DRAFT

EXISTING CONDITIONS REPORT
for the
OTAY RANCH PRESERVE

Prepared for:

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GLOSSARY OF TERMS AND ACRONYMS

amsl	above mean sea level
cc	cloud cover
CDFG	California Department of Fish and Game
City	City of Chula Vista
CNPS	California Native Plant Society
County	County of San Diego
°F	degrees Fahrenheit
FUDS	Formerly Used Defense Site
GIS	Geographic Information Systems
GPS	Global Positioning System
mph	miles per hour
MSCP	Multiple Species Conservation Program
Preserve	Otay Ranch Preserve
QCB	Quino checkerspot butterfly
SSC	Species of Special Concern
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey

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SUMMARY

The Otay Ranch Preserve (Preserve) consists of approximately 525 acres in the San Ysidro Mountains and approximately 826 acres in Salt Creek in the City of Chula Vista (City) in San Diego County. Dudek biologists have performed the following surveys: vegetation mapping in May and June 2008, focused botanical surveys in spring 2009, general butterfly surveys in 2008, focused surveys for quino checkerspot butterfly (*Euphydryas editha quino*) in spring 2009, focused surveys for coastal California gnatcatcher (*Polioptila californica californica*) in spring 2008, avian point count surveys in summer/fall 2008, and large and medium mammal surveys in spring 2009. Herpetology trap surveys are currently in process. This report documents the results of Dudek's field work.

Based on species composition and general physiognomy the following native plant communities were identified on site, in addition to combinations of some of these communities as well as several disturbed variants: annual (non-native) grassland, chamise chaparral, cismontane alkali marsh, coast live oak woodland, coastal sage scrub, disturbed wetlands, freshwater marsh, maritime succulent scrub, mule fat scrub, scrub oak chaparral, southern mixed chaparral, southern willow scrub, Tecate cypress forest, and valley needlegrass grassland. Developed, disturbed habitat, eucalyptus woodland, and ornamental land covers were also identified.

Sixteen plant species considered sensitive by the State of California, County of San Diego, California Native Plant Society (CNPS), or Otay Ranch Resource Management Plan were identified on site: small-leaved rose (*Rosa minutifolia*), Dunn's mariposa lily (*Calochortus dunnii*), Tecate cypress (*Callitropsis forbesii*), snake cholla (*Cylindropuntia californica*), San Diego goldenstar (*Muilla clevelandii*), south coast saltscale (*Atriplex pacifica*), variegated dudleya (*Dudleya variegata*), San Diego barrel cactus (*Ferocactus viridescens*), San Diego marsh-elder (*Iva hayesiana*), Munz's sage (*Salvia munzii*), western dichondra (*Dichondra occidentalis*), Palmer's grapplinghook (*Harpagonella palermi*), southwestern spiny rush (*Juncus acutus* ssp. *leopoldii*), San Diego County sunflower (*Bahiopsis laciniata*), Coulter's matilija poppy (*Romneya coulteri*), and ashy spikemoss (*Selaginella cineracens*).

Focused surveys for the federally listed threatened coastal California gnatcatcher were positive with 22 pairs and 39 individuals detected on site. The California Department of Fish and Game (CDFG) Species of Special Concern (SSC) yellow-breasted chat (*Icteria virens*) was also observed on site and the federally and state endangered least Bell's vireo (*Vireo bellii pusillus*) was anecdotally detected during surveys.. One red-tailed hawk (*Buteo jamaicensis*) nest and several coastal cactus wren (*Campylorhynchus brunneicapillus sandiegensis*) nests were observed on the Preserve. Focused surveys for the federally listed endangered quino checkerspot butterfly were also positive. A total of 35 quino was observed and recorded on the Otay Ranch Preserve. Special-status mammals observed include the Multiple Species Conservation Program

(MSCP) Group 2 species mule deer (*Odocoileus hemionus*) and mountain lion (*Felis concolor*), and the CDFG SSC San Diego black-tailed jackrabbit (*Lepus californicus bennettii*). In addition, the CDFG SSC coast patch-nosed snake (*Salvadora hexalepis virgultea*), and CDFG SSC orange-throated whiptail (*Aspidoscelis hyperythra*) were detected during surveys.

1.0 INTRODUCTION

1.1 Purpose of the Report

This report is intended to describe the existing conditions of biological resources within the Otay Ranch Preserve in terms of vegetation, flora, wildlife, and wildlife habitats. The data presented in this report is intended to provide baseline data that can used to manage, protect, and enhance the sensitive biological resources present on site.

1.2 Location and Project Description

The Otay Ranch Preserve (Preserve) consists of approximately 525 acres in the San Ysidro Mountains and approximately 826 acres in Salt Creek. These two areas of land occur within the City of Chula Vista (City) and within an unincorporated portion of the County of San Diego (County), California (Figure 1). The Salt Creek portion of the Preserve is mapped on the U.S. Geological Survey (USGS) 7.5-minute Otay Mesa quadrangle and the southern portion of the Jamul Mountains Quadrangle, Township 18 South, Range 1 West, on unsectioned lands associated with Salt Creek Canyon, located approximately 0.5 mile west of Lower Otay Reservoir and north of Otay River Valley (Figure 2). The San Ysidro portion of the Preserve is located at the northeastern portion of the USGS 7.5-minute Otay Mesa quadrangle, Township 18 South, Range 1 East, Sections 17 and 18, located immediately east of the southernmost tip of Lower Otay Reservoir (Figure 2).

The Otay Ranch Preserve is a hard-line preserve established as mitigation for impacts to sensitive resources resulting from the development of Otay Ranch. The Otay Ranch Preserve is being managed to protect multiple species present on Otay Ranch. The Otay Ranch Preserve also connects large areas of open space through a series of wildlife corridors, including connections between large, regional open spaces, including Otay Reservoir and San Miguel Mountain (City 2003).

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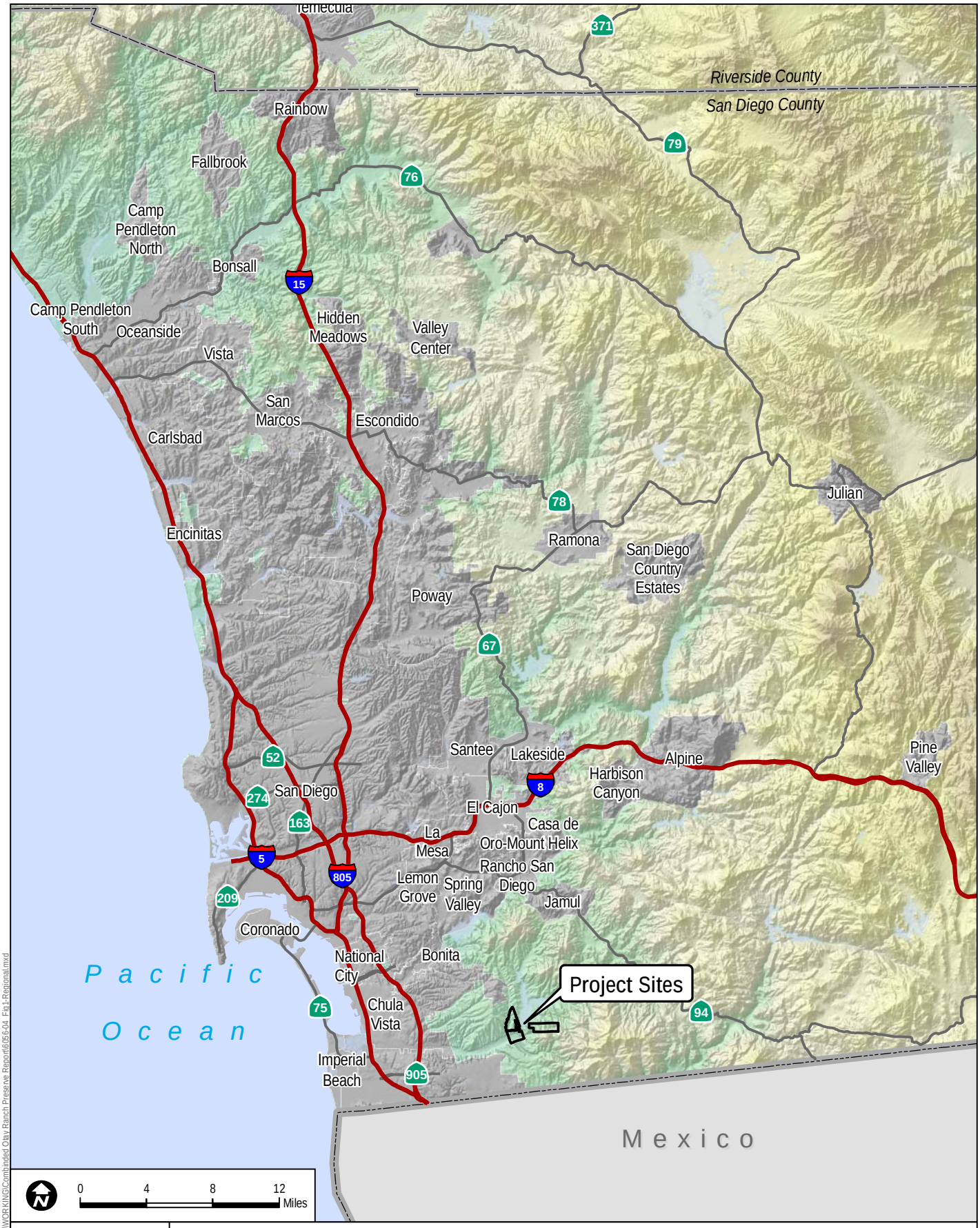

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FIGURE 1

Regional Map

Existing Conditions Report - Otay Ranch Preserve

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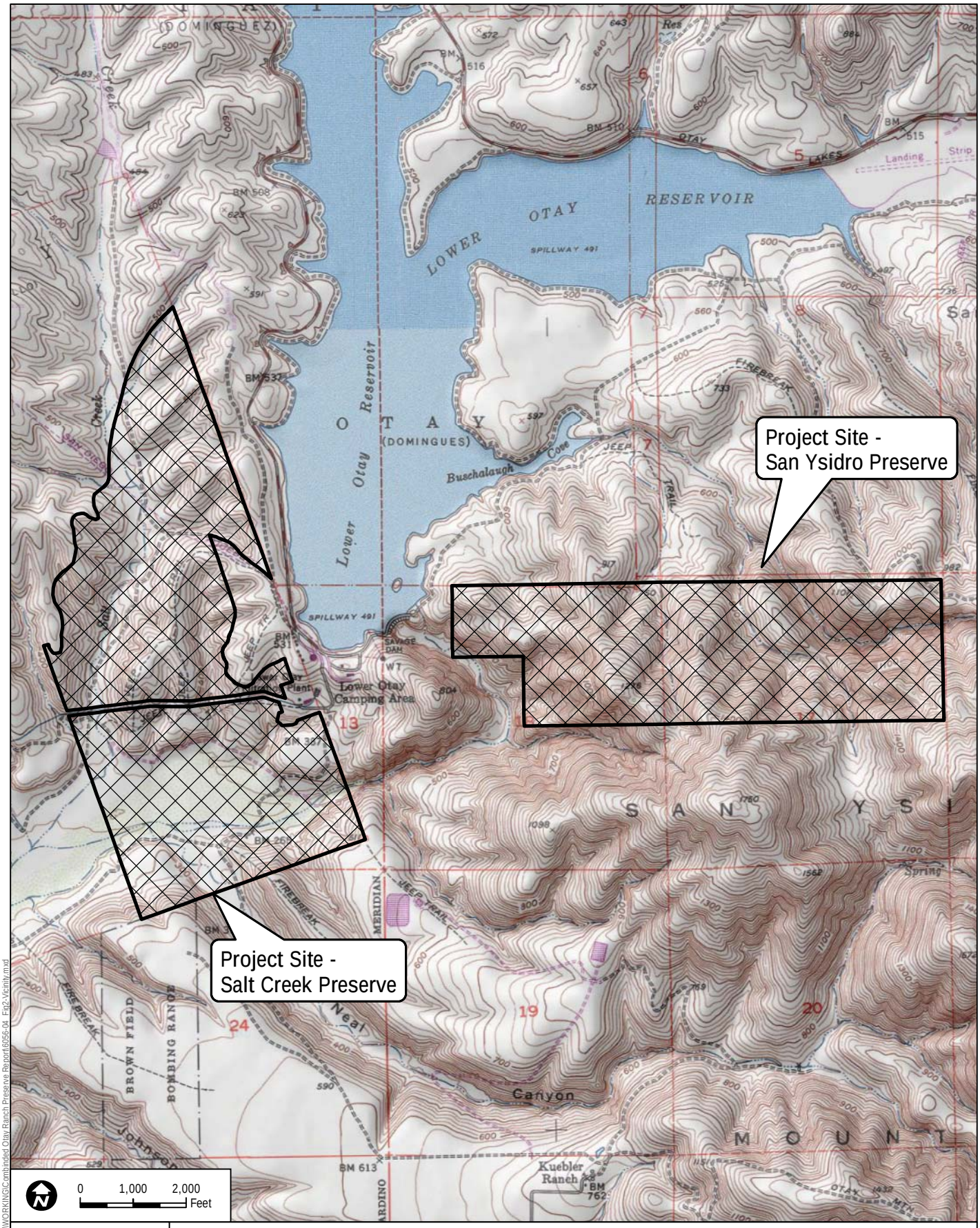

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SOURCE: USGS 7.5 Minute Series Otay Mesa Quadrangle.

FIGURE 2

Vicinity Map

Existing Conditions Report - Otay Ranch Preserve

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2.0 SURVEY METHODS

2.1 Vegetation Communities

Vegetation mapping was conducted in May and June 2008. Table 1 lists the dates, conditions, and survey focus for each survey.

Table 1
Schedule of Surveys for Vegetation Mapping

Date	Hours	Personnel	Focus	Conditions
5/15/08	1230–1745	DWF	Reference plant check; site reconnaissance	80° Fahrenheit (F); 0% cloud cover (cc); 0- to 2-mile-per-hour (mph) winds
6/12/08	1030–1800	DWF	Vegetation mapping (SY)	70°F–85°F; 0% cc; 0–7 mph winds
6/16/08	0845–1030	DWF	Vegetation mapping (SY)	75°F–85°F; 0% cc; 0–7 mph winds
6/17/08	0830–1615	DWF; VRJ	Vegetation mapping (SC, SY)	75°F–85°F; 0% cc; 0–3 mph winds

Personnel Key: DWF = Dave Fleitner; VRJ = Vipul Joshi
Survey Designations: SC = Salt Creek; SY = San Ysidro

Plant community classifications used in this report follow Holland (1986) or Oberbauer et al. (2008), with disturbed and combined variants of native plant communities and one additional anthropogenic community (ornamental) included where appropriate. Latin and common names of plants follow *The Jepson Manual* (Hickman 1993). Where not listed in Hickman (1993), common names follow Simpson and Rebman (2006) or Roberts et al. (2004).

Vegetation mapping of the approximately 1,200-acre Village 11 project area, which includes the northern portion of the Salt Creek Preserve, was conducted by Vipul Joshi and Howard Wier on April 15, 1999 (Dudek and Associates 2000). This previous mapping was evaluated and updated in the field as appropriate. Changes in vegetation mapping reflect both changes to the vegetation that has occurred since the previous survey and revision of vegetation community names to conform more closely to Holland's (1986) classification system. A 0.5-acre minimum mapping unit was used.

Vegetation communities on the San Ysidro Preserve were mapped in the field directly onto a 300-scale (1 inch = 300 feet) infra-red aerial photograph of the site. In some areas, a Global Positioning System (GPS) receiver was used to delineate the boundaries of vegetation types. Mapping was evaluated and refined in portions of the site in conjunction with subsequent wildlife surveys.

2.2 Rare Plant Surveys

Sensitive biological resources present or potentially present on the sites were identified through a literature search using the following sources: California Department of Fish and Game (CDFG) (2009a–e), and California Native Plant Society's (CNPS) *Inventory of Rare and Endangered Vascular Plants* (CNPS 2009). Special-status plant species considered in this report are those listed by CDFG (2009c, 2009e); CNPS (2009); or the Multiple Species Conservation Program (MSCP) Subarea Plan of the City of Chula Vista (2003) or the County of San Diego (1997) for the Salt Creek or San Ysidro Preserves, respectively.

Rare plant surveys and exotics mapping were conducted at both Salt Creek and San Ysidro in April and May 2009. Table 2 lists the dates, conditions, and survey focus for each survey.

Table 2
Schedule of Surveys for Botanical Surveys

Date	Hours	Personnel	Conditions
Salt Creek Area			
4/15/09	0900–1345	BAS; KCD; VRJ	60°F–62°F; 50–85% cc; 0–10 mph winds
5/6/09	0900–1800	BAS; KCD; VRJ	78°F; 0% cc; 0–3 mph winds
5/8/09	0700–1630	BAS; KCD	69°F; 100% cc; 0 mph winds
San Ysidro Area			
5/7/09	0800–1600	BAS; KCD; VRJ	72°F; 0% cc; 0–2 mph winds
5/11/09	0715–1245	KCD	75°F–85°F; 0% cc; 0–3 mph winds

Personnel Key: BAS = Britney Strittmater; KCD = Katie Dayton; VRJ = Vipul Joshi

Surveys were conducted by walking meandering transects to detect special-status species. Special-status plant observations were mapped in the field directly onto a 200-scale (1 inch = 200 feet) aerial photograph of the site.

The survey timing was selected to maximize detection of the majority of potential special-status plant species expected to occur on site while conducting a single pass throughout the site (i.e., repeated visits during early or latter blooming periods were not conducted due to budget constraints). Nearby reference populations (within 2 miles of the project site) of the following species were visited immediately prior to the survey and were determined to be in bloom and detectable at the time of the survey: variegated dudelya (*Dudleya variegata*), San Diego goldenstar (*Muilla clevelandii*), and Otay tarplant (*Deinandra conjugens*).

All rare plant locations and number of individuals were recorded on field maps with the exception of certain abundance species which could not be counted. For those species, alternate mapping techniques were utilized as follows:

- For populations greater than 25 individuals of San Diego marsh elder (*Iva hayesiana*), southwestern spiny rush (*Juncus acutus* ssp. *leopoldii*), Palmer's grapplinghook (*Harpagonella palmeri*), Tecate cypress (*Callitropsis forbesii*), western dichondra (*Dichondra occidentalis*), San Diego County sunflower (*Bahiopsis laciniata*), ashy spikemoss (*Selaginella cinerascens*), and San Diego barrel cactus (*Ferocactus viridescens*), a location was recorded which represents an occupied area of up to approximately 200 radial feet.
- For populations of San Diego goldenstar that occupied a greater than 200-foot radial, the occupied area was recorded and the population size was estimated based on the following four range classes: A = 50–100 individuals, B = 100–500 individuals, C = 500–1000 individuals, and D = 1000 or more individuals.

In some areas, a GPS receiver was used to record the location of special-status plant populations. The special-status plant observations were downloaded and/or digitized by Dudek GIS (Geographic Information Systems) technicians Lisa Lubeley and Simon Kedward using ArcGIS software.

2.3 Exotics Mapping

In conjunction with the rare plant surveys, perennial invasive exotic plant species, such as Peruvian pepper tree (*Schinus molle*) and wild fennel (*Foeniculum vulgare*), were also mapped in the field directly onto a 200-scale (1 inch = 200 feet) aerial photograph of the Salt Creek and San Ysidro sites. For these species, only the location was noted. For salt cedar (*Tamarisk* spp.), a polygon was delineated for the area within the Otay River where this species is a dominant or co-dominant species.

All plant species identified in the field during rare plant surveys conducted on Salt Creek and San Ysidro were recorded and are presented in Appendix A and B respectively. Latin and common names of plants follow the *Jepson Manual* (Hickman 1993), or CDFG (2009c) for special-status plant species. Where not listed in Hickman (1993), common names follow Simpson and Rebman (2006) or Roberts et al. (2004).

2.4 Avian Point Count Surveys

Six point locations were established on the Salt Creek Preserve and four point locations were established on the San Ysidro Preserve (Figure 3). Fewer survey points were placed at the San Ysidro parcel because it is generally more uniform in habitat while Salt Creek is more diverse. All ten survey point locations are located on existing dirt roads so that all points could be surveyed within one 24-hour period. The distribution of points was based on the habitats present in the two Preserves with an effort made to place the points at locations that cover as many

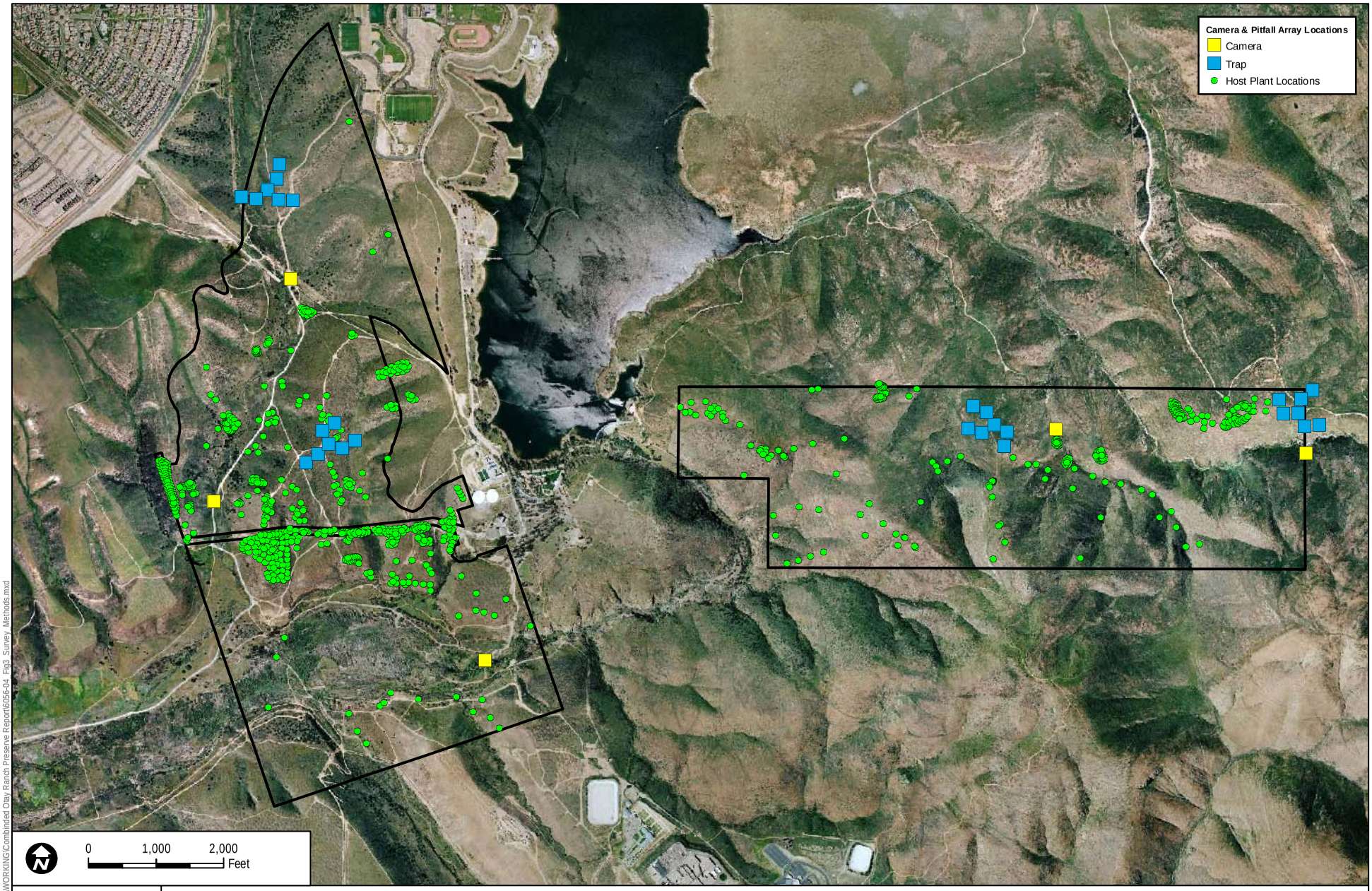
different habitat types as possible given the road network constraints. The centerpoint for each station was permanently established in the field by mapping the GPS coordinates and using orange flagging tape tied to a bush nearest the survey point.

All ten point count stations were surveyed during the same 24-hour period. Diurnal surveys occurred between 5:00 a.m. and 12:00 p.m. and nocturnal surveys occurred between 8:30 p.m. and 12:30 a.m. only. Surveys began in July 2008 and occurred monthly through October 2008. Table 3 lists the survey dates and conditions.

Table 3
Schedule of Surveys for Avian Point Count Surveys

Date	Personnel	Survey Type	Time	Survey Conditions (skies, wind, temp)
Salt Creek Preserve				
7/17/08	PML	Diurnal	0805–1023	74°F–88°F; 0% cc; 0–5 mph winds
		Nocturnal	2233–2428	65°F–66°F; 0% cc; 0–3 mph winds
8/26/08	PML	Diurnal	0840–1043	76°F–85°F; 0–5% cc; 0–3 mph winds
		Nocturnal	2242–2430	65°F–67°F; 0% cc; 0–3 mph winds
9/23/08	PML	Diurnal	0822–1029	67°F–80°F; 0% cc; 0–2 mph winds
		Nocturnal	2241–2430	62°F–68°F; 0% cc; 0–2 mph winds
10/29/08	PML	Diurnal	1007–1154	78°F–85°F; 0% cc; 0–4 mph winds
	PML; TSL	Nocturnal	2232–2445	49°F–59°F; 0% cc; 0–2 mph winds
San Ysidro Preserve				
7/17/08	PML	Diurnal	0540–0718	67°F–71°F; 0% cc; 0–1 mph winds
		Nocturnal	2033–2150	68°F–72°F; 0% cc; 0–1 mph winds
8/26/08	PML	Diurnal	0624–0805	65°F–73°F; 20–100% cc; 0–2 mph winds
		Nocturnal	2030–2200	69°F–73°F; 5% cc; 0–3 mph winds
9/23/08	PML	Diurnal	0608–0740	62°F–66°F; 0% cc; 0–1 mph winds
		Nocturnal	2030–2207	67°F–73°F; 0% cc; 0–4 mph winds
10/29/08	PML	Diurnal	0800–0932	70°F–77°F; 0% cc; 0–2 mph winds
		Nocturnal	2044–2200	62°F–68°F; 0% cc; 0–5 mph winds

Personnel Key: PML = Paul Lemons; TSL = Thomas Liddicoat



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NOTE: DigitalGlobe, 1/2008; Pitfall Array Locations are a cartographic representation and do not reflect their true location. This was done for readability and cartographic display.

FIGURE 3

Survey Methods

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Conducting the Point Count

When driving to the point count station, the vehicle slowed to 5 mph within 500 feet of each station. Upon entering the point count station, the observer stopped the vehicle and turned off the engine. The observer(s) waited for 3 minutes before beginning the sampling period. During this waiting period, the observer filled in current weather conditions on the data sheet. Once the 3-minute wait period ended, the observer noted the time on the data sheet and started the counting session. After 10 minutes, the observer stopped the counting session, packed up equipment, and continued to the next station. For the purpose of comparing data with future data sets at the same study area, each station was counted in the same order each time, starting at approximately the same time relative to sunrise.

When starting the survey, the observer identified and tallied all birds that were observed (audibly or visually) within the 50-meter (164-foot) study area. Groups of birds (e.g., quail, family groups) that were visually identified were counted and the number of individuals noted. An estimate of the number of individual birds was given to groups of birds that were audibly identified. Birds detected outside the 50-meter area were noted in a separate column. Birds noted only in flight were additionally recorded as either utilizing the landscape (e.g., actively foraging swallows and raptors, and raptors using thermal updrafts) or not (e.g., birds commuting between distant habitat patches off-site, such as cormorants over an upland site, or birds migrating high overhead). Where multiple sightings of a species occurred within a point count area, multiple entries for a species was included only if the observer was reasonably certain that they were different individuals. Only different individuals of a given species were counted. Estimates for large flocks of birds (e.g., blackbirds, European starlings, etc.) were provided and noted as being estimates in the data sheet. There was no differentiation between adult and juvenile birds during this study.

The observer(s) were as unobtrusive as possible during the point count session. The observer(s) wore drab clothing, did not talk, turned their cell phones to "vibrate," and did not try to elicit bird responses by "pishing," using recorded calls, or any other means.

Nocturnal surveys were conducted in the same manner as the diurnal surveys. A moderately powered flashlight was used to aid identifications.

2.5 Focused Surveys for California Gnatcatcher

The coastal California gnatcatcher (*Polioptila californica californica*; gnatcatcher) is a federally listed threatened species and a CDFG Species of Special Concern (SSC). It is closely associated with coastal sage scrub habitat, and is thereby threatened primarily by loss, degradation, and fragmentation of this habitat. Gnatcatcher typically occurs below 820 feet above mean sea level

(amsl) within 22 miles of the coast, and 1,640 feet amsl for inland regions (Atwood and Bolsinger 1992). In addition, studies have suggested that gnatcatchers avoid nesting on very steep slopes (greater than 40%) (Bontrager 1991). Gnatcatcher is also impacted by brown-headed cowbird (*Molothrus ater*) nest parasitism (Braden et al. 1997).

Dudek biologists conducted three protocol-level presence/absence surveys for the coastal California gnatcatcher on the Otay Ranch Preserve in summer 2008. The surveys were conducted in all areas of suitable habitat, including coastal sage scrub, disturbed coastal sage scrub, maritime succulent scrub, and disturbed maritime succulent scrub.

