

APPENDIX D

**2008 Vegetation Monitoring Report
for the Parker Flats Munitions Response Area Phase II**

FORA ESCA REMEDIATION PROGRAM

2008 Vegetation Monitoring Report for the Parker Flats Munitions Response Area Phase II

Former Fort Ord
Monterey County, California

June 12, 2009

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FORT ORD REUSE AUTHORITY

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ACRONYMS AND ABBREVIATIONS

Army	U.S. Department of the Army
BRAC	Base Realignment and Closure
ESCA	Environmental Services Cooperative Agreement
FORA	Fort Ord Reuse Authority
GPS	Global Positioning System
HMP	Habitat Management Plan
LFR	LFR Inc.
MEC	munitions and explosives of concern
MRA	Munitions Response Area
MRS	Munitions Response Site
RP	Remediation Program
USACE	U.S. Army Corps of Engineers

1.0 INTRODUCTION

This 2008 vegetation monitoring report was prepared by LFR Inc. (LFR) on behalf of the Fort Ord Reuse Authority (FORA) under the Environmental Services Cooperative Agreement (ESCA). This report documents vegetation monitoring conducted in 2008 to satisfy a requirement of the Installation-Wide Multispecies Habitat Management Plan (HMP; USACE 1997).

1.1 Purpose

Vegetation monitoring is required in habitat reserve parcels to document recovery following munitions and explosives of concern (MEC) clearance. “Baseline” condition is established by an initial vegetation survey conducted prior to disturbance of the area for the purpose of MEC clearance. After disturbance, vegetation surveys are repeated at intervals prescribed in the applicable monitoring protocol. If the results of the post-MEC-clearance surveys reveal that recovery is proceeding satisfactorily (i.e., temporal changes generally coincide with an anticipated “recovery trajectory” toward the “baseline” condition), no additional mitigation measures (such as active restoration) may be required. If recovery is deemed not to be proceeding satisfactorily, additional monitoring and/or mitigation measures may be proposed.

This report presents the results of a baseline vegetation survey conducted in 2008 in the habitat reserve parcels located within the Phase II portion of the Parker Flats Munitions Response Area (MRA; “the survey area”).

1.2 Site Description

This survey was conducted at the former Fort Ord, which is located about 8 miles north of the city of Monterey, California. The Parker Flats MRA encompasses approximately 1,180 acres near the central portion of the former Fort Ord (Figure 1). The survey area is located in the northeastern portion of the Parker Flats MRA and encompasses approximately 167.2 acres. It is labeled as “Phase II Habitat Area” on Figure 2. The ESCA RP is conducting MEC clearance activities only within the Phase II (i.e., northern) portion of the Parker Flats MRA.

The vegetation in the survey area is primarily coastal coast live oak woodland with areas of maritime chaparral, coastal scrub, and annual grasslands (Figure 3). Maritime chaparral is a vegetation type of particular concern in the HMP because of its association with a number of rare, threatened, and endangered species populations. Terrain over most of the Parker Flats MRA consists of rolling hills (2 to 15% slopes) with elevations ranging from 280 to 490 feet. The surface soils are characterized as eolian (sand dune) and terrace (river deposits), which consist of unconsolidated materials of the Aromas and Old Dune Sand formations. The primary soil type present in the MRA is Oceano Loamy Sand with smaller areas of Arnold-Santa Ynez complex and Baywood Sand. Soil conditions at the MRA consist predominantly of weathered dune sand.

1.3 Prior Vegetation Survey

The vegetation of the former Fort Ord as a whole (including the survey area addressed in this report) was surveyed in 1992 (16 years prior to the 2008 survey) and documented in a report titled “Flora and Fauna Baseline Study of Fort Ord, California” (USACE 1992). The 1992 survey method involved mapping polygons on aerial photographs within which abundance categories of special status species occurred. Abundance categories used were: uncommon or low density (one to hundreds of individuals), occasional or medium density (hundreds to thousands of individuals), and abundant or high density (many thousands of individuals; USACE 1992, p.6). In planning the 1992 surveys, areas of “suitable habitat” were identified on aerial photographs and areas outside of suitable habitat were not surveyed. It appears that all areas of suitable habitat were identified as having contained populations of the respective species for which the survey was conducted. Therefore, a fourth category (absent) was included in the report as unshaded areas on the relevant figures in the report, although the unshaded areas were not explicitly listed in the legends or labeled as such on the figures.

Two of the three HMP annual species discussed in the present report (sand gilia and seaside bird’s-beak) were not recorded in the survey area in 1992. However, the 1992 survey did record low abundance of Monterey spineflower in portions of the survey area (Figure 4; the 2008 survey area is indicated on this figure as the “Phase II Habitat Area”).

2.0 2008 SURVEY OVERVIEW

The 2008 vegetation survey effort in the Parker Flats MRA Phase II habitat reserve parcels (the survey area) documented “baseline” vegetation, i.e., vegetation conditions existing prior to disturbance associated with MEC clearance. Two types of surveys were conducted in 2008 per the monitoring protocol: focused surveys for HMP annuals and shrub community surveys.

2.1 Scope of Surveys

Focused surveys were conducted for three HMP annual species: sand gilia (*Gilia tenuiflora* ssp. *arenaria*), seaside bird’s-beak (*Cordylanthus rigidus* ssp. *littoralis*), and Monterey spineflower (*Chorizanthe pungens* var. *pungens*).

The shrub community survey (which included line-intercept and associated quadrat sampling) were performed to obtain baseline data intended to be used to evaluate post-disturbance recovery of plant communities associated with shrub vegetation.

2.2 HMP Annual Species Accounts

HMP annual species are relatively rare and some are difficult to detect in the field; therefore, accurate field identification is critical to obtaining robust data for these species. The species account information employed in this survey to assist in field identification of the HMP annual species is included in Section 2.2 of the Draft 2008 Vegetation Monitoring Report for the Interim Action Ranges MRA (ESCA RP Team 2009).

3.0 METHODS

In 2008, the U.S. Department of the Army (Army) requested that the ESCA Remediation Program (RP) conduct a baseline vegetation survey in the survey area using the “Draft Protocol for Conducting Vegetation Monitoring in Compliance with the Installation-Wide Multispecies Habitat Management Plan at Former Fort Ord” (“the 2006 Protocol”; Burleson 2006) with a few modifications requested by the Army (pers. comm. William Collins, Wildlife Biologist of the Fort Ord Army Base Realignment and Closure [BRAC] Office 2008).

