

July 9, 2010

Ms. Sandy Marquez
Recovery Permit Coordinator
Carlsbad Fish and Wildlife Office
6010 Hidden Valley Road, Suite 101
Carlsbad, California 92011

**RE: 45-Day Summary Report of Focused Surveys for the Quino Checkerspot
Butterfly for the Manzanita Wind Energy Project**

Dear Ms. Marquez:

In compliance with the Special Terms and Conditions for Endangered and Threatened Wildlife Species Permit TE-820658-4.6, AECOM submits this letter report summarizing the results of focused surveys conducted in 2010 for the federally listed endangered Quino checkerspot butterfly (*Euphydryas editha quino*; Quino) for the Manzanita Wind Energy Project (project). AECOM currently holds an Endangered and Threatened Species Permit issued by the U.S. Fish and Wildlife Service (USFWS) under Section 10(a) of the Federal Endangered Species Act. This permit authorizes AECOM to conduct presence/absence surveys for Quino and other species.

Site Description

The Manzanita Indian Reservation lies along the Tecate Divide north of Interstate 8 (I-8) in eastern San Diego County (Figure 1). The Tecate Divide is a north/south-trending ridgeline that divides the Colorado River Basin watershed from the coastal watershed that drains to the Pacific Ocean. The reservation is located northwest of the community of Manzanita and directly north of Live Oak Springs approximately 2 miles north of Interstate-8 (Figure 2). On-site elevation ranges from approximately 3,400 to 5,000 feet above mean sea level.

The Biological Study Area (BSA), which includes lands both on and off of the Manzanita and Campo Indian Reservations, supports a variety of habitat types and vegetation communities, but is dominated by chamise chaparral with both a monotypic phase and a mixed chaparral phase. Additional vegetation communities found throughout the site and especially along ridges and slopes include redshank chaparral, big sagebrush scrub, and Sonoran subshrub scrub. A series of north/south-running ridges is located throughout the proposed project site, separated by shallow valleys consisting of coast live oak woodland, nonnative grassland, and southern willow scrub vegetation. Buckwheat scrub is interspersed throughout the chamise chaparral, primarily in shallow valleys, along washes and roads, and along firebreaks. Paths from cattle grazing exist throughout the buckwheat scrub and chamise chaparral communities. Various large rock outcrops are scattered throughout the site, but are primarily located along the ridgelines. Old roads, utility roads, and recently graded roads span the BSA.

Ms. Sandy Marquez
Carlsbad Fish and Wildlife Office
July 9, 2010
Page 2

Project Description

The proposed project is comprised of three different parts, described as Part A: Manzanita Wind Power Generation Project; Part B: Crestwood to Boulevard Transmission Line System Improvement Project; and Part C: New Substation on Private Land Project. Each part is described in further detail below.

Part A: Manzanita Wind Power Generation Project

The Manzanita Wind Power Generation Project (Project) consists of the installation of up to 22 wind turbines on the Manzanita Reservation. Each turbine could generate up to 2.5 MW of power. The general alignment for 15 of the turbines follows the Tecate Divide, starting at the approximate mid-point of the reservation's southern boundary and extending north and west to the northern boundary of the reservation. Of the remaining seven proposed turbines, four would extend from north to south approximately 1,000 feet west of the Tecate Divide, and three would extend approximately 3,000 feet south from the northern boundary of the reservation in the northeastern portion of the reservation. There are 25 existing 2.0-MW wind turbines located along the Tecate Divide on the Campo Reservation, immediately south of the Manzanita Reservation and north of I-8.

Road improvements on the Manzanita Reservation would be necessary along the Tecate Divide and other existing roads to gain access to the three turbines proposed in the northeastern portion of the reservation. This work would include both improvements to existing dirt roads and the potential construction of new dirt roads depending on the final project design. In addition, a new access road would be required to access and provide a loop for the four proposed turbines west of the Tecate Divide. Other areas of disturbance would result from lay-down and staging areas during installation.

A buffer of approximately 1,000 feet around proposed turbine locations has been used to provide flexibility for the project design and to determine acreages for biological survey work. Using this methodology, up to 1,600 acres of disturbance could result from implementation of the Project, although the actual impact area will likely be much smaller. Anticipated impacts include disturbance associated with installation of a generation tie line (gen-tie line) that extends approximately 3 miles from the southernmost proposed turbine to the existing Crestwood substation on the Campo Reservation, south of I-8.

Part B: Crestwood to Boulevard Transmission Line System Improvement Project

The Crestwood to Boulevard Transmission Line System Improvement Project (Project) traverses between the existing Crestwood and Boulevard substations. The Project extends for approximately 4.5 miles, following the existing 69-kV line alignment and right-of-way. Additional right-of-way may be required along this transmission line depending on final structure design and placement. Some type of disturbance will likely occur along the length of the transmission line and would be increased in those areas where direction changes occur to allow for pulling sites and staging areas. Specific pulling sites and staging yards

Ms. Sandy Marquez
Carlsbad Fish and Wildlife Office
July 9, 2010
Page 3

have not yet been identified for the project. However, the BSA includes a 100-foot buffer on either side of the easement, with a 500-foot buffer at angle points in order to accommodate potential staging areas and pulling sites. Up to 150 acres of disturbance could result from implementation of the Project.

Part C: New Substation on Private Land Project

The New Substation on Private Land Project consists of the construction of a new substation or switchyard on private land. This proposed facility will be necessary in conjunction with the wind generation project. The survey area is approximately 5 acres.

Background Information

The Quino was added by USFWS to the Federal Endangered Species List on January 16, 1997 (USFWS 1997). The species (*E. editha*) has a range extending from British Columbia and Alberta, Canada, south through Colorado and Utah, and west along the coast to northern Baja California. It is divided into 20 subspecies, each of which has its own range and biological and morphological characteristics. In California, there are 12 subspecies (Garth and Tilden 1986). Three other subspecies of *E. editha* are currently known to occur in Southern California. The Quino is the southwesternmost subspecies of *E. editha* (Mattoni et al. 1997).

The Quino is known to occur in association with a variety of plant communities, soil types, and elevations (up to 5,000 feet). The plant communities include clay soil meadows, open grasslands, coastal sage scrub, chamise chaparral, red shank chaparral, juniper woodlands, and semidesert scrub (Ballmer et al. 2001). The Quino is also associated with clay soils that possess cryptogamic crusts and vernal pools (USFWS 2002).

The Quino is a medium-sized butterfly (approximately 0.8- to 1.1-inch wingspan) belonging to the family Nymphalidae. The adults are primarily orange-red with white, and have black markings on the dorsal wing surface. They are active primarily in March and April. This active period may vary depending on weather conditions (Ballmer et al. 2001). The adult butterfly feeds on nectar, which it obtains from spring annuals such as popcorn flower (*Cryptantha* spp.), goldfields (*Lasthenia* spp.), layia (*Layia* spp.), goldenbush (*Ericameria* spp.), onion (*Allium* spp.), fiddleneck (*Amsinckia intermedia*), chia (*Salvia columbariae*), and blue dicks (*Dichelostemma pulchella*), among others. It cannot use flowers that possess deep corolla tubes, such as monkeyflower (*Mimulus* spp.), or those that can be opened by bees, such as snapdragons (USFWS 2002). Adult males and virgin females sometimes "hilltop," or travel to elevated locations to find mates. While waiting for females to arrive, the males will often exhibit territorial behavior and will chase other butterflies that approach them. Frequently, the butterflies are observed in meadows or clearings where their host plants occur (Ballmer et al. 2001).

A female may lay 20 to 75 eggs at one time and may produce up to 1,200 eggs in her lifetime. The eggs hatch in approximately 10 days under favorable weather conditions, and

Ms. Sandy Marquez
Carlsbad Fish and Wildlife Office
July 9, 2010
Page 4

the young larvae will immediately begin to feed upon a host plant. The feeding larvae use the dot-seed plantain (*Plantago erecta*), patagonia plantain (*Plantago patagonica*), Coulter's snapdragon (*Antirrhinum coulterianum*), and Chinese houses (*Collinsia concolor*) as host plants (Pratt 2010). Bird's-beak (*Cordylanthus rigidus*) and owl's clover (*Castilleja exserta*) are considered secondary hosts (USFWS 2002). New evidence suggests that Chinese houses is a primary larval food plant for Quino in the 900- to 1,300-meter (m) elevational range (Pratt 2010), which is the range coincident with the project site.

After feeding, the early larva enters an obligatory aestival diapause (a dormant stage), which may be broken after fall or winter rains (Murphy and White 1984; Osborne 1998). If adverse weather conditions occur, the emergent larva may reenter a diapause stage repeatedly, for up to 5 or 6 years, until favorable weather conditions permit sufficient growth of the host plant to allow the larva to complete its development.

The Quino was once common in Southern California. It ranged north into Ventura County, west to the Pacific Ocean, east to the deserts, and south into northern Baja California. Currently, it is known to occur only in a few, probably isolated, colonies in southwestern Riverside County, San Diego County, and northern Baja California.

Reasons for the butterfly's reduction in population are not well understood. Habitat loss due to degradation and fragmentation caused by urban and rural development, agricultural conversion, off-road-vehicular use, the invasion of nonnative plants and insects, fire management practices, overcollecting, and adverse weather conditions have likely contributed to the species' decline (USFWS 1997).

USFWS recommends that focused Quino surveys be conducted a minimum of five times during the adult flight season by biologists possessing a recovery permit for this species, pursuant to Section 10(a)(1)(A) of the Endangered Species Act. The Quino flight season within a given area is determined by the activity of known Quino populations that are monitored annually by USFWS.

Survey Methodology

Habitat Assessment

Prior to the initiation of protocol surveys, a focused habitat assessment of the entire project site (Parts A, B, and C) was conducted from March 17 to March 19, 2010. Habitat assessments were conducted by project permitted biologists Gretchen Cummings, David Faulkner, Martha Heath, Margie Mulligan, and Dale Powell. These permitted biologists were assisted by project supervised biologists Andrew Fisher and Jimmy McMorran. During habitat assessments, all areas were mapped as suitable, with the exception of developed areas, closed canopy forests or riparian areas, and dense chaparral, as defined by the most current protocol (USFWS 2002). The survey protocol recommends excluding "dense chaparral" and "small openings (less than an acre) completely enclosed within dense

Ms. Sandy Marquez
Carlsbad Fish and Wildlife Office
July 9, 2010
Page 5

chaparral.” It further defines “dense chaparral” as “vegetation so thick that it is inaccessible to humans except by destruction of woody vegetation for at least 100 meters.”

The final habitat assessment map depicting all excluded habitats is presented on U.S. Geological Survey (USGS) Quad maps at 200% (Figure 3). Host plant locations and vegetation types in excluded areas are also depicted on the habitat assessment map.

The total area determined to be suitable to survey for Quino per the most current USFWS protocol was 1,297 acres.

Focused Adult Quino Surveys

Focused surveys were conducted over the 1,297-acre survey area according to the most current USFWS protocol (USFWS 2002) (Figures 3 and 4). The start date for focused adult Quino surveys was determined based on the following: (1) the first detection of Quino during surveys last year for another project on the Campo Indian Reservation directly adjacent to the proposed project; (2) conditions at the project site this year relative to last year; and (3) conditions at the Jacumba reference site monitored by USFWS. Project biologist David Faulkner conducted focused surveys for the proposed Campo Landfill project in previous years, and provided input that the first Quino detections at the Campo Landfill site occurred around the third week of March last year. Based on this information, Ken Osborne (Quino expert and monitoring biologist for Jacumba reference site) stated that the flight season would likely begin at the Jacumba reference site around the third week of March (Osborne 2010). However, because of colder temperatures at the site in mid-March, which delayed the flight season by at least another week, and the lack of Quino at the Campo Landfill site that was being monitored during that time, it later was agreed by David Faulkner, Michael Klein, and Ken Osborne that the fourth week of March would be an appropriate start date for surveys.

Focused adult surveys commenced on March 24, 2010. Surveys were conducted by Erin Bergman, Adam Behle, Melissa Booker, Michael Couffer, Amanda Gonzalez, Antonette Gutierrez, Martha Heath, Bonnie Hendricks, Kyle Ince, Shirley Innecken, Diana Jensen, Erik LaCoste, Jimmy McMorran, Dale Powell, and Steve Rink. The survey routes of each permitted biologist were recorded and mapped electronically using Garmin Global Positioning System (GPS) units. A list of all biologists who conducted habitat assessments and focused surveys and their corresponding permit numbers is provided in Table 1. A summary of the survey schedule is presented in Table 2.

Ms. Sandy Marquez
 Carlsbad Fish and Wildlife Office
 July 9, 2010
 Page 6

Table 1
Survey Personnel and TE Permit Numbers

Biologist	#TE Permit Number
Erin Bergman	#TE-820658 (supervised)
Adam Behle	#TE-797999
Melissa Booker	#TE-797999
Michael Couffer	#TE-782703
Barbra Calantas	#TE-820658
Gretchen Cummings	#TE-031850
David Faulkner	#TE-838743
Andrew Fisher	#TE-820658 (supervised)
David Flietner	#TE-008031
Amanda Gonzalez	#TE-797999 (supervised)
Antonette Gutierrez	#TE-797999
Martha Heath	#TE-099005
Bonnie Hendricks	#TE-820658
Kyle Ince	#TE-797999
Shirley Innecken	#TE-820658 (supervised)
Diana Jensen	#TE-797999
Gina Krantz	#TE-797999 (supervised)
Erik LaCoste	#TE-027736
Viviane Marquez	#TE-800930
Jimmy McMorran	#TE-820658 (supervised)
Margie Mulligan	#TE-233291
Dale Powell	#TE-006559
Steve Rink	#TE-797999

Table 2
Quino Checkerspot Butterfly Survey Schedule

Survey Week	Date	Survey Team
1	3/24/2010 to 4/11/2010	Behle, Bergman, Booker, Couffer, Gutierrez, Heath, Hendricks, Ince, Innecken, Jensen, LaCoste, McMorran, Powell, Rink
2	4/13/2010 to 4/19/2010	Behle, Bergman, Couffer, Faulkner, Flietner, Gonzalez, Gutierrez, Heath, Ince, Innecken, Jensen, Marquez, Rink
3	4/18/2010 to 4/26/2010	Behle, Bergman, Calantas, Flietner, Gutierrez, Heath, Ince, Innecken, Jensen
4	4/26/2010 to 5/6/2010	Behle, Fisher, Flietner, Gutierrez, Heath, Ince, Krantz, LaCoste, Rink
5	5/6/2010 to 5/13/2010	Behle, Couffer, Gutierrez, Heath, Hendricks, Ince, Krantz, LaCoste, Powell, Rink
6	5/14/2010 to 5/20/2010	Behle, Couffer, Gutierrez, Heath, Hendricks, Krantz, LaCoste, Powell, Rink

Ms. Sandy Marquez
Carlsbad Fish and Wildlife Office
July 9, 2010
Page 7

Results

Six weeks of focused surveys were conducted for the approximate 1,297 acres of the focused survey area, shown in Figures 3 and 4. After 5 weeks of surveys, it was determined that a sixth week of Quino surveys at the site was necessary, based on continued observations of Quino individuals during the fifth week on the adjacent Campo Wind Generation Project. One of the individuals observed during the fifth week of surveys on the adjacent project site was in good condition with bright wing color and no fraying of wing edges. Potential larval host plants, including Chinese houses, were blooming with increasing abundance during survey week 5. While the actual blooms of Chinese houses do not benefit Quino larvae, the blooming cycle indicates that Chinese houses were still green and supple, and had not yet dried up during the Quino survey season. Thus, the host plants were still available for Quino larvae to feed on during the Quino survey season. Based on the continued presence of adult Quino and the blooming stage of potential larval host plants during survey week 5, a sixth week of focused adult Quino surveys was added to the season.

Survey-specific weather conditions and personnel are presented in Appendix A. Field data sheets are included in Appendix B.

A total of 66 butterfly species and various moth species were detected within the survey area, with peak numbers generally occurring during survey weeks 3 and 4. A list of all butterfly species observed within the survey area each survey week is summarized in Appendix C. A list of potential nectaring plant species in flower each survey week is presented in Appendix D. Generally, nectaring plants increased in diversity and abundance during survey weeks 3 and 4, which coincided with the times that Quino and other checkerspots were observed in greatest abundance. A list of vertebrate species detected during focused Quino surveys is presented in Appendix E.

Eleven Quino observations were made during the protocol survey period. Five observations were made within Part A of the BSA, and six observations were made within Part B of the BSA. No observations of Quino were made within Part C of the BSA.

The 24-hour notification letters for each Quino detection are included in Appendix F as Appendices F.1 to F.6. All Quino detections for the project are provided in Figure 4. Information for each Quino sighting, including the survey week, date, time, weather conditions, surveyor, and number of Quino individuals detected, is provided in Table 3. Table 3 references the Appendix F section corresponding to each Quino sighting, which includes detailed information for each sighting provided in the corresponding 24-hour notification letter, including weather conditions, habitat conditions, and photographs of the habitat and/or individual(s) detected, as applicable.

Ms. Sandy Marquez
 Carlsbad Fish and Wildlife Office
 July 9, 2010
 Page 8

Table 3
Quino Checkerspot Butterfly Observations

Observation Number	Survey Week	Date of Observation	Time	Temp.	Wind	% Cloud Cover	Observer/ Permitted Biologist	Date Observation Reported to CFWO ²	Number of Quino Observed	24-Hour Notification Letter
1	1	04/02/2010	14:19	75.2°F	1.4–2.5 mph	2	Antonette Gutierrez	04/03/2010	1	Appendix F.1.
2	1	04/03/2010	11:50	73.0°F	3–7 mph	0	Michael Couffer	04/04/2010	1	Appendix F.2.
3	1	04/10/2010	13:44	72.0°F	4–7 mph	0	Dale Powell	04/12/2010	1	Appendix F.3.
4	1	04/10/2010	14:00	70.0°F	4–7 mph	0	Michael Couffer	04/12/2010	1	Appendix F.3.
5	1	04/11/2010	13:38	59.0°F	1–8 mph	0	Michael Couffer	04/12/2010	1	Appendix F.3.
6	2	04/16/2010	09:55	64.0°F	2.5–4.3 mph	0	Martha Heath, Shirley Innecken ¹	04/17/2010	1	Appendix F.4.
7	2	04/18/2010	12:20	66–72°F	4.6–10.9 mph	0	Martha Heath	04/19/2010	1	Appendix F.5.
8	2	04/18/2010	12:51	66–72°F	4.6–10.9 mph	0	Martha Heath	04/19/2010	1	Appendix F.5.
9	3	04/18/2010	13:25	66–72°F	3.0 mph	20	Barbra Calantas	04/19/2010	1	Appendix F.5.
10	3	04/20/2010	11:15–11:30	69.0°F	2–5.7 mph	20	Antonette Gutierrez	04/21/2010	2	Appendix F.6.

¹ Supervised to survey under #TE-820658

² CFWO = Carlsbad Fish and Wildlife Office

Ms. Sandy Marquez
Carlsbad Fish and Wildlife Office
July 9, 2010
Page 9

During spring 2010, vegetation mapping and rare plant surveys were ongoing and concurrent with focused Quino surveys for the project. Botanists conducting vegetation mapping and rare plant surveys across 100% of the BSA also mapped all potential Quino larval host plants observed, including Chinese houses, Coulter's snapdragon, and dark-tip bird's beak. On-site, Chinese houses was the most abundant potential host plant and was associated with the chaparral understory and adjacent open areas of habitat. Coulter's snapdragon was also associated with the chaparral understory and open areas. Of these three species observed within the survey area, only Chinese houses was vegetatively mature as early as April, during the peak of Quino observations. The blooming period for Chinese houses on-site during spring 2010 was from mid-April to late-June. This species was past its peak bloom and in full fruit by late June. The other two species documented on-site—dark-tip bird's beak and Coulter's snapdragon—were present only as small basal rosettes and/or diminutive, immature plants in April. Coulter's snapdragon began blooming in early May in some areas, and dark-tip bird's beak is not expected to fully mature and bloom until July. All host plants that were detected within the survey area, including observations made by Quino surveyors and botanists during rare plant surveys, are provided in Figures 3 and 4.

Discussion

A total of 11 individual Quino observations were made during the flight season. The first detection of Quino this season occurred on April 2, 2010, during the week 1 survey period. Quino were detected during survey weeks 1 through 3. No Quino were detected during survey weeks 4 through 6. Given that the surveys started on March 24 and the first Quino detection was on April 2, it can be assumed that the survey window of March 24 to May 20 appropriately encompassed the flight season for Quino at the project site this year.

Several storm events occurred at the site during the week of March 29, the week of April 19, and the week of April 26. These storm events resulted in snow/mixed precipitation/rain, cold temperatures, and windy conditions that are considered unfavorable for Quino. While surveys did not occur on days when weather conditions were out of protocol requirements, it is possible that the storm events during these time periods (including after the last detection on April 18, 2010) affected local Quino populations, and consequently, detections during these times.

After conclusion of the field season, an internal meeting between AECOM biologists and subconsultant biologists (Barbra Calantas, Michael Couffer, David Faulkner, Andrew Fisher, Bonnie Hendricks, Scott McMillan, Antonette Gutierrez, Ken Osborne, and Erin Riley) took place on June 24, 2010 to discuss focused survey results and conclusions.

This meeting assessed results of adult focused surveys, host plant mapping, and vegetation mapping across the entire BSA. In comparing the focused Quino survey area to the larger BSA, spans of dense chaparral with small openings were found to exist outside of the survey area that may incur some use by Quino at a reduced level. These spans of dense chaparral are suitable for the overall persistence of the population, but do not consist of

Ms. Sandy Marquez
Carlsbad Fish and Wildlife Office
July 9, 2010
Page 10

high-quality Quino habitat. Given the maturity of the chaparral community based on lack of recent fire and/or other disturbances, these areas lack concentrations of resources that would be likely to support dense localized Quino numbers or use at this time. However, these areas of dense chaparral include hilltops/ridgelines and populations of host plants and nectaring sources that may serve as a resource to some degree to the local Quino population despite being excludable by interpretation of the survey protocol.

The total area surveyed (1,297 acres) represents what is considered the optimal habitat for Quino on-site. Of the areas surveyed, Quino were observed in a small percentage of the total survey area. The Quino is known to undergo population fluctuations, with extirpation of local populations and recolonization of new areas in a fashion characteristic of metapopulation dynamics (Osborne 1998). Thus, the participants of the June 24 meeting concluded that a larger area of suitable habitat including the total area surveyed, totaling 1,580 acres potentially supports the persistence of the species. Much of this area was excluded from surveys based on the presence of dense chaparral. However, the larger area of suitable habitat defined in Figure 5 includes all chaparral with host plants and occasional openings (greater than 1 acre). This area of suitable habitat is most relevant for discussing the larger patterns of species distribution through space and time (Figure 5).

If you have any questions or comments regarding this letter report, please contact me at (619) 233-1454.

Sincerely,



Barbra Calantas
Associate Wildlife Biologist
barbra.calantas@aecom.com

Attachments:

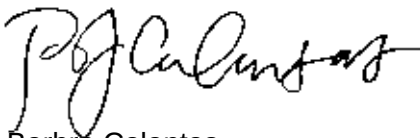
- Figure 1 – Regional Map
- Figure 2 – Vicinity Map
- Figure 3 – Habitat Assessment (Map Pocket)
- Figure 4 – Quino Survey Area and Detections
- Figure 5 – Quino Larval Host Plants and Suitable Habitat
- Appendix A – Daily Weather Conditions for Focused Quino Surveys on Manzanita Wind Energy Project
- Appendix B – Field Data Sheets
- Appendix C – Summary of Butterfly and Moth Species Observed during Quino Checkerspot Butterfly Surveys for the Manzanita Wind Energy Project

Ms. Sandy Marquez
Carlsbad Fish and Wildlife Office
July 9, 2010
Page 11

- Appendix D – Weekly Flowering Plant Observations for Manzanita Wind Energy Project
- Appendix E – Vertebrate Species Detected during Focused Quino Surveys for Manzanita Wind Energy Project
- Appendix F – 24-hour Quino Notification Letters to USFWS

Certification

Qualified biologists who conducted Quino checkerspot butterfly surveys for the Manzanita Wind Energy Site certify that the information in this survey report fully and accurately represents the work performed by AECOM biologists. Signatures of permitted biologists as listed in Table 1 who conducted protocol surveys (March 24 to May 20, 2010) are included below. The results of focused surveys for listed species are typically considered valid for 1 year by the resource agencies.



Barbra Calantas
AECOM Wildlife Biologist



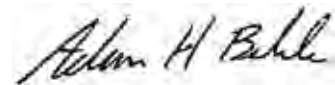
Bonnie Hendricks
AECOM Biologist



Erik LaCoste
AECOM Wildlife Biologist



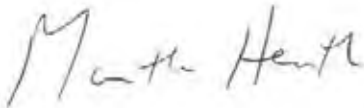
Viviane Marquez
Subcontracted Quino Surveyor



Adam Behle
Subcontracted Quino Surveyor



Melissa Booker
Subcontracted Quino Surveyor

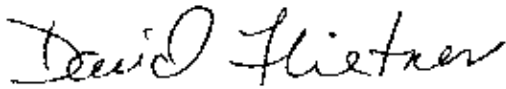


Martha Heath
Subcontracted Quino Surveyor

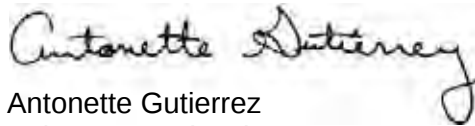


Michael Couffer
Subcontracted Quino Surveyor

Ms. Sandy Marquez
Carlsbad Fish and Wildlife Office
July 9, 2010
Page 12



David Flietner
Subcontracted Quino Surveyor



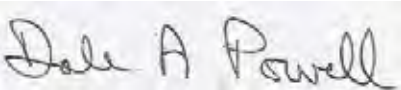
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Kyle Ince
Subcontracted Quino Surveyor



Diana Jensen
Subcontracted Quino Surveyor



Dale Powell
Subcontracted Quino Surveyor



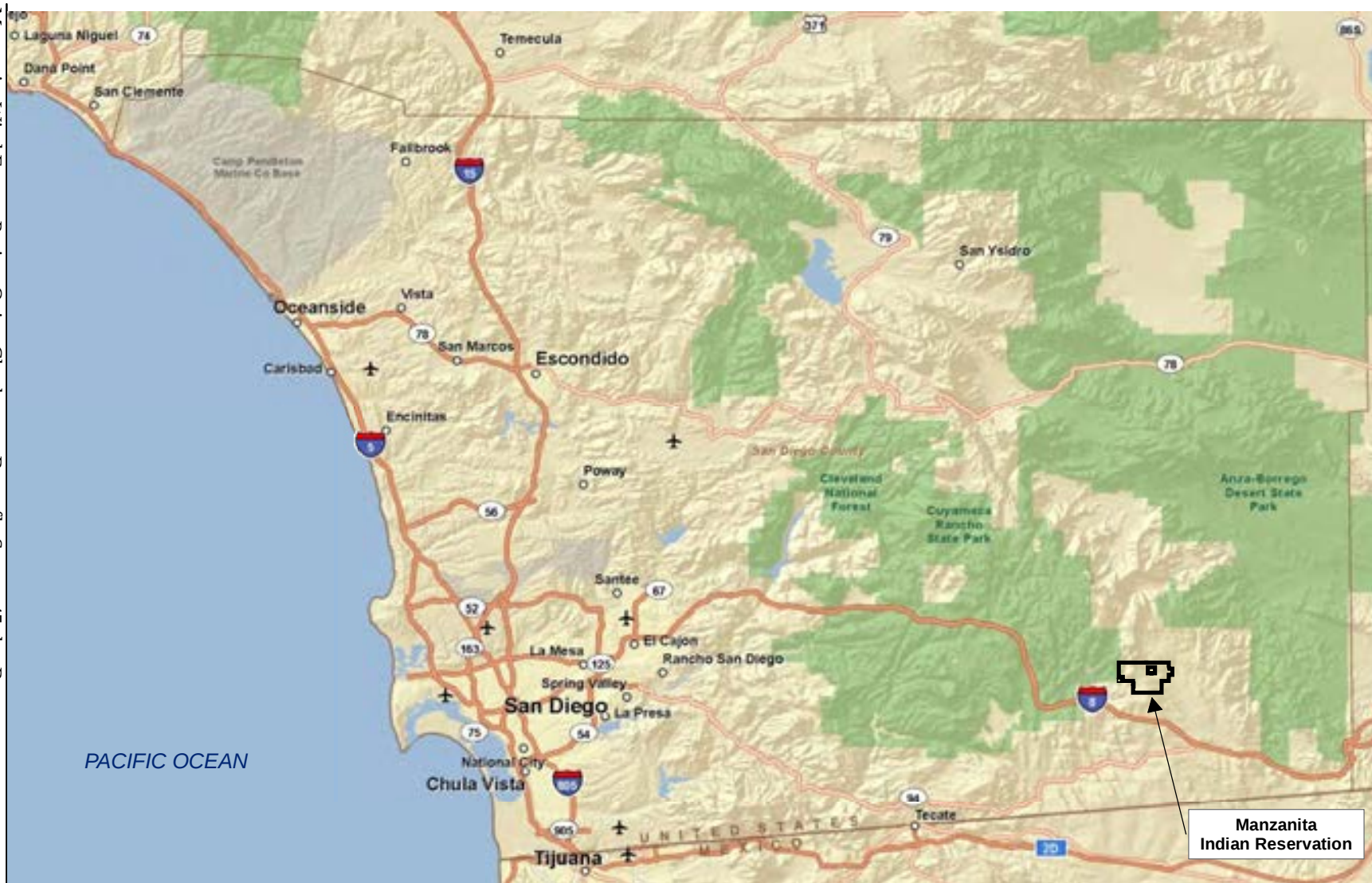
Steve Rink
Subcontracted Quino Surveyor

Ms. Sandy Marquez
Carlsbad Fish and Wildlife Office
July 9, 2010
Page 13

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FIGURES



Source: ESRI 2009

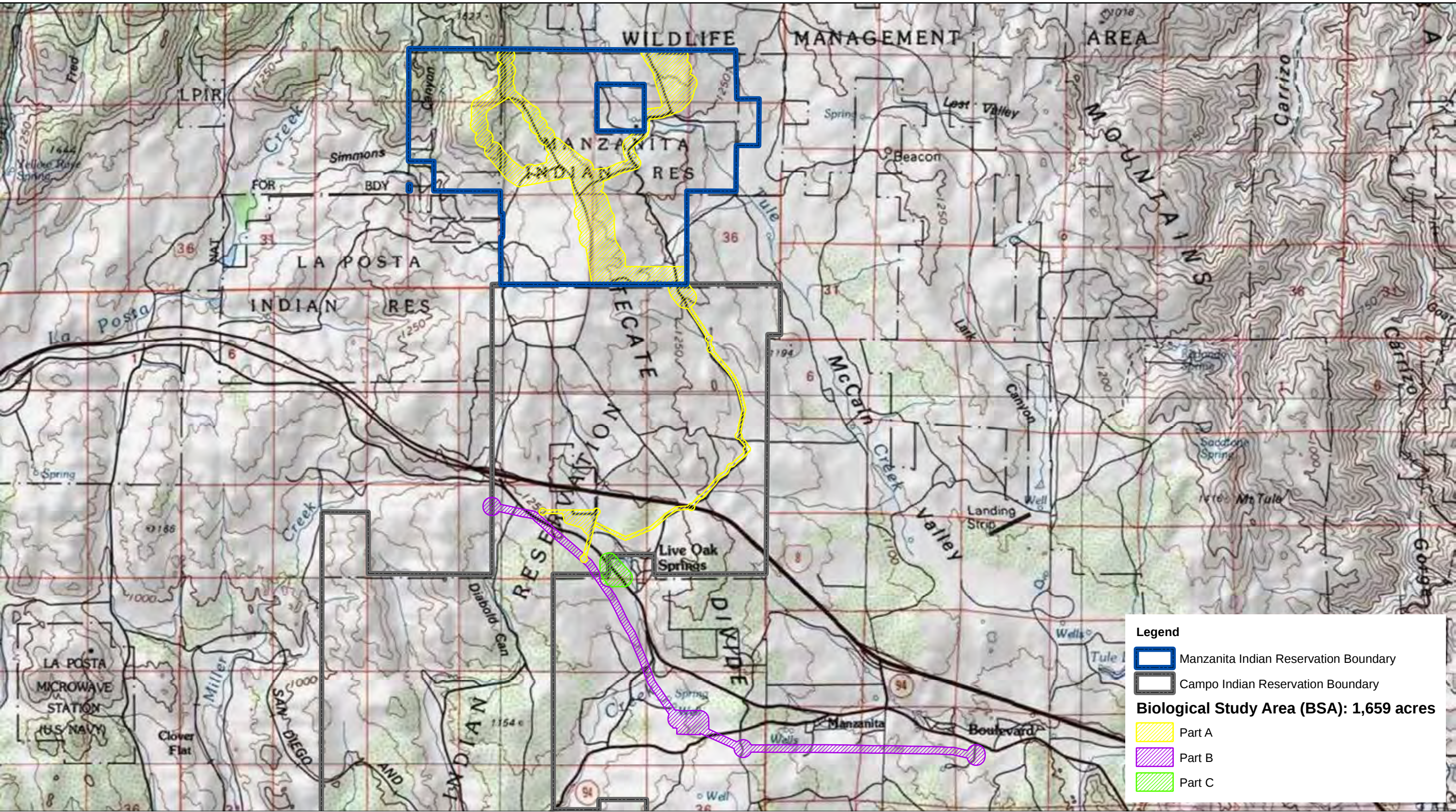


12.8 0 12.8 Miles



Scale: 1 = 810,771.7; 1 inch = 12.8 mile(s)