The Salt Creek portion of the Otay Ranch Preserve supports approximately 580 acres of suitable gnatcatcher habitat, excluding Formerly Used Defense Site (FUDS) land, and the San Ysidro Mountains portion supports approximately 107 acres of suitable gnatcatcher habitat. The Salt Creek portion of the Preserve was divided into six survey areas to adequately cover all suitable gnatcatcher habitat during focused surveys. All suitable gnatcatcher habitat within the San Ysidro area of the Otay Ranch Preserve was able to be surveyed for in 1 day, therefore this area was not divided.

Suitable habitat within each survey area was surveyed three times by Dudek wildlife biologists Paul M. Lemons (Permit No. TE051248-2), Kam J. Muri (Permit No. TE051250-1), Jeff D. Priest (Permit No. TE840619-3), and Tricia Wotipka (covered under Permit No. TE840619). Survey conditions for each visit are described in Table 4. The surveys were conducted in conformance with the currently accepted protocol of the U.S. Fish and Wildlife Service (USFWS), *Coastal California Gnatcatcher (*Polioptila californica californica*) Presence/Absence Survey Protocol* (1997). Protocol surveys within a Natural Community Conservation Plan/Habitat Conservation Plan enrolled area include three surveys at 7-day intervals covering all habitat suitable for gnatcatcher.

Table 4
Schedule of Surveys for Focused California Gnatcatcher Surveys

Survey Area	Date	Personnel	Time	Survey Conditions (skies, wind, temp)
Salt Creek Preserve				
1	7/18/2008	JDP	0600–1200	65°F–80°F; 100%–0% cc; 0–5 mph winds
	8/1/2008	JDP	0600–1210	65°F–86°F; 0% cc; 0–4 mph winds
	8/8/2008	JDP	0600–1200	66°F–84°F; 0%–10% cc; 0–6 mph winds
2	7/15/2008	KJM	0700–1130	70°F–81°F; 30%–10% cc; 2–7 mph winds
	7/22/2008	KJM	0725–1100	66°F–76°F; 100%–40% cc; 1–5 mph winds
	8/18/2008	TLW	0730–1150	72°F–84°F; 0% cc; 1–6 mph winds
3	7/22/2008	JDP	0730–1220	65°F–81°F; 0%–5% cc; 0–6 mph winds
	8/7/2008	JDP	0600–1200	65°F–84°F; 50%–20% cc; 0–6 mph winds
	8/14/2008	JDP	0600–1200	63°F–86°F; 5%–75% cc; 0–5 mph winds
4	7/23/2008	PML	0700–1130	67°F–84°F; 20%–5% cc; 0–4 mph winds
	7/30/2008	PML	0700–1130	66°F–84°F; 100%–0% cc; 0–5 mph winds; 6–8 mph gusts
	8/6/2008	PML	0700–1130	68°F–75°F; 0% cc; 1–7 mph winds
5	7/18/2008	PML	0700–1115	68°F–84°F; 100%–5% cc; 0–4 mph winds; 6–8 mph gusts
	7/25/2008	PML	0630–1130	66°F–84°F; 100%–0% cc; 0–2 mph winds; 3–6 mph gusts
	8/1/2008	PML	0630–1050	65°F–86°F; 100%–0% cc; 0–5 mph winds
6	7/24/2008	PML	0700–1200	67°F–84°F; 50%–15% cc; 0–6 mph winds
	7/31/2008	PML	0640–1130	65°F–84°F; 100%–0% cc; 0–4 mph winds
	8/7/2008	PML	0630–1130	68°F–88°F; 70%–40% cc; 0–4 mph winds
San Ysidro Preserve				
1	8/8/2008	PML	0700–1115	69°F–91°F; 50% cc; 0–4 mph wind; 5–7 mph gusts
	8/15/2008	PML	0630–1030	66°F–80°F; 100%–0% cc; 0–3 mph wind
	8/22/2008	PML	0630–1045	67°F–83°F; 0% cc; 0–3 mph wind

Personnel Key: JDP = Jeff Priest; KJM = Kam Muri; PML = Paul Lemons; TLW = Tricia Wotipka

A tape of recorded California gnatcatcher vocalizations played approximately every 50–100 feet was used to induce responses from potentially present California gnatcatchers. If a California gnatcatcher was detected, tape-playback was terminated to minimize potential for harassment. A 400-scale (1 inch = 400 feet) digital ortho quarter quad map of the site overlaid with the limits of grading, vegetation polygons and topography was used to map any California gnatcatchers detected. Binoculars (7×50 and 8×32) were used to aid in detecting and identifying bird species. Weather conditions, time of day, and season were appropriate for the detection of California gnatcatcher. All mapped locations of this species were digitized by Dudek using ArcGIS.

2.6 Focused Surveys for Hermes Copper and General Butterfly Surveys

Focused surveys for Hermes copper and general butterfly surveys were conducted during summer 2008. Table 5 lists the dates and conditions for each survey.

Table 5
Schedule of Surveys for Focused Hermes Copper and General Butterfly Surveys

Date	Time	Staff	Environmental Conditions
6/20/08	0715–1330	JDP	84°F–98°F; winds 0–6 mph;10%–0% cc
6/24/08	0845–1345	DWF	73°F–85°F; winds 0–5 mph; 0% cc
6/26/08	0900–1400	DWF	70°F–80°F; winds 2–4 mph; 30%–0% cc
6/27/08	0900–1415	DWF	75°F–80°F; winds 0–3 mph; 0% cc
7/1/08	0915–1345	JDP, TLW	78°F–87 °F; winds 0–2 to 3–7 mph; 0% cc
7/2/08	0930–1530	PML	86°F–93°F; winds 1–3 mph with 4–6 gusts to 4–6 mph with 7–10 gusts; 0% cc
7/10/08	1100–1445	JDP, TLW	75°F–85°F; winds 1–4 to 2–8 mph; 50% cc
7/15/08	0900–1430	PML	82°F–93°F; winds 1–3 mph; 5%–20% cc
7/16/08	0815–1400	PML	75°F–88°F; winds 0–5 mph; 0% cc
8/8/08	0930–1430	TLW	77°F–88°F; winds 3–6 to 2–4 mph; 0% cc

Personnel Key: DWF: Dave Fleitner; JDP: Jeff Priest; PML: Paul Lemons; TLW: Tricia Wotipka

Focused surveys for Hermes copper were conducted by walking meandering transects throughout all areas within the preserve supporting the species host plant, spiny redberry (*Rhamnus crocea*) (Figure 3). General surveys for all butterfly species were conducted by walking meandering transects throughout the entire study area. All surveys were conducted on foot with the aid of binoculars (10×42 and 8×42 power) and butterfly nets. All surveys were conducted by experienced butterfly biologists who hold permits for the endangered quino checkerspot butterfly (*Euphydryas editha quino*).

2.7 Focused Surveys for Quino Checkerspot Butterfly

The Quino checkerspot butterfly (*Euphydryas editha quino*; QCB) was listed as endangered under the Endangered Species Act in January 1997 (62 FR 2313–2322; USFWS 2003). Loss and degradation of habitat have been cited as the primary factors causing decline in this subspecies (Mattoni et al. 1997). In August 2003, the USFWS completed the Recovery Plan for QCB.

The QCB is in the Lepidoptera family Nymphalidae (brush-footed butterflies) and the subfamily melitaeninae (checkerspots and fritillaires). QCB is a subspecies within the Edith's checkerspot species group and is differentiated from other subspecies in this group by a variety of

characteristics, including size, wing coloration, and larval and pupal phenotype (Mattoni et al. 1997).

The QCB life cycle typically includes one generation of adults per year, with a flight period from late January to early March and continuing as late as early May. The exact timing is dependent on the weather conditions (Emmel and Emmel 1973; USFWS 2003). Females are generally fertilized on the day they emerge from pupae and lay (oviposit) one or two egg clusters per day for most of their 10- to 14-day life span. Adult emergence is staggered, resulting in a 1- to 2-month flight period. QCB larvae can live for several years by undergoing periods of diapause between plant growing seasons.

The focused QCB survey was conducted on the project site from March 10 through April 1, 2009, by Dudek biologists Anita M. Hayworth, Ph.D. (TE-781084), Brock A. Ortega (TE-813545-5), Jeff D. Priest (TE-840619-2), Kam J. Muri (TE-051250-0), Tricia Wotipka (TE-840619-2), Paul M. Lemons (TE-051248-2), and Vipul R. Joshi (TE-019949-0). Survey conditions for each visit are described in Table 6a.

Table 6a
Schedule of Surveys for Quino Checkerspot Butterfly

Survey Area	Date	Personnel	Time	Survey Conditions (skies, wind, temp)
San Ysidro Area				
A	3/18/2009	TLW	1020–1540	72°F–84°F; 0% cc; 0–2 mph winds
	3/25/2009	JDP	0930–1515	70°F–80°F; 0% cc; 0–5 mph winds
	3/31/2009	PML	0900–1400	73°F–81°F; 0% cc; 0–4 mph winds w/ 5–8 mph gusts
B	3/18/2009	PML	1040–1540	72°F–84°F; 0% cc; 1–4 mph winds w/ 5–7 mph gusts
	3/25/2009	TLW	1105–1612	82°F–78°F; 0% cc; 4–5 mph winds w/ 7 mph gusts
	4/1/2009	PML	0940–1630	68°F–75°F; 60–0% cc; 2–5 mph winds w/ 6–8 mph gusts
C C	3/14/2009 (west half)	JDP	1008–1240	62°F–72°F; 40–0% cc; 0–5 mph winds w/ 7 mph gusts
	3/15/2009 (east half)	JDP	1100–1340	63°F–72°F; 50–10% cc; 0–6 mph winds
	3/19/2009	JDP	1000–1545	72°F–78°F; 80–5% cc; 1–7 mph winds
	3/23/2009	PML	1130–1630	70°F–72°F; 5–0% cc; 1–7 mph winds w/ 8–12 mph gusts
D	3/17/2009	KJM	1020–1525	68°F–74°F; 0% cc; 2–8 mph winds w/ 10–12 mph gusts
	3/20/2009	VRJ	1130–1700	73°F–72°F; 0% cc; 2–8 mph winds
	3/27/2009	VRJ	0930–1530	72°F –74°F; 0% cc; 2–7 mph winds
E	3/13/2009	KJM	1045–1602	60°F; 0% cc; 1–8 mph winds w/ 10 mph gusts
	3/15/2009	VRJ	1000–1530	68°F–70°F; 50–5% cc; 0–5 mph winds
	3/25/2009	KJM	1130–1630	73°F–70°F; 0% cc; 4–8 mph winds
F	3/10/2009	JDP	0930–1430	61°F–81°F; 0% cc; 0–7 mph winds w/ 9 mph gusts
	3/18/2009	VRJ	1030–1600	74°F–78°F; 0% cc; 0–6 mph winds

Table 6a (Continued)

Survey Area	Date	Personnel	Time	Survey Conditions (skies, wind, temp)
	3/28/2009	VRJ	1030–1630	70–74°F; 0% cc; 2–8 mph winds
Salt Creek Area				
G	3/10/2009	PML	0900–1615	62–73°F; 0% cc; 0–4 mph winds w/ 5–8 mph gusts
	3/20/2009	PML	0950–1500	73–77°F; 0% cc w/haze; 0–4 mph winds w/ 5–7 mph gusts
	3/27/2009	PML	0900–1415	67–74°F; 0% cc; 0–5 mph winds w/ 6–10 mph gusts
H	3/13/2009	PML	0940–1500	67°F; 0% cc; 0–5 mph winds w/ 7–10 mph gusts
	3/16/2009	KJM	1045–1545	64–72°F; 0% cc; 3–7 mph winds
	3/28/2009	PML	0930–1430	71–79°F; 0% cc; 1–6 mph winds w/ 7–12 mph gusts
I	3/15/2009	TLW	0930–1500	67–74°F; 50–10% cc; 2–3 mph winds
	3/21/2009	TLW	1030–1543	74–82°F; 10% cc; 2–10 mph winds
	3/24/2009	KJM	1032–1608	72–78°F; 0% cc; 2–6 mph winds
J	3/10/2009	AMH	1010–1510	61–64°F; 0% cc; 1–8 mph winds
	3/16/2009	AMH	0915–1430	63–70°F; 0% cc; 0–10 mph winds
	3/25/2009	AMH	0930–1520	68–75°F; 0% cc; 1–8 mph winds
K	3/13/2009	TLW	1020–1600	68–72°F; 0% cc; 0–3 mph winds
	3/19/2009	PML	1120–1605	72–73°F; 10–5% cc; 2–5 mph winds w/ 6–9 mph gusts
	3/24/2009	JDP	1030–1440	84–85°F; 0% cc; 0–15 mph winds
	3/30/2009	JDP	1300–1345	79°F; 0% cc; 4–8 mph winds
L	3/13/2009	VRJ	1100–1430	70–72°F; 0% cc; 2–8 mph winds
	3/17/2009	TLW	1030–1515	74–82°F; 0% cc; 1–9 mph winds w/ 10 mph gusts
	3/24/2009	TLW	1030–1525	72–82°F; 0% cc; 5–13 mph winds
M	3/13/2009	BAO	0910–1530	62–66°F; 0% cc; 0–7 mph winds
	3/20/2009	BAO	1100–1600	60–65°F; 30% cc; 0–4 mph winds
	3/24/2009	BAO	1030–1450	70–78°F; 0% cc; 0–5 mph winds
N	3/11/2009	KJM	1005–1520	62–66°F; 30–50% cc; 0–4 mph winds
	3/18/2009	JDP	0930–1435	67–84°F; 0% cc; 0–6 mph winds
	3/23/2009	JDP	1130–1630	74–79°F; 5–0% cc; 0–6 mph winds w/ 9 mph gusts
	3/30/2009	JDP	1350–1450	81°F; 0% cc; 5–8 mph winds w/ 12 mph gusts

Personnel Key: AMH = Anita Hayworth; BAO = Brock Ortega; JDP = Jeff Priest; KJM = Kamural Muri; PML = Paul Lemons; TLW = Tricia Wotipka

Based on previous visits and surveys of the Salt Creek and San Ysidro parcels of the Preserve, portions of the Salt Creek parcel associated with the Otay River Valley were considered unsuitable for QCB. In addition, the FUDS area within the Salt Creek parcel was not surveyed. The entire 526-acre San Ysidro parcel was considered to be potentially suitable for QCB and no exclusion areas were drawn. The Preserve was divided into 14 survey polygons, each representing a single day survey effort (i.e., 4 to 6 survey hours to be in accordance with USFWS protocol) (Table 6b). These survey areas were labeled A though N and assigned to Dudek QCB permitted biologists. The biologists were provided with 200-scale aerial photographs for mapping QCB and host plant populations. The survey maps included topography lines and

survey area boundaries. Binoculars were used to aid in detecting and identifying butterfly and other wildlife species. GPS units also were available for recording locations of QCB and host plant populations.

Table 6b
2009 Quino Checkerspot Butterfly Survey Polygons

Survey Area	Acreage of Survey Area
A	74.31
B	75.59
C	79.80
D	76.25
E	79.31
F	74.29
G	73.15
H	75.20
I	78.57
J	79.52
K	72.41
L	68.66
M	77.51
N	75.74

Typical protocol level focused surveys for QCB call for five or more survey passes within suitable QCB areas. Because the goal of this study was to cost-effectively determine QCB presence on the Otay Ranch Preserve and not to determine impacts, the survey consisted of three visits conducted during the appropriate flight season as determined by the timing of QCB adults flying at USFWS reference populations, rather than the typical five (5) visits. The surveys were conducted in conformance with the currently accepted protocol of the USFWS (USFWS 2002)

2.8 Herpetological Surveys (Please note that these surveys are not complete)

Dudek conducted terrestrial herpetological surveys using pitfall trap arrays as outlined in the USGS document "Herpetological Monitoring Using a Pitfall Trapping Design in Southern California" (Fisher et al. 2008). Rare species expected to be detected using these methods include orange-throated whiptail (*Aspidoscelis hyperythra beldingi*) and San Diego horned lizard (*Phrynosoma coronatum blainvillii*). Four pitfall arrays have been constructed on the Preserve, two at Salt Creek and two at San Ysidro. The pitfall array locations have been mapped using GIS technologies and are presented in Figure 3. To monitor the arrays, Dudek biologists open the traps one day, check the traps the next three mornings, and then close the traps, for a total of four

trap-nights per session. Although not yet complete, Table 7 lists the dates and conditions of surveys conducted to date. The traps will be sampled for up to 3 months.

Table 7
Schedule of Surveys for Herpetological Surveys

Date	Time	Staff	Location	Environmental Conditions
5/20/09	1200–1700	PML	Salt Creek and San Ysidro	83–84°F; winds 1–6 mph; 20% cc
5/21/09	1420–1527	BAO	San Ysidro	75°F; winds 1–3 mph; 0% cc
5/22/09	1200–1400	BAO	San Ysidro	74–74°F; winds 3 mph; 0% cc
6/25/09	1100–1700	PML	Salt Creek and San Ysidro	85–87°F; winds 2–10 mph; 40–80% cc
6/26/09	1215–1330	JDP	San Ysidro	79–80 °F; winds 2–6 mph; 0% cc

Personnel Key: BAO = Brock Ortega; JDP = Jeff Priest; PML = Paul Lemons

2.9 Medium and Large Mammal Surveys

Medium and large mammal surveys were conducted using remote camera stations in spring 2009. Five un-baited motion-sensitive camera stations were located in potential wildlife corridors on each portion of the Preserve (Salt Creek and San Ysidro Mountains) near water sources, drainages, ridgelines, etc. A total of three stations were set at Salt Creek and two were set at San Ysidro (Figure 3). The photo-monitoring plots were established quarterly. The plots were baited and monitored for three continuous weeks during each session. Sessions were as follows:

- Session 1: April 14 to 29, 2009
- Session 2: April 29 to May 15, 2009
- Session 3: May 15 to June 1, 2009.

The timing of the monitoring was established to best monitor the movement of the mammals during each season. All photographs were reviewed by biologists to determine the species present in the photograph and the direction of movement, where possible.

2.10 Survey Limitations

The floristic inventories of the Salt Creek and San Ysidro sites were conducted over the entire site in April and May 2009. Herbaceous species that bloom earlier or later in the year may not have been observed. The rainfall in winter and spring 2009 was less than average, and consequently the new vegetation growth was very low.

Limitations of the wildlife surveys include a diurnal bias for all wildlife surveys except the avian point count surveys. Daytime surveys usually result in few observations of mammals, many of which may be active at night, although the large and medium mammal surveys offset this

limitation to some degree. In addition, many species of reptiles and amphibians are secretive and are difficult to observe. Wildlife surveys were completed in summer and autumn when many migratory species may have left the area.

3.0 RESULTS

Elevation at the Salt Creek portion of the Preserve ranges from approximately 265 feet amsl in the Otay River Valley to approximately 600 feet amsl at the ridge tops in the north portion of Salt Creek. Topography at the Salt Creek portion of the Preserve consists of several moderately sloping ridgelines and tributary canyons that drain into the canyon that supports Salt Creek. Salt Creek flows in a north to south direction, discharging into the Otay River. Elevation at the San Ysidro Mountains portion of the Preserve ranges from approximately 360 amsl in the western portion of the site to approximately 1,270 feet amsl at the peaks in the southern portion of site. Topography at the San Ysidro Mountains portion of the Preserve is highly diverse, including very steep slopes, canyons, peaks, and ridgelines.

The Salt Creek Preserve site is mapped on Huerhuero, Olivenhain, Diablo-Olivenhain complex, Visalia, Riverwash, and Terrace Escarpent soils.

Huerhuero series soils are the most widespread, occupying most of the site north of Salt Creek. Huerhuero series soils are moderately well-drained loams that derived from sandy marine sediments. The topsoil is strongly acid (pH 5.3) pale-, yellowish-, grayish- or strong-brown in color and sandy loam to loam in texture, and from 5 to 30 inches thick. Below this is an alkaline pan of clay or heavy clay loam. The subsoil extends 68 inches deep, grading into and a sandy loam texture. Huerhuero soils support tarweeds and annual grasses and forbs. Huerhuero loam, loam, 15% to 30% slopes, eroded, is most common; inclusions of Huerhuero loam, 2% to 9% slopes, and Huerhuero loam, 9% to 15% slopes are present in the southern half of the site (Bowman 1973).

Olivenhain series soils are found on the eastern and southern edges of the site. Olivenhain series soils form from gravelly and cobbly alluvium on disected marine terraces. The topsoil layer is brown to reddish-brown and about 10 inches deep over subsoil that extends to about 60 inches depth. Small areas of Huerhuero, Diablo, and Linne soils may be included in areas mapped as Olivehain soils. Olivenhain cobbly loam, 2% to 9% slopes, Olivenhain cobbly loam, 9% to 30% slopes, and Olivenhain cobbly loam, 30% to 50% slopes are mapped on site (Bowman 1973). Olivenhain soils are substrates associates with sensitive plant species.

Diablo–Olivenhain complex, 9% to 30% slopes is mapped in the northern part of the site. Diablo–Olivenhain complex is about 50% Diablo clay, 45% Olivenhain soil, and 5% Linne clay.

Diablo clays have a dark-gray clay topsoil layer about 27 inches thick. Both Diablo and Olivenhain soils are substrates associates with sensitive plant species (Bowman 1973).

Visalia gravelly sandy loam, 2% to 5% slopes is mapped in a small area in the southern part of the site. Visalia sandy loam soils are very deep soils on alluvial fans and flood plains that are derived from granitic alluvium. The dark grayish-brown topsoil layer is about 12 inches deep, over grayish brown subsoil that extends to 60 inches deep; soil texture changes from sandy loam to loam at about 40 inches depth. This soil is moderately well-drained, moderately permeable, and has very slow runoff (Bowman 1973).

Riverwash is mapped for the floodplain of Salt Creek. Riverwash is a term used to collectively refer to unconsolidated sands, gravels, and cobbles that occur in intermittent stream courses. This soil is often barren due to scour from storm events (Bowman 1973).

Terrace escarpment is mapped adjacent to and uphill from some parts of Salt Creek. Terrace escaprments are stepp or very steep landscapes that occur on nearly even fronts of terraces or alluvial fans. Typically this soil has 4 to 10 inches of loamy or gravelly soil over soft marine sandstone, shale, or gravelly sediments (Bowman 1973).

The entire San Ysidro Preserve is mapped as San Miguel-Exchequer rocky silt loam. This soils type occurs on 9% to 70% slopes and is a complex between San Miguel silt loam and Exchequer silt loam on steep slopes with about 10% rock outcrops. Exchequer series soils are well-drained shallow silt loams derived from weathered hard metabasic (metamorphosed basalt), or mafic, rock. San Miguel series soils are well-drained shallow to moderately deep silt loams with clay subsoil that are derived from metavolcanic rock. Both soils have medium to rapid runoff, and a moderate to high erosion potential. The San Miguel silt loam has slow permeability and the Exchequer has moderate permeability. Fertility is very low for both soil types. The soil profile pH ranges from strongly acid to slightly acid (5.0 to 6.5) (Bowman 1973). This soil complex is known to support sensitive plant species; small clay lenses may be associated with San Miguel-Exchequer soils (Reiser 2001).

The project site generally has a warm, dry climate. Average temperatures in the City of Chula Vista range from approximately 55°F to 75°F. This community generally receives less than 1 inch of rainfall from April to October, and the average monthly precipitation typically does not exceed 2.5 inches. Humidity generally ranges from approximately 60% to 80% (Advameg, Inc. 2009).

The Otay Ranch Preserve has been dedicated as a preserve and will remain in open space. To the northwest of Salt Creek, surrounding land use is primarily residential and commercial. The San Diego County Jail lies to the south of the Preserve. Open space extends beyond San Ysidro to

the east. Otay Lake occurs north of the Otay Ranch Preserve with Salt Creek on the west and San Ysidro the east.

3.1 Regional Context

In San Diego County, several resource conservation-planning efforts have been completed or are currently in progress with the long-term goal of establishing a regional reserve system that will protect native habitat lands and their associated biota. The ultimate goals of these plans are the establishment of biological reserve areas in conformance with the State Natural Communities Conservation Plan Act, and to contribute to the preserve system already established by the approved MSCP.

The San Ysidro Preserve is located within the County of San Diego Subarea Plan and is designated for a preserve area. San Ysidro lies within the South County Segment of the MSCP (San Diego County 1997). Within the total 82,767 acres in this Segment, there are 48,240 acres of natural vegetation with habitat value. Coastal sage scrub and chaparral comprise the majority of this natural vegetation. In addition to targeted preserved areas, land use in this Segment is predominantly agriculture (San Diego County 1997).

The Salt Creek Preserve is located within the Chula Vista Subarea Plan (City of Chula Vista 2003) and is designated for a preserve area. There are 57,849 acres within the Chula Vista MSCP Planning Area, 22,899 acres of which are part of the Otay Ranch Planning component.

3.2 Habitat Types/Vegetation Communities

All 25 vegetation types and subtypes, including 16 upland habitats/communities and 9 wetland habitats/communities, found on Salt Creek Preserve are mapped on Figures 4a and their acreages are provided in Table 8a. The 11 upland habitats/communities and three wetland habitats/communities mapped on San Ysidro Preserve are depicted on Figure 4b and their acreages are provided in Table 8b. A discussion of the general characteristics of the plant communities or land covers present on the two sites and the particular characteristics of these communities and their variants (disturbed or combined forms) on either or both of the sites follows.

Table 8a
Vegetation Communities and Land Cover Types on the Salt Creek Preserve

Vegetation Community/Land Cover Type	Code[1]	MSCP Tier[2]	Acreage
Upland Habitats/Communities			
Maritime Succulent Scrub	32400	I	37.4
Disturbed Maritime Succulent Scrub	32400	I	2.0
Valley Needlegrass Grassland	42110	I	3.3
Disturbed Valley Needlegrass Grassland	42110	I	2.7
Tecate Cypress Forest	83200	I	0.78
Coastal Sage Scrub	32500	II	497.2
Disturbed coastal sage scrub	32500	II	117.9
Southern Mixed Chaparral	37120	III	1.1
Chamise Chaparral	37200	III	6.5
Scrub Oak Chaparral	37900	III	0.2
Annual (non-native) Grassland	42200	III	21.6
Annual (non-native) Grassland/Disturbed Coastal Sage Scrub	42200/32500	III/II	38.1
Ornamental	11000	IV	4.8
Eucalyptus Woodland	11100	IV	3.7
Disturbed Habitat	11300	IV	32.4
Developed land	12000	IV	2.4
		Subtotal	*771.8*
Wetland Habitats/Communities			
Cismontane Alkali Marsh	52310	I	4.9
Cismontane Alkali Marsh/ Freshwater Marsh	52310/52400	I	1.2
Freshwater Marsh	52400	I	1.5
Mulefat Scrub	63310	I	5.2
Disturbed Mulefat Scrub	63310	I	0.7
Mulefat Scrub/Freshwater Marsh	63310/52400	I	0.3
Southern Willow Scrub	63320	I	10.6
Disturbed Southern Willow Scrub	63320	I	30.2
Eucalyptus Woodland/Mulefat Scrub	11100/63310	IV/I	0.1
		Subtotal	*54.6*
		Total	**826.4**

[1] Holland (1986) as modified by Oberbauer (2008)

[2] San Diego County (1997)

NOTE: Column totals may not equate due to rounding.

Special Status Plant Occurrences - Points

- Munz's sage
- Palmer's grapplinghook
- San Diego County sunflower
- San Diego barrel cactus
- San Diego goldenstar
- San Diego marsh-elder
- Tecate cypress
- ashy spikemoss
- small-leaved rose
- snake cholla
- south coast saltscale
- southwestern spiny rush
- spiny redberry
- variegata dudleya
- western dichondra
- Vegetation Polygons
- Special Status Plant Occurrences - Polygon

HABITAT	HABITAT DESCRIPTION	HOLLAND
AGL	Annual Grassland	42200
AGL/dCSS	Annual Grassland/disturbed Coastal Sage Scrub	32500
AGL/dSMX	Annual Grassland/disturbed Southern Mixed Chapa	37120
CC	Chamise Chaparral	37200
CLOW	Coast Live Oak Woodland	71160
CSS	Coastal Sage Scrub	32500
dCC	disturbed Chamise Chaparral	37200
dCSS	disturbed Coastal Sage Scrub	32500
DH	Disturbed Habitat	11300
dSAW	disturbed Sycamore Alluvial Woodland	62500
dSMX	disturbed Southern Mixed Chaparral	37120
DW	Disturbed Wetlands	11200
MFS	Mule Fat Scrub	63310
SMX	Southern Mixed Chaparral	37120

0 400 800 Feet

DUDEK

6056-04

AUGUST 2009

SOURCE: DigitabGlobe 1/2008

FIGURE 4a

Biological Resource Map

Existing Conditions Report - Otay Ranch Preserve

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Special Status Plant Occurrences - Points

- Munz's sage
- Palmer's grapplinghook
- San Diego County sunflower
- San Diego barrel cactus
- San Diego goldenstar
- San Diego marsh-elder
- Tecate cypress
- ashy spikemoss
- small-leaved rose
- snake cholla
- south coast saltscale
- southwestern spiny rush
- spiny redberry
- variegata dudleya
- western dichondra

Vegetation Polygons

Special Status Plant Occurrences - Polygon

HABITAT	HABITAT DESCRIPTION	HOLLAND
AGL	Annual Grassland	42200
AGL/dCSS	Annual Grassland/disturbed Coastal Sage Scrub	32500
AGL/dSMX	Annual Grassland/disturbed Southern Mixed Chapa	37120
CC	Chamise Chaparral	37200
CLOW	Coast Live Oak Woodland	71160
CSS	Coastal Sage Scrub	32500
dCC	disturbed Chamise Chaparral	37200
dCSS	disturbed Coastal Sage Scrub	32500
DH	Disturbed Habitat	11300
dSAW	disturbed Sycamore Alluvial Woodland	62500
dSMX	disturbed Southern Mixed Chaparral	37120
DW	Disturbed Wetlands	11200
MFS	Mule Fat Scrub	63310
SMX	Southern Mixed Chaparral	37120

0 350 700 Feet

SOURCE: DigitabGlobe 1/2008

DUDEK

6056-04

AUGUST 2009

FIGURE 4b

Biological Resource Map

Existing Conditions Report - Otay Ranch Preserve

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Table 8b
Vegetation Communities and Land Cover Types on the San Ysidro Preserve

Vegetation Community/Land Cover Type	Code[1]	MSCP Tier[2]	Acreage
Upland Habitats/Communities			
Coast Live Oak Woodland	71160	I	0.6
Coastal Sage Scrub	32500	II	35.3
Disturbed coastal sage scrub	32500	II	72.1
Annual (non-native) Grassland/Disturbed Southern Mixed Chaparral	42200/37120	III	62.2
Southern Mixed Chaparral	37120	III	21.4
Disturbed Southern Mixed Chaparral	37120	III	71.5
Chamise Chaparral	37200	III	0.8
Disturbed Chamise Chaparral	37200	III	6.2
Annual (non-native) Grassland	42200	III	2.4
Annual (non-native) Grassland/Disturbed Coastal Sage Scrub	42200/32500	III/II	251.7
Disturbed Habitat	11300	IV	0.2
		Subtotal	*524.4*
Wetland Habitats/Communities			
Disturbed Wetland	11200	I	0.6
Disturbed Sycamore Alluvial Woodland	62100	I	0.5
Mulefat Scrub	63310	I	<0.1
		Subtotal	*1.1*
		Total	**525.5**

1 Holland (1986) as modified by Oberbauer (2008)
2 San Diego County (1997)

3.2.1 Sensitive Upland Communities

(Diegan) Coastal Sage Scrub (32500)

Diegan coastal sage scrub (coastal sage scrub) is a native plant community characterized by soft, low, aromatic, subshrubs that function mostly in the winter and early spring, with many plants being drought-deciduous. This community typically occurs on sites with low moisture availability, such as dry slopes and clay-rich soils that are slow to release stored water. California sagebrush (*Artemisia californica*) and California buckwheat (*Eriogonum fasciculatum* var. *foliolosum*) commonly are the dominant plant species in this community (Holland 1986).