3.1 HMP Annuals

3.1.1 Monterey Spineflower and Sand Gilia

Surveys for Monterey spineflower and sand gilia were performed from May 15 through May 23, 2008. Areas of potentially suitable habitat within the survey area were examined, as well as a representative sample of marginal, or potentially adequate, habitat areas.

The generally cryptic appearance of plants of these two species (especially sand gilia) as well as the relatively short flowering period in 2008 could have reduced the ability of field personnel to detect plants in the field and therefore could have resulted in false negative data. Survey success of sand gilia in particular is dependent on the survey being conducted during the peak flowering period for that year, as the plants are inconspicuous and the presence of their small flowers is critical to detecting the plants in the field. Therefore, a procedure was adopted whereby field staff confirmed that reference populations of sand gilia and Monterey spineflower were in flower at the beginning of each day when the survey for these two species was conducted. The reference populations were located in the Interim Action Ranges MRA, which is near the survey area (Figure 1). By implementing this procedure, there is greater confidence that failure to detect the species in portions of the survey area means that plants of the species were not present in those portions in 2008.

Sand gilia and Monterey spineflower are known to co-occur, but sand gilia is more restricted in its distribution and differs in microhabitat requirements (USACE 1992). Thus, suitable habitat (i.e., areas to be closely examined for the species within the survey area) was for the purposes of this survey defined broadly for both species according to the published literature, personal knowledge of a highly experienced local botanist, and experience with both species from previous fieldwork conducted in the Interim Action Ranges MRA (see the Draft 2008 Vegetation Monitoring Report for the Interim Action Ranges MRA [ESCA RP Team 2009]).

Areas that appeared to be suitable from an examination of high resolution aerial photographs were closely examined in the field; these included open, bare, sandy-appearing areas, trails, roads, and pathways. A representative sample of less suitable but potentially occupied areas was also surveyed. These less suitable areas included openings within closed-canopy oak woodland and closed-canopy dense chaparral. When examined in the field, portions of the less suitable areas that were mostly vegetated were generally occupied by either grasses or low herbaceous vegetation. The portions that were sparsely vegetated or devoid of vegetation

generally exhibited surface soils that were either variably but weakly cemented sand formed into surface crusts or solid masses, or areas that had been paved with gravel in the past and which had degraded into loose gravel. Areas with cemented or gravelly surface soils were not suitable habitat for either species.

The trails, pathways, and open sandy areas were walked and examined for the species. Where populations were detected, individuals occurring within a 5-meter-diameter sample plot were counted with a tally counter and the population value was recorded both in the Global Positioning System (GPS) unit and in field notes. Monterey spineflower populations were separated enough that it was possible to place a plot within every detected population of the species. A population was defined as a grouping of individuals no closer than 5 meters to the next individual. Where a population covered a significantly larger area than the sample plot, the entire polygon was recorded into the GPS unit and a high density point was selected as the center of the sample plot. Each population detected in the survey area was documented using GPS and sampled.

The survey methods described above were designed to generate comprehensive distributional information on the occurrence of the two species in the survey area as well as a population estimate.

3.1.2 Seaside Bird's-Beak

A survey for seaside bird's-beak was performed on August 8, 2008. Because this species is larger than Monterey spineflower and sand gilia, occurs in similar types of habitat, and is visibly distinct from surrounding landscape where it occurs, it is much easier to detect in the field and this survey took only a single day. Areas of potentially suitable habitat were surveyed, as well as a representative sample of marginal, or potentially adequate, habitat areas.

Suitable habitat within the survey area was defined broadly for the species according to the published literature, personal knowledge of a highly experienced local botanist, and experience with the species from the previous fieldwork in the Interim Action Ranges MRA (see the Draft 2008 Vegetation Monitoring Report for the Interim Action Ranges MRA [ESCA RP Team 2009]). The same methods described in Section 3.1.1 were implemented for this species.

The survey methods described above generated comprehensive documentation of the occurrence of the species in the survey area as well as a population estimate.

3.2 Shrub Communities

The shrub community survey was comprised of line-intercept and quadrat sampling that was conducted along transects in areas with sufficient shrub canopy.

3.2.1 Line-Intercept Sampling

Line-intercept transect sampling was conducted from August 12 through 14, 2008. The transects established in this survey are “permanent” (i.e., the same transect locations will be occupied in surveys conducted in future years). Because this is a baseline survey, the number of transects and their locations were determined as an initial step in the fieldwork based on three criteria. The first criterion was that transects were to be positioned in areas where vegetation would be disturbed. The entire survey area was expected to be subject to above-ground vegetation clearance (except that trees greater than 5 inches in diameter at breast height were to be “limbed up” but not entirely removed). The second criterion was that transects were to be positioned in shrub-dominated areas and not in oak woodlands or grasslands. The third criterion was that transects should be representative of the major shrub communities present within the survey area. Two areas met these criteria (see transect locations depicted on Figure 3): 1) an area of maritime chaparral and mixed coast live oak with coastal sage scrub at the eastern end of the survey area (the top of parcel E19a.4) and 2) a small area of maritime chaparral in the middle of the survey area in what was previously characterized as oak woodland (at the northeastern corner of parcel E19a.2). These two areas appeared to be of approximately the same maturity.

An aerial photograph was taken into the field and appropriate habitat for this survey was mapped (Figure 2). According to the 2006 Protocol, there is no right or wrong location or direction to establish a transect within the vegetation (Burlison 2006). Common sense should dictate transect placement. For example, monitoring bare earth is not informative for the purposes of the HMP. As a result, eight transects were located within the maritime chaparral area and three transects were located within the coastal sage scrub area.

With those guidelines, the following procedure was followed in order to establish transects:

1. At the beginning of the transect, a stake was hammered several inches into the ground and flagged with high-visibility fluorescent flagging tape.
2. Beginning at the new stake, a 50-meter measuring tape was stretched tautly along the transect. An effort was made to ensure that the tape was kept level and tight, and did not undulate. Another stake was hammered in the ground at the endpoint and flagged.
3. From the starting point, GPS coordinates (or the identifying name taken from the GPS unit) were recorded on the Transect Survey Sheet (see Appendix A for a sample sheet). Transect number, location, date, personnel, and additional comments documenting the characteristics of the site where the transect was located (such as "site was recently burned") were recorded on the Transect Survey Sheet.
4. Transect endpoints were recorded in the GPS unit.