Figure 1
Regional Map



Source: Tierra del Sol 1959; Live Oak Springs 1975; Campo 1959; Cameron Corners 1988

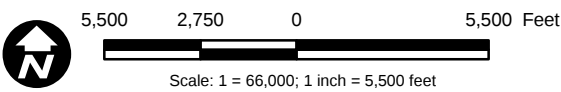
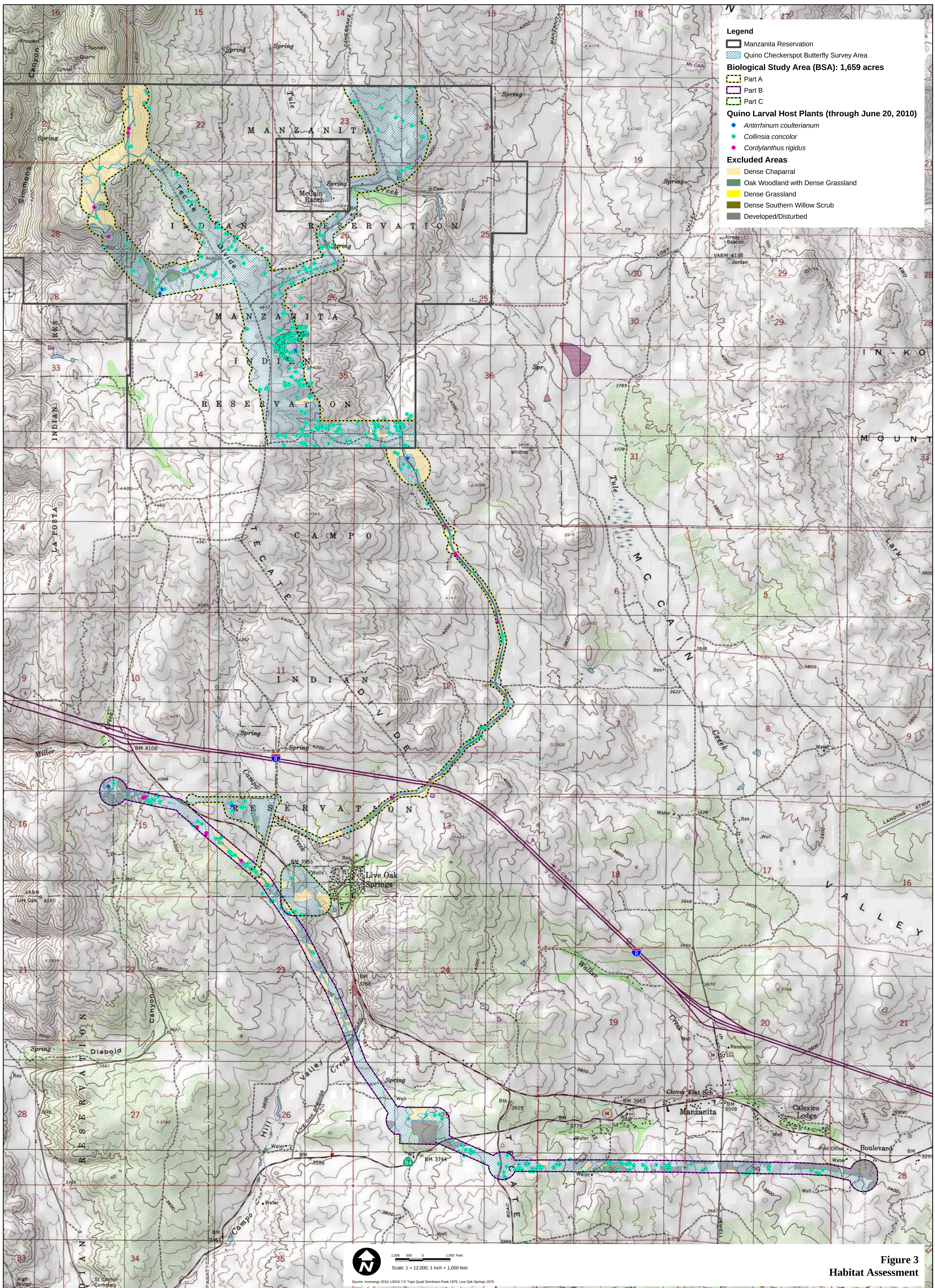


Figure 2
Vicinity Map



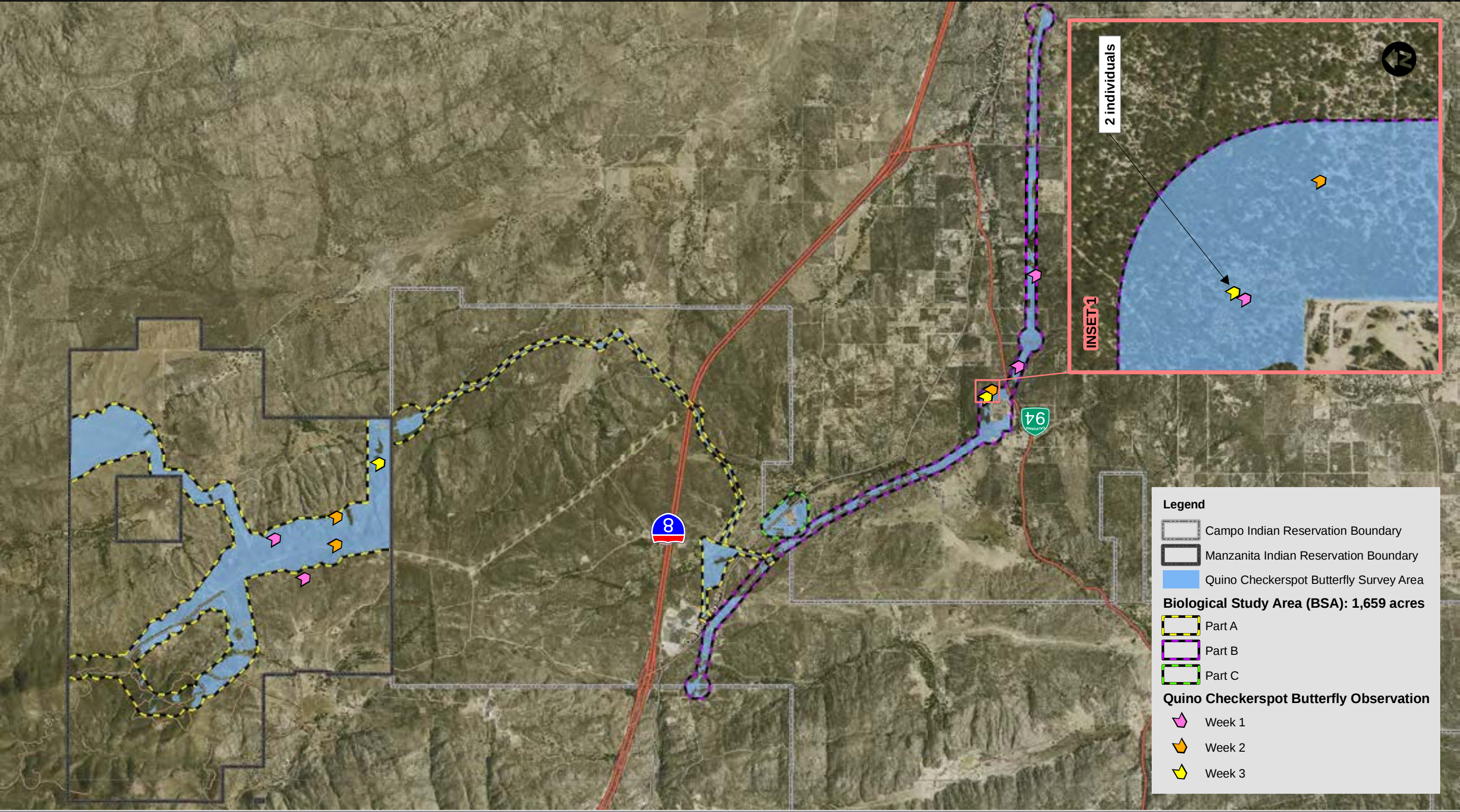
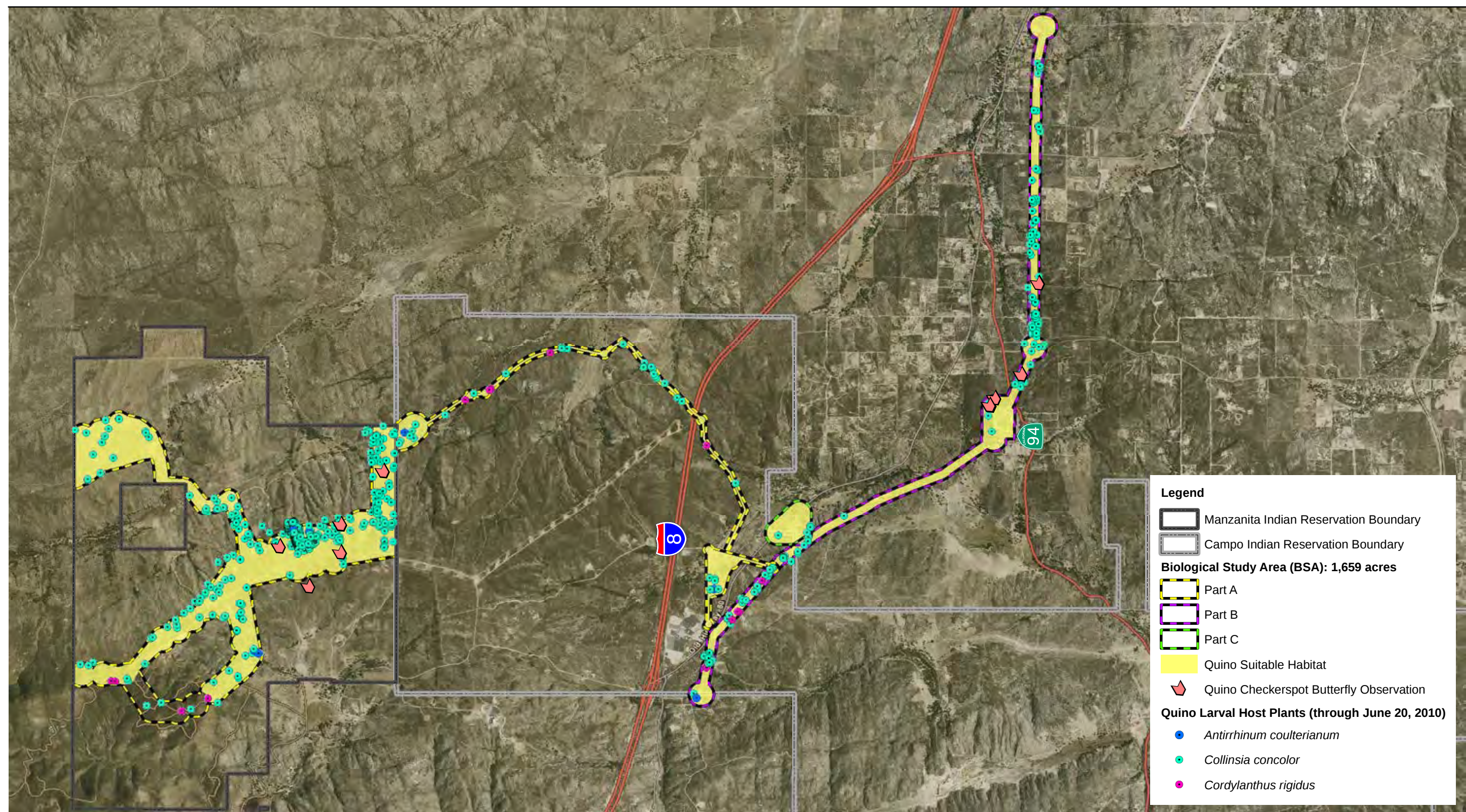


Figure 4
Quino Survey Area and Detections



Source: DigitalGlobe 2008; Invenenergy 2010

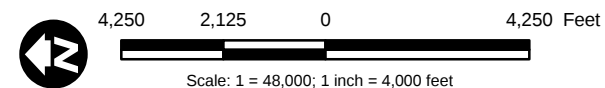


Figure 5
Quino Larval Host Plants and Suitable Habitat

APPENDIX A

DAILY WEATHER CONDITIONS FOR FOCUSED QUINO SURVEYS ON MANZANITA WIND ENERGY PROJECT

APPENDIX A
DAILY WEATHER CONDITIONS FOR FOCUSED QUINO SURVEYS
ON MANZANITA WIND ENERGY PROJECT

Date	Survey Week	Personnel	Time	Temperature (°F)	Wind Speed Average/ Maximum (mph)	Cloud Cover (%)	General Sky Condition
3/29/2010	1	Rink / McMorran	1100	73.5	1/2	20	patchy
3/29/2010	1	Rink / McMorran	1200	80	1/2	20	patchy
3/29/2010	1	Rink / McMorran	1300	79	5/7	20	patchy
3/29/2010	1	Rink / McMorran	1408	77	7/9	40	patchy
3/29/2010	1	Rink / McMorran	1500	76	7/9	30	patchy
3/30/2010	1	Rink	1200	70	14	10	patchy
3/30/2010	1	Rink	1300	70	13.7	10	patchy
3/30/2010	1	Rink	1400	69	14.5	10	patchy
3/30/2010	1	Rink	1500	69	14.7	10	patchy
3/29/2010	1	LaCoste	915	67	1/3	0	clear
3/29/2010	1	LaCoste	1200	79	2/5.9	15	clear
3/29/2010	1	LaCoste	1400	75	6/9	30	patchy
3/29/2010	1	LaCoste	1600	72	7/10	5	clear
3/30/2010	1	Behle / McMorran	1237	74	4/11	10	clear
3/30/2010	1	Behle / McMorran	1300	73	6/14	10	clear
3/30/2010	1	Behle / McMorran	1400	73	8/14	5	clear
3/30/2010	1	Behle / McMorran	1500	74	8/13	5	clear
4/2/2010	1	Gutierrez	1200	61.9	2.5/8.6	5	clear
4/2/2010	1	Gutierrez	1300	70.7	1.4/2.5	2	clear
4/2/2010	1	Gutierrez	1400	75.2	1.4/2.5	2	clear
4/2/2010	1	Gutierrez	1500	75.2	2.5/7.3	2	clear
4/2/2010	1	Gutierrez	1600	70.5	1.5/3.3	10	clear
4/2/2010	1	Gutierrez	1630	70.5	1.5/3.3	10	clear
4/2/2010	1	Couffer	1200	59	0/3	0	clear
4/2/2010	1	Couffer	1300	68	0/3	0	clear
4/2/2010	1	Couffer	1400	63	0/2	0	clear
4/2/2010	1	Couffer	1500	65	0/3	0	clear
4/2/2010	1	Couffer	1600	65	3/6	0	clear
4/2/2010	1	Couffer	1610	64	3/6	0	clear
4/3/2010	1	Couffer	1030	63	3/7	0	clear
4/3/2010	1	Couffer	1100	63	9/13	0	clear
4/3/2010	1	Couffer	1200	73	3/7	0	clear
4/3/2010	1	Couffer	1300	66	0/4	0	clear

Date	Survey Week	Personnel	Time	Temperature (°F)	Wind Speed Average/ Maximum (mph)	Cloud Cover (%)	General Sky Condition
4/3/2010	1	Couffer	1400	63	5/11	0	clear
4/3/2010	1	Couffer	1500	60	8/13	0	clear
4/3/2010	1	Hendricks	1100	58	11/18	0	clear
4/3/2010	1	Hendricks	1200	66	7/11	0	clear
4/3/2010	1	Hendricks	1300	62	9/16	0	clear
4/3/2010	1	Hendricks	1400	68	4/8	2	clear
4/3/2010	1	Hendricks	1500	58	7/14	2	clear
4/3/2010	1	Hendricks	1600	64	13/19	30	patchy
4/4/2010	1	Couffer / Bergman	1100	60	5/12	0	clear
4/4/2010	1	Couffer / Bergman	1200	58	8/17	0	clear
4/6/2010	1	Gutierrez	1115	65.8	3/5.1	0	clear
4/6/2010	1	Gutierrez	1200	61.2	6.5/12.8	0	clear
4/6/2010	1	Gutierrez	1300	65.3	7.7/10.6	0	clear
4/6/2010	1	Gutierrez	1400	63	5.6/8.1	0	clear
4/6/2010	1	Gutierrez	1530	69	4/8.2	0	clear
4/6/2010	1	Gutierrez	1630	66.4	4.2/8.5	0	clear
4/6/2010	1	Couffer	1000	60	3-8	0	clear
4/6/2010	1	Couffer	1100	55	4/10	0	clear
4/6/2010	1	Couffer	1200	57	4/10	0	clear
4/6/2010	1	Heath	1000	49.9	6.8/10.5	0	clear
4/6/2010	1	Heath	1100	50.2	9.3/14.8	0	clear
4/6/2010	1	Heath	1200	60.2	8.7/15.3	0	clear
4/6/2010	1	Heath	1345	61.3	4.4/6.7	0	clear
4/6/2010	1	Heath	1500	55.5	9.1/13.6	0	clear
4/6/2010	1	Powell / Bergman	1340	59	5/8	0	clear
4/6/2010	1	Powell / Bergman	1430	61	5/7	0	clear
4/6/2010	1	Powell / Bergman	1530	63	4/7	0	clear
4/6/2010	1	Powell / Bergman	1607	61	5/7	0	clear
4/6/2010	1	Ince / Bergman	1120	62	2/8.8	0	clear
4/6/2010	1	Ince / Bergman	1220	62	2/8	0	clear
4/6/2010	1	Ince	1400	61	3/10	0	clear
4/6/2010	1	Ince	1500	61	2/8	0	clear
4/6/2010	1	Ince	1615	61	2/8	0	clear
4/8/2010	1	Couffer	1315	73	0/2	0	clear
4/8/2010	1	Couffer	1400	73	0/2	0	clear
4/8/2010	1	Couffer	1500	74	0/2	0	clear
4/8/2010	1	Couffer	1600	76	0/3	0	clear

Date	Survey Week	Personnel	Time	Temperature (°F)	Wind Speed Average/ Maximum (mph)	Cloud Cover (%)	General Sky Condition
4/8/2010	1	Couffer	1700	75	1/3	0	clear
4/8/2010	1	Couffer	900	61	0/6	0	clear
4/8/2010	1	Couffer	1000	60	2/8	0	clear
4/8/2010	1	Couffer	1100	69	0/4	0	clear
4/8/2010	1	Couffer	1200	72	0/4	0	clear
4/8/2010	1	Couffer	1300	67	4/8	0	clear
4/8/2010	1	Jensen	1100	67	2/5	0	clear
4/8/2010	1	Jensen	1400	71	0/0	0	clear
4/8/2010	1	Jensen	934	61	3/6.5	0	clear
4/8/2010	1	Jensen	1100	67	2/5	0	clear
4/8/2010	1	Jensen	1400	71	0/0	0	clear
4/8/2010	1	Jensen	1555	75	0/0	0	clear
4/8/2010	1	Ince	940	62	2/5	0	clear
4/8/2010	1	Ince	1100	64	2/5	0	clear
4/8/2010	1	Ince	1140	64	2/5	0	clear
4/8/2010	1	Ince	1315	65	2/6	0	clear
4/8/2010	1	Ince	1415	68	2/5	0	clear
4/8/2010	1	Ince	1515	68	0/2	0	clear
4/8/2010	1	Ince	1614	70	0/0	0	clear
4/8/2010	1	Ince	1230	64	2/5	0	clear
4/9/2010	1	Jensen	1000	67	0.3/0.5	0	clear
4/9/2010	1	Jensen	1018	67	3/7	0	clear
4/9/2010	1	Jensen	1151	67	5/7	0	clear
4/9/2010	1	Jensen	1430	78	na	0	clear
4/9/2010	1	Jensen / Gutierrez	1500	76	3/6	0	clear
4/9/2010	1	Jensen / Gutierrez	1600	76	3/6	0	clear
4/9/2010	1	Gutierrez	1000	73	7.8/7.8	0	clear
4/9/2010	1	Gutierrez	1100	72	5.4/10.3	0	clear
4/9/2010	1	Gutierrez	1200	75	0.9/1.4	0	clear
4/9/2010	1	Gutierrez	1300	77	1.5/3.0	0	clear
4/9/2010	1	Gutierrez	1400	76	2.5/7.1	0	clear
4/9/2010	1	Ince	1215	67	3/10	0	clear
4/9/2010	1	Ince	1330	67	5/15	0	clear
4/9/2010	1	Ince	1545	68	3/7	0	clear
4/9/2010	1	Ince	1000	62	1/5	0	clear
4/9/2010	1	Ince	1115	65	3/10	0	clear
4/9/2010	1	Ince	1215	67	3/10	0	clear

Date	Survey Week	Personnel	Time	Temperature (°F)	Wind Speed Average/ Maximum (mph)	Cloud Cover (%)	General Sky Condition
4/9/2010	1	Jensen	1219	na	10/12	0	clear
4/9/2010	1	Jensen	1245	na	10/12	0	clear
4/9/2010	1	Jensen	1309	na	10/12	0	clear
4/9/2010	1	Jensen	1430	na	10/12	0	clear
4/9/2010	1	Jensen/Gutierrez	1600	na	7/10	0	clear
4/9/2010	1	Jensen/Gutierrez	1635	na	7/10	0	clear
4/9/2010	1	Gutierrez	1500	76	2.5/6.5	0	clear
4/9/2010	1	Gutierrez	1600	76	2.6/5	0	clear
4/9/2010	1	Heath	930	67.2	0.9/1.9	0	clear
4/9/2010	1	Heath	1030	69.5	1.3/4.2	0	clear
4/9/2010	1	Heath	1230	70.6	3.7/10	0	clear
4/9/2010	1	Heath	1330	72.1	3.4/5.2	0	clear
4/9/2010	1	Heath	1500	74.2	3.6/6.5	0	clear
4/9/2010	1	Heath	1600	67.9	3.6/7.9	0	clear
4/10/2010	1	Couffer	1030	65	1/3	0	clear
4/10/2010	1	Couffer	1100	68	1/4	0	clear
4/10/2010	1	Couffer	1200	68	1/7	0	clear
4/10/2010	1	Couffer	1300	72	0/4	0	clear
4/10/2010	1	Couffer	1400	70	4/7	0	clear
4/10/2010	1	Couffer	1500	71	2/8	0	clear
4/10/2010	1	Hendricks / Bergman	1100	64	5/11	5	clear
4/10/2010	1	Hendricks / Bergman	1235	70	3/12	2	clear
4/10/2010	1	Hendricks / Bergman	1330	67	4/15	1	clear
4/10/2010	1	Hendricks / Bergman	1430	64	9/14	1	clear
4/10/2010	1	Hendricks / Bergman	1530	62	5/12	2	clear
4/10/2010	1	Hendricks / Bergman	1700	63	2/14	10	clear
4/10/2010	1	Hendricks / Bergman	1730	61	3/11	2	clear
4/10/2010	1	Heath	1000	60.2	2.2/6.9	0	clear
4/10/2010	1	Heath	1200	62.1	8.7/13.5	0	clear
4/10/2010	1	Heath	1330	64.4	8.2/11.1	0	clear
4/10/2010	1	Heath	1500	66.7	6.2/10.3	0	clear
4/10/2010	1	Heath	1600	64.9	4.3/7.5	0	clear
4/10/2010	1	Powell	1000	63	6/9	0	clear
4/10/2010	1	Powell	1120	68	5/8	0	clear
4/10/2010	1	Powell	1230	72	8/11	0	clear
4/10/2010	1	Powell	1350	72	4/7	0	clear
4/10/2010	1	Powell	1540	70	5/9	0	clear

Date	Survey Week	Personnel	Time	Temperature (°F)	Wind Speed Average/ Maximum (mph)	Cloud Cover (%)	General Sky Condition
4/10/2010	1	Powell	1615	64	5/7	0	clear
4/11/2010	1	Couffer	1145	65	1/4	0	clear
4/11/2010	1	Couffer	1200	67	0/5	0	clear
4/11/2010	1	Couffer	1245	65	1/5	0	clear
4/11/2010	1	Couffer	1300	64	3/8	0	clear
4/11/2010	1	Couffer	1315	65	3/5	0	clear
4/11/2010	1	Heath / Innecken	1200	67	3.9/7.4	0	clear
4/11/2010	1	Heath / Innecken	1400	62.2	3.2/6.9	10	clear
4/11/2010	1	Heath / Innecken	1530	59	3.6/12.4	5	clear
4/11/2010	1	Booker / Jensen	1130	72	3/8	10	clear
4/11/2010	1	Booker / Jensen	1237	72	6/12	10	clear
4/11/2010	1	Booker / Jensen	1535	71	5/9	10	clear
4/11/2010	1	Jensen / Booker	1130	72	3/8.6	0	clear
4/11/2010	1	Jensen / Booker	1238	na	6/12	0	clear
4/11/2010	1	Jensen / Booker	1435	71	5/9	0	clear
4/11/2010	1	Powell	1200	61	9/13	0	clear
4/11/2010	1	Powell	1240	62	6/8	0	clear
4/11/2010	1	Powell	1520	62	7/11	0	clear
4/13/2010	2	Ince	1130	61	2/5	5	clear
4/13/2010	2	Ince	1230	61	2/5	5	clear
4/13/2010	2	Ince	1300	63	2/3	5	clear
4/13/2010	2	Ince	1400	63	2/5	5	clear
4/13/2010	2	Rink	1130	60	2/5	5	clear
4/13/2010	2	Rink	1235	61	2/5	5	clear
4/13/2010	2	Rink	1330	63	2/5	5	clear
4/13/2010	2	Rink	1430	63	2/5	5	clear
4/13/2010	2	Rink	1530	62	2/5	15	patchy
4/13/2010	2	Rink	1600	60	2/5	15	patchy
4/13/2010	2	Jensen	1330	64	5/8	1	clear
4/13/2010	2	Jensen	1611	67	3/5	20	clear
4/13/2010	2	Jensen	1200	60	1/3	1	clear
4/13/2010	2	Jensen	1308	65	1/3	1	clear
4/14/2010	2	Couffer / Innecken	1130	72	0/3	0	clear
4/14/2010	2	Couffer / Innecken	1200	72	0/3	0	clear
4/14/2010	2	Couffer / Innecken	1000	67	0/1	0	clear
4/14/2010	2	Couffer / Innecken	1100	68	1/4	0	clear
4/14/2010	2	Couffer / Innecken	1130	72	0/3	0	clear

Date	Survey Week	Personnel	Time	Temperature (°F)	Wind Speed Average/ Maximum (mph)	Cloud Cover (%)	General Sky Condition
4/14/2010	2	Couffer / Innecken	1500	70	0/4	90	overcast
4/14/2010	2	Couffer / Innecken	1600	65	2/5	90	overcast
4/14/2010	2	Couffer / Innecken	1218	74	0/3	0	clear
4/14/2010	2	Couffer / Innecken	1300	73	1/4	10	patchy
4/14/2010	2	Couffer / Innecken	1400	71	0/2	60	patchy
4/14/2010	2	Marquez / Fleitner	1000	65.6	2.1/5.2	10	patchy
4/14/2010	2	Marquez / Fleitner	1130	67.3	2.6/4.4	0	clear
4/14/2010	2	Marquez / Fleitner	1255	66.7	2.4/4.3	30	patchy
4/14/2010	2	Marquez / Fleitner	1335	68	2.6/4.6	30	patchy
4/14/2010	2	Fleitner	1420	72	2/5	80	overcast
4/14/2010	2	Fleitner	1450	70	4/6	90	overcast
4/14/2010	2	Fleitner	1520	72	4/6	80	overcast
4/14/2010	2	Fleitner	1550	69	5/9	80	overcast
4/14/2010	2	Fleitner/Marquez	1000	65	2/5	20	clear
4/14/2010	2	Fleitner/Marquez	1310	74	2/5	60	patchy
4/14/2010	2	Marquez/Fleitner	1430	69.8	2.4/4.7	80	patchy
4/14/2010	2	Marquez/Fleitner	1500	65.5	2.1/3.1	85	overcast
4/14/2010	2	Marquez/Fleitner	1530	66.1	1.6/4.1	85	overcast
4/15/2010	2	Ince	930	60	5/12	5	clear
4/15/2010	2	Ince	1130	62	3/8	5	clear
4/15/2010	2	Ince	1230	62	5/10	30	patchy
4/15/2010	2	Ince	1315	64	3/8	30	patchy
4/15/2010	2	Ince	1415	66	2/5	30	patchy
4/15/2010	2	Ince	1515	70	2/5	30	patchy
4/15/2010	2	Ince	1615	70	2/5	30	patchy
4/15/2010	2	Flietner	1215	68	8/12	30	patchy
4/15/2010	2	Flietner	1415	73	5/10	100	overcast
4/15/2010	2	Flietner	1515	71	4/6	90	overcast
4/15/2010	2	Flietner	1545	73	4/7	100	overcast
4/15/2010	2	Flietner	1615	72	3/7	100	overcast
4/15/2010	2	Faulkner	1100	64	9	0	clear
4/15/2010	2	Faulkner	1200	67	10	10	patchy
4/15/2010	2	Faulkner	1300	69	11	10	patchy
4/15/2010	2	Flietner	855	61	5/8	0	clear
4/15/2010	2	Flietner	1155	70	5/10	0	clear
4/15/2010	2	Behle	1135	68	3/4	0	clear
4/15/2010	2	Behle	1340	75	4/7	na	overcast

Date	Survey Week	Personnel	Time	Temperature (°F)	Wind Speed Average/ Maximum (mph)	Cloud Cover (%)	General Sky Condition
4/15/2010	2	Jensen	1130	76	3/4	1	clear
4/15/2010	2	Jensen	1345	75	4/7	1	clear
4/15/2010	2	Behle	910	63	3.9/4.4	0	clear
4/15/2010	2	Jensen	910	63	4/5	1	clear
4/15/2010	2	Behle	1545	76	1/3	na	overcast
4/16/2010	2	Gutierrez	900	68	0	5	clear
4/16/2010	2	Gutierrez	1000	74	2	0	clear
4/16/2010	2	Gutierrez	1115	78	2	0	clear
4/16/2010	2	Gutierrez	1124	78	2	0	clear
4/16/2010	2	Gutierrez	1500	78	2/7	0	clear
4/16/2010	2	Flietner	845	58	3/5	0	clear
4/16/2010	2	Flietner	905	61	4/7	0	clear
4/16/2010	2	Flietner	1415	73	7/12	0	clear
4/16/2010	2	Flietner	1515	72	8/15	0	clear
4/16/2010	2	Heath / Innecken	915	62.5	3.6/6.6	0	clear
4/16/2010	2	Heath / Innecken	1030	64.5	2.5/4.3	0	clear
4/16/2010	2	Heath / Innecken	1200	67.3	2.1/4.4	0	clear
4/16/2010	2	Heath / Innecken	1400	67	6.8/14.2	0	clear
4/16/2010	2	Heath / Innecken	1500	62	8.3/12.9	0	clear
4/17/2010	2	Jensen	930	62	1/2	25	patchy
4/17/2010	2	Jensen	1420	70	1/2.5	25	patchy
4/17/2010	2	Heath	900	64.7	6.7/9.3	100	overcast
4/17/2010	2	Heath	1000	65.6	4.5/8.7	100	overcast
4/17/2010	2	Heath	1130	70.2	4.9/7.6	100	overcast
4/17/2010	2	Heath	1330	68.2	4.8/9.0	100	overcast
4/17/2010	2	Heath	1500	70.1	2.8/5.0	100	overcast
4/17/2010	2	Couffer	1350	76	0/3	100	overcast
4/17/2010	2	Couffer	1400	76	0/3	100	overcast
4/17/2010	2	Couffer	1500	75	0/4	100	overcast
4/17/2010	2	Couffer	1600	75	0/2	100	overcast
4/18/2010	2	Heath	900	66	0/2	50	clear
4/18/2010	2	Heath	1100	68.6	3.8/4.7	10	clear
4/18/2010	2	Heath	1300	71.2	4.6/10.9	0	clear
4/18/2010	2	Heath	1500	70.2	5.5/10.6	0	clear
4/19/2010	2	Flietner	1040	66	5/8	30	patchy
4/19/2010	2	Flietner	1240	68	5/10	10	clear
4/18/2010	3	Calantas	920	66	3.2/4.8	50	patchy