Coastal sage scrub is the most common vegetation type on the Salt Creek Preserve. Native shrub composition is predominantly California sagebrush, California buckwheat, laurel sumac (*Malosma laurina*), and coast cholla (*Opuntia prolifera*), with non-native grasses filling most of the spaces between the shrubs. Most of these areas were characterized by mix of California sagebrush and California buckwheat, with co-occurring species California everlasting

(*Gnaphalium californicum*), white sage (*Salvia apiana*), saw-toothed goldenbush (*Hazardia squarrosa* ssp. *grindelioides*), and laurel sumac. In some areas, adjacent to ephemeral drainages, lemonadeberry (*Rhus integrifolia*) is dominant with few understory species.

Disturbed coastal sage scrub occurs in a few isolated patches in the Salt Creek Preserve where there are more non-native grasses and native shrub cover is between 10% and 20%. This vegetation was mapped in areas which had previously been burned and contain non-native vegetation (mainly annual grasses) along with native shrub seedlings. It occurs in two phases: (1) on mesic slopes or highly disturbed areas are dominated by non-native annual grasses (*Avena barbata, Bromus* spp.), filaree (*Erodium* spp.), and pioneer coastal sage scrub species, such as deerweed (*Lotus scoparius*), coastal goldenbush (*Isocoma menziesii* ssp. *veneta*), and California sagebrush; and (2) on recently burned slopes and open areas with cryptogamic soils and low vegetative cover more prevalent native herbaceous species and bare.

Coastal sage scrub is present predominantly in the western part of the San Ysidro Preserve, on a west-facing slope where California buckwheat and San Diego viguiera are the most common shrubs; a small patch is also mapped on the northern edge of the site.

Disturbed coastal sage scrub on the San Ysidro Preserve occurs mostly along a ridge and plateau in the southwestern part of the site, where 20% to 50% native shrub cover is present, with a similar species composition to the adjacent coastal sage scrub, but more non-native grasses and forbs. This vegetation is mapped for most of the northern part of the San Ysidro Preserve, particularly on south-facing slopes. It intergrades with annual grassland/disturbed southern mixed chaparral vegetation. The shrub cover on mesic north-facing slopes is usually dominated by laurel sumac, while the most common shrub on south-facing slopes is San Diego viguiera. Other native shrubs that are present within this vegetation include white sage, California sagebrush, and California buckwheat. Lemonadeberry, spiny redberry, chaparral bushmallow (*Malacothamnus fasciculatus*), broom baccharis (*Baccharis sarothroides*), and saw-toothed goldenbush may also be present but are not considered diagnostic of this vegetation type (these species may also occur in disturbed southern mixed chaparral).

Maritime Succulent Scrub (32400)

Maritime succulent scrub is a low, open scrub dominated by somewhat woody, soft-leaved shrubs with a mixture of many stem and leaf succulents. This community occurs on thin, rocky or sandy soils, often on steep slopes of coastal headlands or bluffs, intergrading with coastal bluff scrub in more exposed areas. Characteristic species include cacti (*Cylindropuntia* spp., *Opuntia* spp., *Ferocactus viridescens*), California sagebrush, California encelia (*Encelia californica*), and San Diego viguiera (Holland 1986).

Maritime succulent scrub occurs is patches in the northern and western parts of the Salt Creek Preserve, usually on south-facing slopes in a matrix of coastal sage scrub vegetation. This vegetation has approximately 30% cover of coast cholla and generally supports xeric coastal sage scrub species, including San Diego County sunflower, California buckwheat, California sagebrush, and San Diego barrel cactus.

Disturbed maritime succulent scrub occurs near the center of Salt Creek. In this area 20% to 50% native shrub cover is present, with a similar species composition to other areas on site mapped as maritime succulent scrub, but containing more non-native grasses and forbs.

Southern Mixed Chaparral (37120)

Southern mixed chaparral is composed of deep-rooted shrubs with thick, hard (*sclerophyllous*) leaves that form a dense canopy 5 to 10 feet tall. This vegetation typically occurs on dry, rocky, slopes with little soil. Its plants are adapted to fire, with many shrubs responding by stump-sprouting (Holland 1986). Typical plant species include chamise (*Adenostoma fasciculatum*), ceanothus (*Ceanothus* spp.), mission manzanita (*Xylococcus bicolor*), scrub oak (*Quercus berberidifolia*), and San Diego mountain-mahogany (*Cercocarpus minutiflorus*) (Holland 1986).

Southern mixed chaparral occurs in a small patch in the southern portion of the Salt Creek Preserve, just north of the pipeline corridor that transects the site.

Southern mixed chaparral occurs in the southeastern portion of the San Ysidro Preserve, mostly in drainages on north-facing slopes that were not burned or where the fire was less intense. The vegetation includes a mixture of chamise, mission manzanita, laurel sumac, and our lord's candle (*Yucca whipplei*), but may also include native shrubs such as Ramona-lilac (*Ceanothus tomentosus*), scrub oak, spiny redberry, lemonadeberry, holly-leaf cherry (*Prunus ilicifolia*), and hairy matilija poppy (*Romneya trichocalyx*); Tecate cypress is also present in some in southern mixed chaparral vegetation in the southeastern corner of the site. Weed's mariposa lily (*Calochortus weedii* var. *weedii*) is also present in some areas.

Disturbed southern mixed chaparral also occurs on north-facing slopes in the southern part of the San Ysidro Preserve where the post-fire native shrub cover is from 20% to 50%, with relatively more slender wild oat (*Avena barbata*), filaree, fascicled tarplant (*Deinandra fasciculata*), and California-aster (*Corethrogyne filaginifolia* var. *filaginifolia*).

Chamise Chaparral (37200)

Chamise chaparral contains shrubs, overwhelmingly dominated by chamise, from 3 to 10 feet tall with little cover provided by other species. Stump sprouting allows this vegetation to adapt to repeated fires. Chamise chaparral typically occurs on dry slopes and ridges (Holland 1986).

Chamise chaparral occurs in several patches in the southern part of the Salt Creek Preserve. Chamise chaparral is mapped in one location on the northern edge of the San Ysidro Preserve that contains around 70% shrub cover, which is overwhelmingly dominated by chamise, with a few mission manzanita or laurel sumac also present. Disturbed chamise chaparral on the San Ysidro site contains 20% to 50% (typically about 30%) chamise, which are small shrubs (up to 3 feet tall) that are regrowing after relatively recent fire. A few mission manzanita or laurel sumac may also be present. The remaining cover is composed of non-native grasses, fascicled tarplant, wreath-plant (*Stephanomeria* spp.), or bare ground. Disturbed chamise chaparral occurs in three small spots on the northern part of the San Ysidro Preserve, surrounded by annual grassland/disturbed coastal sage scrub vegetation.

Scrub Oak Chaparral (37900)

Scrub oak chaparral contains dense evergreen vegetation up to 20 feet tall. It typically occurs in somewhat moister areas than other types of chaparral and recovers from fire more quickly. The dominant species is either scrub oak (*Quercus berberidifolia*) or Nuttall's scrub oak (*Q. dumosa*) with considerable San Diego mountain-mahogany present (Holland 1986).

A small patch of scrub oak chaparral**,** with greater than 50% cover of scrub oak is present in the central eastern part of the Salt Creek Preserve. The area is dominated by scrub oak with a small understory of non-native grasses.

Valley Needlegrass Grassland (42110*)

Valley needlegrass grassland is dominated by purple needlegrass (*Nassella pulchra*), a tussock-forming perennial grass that reaches about 2 feet in height. It usually occurs on fine-textured soils that are moist or wet in winter, becoming very dry in summer. On moister sites it often occurs among oak woodlands. Native annuals and grasses and non-native grasses, such as bromes (*Bromus* spp.) and wild oats (*Avena* spp.), occur between the bunchgrasses, often forming most of the vegetative cover (Holland 1986). Valley needlegrass grassland is typically mapped when purple needlegrass exceeds 10% cover.

Valley needlegrass grassland occurs in several patches in a matrix of coastal sage scrub in the eastern part of the Salt Creek Preserve. It contains at least 10% cover of needlegrass (*Nassella* spp.) and less than 30% cover of native shrubs. Valley needlegrass grassland often occurs on more mesic exposures and at the base of slopes. Species composition varies based on levels of disturbance. In repeatedly burned or grazed areas annual grasses (such as *Avena barbata, Bromus madritensis* and *B. hordeaceus*) and non-native plants (*Erodium botrys, Filago gallica*) are dominant. In less disturbed patches, native species have higher cover. Typical native species include purple needlegrass (*Nassella pulchra*), foothill needlegrass (*N. lepida*), blue-

eyed grass (*Sisyrinchium helium*), common goldenstar (*Bloomeria crocea* var. *crocea*), shooting star (*Dodecatheon clevelandii*), checker mallow (*Sidalcea malvaeflora*), Johnny jump-up (*Viola pedunculata*), and California melic (*Melica imperfecta*).

Non-native (Annual) Grassland (42200)

Non-native (annual) grassland has a cover of annual grasses typically up to 2 feet tall, with many annual wildflowers present in years with favorable rainfall. This vegetation community typically occurs on fine-textured soils that are moist or wet in the winter and very dry during summer and fall (Holland 1986). Characteristic species in San Diego County include foxtail chess (*Bromus madritensis*), ripgut grass (*Bromus diandrus*), wild oats, fescues (*Vulpia* spp.), red-stem filaree (*Erodium cicutarium*), mustards (*Brassica* spp.), lupines (*Lupinus* spp.), and goldfields (*Lasthenia* spp.).

To be classified as non-native grassland, 50% to 90% of the vegetation cover must be comprised of annual plants, mostly non-native species, including some (typically at least 30%) non-native grasses, and emergent shrubs and trees comprise less than 15% of the vegetative cover (San Diego County 2008).

Areas with predominantly non-native grasses and 5% to 10% native shrub cover (may be up to 20% in small areas) are mapped as either annual grassland/disturbed coastal sage scrub or annual grassland/disturbed southern mixed chaparral.

Annual grassland occurs in relatively flat areas in the southern part and in several drainages in the eastern part of the Salt Creek Preserve. Typical species include barley (*Hordeum* sp.), slender wild oat, black mustard (*Brassica nigra*), and field mustard (*Brassica rapa*). In some areas, low percentage of native grass (less than 5%) may be present. Annual grassland/disturbed coastal sage scrub occurs in several patches in the southern part of the Salt Creek Preserve, where a sparse overstory of predominantly laurel sumac grows among the non-native grassland.

Annual grassland is found on a mesa in the north-central part of the San Ysidro site, where it is overwhelmingly dominated by non-native annual grasses, particularly slender wild oat. A few scattered shrubs may be present, but herbaceous cover exceeds 90% and is composed of mostly grasses. Annual grassland/disturbed coastal sage scrub is the most prevalent vegetation type in the San Ysidro Preserve, occupying much of the northern part of the site, especially on south-facing slopes. It typically has 5% to 10% native shrub cover, often laurel sumac, with the remaining areas covered with annual grassland vegetation, which often includes other herbaceous plants, particularly filaree and tocalote (*Centaurea melitensis*), or bare rock (up to 50% on some slopes). Annual grassland/disturbed southern mixed chaparral is predominant on

north-facing slopes in the southeastern part of the San Ysidro Preserve. It typically has 5% to 10% native shrub cover, with the remainder composed primarily of non-native grasses and herbs. Shrub cover is composed of a mix of species, usually chamise, mission manzanita, and laurel sumac. Lemonadeberry, spiny redberry, broom baccharis, and our lord's candle may also comprise a small portion of the woody vegetation.

Tecate Cypress Forest (83200*)

Tecate cypress forest is a low, fairly dense, forest that is dominated by Tecate cypress. This vegetation occurs within a matrix of chaparral or pinyon-juniper woodland. It most often is found on north-facing slopes. Many stands are even-aged due to post-fire regeneration (Holland 1986).

Tecate cypress forest is found in a small, linear stand in the western part of the Salt Creek Preserve in areas that contain at least 50% cover of Tecate cypress. The stand is monotypic with no other associated species observed. This occurrence of Tecate cypress is outside of the north elevational range of the species and may have been established by an inadvertent deposition of cones. It does not appear to be a natural occurrence of the species.

3.2.2 Sensitive Wetland / Riparian Communities

Disturbed Wetland (11200)

Disturbed wetland includes non-native hydrophytic, herbaceous vegetation at 50% cover or more.

Disturbed wetland is mapped in several locations along the creek in the northeastern part of the San Ysidro Preserve, where the shrub layer is dominated by salt-cedar (*Tamarix ramossisima*) with some mulefat (*Baccharis salicifolia*) also present over an herbaceous layer that includes curly dock (*Rumex crispus*) and rye grass (*Lolium* sp.).

Cismontane Alkali Marsh (52310*)

Cismontane alkali marsh is dominated by perennial, emergent, herbaceous monocots that grow up to 7 feet tall. This vegetation occurs on sites that have standing water or saturated soils through most of the year. Characteristic species include yerba mansa (*Anemopsis californica*), sedges (*Carex* spp.), rushes (*Juncus* spp.), and cattails (*Typha* spp.) (Holland 1986).

Cismontane alkali marsh occurs in several drainages throughout the Salt Creek Preserve where southwestern spiny rush (*Juncus acutus*) and San Diego marsh elder (*Iva hayesiana*) are the typical dominant species.

Coastal and Valley Freshwater Marsh (52410*)

Coastal and valley freshwater marsh (freshwater marsh) is dominated by perennial herbaceous monocots, such as sedges, nutsedges (*Scirpus* spp.), and cattails that grow up to 15 feet tall. This vegetation type occurs in permanently flooded areas without a significant current, allowing deep, peaty soils to develop (Holland 1986).

Freshwater marsh, in the Salt Creek site, is dominated by cattails and/or nutsedges.

Mulefat scrub is a tall, herbaceous riparian scrub strongly dominated by mulefat. It typically occurs along intermittent stream channels with generally sandy soils and a moderate depth to the water table. The community is maintained by frequent flooding, or succeeds to cottonwood (*Populus* sp.) or sycamore (*Platanus* sp.) dominated communities. Willows (*Salix* spp.), stinging nettle (*Urtica* sp), and sedge may also be present. (Holland 1986).

Mulefat scrub occurs in several patches along the tributary to Salt Creek that runs through the western part of the Salt Creek Preserve. Typically the overstory contained a predominance of mulefat with very little understory observed. The largest patch of mulefat scrub is in a restored area just south of the road that crosses the site. One patch of disturbed mulefat scrub occurs in the central portion of Salt Creek.

Mulefat scrub/eucalyptus woodland_occurs in a single patch along the eastern tributary where blue gum eucalyptus (*Eucalyptus globulus*) forms a canopy over the mulefat.

Mulefat scrub/ freshwater marsh also occurs in patches along the eastern tributary where mulefat is co dominant with bulrush or southwestern spiny rush.

In the San Ysidro Preserve, mulefat scrub, with slightly over 50% cover of mulefat, occurs in one location along the streambed in the northern part of the site.

Coast Live Oak Woodland (71160)

Coast live oak woodland is dominated by coast live oak (*Quercus agrifolia*), which may occur in pure stands, open savannas, or in stands mixed with conifers and broadleaf trees. Few shrubs are typically present in the oak understory, and non-native grasses dominate the herb layer. This community is found on north-facing lopes and shaded ravines in southern California (Holland 1986).

Coast live oak woodland occurs in one location on the western edge of the San Ysidro Preserve that contains over 50% cover of coast live oak. Two coast live oak trees and associated laurel

sumac located on a small rise between dry channels behind the Otay Lake Dam in the southwestern corner of the San Ysidro parcel are mapped as coast live oak woodland.

Southern Willow Scrub (63320*)

Southern willow scrub forms a dense thicket dominated by willows (*Salix* spp.) with little understory development and scattered emergent Fremont poplar (*Populus fremontii*) or western sycamore (*Platanus racemosa*) trees. Southern willow scrub establishes on loose sandy alluvium deposited by flooding streams (Holland 1986).

Southern willow scrub on the project site contains over 70% willow cover. Other subdominant species may include mulefat and salt-cedar. Southern willow scrub occurs in the eastern portion of Salt Creek where arroyo willow (*Salix laseolepis*) is dominant.

Disturbed southern willow scrub is typically dominated by salt-cedar at 30% to 90% cover. This community type is mapped broadly within the Otay River and willows may or may not be present within every 0.5-acre (i.e., minimum mapping unit); however it is presumed that tamarisk has replaced willows in most cases and willows are the dominant native vegetation in the area.

Sycamore Alluvial Woodland (62100*)

Sycamore alluvial woodland is fairly open broad-leafed riparian woodland dominated by western sycamore, a winter-deciduous tree. This vegetation typically occurs in braided, depositional channels of intermittent streams with cobbly or bouldery substrates (Holland 1986).

Disturbed sycamore alluvial woodland is present along a streambed in the extreme eastern part of the San Ysidro preserve. The recent fire on the site, resulting in a relatively open tree canopy, was the source of the disturbance. This vegetation includes western sycamore at 30% or greater cover with understory species that may include willows, mulefat, and herbaceous species.

3.2.3 Non-Sensitive Communities and Land Covers

Eucalyptus Woodland (11100)

Oberbauer (2008) includes eucalyptus woodland as a non-native vegetation type that is fairly widespread in southern California. It typically consists of monotypic stands of introduced Australian eucalyptus trees (*Eucalyptus* spp.). The understory is either poor or lacking owing to shade and possible allelopathic (toxic) properties of the eucalyptus leaf litter. Although eucalyptus woodlands are of limited value to most native plants and animals, they frequently provide nesting and perching sites for some raptors.

Eucalyptus woodland is dominated by eucalyptus and may contain an understory of coastal sage scrub or annual grassland species. Tree cover is generally 50% or greater.

The largest stand of eucalyptus occurs in the floodplain of Salt Creek, in the southwestern part of the site. Other patches occur in a drainage in the southeastern part of the site and on a hillside on the eastern edge.

Disturbed Habitat (11300)

Disturbed land consists of areas where there is evidence of soil surface disturbance and compaction from previous legal activity; these areas must have less than 10% vegetative cover (disregarding natural rock outcrops) or the presence of building foundations and debris from legal activities, not illegal dumping. Any vegetation present is dominated by non-native, weedy species that are indicative of soil disturbance; non-native grasses are not dominant (San Diego County 2008).

Disturbed habitat includes major roads (easily passable by vehicle) and not trails or old roads which have become overgrown or eroded.

Dirt roads throughout the Salt Creek Preserve are mapped as disturbed habitat.

A single road, passing through the northeastern part of the San Ysidro site is mapped as disturbed habitat.

Developed (12000)

Developed land consists of buildings, structures, homes, parking lots, paved roads, and maintained areas. Developed areas do not support native vegetation.

A paved road that runs north-south in the western portion of Salt Creek is mapped as developed.

Ornamental

Ornamental is not included as a vegetation type by Holland (1986) or Oberbauer (2008), but is included as a distinct plant community here because it may provide nesting habitat for birds.

Ornamental vegetation in the Salt Creek Preserve includes areas that support Peruvian pepper trees with an annual grassland understory.

3.3 Flora

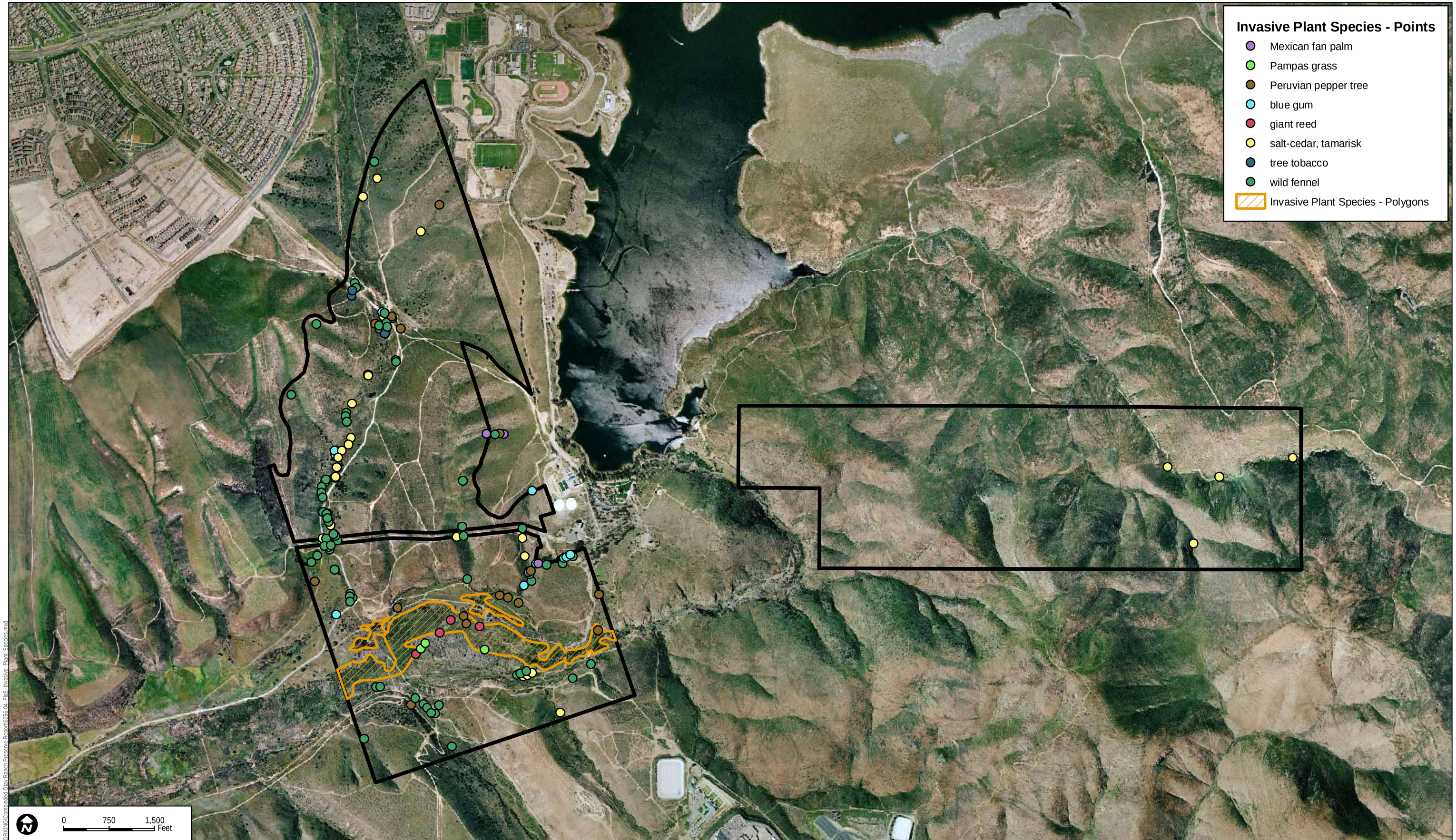
Appendices A and B list all of the plant species observed on Salt Creek and San Ysidro, respectively. A total of 181 vascular plant species, including 122 native species (67%) and 59 non-native species (33%) were recorded on Salt Creek during surveys. A total of 156 vascular plant species, including 128 native species (82%) and 28 non-native species (18%) were recorded on San Ysidro. The Salt Creek Preserve had greater cover of non-native species as compared to the San Ysidro Preserve (see Section 1.4.3.1). Some common species on both sites include California sagebrush, California buckwheat, and bromes. Fourteen special-status plant species were observed on the Otay Ranch Preserve (See Section 1.4.5*)*.

3.3.1 Exotics Mapping

Eight invasive plant species were observed on the Otay Ranch Preserve. Table 9 lists the species detected and Figure 5 shows the distribution of these species on the Preserve.

Table 9
Invasive Plant Species Observed on Site

Scientific Name	Common Name	Salt Creek Observations	San Ysidro Observations
Arundo donax	giant reed	Four localities in the southern portion of site. Generally limited to approximately 100 feet of mapped locality.	Not observed.
Cortaderia selloana	Pampas grass	Three localities in the southern portion of site with typically five individuals or less per locality.	Not observed.
Eucalyptus globulus	blue gum	Seven localities on western side of site south of the lake, three localities on the east side of the site, and one locality in the northern portion of the site. Approximately 1–50 individuals per locality.	Not observed.
Foeniculum vulgare	wild fennel	Over 20 localities, primarily along the western edge of the site and in the southern portion of the site.	Not observed.
Nicotiana glauca	tree tobacco	Three localities in the northwestern portion of the site. Typically 5–25 individuals per locality.	Not observed.
Schinus molle	Peruvian pepper tree	Eighteen localities throughout the site with generally 1–25 individuals per locality.	Not observed.
Tamarix ramosissima	salt-cedar, tamarisk	Twenty-eight localities located primarily on the western edge of the site and in the southern portion of the site. Typically 1–10 individuals per point locality and a dominate or pre-dominant species (i.e., at least 30% cover) within mapped polygon.	Four localities in the eastern portion of the site. Generally 1–10 individuals per locality.
Washingtonia robusta	Mexican fan palm	Four localities near the eastern boundary of the site. Typically 1–5 individuals per locality.	Not observed.



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SOURCE: DigitabGlobe 1/2008

FIGURE 5

Invasive Plant Species

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3.4 Fauna

Appendix C lists all of the wildlife species observed or detected on the Otay Ranch Preserve. The list includes 11 reptile species, 56 bird species, 15 mammals, and 19 butterflies/moths.

Six lizards and five snakes were observed on the Otay Ranch Preserve. The western fence lizard (*Sceloporus occidentalis*) and side-blotched lizard (*Uta stansburiana*) were common reptiles on site. The CDFG SSC coast patch-nosed snake (*Salvadora hexalepis virgultea*), CDFG SSC orange-throated whiptail, and western black-headed snake were also observed on the San Ysidro site.

Common bird species observed on site include the California towhee (*Pipilo crissalis*) and house finch (*Carpodacus mexicanus*). Two non-native bird species were observed on site, the European starling (*Sturnus vulgaris*) and rock dove (*Columba livia*). Several active bird nests have been observed on the Otay Ranch Preserve. A red-tailed hawk (*Buteo jamaicensis*) nest was observed along the western boundary in the northern portion of Salt Creek. Several coastal cactus wren (*Campylorhynchus brunneicapillus sandiegensis*) nests were identified on site (Figure 6). The California gnatcatcher, least Bell's vireo, and SSC yellow-breasted chat (*Icteria virens*) were also observed on site.

Fourteen mammals were observed on the Otay Ranch Preserve. The brush rabbit (*Sylvilagus bachmani*) was commonly observed on site during surveys. Other mammals observed or detected on site include the MSCP Group 2 species mule deer (*Odocoileus hemionus*) and mountain lion (*Felis concolor*), as well as the CDFG SSC San Diego black-tailed jackrabbit (*Lepus californicus bennettii*).

A total of 16 butterfly species were observed during 2008 butterfly surveys, including: checkered white (*Pontia protodice*), acmon blue (*Plebejus acmon*), Behr's metalmark (*Apodemia mormo virgulti*), buckeye (*Junonia coenia*), cabbage white (*Pieris rapae*), southern blue (*Glaucopsyche lygdamus australis*), California ringlet (*Coenonympha californica californica*), tiger swallowtail (*Papilio rutulus*), Anise swallowtail (*Papilo zelicaon lucas*), painted lady (*Vanessa cardui*), Sara orangetip (*Anthocharis sara*), perplexing hairstreak (*Callophrys dumetorum perplexa*), California dogface (*Colias Eurydice*), funereal duskywing (*Erynnis funeralis*), western pygmy blue (*Brephidium exile*), and western brown elfin (*Incisalia augustinus iriodes*). Three additional species were observed during other surveys, including the quino checkerspot butterfly.