The object in surveying the transect is to determine the length along the transect that is occupied by each shrub species, bare ground, or herbaceous vegetation. The sum of all these lengths is often greater than the length of the transect because of overlapping types of cover, and the total length of all vegetated segments recorded can be indicative of the overall density

of the cover in the area of the transect. The 2006 Protocol (Burluson 2006) included the following conventions and requirements:

- Plant names are recorded as Latin binomials
- Bare ground was recorded as "bare ground" or "bg"
- If no shrub species were present, but an herbaceous understory exists, "vegetated" or "veg." was recorded
- If two (or more) shrub species overlapped within a segment on the transect, all the species were recorded for that segment
- Plants occupying less than 1 decimeter along the tape measure were not recorded

The field procedure for collecting transect data followed these steps:

1. Starting at the beginning of the transect, write a "0" under "Start Distance" in the first row of the data sheet (Appendix A).
2. Proceed down each transect and record the beginning and ending points of the segment and the species present in that segment. Segments begin and end where species composition over the transect changes or where bare ground or vegetation begins or ends.
3. Continue this procedure until the end of the transect is reached.

3.2.2 Quadrat Sampling

The 2006 Protocol indicates that along transects where herbaceous species comprise a significant amount of the cover, quadrat sampling along the transect should be performed to record these species. However, as the vegetation encountered on the transects established in this survey was dominated by mature shrubs, there were few areas on the transects where herbaceous species were abundant. As a consequence, in accordance with the 2006 Protocol, no quadrat sampling was performed along the transects.

4.0 RESULTS

The results of the HMP annual and shrub community surveys conducted in 2008 are reported in this section.

4.1 HMP Annuals

HMP annual surveys were conducted for Monterey spineflower, sand gilia, and seaside bird's-beak in 2008.

4.1.1 Monterey Spineflower

The populations of Monterey spineflower observed in 2008 were located along roadsides or in open areas on the margins of the maritime chaparral habitat. Nine small populations and a substantially larger population were observed, mostly in the eastern portion of the survey area. The locations of these populations are shown on Figure 3.

The ten sample plot counts ranged from 2 to 503 and had a mean of 137 individuals, a median of 95, and a standard deviation of 151.7.

4.1.2 Sand Gilia

Sand gilia was not observed in the survey area, though potentially suitable habitat was observed.

4.1.3 Seaside Bird's-Beak

Seaside bird's-beak was not observed in the survey area, though potentially suitable habitat was observed.

4.2 Shrub Communities

4.2.1 Line-Intercept Data

Reconnaissance of the survey area determined that chaparral vegetation generally appeared uniformly mature; however, two associations were encountered. The first was a small area of coastal sage scrub in the northeastern portion of the survey area, which seemed heavily influenced by the coastal coast live oak woodland, as a few large *Quercus agrifolia* trees had established and young trees or seedlings were present over portions of this habitat. Three transects were established in this association (Figure 3). The second association was a more typical manzanita-dominated maritime chaparral, and it occurred in two places: one large area just south of the coastal sage scrub association on the eastern end of the survey area, and another very small patch surrounded by coastal coast live oak woodland and grasslands in the middle of the survey area on an east/west axis. Eight transects were established in this association (Figure 3). Species identified during the survey are listed in Table 1. Frequency of occurrence and percentage cover data are presented in Table 2. The discussion of results primarily focuses on the dominant species, defined as those species occupying greater than 4% mean cover.

4.2.1.1 Coastal Sage Scrub Association

The coastal sage scrub association was dominated by black sage (*Salvia mellifera*; 33%), coyote brush (*Baccharis pilularis*; 14.9%), sticky monkeyflower (*Mimulus aurantiacus*; 7.5%), poison oak (*Toxicodendron diversilobum*; 7.1%), California sagebrush (*Artemisia californica*; 6.9%), and yerba santa (*Eriodictyon californicum*; 5.1%). Other species recorded

on the transects were present at less than 4% mean cover. No HMP species were observed. Mean bare ground occurrence was 30.8%.

4.2.1.2 Maritime Chaparral Community

The manzanita-dominated maritime chaparral was heavily dominated by shaggy-barked manzanita (*Arctostaphylos tomentosa*; 56.7%). Also dominant in this community was chamise (*Adenostoma fasciculatum*; 37.2%), and black sage (6.2%). Other species recorded on the transects were present at less than 4% mean cover. Toro manzanita (also known as Monterey manzanita; *Arctostaphylos montereyensis*) was the only HMP species recorded on these transects (mean = 3.5% cover). Mean bare ground occurrence was 4.2%.

4.2.2 Quadrat Data

As indicated above, herbaceous vegetation was insufficiently abundant on any of the transects to warrant collecting quadrat data in the survey.

5.0 DISCUSSION AND FINDINGS

The results presented in this report document the 2008 “baseline” condition of HMP annual populations and shrub communities in habitat reserve parcels of the Parker Flats MRA Phase II area in advance of MEC clearance activities and in anticipation of future monitoring surveys.

5.1 HMP Annual Populations

Monterey spineflower was infrequent in the survey area and was detected in only ten locations. Mean number of plants per plot was 137. Almost all of the locations where Monterey spineflower was recorded in 2008 were outside the areas where the species was reported in 1992 (Figure 4). It is unclear from the 1992 report whether the unlabeled (white) areas on the map were not surveyed or were determined to have no presence of the species (USACE 1992, p.6).

Neither the 1992 nor the current survey detected sand gilia or seaside bird’s-beak populations within the survey area. Seaside bird’s-beak is conspicuous in the field at this time of year and was easily detected in the survey conducted in the Interim Action Ranges MRA, which immediately preceded this survey. Therefore, the negative finding for this species in the survey area is likely a valid result. Sand gilia is more cryptic than seaside bird’s-beak; however, the special procedures employed to confirm that sand gilia was flowering in the former Fort Ord area every day of the survey conducted for sand gilia in the Parker Flats MRA survey area provide a high degree of certainty that the negative finding for the species in the survey was valid.