Date	Survey Week	Personnel	Time	Temperature (°F)	Wind Speed Average/ Maximum (mph)	Cloud Cover (%)	General Sky Condition
4/18/2010	3	Calantas	1000	68.6	2.1/3.0	60	patchy
4/18/2010	3	Calantas	1100	71.3	2.4/3.8	30	clear
4/18/2010	3	Calantas	1200	72.3	3.5/5.7	20	clear
4/18/2010	3	Calantas	1300	71.2	3.0/4.2	20	clear
4/18/2010	3	Calantas	1400	73.1	2.1/3.8	0	clear
4/18/2010	3	Calantas	1500	71.3	2.3/2.3	0	clear
4/19/2010	3	Flietner	1250	75	4/7	30	patchy
4/19/2010	3	Flietner	1520	78	10/15	50	patchy
4/19/2010	3	Gutierrez / Innecken	1100	76	1/2	10	clear
4/19/2010	3	Gutierrez / Innecken	1200	74	3.7/6.6	10	clear
4/19/2010	3	Gutierrez / Innecken	1300	70	3/4.2	15	clear
4/19/2010	3	Gutierrez / Innecken	1400	78	3/4.2	40	patchy
4/19/2010	3	Gutierrez / Innecken	1510	78	3/4.2	50	patchy
4/19/2010	3	Jensen	1348	70	3/5	20	patchy
4/19/2010	3	Jensen	1540	70	2/4	20	patchy
4/19/2010	3	Jensen	1055	63	1/1	25	patchy
4/19/2010	3	Jensen	1120	na	5/8	25	patchy
4/19/2010	3	Jensen	1301	70	5/9	10	clear
4/20/2010	3	Jensen	1300	71	8/13	45	patchy
4/20/2010	3	Jensen	1345	71	15	45	patchy
4/20/2010	3	Jensen	1400	71	10/13	45	patchy
4/20/2010	3	Jensen	1415	71	8/13	45	patchy
4/20/2010	3	Flietner	945	66	5/8	40	patchy
4/20/2010	3	Flietner	1018	66	12/18	50	patchy
4/20/2010	3	Flietner	1115	68	8/12	70	patchy
4/20/2010	3	Flietner	1230	80	10/20	80	patchy
4/20/2010	3	Gutierrez	954	70	0/2	20	patchy
4/20/2010	3	Gutierrez	1155	72	2/5.7	20	patchy
4/20/2010	3	Gutierrez	1255	68	4.4/6.4	40	patchy
4/20/2010	3	Gutierrez	1455	66	5.2/13.6	40	patchy
4/20/2010	3	Gutierrez	1600	67	9.2/6.6	40	patchy
4/24/2010	3	Heath	830	60.2	3.6/4.6	0	clear
4/24/2010	3	Heath	1030	70.5	2.2/3.2	0	clear
4/24/2010	3	Heath	1130	69.8	3.5/7.1	0	clear
4/24/2010	3	Heath	1330	72.3	2.1/2.8	0	clear
4/24/2010	3	Heath	1530	70.5	8.0/11.5	0	clear
4/23/2010	3	Heath / Bergman	1000	45.7	4.0/5.5	0	clear

Date	Survey Week	Personnel	Time	Temperature (°F)	Wind Speed Average/ Maximum (mph)	Cloud Cover (%)	General Sky Condition
4/23/2010	3	Heath / Bergman	1100	53	2.6/4.7	0	clear
4/23/2010	3	Heath / Bergman	1200	61.5	2.7/4.9	0	clear
4/23/2010	3	Heath / Bergman	1330	59.8	3.6/7.9	0	clear
4/23/2010	3	Heath / Bergman	1430	60.8	6.5/9.8	0	clear
4/23/2010	3	Heath / Bergman	1600	54	7.5/10.9	0	clear
4/23/2010	3	Ince	1220	62	2/8	0	clear
4/23/2010	3	Ince	1320	62	2/10	0	clear
4/23/2010	3	Ince	1530	62	2/10	0	clear
4/23/2010	3	Ince	1615	62	2/8	0	clear
4/24/2010	3	Flietner	915	66	0/2	0	clear
4/24/2010	3	Flietner	1005	72	0/2	0	clear
4/24/2010	3	Flietner	1030	69	4/7	0	clear
4/24/2010	3	Flietner	1600	73	4/7	0	clear
4/25/2010	3	Heath / Bergman	830	72.5	1.5/2.1	0	clear
4/25/2010	3	Heath / Bergman	1100	77	1.2/3.8	0	clear
4/25/2010	3	Heath / Bergman	1300	73.1	1.2/4.4	0	clear
4/25/2010	3	Heath / Bergman	1500	72.3	1.8/3.1	0	clear
4/26/2010	3	Ince	900	68	0/5	5	clear
4/26/2010	3	Ince	1000	70	0/5	5	clear
4/26/2010	3	Ince	1100	76	0/5	5	clear
4/26/2010	3	Ince	1200	76	0/5	0	clear
4/26/2010	3	Ince	1500	77	1/5	0	clear
4/26/2010	3	Flietner	900	65	0-2	10	clear
4/26/2010	3	Flietner	1415	77	0/3	20	clear
4/26/2010	3	Behle	852	72	0/1	10	clear
4/26/2010	3	Behle	1120	74	3/7	10	clear
4/26/2010	3	Behle	1145	77	2/7	15	clear
4/26/2010	3	Behle	1510	84	2/7	5	clear
4/26/2010	3	Gutierrez	930	76	0/2	2	clear
4/26/2010	3	Gutierrez	1130	79	1.5/5	2	clear
4/26/2010	3	Gutierrez	1230	80	1.5/5	2	clear
4/26/2010	3	Gutierrez	1430	80	0/1	2	clear
4/26/2010	3	Gutierrez	1630	79	1.5/5	2	clear
4/26/2010	4	LaCoste/Fisher	900	68	2/4	5	clear
4/26/2010	4	LaCoste/Fisher	1400	80	2/4	5	clear
4/26/2010	4	LaCoste/Fisher	1530	71	4/8	5	clear
4/26/2010	4	Rink	930	65	2-3/5	5	patchy

Date	Survey Week	Personnel	Time	Temperature (°F)	Wind Speed Average/ Maximum (mph)	Cloud Cover (%)	General Sky Condition
4/26/2010	4	Rink	1040	70	2-3/5	5	patchy
4/26/2010	4	Rink	1130	70	3-5/6	5	patchy
4/26/2010	4	Rink	1230	68	3-5/6	5	patchy
4/26/2010	4	Rink	1328	70	2-3/5	5	patchy
4/26/2010	4	Rink	1440	69	1-2/3	5	patchy
4/26/2010	4	Rink	1530	69	1-2/3	5	patchy
4/27/2010	4	Flietner	1225	74	5/9	10	clear
4/27/2010	4	Flietner	1500	74	7/12	25	patchy
4/27/2010	4	Flietner	1545	74	10/15	25	patchy
4/27/2010	4	Flietner	845	65	3/6	10	clear
4/27/2010	4	Flietner	1100	72	7/10	10	clear
4/27/2010	4	Flietner	1210	74	5/8	10	clear
4/27/2010	4	Gutierrez	900	66	2.1/5	2	clear
4/27/2010	4	Gutierrez	1000	72	1.2/3	5	clear
4/27/2010	4	Gutierrez	1100	74	4.2/9	5	clear
4/27/2010	4	Gutierrez	1200	74	1.8/6.9	10	clear
4/27/2010	4	Gutierrez	1300	74	4/7.2	15	clear
4/27/2010	4	Gutierrez	1400	74	5.1/10.1	40	patchy
4/27/2010	4	Gutierrez	1440	71	4.5/9	40	patchy
4/27/2010	4	Behle	1030	71	2/7	0	clear
4/27/2010	4	Behle	1500	77	11/15	10	clear
4/27/2010	4	Ince	930	71	2/7	0	clear
4/27/2010	4	Ince	1030	74	na	na	na
4/27/2010	4	Ince	1230	na	12	na	na
4/27/2010	4	Ince	1330	na	na	na	na
4/27/2010	4	Ince	1500	77	11/15	0	clear
5/1/2010	4	Heath	800	58.9	2.3/5.1	0	clear
5/1/2010	4	Heath	1150	63.2	2.1/6.8	0	clear
5/1/2010	4	Heath	1400	62.3	6.1/9.8	0	clear
5/1/2010	4	Heath	1600	62.8	4.7/8.7	0	clear
5/2/2010	4	Heath	1030	61.5	1.1/2.8	0	clear
5/2/2010	4	Heath	1230	65.1	2.1/2.8	0	clear
5/2/2010	4	Heath	1430	68.8	2.1/4	0	clear
5/2/2010	4	Heath	1630	69.8	2.1/4.5	0	clear
5/3/2010	4	Gutierrez	900	67	.7/3.4	0	clear
5/3/2010	4	Gutierrez	1300	70	5.5/12.6	0	clear
5/3/2010	4	Gutierrez	1100	72	1.3/5.7	0	clear

Date	Survey Week	Personnel	Time	Temperature (°F)	Wind Speed Average/ Maximum (mph)	Cloud Cover (%)	General Sky Condition
5/3/2010	4	Gutierrez	1200	72	0/1.7	0	clear
5/3/2010	4	Gutierrez	1300	72	1/5	0	clear
5/3/2010	4	Gutierrez	1400	72	1/5	0	clear
5/3/2010	4	Gutierrez	1530	72	1/5	0	clear
5/3/2010	4	Rink	845	61	2/5	0	clear
5/3/2010	4	Rink	922	63	10-12/19	0	clear
5/3/2010	4	Rink	1030	67	10-12/13	0	clear
5/3/2010	4	Rink	1130	65	10-12/13	0	clear
5/3/2010	4	Rink	1230	67	8-10/12	0	clear
5/3/2010	4	Rink	1309	72	10-12/14	0	clear
5/3/2010	4	Rink	1430	70	8-10/12	0	clear
5/3/2010	4	Rink	1545	70	6/8	0	clear
5/3/2010	4	LaCoste	845	60	5/9	0	clear
5/3/2010	4	LaCoste	1030	67	7/10	0	clear
5/3/2010	4	LaCoste	1130	64	5/5	0	clear
5/3/2010	4	LaCoste	1200	69	3/7	0	clear
5/3/2010	4	Behle	855	64	1/5	0	clear
5/3/2010	4	Behle	950	67	2/7	0	clear
5/3/2010	4	Behle	1025	70	3/7	0	clear
5/3/2010	4	Behle	1415	76	1/6	0	clear
5/3/2010	4	Behle	1430	84	0/1	0	clear
5/3/2010	4	Behle	1550	80	1/3	0	clear
5/4/2010	4	Rink	845	64	2/5	0	clear
5/4/2010	4	Rink	1030	70	3/6	0	clear
5/4/2010	4	Rink	1130	72	5/9	0	clear
5/4/2010	4	Rink	1230	74	5/10	0	clear
5/4/2010	4	Rink	1300	78	3/7	0	clear
5/4/2010	4	Rink	1400	80	8/12	0	clear
5/4/2010	4	Rink	1515	80	8/12	0	clear
5/5/2010	4	Rink	830	72	10/15	0	clear
5/5/2010	4	Rink	930	69	10/17	0	clear
5/5/2010	4	Rink	1030	69	10/19	0	clear
5/5/2010	4	Rink	1130	70	12/18	0	clear
5/5/2010	4	Rink	1230	71	10/17	0	clear
5/5/2010	4	Rink	1330	70	10/19	0	clear
5/6/2010	4	Gutierrez / Krantz	945	74	0/3	0	clear
5/6/2010	4	Gutierrez / Krantz	1045	76	0/5	0	clear

Date	Survey Week	Personnel	Time	Temperature (°F)	Wind Speed Average/ Maximum (mph)	Cloud Cover (%)	General Sky Condition
5/6/2010	4	Gutierrez / Krantz	1245	76	1/5	0	clear
5/6/2010	4	Gutierrez / Krantz	1430	76	1.5/10	0	clear
5/6/2010	5	Gutierrez / Krantz	1450	75	4/10	0	clear
5/6/2010	5	Gutierrez / Krantz	1630	73	4/10	0	clear
5/7/2010	5	Hendricks	950	67.7	1/5	0	clear
5/7/2010	5	Hendricks	1035	68.3	2/4	0	clear
5/7/2010	5	Hendricks	1155	78.7	1/6	0	clear
5/7/2010	5	Hendricks	1255	80.6	2/9	0	clear
5/7/2010	5	Hendricks	1405	79.5	1/4	0	clear
5/7/2010	5	Hendricks	1499	73.1	0/8	0	clear
5/7/2010	5	Hendricks	1612	78.7	3/7	0	clear
5/7/2010	5	Heath	830	63.2	1.8/3	0	clear
5/7/2010	5	Heath	930	69.3	1.2/2.4	0	clear
5/7/2010	5	Heath	1200	69.9	3.6/5.3	0	clear
5/7/2010	5	Heath	1500	74	1.6/4.9	0	clear
5/7/2010	5	Heath	1600	73.2	2.3/5.7	0	clear
5/14/2010	5	Gutierrez	900	68	2/8	0	clear
5/14/2010	5	Gutierrez	1000	71	2/7	0	clear
5/14/2010	5	Gutierrez	1100	74	5/10	2	clear
5/14/2010	5	Gutierrez	1200	76	3/6	2	clear
5/14/2010	5	Gutierrez	1300	78	3/6	2	clear
5/14/2010	5	Gutierrez	1400	78	2/7	10	clear
5/14/2010	5	Gutierrez	1600	78	2/6	20	clear
5/14/2010	5	Rink / Krantz	845	71	1/2	0	clear
5/14/2010	5	Rink / Krantz	1005	73	1/2	0	clear
5/14/2010	5	Rink / Krantz	1100	75	1/3	0	clear
5/14/2010	5	Rink / Krantz	1230	70	3/5	0	clear
5/14/2010	5	Rink / Krantz	1500	71	5/7	0	clear
5/14/2010	5	Ince	850	68	0/5	0	clear
5/14/2010	5	Ince	1000	70	0/5	0	clear
5/14/2010	5	Ince	1100	72	0/5	0	clear
5/14/2010	5	Ince	1230	76	0/5	0	clear
5/14/2010	5	Ince	1400	77	0/5	0	clear
5/16/2010	5	Gutierrez / Krantz	845	75	1/6	0	clear
5/16/2010	5	Gutierrez / Krantz	1000	76	2/10	0	clear
5/16/2010	5	Gutierrez / Krantz	1030	76	2/10	0	clear
5/8/2010	5	Heath	900	68	2.1/3.9	0	clear

Date	Survey Week	Personnel	Time	Temperature (°F)	Wind Speed Average/ Maximum (mph)	Cloud Cover (%)	General Sky Condition
5/8/2010	5	Heath	1030	72	3.9/5.6	0	clear
5/8/2010	5	Heath	1230	74	2.5/7	0	clear
5/8/2010	5	Heath	1400	73	3.2/6.7	0	clear
5/8/2010	5	Heath	1530	75	5.5/13.1	0	clear
5/8/2010	5	Hendricks	845	64	9/12	0	clear
5/8/2010	5	Hendricks	950	75	2/5	0	clear
5/8/2010	5	Hendricks	1050	73	5/12	0	clear
5/8/2010	5	Hendricks	1150	73	7/14	0	clear
5/8/2010	5	Hendricks	1430	74	5/9	0	clear
5/8/2010	5	Hendricks	1530	72	5/10	0	clear
5/8/2010	5	Hendricks	1615	71	5/8	0	clear
5/12/2010	5	Gutierrez	840	64	0	0	clear
5/12/2010	5	Gutierrez	940	68	0/1	0	clear
5/12/2010	5	Gutierrez	1040	70	0/3	0	clear
5/12/2010	5	Gutierrez	1240	74	1/6	0	clear
5/12/2010	5	Gutierrez	1340	75	1/8	2	clear
5/12/2010	5	Gutierrez	1440	75	2/8	2	clear
5/12/2010	5	Gutierrez	1600	71	4/12	5	clear
5/12/2010	5	Ince	830	63	0/2	0	clear
5/12/2010	5	Ince	930	64	0/2	0	clear
5/12/2010	5	Ince	1130	72	0/2	0	clear
5/12/2010	5	Ince	1330	77	2/5	0	clear
5/12/2010	5	Ince	1400	78	2/5	0	clear
5/12/2010	5	LaCoste	845	60	2/4	0	clear
5/12/2010	5	LaCoste	1045	65	4/8	0	clear
5/12/2010	5	LaCoste	1100	63	4/8	0	clear
5/12/2010	5	LaCoste	1300	65	4/8	0	clear
5/12/2010	5	Behle	850	60	0/1	0	clear
5/12/2010	5	Behle	1500	76	6/9	10	clear
5/13/2010	5	Powell	835	71	2/4	0	clear
5/13/2010	5	Powell	1045	70	4/5	0	clear
5/13/2010	5	Powell	1120	78	3/6	0	clear
5/13/2010	5	Powell	1140	75	6/8	0	clear
5/13/2010	5	Powell	1330	77	4/5	0	clear
5/13/2010	5	Powell	1600	70	6/7	0	clear
5/13/2010	5	Couffer	848	75	0/2	0	clear
5/13/2010	5	Couffer	900	75	0/3	0	clear

Date	Survey Week	Personnel	Time	Temperature (°F)	Wind Speed Average/ Maximum (mph)	Cloud Cover (%)	General Sky Condition
5/13/2010	5	Couffer	1000	75	0/4	0	clear
5/13/2010	5	Couffer	1100	74	0/7	0	clear
5/13/2010	5	Couffer	1200	71	2/6	0	clear
5/13/2010	5	Couffer	1300	73	2/7	0	clear
5/13/2010	5	Couffer	1400	81	0/2	20	clear
5/13/2010	5	Couffer	1500	73	0	20	patchy
5/13/2010	5	Couffer	1600	72	4/7	30	patchy
5/14/2010	6	Hendricks	855	65	4/8	0	clear
5/14/2010	6	Hendricks	1040	79	2/3	0	clear
5/14/2010	6	Hendricks	1145	82	4/6	0	clear
5/14/2010	6	Hendricks	1255	77	2/4	5	clear
5/14/2010	6	Hendricks	1400	76	4/5	8	clear
5/14/2010	6	Hendricks	1510	79	1/13	20	patchy
5/14/2010	6	Hendricks	1540	77	1/2	10	clear
5/14/2010	6	Behle	900	70	5/11	0	clear
5/14/2010	6	Behle	1320	73	4/9	5	clear
5/14/2010	6	Behle	1320	73	1/8	5	clear
5/14/2010	6	Behle	1530	74	1/6	20	patchy
5/16/2010	6	Hendricks / Anguiano	900	72	2/3	0	clear
5/16/2010	6	Hendricks / Anguiano	1050	77	1/2	0	clear
5/16/2010	6	Hendricks / Anguiano	1150	81	2/5	0	clear
5/16/2010	6	Hendricks / Anguiano	1310	85	2/5	0	clear
5/16/2010	6	Hendricks / Anguiano	1400	83	2/3	0	clear
5/16/2010	6	Hendricks / Anguiano	1555	82	2/4	0	clear
5/16/2010	6	Gutierrez / Krantz	1030	78	2/10	0	clear
5/16/2010	6	Gutierrez / Krantz	1230	78	4/12	0	clear
5/16/2010	6	Gutierrez / Krantz	1330	78	4/14	0	clear
5/16/2010	6	Gutierrez / Krantz	1430	78	4/10	2	clear
5/16/2010	6	Couffer	845	76	0/3	0	clear
5/16/2010	6	Couffer	900	76	0/4	0	clear
5/16/2010	6	Couffer	1000	76	3/7	0	clear
5/16/2010	6	Couffer	1100	76	5/13	0	clear
5/16/2010	6	Couffer	1200	79	2/7	0	clear
5/16/2010	6	Couffer	1300	80	2/8	0	clear
5/16/2010	6	Couffer	1400	79	1/6	0	clear
5/16/2010	6	Couffer	1500	80	1/5	0	clear
5/16/2010	6	Couffer	1600	81	1/3	0	clear

Date	Survey Week	Personnel	Time	Temperature (°F)	Wind Speed Average/ Maximum (mph)	Cloud Cover (%)	General Sky Condition
5/16/2010	6	Couffer	1620	76	2/7	0	clear
5/17/2010	6	LaCoste	1040	64	5/7	100	overcast
5/17/2010	6	LaCoste	1230	68	3/6	100	overcast
5/17/2010	6	LaCoste	1330	63	5/10	60	overcast
5/17/2010	6	LaCoste	1345	64	7/12	70	overcast
5/17/2010	6	Rink	1100	64	8/10	100	overcast
5/17/2010	6	Gutierrez	1100	62	8/10	100	overcast
5/17/2010	6	Gutierrez	1314	65	8/15	100	overcast
5/17/2010	6	Heath	1000	60	2.5/5	100	overcast
5/17/2010	6	Heath	1100	65	2.3/5	100	overcast
5/17/2010	6	Heath	1200	62	4/9	100	overcast
5/17/2010	6	Heath	1300	62	4/10	100	overcast
5/20/2010	6	Couffer	1325	84	0/4	0	clear
5/20/2010	6	Couffer	1400	80	0/5	0	clear
5/20/2010	6	Couffer	1500	79	2/6	0	clear
5/20/2010	6	Couffer	1600	82	1/4	0	clear
5/19/2010	6	Powell	1350	78	7/10	0	clear
5/19/2010	6	Powell	1515	78	5/7	5	clear
5/19/2010	6	Powell	1615	73	6/9	5	clear
5/19/2010	6	Rink	830	70	2/3	0	clear
5/19/2010	6	Rink	1100	72	5/7	0	clear
5/19/2010	6	Rink	1330	73	5/7	0	clear
5/19/2010	6	Rink	1545	73	8/10	0	clear
5/19/2010	6	Heath	845	62	1/3	0	clear
5/19/2010	6	Heath	1000	67	2/5	0	clear
5/19/2010	6	Heath	1130	72	3/5	0	clear
5/19/2010	6	Heath	1300	74	2/4	0	clear
5/19/2010	6	Heath	1530	73	2.7/3	0	clear
5/19/2010	6	Gutierrez	845	61	2/3	0	clear
5/19/2010	6	Gutierrez	1000	74	1/3	0	clear
5/19/2010	6	Gutierrez	1200	78	1/6	0	clear
5/19/2010	6	Gutierrez	1400	78	1/6	0	clear
5/19/2010	6	Gutierrez	1500	78	1/6	0	clear
5/19/2010	6	Gutierrez	1600	78	3/6	2	clear
5/19/2010	6	Behle	955	71	1/2	0	clear
5/19/2010	6	Behle	1505	66	1/6	0	clear
5/19/2010	6	Behle	840	65	1/2	0	clear

Date	Survey Week	Personnel	Time	Temperature (°F)	Wind Speed Average/ Maximum (mph)	Cloud Cover (%)	General Sky Condition
5/19/2010	6	Behle	945	71	1/2	0	clear
5/19/2010	6	LaCoste	850	71	1/2	0	clear
5/19/2010	6	LaCoste	1100	78	2/5	0	clear
5/19/2010	6	LaCoste	1200	80	3/7	0	clear
5/20/2010	6	Powell	830	68	8/10	0	clear
5/20/2010	6	Powell	1015	73	9/12	0	clear
5/20/2010	6	Powell	1040	74	10/12	0	clear
5/20/2010	6	Powell	1145	73	8/14	0	clear
5/20/2010	6	Powell	1245	79	6/8	0	clear
5/20/2010	6	Couffer	1345	77	5/8	0	clear
5/20/2010	6	Couffer	1400	77	3/9	0	clear
5/20/2010	6	Couffer	1500	76	3/6	0	clear

APPENDIX B

FIELD DATA SHEETS

Quino Checkerspot Butterfly Protocol Survey

Field Data Sheet

Recorder: Steve Rink Add'l Person: JIMMY MUMFORD Date: 3/29/10

Project: MANZANITA
Compo Wind Energy Project Map #: 9 Survey Sxn: MANZ-L

GPS Unit: SM 14 OCB Protocol Survey # 1 of 5

TIME (24-hour)		Temp (F°):	Wind (avg/max)	% CC	Sky				
START	11:00	73.5	1-2 mph	80%	clear	patchy	overcast	drizzle	shower
	12:00	80.0	1-2	80%	clear	patchy	overcast	drizzle	shower
	13:00	79.0	1-2 5-7	90%	clear	patchy	overcast	drizzle	shower
	14:00	77.0	7-9	40%	clear	patchy	overcast	drizzle	shower
	15:00	76.0	7-9	30%	clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
END					clear	patchy	overcast	drizzle	shower

Habitat On-site (circle): open soils, hilltops, ridges, rock outcrops, soil crusts, clay soils, old roads; various nectar sources

[illegible]

Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet

[illegible]

TOTAL NUMBER OF QCB DETECTED: 13 INDIVIDUALS

Recorder: GRP STEVE R. Add'l Person: _____ Date: 3/30/10
Project: MANZANITA
Campo Wind Energy Project Map #: 5 Survey Sxn: MANZ-D
GPS Unit: Garmin 3 QCB Protocol Survey # 1 of 5

Habitat On-site (circle): open soils, hilltops, ridges, rock outcrops, soil crusts, clay soils, old roads, various nectar sources

Page 1 of 2

**Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet**

Field Data Sheet

[illegible]

TOTAL NUMBER OF QCB DETECTED: 2 INDIVIDUALS

Recorder: Adam Behle (MIA) Add'l Person: Jimmy McMorran Date: 3/30/10
Project: Man 2 Gampo Wind Energy Project Map #: 2 Survey Sxn: MAN2-D
GPS Unit: Garmin 4 QCB Protocol Survey # 1 of 5

TIME (24-hour)		Temp (F°):	Wind (avg/max)	% CC	Sky				
START	1237	74°	4/11	10%	clear	patchy	overcast	drizzle	shower
	1300	73°	6/14	10%	clear	patchy	overcast	drizzle	shower
	1400	73°	8/14	5%	clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
END	1500	74°	8/13	5%	clear	patchy	overcast	drizzle	shower

Habitat On-site (circle): open soils, hilltops, ridges, rock outcrops, soil crusts, clay soils, old roads, various nectar sources.

[illegible]

Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet

[illegible]

TOTAL NUMBER OF QCB DETECTED: 8 INDIVIDUALS

Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet

Recorder: Antonette Gutierrez Add'l Person: None Date: 2 Apr 16

Project: Manzanito
Campo Wind Energy Project Map #: Title 6 Survey Sxn: Man 2-5

GPS Unit : 7 OCB Protocol Survey # 1 of 5

TIME (24-hour)		Temp (F°)	Wind (avg/max)	% CC	Sky				
START	1200	61.9	25/8.6	5	clear	patchy	overcast	drizzle	shower
	1300	70.7	14/2.5	2	clear	patchy	overcast	drizzle	shower
	1400	75.2	10/0.5	2	clear	patchy	overcast	drizzle	shower
	1500	75.2	25/7.3	2	clear	patchy	overcast	drizzle	shower
	1600	70.5	15/3.3	10	clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
END	1630	70.5	1.5/2.3	10	clear	patchy	overcast	drizzle	shower

Habitat On-site (circle): open soils, hilltops, ridges, rock outcrops, soil crusts, clay soils, old roads, various nectar sources

[illegible]

Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet

Gordon 7

4/2/10

atg 10.9

MAP/GPS LABEL	POINT/POLYGON TYPE	COMMENTS FOR ALL MAPPED POLYGONS AND GPS POINTS/ SPECIES LIST (NECTAR SOURCES, GENERAL WILDLIFE LIST)
		Ernstia 102
		Amisackeria menz. Fiddlerock
		1000 ft
		only 1 moth 11/11/11 11/11/11 7100
		Nemophila menz. Baby Blue eyes
		CAOQ 11
56351	1 Jackrabbit	In S. W. X change
		COQA 111
		Cottonwood Rabbit 1
		Sideblotched lizard
		DEJU 111
		GRHO 1
56351	1 Jackrabbit	along drainage
AGAB1	1 Jackrabbit	along drainage in dense vegetation
		ANHO 1
		Coyote scat
		most open trails / open grass / open slopes
AGAB1	1 Jackrabbit	Plainsong
0561054	3623122	in open sandy soil or habitat
		WESC 111
		COQA 111
		southern mixed Chap. open
		and disturbed.

TOTAL NUMBER OF QCB DETECTED: 1 ~~1~~ INDIVIDUALS

Recorder: Antônio G. G. G. G. Add'l Person: None Date: 4/6/10
Project: Manz Campo Wind Energy Project Map #: 4 Survey Sxn: G
GPS Unit: Garmin #3 QCB Protocol Survey # 1 of 5

Habitat On-site (circle): open soils, hilltops, ridges, rock outcrops, soil crusts, clay soils, old roads, various nectar sources

Page 1 of 2

Antoinette Gutierrez
4/06/10 MS4-G

TOTAL NUMBER OF QCB DETECTED: 0 INDIVIDUALS

Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet

Recorder: ERIK LaCote Add'l Person: — Date: 3/29/10
Project: Marzanita
Samoa Wind Energy Project Map #: 10 + 12 Survey Sxn.
GPS Unit: 3 QCB Protocol Survey # 1 of 5

TIME (24-hour)		Temp (F°):	Wind (avg/max)	% CC	Sky				
START	0915	67	1.0/3.0	0	clear	patchy	overcast	drizzle	shower
	1200	79	2.0/5.9'	15	clear	patchy	overcast	drizzle	shower
	2:00	75	6.0/9.0	30	clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
END	4:00	72	7.0/10.0	5	clear	patchy	overcast	drizzle	shower

Habitat On-site (circle) open soils, hilltops, ridges, rock outcrops, soil crusts, clay soils, old roads, various nectar sources

[illegible]

Quino Checkerspot Butterfly Protocol Survey

Field Data Sheet

[illegible]

TOTAL NUMBER OF QCB DETECTED: 2 INDIVIDUALS

Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet

Recorder: MINE COUFFER Add'l Person: 0 Date: 2 APRIL 2010
Project: MANZANITA
Campo Nita Energy Project Map #: TILE 9 Survey Sxn: MANZ-K
GPS Unit: CAMPO/MANZANITA, GARMIN 5 QCB Protocol Survey # 1 of 5

TIME (24-hour)		Temp (F°):	Wind (avg/max)	% CC	Sky				
START	1200	59	0-3 MPH	CLEAR	clear	patchy	overcast	drizzle	shower
	1300	68	0-3 MPH	CLEAR	clear	patchy	overcast	drizzle	shower
	1400	63	0-2 MPH	CLEAR	clear	patchy	overcast	drizzle	shower
	1500	65	0-3 MPH	CLEAR	clear	patchy	overcast	drizzle	shower
	1600	65	3-6 MPH	CLEAR	clear	patchy	overcast	drizzle	shower
END	1610	64°F	3-6 MPH	CLEAR	clear	patchy	overcast	drizzle	shower

Habitat On-site (circle): open soils, hilltops, ridges, rock outcrops, soil crusts, clay soils, old roads, various nectar sources
VERY LITTLE NECTAR

Butterfly Species	Tally	Total
BEHN'S METALMARK	III III II	12
ACMON BLUE	III I	6
CALIFORNIA MARBLE	III III II	12
FUNERAL DUSKYWING	III III I	11
CALIFORNIA TORTOISESHELL	II	2
FERTILLARY SP.	II	2
PAINTED LADY	III	3
PERPLEXING HAIRSTREAK	III III III	15
THE MAP WAS LABELED AS MANZ-K; HOWEVER, THE MAJORITY OF THE MAP COVERED MANZ-L, WEST OF THE JUNCTION OF ROUTE 14 AND ROUTE 18.		

Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet

[illegible]

TOTAL NUMBER OF QCB DETECTED: 1 INDIVIDUALS

**Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet**

Recorder: Mike Couffey Add'l Person: 0 Date: 3 APRIL 2010
Project: Manzanita Campo Verde Energy Project Map #: MARVILLE Survey Sxn: MANZANITA J
GPS Unit: Garmin 5 QCB Protocol Survey # 1 of 5

TIME (24-hour)		Temp (F°):	Wind (avg/max)	% CC	Sky				
START	1030	63	3 → 7	CLEAR	clear	patchy	overcast	drizzle	shower
	1100	63	9 → 13	CLEAR	clear	patchy	overcast	drizzle	shower
	1200	73	3 → 7	CLEAR	clear	patchy	overcast	drizzle	shower
	1300	66	0 → 4	CLEAR	clear	patchy	overcast	drizzle	shower
	1400	63	5 → 11	CLEAR	clear	patchy	overcast	drizzle	shower
	1500	60	8 → 13	CLEAR	clear	patchy	overcast	drizzle	shower
END					clear	patchy	overcast	drizzle	shower

Habitat On-site (circle): open soils, hilltops, ridges, rock outcrops, soil crusts, clay soils, old roads, various nectar sources

[illegible]

Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet

[illegible]

TOTAL NUMBER OF QCB DETECTED:	1	INDIVIDUALS
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Quino Checkerspot Butterfly Protocol Survey Field Data Sheet

Recorder: Mike Couffey Add'l Person: ~~0~~ Date: 3 April, 2010

Project: Manzanita
Compo Wind Energy Project Map #: MAP FILE 6 Survey Sxn: MANZANITA J

GPS Unit : Garmin 5 QCB Protocol Survey # 1 of 5

TIME (24-hour)		Temp (F°)	Wind (avg/max)	% CC	Sky				
START	1030	63	3 → 7	CLEAR	clear	patchy	overcast	drizzle	shower
	1100	63	9 → 13	CLEAR	clear	patchy	overcast	drizzle	shower
	1200	73	3 → 7	CLEAR	clear	patchy	overcast	drizzle	shower
	1300	66	0 → 4	CLEAR	clear	patchy	overcast	drizzle	shower
	1400	63	5 → 11	CLEAR	clear	patchy	overcast	drizzle	shower
	1500	60	8 → 13	CLEAR	clear	patchy	overcast	drizzle	shower
END					clear	patchy	overcast	drizzle	shower

Habitat On-site (circle): open soils, hilltops, ridges, rock outcrops, soil crusts, clay soils, old roads, various nectar sources

[illegible]

Field Data Sheet

Recorder: Bonnie Hendricks Add'l Person: none Date: 4/3/10

Project: Manzanita Campo Wind Energy Project Map #: 6 Survey Sxn: Manz-M

GPS Unit: Garmin 2 OCB Protocol Survey # 1 of 5

TIME (24-hour)		Temp (F°)	Wind (avg/max)	% CC	Sky				
START	11:00	58°	11/18	0	clear	patchy	overcast	drizzle	shower
	12:00	66°	7/11	0	clear	patchy	overcast	drizzle	shower
	1:00	62°	9/16	0	clear	patchy	overcast	drizzle	shower
	2:00	68°	4/8	2%	clear	patchy	overcast	drizzle	shower
	3:00	58°	7/14	2%	clear	patchy	overcast	drizzle	shower
END	4:00	64°	13/19	30%	clear	patchy	overcast	drizzle	shower
END					clear	patchy	overcast	drizzle	shower

[illegible]

Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet

[illegible]

TOTAL NUMBER OF QCB DETECTED: 0 INDIVIDUALS

Recorder: MIKE COOPER Add'l Person: ERIN BERGMAN Date: 4 APRIL, 2010
Project: Manzanita Wind Energy Project Map #: 6 Survey Sxn: MANZ-L
GPS Unit: 7 QCB Protocol Survey # 1 of 5

TIME (24-hour)		Temp (F°):	Wind (avg/max)	% CC	Sky				
START	1100	60	5 → 12 mph	CLEAR	clear	patchy	overcast	drizzle	shower
	1200	58	8 → 17 mph	CLEAR	clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
END					clear	patchy	overcast	drizzle	shower

Habitat On-site (circle) open soils, hilltops, ridges, rock outcrops, soil crusts, clay soils, old roads, various nectar sources
VERY LITTLE NECTAR

[illegible]

Quino Checkerspot Butterfly Protocol Survey Field Data Sheet

[illegible]

TOTAL NUMBER OF QCB DETECTED: 0 INDIVIDUALS

Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet

Recorder: MIKE COOPER Add'l Person: NONE Date: 6 April, 2010
Project: MANZ
Campo Wind Energy Project Map #: 6 Survey Sxn: MANZ-L
GPS Unit: 5 QCB Protocol Survey # 1 of 5

TIME (24-hour)		Temp (F°):	Wind (avg/max)	% CC	Sky				
START	1000	60	3-8	CLEAR	clear	patchy	overcast	drizzle	shower
	1100	55	4-10	CLEAR	clear	patchy	overcast	drizzle	shower
	1200	57	4-10	CLEAR	clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
END					clear	patchy	overcast	drizzle	shower

Habitat On-site (circle): open soils, hilltops, ridges, rock outcrops, soil crusts, clay soils, old roads, various nectar sources

[illegible]

Quino Checkerspot Butterfly Protocol Survey Field Data Sheet

[illegible]

TOTAL NUMBER OF QCB DETECTED: 0 INDIVIDUALS

Recorder: M. Heath Add'l Person: Ø Date: 4/6/16
Project: Manz
Campo Wind Energy Project Map #: 6 D 3 H Survey Sxn: D
GPS Unit: #1 QCB Protocol Survey # 1 of 5

TIME (24-hour)		Temp (F°):	Wind (avg/max)	% CC	Sky				
START	10:00	49.9	6.8/10.5	0	clear	patchy	overcast	drizzle	shower
	11:00	50.2	9.3/14.8	0	clear	patchy	overcast	drizzle	shower
→	12:00	60.2	8.7/15.3	0	clear	patchy	overcast	drizzle	shower
	13:45	61.3	4.4/6.7	0	clear	patchy	overcast	drizzle	shower
	15:00	55.5	9.1/13.6	0	clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
END					clear	patchy	overcast	drizzle	shower

Habitat On-site (circle): open soils, hilltops, ridges, rock outcrops, soil crusts, clay soils, old roads, various nectar sources

Page 1 of 2

Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet

A flowering

[illegible]

TOTAL NUMBER OF QCB DETECTED: 0 INDIVIDUALS

Recorder: Dale Powell Add'l Person: Erin Bergman Date: 4/6/10
Project: Manzanita Wind Energy Project Map #: 4 Survey Sxn: H
GPS Unit: 2 QCB Protocol Survey # 3 of 5

TIME (24-hour)		Temp (F°)	Wind (avg/max)	% CC	Sky				
START	13:40	59°	5/8	0	clear	patchy	overcast	drizzle	shower
	14:30	61°	5/7	0	clear	patchy	overcast	drizzle	shower
	15:30	63°	4/7	0	clear	patchy	overcast	drizzle	shower
	16:07	61°	5/7	0	clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
END					clear	patchy	overcast	drizzle	shower

Habitat On-site (circle): open soils, hilltops, ridges, rock outcrops, soil crusts, clay soils, old roads, various nectar sources

[illegible]

**Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet**

[illegible]

TOTAL NUMBER OF QCB DETECTED: 0 INDIVIDUALS

1100-1300

GPS Unit: 41 QCB Protocol Survey # 1 of 5

Habitat On-site (circle): open soils, hilltops, ridges, rock outcrops, soil crusts, clay soils, old roads, various nectar sources

Page 1 of 2

Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet

GPS 站 7

[illegible]

TOTAL NUMBER OF QCB DETECTED: 0 INDIVIDUALS

Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet

Recorder: MIKE COUFFER Add'l Person: JS Date: 8 APRIL, 2010
Project: MANZ
Campo Wind Energy Project Map #: 6.5 Survey Sxn: ~~MANZ FILE 6~~
GPS Unit: GARMIN Z QCB Protocol Survey # 1 of 5

SECTION
"C"

TIME (24-hour)		Temp (F°):	Wind (avg/max)	% CC	Sky				
START	1315	73	0 → 2	CLEAR	clear	patchy	overcast	drizzle	shower
	1400	73	0 → 2	CLEAR	clear	patchy	overcast	drizzle	shower
	1500	74	0 → 2	CLEAR	clear	patchy	overcast	drizzle	shower
	1600	76	0 → 3	CLEAR	clear	patchy	overcast	drizzle	shower
	1700	75	1 → 3	CLEAR	clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
END					clear	patchy	overcast	drizzle	shower

Habitat On-site (circle): open soils, hilltops, ridges, rock outcrops, soil crusts, clay soils, old roads, various nectar sources

[illegible]

Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet

[illegible]

TOTAL NUMBER OF QCB DETECTED: 0 INDIVIDUALS

Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet

Recorder: MIKE COUFFER Add'l Person: [Signature] Date: 8 APRIL, 2010
Project: Manz Wind Energy Project Map #: TILE Co Survey Sxn: MANZ-L
GPS Unit: Garmin Z QCB Protocol Survey # 1 of 5

TIME (24-hour)		Temp (F°):	Wind (avg/max)	% CC	Sky				
START	0900	61	8-76	CLEAR	clear	patchy	overcast	drizzle	shower
	1000	60	2-78	CLEAR	clear	patchy	overcast	drizzle	shower
	1100	69	8-74	CLEAR	clear	patchy	overcast	drizzle	shower
	1200	72	8-74	CLEAR	clear	patchy	overcast	drizzle	shower
	1300	67	4-78	CLEAR	clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
END					clear	patchy	overcast	drizzle	shower

Habitat On-site (circle): open soils, hilltops, ridges, rock outcrops, soil crusts, clay soils, old roads, various nectar sources

[illegible]

Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet

[illegible]

TOTAL NUMBER OF QCB DETECTED: 8 INDIVIDUALS

Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet

Recorder: Diana Jensen Add'l Person: None Date: 4/8/10

Project: MANZ Campo Wind Energy Project Map #: 86 Survey Sxn: MANZ-N

GPS Unit: 7 QCB Protocol Survey # 1 of 5

TIME (24-hour)		Temp (F°)	Wind (avg/max)	% CC	Sky				
START	1100	67°	20/50	0	clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
END	1400	71°	00/00	0	clear	patchy	overcast	drizzle	shower

Habitat On-site (circle): (open soils, hilltops, ridges, rock outcrops, soil crusts, clay soils, old roads, various nectar sources)

[illegible]

Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet

[illegible]

TOTAL NUMBER OF QCB DETECTED: 0 INDIVIDUALS

Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet

Recorder: Diane Jensen Add'l Person: None Date: 4/18/10
Project: Manzanillo Wind Energy Project Map #: 88 Survey Sxn: MANZ-N/MANZ-M
GPS Unit: 7 QCB Protocol Survey # 1 of 5

TIME (24-hour)		Temp (F):	Wind (avg/max)	% CC	Sky				
START	0934	61°	3.0/6.5	0	clear	patchy	overcast	drizzle	shower
END	1100	67°	2.0/5.0	0	clear	patchy	overcast	drizzle	shower
Start	1400	71°	0.0/0.0	0	clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
END	1555	75°	0/0	0	clear	patchy	overcast	drizzle	shower

Habitat On-site (circle): open soils, hilltops, ridges, rock outcrops, soil crusts, clay soils, old roads, various nectar sources.

[illegible]

**Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet**

[illegible]

TOTAL NUMBER OF QCB DETECTED: 0 INDIVIDUALS

Quino Checkerspot Butterfly Protocol Survey

Field Data Sheet

Recorder: Kyle Ince Add'l Person: _____ Date: 4/8/2010
Project: ~~Gemco~~ ^{Manz} Wind Energy Project Map #: MANZ F Survey Sxn: _____
GPS Unit: # 3 QCB Protocol Survey # 1 of 5

TIME (24-hour)		Temp (F°)	Wind (avg/max)	% CC	Sky				
START	0940	62	2/5	0	clear	patchy	overcast	drizzle	shower
	1100	64	2/5	0	clear	patchy	overcast	drizzle	shower
End	1140	64	2/5	0	clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
END					clear	patchy	overcast	drizzle	shower

Habitat On-site (circle): open soils, hilltops/ridges, rock outcrops, soil crusts, clay soils, old roads, various nectar sources

[illegible]

685 #3

Manz - F

TOTAL NUMBER OF QCB DETECTED: 0 INDIVIDUALS

Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet

Recorder: Kyle Ince Add'l Person: — Date: 4/8/2010

Project: Man2 Campo Wind Energy Project Map #: man2-c #5 Survey Sxn: 5

GPS Unit: 3 QCB Protocol Survey # 1 of 5

TIME (24-hour)		Temp (F°):	Wind (avg/max)	% CC	Sky				
START					clear	patchy	overcast	drizzle	shower
1315		65°	2/6	0	clear	patchy	overcast	drizzle	shower
1415		68°	2/5	0	clear	patchy	overcast	drizzle	shower
1515		68°	0/2	0	clear	patchy	overcast	drizzle	shower
1614		70°	0/0	0	clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
END					clear	patchy	overcast	drizzle	shower

Habitat On-site (circle): open soils, hilltops, ridges, rock outcrops, soil crusts, clay soils, old roads, various nectar sources

[illegible]

Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet

[illegible]

TOTAL NUMBER OF QCB DETECTED: 0 INDIVIDUALS

Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet

Recorder: Kyle Ince Add'l Person: - Date: 4/8/2010
Project: Man2 Campo Wind Energy Project Map #: Man2-G Survey Sxn: _____
GPS Unit: #3 QCB Protocol Survey # _____ of _____

TIME (24-hour)		Temp (F°)	Wind (avg/max)	% GC	Sky				
START					clear	patchy	overcast	drizzle	shower
1140 1230		64°	215		clear	patchy	overcast	drizzle	shower
1140					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
END					clear	patchy	overcast	drizzle	shower

Habitat On-site (circle): open soils, hilltops, ridges, rock outcrops, soil crusts, clay soils, old roads, various nectar sources

[illegible]

Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet

[illegible]

TOTAL NUMBER OF QCB DETECTED: 0 INDIVIDUALS

Quino Checkerspot Butterfly Protocol Survey

Field Data Sheet

Recorder: Diana Jensen (MstA) Add'l Person: N/A Date: 4/9/16

Project: Manzanita Wind Energy Project Map #: Tab 6 Survey Sxn: N/A

GPS Unit : 1 QCB Protocol Survey # 1 of 5

TIME (24-hour)		Temp (F°):	Wind (avg/max)	% CC	Sky				
START	1000	67°	0.3/0.5	0	clear	patchy	overcast	drizzle	shower
1000	1015	—	3.0/7.0	—	clear	patchy	overcast	drizzle	shower
END	1101	—	5.0/7.0	—	clear	patchy	overcast	drizzle	shower
START	1400	78°	—	0	clear	patchy	overcast	drizzle	shower
START	1500	76°	3.0/6.0	0	clear	patchy	overcast	drizzle	shower
END	1600	76°	3.0/6.0	0	clear	patchy	overcast	drizzle	shower
END					clear	patchy	overcast	drizzle	shower

Habitat On-site (circle) open soils, hilltops, ridges, rock outcrops, soil crusts, clay soils, old roads, various nectar sources

[illegible]

Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet

[illegible]

TOTAL NUMBER OF QCB DETECTED: INDIVIDUALS

Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet

Recorder: Antonio C. Gutierrez Add'l Person: None Date: 4/9/10
Project: Manzanita Wind Energy Project Map #: 2 Survey Sxn: Manzanita
GPS Unit: 2 QCB Protocol Survey # 1 of 5

TIME (24-hour)		Temp (F°)	Wind (avg/max)	% CC	Sky				
START	10:00	73	3.8/7.8	0	clear	patchy	overcast	drizzle	shower
	11:00	72	5.4/10.3	0	clear	patchy	overcast	drizzle	shower
	12:00	75	0.9/1.4	0	clear	patchy	overcast	drizzle	shower
	13:00	77	1.5/3.0	0	clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
END	14:00	76	2.5/7.1	0	clear	patchy	overcast	drizzle	shower

Habitat On-site (circle): open soils, hilltops, ridges, rock outcrops, soil crusts, clay soils, old roads, various nectar sources

[illegible]

Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet

[illegible]

TOTAL NUMBER OF QCB DETECTED: 0 None INDIVIDUALS

Record: Kyle Ince Add'l Person: — Date: 4/9/10
Project: Manzanita Wind Energy Project Map #: 1 Survey Sxn: —
GPS Unit: 3 QCB Protocol Survey # 1 of 5

TIME (24-hour)		Temp (F°):	Wind (avg/max)	% CC	Sky				
START					clear	patchy	overcast	drizzle	shower
1215		67	3/10	0	clear	patchy	overcast	drizzle	shower
1330		67	5/15	0	clear	patchy	overcast	drizzle	shower
1545		68	3/7	0	clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
END					clear	patchy	overcast	drizzle	shower

Habitat On-site (circle): open soils, hilltops, ridges, rock outcrops, soil crusts, clay soils, old roads, various nectar sources

[illegible]

Gutierrez
1800-1635

Date: 4/9/16

Map #: Tile 4

Survey Sxn: N/A

QCB Protocol Survey # 1 of 5

24

e) open soils, hilltops, ridges, rock outcrops, soil crusts, clay soils, old roads, various nectar sources

white sp
furnered duskywing
duskywing sp
Sora's wingtip
Behn's melismark
perplexing hairs
brzo duskywing

Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet

[illegible]

TOTAL NUMBER OF QCB DETECTED: 0 INDIVIDUALS

Quino Checkerspot Butterfly Protocol Survey

Field Data Sheet

[illegible]

TOTAL NUMBER OF QCB DETECTED: 0 INDIVIDUALS

Field Data Sheet

Recorder: Kyle Ince Add'l Person: — Date: 4/9/2010

Project: Manzanita Wind Energy Project Map #: 3 Survey Sxn: _____

GPS Unit : 3 QCB Protocol Survey # 1 of 5

TIME (24-hour)		Temp (F°)	Wind (avg/max)	% CC	Sky				
START					clear	patchy	overcast	drizzle	shower
1000		62	115	0	clear	patchy	overcast	drizzle	shower
1115		65	3/10	0	clear	patchy	overcast	drizzle	shower
1215		67	3/10	0	clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
END					clear	patchy	overcast	drizzle	shower

Habitat On-site (circle): open soils (hilltops, ridges, rock outcrops, soil crusts, clay soils, old roads, various nectar sources)

[illegible]

Recorder: Antonette Cabrera Add'l Person: Diana Senger Date: 4/9/10
Project: Manzanita Wind Energy Project Map #: Tule 6 Survey Sxn: N/A
GPS Unit: 2 Garmin QCB Protocol Survey # 1 of 5

TIME (24-hour)		Temp (F°):	Wind (avg/max)	% CC	Sky				
START	1500	76	25/65	0	clear	patchy	overcast	drizzle	shower
END	1600	74	26/5	0	clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
END					clear	patchy	overcast	drizzle	shower

Habitat On-site (circle): open soils, hilltops, ridges, rock outcrops, soil crusts, clay soils, old roads, various nectar sources

[illegible]

67-24-9581

362000 - 100
3623900 - 362400

[illegible]

TOTAL NUMBER OF QCB DETECTED: 10 INDIVIDUALS

Recorder: M. Heath Add'l Person: NA Date: 7/9/10
Project: ~~Manning~~ Camps Wind Energy Project Map #: 11, 12 Survey Sxn: _____
GPS Unit: 7 QCB Protocol Survey # QCB #1 of 5

TIME (24-hour)		Temp (F°):	Wind (avg/max)	% CC	Sky				
START	09:30	67.2	0.9/1.9	0%	clear	patchy	overcast	drizzle	shower
	10:30	69.5	1.3/4.2	↓	clear	patchy	overcast	drizzle	shower
	12:30	70.6	3.7/10		clear	patchy	overcast	drizzle	shower
	13:30	72.1	3.4/5.2		clear	patchy	overcast	drizzle	shower
	15:00	74.2	3.6/6.5		clear	patchy	overcast	drizzle	shower
↔	16:00	67.9	3.6/7.9		↓	clear	patchy	overcast	drizzle
END					clear	patchy	overcast	drizzle	shower

[illegible]

Recorder: Dale Powell Add'l Person: — Date: 4/10/10
Project: Manzanita Wind Energy Project Map #: 13 Survey Sxn: _____
GPS Unit: 1 OCB Protocol Survey # _____ of _____ 5 _____

TIME (24-hour)		Temp (F°):	Wind (avg/max)	% CC	Sky				
START	10:00	63°	6/9	0	clear	patchy	overcast	drizzle	shower
	11:20	65°	5/8	0	clear	patchy	overcast	drizzle	shower
	12:30	72°	8/11	0	clear	patchy	overcast	drizzle	shower
	13:50	72°	4/7	0	clear	patchy	overcast	drizzle	shower
	15:40	70°	5/9	0	clear	patchy	overcast	drizzle	shower
	16:15	64°	5/7	0	clear	patchy	overcast	drizzle	shower
END					clear	patchy	overcast	drizzle	shower

Habitat On-site (circle) open soils, hilltops, ridges, rock outcrops, soil crusts, clay soils, old roads, various nectar sources

Page 1 of 3

Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet

MAP/GPS LABEL	POINT/POLYGON TYPE	COMMENTS FOR ALL MAPPED POLYGONS AND GPS POINTS/ SPECIES LIST (NECTAR SOURCES, GENERAL WILDLIFE LIST)
		Erodium bothrioid Leyia Man zincta Plagia bothyrus Cryptantha Lupinus Amurskia Eschscholzia Neunaphila Mustard?
DPAL01	POINT	San Diego Horned Lizard
DPF01	Excluded Polygon	Closed Canopy Chaparral
02		
03		
04		
05		
06		
07		
08		
09		

TOTAL NUMBER OF QCB DETECTED: 1 INDIVIDUALS

Quino Checkerspot Butterfly Protocol Survey

Field Data Sheet

Recorder: MIKE COUFFER Add'l Person: ~~0~~ Date: 10 APRIL, 2010
Project: MANZANITA
Campo Wind Energy Project Map #: TILE 14 Survey Sxn: MANZ-R
GPS Unit: GARMIN 7 QCB Protocol Survey # 1 of 5

TIME (24-hour)		Temp (F°):	Wind (avg/max)	% CC	Sky				
START	1030	65	1 → 3	CLEAR	clear	patchy	overcast	drizzle	shower
	1100	68	1 → 4 mph	CLEAR	clear	patchy	overcast	drizzle	shower
	1200	68	1 → 7	CLEAR	clear	patchy	overcast	drizzle	shower
	1300	72	0 → 4	CLEAR	clear	patchy	overcast	drizzle	shower
	1400	70	4 → 7	CLEAR	clear	patchy	overcast	drizzle	shower
	1500	71	2 → 8	CLEAR	clear	patchy	overcast	drizzle	shower
END					clear	patchy	overcast	drizzle	shower

Habitat On-site (circle): open soils, hilltops, ridges, rock outcrops, soil crusts, clay soils, old roads, various nectar sources

[illegible]

Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet

[illegible]

TOTAL NUMBER OF QCB DETECTED: 1 INDIVIDUALS

**Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet**

Recorder: Bonnie Hendricks Date: 4/10/10
 Project: Manzanita Person: Erin Bergman
Genape Wind Energy Project Map #: Tall 1 & 3 Survey Sxn: _____
 GPS Unit: Garmin 8 QCB Protocol Survey # 1 of 5

TIME (24-hour)	Temp (F°)	Wind (avg/max)	% CC	Sky				
START 11:00	64°	5/11	5%	clear	patchy	overcast	drizzle	shower
12:35	70°	3/12	2%	clear	patchy	overcast	drizzle	shower
1:30	67°	4/15	1%	clear	patchy	overcast	drizzle	shower
2:30	64°	4/14	1%	clear	patchy	overcast	drizzle	shower
3:30	63°	5/12	2%	clear	patchy	overcast	drizzle	shower
4:00	63°	2/14	10%	clear	patchy	overcast	drizzle	shower
END 5:30	61°	3/11	2%	clear	patchy	overcast	drizzle	shower

Habitat On-site (circle): open soils, hilltops, ridges, rock outcrops, soil crusts, clay soils, old roads, various nectar sources

Butterfly Species	Tally	Total
Behr's Metalmark		6
Persephone Hairstreak		1
Duskywing <i>Euphydryas</i> <i>white edge</i>		1
<i>Euphydryas</i> sps (without white edge)		1
Sarah's Orange-tip		3
Painted Lady		12
Nymphalid Marbled		5
Pigmy Blue		3
Very prusky + hard to navigate		
Some moving around brush		

Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet

[illegible]TOTAL NUMBER OF QCB DETECTED: 1 INDIVIDUALS

Recorder: M. Hewitt Add'l Person: Date: 7/10/10
Project: Manzanita
Campo Wind Energy Project Map #: 12 Survey Sxn:
GPS Unit: 5 QCB Protocol Survey # 1 of 5

TIME (24-hour)		Temp (F°):	Wind (avg/max)	% CC	Sky				
START	10:00	60.2	22/6.9	0%	clear	patchy	overcast	drizzle	shower
	12:00	62.1	8.7/13.5		clear	patchy	overcast	drizzle	shower
	13:30	64.4	8.2/11.1		clear	patchy	overcast	drizzle	shower
	15:00	66.7	6.2/10.3		clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
END	16:00	64.9	4.3/7.5	↓	clear	patchy	overcast	drizzle	shower

[illegible]

**Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet**

MAP/GPS LABEL	POINT/POLYGON TYPE	COMMENTS FOR ALL MAPPED POLYGONS AND GPS POINTS/ SPECIES LIST (NECTAR SOURCES, GENERAL WILDLIFE LIST)
		Erodium
		Peony
		Fiddleheads
		Papaver
		Sun Cup
		Lupine
		Wild Cucumber
		Mexican Mangrove
		Tansy Mustard
		Silver leaf lotus
		White thorn reanthis
MHP5 D1	flowering	Paysan's jewel flower 1
		Cat's paw
		Desert Dandelion
		Phacelia
		Baby blue eyes
		M. d. d. lettuce
		Ground lotus - small yellow flowers
		Southern Tansy
		Gold fields
		Golden bush
		Duckbrush
		SCJA/CAQU/GRRB/ACWQ/ATCR/ORTU/CATO
		Pocket poppy, quail squirrel, blacktail TR.
		Rodent burrows, coyote scat
		Grass hoppers / Sphinx moths
MHEP460	Excluded Poly	Dense Chaparral
401	Excluded Poly	"
402	" "	Dense Red Shrub / Woodland
403	" "	Dense Chaparral

TOTAL NUMBER OF QCB DETECTED: 0 INDIVIDUALS

**Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet**

Recorder: MIKE COUFFER Add'l Person: ~~Ø~~ Date: 11 APRIL, 2010
Project: MANZANITA
Gamco Wind Energy Project Map #: TILE 10 Survey Sxn: MANZ-0
GPS Unit: GARMIN 5 QCB Protocol Survey # 1 of 5

TIME (24-hour)		Temp (F°)	Wind (avg/max)	% CC	Sky				
START	1145	65	1-4 MPH	CLEAR	clear	patchy	overcast	drizzle	shower
	1200	67	2-5 MPH	CLEAR	clear	patchy	overcast	drizzle	shower
	1245	65	1-5 MPH	CLEAR	clear	patchy	overcast	drizzle	shower
	1300	64	3-8 MPH	CLEAR	clear	patchy	overcast	drizzle	shower
	1315	65	3-5 MPH	CLEAR	clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
END					clear	patchy	overcast	drizzle	shower

Habitat On-site (circle): open soils, hilltops, ridges, rock outcrops, soil crusts, clay soils, old roads, various nectar sources

[illegible]

Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet

MAP/GPS LABEL	POINT/POLYGON TYPE	COMMENTS FOR ALL MAPPED POLYGONS AND GPS POINTS/ SPECIES LIST (NECTAR SOURCES, GENERAL WILDLIFE LIST)
MTHL 10	Sensitive Sp	Horned lizard
MTHL 11	" "	" "
		Popcorn * - flowering
		Plagiobothrys *
		Ceanothus gregii *
		F. Adlenach *
		Erodium *
		Mt Mahogany *
		Goldfidd's *
		Baby blue eyes *
		Cold Poppy *
		Jewel flower - pink *
MTHL 01	Sensitive plant *	Linanthus bells *
		Sagebrush *
		Buckbrush *
		Maryanna glauca *
		Mine's lettuce *
		White-thorn ceanothus *
		Peony *
		Johnny jump ups *
		S. de blake lizard
		Feral lizards
		Parrot yopen sign
		RTHA / CATO / SCTA / AMCR
		Sphinx moths
MTHL 420	Excluded Poly	Oak woodland
421	" "	" "

TOTAL NUMBER OF QCB DETECTED: 1 — previously observed by INDIVIDUALS

Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet

[illegible]

TOTAL NUMBER OF QCB DETECTED: 0 INDIVIDUALS

553 2500

6B 6

Quino Checkerspot Butterfly Protocol Survey Field Data Sheet

[illegible]

TOTAL NUMBER OF QCB DETECTED: 0 INDIVIDUALS

Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet

[illegible]

TOTAL NUMBER OF QCB DETECTED: 8 INDIVIDUALS

**Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet**[illegible]

TOTAL NUMBER OF QCB DETECTED: 1 INDIVIDUALS

Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet

[illegible]

TOTAL NUMBER OF QCB DETECTED: 0 INDIVIDUALS

Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet[illegible]

TOTAL NUMBER OF QCB DETECTED: 0 INDIVIDUALS

• • • • •

^a $\chi^2 = 1.0$, $df = 1$, $p = 0.32$.