3.4.1 Avian Point Count Surveys

Thirty-three bird species were observed at Salt Creek and twenty-two bird species were observed at San Ysidro during avian point count surveys. Overall, forty different bird species were observed during avian point count surveys on the Otay Ranch Preserve. All species detected

during avian point count surveys and other wildlife surveys are included in Appendix C. Latin and common names of animals follow Stebbins (2003) for reptiles and amphibians, American Ornithologists' Union (1998) and Banks et al. (2007) for birds, and Jones et al. (1997) for mammals.

Table 10 provides a summary of the results of the avian point count survey for each survey point. The numbers in each cell represent the number of unique species counts on that particular day. The number in parentheses that follows is the total number of birds observed and includes flyover species if any were observed.

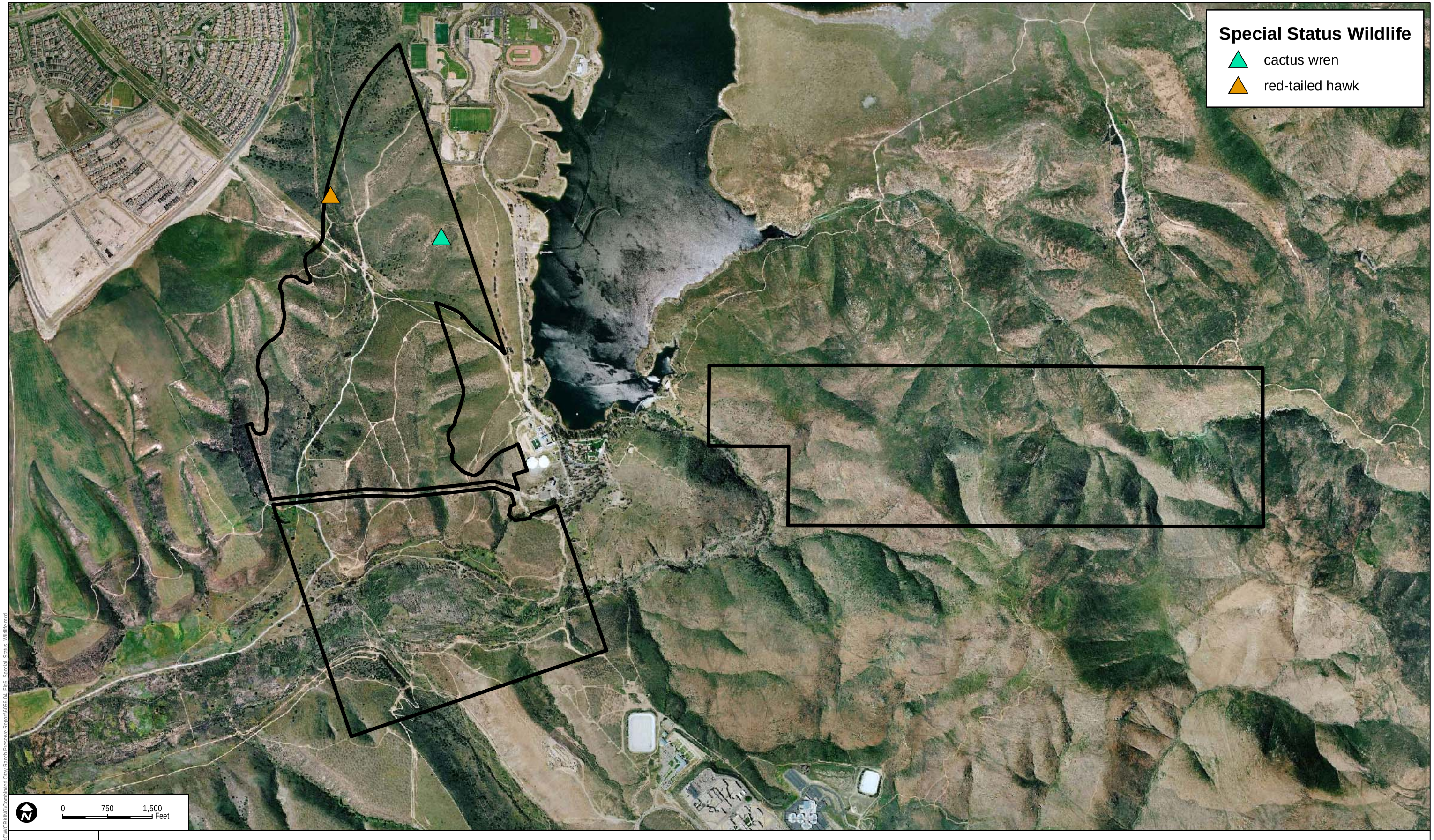
Table 10
Avian Point Count Survey Results

Survey Point	July 17, 2008		August 26, 2008		September 23, 2008		October 29, 2008		Total
	AM	PM	AM	PM	AM	PM	AM	PM	
Salt Creek									
SC 1	3 (6)	1 (2)	6 (7)	1	6 (7)	1	5	0	*14 (18)*
SC 2	3	1	10 (11)	2	9 (10)	1	6	1	*21 (22)*
SC 3	5	0	4	0	4 (5)	0	4 (5)	0	*12 (12)*
SC 4	2 (3)	0	3	0	2 (3)	0	1 (3)	0	*7 (8)*
SC 5	5 (6)	0	5 (6)	1	5 (6)	0	5 (6)	1	*13 (14)*
SC 6	7	1	6	0	6	0	5	0	*14*
Salt Creek Subtotal	*11 (14)*	*3 (3)*	*24 (24)*	*3*	*16 (18)*	*1*	*17 (17)*	*2*	*33 (36)*
San Ysidro									
SY 1	5 (7)	2	4 (7)	1	3 (5)	0	3	0	*11 (15)*
SY 2	3 (5)	0	3 (4)	0	4 (5)	0	2 (3)	0	*7 (8)*
SY 3	4 (5)	0	3 (4)	0	3 (4)	0	0	0	*5 (8)*
SY 4	7 (10)	3	8 (9)	2	7 (8)	4	4 (5)	3	*17 (18)*
San Ysidro Subtotal	*12 (14)*	*4*	*11 (14)*	*3*	*9 (10)*	*4*	*7 (8)*	*3*	*22 (23)*
								Total	**40 (41)**

NOTE: The numbers represent unique species counts. The number in parentheses is the total including flyover species if any were observed.

3.4.2 Herpetological Surveys

The herpetological surveys are currently in progress on the Otay Ranch Preserve. Surveys are expected to continue until XXXX. Results of these surveys will be included in the final draft of this report.



SOURCE: DigitabGlobe 1/2008

FIGURE 6

Special Status Wildlife

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3.5 Sensitive Plant Species

Sixteen special-status plant species have been identified on the Otay Ranch Preserve. None of these is federally listed. Small-leaved rose (*Rosa minutifolia*) is endangered in California (CDFG 2009c) and Dunn's mariposa lily is considered rare by the CDFG (2009c). The remaining species include five CNPS List 1B species, three CNPS List 2 species, and five CNPS List 4 species. Ashy spikemoss (*Selaginella cineracens*) was previously considered sensitive in the Otay Ranch Resource Management Plan.

The potential for special-status plant species to occur on each site was evaluated based on the elevation, soils, vegetation communities, and level of disturbance of each site, as well as the results of the 2009 rare plant surveys. Appendix D summarizes the results of this analysis and includes all observed special-status plant species. Figures 4a–b show the distribution of the special-status plant species on the Otay Ranch Preserve in spring 2009.

The following special-status species were not observed but are considered to have a low to moderate potential to occur. Encinitas baccharis (*Baccharis vanessae*) has a low potential to occur on Salt Creek. Given that this species blooms from August to November, the timing of focused botanical surveys was not optimal for the detection of this species. On San Ysidro, this species has a moderate potential to occur given that there is a recorded occurrence on Otay Mountain, which has a similar elevation to this site. Palmer's grapplinghook (*Harpagonella palmeri*) has a moderate potential to occur on the San Ysidro site since focused botanical surveys were conducted after the blooming period and given the incidental recordings on Salt Creek. Gander's pitcher sage (*Lepechinia ganderi*) blooms from June to July and may not have been detectable during surveys. However, both Salt Creek and San Ysidro lack suitable gabbroic or metavolcanic soils; therefore, this species has a low potential to occur at either site. Small-flowered microseris (*Microseris douglasii* var. *platycarpha*) has a low potential to occur on Salt Creek and moderate potential to occur on San Ysidro. Four samples were examined from the Salt Creek site and none were confirmed as this variety; however, identification of this taxum is very difficult at the time surveys were conducted. A species-specific focused survey, conducted in early spring would be required to make a definitive determination regarding this species. Felt-leaved monardella (*Monardella hypoleuca* ssp. *lanata*) also may not have been detectable at the time of the focused surveys. This species has a low potential to occur on Salt Creek and a moderate potential to occur on San Ysidro, given the differences in elevation of the two sites. Similarly, both Jennifer's monardella (*Monardella stoneana*) and willowy monardella (*Monardella viminea*) have a low potential to occur because they may not have been easily detectable during focused surveys; however, an effort was made to detect this perennial species within suitable habitat on San Ysidro. Caraway-leaved gilia (*Saltugilia* [=*Gilia*] *caruifolia*) has a low potential to occur on the Otay Ranch Preserve since the site is outside of the elevation range of this species.

Two individuals of small-leaved rose occur in the central portion of San Ysidro. Approximately 300 individuals of Dunn's mariposa lily in the south-central portion of San Ysidro were observed.

Fourteen localities of Tecate cypress were mapped in the southwestern portion of Salt Creek. These comprise the 0.8 acre of Tecate cypress woodland that occurs here. Note that this occurrence of Tecate cypress is outside of the north elevational range of the species and may have been established by an inadvertent deposition of cones. It does not appear to be a natural occurrence of the species. There were two occurrences of Tecate cypress mapped in the west-central portion of San Ysidro, one in the disturbed wetlands in the north-eastern portion of the site, and two occurrences in the south-eastern corner of the site. These occurrences generally number between 25 and 50 individuals. Five individual Tecate cypresses were mapped in the disturbed southern mixed chaparral in the south-central portion of San Ysidro.

Five occurrences of individuals with characteristics of snake cholla (*Cylindropuntia californica*), totaling approximately 55 individuals, were mapped in the eastern portion of Salt Creek, south of the road that transverses the site. However, additional examination of this locality may be required. A definitive determination would require collections and a more in-depth review that was outside of the scope of the focused survey. San Diego goldenstar occurs throughout the San Ysidro site with the exception of the western and southeastern portions. Occurrences varied from as little as six individuals to much larger areas consisting of thousands of individuals. There is one individual of south coast salt scale (*Atriplex pacifica*) on a slope in the central portion of Salt Creek, another individual in the west-central portion, and seven individuals in two separate occurrences mapped along the eastern boundary of this site. There is one occurrence of hundreds of variegated dudleya individuals mapped just south of the one of the main roads in the northwestern portion of Salt Creek.

San Diego barrel cactus is mapped throughout the majority of both Salt Creek and San Ysidro. Ninety-two occurrences of San Diego marsh elder were mapped throughout the drainages on Salt Creek. These are located primarily in the western and southern portion of the site. On San Ysidro, seven localities were mapped within one drainage in the north-central portion of the site. In general, localities included between 25 and 50 individuals. In the western portion of San Ysidro, 22 individuals of Munz's sage (*Salvia munzii*) were mapped at three separate localities within the same area.

One occurrence of western dichondra is mapped in the southeastern corner of Salt Creek. There are three occurrences on San Ysidro, including in the western portion, central portion, east-central portion. Besides the easternmost occurrence on San Ysidro, which consists of 5 individuals, occurrences of western dichondra on site typically include approximately 25 individuals. There are ten localities, each numbering approximately 1,000 or more individuals, of

Palmer's grapplinghook located centrally on the Salt Creek site. There are 59 occurrences of southwestern spiny rush, each typically numbering between 25 and 50 individuals, that occur along the drainages on Salt Creek, primarily in the western and southern portions of the site. Two localities of approximately 25 to 50 individuals occur in the eastern portion of San Ysidro and one individual is mapped at the edge of the southern mixed chaparral in the center of the site. Occurrences of Coulter's matilija poppy (*Romneya coulteri*) are scattered throughout Salt Creek with the majority in the southern portion of the site. Each occurrence generally includes approximately 10 to 30 individuals. There are 338 mapped occurrences of San Diego County sunflower throughout Salt Creek and 135 occurrences throughout San Ysidro. Each occurrence of San Diego County sunflower typically numbers several hundred individuals.

Ashy spikemoss occurs throughout much of the eastern portion of Salt Creek and the northern portion of San Ysidro.

3.6 Sensitive Wildlife Species (Species Lists to be updated when species surveys are complete)

The potential for special-status wildlife species to occur on each site was evaluated based on the elevation, vegetation communities, and level of disturbance of each site, as well as the results of wildlife surveys conducted on site. Appendix E summarizes the results of this analysis and includes all observed special-status wildlife species. (**Completed version will be provided in final report.**)

3.6.1 Focused Surveys for California Gnatcatcher

A total of 21 gnatcatcher pairs were observed within the Salt Creek portion of the Otay Ranch Preserve. Two of the 21 pairs were observed with one juvenile. In addition, 23 non-capped gnatcatchers and 11 individual male gnatcatchers were observed within the Salt Creek portion of the Otay Ranch Preserve. It should also be noted that one lone male and one non-capped gnatcatcher were observed on July 18, 2008, immediately adjacent to Survey Area 1. Figures 7a–f illustrate all gnatcatchers observed within the Salt Creek portion of the Otay Ranch Preserve during focused surveys in 2008. One gnatcatcher pair was observed within the San Ysidro portion of the Otay Ranch Preserve (Figure 7g).

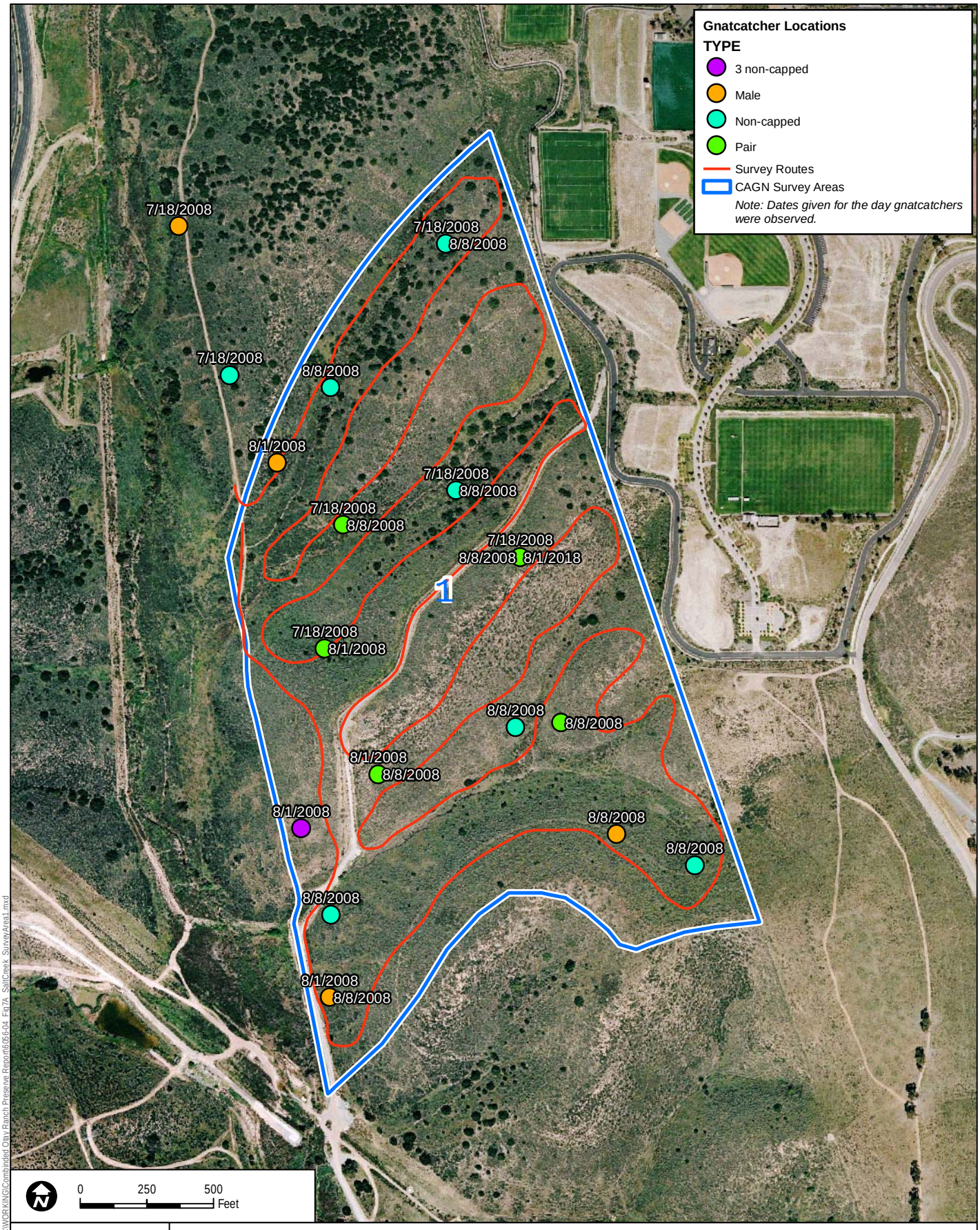
In cases where non-capped gnatcatchers were mapped in groups of two or more birds, it is assumed that these are juvenile gnatcatchers that have not yet dispersed. Individual non-capped gnatcatchers could either be dispersed juveniles born early in the breeding season, or female gnatcatchers. Table 11 summarizes the results of gnatcatchers observed within each survey area of the Salt Creek portion of the Otay Ranch Preserve.

Table 11
Gnatcatchers Observed on the Salt Creek Portion of the Otay Ranch Preserve

Survey Area	Gnatcatcher Pair	Gnatcatcher pair + 1 juvenile	Lone Male Gnatcatcher	Non-capped Gnatcatcher	Group of 2 non-capped Gnatcatchers	Group of 3 non-capped Gnatcatchers
1	5	—	3	6	—	1
2	5	2	4	1	—	
3	2	—	2	3	1	1
4	1	—	1	4	—	—
5	4	—	—	1	—	—
6	2	—	—	—	—	—
Totals	**19**	**2**	**11**	—	**1**	**2**

3.6.2 Focused Surveys for Hermes Copper and General Butterfly Surveys

Focused surveys for Hermes copper were negative.



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SOURCE: DigitabGlobe 1/2008

FIGURE 7a

Gnatcatcher Observations on Salt Creek

6056-04

AUGUST 2009

Existing Conditions Report - Otay Ranch Preserve

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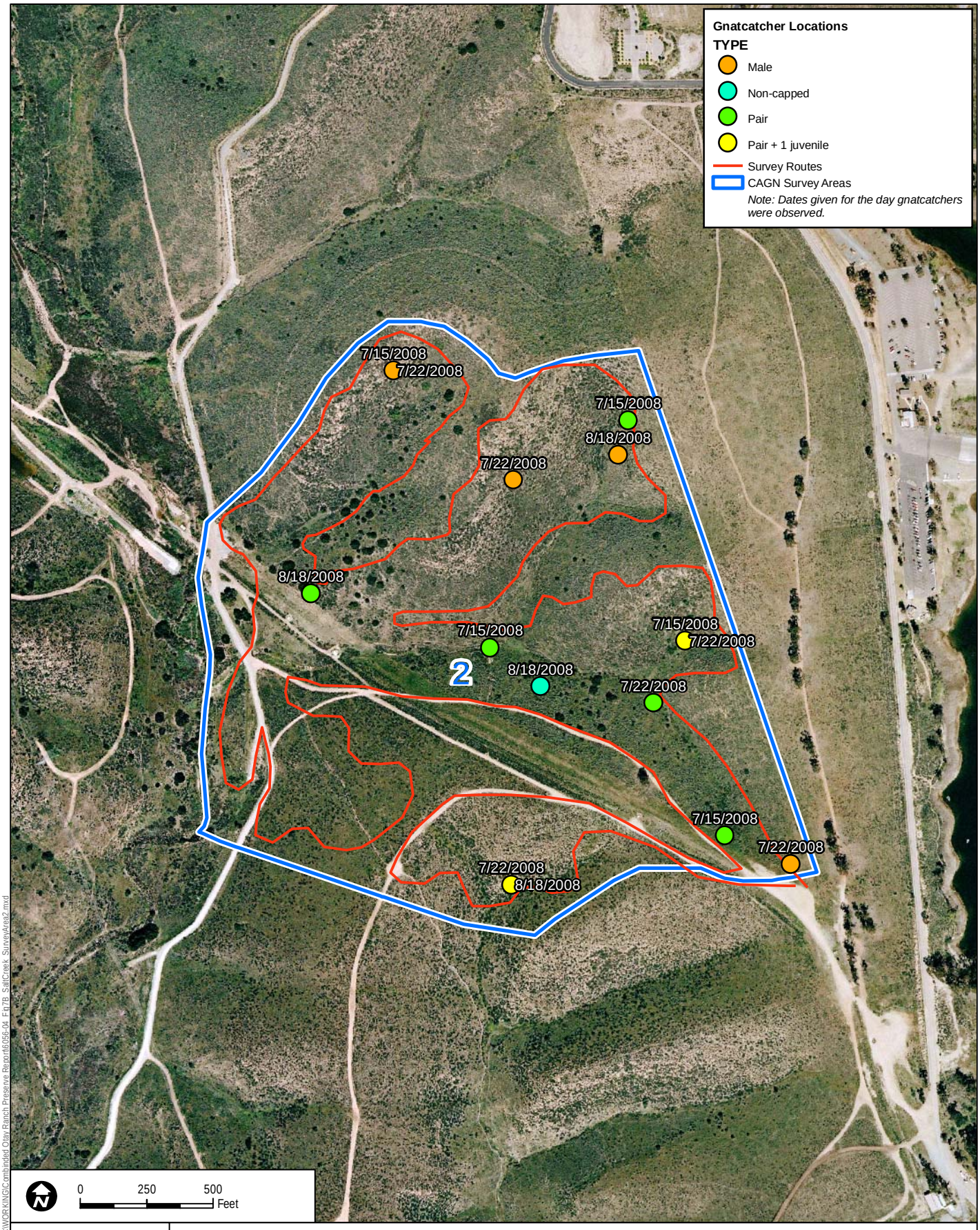

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6056-04

AUGUST 2009

SOURCE: DigitabGlobe 1/2008

FIGURE 7b

Gnatcatcher Observations on Salt Creek

Existing Conditions Report - Otay Ranch Preserve

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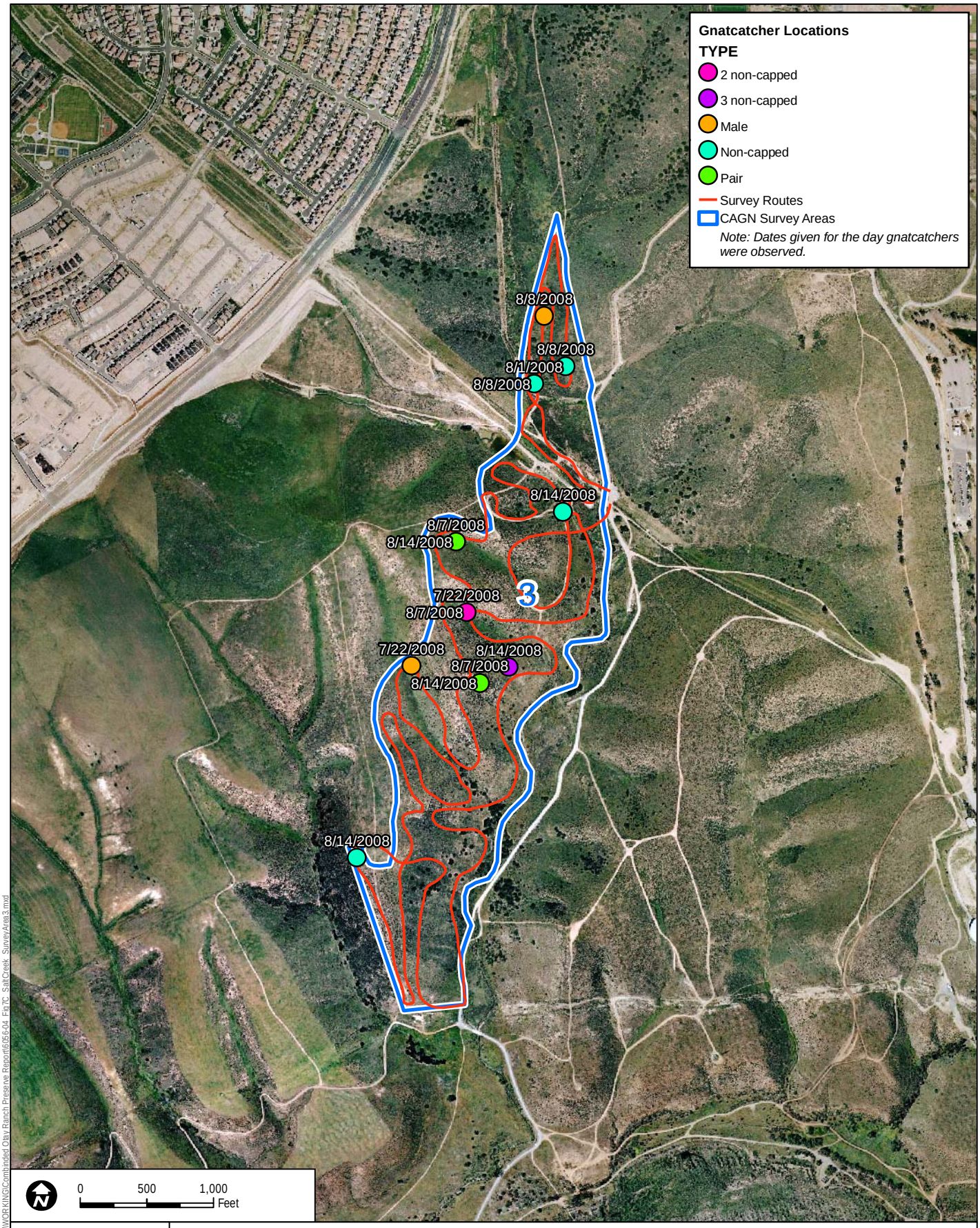

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SOURCE: DigitabGlobe 1/2008

FIGURE 7c

Gnatcatcher Observations on Salt Creek

Existing Conditions Report - Otay Ranch Preserve

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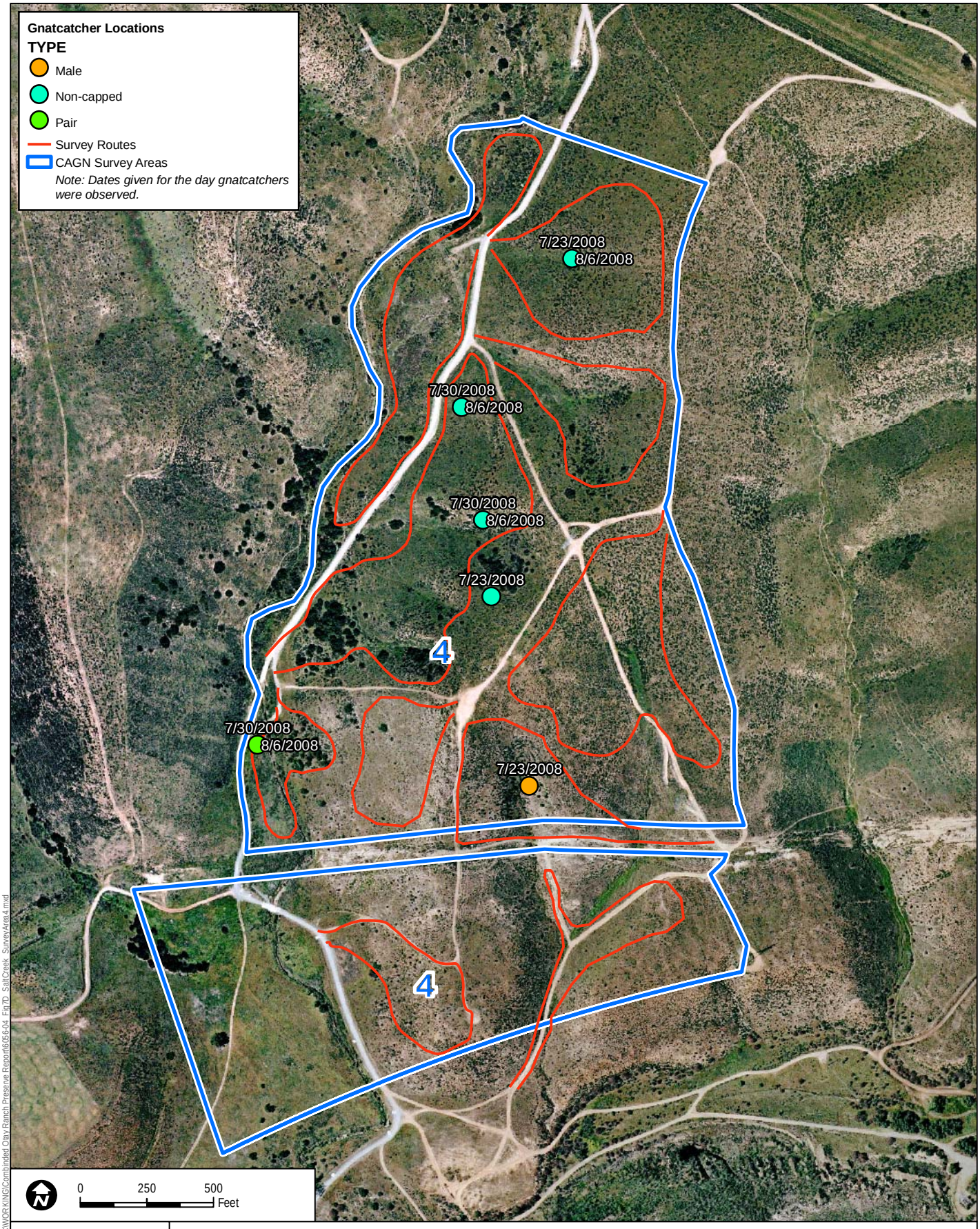

