on FONM (service dogs are excluded, as they are not pets) thereby eliminating much of the possibility of incidental digging (physical disturbance) at or near a cultural or historic-era resource. Although a corridor of the Juan Bautista de Anza National Historic Trail (JBNHT) occurs within this Planning Unit, no formal trail has been signed as such and therefore will not be affected. If at some time a segment of JBNHT is delineated and signed within this Planning Unit, this prescription provides for the maximum protection of the National Historic Trail.

North of Eucalyptus Road Planning Unit - The preferred alternative prescription for this Planning Unit is the Dog Leash Requirement Alternative. Potential impacts to cultural and historic-era resources associated with pet dogs from this treatment would be reduced because they would be restricted to a leash-only use on a designated route system. The Juan Bautista de Anza National Historic Trail (JBNHT) in not within this Planning Unit and therefore will not be affected.

North of Jack's Road Planning Unit - The preferred alternative prescription for this Planning Unit is the Designated Off-Leash Opportunities Route Alternative. The effects on cultural and historic-era resources of this Alternative would be similar in scope to the Dog Leash Alternative with the exception of the designated Off-Leash Opportunity Route (OLOR). Currently the OLOR area proposed under this Alternative in this Planning Unit does not contain any reported or recorded cultural or historic-era resources which could be impacted. If over the course of time a cultural or historic-era resource is discovered or identified within this OLOR then some mitigation would occur, either through route re-design, fence protection, OLOR boundary adjustment, or a combination of the above depending the resource type. The portion of the Juan Bautista de Anza National Historic Trail (JBNHT) in this Planning Unit will not be affected since the OLOR does not include the Trail.

South of Jack's Road Planning Unit - The preferred alternative prescription for this Planning Unit is the Designated Off-Leash Opportunities Route Alternative. The effects on cultural and historic-era resources of this Alternative would be similar in scope to the Dog Leash Alternative with the exception of the designated Off-Leash Opportunity Route (OLOR). Currently the OLOR area proposed under this Alternative in this Planning Unit does not contain any reported or recorded cultural or historic-era resources which could be impacted. However, if over the

course of time a cultural or historic-era resource is discovered or identified within this OLOR then some mitigation would occur, either through route re-design, fence protection, OLOR boundary adjustment, or a combination of the above depending the resource type. A portion of the Juan Bautista de Anza National Historic Trail (JBNHT) is within this Planning Unit and Trail user experience may be negatively affected by the OLOR on Toro Creek Road between the Trail 40 intersection and Oilwell Road.

E. Water Quality

Vernal pools, ponds and El Toro Creek are located within the Project Area and could be affected by dog use. Water quality for these waterbodies is affected by pet waste and by chemicals associated with pet shampoos, flea and tick collars, flea dips or powders.

The Preferred Action Alternative would have a moderate level of protection against impacts caused from dog waste because owners would be more likely to clean up after a leashed pet than an unleashed pet that wandered away from their owner. Pet waste can spread parasites including hookworms, ringworms, tapeworms and Salmonella. Pet waste also contains E. Coli and other harmful bacteria including fecal coliform bacteria, which causes serious kidney disorders, intestinal illness, cramps and diarrhea in humans. With an estimate 76,000 annual pet visits to FONM in 2014, pet waste has the potential to have a great impact on water quality.

Under the Preferred Action Alternative and the proposed rulemaking that pets would be prohibited from entering vernal pools, pets would be the less likely to enter vernal pools and ponds at FONM washing flea and tick powder residues into these sensitive aquatic resources. Powders and solutions that contain pyrethrins as the active ingredient, and dipping solutions containing organophosphate chemicals such as dursban, diazinon or malathion are particularly toxic to aquatic wildlife.

F. Cumulative Impacts

The indirect and distributive impact of this alternative to regional recreational resources is disclosed above under the recreational resources impact discussion. In addition to those recreation related impacts, the cumulative impact of the Dog Prohibited Alternative prescriptions in light of growing residential development around the FONM is that there would be lower to moderate conflict on the trails leading to higher visitor satisfaction for visitors without pets and moderate visitor satisfaction for visitors with pets, lowered levels of off-trail use by pets and humans leading to a lower level of impact to vegetative and biological resources, and lower impacts to vernal pool resources. These cumulative impacts would likely improve the effectiveness of the BLM's management of FONM in serving as a habitat mitigation reserve to facilitate redevelopment of the former Fort Ord.