Recorder: Angie Ince Add'l Person: _____ Date: 4/15/10

GPS Unit : 7 OCB Protocol Survey # 2 of 5

Habitat On-site (circle): open soils, hilltops, ridges, rock outcrops, soil crusts, clay soils, old roads, various nectar sources

Page 1 of 1

Field Data-Sheet

[illegible]

TOTAL NUMBER OF QCB DETECTED: 0 INDIVIDUALS

Field Data Sheet

Recorder: David K. Frankner Add'l Person: R. Connolly Date: 15 APRIL 2010

Project: Manzanita Wind Energy Project Map #: 19 Survey Sxn: Campo N

GPS Unit : 3 QCB Protocol Survey # 2 of 5

TIME (24-hour)		Temp (F°):	Wind (avg/max)	% CC	Sky				
START	1100	64°	9	0	clear	patchy	overcast	drizzle	shower
	1200	63	10	10	clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
END	1300	69	11	10	clear	patchy	overcast	drizzle	shower

Habitat On-site (circle) open soils, dune tops, ridges, rock outcrops, soil crusts, clay soils, old roads, various nectar sources

[illegible]

Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet

[illegible]

TOTAL NUMBER OF QCB DETECTED: 8 INDIVIDUALS

Field Data Sheet

[illegible]

TOTAL NUMBER OF QCB DETECTED: 0 INDIVIDUALS

SHIRLEY INNUCKEN
(TRAINER)

GPS Unit: #10 (SHAW) QCB Protocol Survey # 2 of 5

Habitat On-site (circle) open soils, hilltops, ridges, rock outcrops, soil crusts, clay soils, old roads, various nectar sources

Page 1 of 2

Quino Checkerspot Butterfly Protocol Survey Field Data Sheet

[illegible]

TOTAL NUMBER OF QCB DETECTED: 0 INDIVIDUALS

Quino Checkerspot Butterfly Protocol Survey Field Data Sheet

[illegible]

TOTAL NUMBER OF QCB DETECTED: 0 INDIVIDUALS

Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet

[illegible]

TOTAL NUMBER OF QCB DETECTED: 0 INDIVIDUALS

Quino Checkerspot Butterfly Protocol Survey

Field Data Sheet

[illegible]

TOTAL NUMBER OF QCB DETECTED: 1 INDIVIDUALS

Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet

Recorder: Antonio de Gutierrez Add'l Person: None Date: 4/16/10
Project: Manzanita Wind Energy Project Map #: 12 Survey Sxn: NE of Oak 2nd
GPS Unit: 10 QCB Protocol Survey # QCB # 12 of 5

TIME (24-hour)		Temp (F°)	WInd (avg/max)	% CC	Sky				
START	1124	78	2 mph	0	clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
END	1500	78	2/7	0	clear	patchy	overcast	drizzle	shower

Habitat On-site (circle): open soils, hilltops, ridges, rock outcrops, soil crusts, clay soils, old roads, various nectar sources

[illegible]

Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet

[illegible]

TOTAL NUMBER OF QCB DETECTED: 0 INDIVIDUALS

None

Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet

Recorder: DAVID FLICKNER Add'l Person: _____ Date: 9/16/10

Project: Manzanita Wind Energy Project Map #: 7 Survey Sxn: _____

GPS Unit : 5 QCB Protocol Survey # 2 of 5

TIME (24-hour)		Temp (F°)	Wind (avg/max)	% CC	Sky				
START	8:45	58	3-5	0	clear	patchy	overcast	drizzle	shower
START	9:05	61	4-7	0	clear	patchy	overcast	drizzle	shower
	14:15	73	7-12	0	clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
END	16:15	72	8-15/5		clear	patchy	overcast	drizzle	shower

Habitat On-site (circle) open soils, hilltops, ridges, rock outcrops, soil crusts, clay soils, old roads, various nectar sources

Quino Checkerspot Butterfly Protocol Survey Field Data Sheet

[illegible]

TOTAL NUMBER OF QCB DETECTED: 0 INDIVIDUALS

Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet

Recorder: M. Hean Add'l Person: Shirley Inneken Date: 4/16/10
Project: Manzanita Wind Energy Project Map #: 13, 12, 8 Survey Sxn: _____
GPS Unit: 2 QCB Protocol Survey # 2 of 5

TIME (24-hour)		Temp (F°):	Wind (avg/max)	% CC	Sky				
START	09:15	62.5	3.6/6.6	0%	clear	patchy	overcast	drizzle	shower
	10:36	64.5	2.5/4.3	↓	clear	patchy	overcast	drizzle	shower
	12:00	67.3	2.1/4.4	↓	clear	patchy	overcast	drizzle	shower
	14:00	69.0	6.8/14.2	0%	clear	patchy	overcast	drizzle	shower
	15:00	62.6	8.3/12.9	0%	clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
END					clear	patchy	overcast	drizzle	shower

Habitat On-site (circle): open soils, hilltops, ridges, rock outcrops, soil crusts, clay soils, old roads, various nectar sources

[illegible]

Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet

[illegible]

TOTAL NUMBER OF QCB DETECTED: 1 INDIVIDUALS

(Trainee)

GPS Unit: 10 QCB Protocol Survey # 2 of 5

Habitat On-site (circle): open soils, hilltops, ridges, rock outcrops, soil crusts, clay soils, old roads, various nectar sources

Page 1 of 2

Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet

TOTAL NUMBER OF QCB DETECTED: 0 INDIVIDUALS

Recorder: M. Heath Add'l Person: Date: 4/17/2010
Project: Managers Canyon Wind Energy Project Map #: 8 Survey Sxn:
GPS Unit: 7 QCB Protocol Survey # 2 of 5

TIME (24-hour)		Temp (F°):	Wind (avg/max)	% CC	Hz. z	Sky				
START	9:00	64.7	6.7/9.3	100% thin	cloud	clear	patchy	overcast	drizzle	shower
	10:00	65.6	4.5/8.7	Heavy		clear	patchy	overcast	drizzle	shower
	11:30	70.2	4.9/7.6			clear	patchy	overcast	drizzle	shower
	13:30	68.2	4.8/9.0			clear	patchy	overcast	drizzle	shower
	15:00	70.1	2.8/5.0			clear	patchy	overcast	drizzle	shower
						clear	patchy	overcast	drizzle	shower
END						clear	patchy	overcast	drizzle	shower

**Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet**

MAP/GPS LABEL	POINT/POLYGON TYPE	COMMENTS FOR ALL MAPPED POLYGONS AND GPS POINTS/ SPECIES LIST (NECTAR SOURCES, GENERAL WILDLIFE LIST)
		Acorn
		eridium
		Piddleneck
		popcorn
		Brown baccharis
		M+. Mahogany
		Poison oak
		wild cucumber
		prickly prairie rose
		Mammilla
		Cup leaf ceanothus
		Tansy mustard
		Baby blue eyes
		Arabis
		Desert Dandelion
		Tidy tips
MHH114	Sagehen Sparrow	Star Horned Lark
MHH115		" "
MHLA01		Horned Lark
MHLA02		" "
		2 Swarms of bees
MHEP470	Exclude Poly	Dense Chaparral
MHEP471	" "	Disturbed/Developed for new meteorological tower

TOTAL NUMBER OF QCB DETECTED: 0 INDIVIDUALS

Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet

Recorder: MIKE COUFFER Add'l Person: ~~Ø~~ Date: 17 APRIL 2010
Project: Manzanita Wind Energy Project Map #: FILE 12 Survey Sxn: FILE 12
GPS Unit: GARMIN 3 QCB Protocol Survey # 12 of 5

TIME (24-hour)		Temp (F°):	Wind (avg/max)	% CC	Sky				
START	1350	76	Ø → 3 mph	100	clear	patchy	overcast	drizzle	shower
	1400	76	Ø → 3 mph	100	clear	patchy	overcast	drizzle	shower
	1500	75	Ø → 4 mph	100	clear	patchy	overcast	drizzle	shower
	1600	75	Ø → 2 mph	100	clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
END					clear	patchy	overcast	drizzle	shower

Habitat On-site (circle) open soils, hilltops, ridges, rock outcrops, soil crusts, clay soils, old roads, various nectar sources

[illegible]

Quino Checkerspot Butterfly Protocol Survey

Field Data Sheet

[illegible]

TOTAL NUMBER OF QCB DETECTED: 0 INDIVIDUALS

Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet

MAP/GPS LABEL	POINT/POLYGON TYPE	COMMENTS FOR ALL MAPPED POLYGONS AND GPS POINTS/ SPECIES LIST (NECTAR SOURCES, GENERAL WILDLIFE LIST)
		Erodium Tidy tip
		Wild Cucumber Phacelia
		Scrub oak Gold fields
		Cup leaf Ceanothus Payson's jewel
		Margarita White thorn
		Mt. Mahogany Ceanothus
		Poison Oak
		Fiddlehead
		Popcorn
		Primrose
		Miner's lettuce
		Arabis
		Plagio botany
		Cut leaf poppy
		Chia
		Tansy mustard
		Linum catharticum
		Baby blue eyes
		Yucca
		Desert Dandelion
MHCH10	Host Plant	Chinese Houses
MHCH11	" "	" "
MHCH12	" "	" " near MHQB03
MHP510	Sensit plant	Payson's jewel - yellow jewel
MHHL12	Sensitive Spec	Horned Lizard
MHHL16	" "	" "
MHQB03	QCB	QCB sighted/pre taken 0561838/3622727
MHQB04	" "	" " no pre 0561479/3622719

TOTAL NUMBER OF QCB DETECTED: 2 INDIVIDUALS

Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet

[illegible]

TOTAL NUMBER OF QCB DETECTED: 0 INDIVIDUALS

Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet

[illegible]

TOTAL NUMBER OF QCB DETECTED: INDIVIDUALS

Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet

[illegible]

TOTAL NUMBER OF QCB DETECTED: 0 INDIVIDUALS

Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet

Recorder: Antoinette Gutierrez Add'l Person: Shelly Inneckan Date: 4/19
Project: Manzanita Wind Energy Project Map #: TLE3 Survey Sxn: _____
GPS Unit: 1 QCB Protocol Survey # 3 of 5

TIME (24-hour)		Temp (F°)	Wind (avg/max)	% CC	Sky				
START	1100	76	1/8.2	10	clear	patchy	overcast	drizzle	shower
	1200	74	6.6/3.7	10	clear	patchy	overcast	drizzle	shower
	1300	70	3/4.2	15	clear	patchy	overcast	drizzle	shower
	1400	78	3/4.2	40	clear	patchy	overcast	drizzle	shower
	1510	78	3/4.2	50	clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
END					clear	patchy	overcast	drizzle	shower

Habitat On-site (circle): open soils, hilltops, ridges, rock outcrops, soil crusts, clay soils, old roads, various nectar sources

[illegible]

Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet

[illegible]

TOTAL NUMBER OF QCB DETECTED: _____ INDIVIDUALS

Recorder: Diana Jensen Add'l Person: Steve Rink Date: 4/19/10
Project: Manzanita Wind Energy Project Map #: 1 Survey Sxn: N/A
GPS Unit: 9 QCB Protocol Survey # 247 of 5

TIME (24-hour)		Temp (F°)	Wind (avg/max)	% CC	Sky				
START	1348	70°	3/5	20%	clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
END	1540	78°	2/4	20%	clear	patchy	overcast	drizzle	shower

Habitat On-site (circle): open soils, hilltops, ridges, rock outcrops, soil crusts, clay soils, old roads, various nectar sources

[illegible]

Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet

[illegible]

TOTAL NUMBER OF QCB DETECTED: 8 INDIVIDUALS

Quino Checkerspot Butterfly Protocol Survey Field Data Sheet

Recorder: Diane Jensen Add'l Person: Steve Rink Date: 4/19/10

Project: Manzanita Wind Energy Project Map #: 2 Survey Sxn: N/A

GPS Unit: 9 QCB Protocol Survey # 23 of 5

TIME (24-hour)		Temp (F°):	Wind (avg/max)	% CC	Sky				
START	1055	68°	111	25%	clear	patchy	overcast	drizzle	shower
	1120	—	518	—	clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
END	1301	70°	519	10%	clear	patchy	overcast	drizzle	shower

Habitat On-site (circle): open soils, hilltops, ridges, rock outcrops, soil crusts, clay soils, old roads, various nectar sources

[illegible]

Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet

[illegible]

TOTAL NUMBER OF QCB DETECTED: 0 INDIVIDUALS

Recorder: Diana Jensen Add'l Person: None Date: 4/20/10
Project: Manzanita Wind Energy Project Map #: 1 Survey Sxn: N/A
GPS Unit: 9 QCB Protocol Survey # 37 (according to map) of 5

TIME (24-hour)		Temp (F°):	Wind (avg/max)	% CC	Sky				
START	1300	71	8/13	45	clear	patchy	overcast	drizzle	shower
END	1345	71	15+	45	clear	patchy	overcast	drizzle	shower
START	1400	71	10/13	45	clear	patchy	overcast	drizzle	shower
END	1415	71	8/13	45	clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
END					clear	patchy	overcast	drizzle	shower

Habitat On-site (circle): open soils, hilltops, ridges, rock outcrops, soil crusts, clay soils, old roads, various nectar sources

Quino Checkerspot Butterfly Protocol Survey Field Data Sheet

[illegible]

TOTAL NUMBER OF QCB DETECTED: 0 INDIVIDUALS

Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet

Recorder: DAVE FLIETNER Add'l Person: _____ Date: 4/20/10

Project: Manzanita Wind Energy Project Map #: 5 Survey Sxn: _____

GPS Unit: 1 QCB Protocol Survey # 3 of 5

TIME (24-hour)		Temp (F°):	Wind (avg/max)	% CC	Light haze	Sky			
START	9:45	66	5-8	40	clear	patchy	overcast	drizzle	shower
END	10:15	66	12-18	50	clear	patchy	overcast	drizzle	shower
START	11:15	68	8-12	70	clear	patchy	overcast	drizzle	shower
END	12:30				clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
END	12:30	68	16-20	80	clear	patchy	overcast	drizzle	shower

Habitat On-site (circle): open soils, hilltops, ridges, rock outcrops, soil crusts, clay soils, old roads, various nectar sources

Butterfly Species	Tally	Total
Armen, blue	9	5
Behr's metalmark	3	3
white	1	1
wind speeds w/in protocol only for lower areas; (could not survey on upper part of slope		

Quino Checkerspot Butterfly Protocol Survey Field Data Sheet

[illegible]

TOTAL NUMBER OF QCB DETECTED: 1 INDIVIDUALS

Recorder: Antone J. Colter Add'l Person: None Date: 4/20/10
Project: Manzanita Wind Energy Project Map #: 13 Survey Sxn: 14
GPS Unit: 6 QCB Protocol Survey # 3 of 5

TIME (24-hour)		Temp (F°):	Wind (avg/max)	% CC	Sky			
START	954	70	6/2	20	clear	patchy	overcast	drizzle shower
	1155	72	2/5.7	20	clear	patchy	overcast	drizzle shower
	1255	68	9.4/6.4	40	clear	patchy	overcast	drizzle shower
	1455	66	5.2/13.6	40	clear	patchy	overcast	drizzle shower
	1600				clear	patchy	overcast	drizzle shower
					clear	patchy	overcast	drizzle shower
END	1600	67	9.2/6.2	40	clear	patchy	overcast	drizzle shower

Habitat On-site (circle): open soils, hilltops, ridges, rock outcrops, soil crusts, clay soils, old roads, various nectar sources

[illegible]

**Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet**

MAP/GPS LABEL	POINT/POLYGON TYPE	COMMENTS FOR ALL MAPPED POLYGONS AND GPS POINTS/ SPECIES LIST (NECTAR SOURCES, GENERAL WILDLIFE LIST)
AGNL 1	Woodrat Nest	5 a woodrat nest in ^{dead} chemis ^{sp}
AGNL 2	" "	" " " in Rock outcrop
ABHL 1	^{SD} Horned Lizard	along sandy trail
AGQB 1	Quino checkerspot	In open area w/ tobacco ^{Eragrostis} shrubs
several photos	 Hills # 63389 3614599	Bare ground of sand Gold fields Acacia Cilantro Omission Flying low to ground zig zag pattern small QCB fly land fly land
T=69 S.5/20 500	prospy clades	
	✓	File up play to bats Ground pink
AGQB 2	Quino checkerspot	In denser area of ^{larger QCB} 1 photo distant 11:30 change but still longer flight higher open pockets up then landing observed the 2 quino attempting to mate 1 started flew up in air & split apart mate ^{colided}
AGASDO 5	Astragalus do	
AGHL 2	^{SD} Horned Lizard	along fence / sandy trail
AGNL 3	Woodrat Nest	in rock outcrop
		Gopher snake, two stripe racer, side blotted lizard fence lizard
		AMUR, AES, J, COBU, YRNA, ETHA, TUVU
AGASDO 1	Astragalus	approx 10 plants spread out
AGASDO 2	Astragalus	approx 3 "

TOTAL NUMBER OF QCB DETECTED: 2 INDIVIDUALS

Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet

Recorder: M. Heath Add'l Person: Andrew Fisher 15-16:00 Date: 4/24/10

Project: Manzanita Wind Energy Project Map #: 8 Survey Sxn: _____

GPS Unit: 6 QCB Protocol Survey # 3 of 5

TIME (24-hour)		Temp (F°)	Wind (avg/max)	% CC	Sky				
START	08:30	60.2	3.6/4.6	0%	clear	patchy	overcast	drizzle	shower
	10:30	70.5	2.2/3.2	↓	clear	patchy	overcast	drizzle	shower
	11:30	69.8	3.5/7.1		clear	patchy	overcast	drizzle	shower
	13:30	72.3	2.1/2.8		clear	patchy	overcast	drizzle	shower
	15:30	70.5	8.0/11.5		clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
END					clear	patchy	overcast	drizzle	shower

Habitat On-site (circle): open soils, hilltops, ridges, rock outcrops, soil crusts, clay soils, old roads, various nectar sources

[illegible]

**Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet**

MAP/GPS LABEL	POINT/POLYGON TYPE	COMMENTS FOR ALL MAPPED POLYGONS AND GPS POINTS/ SPECIES LIST (NECTAR SOURCES, GENERAL WILDLIFE LIST)
		Frodium
		Fiddleneck
		White thorn ceanothus
		Mt Mahogany
		Tangye Mustard
		Peppercorn sp flower
		Edriwood st Mexican Marigold
		Cuplea coarctata
		Leopine
		Tidy tips
		Gold field
		Baby blue eye
		Primrose
		Wild cucumber
		Little yellow lotus
		Arabis — Rock cross
		Golden bush
		Mine's lettuce
		Chic
		Calif poppy
		Blue dicks
		Desert dandelion
		Yucca
		Temel flower - pink
		Sun cup
MHCH13 MHCH13	→ 19	Potential host plant
MH LA20		Chinese horse
		Horned larks

TOTAL NUMBER OF QCB DETECTED: 0 INDIVIDUALS

Quino Checkerspot Butterfly Protocol Survey

Field Data Sheet

Recorder: M. Heath Add'l Person: E. Bergman Date: 4/23/10
Project: Manz Campo Wind Energy Project Map #: 13, 8 Survey Sxn: _____
GPS Unit: 6 QCB Protocol Survey # 3 of 5

TIME (24-hour)		Temp (F°)	Wind (avg/max)	% CC	Sky				
START	10:00	45.7	4.0/6.5	0%	clear	patchy	overcast	drizzle	shower
	11:00	53	2.6/4.9	↓	clear	patchy	overcast	drizzle	shower
	12:00	61.5	2.7/4.9		clear	patchy	overcast	drizzle	shower
	13:30	59.8	3.6/7.9		clear	patchy	overcast	drizzle	shower
	14:30	60.8	6.5/9.8		clear	patchy	overcast	drizzle	shower
	16:00	54 F	7.5/10.9		clear	patchy	overcast	drizzle	shower
END					clear	patchy	overcast	drizzle	shower

Habitat On-site (circle): open soils, hilltops, ridges, rock outcrops, soil crusts, clay soils, old roads, various nectar sources

[illegible]

**Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet**

MAP/GPS LABEL	POINT/POLYGON TYPE	COMMENTS FOR ALL MAPPED POLYGONS AND GPS POINTS/ SPECIES LIST (NECTAR SOURCES, GENERAL WILDLIFE LIST)
		Erodium
		Wild cucumbers
		goldfields
		Popcorn sp
		cupleaf ceanothus
		tansey mustard
		leucanthus bellus
		Baby blue eyes
		fiddleneck flor
		Lupine cinereus
		Calif Poppy
		Mt. Mahogany
		Pecony
		Yucca
		Mine's lettuce
		Mint lupine
		Phacelia
		Arabis - Rockcress
		Desert dandelion
		Golden bush
		Blue daisies
MITLA10	Sensitive Species	Horned larks
LIBE 01		n n=10
02		20
03		50
04		50
05		25
06		100
07		40

TOTAL NUMBER OF QCB DETECTED: 0 INDIVIDUALS

Recorder: Kyle Ince Add'l Person: _____ Date: 4/23/2010
Project: Manzanita Wind Energy Project Map #: 11 Survey Sxn: 11
GPS Unit: 3 QCB Protocol Survey # 2 of 5

TIME (24-hour)		Temp (F°):	Wind (avg/max)	% CC	Sky				
START				85	clear	patchy	overcast	drizzle	shower
1220		62°	2/8	0	clear	patchy	overcast	drizzle	shower
1220		62°	2/10	0	clear	patchy	overcast	drizzle	shower
1530		62°	2/10	0	clear	patchy	overcast	drizzle	shower
1615		62°	2/8	0	clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
END					clear	patchy	overcast	drizzle	shower

Habitat On-site (circle): open soils, hilltops, ridges, rock outcrops, soil crusts, clay soils, old roads, various nectar sources

[illegible]

Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet

Recorder: DAVID FLIETNER Add'l Person: _____ Date: 4/24/10
Project: Manzanita Wind Energy Project Map #: 1 Survey Sxn: Title 1 O&G
GPS Unit: 3 QCB Protocol Survey # 3 of 5

TIME (24-hour)		Temp (F°):	Wind (avg/max)	% CC	Sky				
START	0915	66	0-2	0	clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
END	1005	72	0-2	0	clear	patchy	overcast	drizzle	shower

Habitat On-site (circle): open soils, hilltops, ridges, rock outcrops, soil crusts, clay soils, old roads, various nectar sources

[illegible]

Quino Checkerspot Butterfly Protocol Survey

Field Data Sheet

[illegible]

TOTAL NUMBER OF QCB DETECTED: 0 INDIVIDUALS

0.

er: DAVID FR
MANZANA

TIME (24-hour)		Temp (F°):	Wind (avg/max)	% CC	Sky				
START	1030	69	4-7	0	clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
END	1600	73	4-7	0	clear	patchy	overcast	drizzle	shower

Habitat On-site (circle): open soils, hilltops, ridges, rock outcrops, soil crusts, clay soils, old roads, various nectar sources

Recorder: M. Heath Add'l Person: E Bergman Date: 4/25/10
Project: Manager's Ganges Wind Energy Project Map #: 5, 12, 15 Survey Sxn: _____
GPS Unit: 2 QCB Protocol Survey # 3 of 5

Habitat On-site (circle): open soils, hilltops, ridges, rock outcrops, soil crusts, clay soils, old roads, various nectar sources

Page 1 of 2

Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet

MAP/GPS LABEL	POINT/POLYGON TYPE	COMMENTS FOR ALL MAPPED POLYGONS AND GPS POINTS/ SPECIES LIST (NECTAR SOURCES, GENERAL WILDLIFE LIST)
MHLIBE 30 → 33	Flowering plants	<i>Linanthus bellus</i> <i>Popcorn flower</i> sp. <i>Erodium</i> cup leaf reanethus golden bush wild cucumbers sun cup gold fields night shade phacelia <i>Yucca shrubifera</i> chica small ground lupine desert dandelion baby blue eyes custer tidy tips minature lupine <i>penstemon spectabilis</i> & the others Tansy dodder <i>Grope Soda lupine</i> Catal poppy field weeds Black Mustard <i>Arabis</i> Indian paintbrush <i>Falago</i> Ch <i>Chenopodium</i> Horned Lizards
MHHL 18, 19	Sas sp	

TOTAL NUMBER OF QCB DETECTED: 0 INDIVIDUALS

Recorder: Kyle Ince Add'l Person: _____ Date: 11/26/10
Project: Manzanita Wind Energy Project Map #: 60 Survey Sxn: _____
GPS Unit: 3 QCB Protocol Survey # 3 of 5

TIME (24-hour)		Temp (F°)	Wind (avg/max)	% CC	Sky				
START					clear	patchy	overcast	drizzle	shower
0900		69°F	0/5mph	5%	clear	patchy	overcast	drizzle	shower
1200		70°F	0/5mph	5%	clear	patchy	overcast	drizzle	shower
1100		74°F	0/5mph	5%	clear	patchy	overcast	drizzle	shower
1200		76°F	0/5mph	0%	clear	patchy	overcast	drizzle	shower
1500		77°F	1/5mph	0%	clear	patchy	overcast	drizzle	shower
END					clear	patchy	overcast	drizzle	shower

Habitat On-site (circle): open soils, hilltops, ridges, rock outcrops, soil crusts, clay soils, old roads, various nectar sources

Page 1 of 2

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TOTAL NUMBER OF QCB DETECTED: 6 INDIVIDUALS

Quino Checkerspot Butterfly Protocol Survey

Field Data Sheet

Recorder: DAVID FLUTNER Add Person: _____ Date: 4/26/10

Project: Manzanita Wind Energy Project Map #: 2 Survey Sxn: _____

GPS Unit : GTF 4 QCB Protocol Survey # 3 of 5

TIME (24-hour)		Temp (F°)	Wind (avg/max)	% CC	Sky				
START									
	0900	65	0-2	10	clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
END	1415	77	0-3	20	clear	patchy	overcast	drizzle	shower

Habitat On-site (circle): open soils, hilltops, ridges, rock outcrops, soil crusts, clay soils, old roads, various nectar sources

Quino Checkerspot Butterfly Protocol Survey Field Data Sheet

[illegible]

TOTAL NUMBER OF QCB DETECTED: 0 INDIVIDUALS

Quino Checkerspot Butterfly Protocol Survey

Field Data Sheet

[illegible]

TOTAL NUMBER OF QCB DETECTED: 0 INDIVIDUALS

Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet

[illegible]

TOTAL NUMBER OF QCB DETECTED: 0 INDIVIDUALS

Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet

Recorder: Antonia Lopez Add'l Person: None Date: 7-26-10

Project: Manzanita Wind Energy Project Map #: Tile 4 Survey Sxn: _____

GPS Unit: 12 QCB Protocol Survey # 3 of 5

TIME (24-hour)		Temp (F°):	Wind (avg/max)	% CC	Sky				
START	0930	76	0/2	2	clear	patchy	overcast	drizzle	shower
	1130	79	15/5	2	clear	patchy	overcast	drizzle	shower
	1230	80	15/5	2	clear	patchy	overcast	drizzle	shower
	1430	80	0/1	2	clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
END	1630	79	15/5	2	clear	patchy	overcast	drizzle	shower

Habitat On-site (circle): open soils, hilltops, ridges, rock outcrops, soil crusts, clay soils, old roads, various peculiar sources

Field Data Sheet

Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet

Recorder: ERIC LACOSTE Add'l Person: Andrew Fisher Date: 4/26/10
Project: Mazanita Wind Energy Project Map #: 213 Survey Sxn: _____
GPS Unit: _____ QCB Protocol Survey # 4 of 5

TIME (24-hour)		Temp (F°):	Wind (avg/max)	% CC	Sky				
START	0900	68	2/4	5	clear	patchy	overcast	drizzle	shower
	2:00	80	2/4	5	clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
END	330	71	4/8	5	clear	patchy	overcast	drizzle	shower

Habitat On-site (circle): open soils, hilltops, ridges, rock outcrops, soil crusts, clay soils, old roads, various nectar sources

Quino Checkerspot Butterfly Protocol Survey Field Data Sheet

[illegible]

TOTAL NUMBER OF QCB DETECTED: ~~1~~ INDIVIDUALS

Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet

[illegible]

TOTAL NUMBER OF QCB DETECTED: 0 INDIVIDUALS

Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet

Recorder: DAVE FLIGHTER Add'l Person: _____ Date: 4/27/0

Project: Manzanita Wind Energy Project Map #: 5 Survey Sxn: _____

GPS Unit : 2 , QCB Protocol Survey # 4 of 5

TIME (24-hour)		Temp (F°):	Wind (avg/max)	% CC	Sky				
START	12:25	74	5-9	10	clear	patchy	overcast	drizzle	shower
	15:00	74	7-12	25	clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
END	15:45	74	10-15(25)	25	clear	patchy	overcast	drizzle	shower

Habitat On-site (circle): open soils, hilltops, ridges, rock outcrops, soil crusts, clay soils, old roads, various nectar sources

[illegible]

...and the ...

[illegible]

TOTAL NUMBER OF QCB DETECTED: 0 INDIVIDUALS

Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet

Recorder: DAVID FUETNER Add'l Person: _____ Date: 4/27/10

Project: Campo Wind Energy Project Map #: 1 Survey Sxn: 1

GPS Unit : 2 QCB Protocol Survey # 4 of 5

TIME (24-hour)		Temp (F°)	Wind (avg/max)	% CC	Sky				
START	08:45	65	3-6	10	clear	patchy	overcast	drizzle	shower
	11:00	72	7-10	10	clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
	12:10				clear	patchy	overcast	drizzle	shower
END	12:40	74	5-8	10	clear	patchy	overcast	drizzle	shower

Habitat On-site (circle): open soils, hilltops, ridges, rock outcrops, soil crusts, clay soils, old roads, various nectar sources

[illegible]

— 3 —

TOTAL NUMBER OF QCB DETECTED: 0 INDIVIDUALS

Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet

Recorder: Anthony G. Gohara Add'l Person: None Date: 4/21/10

Project: Manzanita Wind Energy Project Map #: 13 Survey Sxn:

GPS Unit: 7 QCB Protocol Survey # 4 of 5

TIME (24-hour)		Temp (F°):	Wind (avg/max)	% CC	Sky				
START	0900	60	2.1/5	2	clear	patchy	overcast	drizzle	shower
	1000	72	1.2/3	5	clear	patchy	overcast	drizzle	shower
	1100	74	4.2/9	5	clear	patchy	overcast	drizzle	shower
	1200	74	1.8/6.9	10	clear	patchy	overcast	drizzle	shower
	1300	74	4.1/7.4	15	clear	patchy	overcast	drizzle	shower
	1400	74	5.1/10.1	40	clear	patchy	overcast	drizzle	shower
END	1440	71	4.5/9	40	clear	patchy	overcast	drizzle	shower

Habitat On-site (circle): open soils, hilltops, ridges, rock outcrops, soil crusts, clay soils, old roads, various nectar sources

[illegible]

Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet

MAP/GPS LABEL	POINT/POLYGON TYPE	COMMENTS FOR ALL MAPPED POLYGONS AND GPS POINTS/ SPECIES LIST (NECTAR SOURCES, GENERAL WILDLIFE LIST)
		Castanea cal., Plagiobothrys, sp., Eriogonum, Amelanchier, Chia, Blueberries SIT, BGP, AMER, ANTHU, BIGN, CORA, Cotton-tailed Rabbit
AGCH 1	Chinese Houses	> 50-100 plants Ground pink, Baby Blue Eyes, Rock-rose La Poppy, Phacelia, Filago Western fence lizard
AGCH 2	Chinese Houses	50-100 plants - 500 Bitia
AGCH 3	Chinese Houses	10-50 blooming
AGCH 4	" "	100-500 "
AGCH 5	" "	50-100
AGCH 6	" "	10-50
AGCH 7	" "	50-100-500-1000
AGCH 8	" "	10-50
AGCH 9	" "	10-50
AGNL 1	Woodrat nest	in rock outcrop
AGCH 10	Chinese House	10-50
AGNL 2	Woodrat nest	in rock outcrop
AGCH 11	Chinese House	20-50
AGCH 12	" "	20-50
AGCH 13	" "	10-50
AGCH 14	" "	50-100-500-1000
AGCH 15	" "	10-50-100
AGCH 16	" "	10-50 not in bloom
AGCH 17	" "	10-50 in bloom
AGHL 1	Horned Lizard	along sandy trail
AGCH 18	Chinese House	50-100 in bloom 500-1000
AGHL 2	Horned Lizard	along sandy trail
AGHL 3	Horned Lizard	large horned lizard along sandy trail

TOTAL NUMBER OF QCB DETECTED: 8 INDIVIDUALS

AGNL 3 Woodrat nest in dead trees

AGCH 19 Chinese Houses Page 2 of 2 500-1000 plants in bloom

AGCH 20 " " 100-500 "

Quino Checkerspot Butterfly Protocol Survey Field Data Sheet

Recorder: Adam BEYLE Add'l Person: — Date: 4/27/10

Project: Manzanita Wind Energy Project Map #: M4V2 4 Survey Sxn: _____

GPS Unit : Garmin 10 QCB Protocol Survey # 4 of 5

TIME (24-hour)		Temp (F°):	Wind (avg/max)	% CC	Sky				
START					clear	patchy	overcast	drizzle	shower
	10:30	71°	2/7	0%	clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
END	15:00	77°	11/15	10%	clear	patchy	overcast	drizzle	shower

Habitat On-site (circle): open soils, hilltops, ridges, rock outcrops, soil crusts, clay soils, old roads, various nectar sources

[illegible]

Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet

[illegible]

TOTAL NUMBER OF QCB DETECTED: 0 INDIVIDUALS

Recorder: Kyle Ince Add'l Person: — Date: 4/27/10
Project: Manzanita Wind Energy Project Map #: 4 Survey Sxn: —
GPS Unit: 12 QCB Protocol Survey # 4 of 5

TIME (24-hour)		Temp (F°):	Wind (avg/max)	% CC	Sky				
START					clear	patchy	overcast	drizzle	shower
0930		71	2/7	0	clear	patchy	overcast	drizzle	shower
1030		74			clear	patchy	overcast	drizzle	shower
1230			7/12		clear	patchy	overcast	drizzle	shower
1330					clear	patchy	overcast	drizzle	shower
1500		77	11/15	0	clear	patchy	overcast	drizzle	shower
END					clear	patchy	overcast	drizzle	shower

Habitat On-site (circle): open soils, hilltops, ridges, rock outcrops, soil crusts, clay soils, old roads, various nectar sources

[illegible]

Quino Checkerspot Butterfly Protocol Survey Field Data Sheet

[illegible]

TOTAL NUMBER OF QCB DETECTED: 2 INDIVIDUALS

Recorder: M. Heath Add'l Person: _____ Date: 5/1/10
Project: Mangrove Wind Energy Project Map #: 13, 13 Survey Sxn: _____
GPS Unit: 9 QCB Protocol Survey # 4? of 5

Habitat On-site (circle): open soils, hilltops, ridges, rock outcrops, soil crusts, clay soils, old roads, various nectar sources

Page 1 of 2

Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet

MAP/GPS LABEL	POINT/POLYGON TYPE	COMMENTS FOR ALL MAPPED POLYGONS AND GPS POINTS/ SPECIES LIST (NECTAR SOURCES, GENERAL WILDLIFE LIST)
		Popcorn
		Fiddleneck
		Peony
		Yucca
		Golden bush
		erodium
		Frag. Tansy mustard
		Silver leaf lotus
		Phacelia
		Desert dandelion
		Camissonia sp
		Mt Mahogany
		White-thorn ceanothus
		Baby blue eyes
		Calif Poppy
		Gold fields
		Chick
		Coastal lotus
		Golden bush
		Lupine Dove Bajada
		Tidy tips
		Wild cucumber
		Blue dicks
		collinsia
		night shade
		plains cotton
		wooly blue curls
MHHL19	Sensitive Sp	Horned lizard

TOTAL NUMBER OF QCB DETECTED: 0 INDIVIDUALS

Recorder: M. Heath Add'l Person: M. Anguiano Date: 5/2/10
Project: Manzanita Wind Energy Project Map #: 12, 13, 14 Survey Sxn: _____
GPS Unit: 9 QCB Protocol Survey # 4 of 5

Habitat On-site (circle): open soils, hilltops, ridges, rock outcrops, soil crusts, clay soils, old roads, various nectar sources

Page 1 of 2

Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet

MAP/GPS LABEL	POINT/POLYGON TYPE	COMMENTS FOR ALL MAPPED POLYGONS AND GPS POINTS/ SPECIES LIST (NECTAR SOURCES, GENERAL WILDLIFE LIST)
		Gold fields
		Phacelia
		Fiddleheads Amaranth
		Minutiae Lupine
		Popcorn flower
		Plagiobothrys
		Eriogonum
		Nevada Rockcress
		Mt Mahogany
		Cup leaf ceanothus
		Mustard - Black & Tansey
		Chic
		Calif Poppy
		Chinese Wases
		Blue dicks
		White thorn ceanothus
		Linnaean bella
		Sun cup Camassia
		Golden birch
		Gilia
		Baby blue eye
		Nightshade
		Tidy tips
		Peony
MACH 50	n = 75	Silver leaf camassia lotus
MACH 51	n = 150	
52	75	
53	10	
54	400	
55	50	
56	40	