5.2 Shrub Communities

Two shrub community types were identified and sampled: coastal sage scrub and maritime chaparral.

5.2.1 Coastal Sage Scrub Association

The coastal sage scrub association was dominated by black sage and coyote brush and was situated between maritime chaparral and coastal coast live oak woodland communities. The plants in this community appeared to be mostly mature. It may represent either a stable ecotone or an intermediate seral stage between the two communities.

Herbaceous plant communities were absent or low in abundance on the transects in this association and therefore no data were collected for this vegetation type.

5.2.2 Maritime Chaparral Community

The maritime chaparral community in the survey area was relatively dense and mature, indicating late seral stage. A major dominant in the community, shaggy-barked manzanita, re-sprouts from the burl after removal (by fire or cutting) of aboveground vegetation. Another important species, Toro manzanita, does not re-sprout but is an obligate seeder.

Herbaceous plant communities were absent or low in abundance on the transects in this association and therefore no data were collected for this vegetation type.

5.3 Findings

Surveys of HMP annuals and shrub communities were conducted in 2008 as the initial (baseline) survey in the habitat parcels of the Parker Flats MRA Phase II area. Although there was evidence of disturbance in the area (i.e., infrastructure and habitat modification from historical Army activities and recent trail use and trash deposition by the public), the overall footprints from these disturbances were spatially minor. There was no evidence of recent burn events in the area.

Surveys were conducted for three HMP annual species: Monterey spineflower, sand gilia, and seaside bird's-beak. Ten populations of Monterey spineflower occupying a small portion of the survey area were detected. No populations of sand gilia or seaside bird's-beak were detected. Because the 2008 wet season was considered to have been sub-optimal (ESCA RP 2009), it is possible that Monterey spineflower populations may be larger and sand gilia may occur in the area if future surveys are conducted after more optimal wet seasons.

Two shrub community types were identified and sampled: coastal sage scrub and maritime chaparral. The maritime chaparral community in the survey area was relatively dense and mature, indicating late seral stage. The coastal sage scrub association may represent either a stable ecotone or an intermediate seral stage between the maritime chaparral and coastal coast

live oak woodland communities. Herbaceous plant associations were absent or minor in abundance in the sampled shrub communities.

6.0 REFERENCES

Burleson Consulting Inc. (Burleson). 2006. Draft Protocol for Conducting Vegetation Monitoring in Compliance with the Installation-Wide Multispecies Habitat Management Plan at Former Fort Ord. Folsom, California.

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U.S. Army Corps of Engineers (USACE). 1992. Flora and Fauna Baseline Study of Fort Ord, California. Sacramento District. Sacramento, California.

———. 1997. Installation-Wide Multispecies Habitat Monitoring Plan for Former Fort Ord, California. April. Sacramento, California.

Table 1
 Plant Species Identified in the 2008 Survey
 2008 Parker Flats Annual Biomonitoring Report
 FORA ESCA RP

Abbreviation Used On Datasheets	Species Name	Status	Common Name
BG	na	na	Bare Ground
ADFA	<i>Adenostoma fasciculatum</i>	--	chamise
ARCA	<i>Artemisia californica</i>	--	California sagebrush
ARMO	<i>Arctostaphylos montereyensis</i>	HMP	Toro (Monterey) manzanita
ARTO	<i>Arctostaphylos tomentosa</i>	--	shaggy-bark manzanita
BAPI	<i>Baccharis pilularis</i>	--	coyote brush
CAsp	<i>Carex</i> sp.	--	sedge
CEGR	<i>Ceanothus griseus</i>	--	Carmel ceanothus
CHPU	<i>Chorizanthe pungens</i> var. <i>pungens</i>	FT/HMP	Monterey spineflower
ERCA	<i>Eriodictyon californicum</i>	--	yerba santa
GITA	<i>Gilia tenuiflora</i> ssp. <i>arenaria</i>	FE/ST/HMP	sand gilia
HEAR	<i>Heteromeles arbutifolia</i>	--	toyon
MIAU	<i>Mimulus aurantiacus</i>	--	sticky monkeyflower
NAPU	<i>Nasella pulchra</i>	--	purple needle grass
PETR	<i>Pentagramma triangularis</i>	--	goldback fern
QUAG	<i>Quercus agrifolia</i>	--	coast live oak
RISP	<i>Ribes speciosum</i>	--	fuchsia flowering gooseberry
SAME	<i>Salvia mellifera</i>	--	black sage
TODI	<i>Toxicodendron diversilobum</i>	--	poison oak

Notes:

FE = Federally Endangered

FT = Federally Threatened

ST = State Threatened

HMP = Habitat Management Plan; Protected by HMP due to rarity as defined by nonregulatory entities.

-- = no HMP or federal ESA status

na = not applicable

Table 2
Line Intercept Data Summary
2008 Parker Flats Annual Biomonitoring Report
FORA ESCA RP

Species Name	Common Name	HMP Species	Frequency Across All Transects (11 Transects)	Coast Live Oak-Influenced Sage Scrub (3 Transects)			Manzanita-Dominated Chaparral (8 Transects)		
				Species Abundance Rank	Frequency of Occurrence	Average Percent Cover	Species Abundance Rank	Frequency of Occurrence	Average Percent Cover
--	Bare Ground	na	9	na	3	30.8%	na	6	4.2%
<i>Adenostoma fasciculatum</i>	chamise	--	7	np	0	np	2	7	37.2%
<i>Artemisia californica</i>	California sagebrush	--	1	5	1	6.9%	np	0	np
<i>Arctostaphylos montereyensis</i>	Toro (Monterey) manzanita	X	2	np	0	np	4	2	3.5%
<i>Arctostaphylos tomentosa</i>	shaggy-barked manzanita	--	9	8	1	1.3%	1	8	56.7%
<i>Baccharis pilularis</i>	coyote brush	--	6	2	3	14.2%	6	3	1.2%
<i>Carex</i> sp.	sedge	--	1	np	0	np	7	1	1.0%
<i>Ceanothus griseus</i>	Carmel ceanothus	--	1	np	0	np	9	1	0.7%
<i>Eriodictyon californicum</i>	yerba santa	--	3	6	3	5.1%	np	0	np
<i>Heteromeles arbutifolia</i>	toyon	--	2	np	0	np	10	2	0.6%
<i>Mimulus aurantiacus</i>	sticky monkeyflower	--	3	3	3	7.5%	np	0	np
<i>Nasella pulchra</i>	purple needle grass	--	2	10	1	0.1%	5	1	1.5%
<i>Pentagramma triangularis</i>	goldback fern	--	1	10	1	0.1%	np	0	np
<i>Quercus agrifolia</i>	coast live oak	--	3	7	2	2.2%	8	1	0.9%
<i>Ribes speciosum</i>	fuchsia flowering gooseberry	--	2	9	1	0.9%	11	1	0.1%
<i>Salvia mellifera</i>	black sage	--	9	1	3	33.0%	3	6	6.2%
<i>Toxicodendron diversilobum</i>	poison oak	--	5	4	3	7.1%	8	2	0.9%