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SOURCE: DigitabGlobe 1/2008

FIGURE 7d

Gnatcatcher Observations on Salt Creek

Existing Conditions Report - Otay Ranch Preserve

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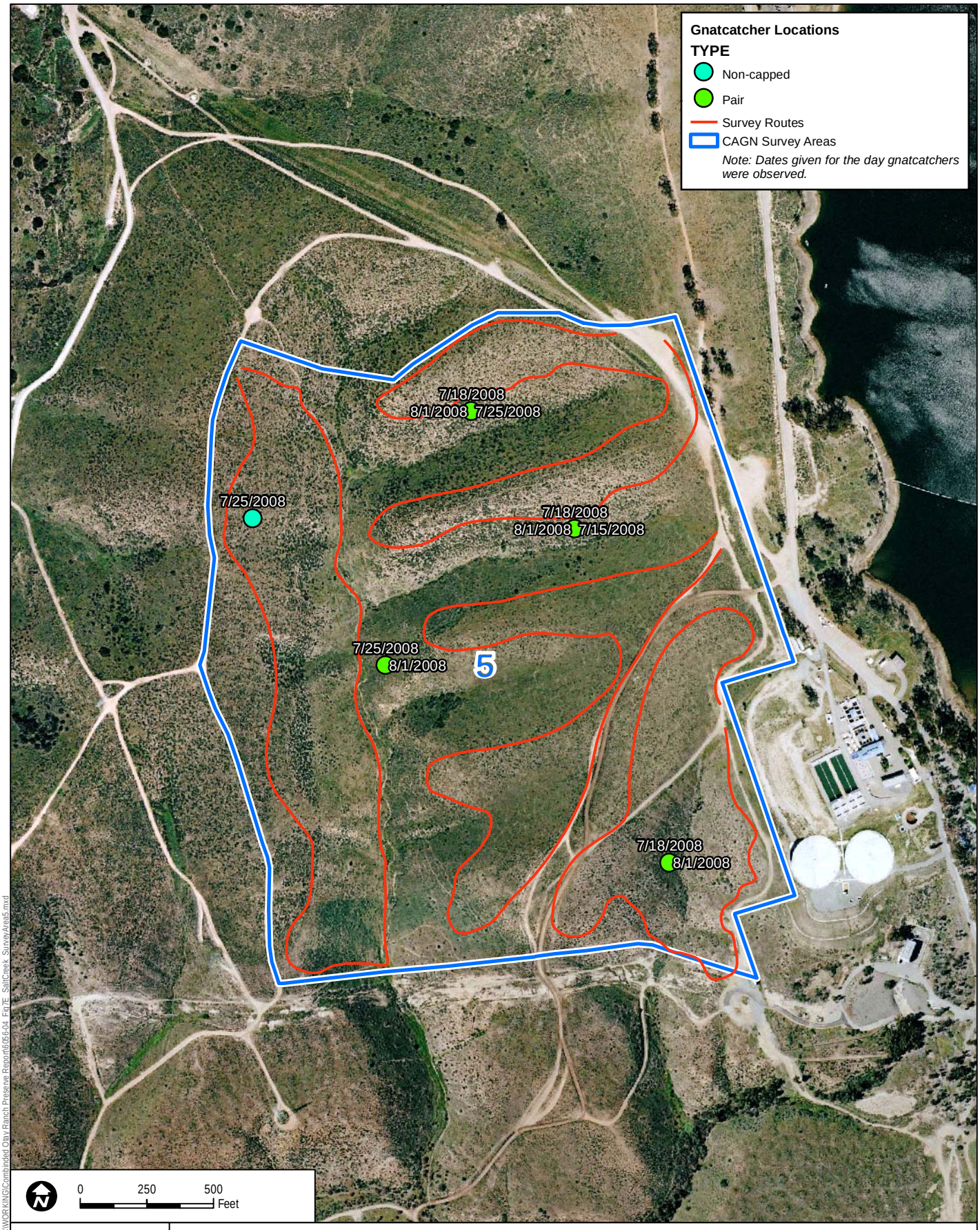

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AUGUST 2009

SOURCE:

FIGURE 7e

Gnatcatcher Observations on Salt Creek

Existing Conditions Report - Otay Ranch Preserve

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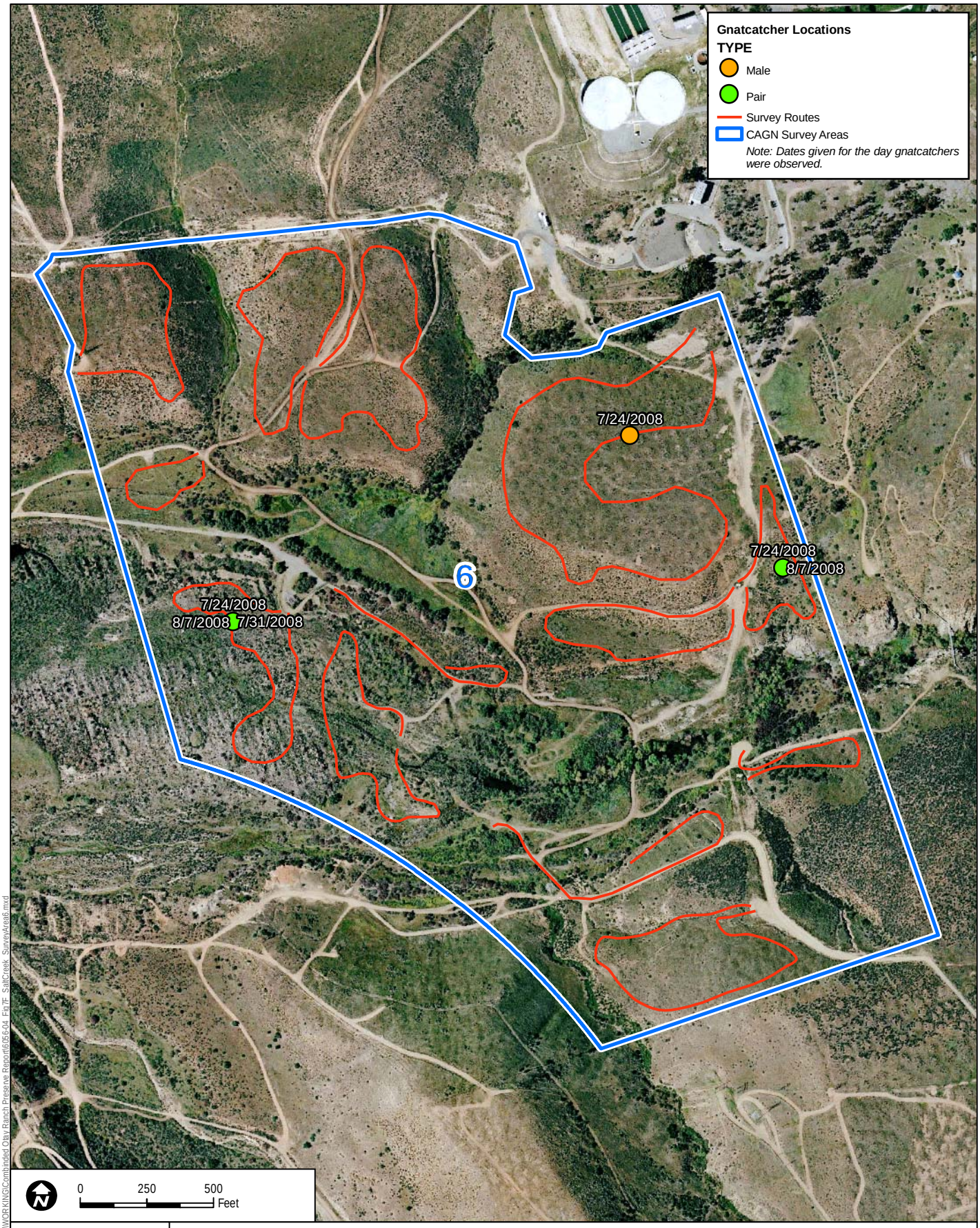

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SOURCE: DigitabGlobe 1/2008

FIGURE 7f

Gnatcatcher Observations on Salt Creek

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AUGUST 2009

Existing Conditions Report - Otay Ranch Preserve

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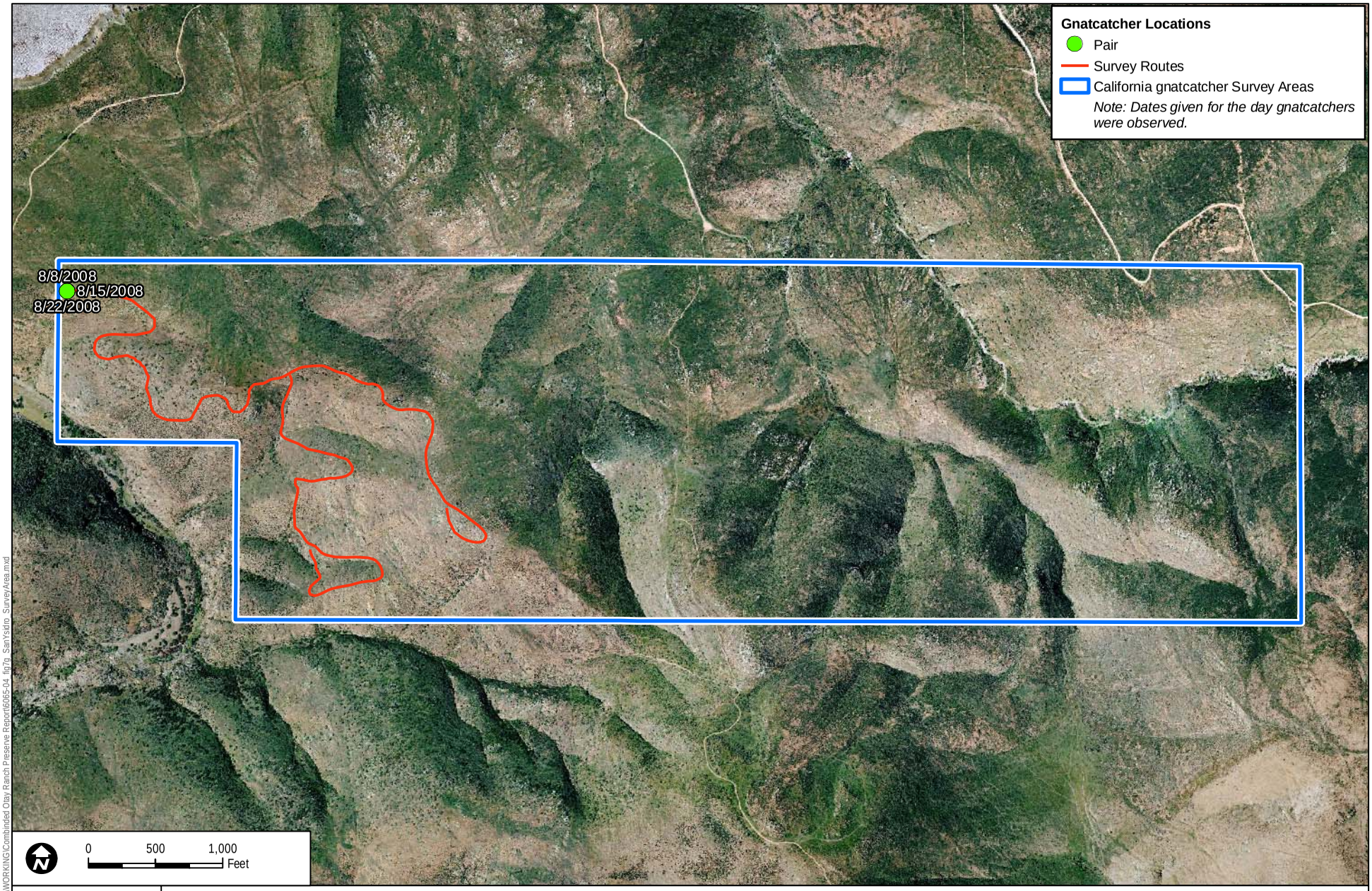

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SOURCE: DigitabGlobe 1/2008

FIGURE 7g

Gnatcatcher Observations on San Ysidro

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AUGUST 2009

Existing Conditions Report - Otay Ranch Preserve

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3.6.3 Focused Surveys for Quino Checkerspot Butterfly

A total of 35 QCB were observed and recorded during the 2009 QCB focused survey on the Otay Ranch Preserve (Figures 8a–d). Dudek biologists Jeffrey Priest, Vipul Joshi, Tricia Wotipka, Kam Muri, and Paul Lemons observed QCB on hill tops or ridgelines within Survey Areas A, E, F, and L. A number of these observations took place in the same location from one week to the next thus it is likely that a number of these observations were of the same individual and could be considered duplicate counts. Table 12 summarizes the details of the QCB observations.

Table 12
2009 Quino Checkerspot Butterfly Observation Details

Survey Area	Date	Biologist	Time	Number of QCB Observed
A	3/18/2009	TLW	1110–1145	3
	3/18/2009	TLW	1215–1335	4
	3/25/2009	JDP	1110–1130	2
	3/25/2009	JDP	1159–1215	3
	3/25/2009	JDP	1240–1247	1
	3/31/2009	PML	1248–1320	2
E	3/13/2009	KJM	1343–1427	1
	3/15/2009	VRJ	1135–1150	2
	3/15/2009	VRJ	1348–1350	2
	3/17/2009	KJM	1355–1420	2
	3/17/2009	KJM	1355–1420	2
F	3/10/2009	JDP	1008–1018	1
	3/10/2009	JDP	1137–1206	2
	3/18/2009	VRJ	1230–1242	2
L	3/17/2009	TLW	1251–1355	2
	3/17/2009	TLW	1450–1510	1
	3/24/2009	TLW	1115–1130	1
	3/26/2009	AMH	1040	2
			Total QCB Observed	**35**

Personnel Key: AMH = Anita Hayworth; VRJ = Vipul Joshi; JDP = Jeff Priest; KJM = Kamarul Muri; PML = Paul Lemons; TLW = Tricia Wotipka

Two QCB larval host plants, dot-seed plantain (*Plantago erecta*) and owl's clover (*Castilleja exserta*) were observed and recorded over much of the Preserve. Larval host plant locations are illustrated on Figure 3. All patches of plantain and owl's clover were recorded as point locations. Very large patches of plantain were observed where clusters of points are shown on the Figure 3.

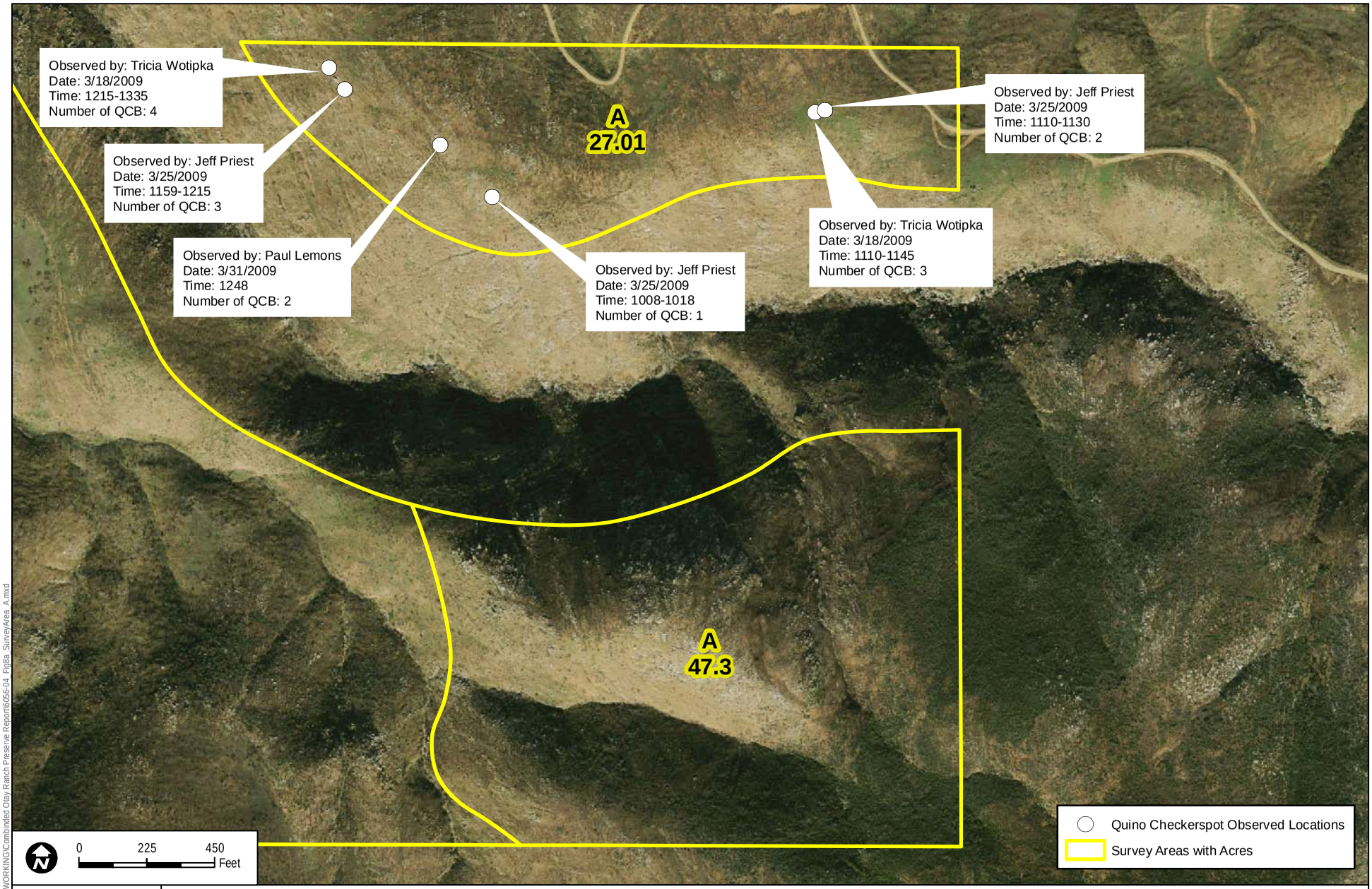
A list of all wildlife species observed for the site, including butterfly species observed during each week's survey is provided in Appendix C.

3.7 Habitat Connectivity and Wildlife Corridors

3.7.1 Large and Medium Mammal Surveys

Results of camera studies are pending.

The Otay Mesa preserve provides an important link between key MSCP preserves areas, including San Miguel Mountain to the north and Otay Mountain to the east. The majority of the preserve is designated as a biological core area or linkage by the MSCP Subregional Plan (City of Chula Vista 2003). The preserve connects the Sweetwater Reservoir with substantial habitat areas, including the Otay River and Otay Lakes, Otay Mountain (with connections east toward Tecate Peak), the Jamul Mountains, San Miguel Mountain, and upper Sweetwater River. These latter areas link up with U.S. Forest Service lands.



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6056-04

AUGUST 2009

SOURCE: DigitabGlobe 1/2008

FIGURE 8a

Quino Checkerspot Observations - Survey Area A

Existing Conditions Report - Otay Ranch Preserve

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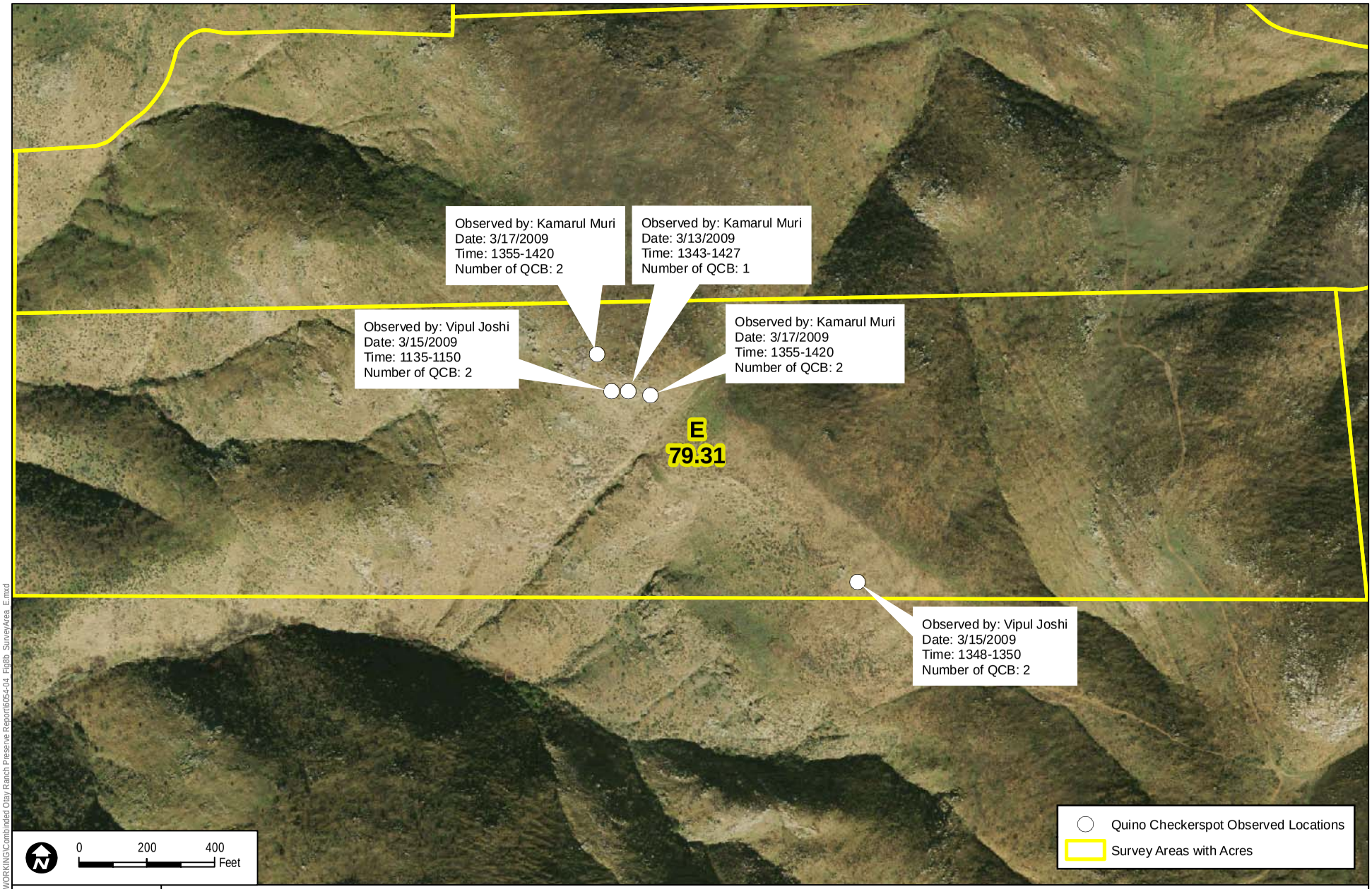

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AUGUST 2009

SOURCE: DigitabGlobe 1/2008

FIGURE 8b

Quino Checkerspot Observations - Survey Area E

Existing Conditions Report - Otay Ranch Preserve

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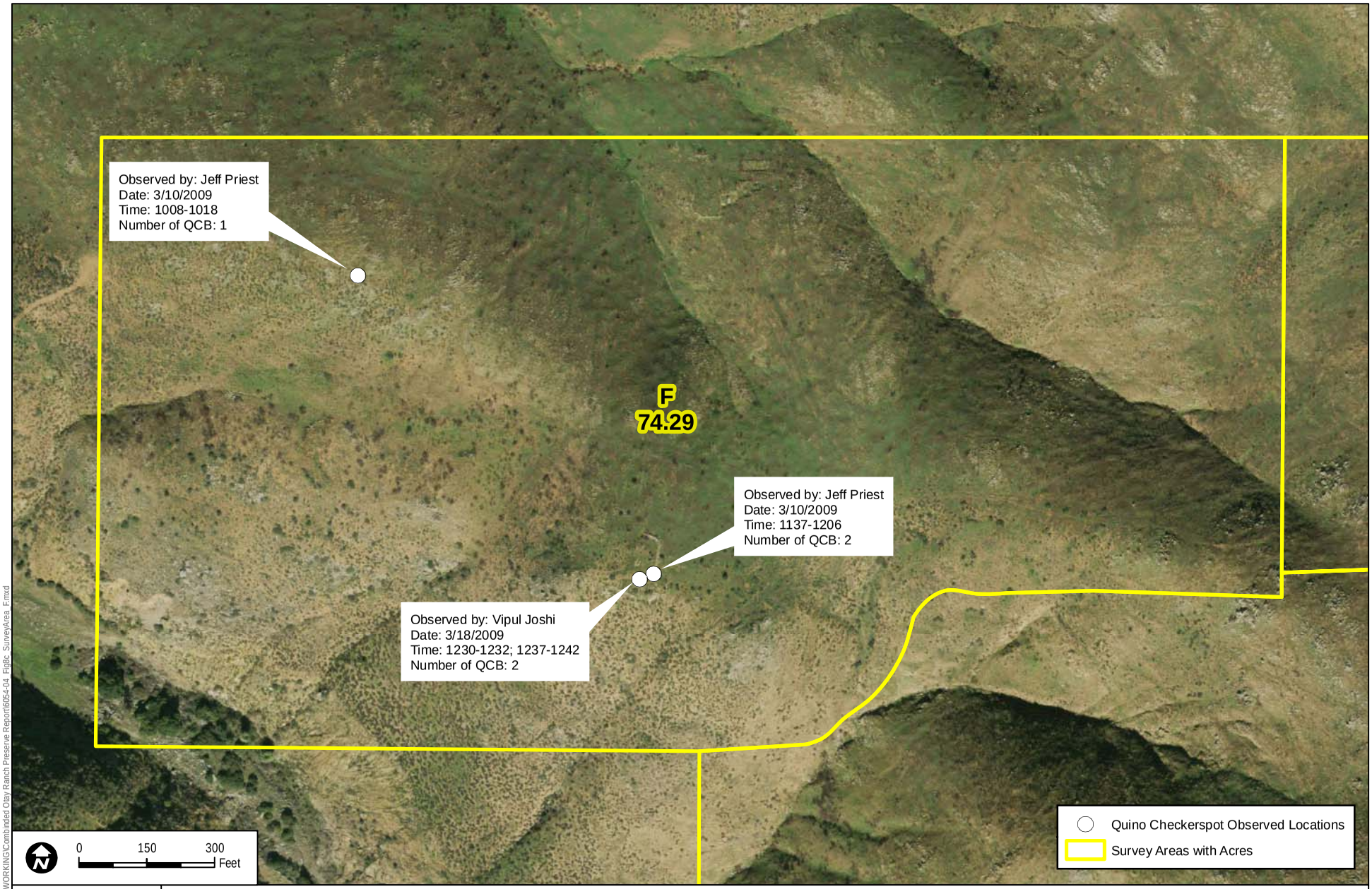

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AUGUST 2009

SOURCE: DigitabGlobe 1/2008

FIGURE 8c

Quino Checkerspot Observations - Survey Area F

Existing Conditions Report - Otay Ranch Preserve

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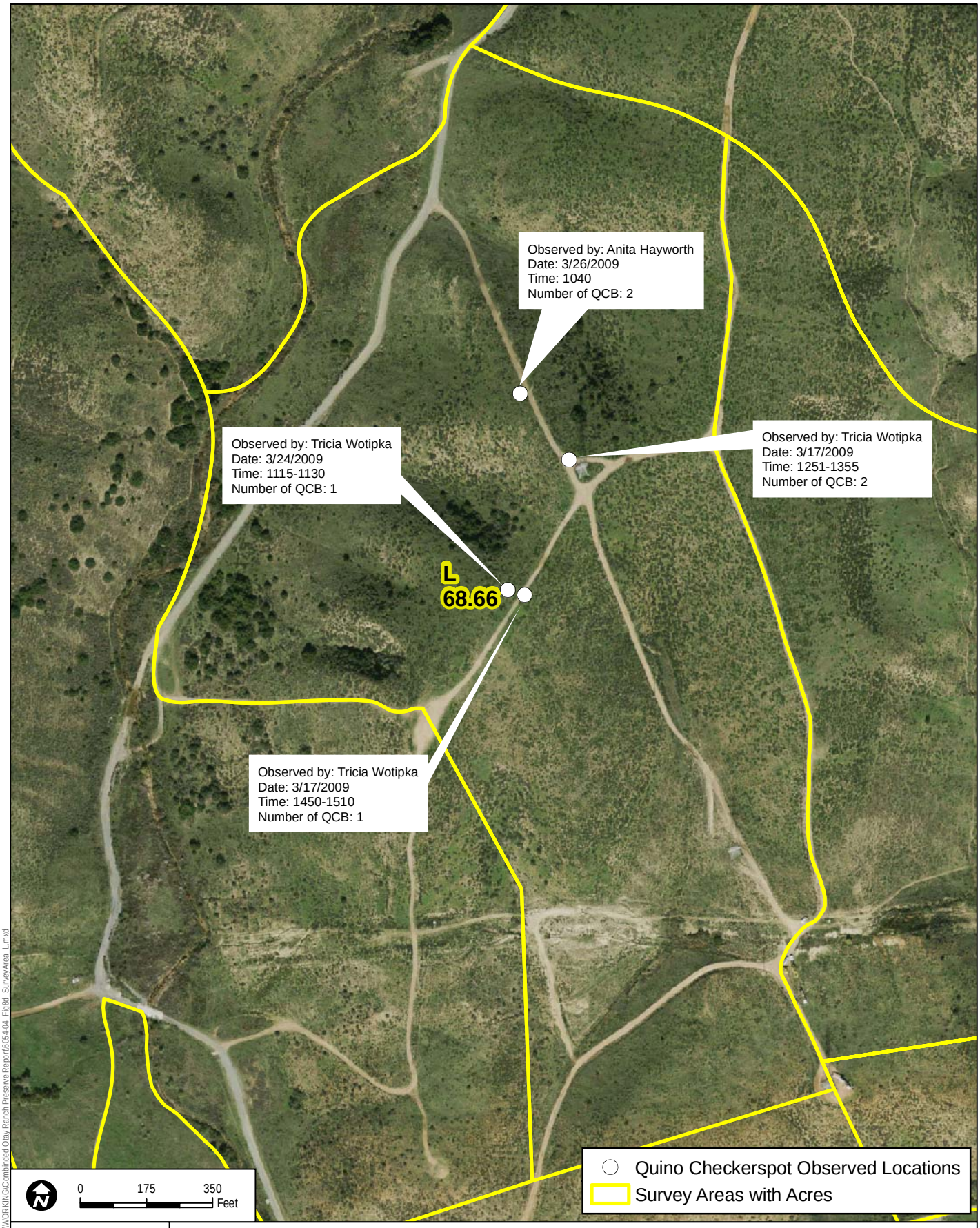

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AUGUST 2009

SOURCE: DigitabGlobe 1/2008

FIGURE 8d

Quino Checkerspot Observations - Survey Area L

Existing Conditions Report - Otay Ranch Preserve

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5.0 LIST OF PREPARERS AND PERSONS AND ORGANIZATIONS CONTACTED

This report was prepared by Dudek biologists Katie Dayton, Dave Fleitner, Vipul Joshi, Paul Lemons, Sherri Miller, and Brock Ortega. Dudek biologist Brock Ortega provided review assistance and coordination with the client and County as the County Approved biologist. Graphics and GIS mapping and analyses were provided by Lisa Lubeley, Simon Kedward, and Andrew Greis. Julie Corrales, Lies Berault, and Mark Lathram formatted the document.