TOTAL NUMBER OF QCB DETECTED: 0 INDIVIDUALS

57 30

Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet

Recorder: Antonielle Gutierrez Add'l Person: None Date: 3 May 2010

Project: Manzanita Wind Energy Project Map #: T16 #5 Survey Sxn: _____

GPS Unit: 2 OCB Protocol Survey # 4 of 5

TIME (24-hour)		Temp (F°):	Wind (avg/max)	% CC	Sky				
START	0900	67	0.7/3.4	0	clear	patchy	overcast	drizzle	shower
	1000	70	5.5/12.6	0	clear	patchy	overcast	drizzle	shower
	1100	72	1.0/5.7	0	clear	patchy	overcast	drizzle	shower
	1200	72	0/11.7	0	clear	patchy	overcast	drizzle	shower
	1300	72	1/5	0	clear	patchy	overcast	drizzle	shower
	1400	72	1/5	0	clear	patchy	overcast	drizzle	shower
END	1530	72	1/5	0	clear	patchy	overcast	drizzle	shower

Habitat On-site (circle): open soils, hilltops, ridges, rock outcrops, soil crusts, clay soils, old roads, various nectar sources

[illegible]

Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet

MAP/GPS LABEL	POINT/POLYGON TYPE	COMMENTS FOR ALL MAPPED POLYGONS AND GPS POINTS/ SPECIES LIST (NECTAR SOURCES, GENERAL WILDLIFE LIST)
G/AGCH 1 G/AGNL 1	Chinese House ^{SQ} Woodrat nest	plant pop > 1000 in old brush pile Plagiobothrys sp. Cryptantha sp Lasthenia californica Salvia columbariae Filago Erodium cicutarium Phacelia Camissonia sp Chinese Houses Brass Buttons Gilia Erigeron densiflorus Linanthus dianthiflorus Linanthus lemmonii Fallopia glandulosa Rafanum wildenowii
G/AGNL 2	Woodrat Nest	in rock out crop
G/AGNL 3	" " "	m oak
G/ABCH 2	Chinese Houses	plant pop ~ 100's
G/ABCH 3	" "	" " 50-600
G/ABCH 4	" "	" " 10-50
		TUVU, WEWE, CORA;

TOTAL NUMBER OF QCB DETECTED: 0 INDIVIDUALS

Field Data Sheet

Recorder: S. Rink Add'l Person: _____ Date: 5/3/10

Project: Manzanita
Campo Wind Energy Project Map #: 8 Survey Sxn: _____

GPS Unit: 9 QCB Protocol Survey # 4 of 5

TIME (24-hour)		Temp (F°):	Wind (avg/max)	% CC	Sky				
START					clear	patchy	overcast	drizzle	shower
0845		61	2-3/5	0	clear	patchy	overcast	drizzle	shower
0922		63	10-12/19	0	clear	patchy	overcast	drizzle	shower
1030		67	10-12/13	0	clear	patchy	overcast	drizzle	shower
1130		65	12-12/13	0	clear	patchy	overcast	drizzle	shower
12:30		67	8-10/12	0	clear	patchy	overcast	drizzle	shower
END					clear	patchy	overcast	drizzle	shower

[illegible]

Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet

[illegible]

TOTAL NUMBER OF QCB DETECTED: 0 INDIVIDUALS

Recorder: S. Rink Add'l Person: _____ Date: 5/3/10
Project: ~~Camp Wind Energy Project~~ Map #: 10 Survey Sxn: _____
GPS Unit: _____ QCB Protocol Survey # 4 of 5

TIME (24-hour)		Temp (F°):	Wind (avg/max)	% CC	Sky				
START					clear	patchy	overcast	drizzle	shower
	1309	72	10-13/14	0	clear	patchy	overcast	drizzle	shower
	1430	70	8-10/12	0	clear	patchy	overcast	drizzle	shower
	1545	70	6-8/1	0	clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
END					clear	patchy	overcast	drizzle	shower

[illegible]

Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet

[illegible]

TOTAL NUMBER OF QCB DETECTED: 1 INDIVIDUALS

Quino Checkerspot Butterfly Protocol Survey Field Data Sheet

Recorder: ERIK LACOSTE Add'l Person: — Date: 5/2/10

Project: MANZANITA Compo Wind Energy Project Map #: 6 Survey Sxn: ~~5~~ 4

GPS Unit: Garmin Co QCB Protocol Survey # 4 of 5

TIME (24-hour)		Temp (F°)	Wind (avg/max)	% CC	Sky				
START	845	60	5/9	0	clear	patchy	overcast	drizzle	shower
	1030	62	7/10	0	clear	patchy	overcast	drizzle	shower
	1130	64	5/8	0	clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
END	1200	69	3-7	0	clear	patchy	overcast	drizzle	shower

Habitat On-site (circle): open soils, hilltops, ridges, rock outcrops, soil crusts, clay soils, old roads, various nectar sources

[illegible]

**Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet**

MAP/GPS LABEL	POINT/POLYGON TYPE	COMMENTS FOR ALL MAPPED POLYGONS AND GPS POINTS/ SPECIES LIST (NECTAR SOURCES, GENERAL WILDLIFE LIST)
ELCOLHETO1	P	20-30 Collinsia individuals.
ELCOLHETO2	P	5-10 Collinsia.
ELCOLHETO3	P	25-250 Collinsia
ELCOLHETO4	P	25-250 Collinsia 1000-2500 - scattered on entire W side of Rd
		Plagiodon SP.
		Mustard SP.
		Erodium SP
		Commersonia SP
		Lupine SP.
		Phacelia SP.
		Chanactis SP.
		Salvia columbiana
		lasthenia californica
		Collinsia - GPS'd
		Emmananthe pedunculata
		Phacelia tanacetifolia
		Ceanothus SP.
		Layia glandulosa
		Uropappus lindleyi
		Amisimia menziesii
		Ligustrum lemmoi
		Ericameria - SP.
		Penstemon chuspidatus
		Bush Poppy
		Eriophyllum wallacei
		Cream cups
		Erysimum capitatum
		Solanum SP.

TOTAL NUMBER OF QCB DETECTED: 0 INDIVIDUALS

Recorder: Adam Behler Add'l Person: _____ Date: 5/3/18
Project: Manzanita Wind Energy Project Map #: MAN2-12 Survey Sxn: _____
GPS Unit: CANON/MAN2 1 QCB Protocol Survey # 4 of 5

TIME (24-hour)		Temp (F°):	Wind (avg/max)	% CC	Sky				
START	0855	64	1/5	0	clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
END	0950	67	2/7	0	clear	patchy	overcast	drizzle	shower

Habitat On-site (circle): open soils, mounds, ridges, rock outcrops, soil crusts, clay soils, old roads, various nectar sources

[illegible]

Field Data Sheet

[illegible]

TOTAL NUMBER OF QCB DETECTED: 0 INDIVIDUALS

Quino Checkerspot Butterfly Protocol Survey Field Data Sheet

Recorder: Adam Berube Add'l Person: Date: 5/3/12

Project: MANZ 3rd. TA
Campo Wind Energy Project Map #: MANZ # 15 Survey Sxn: _____

GPS Unit: Campo/MA12 / QCB Protocol Survey # 4 of 5

TIME (24-hour)		Temp (F°):	Wind (avg/max)	% CC	Sky				
START	1025	70°	3/7	0%	clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
END	1915	76°	1/6	0%	clear	patchy	overcast	drizzle	shower

Habitat On-site (circle): open soils, hilltops, ridges, rock outcrops, soil crusts, clay soils, old roads, various nectar sources

Adam BEEBLE
MANZ 15
5/3/10
CPS 1

TOTAL NUMBER OF QCB DETECTED: 0 INDIVIDUALS

Quino Checkerspot Butterfly Protocol Survey

Field Data Sheet

Recorder: Adam Beane Add'l Person: _____ Date: 5/3/10

Project: Manzanita Wind Energy Project Map #: MAJZ 11 Survey Sxn:

GPS Unit: 1 QCB Protocol Survey # 27 of 5

TIME (24-hour)		Temp (F°):	Wind (avg/max)	% CC	Sky				
START	1430	84°	9/1	0	clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
END	1550	80°	1/3	0	clear	patchy	overcast	drizzle	shower

Habitat On-site (circle): open soils, hilltops, ridges, rock outcrops, soil crusts, clay soils, old roads, various nectar sources.

[illegible]

Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet

[illegible]

TOTAL NUMBER OF QCB DETECTED: 0 INDIVIDUALS

Recorder: S. Rink Add'l Person: _____ Date: 5/4/10
Project: Manzanita Wind Energy Project Map #: 5 Survey Sxn: _____
GPS Unit: ~~8~~ 5 QCB Protocol Survey # 4 of 5

TIME (24-hour)		Temp (F°):	Wind (avg/max)	% CC	Sky				
START	0845	64	2-3/5	0	clear	patchy	overcast	drizzle	shower
	1030	70	3-5/6	0	clear	patchy	overcast	drizzle	shower
	1130	72	5-7/9	0	clear	patchy	overcast	drizzle	shower
	1230	74	5-7/10	0	clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
END					clear	patchy	overcast	drizzle	shower

[illegible]

Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet

[illegible]

TOTAL NUMBER OF QCB DETECTED: 2 INDIVIDUALS

Field Data Sheet

Recorder: S. Rink Add'l Person: _____ Date: 5/4/10

Project: Manzanita Wind Energy Project Map #: 4 Survey Sxn: _____

GPS Unit: 5 QCB Protocol Survey #: 4 of 5

TIME (24-hour)		Temp (F°):	Wind (avg/max)	% CC	Sky				
START	1300	78	3-5/7	0	clear	patchy	overcast	drizzle	shower
	1400	80	8-10/12	0	clear	patchy	overcast	drizzle	shower
	1500	80	8-10/12	0	clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
END	1535				clear	patchy	overcast	drizzle	shower

Habitat On-site (circle): open soils, hilltops, ridges, rock outcrops, soil crusts, clay soils, old roads, various nectar sources

[illegible]

Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet

[illegible]

TOTAL NUMBER OF QCB DETECTED: 8 INDIVIDUALS

Field Data Sheet

Recorder: C. Ruiz Add'l Person: _____ Date: 5/5/10

Project: Manzanita Wind Energy Project Map #: 6 Survey Sxn: _____

GPS Unit: 13 QCB Protocol Survey # 4 of 5

TIME (24-hour)		Temp (F°):	Wind (avg/max)	% CC	Sky				
START	0530	72	10-21/15	0	clear	patchy	overcast	drizzle	shower
	0930	69	10-12/17	0	clear	patchy	overcast	drizzle	shower
	1030	69	10-12/19	0	clear	patchy	overcast	drizzle	shower
	1130	70	12-13/18	0	clear	patchy	overcast	drizzle	shower
	1230	71	10-12/17	0	clear	patchy	overcast	drizzle	shower
	1330	70	10-12/19	0	clear	patchy	overcast	drizzle	shower
END					clear	patchy	overcast	drizzle	shower

[illegible]

Quino Checkerspot Butterfly Protocol Survey Field Data Sheet

TOTAL NUMBER OF QCB DETECTED: 0 INDIVIDUALS

Field Data Sheet

Recorder: Antonia Delaportas Add'l Person: Lina Grant Date: 5/6/10

Project: Manzanita Wind Energy Project Map #: 11 Survey Sxn: _____

GPS Unit : 7 QCB Protocol Survey # 4 of 5

TIME (24-hour)		Temp (F°):	Wind (avg/max)	% CC	Sky				
START	0945	74	0/3	0	clear	patchy	overcast	drizzle	shower
	1045	76	0/5	0	clear	patchy	overcast	drizzle	shower
	1245	76	2/5	0	clear	patchy	overcast	drizzle	shower
				0	clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
END	1430	76	45/10	0	clear	patchy	overcast	drizzle	shower

Habitat On-site (circle): open soils, hilltops, ridges, rock outcrops, soil crusts, clay soils, old roads, various nectar sources

Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet

Recorder: Antoinette Gutierrez Add'l Person: Gina Kwant Date: 5/6/10

Project: Manzanita Wind Energy Project Map #: 2 Survey Sxn: _____

GPS Unit: 7 OCB Protocol Survey # 5 of 5

TIME (24-hour)		Temp (F°):	Wind (avg/max)	% CC	Sky				
START	1950	75	4/10	0	clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
END	1630	73	4/10	0	clear	patchy	overcast	drizzle	shower

Habitat On-site (circle): open soils, hilltops, ridges, rock outcrops, soil crusts, clay soils, old roads, various nectar sources

Quino Checkerspot Butterfly Protocol Survey Field Data Sheet

[illegible]

TOTAL NUMBER OF QCB DETECTED: 21 INDIVIDUALS

Recorder: Bonnie Hendricks Add'l Person: none Date: 5/7/10
Project: Manzanita Wind Energy Project Map #: 7 Survey Sxn: Manz-L
GPS Unit: SM 13 QCB Protocol Survey # 5 of 5

TIME (24-hour)	Temp (F):	Wind (avg/max)	% CC	Sky					
START	99.50	67.7	1.5/4.5	0	clear	patchy	overcast	drizzle	shower
	10:35	68.3	2.1/4.3	0	clear	patchy	overcast	drizzle	shower
	11:55	78.7	2.6/16.1	0	clear	patchy	overcast	drizzle	shower
	12:55	80.6	2.2/5.9	0	clear	patchy	overcast	drizzle	shower
	2:05	79.5	2.1/11.4	0	clear	patchy	overcast	drizzle	shower
	3:30	73.1	2.0/5.6	0	clear	patchy	overcast	drizzle	shower
END	4:30	78.7	3.7/5.6	0	clear	patchy	overcast	drizzle	shower

Habitat On-site (circle): open soils, hilltops, ridges, rock outcrops, soil crusts, clay soils, old roads, various nectar sources

Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet

MAP/GPS LABEL	POINT/POLYGON TYPE	COMMENTS FOR ALL MAPPED POLYGONS AND GPS POINTS/ SPECIES LIST (NECTAR SOURCES, GENERAL WILDLIFE LIST)
BHCH01	host plant	<i>Collinsia heterophylla</i> in bloom 60
BHCH02	"	" " " 50
BHCH03	"	" " " 100
" 04	"	" " " 200
" 05	"	" " " 200
" 06	"	" " " 200
BHLibe01	rare plant	<i>Linanthus bellus</i> in bloom 15+40
BHCH07	host plant	<i>Collinsia heterophylla</i> 200
BHCH08	"	" " 50
" 09	"	" " 150
" 10	"	" " 50
" 11	"	" " 150
" 12	"	" " 200
" 13	"	" " 3
" 14	"	" " 8
" 15	"	" " 20
" 16	"	" " 30
" 17	"	" " 150
BHHL01	animal	Horned Lizard 1
BHCH18	host plant	<i>Collinsia heter</i> 200
" 19	"	" " 200
" 20	"	" " 200
" 21		100
" 22		100
" 23		50
" 24		50
" 25		50
" 26		60
" 27		40
BHSTCA01	Rare plant	<i>Streptanthus campotris</i> 3

TOTAL NUMBER OF QCB DETECTED: 0 INDIVIDUALS

Bonnie Hendricks

5/7/10

Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet

TOTAL NUMBER OF QCB DETECTED: 0 INDIVIDUALS

Manzanita Wind Energy Project

ridges, rock outcrops, soil crusts, clay soils, old roads, various nectar sources

Recorder: M. Heath Add'l Person: Ø Date: 5/7/2010
Project: MAVZ ~~Campo~~ Wind Energy Project Map #: 2, 1 Survey Sxn: _____
GPS Unit: 7 QCB Protocol Survey # 5 of 5

TIME (24-hour)		Temp (F):	Wind (avg/max)	% CC	Sky				
START	08:30	63.2	1.8/3.0	0%	clear	patchy	overcast	drizzle	shower
	09:30	69.3	1.2/2.4	0%	clear	patchy	overcast	drizzle	shower
	12:00	69.9	3.6/5.3	0%	clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
	15:00	78.0	1.4/4.9	0%	clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
END	16:00	73.2	2.3/5.7	0%	clear	patchy	overcast	drizzle	shower

Habitat On-site (circle): open soils, hilltops, ridges, rock outcrops, soil crusts, clay soils, old roads, various nectar sources

Page 1 of 2

Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet

MAP/GPS LABEL	POINT/POLYGON TYPE	COMMENTS FOR ALL MAPPED POLYGONS AND GPS POINTS/ SPECIES LIST (NECTAR SOURCES, GENERAL WILDLIFE LIST)
	Flowering plants	Popcorn flower
		Erodium
		Bush poppy
		Camissonia
		Fiddleneck
		Tansy mustard
		Nightshade
		Cup-leaf ceanothus
		Golden bush
		Peony
		Goldfields
		Desert dandelion
		Phacelia
		Chinese Houses
		Chia
		Miniature lupine
		Buck brush
		Red maids
		Mine's lettuce
		Wild cucumbers
MHC#60	Host sp	Chinese House n = 30
61		n = 100
62		n = 10
63		n = 25
64		n = 25
65		n = 150
66		n = 200
MHHL20	Sensitive sp	Horned Lizard

TOTAL NUMBER OF QCB DETECTED: 0 INDIVIDUALS

Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet

Recorder: M. Heath Add'l Person:  Date: 05/08/2010
Project: Manzanita
Cameo Wind Energy Project Map #: 1 Survey Sxn:
GPS Unit: 3 QCB Protocol Survey # 5 of 5

TIME (24-hour)		Temp (F°)	Wind (avg/max)	% CC	Sky				
START	09:00	68.1	2.1/3.9	0%	clear	patchy	overcast	drizzle	shower
	10:30	72.3	3.9/5.6		clear	patchy	overcast	drizzle	shower
	12:30	74.5	2.5/7.6		clear	patchy	overcast	drizzle	shower
	14:00	73.5	3.2/6.7		clear	patchy	overcast	drizzle	shower
	15:30	75.5	5.5/13.1		clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
END					clear	patchy	overcast	drizzle	shower

Habitat On-site (circle): open soils, hilltops, ridges, rock outcrops, soil crusts, clay soils, old roads, various nectar sources

[illegible]

Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet

MAP/GPS LABEL	POINT/POLYGON TYPE	COMMENTS FOR ALL MAPPED POLYGONS AND GPS POINTS/ SPECIES LIST (NECTAR SOURCES, GENERAL WILDLIFE LIST)
	Flowering ^{plants} Species	Erodium
		Pigeon flower
		Fiddleneck (Anemone)
		Primrose (Camissonia)
		Phacelia
		Cup leaf ceanothus
		Woody blue curl
		Chinese houses
		Peony
		Coast lotus
		Chia
		Annual yellow monkey flower
		Sage bush
		Golden bush
		Blue rocks
		Arabis (Nevada Rockcress)
		Tansy Mustard
		Bush poppy
		Miner's lettuce sp
		Baby blue eyes
		wild cucumber
		gilia
MHSP01	n = 1	Slender pod jewel flower
MACH70	n = 200 Host	Chinese houses potential host plant
71	n = 20 Plant	
72	n = 40	
73	n = 300	
74	n = 100	
75	n = 2000	
76	n = 15	

TOTAL NUMBER OF QCB DETECTED: 0 INDIVIDUALS

Recorder: Bonnie Hendricks Add'l Person: — Date: 5/8/10
Project: Manzanita ~~Campo~~ Wind Energy Project Map #: 4 Survey Sxn: Manz-M
GPS Unit: Garmin 7 QCB Protocol Survey #: 5 of 56

TIME (24-hour)		Temp (F°)	Wind (avg/max)	% CC	Sky				
START	6:45	63.7	9.0/11.7	0	clear	patchy	overcast	drizzle	shower
	9:50	75.5	2.5/5.0	0	clear	patchy	overcast	drizzle	shower
	10:50	73.0	5.2/12.3	0	clear	patchy	overcast	drizzle	shower
	11:50	72.6	7.1/14.2	0	clear	patchy	overcast	drizzle	shower
	12:30	73.6	5.5/9.0	0	clear	patchy	overcast	drizzle	shower
	13:30	71.9	5.4/9.8	0	clear	patchy	overcast	drizzle	shower
END	14:15	71.4	5.1/7.7	0	clear	patchy	overcast	drizzle	shower

Habitat On-site (circle): open soils, hilltops, ridges, rock outcrops, soil crusts, clay soils, old roads, various nectar sources

Page 1 of 2

Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet

MAP/GPS LABEL	POINT/POLYGON TYPE	COMMENTS FOR ALL MAPPED POLYGONS AND GPS POINTS/ SPECIES LIST (NECTAR SOURCES, GENERAL WILDLIFE LIST)
BHSTCA02	Rare Plant	Streptanthus campestris 2 plants
BHASD001	" "	Astragalus douglasii 5
BHCH30	host plant	*Collinsia concolor 27
		*keyed out last night, all Collinsia on my 5/7/10 data sheet should be Coll. concolor.
BHASD003	Rare plant	Astr. daug. 3
BHCH31	host plant	Collinsia concolor 4
" 32	"	" " 75
" 33	"	" 153
" 34	"	" 137
" 35	"	" ~500
BHSTCA03	Rare plant	Strep camp 4
BHCH36	host plant	Collinsia con. ~500
" 37	"	" ~200
" 38	"	" ~100
" 39	"	" 50
BHASD004	Rare plant	Astr. daug 5
BHCH40	host	Col con 17
" 41	"	" ~200
" 42	"	" ~300
BHLIBE01	Rare Plant	Linanthus belhus 5
BHCA43	host	Col con ~200
" 44	"	" " ~100
" 45	"	" " ~100
" 46	"	" " ~300
BHLIBE02	Rare Plant	Lin. bel. ~100
BHCA47	host	Col. con. ~100
BHLIBE03	Rare Plant	Lin. bel. ~100
BHCH48	host	Col. con. ~50
BHCA49	"	" ~50

TOTAL NUMBER OF QCB DETECTED: 0 INDIVIDUALS

Quino Checkerspot Butterfly Protocol Survey Field Data Sheet

Recorder: Antanille Cufrero Add'l Person: None Date: 12 May 2010

Project: Mazatlan
Campo Wind Energy Project Map #: Tile 4 Survey Sxn: _____

GPS Unit : 7 QCB Protocol Survey # 5 of 5

TIME (24-hour)		Temp (F°)	Wind (avg/max)	% CC	Sky				
START	0840	64	0	0	clear	patchy	overcast	drizzle	shower
	0940	68	0/1	0	clear	patchy	overcast	drizzle	shower
	1040	71	0/3	0	clear	patchy	overcast	drizzle	shower
	1240	74	1/6	0	clear	patchy	overcast	drizzle	shower
	1340	75	1.5/8	2%	clear	patchy	overcast	drizzle	shower
	1440	75	2.2/8.4	20%	clear	patchy	overcast	drizzle	shower
END	1600	74	4/12	50%	clear	patchy	overcast	drizzle	shower

Habitat On-site (circle): open soils, milltops, ridges, rock outcrops, soil crusts, clay soils, old roads, various nectar sources

[illegible]

**Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet**

MAP/GPS LABEL	POINT/POLYGON TYPE	COMMENTS FOR ALL MAPPED POLYGONS AND GPS POINTS/ SPECIES LIST (NECTAR SOURCES, GENERAL WILDLIFE LIST)
4/AGBJ1	Black-tailed Sucker	in NWB HWA, CACAO, PSP, etc.
4/AGCH1	Chinese House	SPTO, WESC, RSP, CORA, VES, MUD, ANTO, WHE, etc.
4/AGCH1	Chinese Houses	Plant Pop 100-500 good conditions Tidy tips, erodium etc, phacelia, Anemone Cryptantha sp, Lathyrus carl. Cal. leu., Camissonia sp. China, Spiranthera pilosa
4/AGBCSP1	Black-chinned Sparrow	in Chinese
4/AGNL1	Woodrat nest	in Chinese
4/AGCH2	Chinese House	Plant Pop. 100-500 good condition
4/AGBS2	Black-tailed Sucker	in Chinese
4/AGNL2	Woodrat nest	in art. glass
4/AGCH3	Chinese Houses	plant pop 100-500 good condition
4/AGCH4	" "	plant pop 100-200 good condition
4/AGCH5	" "	plant pop 50-100 good condition
4/AGCH6	" "	plant pop 1000-5000 good condition
4/AGBCSP2	Black-chinned Sparrow	in Buckhorn (pair)
4/AGHOLA1	Horned Lark pair	open sandy area
4/AGCH7	Chinese Houses	plant pop 1000-5000 good condition
4/AGHL1	Horned Lizard	in open sandy soil
4/AGMD1	Mule deer scat	Fresh mule deer scat
4/AGCH8	Chinese Houses	Good cond. Plant pop > 1000 Buttercups, Groundpink, prairie, Baby Blue Eyes
4/AGNL3	Woodrat nest	In cer. bet. (mountain mahogany)
4/AGCH9	Chinese Houses	Plant Pop 1000-5000 good condition along trail
4/AGHOLA2	Horned Lark	buckhorn scrub area
4/AGCH10	Chinese Houses	Plant Pop 500-1000 good condition
4/AGBCSP3	Black-chinned Sparrow	in cacti
4/AGCH11	Chinese Houses	Plant pop 500-1000 good condition Coastal whip-lizard, western Fence lizard, Side-blotched lizard gopher snake.
4/AGCH12	Chinese Houses	Plant pop > 5000 good condition

TOTAL NUMBER OF QCB DETECTED: 0 INDIVIDUALS

Recorder: Antonette Gutierrez Add'l Person: Nine Date: 8/12/10
Project: Monsanto Campo Wind Energy Project Map #: 7764 Survey Sxn: _____
GPS Unit: 57 QCB Protocol Survey # 5 of 5

TIME (24-hour)		Temp (F°):	Wind (avg/max)	% CC	Sky				
START					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
END					clear	patchy	overcast	drizzle	shower

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Quino Checkerspot Butterfly Protocol Survey

Field Data Sheet

[illegible]

TOTAL NUMBER OF QCB DETECTED: 1 INDIVIDUALS

Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet

Recorder: Kyle Ince Add'l Person: - Date: 5/12/10

Project: Campo Wind Energy Project Map #: 3 Survey Sxn: _____

GPS Unit : 2 QCB Protocol Survey # 5 of 5

TIME (24-hour)		Temp (F°)	Wind (avg/max)	% CC	Sky				
START					clear	patchy	overcast	drizzle	shower
0830		63°	0 - 2 mph	0	clear	patchy	overcast	drizzle	shower
0930		64°	0 - 2 mph	0	clear	patchy	overcast	drizzle	shower
1130		72°	0 - 2 mph	0	clear	patchy	overcast	drizzle	shower
1330		77°	2 - 5 mph	0	clear	patchy	overcast	drizzle	shower
1400		78°	2 - 5 mph	0	clear	patchy	overcast	drizzle	shower
END					clear	patchy	overcast	drizzle	shower

Habitat On-site (circle): open soils, hilltops, ridges, rock outcrops, soil crusts, clay soils, old roads, various nectar sources

[illegible]

Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet[illegible]

TOTAL NUMBER OF QCB DETECTED: 0 INDIVIDUALS

Recorder: PAIK LACOSTE Add'l Person: — Date: 5/12/10
Project: MANZANITA
~~Campo~~ Wind Energy Project Map #: 3 Survey Sxn: K
GPS Unit: 5 QCB Protocol Survey # 5 of 5

TIME (24-hour)		Temp (F°):	Wind (avg/max)	% CC	Sky				
START	0845	60	2 / 4	0	clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
END	1045	65	4 / 8	0	clear	patchy	overcast	drizzle	shower

[illegible]

Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet

[illegible]

TOTAL NUMBER OF QCB DETECTED: 1 INDIVIDUALS

Recorder: ERIK LeCote Add'l Person: — Date: 5/12/10
Project: Manzanita
Campo Wind Energy Project Map #: 11 Survey Sxn: P
GPS Unit: 5 QCB Protocol Survey # 5 of 5

TIME (24-hour)		Temp (F°):	Wind (avg/max)	% CC	Sky				
START	1100	63	4/8	0	clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
END	100	65	4/8	0	clear	patchy	overcast	drizzle	shower

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Quino Checkerspot Butterfly Protocol Survey

Field Data Sheet

[illegible]

TOTAL NUMBER OF QCB DETECTED: 0 INDIVIDUALS

Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet

Recorder: ADAM BEHLE Add'l Person: Date: 5/12/10

Project: MANZANITA
Campe Wind Energy Project Map #: MANZ - 6 Survey Sxn: —

GPS Unit: Garmin 10 QCB Protocol Survey # 5 of 5

TIME (24-hour)		Temp (F°)	Wind (avg/max)	% CC	Sky				
START	0850	60°	0/1	0%	clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
END	1500	76°	6/9	10%	clear	patchy	overcast	drizzle	shower

Habitat On-site (circle): open soils, hilltops, ridges, rock outcrops, soil crusts, clay soils, old roads, various nectar sources

[illegible]

Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet

[illegible]

TOTAL NUMBER OF QCB DETECTED: 0 INDIVIDUALS

Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet

Recorder: Dale Porecki Add'l Person: - Date: 5/13/10
Project: Mazamita Campo Wind Energy Project Map #: 11 Survey Sxn: -
GPS Unit: 13 QCB Protocol Survey # 5 of 5

TIME (24-hour)		Temp (F°)	Wind (avg/max)	% CC	Sky				
START	8:33	71°	2/4	0	clear	patchy	overcast	drizzle	shower
	10:45	70°	4/5	0	clear	patchy	overcast	drizzle	shower
	11:20	78°	3/6	0	clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
END					clear	patchy	overcast	drizzle	shower

Habitat On-site (circle): open soils, hilltops, ridges, rock outcrops, soil crusts, clay soils, old roads, various nectar sources

[illegible]

Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet[illegible]

TOTAL NUMBER OF QCB DETECTED: 0 INDIVIDUALS

Recorder: Dale Powell Add'l Person: - Date: 5/13/10
Project: Manzanita Campo Wind Energy Project Map #: 14, 15 Survey Sxn: -
GPS Unit: 13 QCB Protocol Survey # 5 of 5

Quino Checkerspot Butterfly Protocol Survey Field Data Sheet

[illegible]

TOTAL NUMBER OF QCB DETECTED: 0 INDIVIDUALS

Field Data Sheet

Recorder: MIKE COUFFER Add'l Person: NONE Date: 13 May, 2010

Project: Manzanita Wind Energy Project Map #: TILE 4 Survey Sxn: MANZ-M

GPS Unit: Garmin 10 + Personal Etrex Vista QCB Protocol Survey # 5 of 5

TIME (24-hour)		Temp (F°):	Wind (avg/max)	% CC	Sky				
START	0848	75	0 → 2 mph	CLEAR	clear	patchy	overcast	drizzle	shower
	0900	75	0 → 3	CLEAR	clear	patchy	overcast	drizzle	shower
	1000	75	0 → 4	CLEAR	clear	patchy	overcast	drizzle	shower
	1100	74	0 → 7	CLEAR	clear	patchy	overcast	drizzle	shower
	1200	71	2 → 6	CLEAR	clear	patchy	overcast	drizzle	shower
	1300	73	2 → 7	CLEAR	clear	patchy	overcast	drizzle	shower
END	1400	81	0 → 7	20%	clear	patchy	overcast	drizzle	shower

Habitat On-site (circle) ~~open soils, hilltops, ridges, rock outcrops~~ soil crusts, clay soils, old roads, various nectar sources
1500 HRS, 73°F, WIND $\delta \rightarrow 8$ MPH, 20% COVER, 1600 HRS, 72°F, WIND = $\delta \rightarrow 7$ MPH, 30% COVER

Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet

MAPI/GPS LABEL	POINT/POLYGON TYPE	COMMENTS FOR ALL MAPPED POLYGONS AND GPS POINTS/ SPECIES LIST (NECTAR SOURCES, GENERAL WILDLIFE LIST)
4/AGCH 1	Chinese Houses	100 - 500 ~10% drying out others still in good condition
4/AGCH 2	" "	50 - 100 in good condition 5% drying out
4/AGHL 1	SD Woodrat nest	in Oak
		Cryptantha sp, Erodium cicutarium, Sisymbrium Sicot, Gilia sp, Plagiobothrys sp, Camissonia sp, pin cushion Wesc, Wesc, SPTC, KSP, AMCR, PIND, WESP, ESWN, CHOR, Western wh. phill
4/AGBCSP 1	Bush-tailed Woodrat	in chaparral
		Lesqueria cal., Thlasia, Arctostaphylos, Lonicera, Paly Blue eyes
4/AGCH 3	Chinese Houses	10000 100% drying out rest in good condition
4/AGHL 1	SD Horned Lizard	in open sandy soil
4/AGBS 1	Bush-tailed Woodrat	in drainage of chaparral
4/AGCH 4	Chinese Houses	~100 Good condition ~5% dry
4/AGCH 5	" "	75000 > good condition ~5% dry
4/AGHL 2	SD Horned Lizard	on sandy trail
4/AGHL 6	Chinese Houses	100-200 good condition
4/AGCH 7	" "	21000 good condition also drainage hillside
4/AGCH 8	" "	500-1000 hill top and drainage
4/AGHL 3	SD Horned Lizard	open sandy soil
4/AGCH 9	Chinese Houses	100-500 fair condition 15% drying out
4/AGCH 10	" "	50-100 fair condition 5% drying out
4/AGCH 11	" "	10-50 " " " "
4/AGSAP	Sage Sparrow	in Chap.
4/AGCH 12	Chinese Houses	50-100 fair condition 2% drying out
4/AGCH 13	Chinese Houses	" " " "
4/AGHL 4	SD Horned Lizard	Open sandy soil
4/AGCH 15	Chinese Houses	50-100 fair condition 5% drying out

TOTAL NUMBER OF QCB DETECTED: 0 INDIVIDUALS

Recorder: Antoinette Gutierrez Add'l Person: Gina Krantz Shirley Date: 5/16/10
Project: MANZ Campo Wind Energy Project Map #: 4 Innellan (Bokang) Survey Sxn: _____
GPS Unit: 7 QCB Protocol Survey # 5 of 5

TIME (24-hour)		Temp (F°)	Wind (avg/max)	% CC	Sky				
START	845	52.75	1.4/6.5	0	clear	patchy	overcast	drizzle	shower
	1000	76	2/10	0	clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
END	1030	76	2/10	0	clear	patchy	overcast	drizzle	shower

[illegible]

Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet

[illegible]

TOTAL NUMBER OF QCB DETECTED: 10 INDIVIDUALS

Recorder: Bonnie Hendricks Add'l Person: — Date: 5/14/10
Project: Manzanita Campo Wind Energy Project Map #: 7 Survey Sxn: —
GPS Unit: 10 QCB Protocol Survey # 6 of 68

TIME (24-hour)	Temp (F°)	Wind (avg/max)	% CC	Sky					
START	6:55	65.0	4.1/7.7	0	clear	patchy	overcast	drizzle	shower
	10:40	78.3	1.7/3.2	0	clear	patchy	overcast	drizzle	shower
	11:45	62.2	4.1/6.1	0	clear	patchy	overcast	drizzle	shower
	12:55	77.6	1.9/4.4	5	clear	patchy	overcast	drizzle	shower
	2:00	76.1	4.0/5.1	6	clear	patchy	overcast	drizzle	shower
	3:10	74.1	1.5/3.5	20	clear	patchy	overcast	drizzle	shower
END	3:40	76.8	1.2/2.3	10	clear	patchy	overcast	drizzle	shower

Butterfly Species	Tally	Total
Behr's Metalmark	 	40
Pearley Marble	 	6
Painted Lady		2
Sarah's Orange tip		4
Sulphur sp.		1
Anise Swallowtail		1
Cloudwing sp.		1
		50
Nectaring Plants		
Cryptantha sp.		1
Scindromonea rigida		
Eriophyllum confertiflorum		
Lilium capitatum		
Phacelia distans		
Lathraea gracilis		
Carnissonia sp.		
Larrea glandulosa		
Delphinium parryi		
Amsinckia menz.		
Chaeractis glabrescens		
Leptosiphon lemonii		
Malacothrix sp.		

Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet

MAP/GPS LABEL	POINT/POLYGON TYPE	COMMENTS FOR ALL MAPPED POLYGONS AND GPS POINTS/ SPECIES LIST (NECTAR SOURCES, GENERAL WILDLIFE LIST)
BACH50	host plant	<i>Collinsia concolor</i> - 300 plants (blooming)
" 51	"	" 150 "
" 52	"	" 20 "
" 53	"	" 200 "
" 54	"	" 10 "
" 55	"	" 50 "
" 56	"	" 100 "
" 57	"	" 500 "
" 58		100
" 59		200
" 60		50
" 61		100
" 62		700
" 63		100
" 64		200
" 65		100
" 66		100
" 67		500
BH LIBE10	Rare plant	<i>Linanthus bellus</i> 1,000 pl. blooming
BH CH 68	host	<i>Col. con.</i> 500 "
" 69	"	" 400 "
" 70	"	" 50 "
" 71		200
" 72		200
" 73		150
" 74		50
" 75		200
" 76		1400
" 77		100
" 78		35
" 79		50

TOTAL NUMBER OF QCB DETECTED: 0 INDIVIDUALS

" 80

" 81

Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet

Recorder: ADAM BEANE Add'l Person: — Date: 5/14/10

Project: MAN2 Campe Wind Energy Project Map #: MAN2 - 2 Survey Sxn: ---

GPS Unit: SM 13 QCB Protocol Survey # 6 of 5

TIME (24-hour)		Temp (F°)	Wind (avg/max)	% CC	Sky				
START	0900	70°	5/11	0%	clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
END	1320	73	4/9	5%	clear	patchy	overcast	drizzle	shower

Habitat On-site (circle): open soils, hilltops, ridges, rock outcrops, soil crusts, clay soils, old roads, various nectar sources

[illegible]

Field Data Sheet

[illegible]

TOTAL NUMBER OF QCB DETECTED: 1 INDIVIDUALS

Recorder: Adam Behle Add'l Person: — Date: 5/14/10
Project: MANZ Carpe Wind Energy Project Map #: MANZ-1 Survey Sxn: —
GPS Unit: SM 13 QCB Protocol Survey # 6 of 5

TIME (24-hour)		Temp (F°)	Wind (avg/max)	% CC	Sky				
START	1320	73	1/8	5%	clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
END	1530	74	1/6	20%	clear	patchy	overcast	drizzle	shower

Habitat On-site (circle): open soils, hilltops, bridges, rock outcrops, soil crusts, clay soils, old roads, various nectar sources

Page 1 of 2

Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet

TOTAL NUMBER OF QCB DETECTED: 1 INDIVIDUALS

Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet

Recorder: Bonnie Hendricks Add'l Person: Niko Anguiano Date: 5/16/10

Project: Manzanita Wind Energy Project Map #: 125B Survey Sxn: —

GPS Unit: 10 QCB Protocol Survey # 6 of 5

TIME (24-hour)	Temp (F°)	Wind (avg/max)	% CC	Sky				
START 9:00	71.6	1.9/2.9	0	clear	patchy	overcast	drizzle	shower
10:50	77.2	1.4/2.2	0	clear	patchy	overcast	drizzle	shower
11:50	81.2	2.1/5.2	0	clear	patchy	overcast	drizzle	shower
1:10	84.6	2.4/4.6	0	clear	patchy	overcast	drizzle	shower
2:00	83.5	1.9/2.9	0	clear	patchy	overcast	drizzle	shower
3:55	82.3	2.1/3.5	0	clear	patchy	overcast	drizzle	shower
END				clear	patchy	overcast	drizzle	shower

Habitat On-site (circle): open soils, hilltops, ridges, rock outcrops, soil crusts, clay soils, old roads, various nectar sources

Butterfly Species	Tally	Total
Behr's Metalmark	 	40
Sulphur sp.		2
Acmon's Blue	 	18
California Marble	 	5
Sarah's orange tip		2
Swallowtail sp.		1
Duskywing P. fumor E. tristis	 	7
Blue Swallowtail		3
Popplewing Hairstreak		1
Spring Azure		1
<i>Cryptantha</i> sp.		
<i>Lagotheris</i>		
<i>Plagiodorcas</i>		
<i>Urocyon</i> sp.		
<i>Eriophyllum</i> conf.		
<i>Chaenactis artemisiifolia</i>		
<i>Chaenactis glabrescens</i>		
<i>Leptosiphon</i>		
Brown Elf		1
<i>Thia capitata</i>		

**Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet**

Recorder: MIKE COVEY Add'l Person: NONE Date: 16 MAY, 2010

Project: Manzanita Wind Energy Project Map #: TILES 5, 6 Survey Sxn: MANZ-F

GPS Unit: Sm 13 QCB Protocol Survey # 6 of 6

TIME (24-hour)		Temp (F°):	Wind (avg/max)	% CC	Sky				
START	0845	76	0→3 MPH	CLEAR	clear	patchy	overcast	drizzle	shower
	0900	76	0→4 MPH	CLEAR	clear	patchy	overcast	drizzle	shower
	1000	76	3→7 MPH	CLEAR	clear	patchy	overcast	drizzle	shower
	1100	76	5→13 MPH	CLEAR	clear	patchy	overcast	drizzle	shower
	1200	79	2→7 MPH	CLEAR	clear	patchy	overcast	drizzle	shower
	1300	80	2→8 MPH	CLEAR	clear	patchy	overcast	drizzle	shower
END	1400	79	1→6 MPH	CLEAR	clear	patchy	overcast	drizzle	shower

Habitat On-site (circle): open soils hilltops ridges rock outcrops soil crusts, clay soils old roads various nectar sources

Butterfly Species	Tally	Total
1500 HRS, 80°F, 1→5 MPH, 80°F, CLEAR		
1600 HRS, 81°F, 1→3 MPH, 81°F, CLEAR		
1630 HRS, 76°F, 2→7 MPH, 76°F, CLEAR		
BEHR'S METALMARK	IN FIELD NOTEBOOK	74
PAINTED LADY	"	10
ACMON BLUE	"	16
HARFORD'S SULPHUR	"	6
MARINE BLUE	"	1
PALE TIGER SWALLOWTAIL	"	2
SPRING WHITE	"	8
SPRING AZURE	"	5
FUNERAL DUSKYWING	"	7
CALIFORNIA MARBLE	"	1
GRAY HAIRSTREAK	"	3
CALIFORNIA PATCH	"	1
BORDERED PATCH	"	1
PERPLEXING HAIRSTREAK	"	6
BROWN ELFIN	"	1
CALIFORNIA SOOTYWING	"	1
MELISSA BLUE	"	13
DAINTY SULPHUR	"	2

Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet

[illegible]

TOTAL NUMBER OF QCB DETECTED: 0 INDIVIDUALS

Recorder: ERIK LACORTZ Add'l Person: NONE Date: 5/17/10
Project: Manzanita Wind Energy Project Map #: 15, 15 Survey Sxn: R
GPS Unit: 7 QCB Protocol Survey # 5 of 5

TIME (24-hour)		Temp (F°):	Wind (avg/max)	% CC	Sky				
START	1140	64	5/7	100	clear	patchy	overcast	drizzle	shower
	1230	68	3/6	100	clear	patchy	overcast	drizzle	shower
	130	63	5/10	60	clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
END	145	64	7/12	70	clear	patchy	overcast	drizzle	shower

Habitat On-site (circle): open soils, hilltops, ridges, rock outcrops, soil crusts, clay soils, old roads, various nectar sources

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Quino Checkerspot Butterfly Protocol Survey Field Data Sheet

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TOTAL NUMBER OF QCB DETECTED: 0 INDIVIDUALS

Field Data Sheet

Recorder:

Add'l Person:

Date _____

5/17/10

Project

Manzanita

~~188-189~~ Wind Energy Project

Map #:

4

Survey Sxn:

秘

GPS Unit

6

QCB Protocol Survey #

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TIME (24-hour)		Temp (F°)	Wind (avg/max)	% CC	Sky				
START	1100	64	8-10	100	clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
END					clear	patchy	overcast	drizzle	shower

Habitat On-site (circle): open soils, hilltops, ridges, rock outcrops, soil crusts, clay soils, old roads, various nectar sources

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Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet

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TOTAL NUMBER OF QCB DETECTED: 1 INDIVIDUALS

Recorder: Antoinette Grotzinger Add'l Person: _____ Date: 5/17/10
Project: Manzanita Camp Wind Energy Project Map #: 4 Survey Sxn: _____
GPS Unit: 6 (no data) QCB Protocol Survey # 6 of 5

TIME (24-hour)		Temp (F°):	Wind (avg/max)	% CC	Sky				
START	1100	62	8-10	100	clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
END	1314	65	8-15	100	clear	patchy	overcast	drizzle	shower

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Quino Checkerspot Butterfly Protocol Survey Field Data Sheet

[illegible]

TOTAL NUMBER OF QCB DETECTED: 2 INDIVIDUALS

Field Data Sheet

Recorder:

Add'l Person:

Date: 5-17-10

Project

1963 4/20/63

Wind Energy Project

Map #: 13

Survey Sxn:

GPS Unit :

9

QCB Protocol Survey #

4

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TIME (24-hour)		Temp (F°):	Wind (avg/max)	% CC	Sky				
START	10:00	60	2.5/4	100%	clear	patchy	overcast	drizzle	shower
	11:00	65	2.3/5.4	↓	clear	patchy	overcast	drizzle	shower
	12:00	62	4.2/9.2		clear	patchy	overcast	drizzle	shower
	13:00	61.5	3.8/10.2		clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
END					clear	patchy	overcast	drizzle	shower

Habitat On-site (circle): open soils, hilltops, ridges, rock outcrops, soil crusts, clay soils, old roads, various nectar sources

[illegible]

Field Data Sheet

[illegible]

TOTAL NUMBER OF QCB DETECTED: 0 INDIVIDUALS

Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet

Recorder: MIKE COUFFER Add'l Person: NONE Date: 19 MAY, 2010

Project: Manzanita Wind Energy Project Map #: 71E 23+26 Survey Sxn: Campo G

GPS Unit: Garmin II QCB Protocol Survey # 6 of 5

TIME (24-hour)		Temp (F°):	Wind (avg/max)	% CC	Sky				
START	1325	84	0→4 MPH	CLEAR	clear	patchy	overcast	drizzle	shower
	1400	80	0→5 MPH	CLEAR	clear	patchy	overcast	drizzle	shower
	1500	79	2→6 MPH	CLEAR	clear	patchy	overcast	drizzle	shower
	1600	82	1→4 MPH	CLEAR	clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
END					clear	patchy	overcast	drizzle	shower

Habitat On-site (circle): open soils, hilltops, ridges, rock outcrops, soil crusts, clay soils, old roads, various nectar sources

[illegible]

Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet[illegible]

TOTAL NUMBER OF QCB DETECTED: 1 INDIVIDUALS

Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet

Recorder: Dale Powell Add'l Person: — Date: 5/19/10

Project: Manzanita Wind Energy Project Map #: 8 Survey Sxn: 6

GPS Unit: 6 QCB Protocol Survey # 6 of 5

TIME (24-hour)		Temp (F°):	Wind (avg/max)	% CC	Sky				
START	1350	78°	7/10	0	clear	patchy	overcast	drizzle	shower
	1515	78°	5/7	5	clear	patchy	overcast	drizzle	shower
	1615	73°	6/9	5	clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
END					clear	patchy	overcast	drizzle	shower

Habitat On-site (circle): open soils, hilltops, ridges, rock outcrops, soil crusts, clay soils, and roads, various nectar sources

[illegible]

Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet

[illegible]

TOTAL NUMBER OF QCB DETECTED: 0 INDIVIDUALS

Recorder: S. Runk Add'l Person: _____ Date: 5/19/10
Project: Manzanita ~~El Paso~~ Wind Energy Project Map #: 4 Survey Sxn: _____
GPS Unit: 6 QCB Protocol Survey # 6 of 5

TIME (24-hour)		Temp (F°):	Wind (avg/max)	% CC	Sky				
START	0830	70	2-3	0	clear	patchy	overcast	drizzle	shower
	1100	72	5-7	0	clear	patchy	overcast	drizzle	shower
	1330	73	5-7	0	clear	patchy	overcast	drizzle	shower
	1545	73	8-10	0	clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
END	1600				clear	patchy	overcast	drizzle	shower

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Quino Checkerspot Butterfly Protocol Survey Field Data Sheet

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TOTAL NUMBER OF QCB DETECTED: 0 INDIVIDUALS

Quino Checkerspot Butterfly Protocol Survey

Field Data Sheet

Recorder: M. Heath Add'l Person: [Signature] Date: 5/19/10

Project: Manzanita Wind Energy Project Map #: 12 Survey Sxn: _____

GPS Unit : 5 QCB Protocol Survey # 6 of 5

TIME (24-hour)		Temp (F°):	Wind (avg/max)	% CC	Sky				
START	08:45	61.9	13/3.0	0%	clear	patchy	overcast	drizzle	shower
	10:00	67	24/5.6	↓	clear	patchy	overcast	drizzle	shower
	11:30	72.2	2.9/4.9		clear	patchy	overcast	drizzle	shower
	13:00	74.3	2.1/3.8		clear	patchy	overcast	drizzle	shower
→	15:30	73.1	2.7/3.0		clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
END					clear	patchy	overcast	drizzle	shower

Habitat On-site (circle): open soils, hilltops, ridges, rock outcrops, soil crusts, clay soils, old roads, various nectar sources

[illegible]

**Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet**

MAP/GPS LABEL	POINT/POLYGON TYPE	COMMENTS FOR ALL MAPPED POLYGONS AND GPS POINTS/ SPECIES LIST (NECTAR SOURCES, GENERAL WILDLIFE LIST)
	Flowering plants	Tansy mustard
		Black Mustard
		Mountain lupine
		Goldfield
		Popcorn sp
		Mine's lettuce
		Sim cups
		Redden
		Peony
		Exodium
		Camissianic sp
		Thistle (cobweb)
		Blue daisy
		Chinese Henne
		Leek spur
		Penstemon
		Penstemon
		Golden bush
		Golden Yucca
		Phacelia
		Desert Dandelion
		Woolly blue curls
		Deerweed
		Cal Poppy
		Plagiobolus
		Tidy tops
		Silver leaf lotus
		Night stick
		Lo Marium sp
		White pincushion

TOTAL NUMBER OF QCB DETECTED: 0 INDIVIDUALS

Quino Checkerspot Butterfly Protocol Survey Field Data Sheet

Recorder: M. Heath Add'l Person: Ø Date: 5/19/10
Project: Manzanita Wind Energy Project Map #: 12 Survey Sxn: _____
GPS Unit: 5 QCB Protocol Survey # 6 of 5

TIME (24-hour)		Temp (F°):	Wind (avg/max)	% CC	Sky				
START					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
END					clear	patchy	overcast	drizzle	shower

Habitat On-site (circle): open soils, hilltops, ridges, rock outcrops, soil crusts, clay soils, old roads, various nectar sources

[illegible]

Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet

[illegible]

TOTAL NUMBER OF QCB DETECTED: 1 INDIVIDUALS

**Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet**

Recorder: Antonette Gutierrez Add'l Person: None Date: 5/19/10
 Project: Manzanita Campo Wind Energy Project Map #: 4 Survey Sxn: _____
 GPS Unit: 9 QCB Protocol Survey # 6 of 5

TIME (24-hour)	Temp (F°)	Wind (avg/max)	% CC	Sky				
START 0845	61	2/3.3	0%	clear	patchy	overcast	drizzle	shower
				clear	patchy	overcast	drizzle	shower
1000	74	1/3	0%	clear	patchy	overcast	drizzle	shower
1200	78	1/6	0%	clear	patchy	overcast	drizzle	shower
1400	78	1/6	0%	clear	patchy	overcast	drizzle	shower
1500	78	1/6	0%	clear	patchy	overcast	drizzle	shower
END 1600	78	3/6	0%	clear	patchy	overcast	drizzle	shower

Habitat On-site (circle): open soils, hilltops, ridges, rock outcrops, soil crusts, clay soils, old roads, various nectar sources

Butterfly Species	Tally	Total
Bear's Motmark		62
Common white		4
Parlwhite (Baker's white)		5
Funereal Duskywing		11
Popplewing hamsbreak		1
Armon Blue		9
Masne Blue		2
Pale Swallowtail		3
Painted Lady		3
West Coast Lady		1
Common Sootywing		3
Echo Blue		1
Tuba Skipper (CP)		4
Western tailed Blue		2
Sara's Orange tip		2

Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet

[illegible]

TOTAL NUMBER OF QCB DETECTED: 0 INDIVIDUALS

Recorder: Adrian Benue Add'l Person: — Date: 5/19/2010
Project: ^{Map 2}Campo Wind Energy Project Map #: 13 Survey Sxn: —
GPS Unit: Garmin 7 QCB Protocol Survey # 6 of 5

TIME (24-hour)		Temp (F°)	Wind (avg/max)	% CC	Sky				
START	0955	71°	1/2	0%	clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
END	1505	66°	1/6	0%	clear	patchy	overcast	drizzle	shower

Habitat On-site (circle): open soils, hilltops, ridges, rock outcrops, soil crusts, clay soils, old roads, various nectar sources

Page 1 of 2

Field Data Sheet

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TOTAL NUMBER OF QCB DETECTED: 0 INDIVIDUALS

Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet

Recorder: ADAM BEHVE Add'l Person: — Date: 5/19/10

Project: Manzanita Wind Energy Project Map #: 10 Survey Sxn: —

GPS Unit: Garmin 7 QCB Protocol Survey # 6 of 5

TIME (24-hour)		Temp (F°):	Wind (avg/max)	% CC	Sky				
START	0340	65°	1/2	0%	clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
END	0945	71°	1/2	0%	clear	patchy	overcast	drizzle	shower

Habitat On-site (circle): open soils, hilltops, ridges, rock outcrops, soil crusts, clay soils, old roads, various nectar sources

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Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet

[illegible]

TOTAL NUMBER OF QCB DETECTED: 1 INDIVIDUALS

Recorder: ERIK LACoste Add'l Person: — Date: 5/19/10
Project: Manzanita Wind Energy Project Map #: 14, 15 Survey Sxn: R
GPS Unit: 3 QCB Protocol Survey # 6 of 5

TIME (24-hour)		Temp (F°):	Wind (avg/max)	% CC	Sky				
START	0850	71	1-2	0	clear	patchy	overcast	drizzle	shower
	1100	78	2-5	0	clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
END	1200	80	3-7	0	clear	patchy	overcast	drizzle	shower

Habitat On-site (circle): open soils, hilltops, ridges, rock outcrops, soil crusts, clay soils, old roads, various nectar sources

[illegible]

Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet

MAP/GPS LABEL	POINT/POLYGON TYPE	COMMENTS FOR ALL MAPPED POLYGONS AND GPS POINTS/ SPECIES LIST (NECTAR SOURCES, GENERAL WILDLIFE LIST)
		<i>Lasthenia californica</i>
		<i>Erodium</i> sp.
		<i>Eriastrum saphirinum</i>
		<i>Plagiosiphon</i> sp.
		<i>Eschschia californica</i>
		<i>Penstemon centranthifolius</i>
		<i>Chaenactis glabriuscula</i>
		<i>Uropappus lindleyi</i>
		<i>Delphinium parishii</i>
		<i>Linanthus parviflorus</i>
		<i>Gilia capitata</i>
		<i>Rafinesquina californica</i>
		<i>Platystemon californicus</i>
		<i>Lupinus concinnus</i>
ELCOHE02	P	<i>Collinsia</i> ~ 50 individuals
		<i>Eriophyllum confertiflorum</i>
		<i>Penstemon spectabilis</i>
		<i>Ceanothus californicus</i>
		<i>Tricostema lanatum</i>
		<i>Dichelostemma capitatum</i>
		<i>Linanthus dianthiflorus</i>
		<i>Solanum parishii</i>
		<i>Lotus scoparius</i>
		<i>Sambucus mexicana</i>
ELANCO01	P	<i>Anthriscum coulterianum</i> - 3-5 individuals
		<i>Amsinckia menziesii</i>
		<i>Astragalus</i> sp.

TOTAL NUMBER OF QCB DETECTED: 0 INDIVIDUALS

Recorder: Dale Powell Add'l Person: - Date: 5/20/10
Project: Manzanita Wind Energy Project Map #: 12 Survey Sxn: -
GPS Unit: 6 QCB Protocol Survey # 6 of 5

TIME (24-hour)		Temp (F°)	Wind (avg/max)	% CC	Sky				
START	8:30	68°	8/10	0	clear	patchy	overcast	drizzle	shower
	10:15	73°	9/12	0	clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
					clear	patchy	overcast	drizzle	shower
END					clear	patchy	overcast	drizzle	shower

Habitat On-site (circle): open soils, hilltops, ridges, rock outcrops, soil crusts, clay soils, old roads, various nectar sources

[illegible]

Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet

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TOTAL NUMBER OF QCB DETECTED: 0 INDIVIDUALS

0

GPS Unit : _____ QCB Protocol Survey # 6 of 5

Habitat On-site (circle): open soils, hilltops, ridges, rock outcrops, soil crusts, clay soils, old roads, various nectar sources.

Page 1 of 2

Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet

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TOTAL NUMBER OF QCB DETECTED: 0 INDIVIDUALS

Quino Checkerspot Butterfly Protocol Survey
Field Data Sheet

TOTAL NUMBER OF QCB DETECTED: ~~0~~ INDIVIDUALS

APPENDIX C

SUMMARY OF BUTTERFLY AND MOTH SPECIES OBSERVED DURING QUINO CHECKERSPOT BUTTERFLY SURVEYS FOR THE MANZANITA WIND ENERGY PROJECT

APPENDIX C
SUMMARY OF BUTTERFLY SPECIES OBSERVED DURING
QUINO CHECKERSPOT BUTTERFLY SURVEYS
FOR THE MANZANITA WIND ENERGY PROJECT¹

Common Name	Species Name	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Total
Anise swallowtail	<i>Papilio zelicaon</i>	0	0	1	1	0	1	3
Western tiger swallowtail	<i>Papilio rutulus</i>	0	0	0	1	0	3	4
Pale swallowtail	<i>Papilio eurymedon</i>	2	17	20	16	5	41	101
Black swallowtail	<i>Papilio polyxenes</i>	0	0	0	0	0	1	1
Spring (California) white	<i>Pontia sisymbrii</i>	24	27	14	4	5	14	88
Checkered (common) white	<i>Pontia protodice</i>	22	44	53	4	8	32	163
Cabbage white	<i>Artogeia rapae</i>	0	4	1	0	0	0	5
Becker's white	<i>Pontia beckerii</i>	0	2	26	16	7	25	76
White species	Species unknown	70	278	51	54	11	40	504
Alfalfa butterfly (orange sulfur)	<i>Colias eurytheme</i>	1	0	0	0	0	0	1
Desert (Felder's) orangetip	<i>Anthocharis cethura</i>	4	0	2	0	0	0	6
Pacific Sara orangetip	<i>Anthocharis sara sara</i>	143	109	45	57	35	116	505
Harford's sulphur	<i>Colias harfordii</i>	0	0	2	4	1	11	18
Cloudless (senna) sulphur	<i>Phoebus sennae marcellina</i>	1	0	0	0	0	0	1
Sleepy orange	<i>Eurema nicippe</i>	0	0	0	0	1	0	1
Dainty sulphur	<i>Nathalis iole</i>	0	0	0	2	2	3	7
Sulphur species	Species unknown	3	0	15	5	1	10	34
Orange species	Species unknown	1	0	0	0	0	1	2
Perplexing hairstreak	<i>Callophrys dumetorum perplexa</i>	261	128	103	28	1	11	532
Gray hairstreak	<i>Strymon melinus</i>	0	0	0	0	0	4	4
Brown elfin	<i>Callophrys augustinus</i>	13	8	3	4	0	2	30
Pygmy blue	<i>Brephidium exilis</i>	3	0	0	1	0	1	5
Echo blue	<i>Celastrina echo</i>	0	4	2	0	0	3	9
Western tailed blue	<i>Everes amyntula</i>	3	5	6	0	0	7	21
Spring azure (echo blue)	<i>Celastrina ladon</i>	4	3	0	1	0	11	19
Marine blue	<i>Leptotes marina</i>	0	0	0	0	2	24	26
Lupine blue	<i>Plebejus lupines</i>	1	0	0	0	0	0	1
Melissa blue	<i>Lycaeides melissa</i>	0	0	0	0	0	13	13
Southern (silvery) blue	<i>Glaucopsyche lygdamus australis</i>	0	4	1	1	0	17	23
arrowhead blue	<i>Glaucopsyche piasus umbrosa</i>	0	1	0	0	0	0	1
Acmon blue	<i>Icaricia acmon acmon</i>	59	36	38	12	24	153	322
Blue species	Species unknown	26	16	9	16	4	55	126
Behr's metalmark	<i>Apodemia mormo virgulti</i>	426	619	669	904	307	1359	4284
Fritillary species	Species unknown	8	0	0	0	0	0	8
Mylitta crescent	<i>Phyciodes mylitta</i>	0	0	0	0	1	0	1
Gorgon copper	<i>Lycaena gorgon</i>	0	0	0	0	0	6	6

Common Name	Species Name	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Total
Satyr comma	<i>Polygonia satyrus</i>	2	0	0	0	0	0	2
Common ringlet	<i>Coenonympha tullia</i>	2	0	0	0	0	0	2
Sachem	<i>Atalopedes campestris</i>	0	0	0	0	0	1	1
Gabb's checkerspot	<i>Chlosyne gabbii</i>	0	1	1	1	1	0	4
Chalcedon checkerspot	<i>Euphydryas chalcedona chalcedona</i>	1	0	1	1	1	0	4
Quino checkerspot	<i>Euphydryas editha quino</i>	5	3	3	0	0	0	11
California patch	<i>Chlosyne californica</i>	0	1	0	0	0	1	2
Bordered patch	<i>Chlosyne lacinia</i>	0	0	0	0	0	1	1
Checkerspot species	Species unknown	1	0	0	0	0	0	1
Red admiral	<i>Vanessa atalanta</i>	0	1	3	0	0	0	4
Painted lady	<i>Vanessa cardui</i>	65	12	23	71	10	33	214
West coast lady	<i>Vanessa annabella</i>	3	1	1	31	1	4	41
Lady species	<i>Vanessa</i> sp.	15	15	24	14	5	7	80
California sister	<i>Adelpha bredowii californica</i>	0	0	0	0	0	1	1
Queen	<i>Danaus gilippus</i>	1	0	0	0	1	0	2
Funereal duskywing	<i>Erynnis funeralis</i>	104	36	12	39	3	28	222
Sleepy duskywing	<i>Erynnis brizo</i>	6	8	0	0	0	0	14
Propertius duskywing	<i>Erynnis propertius</i>	0	2	8	1	6	0	17
Mournful duskywing	<i>Erynnis tristis</i>	1	1	2	0	0	1	5
Afranius duskywing	<i>Erynnis afranius</i>	0	0	0	0	0	6	6
Duskywing species	Species unknown	104	24	24	4	5	42	203
Northern cloudywing	<i>Thorybes pylades albosuffusa</i>	0	1	1	0	0	1	3
Common sootywing	<i>Pholisora catullus</i>	1	0	0	12	3	3	19
Common checkered skipper	<i>Pyrgus communis</i>	0	2	0	0	0	0	2
Juba skipper	<i>Hesperia juba</i>	0	0	0	0	0	5	5
Fiery skipper	<i>Hylephila phyleus</i>	0	0	2	0	0	0	2
Northern white skipper	<i>Heliopetes ericetorum</i>	0	0	0	0	0	3	3
Skipper species	Species unknown	1	0	0	0	0	1	2
California tortoiseshell	<i>Nymphalis californica</i>	12	4	1	0	0	0	17
California (Pearly) marble	<i>Euchloe hyantis</i>	126	62	16	7	5	22	238

¹ Unidentified moth species were also detected during Quino checkerspot butterfly surveys but are not included in this list.