Note:

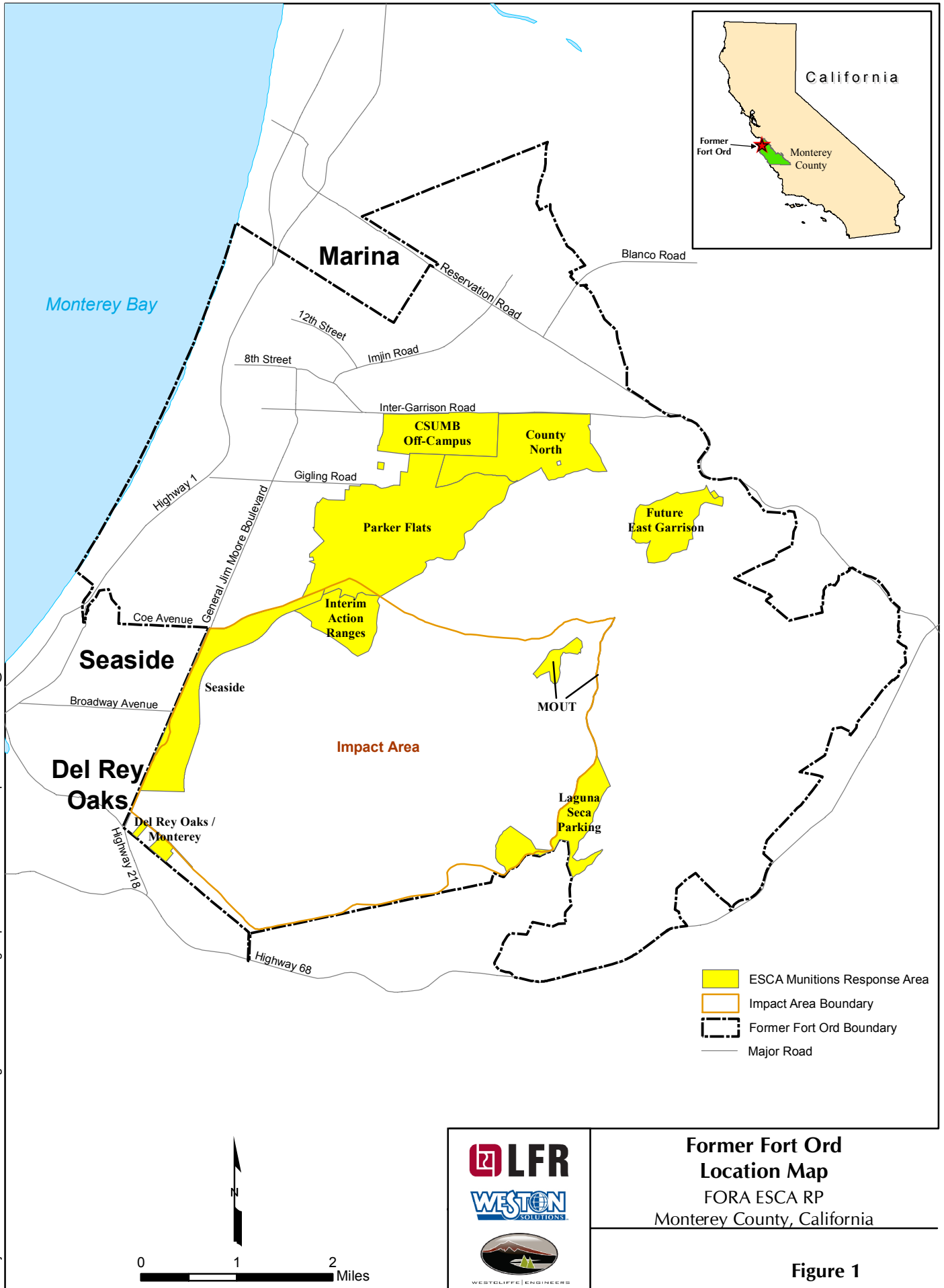
HMP = Habitat Management Plan; Protected by HMP due to rarity as defined by nonregulatory entities.