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APPENDIX A

Plant Species Observed at
Otay Ranch Preserve – Salt Creek

APPENDIX A
Plant Species Observed at Otay Ranch Preserve – Salt Creek

VASCULAR PLANT SPECIES

LYCOPODS

***SELAGINELLACEAE* – SPIKE-MOSS FAMILY**

Selaginella bigelovii – Bigelow's spike-moss

CONIFERS

***CUPRESSACEAE* – CYPRESS FAMILY**

Cupressus forbesii – tecate cypress

ANGIOSPERMS (DICOTS)

***AIZOACEAE* – FIG-MARIGOLD FAMILY**

* *Aptenia cordifolia* – baby sun rose

***ANACARDIACEAE* – SUMAC FAMILY**

Malosma laurina – laurel sumac

Rhus integrifolia – lemonadeberry

* *Schinus molle* – Peruvian pepper tree

***APIACEAE* – CARROT FAMILY**

* *Apium graveolens* – celery

* *Conium maculatum* – common poison hemlock

Daucus pusillus – rattlesnake weed

* *Foeniculum vulgare* – fennel

***ASCLEPIADACEAE* – MILKWEED FAMILY**

Sarcostemma cynanchoides ssp. *hartwegii* – climbing milkweed

***ASTERACEAE* – SUNFLOWER FAMILY**

Achillea millefolium – yarrow, milfoil

Ambrosia acanthicarpa – annual bur-sage

Ambrosia psilostachya – western ragweed

Artemisia californica – California sagebrush

Artemisia douglasiana – mugwort

Baccharis pilularis – chaparral broom, coyote brush

Baccharis salicifolia – mulefat, seep-willow, water-wally

Baccharis sarothroides – broom baccharis

Bahiopsis laciniata – San Diego County viguiera
Brickellia californica – California brickellbush
* *Centaurea melitensis* – tocalote
* *Chamomilla suaveolens* – pineapple weed, rayless chamomile
* *Chrysanthemum* sp. – daisy
* *Cirsium vulgare* – bull thistle
Corethrogyne filaginifolia – sand-aster
* *Cotula coronopifolia* – brass-buttons
* *Cynara cardunculus* – cardoon, artichoke thistle
Deinandra [=*Hemizonia*] *fasciculata* – fascicled tarweed
Encelia californica – California encelia
Encelia farinosa – brittlebush, incienso
Ericameria sp. – goldenbush
Eriophyllum confertiflorum – long-stem golden yarrow
Filago californica – California filago
* *Filago gallica* – narrow-leaf filago
Gnaphalium californicum – California everlasting
* *Gnaphalium luteo-album* – white-head cudweed
Grindelia camporum var. *bracteosum* – rayless gumplant
Gutierrezia sarothrae – broom snake-weed, matchweed
* *Hedypnois cretica* – Crete hedypnois
Holocarpha virgata – graceful tarplant
Isocoma menziesii -spreading goldenbush
Iva hayesiana – San Diego marsh-elder
Osmadenia tenella – osmadenia
* *Picris echioides* – bristly ox-tongue
Psilocarphus brevissimus var. *brevissimus* – dwarf woolly-heads, woolly marbles
* *Silybum marianum* – milk thistle
* *Sonchus asper* – prickly sow thistle
* *Sonchus oleraceus* – common sow thistle
* *Taraxacum officinale* – common dandelion

***BORAGINACEAE* – BORAGE FAMILY**

Amsinckia menziesii -rancher's fireweed
Cryptantha intermedia – Nievitas cryptantha
Heliotropium curassavicum – salt heliotrope
Pectocarya linearis ssp. *ferocula* – slender pectocarya

***BRASSICACEAE* – MUSTARD FAMILY**

* *Brassica nigra* – black mustard
* *Capsella bursa-pastoris* – shepherd's purse
* *Cardaria draba* – heart-podded hoary cress
* *Hirschfeldia incana* – short-pod mustard
Lepidium nitidum – shining peppergrass
Rorippa nasturtium-aquaticum – water cress

***CACTACEAE* – CACTUS FAMILY**

Ferocactus viridescens – coast barrel cactus
Cylindropuntia prolifera – cholla
Mammillaria dioica – fish-hook cactus
Opuntia basilaris – beavertail cactus
Opuntia littoralis – coastal prickly-pear

***CAPPARACEAE* – CAPER FAMILY**

Isomeris arborea – bladderpod

***CAPRIFOLIACEAE* – HONEYSUCKLE FAMILY**

Sambucus mexicana – blue elderberry

***CARYOPHYLLACEAE* – PINK FAMILY**

* *Silene gallica* – common catchfly
* *Spergularia villosa* – villous sand-spurry

***CHENOPODIACEAE* – GOOSEFOOT FAMILY**

Atriplex pacifica – south coast saltbush
* *Atriplex semibaccata* – Australian saltbush
* *Chenopodium album* – pigweed, lamb's-quarters
* *Salsola tragus* – Russian thistle, tumbleweed

***CONVOLVULACEAE* – MORNING-GLORY FAMILY**

Calystegia macrostegia – morning-glory
* *Convolvulus arvensis* – bindweed, orchard morning-glory
Dichondra occidentalis – western dichondra

***CRASSULACEAE* – STONECROP FAMILY**

Crassula connata – pygmy-weed
Dudleya lanceolata – lanceleaf or coastal dudleya
Dudleya pulverulenta – chalky live-forever

***CUCURBITACEAE* – GOURD FAMILY**

Marah macrocarpus – manroot, wild-cucumber

***ERICACEAE* – HEATH FAMILY**

Arctostaphylos sp. – manzanita

***EUPHORBIACEAE* – SPURGE FAMILY**

Chamaesyce albomarginata – rattlesnake weed
Eremocarpus setigerus – doveweed

***FABACEAE* – PEA FAMILY**

Astragalus sp. – locoweed
Lotus purshianus var. *purshianus* – Spanish-clover
Lotus scoparius – deerweed
Lupinus succulentis – arroyo lupine
* *Medicago lupulina* – black medick, yellow trefoil
* *Melilotus indica* – sourclover
Trifolium sp. – clover

***FAGACEAE* – OAK FAMILY**

Quercus agrifolia – coast live oak, encina
Quercus berberidifolia – scrub oak

***GENTIANACEAE* – GENTIAN FAMILY**

Centaurium venustum – canchalagua

***GERANIACEAE* – GERANIUM FAMILY**

* *Erodium botrys* – long-beak filaree/storksbill
* *Erodium cicutarium* – red-stemmed filaree/storksbill
* *Geranium* sp. – geranium

***HYDROPHYLLACEAE* – WATERLEAF FAMILY**

Eriodictyon trichocalyx – hairy yerba santa
Phacelia cicutaria – caterpillar phacelia

***LAMIACEAE* – MINT FAMILY**

* *Marrubium vulgare* – horehound
Salvia apiana – white sage
Salvia mellifera – black sage

***LYTHRACEAE* – LOOSESTRIFE FAMILY**

* *Lythrum hyssopifolia* – grass poly

***MALVACEAE* – MALLOW FAMILY**

Malacothamnus fasciculatus – chaparral bushmallow

* *Malva parviflora* – cheeseweed, little mallow

Sidalcea malviflora – checker-bloom

***MYRTACEAE* – MYRTLE FAMILY**

* *Eucalyptus* sp. – eucalyptus

* *Eucalyptus globulus* – blue gum

***NYCTAGINACEAE* – FOUR O'CLOCK FAMILY**

Mirabilis laevis var. *crassifolia* – wishbone bush

***ONAGRACEAE* – EVENING-PRIMROSE FAMILY**

Camissonia bistorta – California sun cup

***OXALIDACEAE* – WOOD-SORREL FAMILY**

Oxalis albicans – California wood-sorrel

***PAPAVERACEAE* – POPPY FAMILY**

Eschscholzia californica – California poppy

Romneya coulteri – Coulter’s matilija poppy

***PLANTAGINACEAE* – PLANTAIN FAMILY**

Plantago erecta – dot-seed plantain

***PLATANACEAE* – SYCAMORE FAMILY**

Platanus racemosa – western sycamore

***POLEMONIACEAE* – PHLOX FAMILY**

Gilia sp. – gilia

Navarretia hamata – hooked skunkweed

***POLYGONACEAE* – BUCKWHEAT FAMILY**

Chorizanthe fimbriata – fringed spineflower

Eriogonum fasciculatum – California buckwheat

* *Rumex crispus* – curly dock

***PORTULACACEAE* – PURSLANE FAMILY**

Claytonia perfoliata var. *perfoliata* – miner's-lettuce

***PRIMULACEAE* – PRIMROSE FAMILY**

* *Anagallis arvensis* – poor man's weatherglass, scarlet pimpernel
Dodecatheon clevelandii – Padre's shooting star

***RANUNCULACEAE* – CROWFOOT FAMILY**

Delphinium parryi – Parry's larkspur

***RHAMNACEAE* – BUCKTHORN FAMILY**

Rhamnus crocea – spiny redberry

***ROSACEAE* – ROSE FAMILY**

Adenostoma fasciculatum – chamise
Heteromeles arbutifolia – toyon, Christmas berry
Rosa californica – California rose

***RUBIACEAE* – MADDER FAMILY**

Galium angustifolium – narrow-leaved bedstraw
* *Galium aparine* – goose grass
Galium nuttallii ssp. *nutallii* – San Diego bedstraw

***SALICACEAE* – WILLOW FAMILY**

Populus fremontii ssp. *fremontii* – alamo or Fremont cottonwood
Salix sp. – willow
Salix exigua – narrow-leaved willow
Salix gooddingii – Goodding's black willow
Salix lasiolepis – arroyo willow

***SCROPHULARIACEAE* – FIGWORT FAMILY**

Antirrhinum coulterianum – Coulter's snapdragon
Antirrhinum nuttallianum – Nuttall's snapdragon
Castilleja affinis – coast paintbrush
Mimulus aurantiacus – coast monkey flower, bush monkey flower

***SIMMONDSIACEAE* – JOJOBA FAMILY**

Simmondsia chinensis – jojoba, goatnut

***SOLANACEAE* – NIGHTSHADE FAMILY**

Datura wrightii – jimson weed
Lycium andersonii – waterjacket
* *Nicotiana glauca* – tree tobacco
Solanum douglasii – Douglas' nightshade

***TAMARICACEAE* – TAMARISK FAMILY**

* *Tamarix ramosissima* – salt-cedar, Mediterranean tamarisk

***URTICACEEAE* – NETTLE FAMILY**

Urtica dioica – hoary nettle

***VERBENACEAE* – VERVAIN FAMILY**

Verbena menthifolia – mint-leaf vervain

ANGIOSPERMS (MONOCOTS)

***CYPERACEAE* – SEDGE FAMILY**

Bolboschoenus maritimus ssp. *paludosus* – prairie bulrush
Eleocharis macrostachya – pale spike-sedge

***IRIDACEAE* – IRIS FAMILY**

Sisyrinchium bellum – blue-eyed-grass

***JUNCACEAE* – RUSH FAMILY**

Juncus acutus ssp. *leopoldi*- southwestern spiny rush

***LILIACEAE* – LILY FAMILY**

Bloomeria crocea – common goldenstar
Calochortus splendens – splendid mariposa lily
Chlorogalum parviflorum – small-flowered soap plant
Dichelostemma capitatum ssp. *capitatum* – blue dicks
Yucca whipplei – our lord's candle

***POACEAE* – GRASS FAMILY**

Achnatherum coronatum – giant stipa
Achnatherum diegoensis – San Diego County needlegrass
Aristida adscensionis – six weeks three-awn
* *Arundo donax* – giant reed
* *Avena barbata* – slender wild oat
* *Avena fatua* – wild oat
Bothriochloa barbinodis – cane bluestem
* *Brachypodium distachyon* – purple falsebrome
* *Bromus diandrus* – ripgut grass
* *Bromus hordeaceus* – soft chess
* *Bromus madritensis* – foxtail chess
* *Cortaderia selloana* – pampas grass

* *Cynodon dactylon* – Bermuda grass
Distichlis spicata – saltgrass
* *Hordeum* sp. – barley
* *Lamarckia aurea* – golden-top
* *Lolium multiflorum* – Italian ryegrass
* *Lolium perenne* – perennial ryegrass
Melica imperfecta – coast range melic
Nassella lepida – foothill needlegrass
Nassella pulchra – purple needlegrass
* *Polypogon monspeliensis* – annual beard grass
Sporobolus airoides – alkali sacaton
* *Vulpia myuros* – rattail fescue

***TYPHACEAE* – CATTAIL FAMILY**
Typha angustifolia – narrow-leaved cattail

* signifies introduced (non-native) species

APPENDIX B

Plant Species Observed at
Otay Ranch Preserve – San Ysidro

APPENDIX B
Plant Species Observed at Otay Ranch Preserve – San Ysidro

VASCULAR PLANT SPECIES

LYCOPODS

***SELAGINELLACEAE* – SPIKE-MOSS FAMILY**

Selaginella bigelovii – Bigelow's spike-moss
Selaginella cinerascens – ashy spike-moss

***DENNSTAEDTIACEAE* – BRACKEN FAMILY**

Pteridium aquilinum var. *pubescens* – western bracken

***PTERIDACEAE* – BRAKE FAMILY**

Adiantum jordani – California maiden-hair
Pellaea andromedifolia – coffee fern
Pentagramma triangularis – silverback fern

CONIFERS

***CUPRESSACEAE* – CYPRESS FAMILY**

Cupressus forbesii – Tecate cypress

ANGIOSPERMS (DICOTS)

***ALLIACEAE* – ONION FAMILY**

Allium haematochiton – *redskin onion*

***ANACARDIACEAE* – SUMAC FAMILY**

Malosma laurina – laurel sumac
Rhus integrifolia – lemonadeberry
Toxicodendron diversilobum – western poison oak

***APIACEAE* – CARROT FAMILY**

Daucus pusillus – rattlesnake weed
* *Foeniculum vulgare* – fennel
Lomatium lucidum – shiny lomatium
Sanicula bipinnata – poison sanicle

***ASCLEPIADACEAE* – MILKWEED FAMILY**

Asclepias fascicularis – narrow-leaf milkweed

***ASTERACEAE* – SUNFLOWER FAMILY**

Achillea millefolium – yarrow, milfoil
Acourtia microcephala – sacapellote
Artemisia californica – California sagebrush
Artemisia dracunculus – tarragon
Baccharis pilularis – chaparral broom, coyote brush
Baccharis salicifolia – mule fat, seep-willow, water-wally
Baccharis sarothroides – broom baccharis
Bahiopsis laciniata – San Diego sunflower
Brickellia californica – California brickellbush
* *Centaurea melitensis* – tocalote
Chaenactis artemisiifolia – Artemisia pincushion
* *Cirsium vulgare* – bull thistle
Corethrogyne filaginifolia – California-aster
Deinandra [=*Hemizonia*] *fasciculata* – fascicled tarweed
Erigeron foliosus var. *foliosus*- leafy daisy
Eriophyllum confertiflorum var. *confertiflorum* – long-stem golden yarrow
* *Filago gallica* – narrow-leaf filago
Gnaphalium bicolor – bicolor cudweed
Gnaphalium canescens var. *beneolens* – white everlasting
Grindelia sp. – gumplant
Hazardia squarrosa ssp. *grindelioides* – saw-toothed goldenbush
Heterotheca grandiflora – telegraph weed
Isocoma menziesii – spreading goldenbush
Iva hayesiana – San Diego marsh-elder
* *Lactuca serriola* – prickly lettuce
Microseris douglasii – Douglas' microseris
Osmadenia tenella – osmadenia
Porophyllum gracile – odora
* *Silybum marianum* – milk thistle
Solidago sp. – goldenrod
* *Sonchus asper* – prickly sow thistle
Stephanomeria virgata ssp. *virgata* – virgate wreath-plant
Uropappus lindleyi – silver puffs

***BORAGINACEAE* – BORAGE FAMILY**

Amsinckia menziesii -rancher's fireweed
Cryptantha sp. – cryptantha

***BRASSICACEAE* – MUSTARD FAMILY**

* *Hirschfeldia incana* – short-pod mustard
Lepidium nitidum – shining peppergrass
Thysanocarpus curvipes – field penny-cress, fan weed

***CACTACEAE* – CACTUS FAMILY**

Ferocactus viridescens – coast barrel cactus

***CAPRIFOLIACEAE* – HONEYSUCKLE FAMILY**

Lonicera subspicata var. *denudata* – southern honeysuckle
Sambucus mexicana – blue elderberry

***CARYOPHYLLACEAE* – PINK FAMILY**

* *Silene gallica* – common catchfly

***CHENOPODIACEAE* – GOOSEFOOT FAMILY**

* *Salsola tragus* – Russian thistle, tumbleweed

***CISTACEAE* – ROCK-ROSE FAMILY**

Helianthemum scoparium -peak rush-rose

***CONVOLVULACEAE* – MORNING-GLORY FAMILY**

Calystegia macrostegia – morning-glory

***CRASSULACEAE* – STONECROP FAMILY**

Dudleya edulis – ladies' fingers
Dudleya pulverulenta – chalky live-forever

***CUCURBITACEAE* – GOURD FAMILY**

Marah macrocarpus var. *macrocarpus* – manroot, wild-cucumber

***CUSCUTACEAE* – DODDER FAMILY**

Cuscuta californica – dodder

***ERICACEAE* – HEATH FAMILY**

Arctostaphylos glandulosa – manzanita
Xylococcus bicolor – mission manzanita

***EUPHORBIACEAE* – SPURGE FAMILY**

Chamaesyce albomarginata – rattlesnake weed

***FABACEAE* – PEA FAMILY**

Lathyrus vestitus – sweet pea
Lotus scoparius var. *scoparius* – deerweed
Lupinus sp. – lupine
Pickeringia montana var. *tomentosa* – chaparral-pea
Trifolium sp. – clover

***FAGACEAE* – OAK FAMILY**

Quercus agrifolia var. *agrifolia* – coast live oak, encina
Quercus berberidifolia – scrub oak

***GENTIANACEAE* – GENTIAN FAMILY**

Centaurium venustum – canchalagua

***GERANIACEAE* – GERANIUM FAMILY**

* *Erodium botrys* – long-beak filaree/storksbill
* *Erodium cicutarium* – red-stemmed filaree/storksbill

***GROSSULARIACEAE* – CURRANT FAMILY**

Ribes sp. – gooseberry

***HYDROPHYLLACEAE* – WATERLEAF FAMILY**

Eriodictyon trichocalyx var. *trichocalyx* – hairy yerba santa
Phacelia cicutaria – caterpillar phacelia
Phacelia parryi – Parry's phacelia

***LAMIACEAE* – MINT FAMILY**

Salvia apiana – white sage
Salvia mellifera – black sage
Stachys ajugoides var. *rigida* – hillside hedge-nettle

***MALVACEAE* – MALLOW FAMILY**

Malacothamnus fasciculatus – chaparral bushmallow
* *Malva parviflora* – cheeseweed, little mallow
Sidalcea malviflora – checker-bloom

***NYCTAGINACEAE* – FOUR O'CLOCK FAMILY**

Mirabilis laevis var. *crassifolia* – wishbone bush

***ONAGRACEAE* – EVENING-PRIMROSE FAMILY**

Clarkia purpurea – clarkia
Epilobium canum ssp. *canum* – California fuchsia, zauchernia

***OXALIDACEAE* – WOOD-SORREL FAMILY**

Oxalis albicans – California wood-sorrel

***PAPAVERACEAE* – POPPY FAMILY**

Eschscholzia californica – California poppy
Romneya trichocalyx – hairy matilija poppy

***PLANTAGINACEAE* – PLANTAIN FAMILY**

* *Plantago* sp. – plantain

***PLATANACEAE* – SYCAMORE FAMILY**

Platanus racemosa – western sycamore

***POLYGONACEAE* – BUCKWHEAT FAMILY**

Chorizanthe fimbriata – fringed spineflower
Chorizanthe staticoides – Turkish rugging
Eriogonum fasciculatum var. *foliolosum* – California buckwheat
* *Rumex crispus* – curly dock

***PORTULACACEAE* – PURSLANE FAMILY**

Claytonia perfoliata – miner's-lettuce

***PRIMULACEAE* – PRIMROSE FAMILY**

Dodecatheon clevelandii ssp. *clevelandii* – Padre’s shooting star

***RANUNCULACEAE* – CROWFOOT FAMILY**

Clematis pauciflora – ropevine
Delphinium cardinale – cardinal or scarlet larkspur
Delphinium parryi ssp. *parryi* – Parry's larkspur

***RHAMNACEAE* – BUCKTHORN FAMILY**

Ceanothus oliganthus var. *oliganthus* – hairy lilac
Ceanothus tomentosus – Ramona-lilac
Rhamnus crocea – spiny redberry
Rhamnus ilicifolia – holly-leaf redberry

***ROSACEAE* – ROSE FAMILY**

Adenostoma fasciculatum – chamise
Cercocarpus minutiflorus – San Diego mountain-mahogany
Heteromeles arbutifolia – toyon, Christmas berry
Prunus ilicifolia – islay, holly-leaf cherry
Rosa californica – California rose
Rosa minutifolia – small-leaved rose

***RUBIACEAE* – MADDER FAMILY**

Galium angustifolium – narrow-leaved bedstraw

***SALICACEAE* – WILLOW FAMILY**

Salix gooddingii – Goodding's black willow
Salix laevigata – red willow

***SCROPHULARIACEAE* – FIGWORT FAMILY**

Antirrhinum nuttallianum ssp. *nuttallianum* – Nuttall's snapdragon
Castilleja affinis ssp. *affinis* – coast paintbrush
Keckiella cordifolia – climbing bush penstemon
Mimulus aurantiacus – coast monkey flower, bush monkey flower
Mimulus brevipes – slope semaphore
Mimulus cardinalis – scarlet monkey flower
Scrophularia californica var. *floribunda* – California figwort

***SOLANACEAE* – NIGHTSHADE FAMILY**

Solanum douglasii – Douglas' nightshade

***TAMARICACEAE* – TAMARISK FAMILY**

* *Tamarix ramosissima* – salt-cedar, Mediterranean tamarisk

ANGIOSPERMAE (MONOCOTYLEDONES)

***CYPERACEAE* – SEDGE FAMILY**

* *Cyperus* sp. – flatsedge

***IRIDACEAE* – IRIS FAMILY**

Sisyrinchium bellum – blue-eyed-grass

***JUNCACEAE* – RUSH FAMILY**

Juncus acutus ssp. *leopoldi*- southwestern spiny rush

***LILIACEAE* – LILY FAMILY**

Brodiaea sp. – brodiaea
Calochortus dunnii – Dunn's mariposa lily
Calochortus splendens – splendid mariposa lily
Calochortus weedii var. *weedii* – Weed's mariposa lily
Dichelostemma capitatum ssp. *capitatum* – blue dicks
Yucca whipplei – our lord's candle

***POACEAE* – GRASS FAMILY**

Achnatherum coronatum – giant stipa
Agrostis sp. – bent grass
* *Avena barbata* – slender wild oat
* *Brachypodium distachyon* – purple falsebrome
* *Bromus diandrus* – ripgut grass
* *Bromus hordeaceus* – soft chess
* *Bromus madritensis* ssp. *rubens* – foxtail chess
* *Cortaderia selloana* – pampas grass
* *Gastridium ventricosum* – nit grass
Hordeum sp. – barley
* *Lolium perenne.* – perennial ryegrass
Melica imperfecta – coast range melic
Muhlenbergia rigens – deergrass
Muhlenbergia microsperma – littleseed muhly
Nassella pulchra – purple needlegrass
* *Phalaris aquatica* – harding grass
* *Polypogon monspeliensis* – annual beard grass
* *Vulpia myuros* – rattail fescue

***THEMIDACEAE* – BRODIAEA FAMILY**

Muilla clevelandii – San Diego goldenstar

***TYPHACEAE* – CATTAIL FAMILY**

Typha domingensis – slender cattail

* signifies introduced (non-native) species

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APPENDIX C

Wildlife Species Observed or Detected at Otay Ranch Preserve

APPENDIX C
Wildlife Species Observed or Detected at Otay Ranch Preserve

VERTEBRATES

REPTILES

IGUANIDAE – IGUANID LIZARDS

Phrynosoma coronatum – coast horned lizard
Sceloporus occidentalis – western fence lizard
Uta stansburiana – side-blotched lizard

TEIIDAE – WHIPTAIL LIZARDS

Aspidoscelis tigris – tiger whiptail
Aspidoscelis hyperythrus – orange-throated whiptail

ANGUIDAE – ALLIGATOR LIZARDS

Gerrhonotus multicarinatus – southern alligator lizard

COLUBRIDAE – COLUBRID SNAKES

Lampropeltis getulus – common kingsnake
Masticophis lateralis – California whipsnake
Salvadora hexalepis virgultea – coast patch-nosed snake
Tantilla planiceps – western black-headed snake

VIPERIDAE – VIPERS

Crotalus atrox – western diamondback rattlesnake
Crotalus ruber – red-diamond rattlesnake

BIRDS

ANATIDAE – WATERFOWL

Anas platyrhynchos – mallard

ARDEIDAE – HERONS

Butorides virescens – green heron
Ardea alba – great egret
Nycticorax nycticorax – black-crowned night-heron

ANATIDAE – WATERFOWL

Anas platyrhynchos – mallard

CATHARTIDAE – NEW WORLD VULTURES

Cathartes aura – turkey vulture

***ACCIPITRIDAE* – HAWKS**

Accipiter cooperii – Cooper's hawk
Accipiter striatus – sharp-shinned hawk
Buteo jamaicensis – red-tailed hawk
Buteo lineatus – red-shouldered hawk

***FALCONIDAE* – FALCONS**

Falco sparverius – American kestrel

***PHASIANIDAE* – PHEASANTS AND QUAILS**

Callipepla californica – California quail

***CHARADRIIDAE* – PLOVERS**

Charadrius vociferus – killdeer

***RALLIDAE* – RAILS AND GALLINULES**

Fulica americana – American coot

***LARIDAE* – GULLS AND TERNS**

Larus sp. – gull

***COLUMBIDAE* – PIGEONS AND DOVES**

* *Columba livia* – rock dove
Zenaida macroura – mourning dove

***CUCULIDAE* – CUCKOOS AND ROADRUNNERS**

Geococcyx californianus – greater roadrunner

***TYTONIDAE* – BARN OWLS**

Tyto alba – barn owl

***STRIGIDAE* – TRUE OWLS**

Bubo virginianus – great horned owl

***APODIDAE* – SWIFTS**

Aeronautes saxatalis – white-throated swift

***CAPRIMULGIDAE* – GOATSUCKERS**

Chordeiles acutipennis – lesser nighthawk

***TROCHILIDAE* – HUMMINGBIRDS**

Calypte anna – Anna's hummingbird
Calypte costae – Costa's hummingbird
Selasphorus rufus – rufous hummingbird

***TYRANNIDAE* – TYRANT FLYCATCHERS**

Sayornis nigricans – black phoebe
Sayornis saya – Say's phoebe
Tyrannus vociferans – Cassin's kingbird
Tyrannus verticalis – western kingbird

***ALAUDIDAE* – LARKS**

Eremophila alpestris – horned lark

***HIRUNDINIDAE* – SWALLOWS**

Petrochelidon pyrrhonota – cliff swallow
Stelgidopteryx serripennis – northern rough-winged swallow
Tachycineta thalassina – violet-green swallow

***CORVIDAE* – JAYS AND CROWS**

Aphelocoma californica – western scrub-jay
Corvus brachyrhynchos – American crow
Corvus corax – common raven

***AEGITHALIDAE* – BUSHTITS**

Psaltriparus minimus – bushtit

***TROGLODYTIDAE* – WRENS**

Campylorhynchus brunneicapillus – cactus wren
Cistothorus palustris – marsh wren
Salpinctes obsoletus – rock wren
Thryomanes bewickii – Bewick's wren
Troglodytes aedon – house wren

***SYLVIIDAE* – GNATCATCHERS**

Polioptila caerulea – blue-gray gnatcatcher
Polioptila californica – California gnatcatcher

***TIMALIIDAE* – LAUGHINGTHRUSH AND WRENTIT**

Chamaea fasciata – wrentit

***MIMIDAE* – THRASHERS**

Mimus polyglottos – northern mockingbird
Toxostoma redivivum – California thrasher

***LANIIDAE* – SHRIKES**

Lanius ludovicianus – loggerhead shrike

***PTILOGONATIDAE* – SILKY-FLYCATCHERS**

Phainopepla nitens – phainopepla

***STURNIDAE* – STARLINGS**

* *Sturnus vulgaris* – European starling

***VIREONIDAE* – VIREOS**

Vireo bellii pusillus – least Bell's vireo

***PARULIDAE* – WOOD WARBLERS**

Dendroica coronata – yellow-rumped warbler
Geothlypis trichas – common yellowthroat
Icteria virens – yellow-breasted chat

***EMBERIZIDAE* – BUNTINGS AND SPARROWS**

Aimophila ruficeps – rufous-crowned sparrow
Ammodramus savannarum – grasshopper sparrow
Amphispiza belli – sage sparrow
Chondestes grammacus – lark sparrow
Melospiza melodia – song sparrow
Passerculus sandwichensis – Savannah sparrow
Pipilo crissalis – California towhee
Pipilo maculatus – spotted towhee
Zonotrichia leucophrys – white-crowned sparrow

***CARDINALIDAE* – CARDINALS AND GROSBEAKS**

Passerina caerulea – blue grosbeak

***ICTERIDAE* – BLACKBIRDS AND ORIOLES**

Agelaius phoeniceus – red-winged blackbird
Icterus bullockii – Bullock's oriole
Sturnella neglecta – western meadowlark

***FRINGILLIDAE* – FINCHES**

Carpodacus mexicanus – house finch
Carduelis psaltria – lesser goldfinch

MAMMALS

***LEPORIDAE* – HARES AND RABBITS**

Lepus californicus – black-tailed jackrabbit
Sylvilagus bachmani – brush rabbit

***SCIURIDAE* – SQUIRRELS**

Spermophilus beecheyi – California ground squirrel

***GEOMYIDAE* – POCKET GOPHERS**

Thomomys bottae – Botta's pocket gopher

***HETEROMYIDAE* – POCKET MICE AND KANGAROO RATS**

Dipodomys agilis – agile (Pacific) kangaroo rat
Dipodomys merriami – Merriam's kangaroo rat

***MURIDAE* – RATS AND MICE**

Microtis californicus – California vole
Neotoma sp. – woodrat (midden)
Peromyscus maniculatus – deer mouse

***CANIDAE* – WOLVES AND FOXES**

Canis latrans – coyote
Urocyon cinereoargenteus – gray fox

***PROCYONIDAE* – RACCOONS AND RELATIVES**

Procyon lotor – common raccoon

***FELIDAE* – CATS**

Felis concolor – mountain lion (scat)
Lynx rufus – bobcat

***CERVIDAE* – DEERS**

Odocoileus hemionus – mule deer

WILDLIFE SPECIES – INVERTEBRATES

BUTTERFLIES AND MOTHS

***HESPERIIDAE* – SKIPPERS**

Erynnis funeralis – funereal duskywing

***PAPILIONIDAE* – SWALLOWTAILS**

Papilio rutulus – tiger swallowtail
Papilo zelicaon lucas – anise swallowtail
Papilo zelicaon lucas – anise swallowtail

***PIERIDAE* – WHITES AND SULFURS**

Anthocharis sara sara – Pacific Sara orangetip
Colias eurytheme – orange sulfur
Colias Eurydice – California dogface
Pieris rapae rapae – cabbage butterfly
Pontia protodice – checkered white
Pontia sisymbrii – California white

***RIODINIDAE* – METALMARKS**

Apodemia mormo virgulti – Behr's metalmark

***LYCAENIDAE* – BLUES, HAIRSTREAKS, AND COPPERS**

Brephidium exile – western pygmy blue
Callophrys dumetorum perplexa – perplexing hairstreak
Glaucopsyche lygdamus australis – southern blue
Icaria acmon acmon – acmon blue
Incisalia augustinus iriodes – western brown elfin
Leptotes marina – marine blue

***NYMPHALIDAE* – BRUSH-FOOTED BUTTERFLIES**

Chlosyne gabbii gabbii – Gabb's checkerspot
Coenonympha californica californica – California ringlet
Danaus gilippus – queen
Euphydryas editha quino – quino checkerspot
Junonia coenia – buckeye
Vanessa annabella – west coast lady
Vanessa atalanta – red admiral

Vanessa cardui – painted lady
Vanessa virginiensis – Virginia lady

* signifies introduced (non-native) species

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APPENDIX D

Sensitive Plant Species Detected or Potentially Occurring at Otay Ranch Preserve

APPENDIX D
Sensitive Plant Species Detected or Potentially Occurring at Otay Ranch Preserve

Scientific Name	Common Name	Status Federal/ State/ County	CNPS	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range	Status on Site or Potential to Occur – Salt Creek	Status on Site or Potential to Occur – San Ysidro
Acanthomintha ilicifolia	San Diego thorn-mint	FT/SE/ MSCP NE	1B.1	Chaparral, coastal scrub, valley and foothill grassland, vernal pools; clay/ annual herb/ April–June/ 30–3,150 feet (ft.)	Not expected; would have been detected during surveys.	Not expected; would have been detected during surveys.
Achnatherum diegoense	San Diego County needle grass	None/None/ None	4.2	Chaparral, coastal scrub; rocky, often mesic/ perennial herb/ February–June/ 30–2,300 ft.	Not expected; would have been detected during surveys.	Not expected; would have been detected during surveys.
Adolphia californica	California adolphia	None/None/ None	2.1	Chaparral, coastal scrub, valley and foothill grassland; clay/ deciduous shrub/ December–May/ 150–2,430 ft.	Not expected; would have been detected during surveys.	Not expected; would have been detected during surveys.
Agave shawii	Shaw's agave	None/None/ MSCP NE	2.1	Coastal bluff scrub, coastal scrub/ leaf succulent/September–May/ 30–250 ft.	Not expected; would have been detected during surveys.	Not expected; would have been detected during surveys.
Ambrosia chenopodiifolia	San Diego bur-sage	None/None/ None	2.1	Coastal scrub/ shrub/ April–June/ 180–500 ft.	Not expected; would have been detected during surveys.	Not expected; would have been detected during surveys.
Ambrosia monogyra	Singlewhort burrobrush	None/None/ None	2.2	Chaparral, Sonoran desert scrub; sandy/ shrub/ August–November/ 30–1,650 ft.	Not expected; would have been detected during surveys.	Not expected; would have been detected during surveys.
Ambrosia pumila	Dwarf burr ambrosia	FE/None/ MSCP NE	1B.1	Chaparral, coastal scrub, valley and foothill grassland, vernal pools; often disturbed, sometimes alkaline/ rhizomatous herb/ May –October/ 60–1,360 ft.	Not expected; would have been detected during surveys.	Not expected; would have been detected during surveys.
Aphanisma blitoides	Aphanisma	None/None/ MSCP	1B.2	Coastal bluff scrub, coastal dunes, coastal scrub; sandy/ annual herb/ March –June/ <1,000 ft.	Not expected; would have been detected during surveys.	Not expected; would have been detected during surveys.
Arctostaphylos glandulosa ssp. *crassifolia*	Del Mar manzanita	FE/ None/ MSCP	1B.1	Maritime chaparral; sandy/ evergreen shrub/ December–June/ < 1,200 ft.	Not expected; would have been detected during surveys.	Not expected; would have been detected during surveys.

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Arctostaphylos otayensis	Otay manzanita	None/None/ MSCP	1B.2	Chaparral, cismontane woodland; metavolcanic/ evergreen shrub/ January–March/ 900–5,600 ft.	Not expected; would have been detected during surveys.	Not expected; would have been detected during surveys.
Artemisia palmeri	San Diego sagewort	None/None/ None	4.2	Chaparral, coastal scrub, riparian forest, scrub, and woodland; sandy, mesic/ deciduous shrub/ May–September/ 50–3,000 ft.	Not expected; would have been detected during surveys.	Not expected; would have been detected during surveys.
Asplenium vespertinum	Western spleenwort	None/None/ None	4.2	Chaparral, cismontane woodland, coastal scrub; rocky/ February–June/ 600–3,300 ft.	Not expected; would have been detected during surveys.	Not expected; would have been detected during surveys.
Astragalus deanei	Dean's milk-vetch	None/None/ None	1B.1	Chaparral, coastal scrub, riparian forest / perennial herb/ February–May/ 250–2,200 ft.	Not expected; would have been detected during surveys.	Not expected; would have been detected during surveys.
Astragalus oocarpus	San Diego milk-vetch	None/None/ None	1B.2	Chaparral (openings), cismontane woodland/perennial herb/ May–August/ 1,000–5,000 ft.	Not expected; would have been detected during surveys.	Not expected; would have been detected during surveys.
Astragalus tener var. *titi*	Coastal dunes milk-vetch	FE/SE/ MSCP	1B.1	Coastal bluff scrub, coastal dunes, coastal prairie; mesic, often vernally mesic/ annual herb/ March–May/ < 170 ft.	Not expected; would have been detected during surveys.	Not expected; would have been detected during surveys.
Atriplex coulteri	Coulter's saltbush	None/None/ None	1B.2	Coastal bluff scrub, coastal dunes, coastal scrub, valley and foothill grassland; alkaline or clay/ perennial herb/ March–October/ 10–1,500 ft.	Not expected; would have been detected during surveys.	Not expected; would have been detected during surveys.
Atriplex pacifica	South Coast saltscale	None/None/ None	1B.2	Coastal bluff scrub, coastal dunes, coastal scrub, playas/ annual herb/ March–October/ < 500 ft.	One individual on a slope in the central portion of the site, another individual in the west-central portion, and seven individuals in two separate occurrences mapped along the eastern boundary.	Not expected; would have been detected during surveys.

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Baccharis vanessae	Encinitas baccharis	FT/SE/ MSCP NE	1B.1	Chaparral, cismontane woodland; sandstone/ deciduous shrub/ August–November/ 200–2,400 ft.	Low potential to occur. Not observed during surveys however timing of the surveys was not optimal for detection.	Moderate potential to occur. Not observed during surveys however timing of the surveys was not optimal for detection and there is a recorded occurrence on Otay Mountain, which has a similar elevation.
Berberis nevinii	Nevin's barberry	FE/SE/ MSCP NE	1B.1	Chaparral, cismontane woodland, coastal scrub, riparian scrub; sandy or gravelly/ shrub/ March–April/ 900–2,700 ft.	Not expected; would have been detected during surveys.	Not expected; would have been detected during surveys.
Bergerocactus emoryi	Golden-spined cereus	None/None/ None	2.2	Closed–cone conifer forest, chaparral, coastal scrub; sandy/ shrub/ May–June/ 10–1,300 ft.	Not expected; would have been detected during surveys.	Not expected; would have been detected during surveys.
Bloomeria (=*Muilla*) *clevelandii*	San Diego goldenstar	None/None/ MSCP	1B.1	Chaparral, coastal scrub, valley and foothill grassland, vernal pools; clay/ bulbiferous herb/ April–May/ 160–1,550 ft.	Not expected; would have been detected during surveys.	Occurs throughout the site with the exception of the western and southeastern portions. Occurrences varied from as little as six individuals to much larger areas consisting of thousands of individuals.
Brodiaea filifolia	Thread-leaved brodiaea	FT/SE/ MSCP NE	1B.1	Chaparral (openings) cismontane woodland, coastal scrub, playas, valley and foothill grassland, vernal pools; often clay/ bulbiferous herb/ March–June/ 400–2,800 ft.	Not expected; would have been detected during surveys.	Not expected; would have been detected during surveys.

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Brodiaea orcuttii	Orcutt's brodiaea	None/None/ MSCP NE	1B.1	Closed–cone conifer forest, chaparral, cismontane woodland, meadows and seeps, valley and foothill grassland, vernal pools; mesic, clay, sometimes serpentine/ bulbiferous herb/ May–July/ 100–5,550 ft.	Not expected; would have been detected during surveys.	Not expected; would have been detected during surveys.
Calandrinia breweri	Brewer's calandrinia	None/None/ None	4.2	Chaparral, coastal scrub; sandy or loamy, disturbed sites and burns/ annual herb/ March–June/ 30–4,000 ft.	Not expected; would have been detected during surveys.	Not expected; would have been detected during surveys.
Calamagrostis koelerioides = *(=densa)*	Dense reed grass	None/None/ MSCP	None	Chaparral, yellow pine forest; dry hills/ rhizomatous perennial/ June – July/ < 3,000– 4,000 ft.	Not expected; would have been detected during surveys.	Not expected; would have been detected during surveys.
California (=*Erodium*) *macrophyllum*	Round-leaved filaree	None/None/ None	1B.1	Cismontane woodland, valley and foothill grassland; clay / annual herb/ March–May/ 50–4,000 ft.	Not expected; would have been detected during surveys.	Not expected; would have been detected during surveys.
Calitropsis (=*Cupressus*) *forbesii*	Tecate cypress	None/None/ MSCP	1B.1	Closed–cone conifer forest, chaparral/ evergreen tree/ NA/ 800–5,900 ft.	Fourteen localities, generally numbering between 25 and 50 individuals, were mapped in the southwestern portion of the site.	Two occurrences, generally numbering between 25 and 50 individuals, were mapped in the west-central portion of the site, one in the disturbed wetlands in the north-eastern portion of the site, and two occurrences in the south-eastern corner of the site. Five individuals were mapped in the south-central portion of the site.

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Calochortus dunnii	Dunn's mariposa lily	None/SR/ MSCP NE	1B.2	Closed–cone conifer forest, chaparral; gabbroic or metavolcanic/ bulbiferous herb/ April–June/ 1,250–6,000 ft.	Not expected; would have been detected during surveys.	Approximately 300 individuals were observed in the south-central portion of the site.
Camissonia lewisii	Lewis's evening primrose	None/None/ None	3	Coastal bluff scrub, cismontane woodland, coastal dunes, coastal scrub, valley and foothill grassland; sandy or clay/ annual herb/ March–May (June)/ <1,000 ft.	Not expected; would have been detected during surveys.	Not expected; would have been detected during surveys.
Caulanthus simulans	Payson's jewel-flower	None/None/ None	4.2	Chaparral, coastal scrub; sandy and granitic/ annual herb/ (Feb) March–May (June)/ 300–7,200 ft.	Not expected; would have been detected during surveys.	Not expected; would have been detected during surveys.
Caulanthus stenocarpus (=*C. heterophyllus* var. *hertophyllus*)	Slender-pod jewel-flower	None/None/ MSCP	None	Chaparral, coastal scrub/ annual herb; fire follower/ annual herb/ March–May/ < 4,250 ft.	Not expected; would have been detected during surveys.	Not expected; would have been detected during surveys.
Ceanothus cyaneus	Lakeside ceanothus	None/None/ MSCP NE	1B.2	Closed–cone conifer forest, chaparral/ evergreen shrub/ April–June/ 770–2,500 ft.	Not expected; would have been detected during surveys.	Not expected; would have been detected during surveys.
Ceanothus otayensis	Otay Mountain ceanothus	None/None/ None	1B.2	Chaparral; metavolcanic or gabbroic/ evergreen shrub / January–April/ 2,000 – 3,600 ft.	Not expected; would have been detected during surveys.	Not expected; would have been detected during surveys.
Ceanothus verrucosus	Wart-stemmed ceanothus	None/None/ MSCP	2.2	Chaparral/ evergreen shrub/ December–May/ < 1,250 ft.	Not expected; would have been detected during surveys.	Not expected; would have been detected during surveys.
Chaenactis glabriuscula var. *orcuttiana*	Orcutt's pincushion	None/ None/ None	1B.1	Coastal bluff scrub, coastal dunes/ annual herb/ January –August/ 10–330 ft.	Not expected; would have been detected during surveys.	Not expected; would have been detected during surveys.
Chamaebatia australis	Southern mountain misery	None/None/ None	4.2	Chaparral; gabbroic or metavolcanic/ evergreen shrub/ November–May/ 1,000–2,300 ft.	Not expected; would have been detected during surveys.	Not expected; would have been detected during surveys.

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Chorizanthe procumbens var. *albiflora* (current name = *C. procumbens)*	Fallbrook spineflower	None/None/ None	None	Coastal scrub, chaparral/ annual, perennial herb/ April–June/ <2,625 ft	Not expected; would have been detected during surveys.	Not expected; would have been detected during surveys.
Chorizanthe leptotheca	Peninsular spineflower	None/None/ None	4.2	Chaparral, coastal scrub, lower montane conifer forest; alluvial fan, granitic/ annual herb/ May–August/ 1,000–6,300 ft.	Not expected; would have been detected during surveys.	Not expected; would have been detected during surveys.
Clarkia delicata	Delicate clarkia	None/None/ None	1B.2	Chaparral, cismontane woodland/ annual herb/ April–June/ 770–3,300 ft.	Not expected; would have been detected during surveys.	Not expected; would have been detected during surveys.
Comarostaphylis diversifolia ssp. *diversifolia*	Summer-holly	None/None/ None	1B.2	Chaparral, cismontane woodland/ evergreen shrub/ April–June/ 100–1,800 ft.	Not expected; would have been detected during surveys.	Not expected; would have been detected during surveys.
Convolvulus simulans	Small-flowered morning-glory	None/None/ None	4.2	Chaparral (openings), coastal scrub, valley and foothill grassland; clay, serpentinite seeps/ annual herb/ March–July/ 100–2,300 ft.	Not expected; would have been detected during surveys.	Not expected; would have been detected during surveys.
Cordylanthus maritimus ssp. *maritimus*	Salt marsh bird's-beak	FE/SE/ MSCP NE	1B.2	Coastal dunes, coastal saltwater marshes and swamps/ annual herb; hemiparisitic / May–October/ < 100 ft.	Not expected; would have been detected during surveys.	Not expected; would have been detected during surveys.
Cordylanthus orcuttianus	Orcutt's bird's-beak	None/None/ MSCP	2.1	Coastal scrub/ annual herb/ (Mar) April–July (Sept)/ 30–1,150 ft.	Not expected; would have been detected during surveys.	Not expected; would have been detected during surveys.
Cordylanthus parviflorus	Small-flowered bird's-beak	None/None/ None	2.3	Joshua tree woodland, Mojavean desert scrub, pinyon and juniper woodland / hemiparasitic annual herb / August–October / 2,300 – 7,300 ft.	Not expected; no suitable habitat on site and outside elevational range.	Not expected; no suitable habitat on site and outside elevational range.

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Coreopsis maritima	Sea dahlia	None/None/ None	2.2	Coastal bluff scrub, coastal scrub/ perennial herb/ March–May/ 15–500 ft.	Not expected; would have been detected during surveys.	Not expected; would have been detected during surveys.
Corethrogyne filaginifolia var. *incana*	San Diego sand aster	None/None/ None	1B.1	Chaparral, coastal bluff scrub, coastal scrub/ perennial herb/ June–September/ 10–380 ft.	Not expected; would have been detected during surveys.	Not expected; would have been detected during surveys.
Corethrogyne filaginifolia var. *linifolia*	Del Mar Mesa sand aster	None/None/ MSCP	1B.1	Coastal bluff scrub, maritime chaparral (openings), coastal scrub; sandy/ perennial herb/ May–September/ 10–380 ft.	Not expected; would have been detected during surveys.	Not expected; would have been detected during surveys.
Deinandra [=*Hemizonia*] *conjugens*	Otay tarplant	FT/SE/ MSCP NE	1B.1	Coastal scrub, valley and foothill grassland; clay/ annual herb/ May–June/ 80–1,000 ft.	Not expected; would have been detected during surveys.	Not expected; would have been detected during surveys.
Deinandra [=*Hemizonia*] *floribunda*	Tecate tarplant	None/None/ None	1B.2	Chaparral, coastal scrub/ annual herb/ August–October/ 230–4,000 ft.	Not expected; would have been detected during surveys. Outside species range.	Not expected; would have been detected during surveys. Outside species range.
Dichondra occidentalis	Western dichondra	None/None/ None	4.2	Chaparral, cismontane woodland, coastal scrub, valley and foothill grassland/ rhizomatous herb/ March–May/ 160–1,650 ft.	One occurrence of approximately 25 individuals is mapped in the southeastern corner of the site.	There are three occurrences on site, including in the western portion, central portion, and east-central portion. Besides the easternmost occurrence, which consists of 5 individuals, occurrences typically include approximately 25 individuals.
Dudleya attenuata ssp. *orcuttii*	Orcutt's dudleya	None/None/ None	2.1	Coastal bluff scrub, chaparral, coastal scrub; rocky or gravelly/ perennial herb/ May–July/ < 165 ft.	Not expected; would have been detected during surveys	Not expected; would have been detected during surveys

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Dudleya blochmaniae spp. *blochmaniae*	Blochman's dudleya	None/None/ None	1B.1	Chaparral, coastal bluff scrub, coastal scrub, valley and foothill grassland, rocky; often clay or serpentinite/ perennial herb/ April–June/ 15–1,500 ft.	Not expected; would have been detected during surveys	Not expected; would have been detected during surveys
Dudleya brevifolia	Short-leaved dudleya	None/SE/ MSCP NE	1B.1	Maritime chaparral (openings), coastal scrub, Torrey sandstone/ perennial herb/ April/ 100–800 ft.	Not expected; would have been detected during surveys	Not expected; would have been detected during surveys
Dudleya variegata	Variegated dudleya	None/None/ MSCP NE	1B.2	Chaparral, cismontane woodland, coastal scrub, valley and foothill grassland, vernal pools; clay/ perennial herb/ April–June/ < 1,900 ft.	There is one occurrence that includes hundreds of individuals mapped just south of the one of the main roads in the northwestern portion of the site.	Not expected; would have been detected during surveys
Dudleya viscida	Sticky dudleya	None/None/ MSCP	1B.2	Coastal bluff scrub, chaparral, coastal scrub; rocky/ perennial herb/ May–June/ 30–1,800 ft.	Not expected; would have been detected during surveys	Not expected; would have been detected during surveys
Ericameria palmeri ssp. *palmeri*	Palmer's goldenbush	None/None/ MSCP NE	2.2	Chaparral, coastal scrub; mesic/ evergreen shrub/ (July) September–November	Not expected; would have been detected during surveys	Not expected; would have been detected during surveys
Eryngium aristulatum var. *hooveri*	Hoover's button-celery	None/None/ None	1B.1	Vernal pools/ annual–perennial herb/ July/ 10–150 ft.	Not expected; would have been detected during surveys	Not expected; would have been detected during surveys
Eryngium aristulatum var. *parishii*	San Diego button-celery	FE/SE/ MSCP	1B.1	Coastal scrub, valley and foothill grassland, vernal pools, mesic/annual–perennial herb/ April–June/ 60–2,000 ft.	Not expected; would have been detected during surveys	Not expected; would have been detected during surveys
Erysimum ammophilum	Sand-loving wallflower	None/None/ MSCP	1B.2	Maritime chaparral, coastal dunes, coastal scrub; sandy, openings/ perennial herb/ February–June/ <200 ft.	Not expected; would have been detected during surveys	Not expected; would have been detected during surveys

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Euphorbia misera	Cliff spurge	None/None/ None	2.2	Coastal bluff scrub, coastal scrub, Mojavean desert scrub; rocky/ shrub/ December–August/ 30–1,650 ft.	Not expected; would have been detected during surveys	Not expected; would have been detected during surveys
Ferocactus viridescens	San Diego barrel cactus	None/None/ MSCP	2.1	Chaparral, coastal scrub, valley and foothill grassland, vernal pools/ perennial stem succulent/ May–June/ < 1,500 ft.	Commonly observed on site.	Commonly observed on site.
Frankenia palmeri	Palmer's frankenia	None/None/ None	2.1	Coastal dunes, coastal saltwater marsh and swamps, playas/ perennial herb/ May–July/ < 30 ft.	Not expected; would have been detected during surveys	Not expected; would have been detected during surveys
Fraxinus parryi	Chaparral ash	None/None/ None	2.2	Chaparral/ shrub/ March–May/ 700–2,000 ft.	Not expected; would have been detected during surveys	Not expected; would have been detected during surveys
Fremontodendron mexicanum	Mexican flannelbush	FE/SR/ None	1B.1	Closed–cone conifer forest, chaparral, cismontane woodland; gabbroic, metavolcanic, or serpentinite/ evergreen shrub/ March–June/ 30–2,400 ft.	Not expected; would have been detected during surveys	Not expected; would have been detected during surveys
Grindelia hirsutula var. *hallii*	San Diego gumplant	None/None/ None	1B.2	Chaparral, lower montane conifer forest, meadows and seeps, valley and foothill grassland/ perennial herb/ July–October/ 600–5,700 ft.	Not expected; would have been detected during surveys	Not expected; would have been detected during surveys
Harpagonella palmeri	Palmer's grapplinghook	None/None/ None	4.2	Chaparral, coastal scrub, valley and foothill grassland; clay/ annual herb/ March–May/ 60–3,100 ft.	There are ten localities, each numbering approximately 1,000 or more individuals, of Palmer's grapplinghook located centrally on the Salt Creek site that were incidentally recorded during April quino checkerspot butterfly surveys. This species likely occurs in additional areas on site.	Moderate potential to occur. Focused survey conducted after blooming period. Incidental recordings on Salt Creek.

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Heterotheca sessiliflora ssp. *sessiliflora*	Beach goldenaster	None/None/ None	1B.1	Coastal dunes, coastal scrub, coastal chaparral/ annual herb/ July –November/ < 35 ft.	Not expected; would have been detected during surveys. Outside species range.	Not expected; would have been detected during surveys. Outside species range.
Holocarpha virgata ssp. *elongata*	Graceful tarplant	None/ None/ None	4.2	Chaparral, coastal scrub, cismontane woodland, chaparral , valley and foothill grassland/ annual herb/ May–November/ 200–3,600 ft.	Not expected; would have been detected during surveys	Not expected; would have been detected during surveys
Horkelia truncata	Ramona horkelia	None/None/ None	1B.3	Chaparral, cismontane woodland, clay, gabbroic/ perennial herb/ May–June/ 1,300–4,300 ft.	Not expected; would have been detected during surveys	Not expected; would have been detected during surveys
Isocoma menziesii var. *decumbens*	Decumbent goldenbush	None/None/ None	1B.2	Chaparral, coastal scrub (sandy, often disturbed areas)/ shrub/ April–November	Not expected; would have been detected during surveys	Not expected; would have been detected during surveys
Iva hayesiana	San Diego marsh-elder	None/None/ None	2.2	Marshes and swamps, playas/ perennial herb/ April–November/ 30–1,650 ft.	Ninety-two occurrences, each typically between 25 and 50 individuals, were mapped throughout the drainages on Salt Creek. These are located primarily in the western and southern portion of the site.	Seven localities were mapped within one drainage in the north-central portion of the site. In general, localities included between 25 and 50 individuals.
Juglans californica	Southern California black walnut	None/None/ None	4.2	Chaparral, cismontane woodland, coastal scrub; alluvial/ deciduous tree/ March–August/ 160–3,000 ft.	Not expected; would have been detected during surveys	Not expected; would have been detected during surveys
Juncus acutus spp. *leopoldii*	Southwestern spiny rush	None/None/ None	4.2	Coastal dunes(mesic), meadows and alkaline seeps, coastal saltwater marshes and swamps/ rhizomatous herb/ May–June/ <3,000 ft.	There are 59 occurrences, each typically numbering between 25 and 50 individuals that occur along the drainages on Salt Creek, primarily in the western and southern portions of the site.	Two localities of approximately 25 to 50 individuals occur in the eastern portion of San Ysidro and one individual is mapped at the edge of the southern mixed chaparral in the center of the site.

Scientific Name	Common Name	Status Federal/ State/ County	CNPS	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range	Status on Site or Potential to Occur – Salt Creek	Status on Site or Potential to Occur – San Ysidro
Lasthenia glabrata ssp. *coulteri*	Coulter's goldfields	None/None/ None	1B.1	Saltwater marsh and swamps, playas, vernal pools/ annual herb/ February–June/ <4,000 ft.	Not expected; would have been detected during surveys	Not expected; would have been detected during surveys
Lathyrus splendens	Pride-of-California	None/None/ None	4.3	Chaparral/ perennial herb/ May–June/ 650–5,000 ft.	Not expected; would have been detected during surveys	Not expected; would have been detected during surveys
Lepechinia cardiophylla	Heart-leaved pitcher sage	None/None/ MSCP	1B.2	Closed–cone conifer forest, chaparral, cismontane woodland/ shrub/ April–July/ 1,700–4,500 ft.	Not expected; would have been detected during surveys	Not expected; would have been detected during surveys
Lepechinia ganderi	Gander's pitcher sage	None/None/ MSCP NE	1B.3	Closed–cone conifer forest, chaparral, coastal scrub, valley and foothill grassland; gabbroic or metavolcanic/ shrub/ June–July/ 1,000–3,300 ft.	Low potential to occur. May not have been detectable at the time of focused surveys, but outside elevation range and site lacks suitable soils.	Low potential to occur. May not have been detectable at the time of focused surveys. Nearby locality recorded, but site lacks suitable soils.
Lepidium latipes var. *latipes*	Dwarf pepper-grass	None/None/ None	None	Alkaline soils, vernal pools, grasslands/ <2,600 ft.	Not expected; would have been detected during surveys	Not expected; would have been detected during surveys
Lepidium virginicum var. *robinsonii*	Robinson's pepper-grass	None/None/ None	1B.2	Chaparral, coastal scrub/ annual herb/ January–July/ < 2,900 ft.	Approximately 12 samples were examined from throughout the two sites and none were confirmed as this variety; however, identification of this taxa is very difficult and different varieties can co-occur making a definitive absence determination difficult. A species-specific focused survey, conducted in early-spring would be required to make a definitive determination regarding this species.	Approximately 12 samples were examined from throughout the two sites and none were confirmed as this variety; however, identification of this taxa is very difficult and different varieties can co-occur making a definitive absence determination difficult. A species-specific focused survey, conducted in early-spring would be required to make a definitive determination regarding this species.