na = not applicable

-- = no HMP or federal ESA status

np = not present

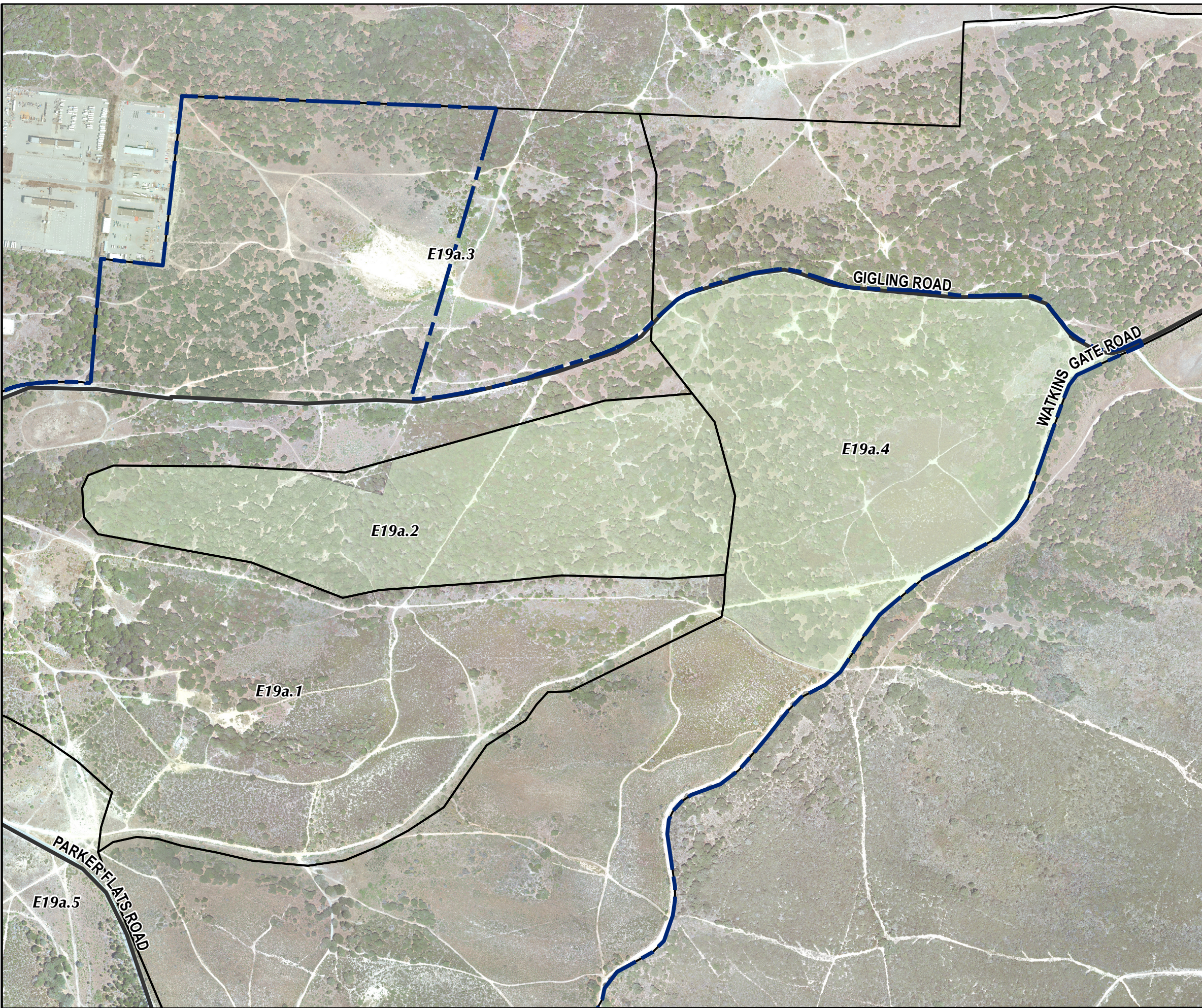
T:\Projects\ALL MRAs\Habitat Monitoring\2008 Bio Monitoring Report\Fort Ord Location Map.mxd - 6/12/2009 @ 1:43:07 PM






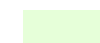
**Former Fort Ord
Location Map**
FORA ESCA RP
Monterey County, California

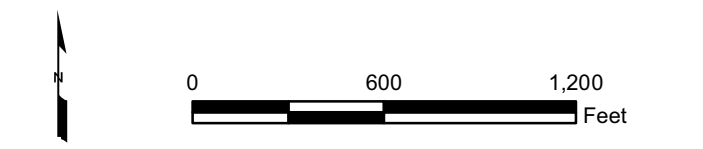
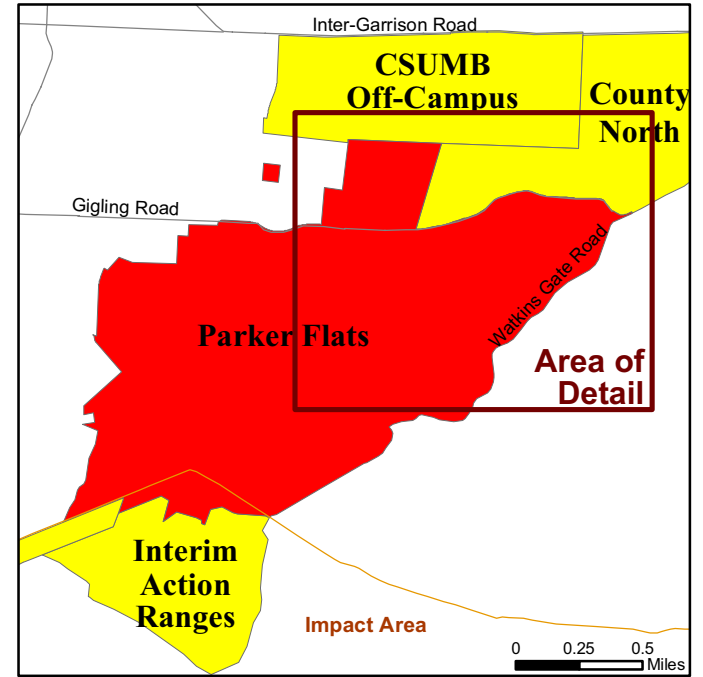
Figure 1

T:\Projects\Parker Flats\Biologist Habitat Monitoring\2008 Veg Monitoring Report\2008VegMonitoringReportOverview.mxd - 6/12/2009 @ 2:29:22 PM



Legend

- E19a.4**  Parcel Boundary and ID
-  Parker Flats MRA
-  Road
-  Phase II Habitat Area

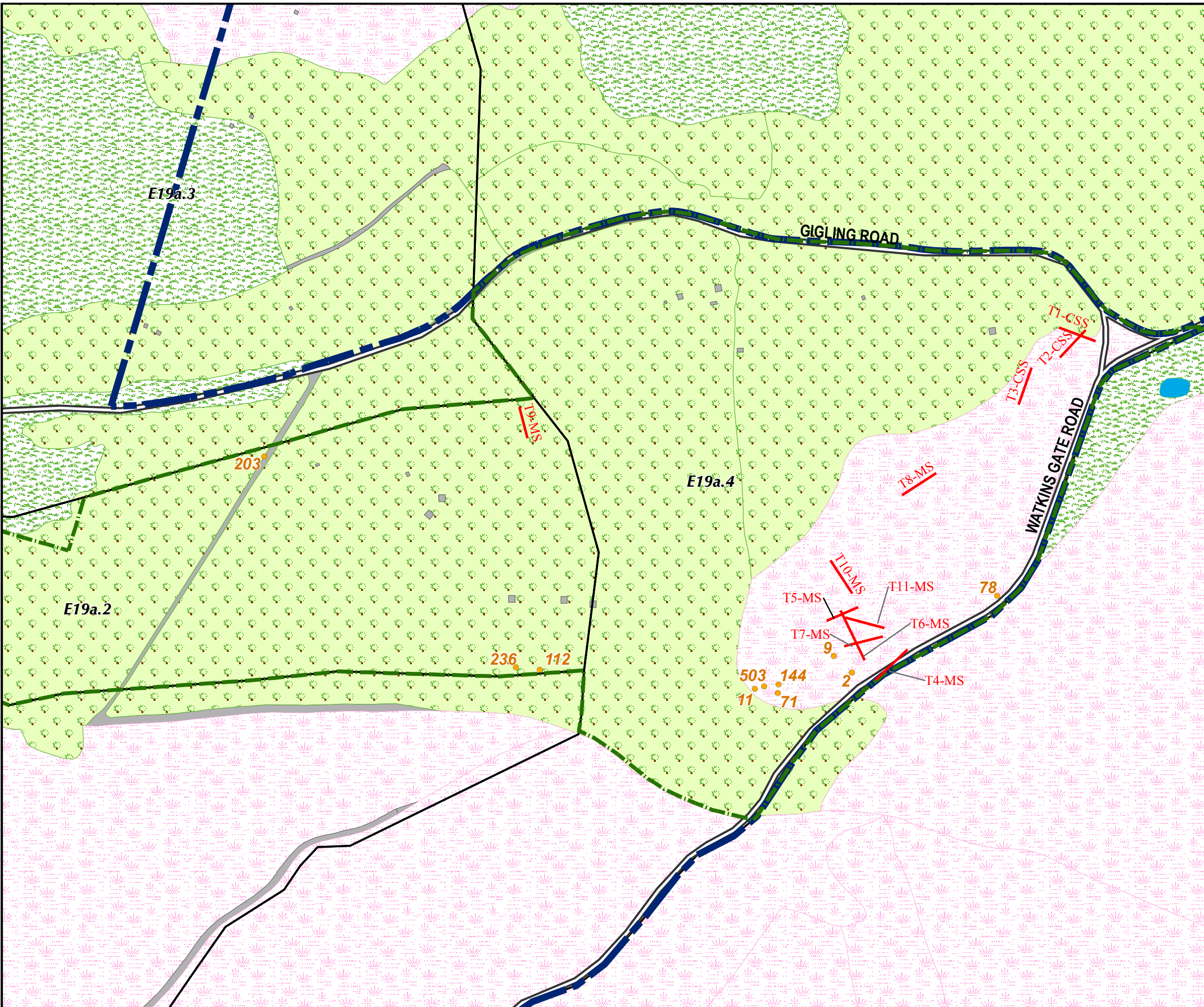


**Parker Flats MRA
Phase II Habitat Area
2007 Orthophotos**

FORA ESCA RP
Monterey County, California

Figure 2

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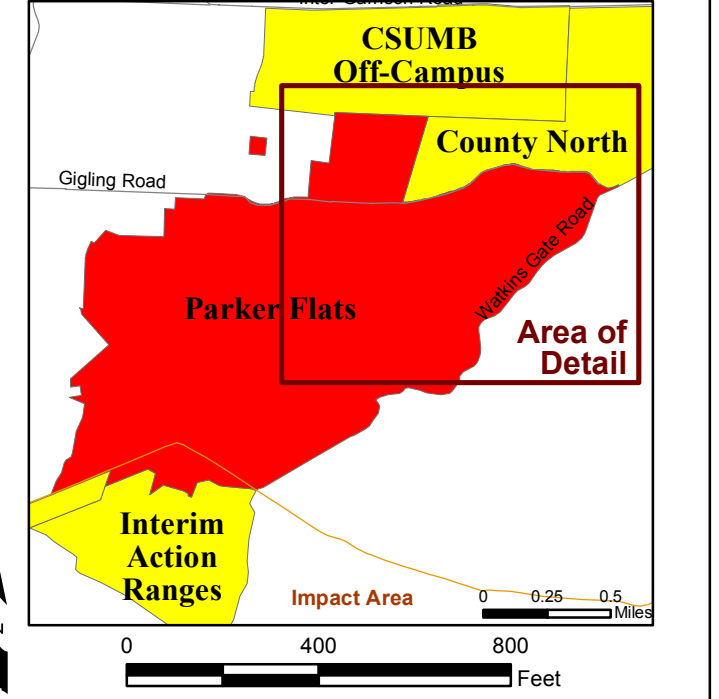
Legend

- 83 Spineflower Survey Location and Count
- T2-MS 2008 Survey Transects
(MC = Maritime Chaparral
CSS = Coastal Sage Scrub)
- E19a.4 Parcel Boundary and ID
- Phase II Habitat Area
- Parker Flats MRA
- Road
- Grassland
- Maritime Chaparral
- Coastal Coast Live Oak Woodland
- Aquatic Feature
- Developed / Disturbed

Source: Flora and Fauna Baseline Study of Fort Ord, California, Jones and Stokes Association Inc., December 1992.