Scientific Name	Common Name	Status Federal/ State/ County	CNPS	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range	Status on Site or Potential to Occur – Salt Creek	Status on Site or Potential to Occur – San Ysidro
Lotus crassifolius var. *otayensis*	Otay Mountain lotus	None/None/ None	1B.1	Chaparral (metavolcanic, often in disturbed areas)/ perennial herb/ May–August/ 3,000–3,300 ft.	Not expected; would have been detected during surveys	Not expected; would have been detected during surveys
Lotus nuttallianus	Nuttall's lotus	None/None/ MSCP	1B.1	Coastal dunes, coastal scrub; sandy/ annual herb/ March–June/ < 35 ft.	Not expected; would have been detected during surveys	Not expected; would have been detected during surveys
Lycium californicum	California box-thorn	None/None/ None	4.2	Coastal bluff scrub, coastal scrub/ shrub/ (Dec) March–August/ 15–500 ft.	Not expected; would have been detected during surveys	Not expected; would have been detected during surveys
Microseris douglasii var. *platycarpha*	Small-flowered microseris	None/None/ None	4.2	Cismontane woodland, coastal scrub, valley and foothill grassland, vernal pools; clay/ annual herb/ March–May/ 50–3,500 ft.	Low potential to occur. Four samples were examined at the Salt Creek site and none were confirmed as this variety; however, identification of this taxa is very difficult at the time surveys were conducted. A species-specific focused survey, conducted in early-spring would be required to make a definitive determination regarding this species.	Moderate potential to occur. Timing of surveys made it difficult to identify this taxa. A species-specific focused survey, conducted in early-spring would be required to make a definitive determination regarding this species.
Mimulus aridus	Low bush monkeyflower	None/None/ None	4.3	Chaparral; rocky/ evergreen shrub/ April–July/50–3,500 ft.	Not expected; would have been detected during surveys	Not expected; would have been detected during surveys
Mimulus clevelandii	Cleveland's bush monkeyflower	None/None/ None	4.2	Chaparral, cismontane woodland, ower montane conifer forest; gabbroic, often disturbed, openings, rocky/ perennial rhizomatous herb/ April–July/ 2,700–6,600 ft.	Not expected; would have been detected during surveys	Not expected; would have been detected during surveys
Monardella hypoleuca ssp. *lanata*	Felt-leaved monardella	None/None/ MSCP NE	1B.2	Chaparral, cismontane woodland/ rhizomatous herb/ June–August/ 1,000–3,600 ft.	Low potential to occur. May not have been detectable at the time of focused surveys. Outside of elevation range.	Moderate potential to occur. May not have been detectable at the time of focused surveys.

Scientific Name	Common Name	Status Federal/ State/ County	CNPS	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range	Status on Site or Potential to Occur – Salt Creek	Status on Site or Potential to Occur – San Ysidro
Monardella stoneana	Jennifer's monardella	None/None/ None	1B.2	Closed–cone coniferous forest, chaparral, coastal scrub, riparian scrub; usually rocky intermittent streambeds/ perennial herb/ June–September/ 30–2,600 ft.	Low potential to occur. May not have been easily detectable during focused surveys.	Low potential to occur. May not have been easily detectable during focused surveys; however, an effort was made to detect this perennial species within suitable habitat.
Monardella viminea	Willowy monardella	FE/SE/ MSCP NE	1B.1	Chaparral, coastal scrub, riparian forest, woodland, and scrub; alluvial ephemeral washes/ perennial herb/ June–August/ 160–750 ft.	Low potential to occur. May not have been easily detectable during focused surveys.	Low potential to occur. May not have been easily detectable during focused surveys; however, an effort was made to detect this perennial species within suitable habitat.
Myosurus minimus ssp. *apus*	Little mousetail	None/None/ None	3.1	Vernal pools, valley and foothill grassland; alkaline/ annual herb/ March–June/ 60–2,100 ft.	Not expected; would have been detected during surveys	Not expected; would have been detected during surveys
Nama stenocarpum	Mud nama	None/None/ None	2.2	Marshes and swamps, lake margins, riverbanks/ annual–perennial herb/ January–July/ 15–1,650 ft.	Not expected; would have been detected during surveys	Not expected; would have been detected during surveys
Navarretia fossalis	Spreading navarretia	FT/ None/ MSCP	1B.1	Chenopod scrub, shallow freshwater marshes and swamps, playas, vernal pools/ annual herb/ April–June/ 100–4,300 ft.	Not expected; would have been detected during surveys	Not expected; would have been detected during surveys
Navarretia prostrata	Prostrate navarretia	None/None/ None	1B.1	Coastal scrub, meadows and seeps, valley and foothill grassland (alkaline), vernal pools; mesic/annual herb/ April–July/ 50–2,300 ft.	Not expected; would have been detected during surveys	Not expected; would have been detected during surveys

Scientific Name	Common Name	Status Federal/ State/ County	CNPS	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range	Status on Site or Potential to Occur – Salt Creek	Status on Site or Potential to Occur – San Ysidro
Nemacaulis denudata var. *denudata*	Coast woolly-heads	None/None/ None	1B.2	Coastal dunes/ annual herb/ April–September/ < 330 ft.	Not expected; would have been detected during surveys	Not expected; would have been detected during surveys
Nemacaulis denudata var. *gracilis*	Slender woolly-heads	None/None/ None	2.2	Coastal dunes, desert dunes, Sonoran desert scrub/ annual herb/ (March)April–May/ 160–1,300 ft.	Not expected; would have been detected during surveys	Not expected; would have been detected during surveys
Nolina interrata	Dehesa nolina	None/SE/ MSCP NE	1B.1	Chaparral; gabbroic, metavolcanic or serpentinite/ perennial herb/ June–July/ 600–2,800 ft.	Not expected; would have been detected during surveys	Not expected; would have been detected during surveys
Ophioglossum californicum	California adder's-tongue	None/None/ None	4.2	Chaparral, valley and foothill grassland, vernal pools (margins); mesic/ rhizomatous herb/ (Dec)January–June/ 200–1,730 ft.	Not expected; would have been detected during surveys	Not expected; would have been detected during surveys
Opuntia californica var. *californica*	Snake cholla	None/None/ MSCP NE	1B.1	Chaparral, coastal scrub/ stem succulent/ April–May/ 100–500 ft.	Five occurrences of individuals with characteristics of snake cholla (Cylindropuntia californica), totaling approximately 55 individuals, were mapped in the eastern portion of Salt Creek, south of the road that transverses the site. However, additional examination of this locality may be required. A definitive determination would require collections and a more in-depth review that was outside of the scope of the focused survey.	Not expected; would have been detected during surveys
Orcuttia californica	California Orcutt grass	FE/SE/ MSCP	1B.1	Vernal pools/ annual herb/ April–August/ 50–2,200 ft.	Not expected; would have been detected during surveys	Not expected; would have been detected during surveys
Ornithostaphylos oppositifolia	Baja California birdbush	None/SE	2.1	Chaparral/ evergreen shrub/ January–April/180–2,600 ft.	Not expected; would have been detected during surveys	Not expected; would have been detected during surveys

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Orobanche parishii ssp. *brachyloba*	Short-lobed broom-rape	None/None/ None	4.2	Coastal bluff scrub, coastal dunes, coastal scrub; sandy/ perennial herb parasitic/ April –October/ <1,000 ft.	Not expected; would have been detected during surveys	Not expected; would have been detected during surveys
Packera [=*Senecio*] *ganderi*	Gander's ragwort	None/ SR/ MSCP	1B.2	Chaparral (burns and gabbroic outcrops)/ perennial herb/ April–June/ 1,300–4,000 ft.	Not expected; would have been detected during surveys	Not expected; would have been detected during surveys
Pentachaeta aurea spp. *allenii*	Allen's golden-rayed pentachaeta	None/None/ None	1B.1	Coastal scrub, valley and foothill grassland; openings/ annual herb/ March–June/ 250–1,700 ft.	Not expected; would have been detected during surveys	Not expected; would have been detected during surveys
Pentachaeta aurea	Golden-rayed pentachaeta	None/None/ None	4.2	Chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest, riparian woodland, valley and foothill grassland/ annual herb/ March–July/ 260–6,100 ft.	Not expected; would have been detected during surveys	Not expected; would have been detected during surveys
Phacelia stellaris	Brand's phacelia	FC/ None	1B.1	Coastal dunes, coastal scrub/ annual herb/ March–June/ <1,300 ft.	Not expected; would have been detected during surveys	Not expected; would have been detected during surveys
Physalis crassifolia	Greene's ground-cherry	None/None/ ?	None	Gravelly to rocky flates, washes, slopes/ perennial shrub or subshrub/ Mar–May/ < 4,200 ft.	Not expected; would have been detected during surveys	Not expected; would have been detected during surveys
Pinus torreyana spp. *torreyana*	Torrey pine	None/None/ MSCP	1B.2	Closed–cone conifer forest, chaparral; sandstone/ evergreen tree/ NA/ 250–550 ft.	Not expected; would have been detected during surveys	Not expected; would have been detected during surveys
Pogogyne abramsii	San Diego mesa mint	FE/ SE/ MSCP NE	1B.1	Vernal pools/ annual herb/ May–July/ 300–650 ft.	Not expected; would have been detected during surveys	Not expected; would have been detected during surveys
Pogogyne nudiuscula	Otay Mesa mint	FE/ SE/ MSCP	1B.1	Vernal pools/ annual herb/ May–July/ 300–620 ft.	Not expected; would have been detected during surveys	Not expected; would have been detected during surveys

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Polygala cornuta var. *fishiae*	Fish's milkwort	None/None/ None	4.3	Chaparral, cismontane woodland, riparian woodland/ deciduous shrub/ May–August/ 330–3,600 ft.	Not expected; would have been detected during surveys	Not expected; would have been detected during surveys
Quercus cedrosensis	Cedros Island oak	None/None/ None	2.2	Closed–cone coniferous forest, chaparral, coastal scrub/ evergreen tree/ April–May/ 830–1,600 ft.	Not expected; would have been detected during surveys	Not expected; would have been detected during surveys
Quercus dumosa	Nuttall's scrub oak	None/None/ None	1B.1	Chaparral, coastal scrub, closed–cone coniferous forest; sandy, clay loam/ evergreen shrub/ February–April/ 50–1,300 ft.	Not expected; would have been detected during surveys. Previous identification at Salt Creek was not confirmed. Current identification is scrub oak (*Q. berberidifolia*).	Not expected; would have been detected during surveys
Quercus engelmannii	Engelmann oak	None/None/ None	4.2	Chaparral, cismontane woodland, riparian woodland, valley and foothill grassland/ deciduous tree/ March –June/ 400–4,250 ft.	Not expected; would have been detected during surveys	Not expected; would have been detected during surveys
Ribes canthariforme	Moreno currant	None/None/ None	1B.3	Chaparral/ deciduous shrub/ February–April/ 1,100–3,950 ft.	Not expected; would have been detected during surveys	Not expected; would have been detected during surveys
Ribes viburnifolium	Santa Catalina Island currant	None/None/ None	1B.2	Chaparral, cismontane woodland/ evergreem shrub/ February–April/ 100–1,000 ft.	Not expected; would have been detected during surveys	Not expected; would have been detected during surveys
Romneya coulteri	Coulter's matilija poppy	None/None/ None	4.2	Chaparral, coastal scrub; often in burns/ rhizomatous herb/ March–July/ 60–4,000 ft.	Occurrences, including approximately 10 to 30 individuals, are scattered throughout Salt Creek with the majority in the southern portion of the site.	Not expected; would have been detected during surveys
Rosa minutifolia	Small-leaved rose	None/SE/ MSCP	2.1	Chaparral, coastal scrub/ deciduous shrub/ January–June/ 490–525 ft.	Not expected; would have been detected during surveys	Two individuals of small-leaved rose occur in the central portion of San Ysidro.

Scientific Name	Common Name	Status Federal/ State/ County	CNPS	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range	Status on Site or Potential to Occur – Salt Creek	Status on Site or Potential to Occur – San Ysidro
Saltugilia [=*Gilia*] *caruifolia*	Caraway-leaved gilia	None/None/ None	4.3	Chaparral, lower montane conifer forest; sandy, openings/ annual herb/ May–August/ 4,600–7,550 ft.	Outside of elevational range; low potential.	Outside of elevational range; low potential.
Salvia munzii	Munz's sage	None/None/ None	2.2	Chaparral, coastal scrub/ evergreen shrub/ February–April/ 400–3,500 ft.	Not expected; would have been detected during surveys	In the western portion of San Ysidro, 22 individuals were mapped at three separate localities within the same area.
Satureja chandleri	San Miguel savory	None/None/ MSCP	1B.2	Chaparral, cismontane woodland, coastal scrub, riparian woodland, valley and foothill grassland; rocky, gabbroic or metavolcanic/ shrub/ March–July/ 400–3,550 ft.	Not expected; would have been detected during surveys	Not expected; would have been detected during surveys
Selaginella cinerascens	Ashy leaved spike-moss	None/None/ None	None	Dry, open sites or under other plants/ plants mat–like/ <980 ft.	Occurs throughout much of the eastern portion of Salt Creek.	Occurs throughout much of the northern portion of San Ysidro.
Senecio aphanactis	Chaparral ragwort	None/None/ None	2.2	Chaparral, cismontane woodland, coastal scrub; sometimes alkaline/ annual herb/ January–April/ 50–2,630 ft.	Not expected; would have been detected during surveys	Not expected; would have been detected during surveys
Solanum tenuilobatum	Narrow-leaved nightshade	None/None/ MSCP	None	Chaparral; dry open places/ herb or shrub/ March – April/ 3,300 – 9,000 ft.	Not expected; would have been detected during surveys	Not expected; would have been detected during surveys
Stemodia durantifolia	Purple stemodia	None/None/ None	2.1	Sonoran desert scrub; often mesic, sandy/ perennial herb / January – December/ 600–1,000 ft.	Not expected; would have been detected during surveys	Not expected; would have been detected during surveys
Suaeda esteroa	Estuary seablite	None/None/ None	1B.2	Coastal salt marshes and swamps/ perennial herb/ May–October (Jan)/ < 20 ft.	Not expected; would have been detected during surveys	Not expected; would have been detected during surveys
Tetracoccus dioicus	Parry's tetracoccus	None/None/ MSCP	1B.2	Chaparral, coastal scrub/ deciduous shrub/ April–May/ 550–3,300 ft.	Not expected; would have been detected during surveys	Not expected; would have been detected during surveys

Scientific Name	Common Name	Status Federal/ State/ County	CNPS	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range	Status on Site or Potential to Occur – Salt Creek	Status on Site or Potential to Occur – San Ysidro
Viguiera laciniata	San Diego County viguiera	None/None/ None	4.2	Chaparral, coastal scrub/ shrub/ February–June/ 200–2,460 ft.	There are 338 mapped occurrences throughout Salt Creek. Each occurrence of San Diego County sunflower typically numbers several hundred individuals.	There are 135 occurrences, typically numbering several hundred individuals, throughout San Ysidro.
Xanthisma junceum (=*Machaeranthera juncea*)	Rush-like bristleweed	None/None/ None	4.3	Chaparral, coastal scrub/ perennial herb/ June–January/ 780–3,300 ft.	Not expected; would have been detected during surveys	Not expected; would have been detected during surveys

FC = Federal candidate
FE = Federally listed as endangered
FT = Federally listed as threatened
MSCP = MSCP covered species
SE = State-listed as endangered
ST = State-listed as threatened
SR = State rare
? = unknown

APPENDIX E

Sensitive Wildlife Species Detected or Potentially Occurring at Otay Ranch Preserve

APPENDIX E
Sensitive Wildlife Species Detected or Potentially Occurring at Otay Ranch Preserve

Scientific Name Common Name	Status Federal/ State/ County	Habitat Preferences / Requirements	Verified on Site (Direct/ Indirect Evidence)	Potential to Occur on Site	Factual Basis for Determination
Amphibians					
Bufo Microscaphus californicus Arroyo southwestern toad	FE/ CSC/ Group 1, MSCP	Stream channels for breeding(typically 3rd order); adjacent stream terraces and uplands for foraging and wintering			
Spea [=*Scaphiopus*] *hammondi* Western spadefoot	None/ CSC/ Group 2	Most common in grasslands, coastal sage scrub near rain pools or vernal pools; riparian habitat			
Reptiles					
Anniella pulchra pulchra Silvery legless lizard	None/ CSC/ Group 2	Loose soils (sand, loam, humus) in coastal dune, coastal sage scrub, woodlands, and riparian habitats			
Aspidoscelis hyperythra beldingi Orange-throated whiptail	None/ CSC/ Group 2, MSCP	Coastal sage scrub, chaparral, grassland, juniper and oak woodland; sandy soils, washes			
Aspidoscelis tigris stejnegeri Coastal western whiptail	None/ None/ Group 2	Coastal sage scrub, chaparral; sandy areas, gravelly arroyos, or washes			
Charina trivirgata roseofusca Rosy boa	None/ None/ Group 2	Rocky chaparral, coastal sage scrub, oak woodlands, desert and semi-desert scrub			
Crotalus ruber rubber Northern red-diamond rattlesnake	None/ CSC/ Group 2	Variety of shrub habitats where there is heavy brush, large rocks, or boulders			
Emys [=*Clemmys*] *marmorata pallida* Western pond turtle	None/ CSC/ Group 1, MSCP	Slow-moving permanent or intermittent streams, ponds, small lakes, reservoirs with emergent basking sites; adjacent uplands used during winter			

Scientific Name Common Name	Status Federal/ State/ County	Habitat Preferences / Requirements	Verified on Site (Direct/ Indirect Evidence)	Potential to Occur on Site	Factual Basis for Determination
Eumeces skiltonianus interparietalis Coronado skink	None/ CSC/ Group 2	Grassland, riparian and oak woodland; found in litter, rotting logs, under flat stones			
Phrynosoma coronatum (blainvillei population) Coast (San Diego) horned lizard	None/ CSC/ Group 2, MSCP	Coastal sage scrub, annual grassland, chaparral, oak and riparian woodland, coniferous forest, sandy areas, washes, flood plains			
Salvadora hexalepis virgultea Coast patch-nosed snake	None/ CSC/ Group 2	Chaparral, washes, sandy flats, rocky areas			
Thamnophis hammondii Two-striped garter snake	None/ CSC/ Group 1	Marshes, meadows, sloughs, ponds, slow-moving water courses			
Birds					
Accipiter cooperii Cooper's hawk (nesting)	None/ CSC/ Group 1, MSCP	Riparian and oak woodlands, montane canyons			
Agelaius tricolor Tricolored blackbird	BCC, USBC/ CSC/ Group 1, MSCP	Nests near fresh water, emergent wetland with cattails or tules; forages in grasslands, woodland, agriculture			
Aimophila ruficeps canescens Southern California rufous-crowned sparrow	None/ CSC/ Group 1	Grass-covered hillsides, coastal sage scrub, chaparral with boulders and outcrops			
Amphispiza belli belli Bell's sage sparrow	BCC/ CSC/ Group 1	Coastal sage scrub and dry chaparral along coastal lowlands and inland valleys			
Ammodramus savannarum Grasshopper sparrow	None/ None/ Group 1	Restricted to native grassland			

Scientific Name Common Name	Status Federal/ State/ County	Habitat Preferences / Requirements	Verified on Site (Direct/ Indirect Evidence)	Potential to Occur on Site	Factual Basis for Determination
Aquila chrysaetos Golden eagle (nesting and wintering)	BCC/ CSC, P/ Group 1, MSCP	Open country, especially hilly and mountainous regions; grassland, coastal sage scrub, chaparral, oak savannas, open coniferous forest			
Athene cunicularia Burrowing owl	BCC/CSC/ Group 1, MSCP	Grassland, lowland scrub, agriculture, coastal dunes and other artificial open areas			
Campylorhynchus brunneicapillus sandiegensis Coastal (San Diego) cactus wren	BCC / CSC/ Group 1, MSCP	Southern cactus scrub, maritime succulent scrub, cactus thickets in coastal sage scrub			
Charadrius alexandrinus nivosus Western snowy plover (coastal population)	FT, BCC, USBC/ CSC/ Group 1, MSCP	Nests primarily on coastal beaches, in flat open areas, with sandy or saline substrates; less commonly in salt pans, dredged spoil disposal sites, dry salt ponds and levees			
Circus cyaneus hudsonius Northern harrier	None/ CSC/ Group 1, MSCP	Open wetlands (nesting), pasture, old fields, dry uplands, grasslands, rangelands, coastal sage scrub			
Coccyzus americanus occidentalis Western yellow-billed cuckoo	FC, BCC/ SE/ Group 1	Dense, wide riparian woodlands and forest with well-developed understories			
Empidonax traillii extimus Southwestern willow flycatcher	FE, USBC/ None/ Group 1, MSCP	Riparian woodlands along streams and rivers with mature, dense stands of willows or alders; may nest in thickets dominated by tamarisk			

Scientific Name Common Name	Status Federal/ State/ County	Habitat Preferences / Requirements	Verified on Site (Direct/ Indirect Evidence)	Potential to Occur on Site	Factual Basis for Determination
Eremophila alpestris actia California horned lark	None/ CSC/ Group 2	Open habitats, grassland, rangeland, shortgrass prairie, montane meadows, coastal plains, fallow grain fields			
Falco mexicanus Prairie falcon	BCC/ CSC/ Group 1	Grassland, savannas, rangeland, agriculture, desert scrub, alpine meadows; nest on cliffs or bluffs			
Icteria virens Yellow-breasted chat	None/ CSC/ Group 1	Dense, relatively wide riparian woodlands and thickets of willows, vine tangles and dense brush.			
Ixobrychus exilis Least bittern	None/ CSC/ Group 2	Dense emergent wetland vegetation, sometimes interspersed with woody vegetation and open water			
Laterallus jamaicensis coturniculus California black rail	ST, BCC, USBC/ P/ Group 2	Saline, brackish, and fresh emergent wetlands			
Passerculus sandwichensis beldingi Belding's savannah sparrow	None/ SE/ Group 1, MSCP	Saltmarsh, pickleweed			
Phalacrocorax auritus Double-crested cormorant	None/ CSC/ Group 2	Lakes, rivers, reservoirs, estuaries, ocean; nests in tall trees, rock ledges on cliffs, rugged slopes			
Polioptila californica californica Coastal California gnatcatcher	FT, USBC/ CSC/ Group 1, MSCP	Coastal sage scrub, coastal sage scrub-chaparral mix, coastal sage scrub-grassland ecotone, riparian in late summer			
Rallus longirostris levipes Light-footed clapper rail	FE, USBC/ SE, P/ Group 1, MSCP	Coastal saltmarsh			

Scientific Name Common Name	Status Federal/ State/ County	Habitat Preferences / Requirements	Verified on Site (Direct/ Indirect Evidence)	Potential to Occur on Site	Factual Basis for Determination
Sterna antillarum browni California least tern (nesting colony)	FE, USBC/ SE, P/ Group 1, MSCP	Nests along the coast from San Francisco Bay south to northern Baja California			
Vireo bellii pusillus Least Bell's vireo (nesting)	FE, BCC, USBC/ SE/ Group 1, MSCP	Nests in southern willow scrub with dense cover within 1-2 meters of the ground; habitat includes willows, cottonwoods, baccharis, wild blackberry or mesquite on desert areas			
Mammals					
Antrozous pallidus Pallid bat	None/ CSC/ Group 2	Rocky outcrops, cliffs, and crevices with access to open habitats for foraging			
Chaetodipus californicus femoralis Dulzura (California) pocket mouse	None/CSC/ Group 2	Coastal sage scrub, chaparral, riparian-scrub ecotone; more mesic areas			
Choeronycteris mexicana Mexican long-tongued bat	None/ CSC/ Group 2	Desert and montane riparian, desert succulent scrub, desert scrub, and pinyon-juniper woodland. Roosts in caves, mines, and buildings.			
Corynorhinus townsendii Townsend's big-eared bat	None/ CSC/ Group 2, MSCP	Mesic habitats, gleans from brush or trees or feeds along habitat edges			
Eumops perotis californicus Greater western mastiff bat	None/ CSC/ Group 2, MSCP	Roosts in small colonies in cracks and small holes, seeming to prefer man-made structures			

Scientific Name Common Name	Status Federal/ State/ County	Habitat Preferences / Requirements	Verified on Site (Direct/ Indirect Evidence)	Potential to Occur on Site	Factual Basis for Determination
Lepus californicus bennettii San Diego black-tailed jackrabbit	None/ CSC/ Group 2	Arid habitats with open ground; grasslands, coastal sage scrub, agriculture, disturbed areas, rangelands			
Neotoma lepida intermedia San Diego desert woodrat	None/ CSC/ Group 2	Coastal sage scrub, chaparral, pinyon-juniper woodland with rock outcrops, cactus thickets, dense undergrowth			
Nyctinomops femorosaccus Pocketed free-tailed bat	None/ CSC/ Group 2	Rocky desert areas with high cliffs or rock outcrops			
Nyctinomops macrotis Big free-tailed bat	None/ CSC/ Group 2	Rugged, rocky canyons			
Odocoileus hemionus Mule deer	None/ None/ Group 2, MSCP	Coastal sage scrub, chaparral, riparian, woodlands, forest; often browses in open areas adjacent to cover			
Perognathus longimembris pacificus Pacific pocket mouse	FE/ CSC/ Group 1, MSCP	Grassland, coastal sage scrub with sandy soils; along immediate coast			
Puma [=*Felis*] *concolor* Mountain lion	None/ None/ Group 2, MSCP	Coastal sage scrub, chaparral, riparian, woodlands, forest; rests in rocky areas, and on cliffs and ledges that provide cover			
Invertebrates					
Branchinecta sandiegonensis San Diego fairy shrimp	FE/ None/ Group 1	Small, shallow vernal pools, occasionally ditches and road ruts			
Callophrys (=Mitoura) thornei Thorne's hairstreak butterfly	None/ None/ Group 1, MSCP	Tecate cypress			

Scientific Name Common Name	Status Federal/ State/ County	Habitat Preferences / Requirements	Verified on Site (Direct/ Indirect Evidence)	Potential to Occur on Site	Factual Basis for Determination
Cicindela gabbii Gabb's tiger beetle	None/ None/ Group 2	Estuaries and mudflats; generally on dark-colored mud; occasional on dry saline flats of estuaries.			
Cicindela hirticollis gravida Sandy beach tiger beetle	None/ None/ Group 2	Sandy areas adjacent to non-brackish water along California coast; found in dry sand in upper zone			
Cicindela latesignata latesignata Sand dune tiger beetle	None/ None/ Group 2	Mudflats and beaches in coastal Southern California.			
Cicindela similis frosti Tiger beetle	None/ None/ Group 2	Salt marshes			
Coelus globosus Globose dune beetle	None/ None/ Group 1	Coastal dunes			
Danaus plexippus Monarch butterfly (wintering sites)	None/ None/ Group 2	Overwinters in eucalyptus groves			
Euphydryas editha quino Quino checkerspot butterfly	FE/None/ Group 1	Sparsely vegetated hilltops, ridgelines, occasionally rocky outcrops; host plant *Plantago erecta* and nectar plants must be present			
Lycaena hermes Hermes copper butterfly	None/ None/ Group 1	Coastal sage scrub, southern mixed chaparral supporting at least 5% cover of host plant *Rhamnus crocea*			
Panoquina errans Wandering (= saltmarsh) skipper	None/None/ Group 1, MSCP	Salt marsh from Los Angeles to Baja, Mexico			

Scientific Name Common Name	Status Federal/ State/ County	Habitat Preferences / Requirements	Verified on Site (Direct/ Indirect Evidence)	Potential to Occur on Site	Factual Basis for Determination
Streptocephalus woottoni Riverside fairy shrimp	FE/ None/ Group 1	Deep, long-lived vernal pools, vernal pool-like seasonal ponds, stock ponds; warm water pools that have low to moderate dissolved solids			
Tryonia imitator Mimic tryonia, California brackishwater snail	None/ None/ Group 2	Coastal lagoons, estuaries and salt marshes			

[1] Status Designations:

Federal

BCC = Fish and Wildlife Service: Birds of Conservation Concern
FC = Candidate for federal listing as threatened or endangered
(FD) = Federally delisted; monitored for five years
FE = Federally listed Endangered
FT = Federally listed as Threatened
MNBMC = Fish and Wildlife Service Migratory Nongame Birds of Management Concern
USBC = United States Bird Conservation Watch List

State Designations:

CSC = California Special Concern Species
P = California Department of Fish and Game Protected and Fully Protected Species
SE = State-listed as Endangered
ST = State-listed as Threatened

County Designations:

MSCP = MSCP covered species