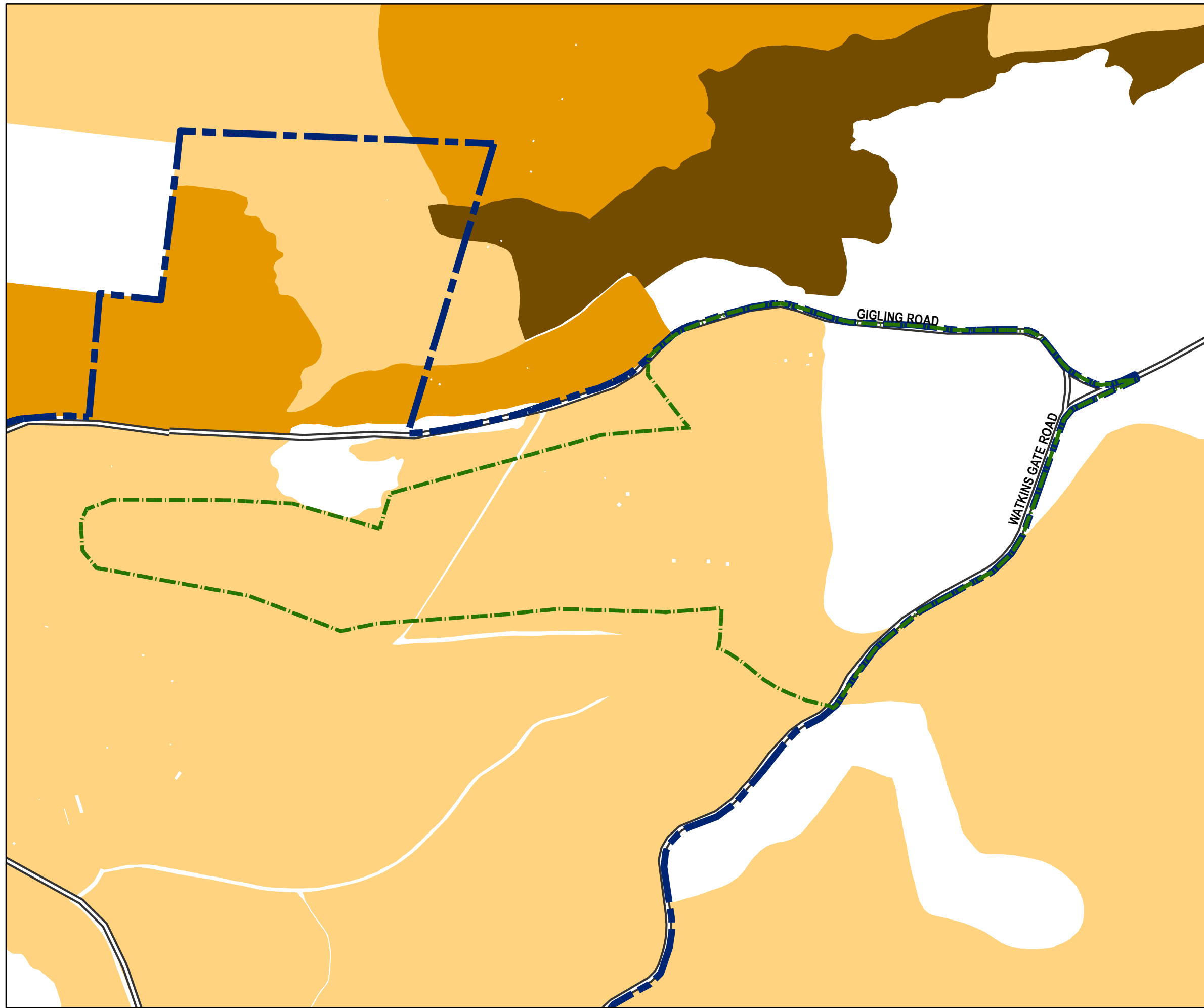
Monterey Spineflower






**Parker Flats MRA
Phase II Habitat Area
2008 Survey Results: Monterey Spineflower
And Vegetation Transect Locations**
FORA ESCA RP
Monterey County, California

Figure 3




T:\Projects\Parker Flats\Biologist Habitat Monitoring\2008 Veg Monitoring Report\PF_Habitat Reserve 1992 Baseline Monterey Spineflower.mxd - 6/12/2009 @ 2:35:53 PM



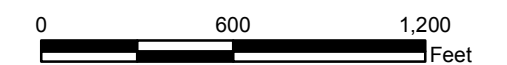
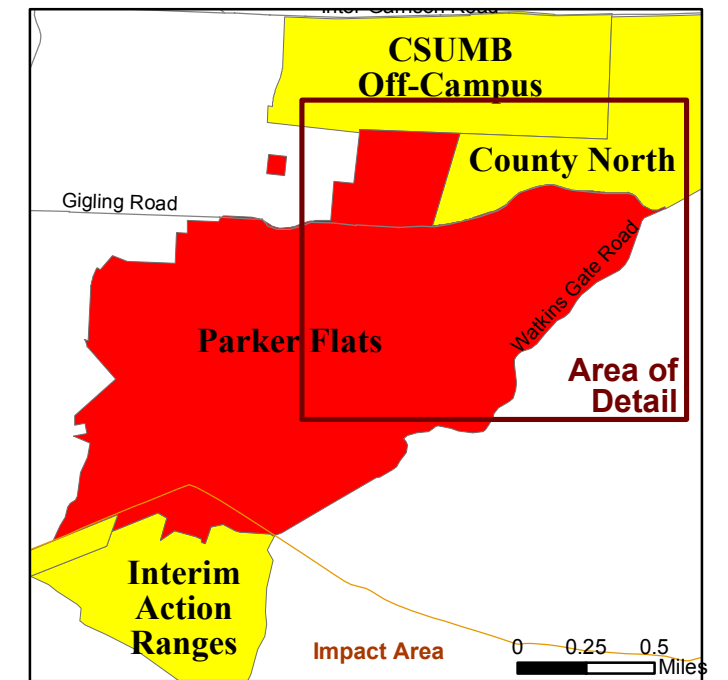
Legend

-  Phase II Habitat Area
-  Parker Flats MRA
-  Road

Monterey Spineflower Density Categories

-  Low
-  Medium
-  High

Source: Flora and Fauna Baseline Study of Fort Ord, California, Jones and Stokes Association Inc., December 1992.



**Parker Flats MRA Phase II Habitat Area
Baseline Study
Known 1992 Distribution
of Monterey Spineflower**

FORA ESCA RP
Monterey County, California

Figure 4

APPENDIX A

Field Data Sample Forms

FORT ORD TRANSECT SURVEY FORM

MRS #:	Date:
Transect #:	Survey Team:
Location of transect (distance, direction from known location):	
Direction of transect (e.g., north-south):	
Comments:	

Start Distance (feet)	End Distance (feet)	Species*

Start Distance (feet)	End Distance (feet)	Species*

FORT ORD QUADRAT SURVEY FORM

MRS Site #:	Date:
Transect #:	Survey Team:
Quadrat #	
Quadrat is located between : m and m along transect.	
Percent total vegetative cover:	
Comments:	

	SPECIES	PERCENT AREAL COVER	NO. INDIVIDUALS (FOR SHRUBS AND RARE PLANTS)
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			