APPENDIX D

WEEKLY FLOWERING PLANT OBSERVATIONS FOR MANZANITA WIND ENERGY PROJECT

APPENDIX D
WEEKLY FLOWERING PLANT OBSERVATIONS FOR
MANZANITA WIND ENERGY PROJECT

Scientific Name	Common Name	Week					
		1	2	3	4	5	6
<i>Amsinckia menziesii</i> var. <i>intermedia</i>	rancher fiddleneck	X	X	X	X	X	X
<i>Antirrhinum coulterianum</i> *	Coulter's snapdragon						X
<i>Arabis pulchra</i> var. <i>pulchra</i>	tower mustard	X	X	X		X	
<i>Arctostaphylos glandulosa</i> ssp. <i>adamsii</i>	manzanita	X					
<i>Arctostaphylos glauca</i>	bigberry manzanita	X	X				
<i>Arctostaphylos pungens</i>	Mexican manzanita	X					
<i>Arctostaphylos</i> spp.	manzanita	X	X				
<i>Astragalus douglasii</i> var. <i>perstrictus</i>¹	Jacumba milkvetch		X	X	X	X	X
<i>Brassica</i> sp.	mustard	X					
<i>Calandrinia ciliata</i>	red maids					X	
<i>Calycoseris parryi</i>	yellow tackstem	X					
<i>Camissonia</i> spp.	sun cup	X	X	X	X	X	X
<i>Camissonia californica</i>	false-mustard			X			X
<i>Caulanthus heterophyllus</i> var. <i>heterophyllus</i>	San Diego jewelflower	X	X				X
<i>Caulanthus simulans</i>²	Payson's jewelflower	X	X	X			
<i>Castilleja</i> spp.	Indian paintbrush			X			X
<i>Ceanothus cuneatus</i>	buckbrush	X	X			X	
<i>Ceanothus greggii</i> var. <i>perplexans</i>	cup-leaf-lilac	X	X	X		X	
<i>Ceanothus leucodermis</i>	chaparral whitethorn	X	X	X	X		
<i>Cercocarpus betuloides</i> var. <i>betuloides</i>	birch-leaf mountain mahogany	X	X	X	X		
<i>Chaenactis artemisiifolia</i>	white pincushion						X
<i>Chaenactis glabriscula</i> var. <i>glabriscula</i>	yellow pincushion						X
<i>Chaenactis</i> spp.	pincushion					X	X
<i>Chenopodium</i> spp.	chenopodium			X			
<i>Cirsium occidentale</i>	cobwebby thistle						X
<i>Claytonia</i> spp.	miner's lettuce	X	X	X		X	X
<i>Collinsia concolor</i> *	Chinese houses	X	X	X	X	X	X
<i>Cordylanthus rigidus</i> ssp. <i>setigerus</i> *	bird's beak	X	X				
<i>Cryptantha intermedia</i>	nievitas cryptantha		X	X	X		X
<i>Cryptantha</i> spp.	cryptantha	X	X	X	X	X	X
<i>Cuscuta californica</i> var. <i>californica</i>	chaparral dodder			X			
<i>Delphinium parishii</i> ssp. <i>subglobosum</i>³	oceanblue larkspur						X
<i>Delphinium parryi</i>	larkspur						X
<i>Delphinium</i> spp.	larkspur		X			X	X
<i>Dendromecon rigida</i>	bush poppy				X	X	X
<i>Descurainia pinnata</i>	tansy-mustard	X					
<i>Descurainia</i> spp.	tansy-mustard		X	X	X	X	X

Scientific Name	Common Name	Week					
		1	2	3	4	5	6
<i>Dichelostemma capitatum</i>	blue dicks			X	X	X	X
<i>Emmenanthe penduliflora</i> var. <i>penduliflora</i>	whispering bells				X		
<i>Eriastrum sapphirinum</i> ssp. <i>Sapphirinum</i>							X
<i>Ericameria</i> spp.	goldenbush	X		X	X	X	X
<i>Eriogonum fasciculatum</i>	buckwheat	X		X			
<i>Eriogonum</i> spp.				X	X		X
<i>Eriophyllum confertiflorum</i> var. <i>confertiflorum</i>	long-stem golden yarrow						X
<i>Erodium cicutarium</i>	filaree	X	X	X	X	X	X
<i>Erysimum capitatum</i> ssp. <i>capitatum</i>	western wallflower		X				
<i>Eschscholzia californica</i>	California poppy	X	X	X			X
<i>Filago californica</i>	California filago			X	X		
<i>Geraea viscida</i>⁴	stickey geraea		X				
<i>Gilia capitatum</i> ssp. <i>abrotanifolia</i>	ball gilia			X	X		X
<i>Gilia</i> spp.	gilia	X	X	X		X	X
<i>Hirschfeldia incana</i>	short-pod mustard	X	X	X			X
<i>Lasthenia gracilis</i>	California goldfields	X	X	X	X	X	X
<i>Lathyrus splendens</i>⁵	Campo pea		X				X
<i>Layia glandulosa</i>	white layia	X	X	X	X	X	X
<i>Leptosiphon lemmonii</i>	Lemmon's linanthus				X		X
<i>Linanthus bellus</i>⁶	desert beauty	X	X	X		X	X
<i>Lomatium</i> sp.	lomatium	X					X
<i>Lotus agrophyllus</i> var. <i>agrophyllus</i>	silver-leaf lotus	X			X		X
<i>Lotus scoparius</i>	deer weed						X
<i>Lotus</i> sp.	lotus	X				X	
<i>Lotus strigosus</i>	bishop's lotus		X	X	X		X
<i>Lupinus bicolor</i>	minature lupine			X			
<i>Lupinus concinnus</i>	bajada lupine		X	X	X		X
<i>Lupinus excubitus</i> var. <i>austromontanus</i>	grape soda lupine			X			
<i>Lupinus</i> spp.	lupine	X	X	X	X	X	X
<i>Lupinus succulentus</i>	arroyo lupine						X
<i>Lupinus truncatus</i>	collar lupine						X
<i>Malacothrix</i> spp.	dandelion	X		X			X
<i>Malacothrix californica</i>	desert dandelion	X	X	X	X	X	X
<i>Marah macrocarpus</i> var. <i>macrocarpus</i>	wild cucumber	X	X	X	X	X	
<i>Mentzelia</i> sp.	blazing star	X					X
<i>Nemophila menziesii</i>	baby blue eyes	X	X	X	X	X	X
<i>Oenothera californica</i> ssp. <i>californica</i>	California evening-primrose		X				
<i>Paeonia californica</i>	California peony	X	X	X	X	X	X
<i>Pectocarya</i> spp.	combseed	X					
<i>Phacelia imbricata</i>	phacelia						X
<i>Phacelia distans</i>	white-heliotrope			X	X		X

Scientific Name	Common Name	Week					
		1	2	3	4	5	6
<i>Phacelia parryi</i>	Parry's phacelia						
<i>Phacelia</i> spp.	phacelia	X	X	X	X	X	X
<i>Plagiobothrys</i> spp.	popcornflower	X	X	X	X	X	X
<i>Platystemon californicus</i>	cream cups						X
<i>Rafinesquia neomexicana</i>	California chicory						X
<i>Rhus ovata</i>	sugar bush	X	X	X		X	
<i>Rhus trilobata</i>	basket bush		X				
<i>Quercus acutidens</i>	hybrid Englemann/scrub oak	X	X				
<i>Salvia columbariae</i>	chia	X	X	X	X	X	X
<i>Sambucus mexicana</i>	Mexian elderberry						X
<i>Sisymbrium altissimum</i>	tumble mustard						
<i>Sisymbrium</i> spp.						X	
<i>Solanum xanthii</i>	nightshade			X	X	X	X
<i>Streptanthus campestris</i>	southern jewelflower	X				X	X
<i>Trichostemma parishii</i>	mountain blue curls				X	X	X
<i>Uropappas lindleyi</i>	silver puffs						X
<i>Viola purpurea</i> ssp. <i>quercetorum</i>	viola	X					
<i>Yucca schidigera</i>	Mohave yucca		X	X	X		

boldface = sensitive species

* = potential host plant species

¹ CNPS List 1B.2, Covered Species (proposed) under East County MSCP

² CNPS List 4.2, Covered Species (proposed) under East County MSCP

³ CNPS List 4.3

⁴ CNPS List 2.3, Covered Species (proposed) under East County MSCP

⁵ CNPS List 4.3, Covered Species (proposed) under East County MSCP

⁵ CNPS List 2.3, Covered Species (proposed) under East County MSCP

APPENDIX E

VERTEBRATE SPECIES DETECTED DURING FOCUSED QUINO SURVEYS FOR MANZANITA WIND ENERGY PROJECT

APPENDIX E
VERTEBRATE SPECIES DETECTED DURING FOCUSED QUINO SURVEYS
FOR MANZANITA WIND ENERGY PROJECT

Scientific Name	Common Name
REPTILES	
Order Squamata	Lizards and Snakes
Family Colubridae	
<i>Lampropeltis zonata</i>	kingsnake
<i>Masticophis lateralis</i>	California striped racer
<i>Pituophis catenifer</i>	gopher snake
Family Phrynosomatidae	
<i>Phrynosoma coronatum blainvilli</i>¹	San Diego coast horned lizard
<i>Sceloporus occidentalis</i>	western fence lizard
<i>Sceloporus orcutti</i>	spiny lizard
<i>Uta stansburiana</i>	side blotched lizard
Family Teiidae	
<i>Aspidoscelis hyperythra</i>	orange-throated whiptail
<i>Aspidoscelis tigris</i>	western whiptail
BIRDS	
Order Apodiformes	Hummingbirds and Swifts
Family Trochilidae	
<i>Archilochus alexandri</i>	black-chinned hummingbird
<i>Calypte anna</i>	Anna's hummingbird
Order Ciconiiformes	Eagles, Hawks, and Kites
Family Accipitrinae	
<i>Buteo jamaicensis</i>	red-tailed hawk
Family Cathartidae	
<i>Cathartes aura</i>²	turkey vulture
Order Columbiformes	Pigeons and Doves
Family Columbidae	
<i>Zenaida macroura</i>	mourning dove
Order Galliformes	
Family Odontophoridae	
<i>Callipepla californica</i>	California quail
Order Passeriformes	Song Birds
Family Aegithalidae	
<i>Psaltirparus minimus</i>	bushtit
Family Alaudidae	
<i>Eremophila alpestris</i>³	horned lark
Family Corvidae	
<i>Apelocoma californica</i>	western scrub-jay
<i>Corvus brachyrhynchos</i>	American crow
<i>Corvus corax</i>	common raven
Family Cuculidae	
<i>Geococcyx californianus</i>	roadrunner
Family Emberizidae	
<i>Amphispiza belli</i>	sage sparrow
<i>Chondestes grammacus</i>	lark sparrow
<i>Junco hyemalis</i>	dark-eyed junco
<i>Pipilo crissalis</i>	California towhee

Scientific Name		Common Name
	<i>Pipilo maculatus</i>	spotted towhee
	<i>Poocetes gramineus</i>	vesper sparrow
	<i>Spizella atrogularis</i>	black-chinned sparrow
	<i>Zonotrichia leucophrys</i>	white-crowned sparrow
	Family Fringillidae	
	<i>Carduelis lawrencei</i>	Lawrence's goldfinch
	<i>Carduelis psaltria</i>	lesser goldfinch
	Family Icteridae	
	<i>Sturnella neglecta</i>	western meadowlark
	Family Mimidae	
	<i>Toxostoma redivivum</i>	California thrasher
	Family Paridae	
	<i>Baeolophus inornatus</i>	oak titmouse
	Family Parulidae	
	<i>Dendroica coronata</i>	yellow-rumped warbler
	<i>Vermivora celata</i>	orange-crowned warbler
	Family Polioptilidae	
	<i>Poliophtila caerulea</i>	blue-gray gnatcatcher
	Family Ptilonotidae	
	<i>Phainopepla nitens</i>	phainopepla
	Family Tyrannidae	
	<i>Empidonax difficilis</i>	Pacific-slope flycatcher
	<i>Tyrannus verticalis</i>	western kingbird
Order Piciformes		Woodpeckers
	Family Picidae	
	<i>Melanerpes formicivorus</i>	acorn woodpecker
	<i>Melanerpes lewis</i>	Lewis's woodpecker
	<i>Picoides nuttallii</i>	Nuttall's woodpecker
Order Strigiformes		Owls
	Family Strigidae	
	<i>Bubo virginianus</i>	great horned owl
MAMMALS		
Order Artiodactyla		Deer, Sheep, Goats, Cattle
	Family Cervidae	
	<i>Odocoileus hemionus</i>	mule deer
Order Carnivora		Carnivores
	Family Canidae	
	<i>Canis latrans</i>	coyote
Order Lagomorpha		Rabbits, Hares, and Pikas
	Family Leporidae	
	<i>Lepus californicus</i>⁴	San Diego black-tailed jackrabbit
	<i>Sylvilagus</i> sp.	rabbit
Order Rodentia		Squirrels, Rats, Mice, and Relatives
	Family Geomyidae	
	<i>Thomomys bottae</i>	Botta's pocket gopher
	Family Muridae	
	<i>Neotoma</i> sp.	woodrat

boldface = sensitive species

¹ CDFG Species of Special Concern, Covered Species (proposed) under East County MSCP

² Covered Species (proposed) under East County MSCP

³ CDFG Watch List, Covered Species (proposed) under East County MSCP

⁴ CDFG Species of Special Concern, Covered Species (proposed) under East County MSCP

APPENDIX F

24-HOUR QUIPO NOTIFICATION LETTERS TO USFWS

APPENDIX F.1
04/02/2010 24-HOUR NOTIFICATION LETTER TO USFWS

April 03, 2010

Ms. Sandra Marquez
Recovery Permit Coordinator
Carlsbad Fish and Wildlife Office
6010 Hidden Valley Road, Suite 101
Carlsbad, California 92011

RE: Notification of the First Quino Checkerspot Butterfly Observation at the Manzanita Wind Energy Project, San Diego County, California

Dear Ms. Marquez:

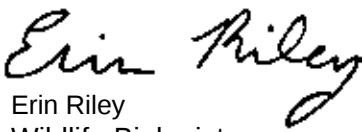
AECOM is submitting this notification letter to inform you that a Quino checkerspot butterfly (*Euphydryas editha quino*; Quino) individual was observed at the proposed Manzanita Wind Energy project site in southeastern San Diego County, California (Figures 1 and 2). On April 02, 2010, sub-contractor biologist to AECOM Antonette Guterrez (permit number TE-797999-6) made the observation during a protocol level survey for this species. Although the project site exists within U.S. Fish and Wildlife (USFWS) Quino Survey Area 2, Ms. Guterrez did not collect the specimen for identification according to the USFWS protocol (2002), per the pre-activity notification letter submitted for the proposed project on April 2, 2010. The sighting and collection are detailed below.

One male Quino was observed on the Manzanita Reservation (see Figure 3) by Ms. Guterrez at 14:19. The Quino was detected within southern mixed chaparral habitat atop a hill in an open sandy area. Ms. Guterrez took one distant photo and then slowly approached the Quino (Photo 1). As she approached, the Quino slowly flew a short distance away, low and near the ground. He landed again in an open area of sand, when she was able to approach closer and take two photos closer up (Photos 2 and 3). The Quino then flew a few feet from the ground and a gust of wind swept him away to the north. The Quino was in a very tattered condition, with both hind and fore wings extremely faded and fringed on the edges.

There are pockets of nectaring sources in the vicinity of the hilltop where the Quino was detected, including a small amount of *Plagiobothrys* sp., *Erodium* sp., *Nemophila menziesii*, and *Amsinckia menziesii*. There is very little flowering occurring on the shrub species; most shrubs have buds that are not in flower yet. There are also many rock outcrops in this area. A representative photo of habitat where the Quino was detected is provided in Photo 4.

This letter is official notification of this sighting and capture as required by the USFWS protocol for this species. Following this transmittal, a hard copy of this letter including maps will be sent as well. If you have any questions or comments, please contact me at (619) 233-1454.

Sincerely,



Erin Riley
Wildlife Biologist

Photo 1



Photo 2



Photo 3



Photo 4



Enclosures: Figure 1 Regional Map
Figure 2 Vicinity Map
Figure 3 Quino Observation Location Map

cc: Eric Porter, USFWS
Alison Anderson, USFWS
Beverly Blessant, SDG&E
Kirstie Reynolds, SDG&E
Tom Acuna, SDG&E
Monique LaChappa, Chairwoman, Campo Kumeyaay Nation
Johnny Elliot, Manzanita Tribal Representative
John Rydzik, BIA

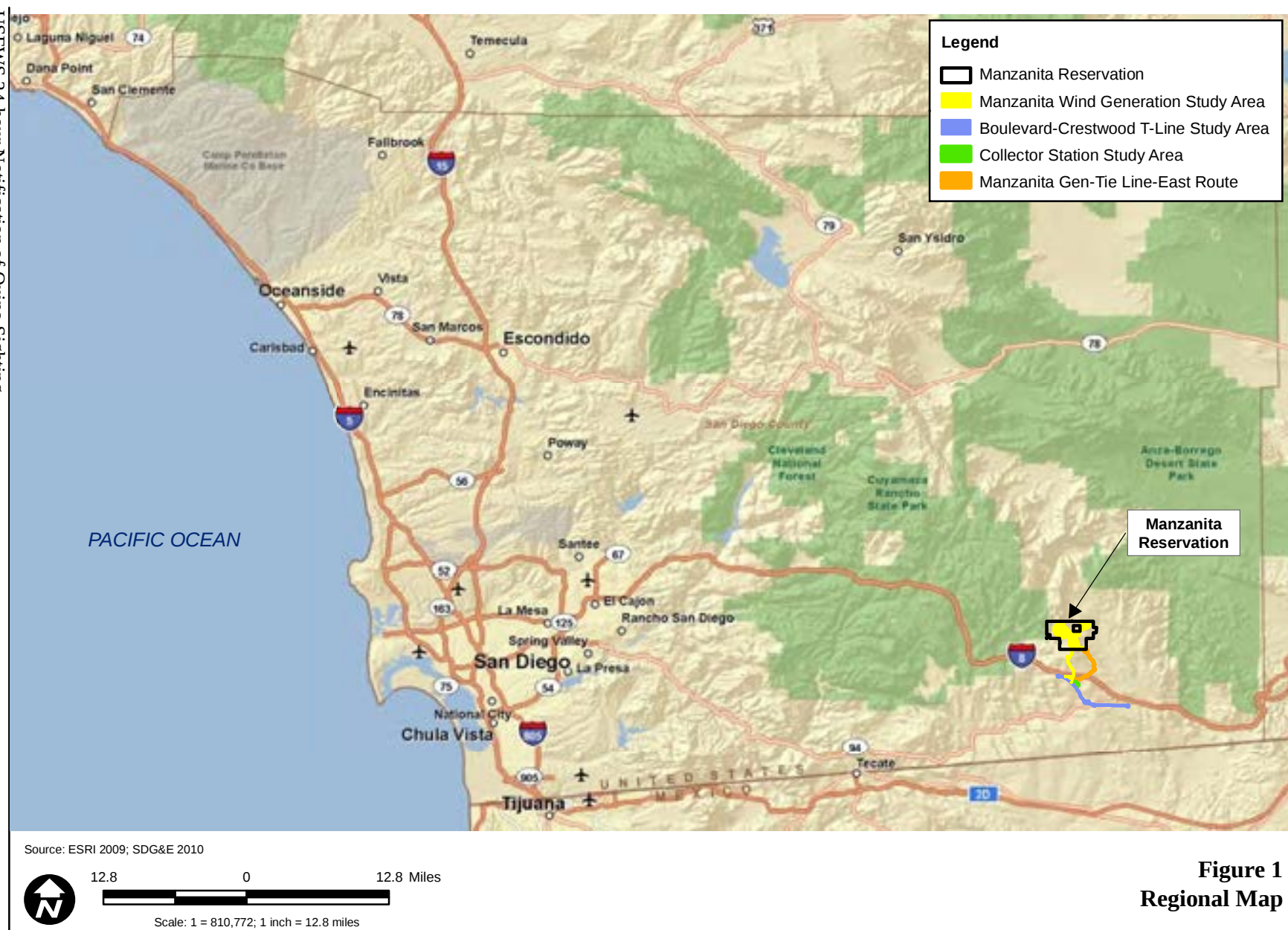
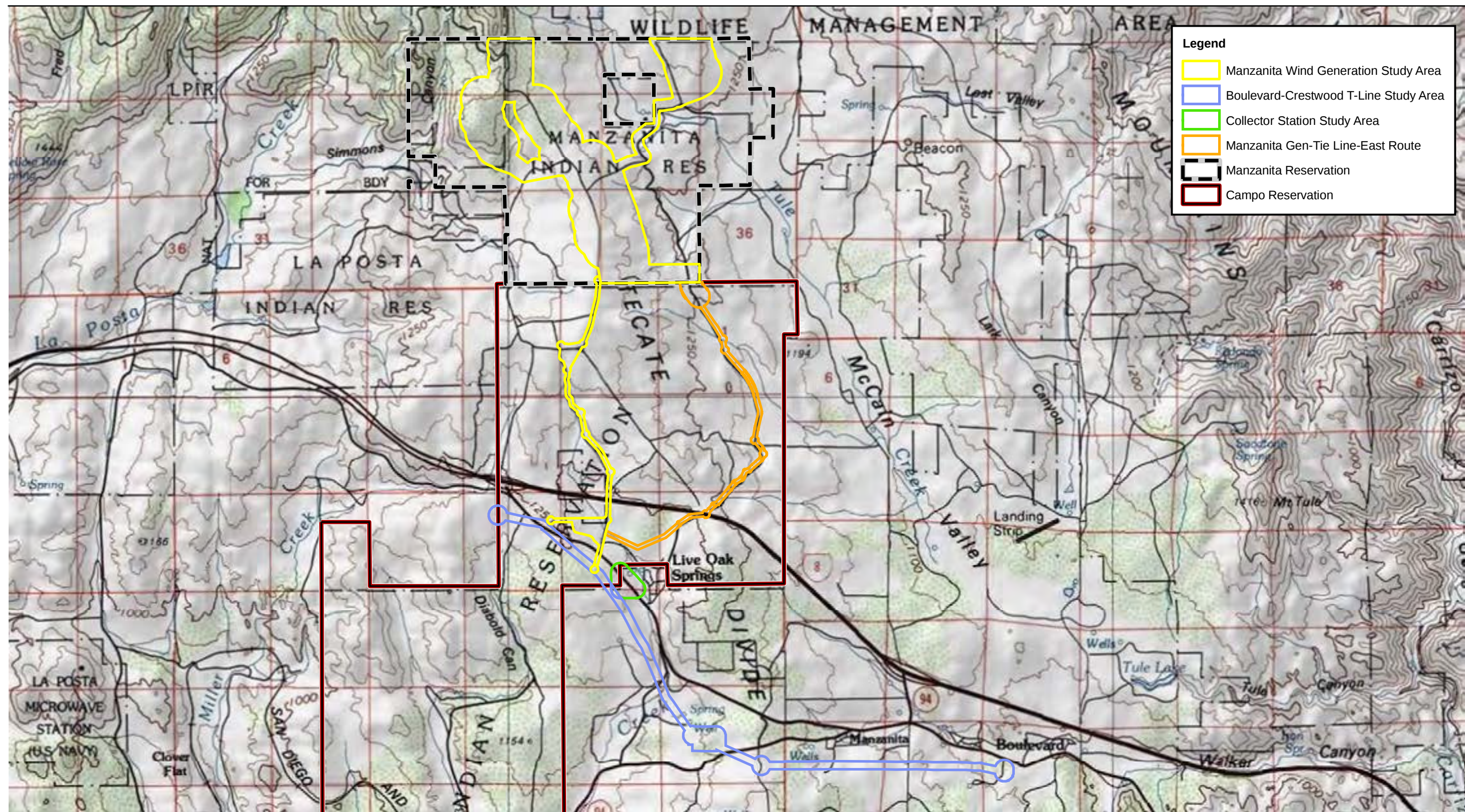


Figure 1
Regional Map



Source: USGS 30x60 Minute Series El Cajon, Calif. 1979; SDG&E 2010

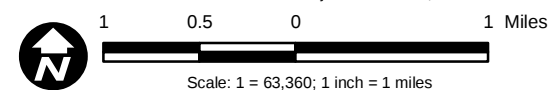


Figure 2
Vicinity Map

USFWS 24-hour Notification of Quino Sighting

Path: P:\2009\09080155_Manz_SDGE\06GIS\6.3_Layout\USFWS\vicinity.mxd, 04/02/10, AugelloP

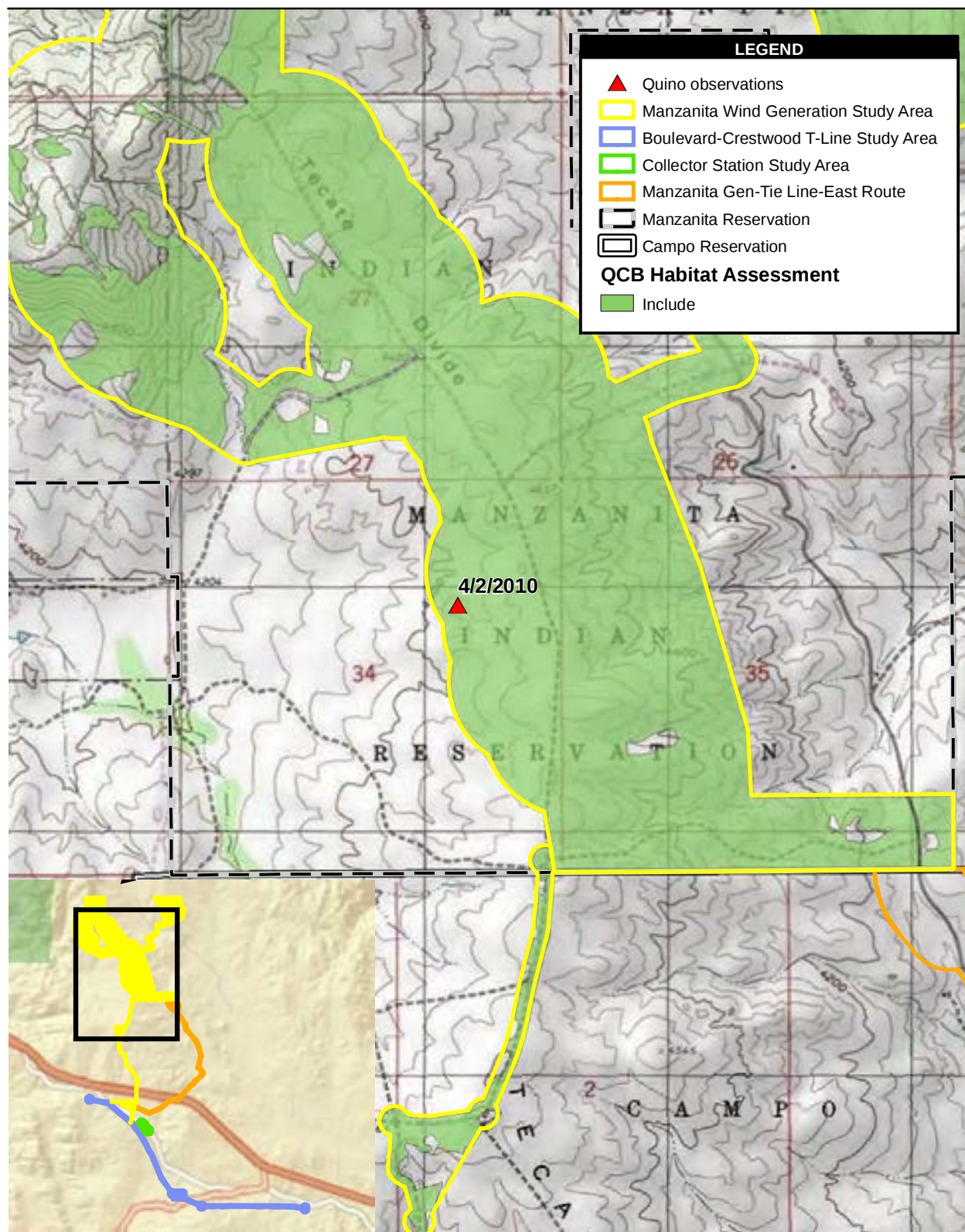


Figure 3
Quino Observation Location Map

USFWS 24-hour Notification of Quino Sighting

Path: P:\2009\09080155_Manz_SDGE\06GIS\6.3_Layout\USFWS\24hr_notification\QCB_observation_20100402.mxd, 04/02/10, AugelloP

APPENDIX F.2
04/03/2010 24-HOUR NOTIFICATION LETTER TO USFWS

April 04, 2010

Ms. Sandra Marquez
Recovery Permit Coordinator
Carlsbad Fish and Wildlife Office
6010 Hidden Valley Road, Suite 101
Carlsbad, California 92011

RE: Notification of the Second Quino Checkerspot Butterfly Observation at the Manzanita Wind Energy Project, San Diego County, California

Dear Ms. Marquez:

AECOM is submitting this notification letter to inform you that a second Quino checkerspot butterfly (*Euphydryas editha quino*; Quino) individual was observed at the proposed Manzanita Wind Energy project site in southeastern San Diego County, California. On April 03, 2010, Consulting Biologist Michael Couffer (permit number TE-782703-8), sub-contractor to AECOM observed one Quino during a protocol level survey for this species. Although the project site exists within U.S. Fish and Wildlife (USFWS) Quino Survey Area 2, Mr. Couffer did not collect the specimen for identification according to the USFWS protocol (2002), per the pre-activity notification letter submitted for the proposed project on April 2, 2010. The sighting is detailed below.

One Quino was observed on the Manzanita Reservation (see Figure 3) by Mr Couffer at 11:50. The Quino was detected within sparsely vegetated southern mixed chaparral habitat below the crown of a gradually-sloping ridge in sandy substrate at WGS 84 11S 0561553, 3623495 (NAD 83 projection). The Quino was observed with Swarovski 10-power binoculars from a distance of approximately 10 feet away for a short period. The quino was a dark individual in excellent condition, with perfect wing edges and very little scale loss on the wings. The color of the abdomen rings was pronounced. Based on it's overall excellent condition and it's strength of flight in takeoff from the ground, this Quino was a recently-emerged individual. As Mr. Couffer reached for his camera, the butterfly bumped off the ground, and was taken by the wind, not to be seen again.

The specific ridge along which the Quino was observed currently supports the most abundant source of nectar that Mr. Couffer has observed in the limited number of surveys that he has conducted so far on this project. On sites where nectar is both diverse and abundant, it has been his observation that the larger popcornflowers are preferred by Quino over every other nectar source, when they are available. The ridge where this Quino was observed supports more blooming *Plagiobothrys* sp than any other area that he has surveyed on this project, to date. Although the plants are mostly less than an inch tall, they are blooming across the top of the ridge for several hundred feet, which should provide excellent forage for Quino.

The Quino was observed below the crown of the ridge, where blooming popcornflowers are sparse to non-existent. A photograph of the sighting location is included below (Photo 1).

Photo 1



This letter is official notification of this sighting and capture as required by the USFWS protocol for this species. Following this transmittal, a fax and a hard copy of this letter including maps will be sent as well. If you have any questions or comments, please contact me at (619) 233-1454.

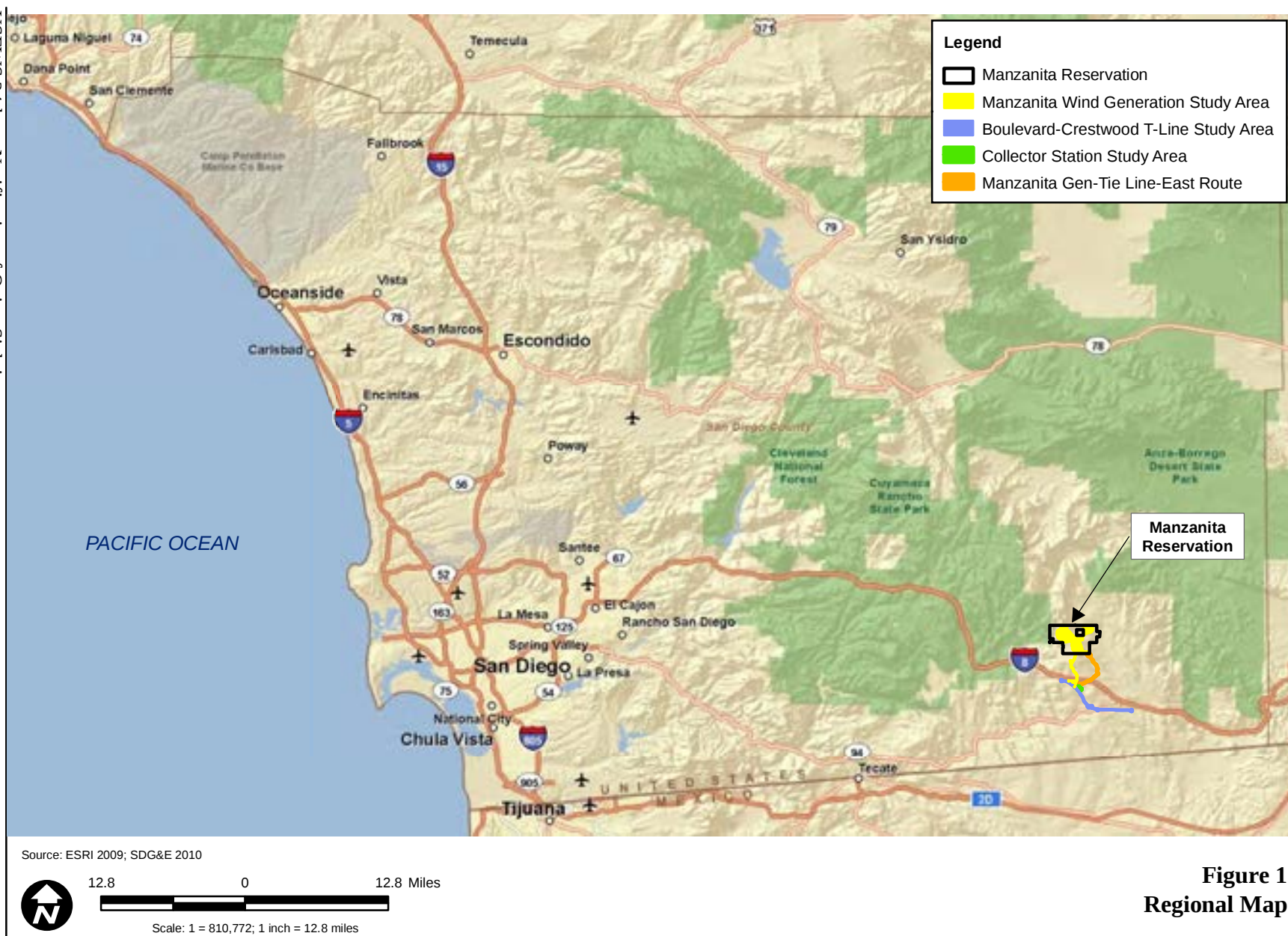
Sincerely,

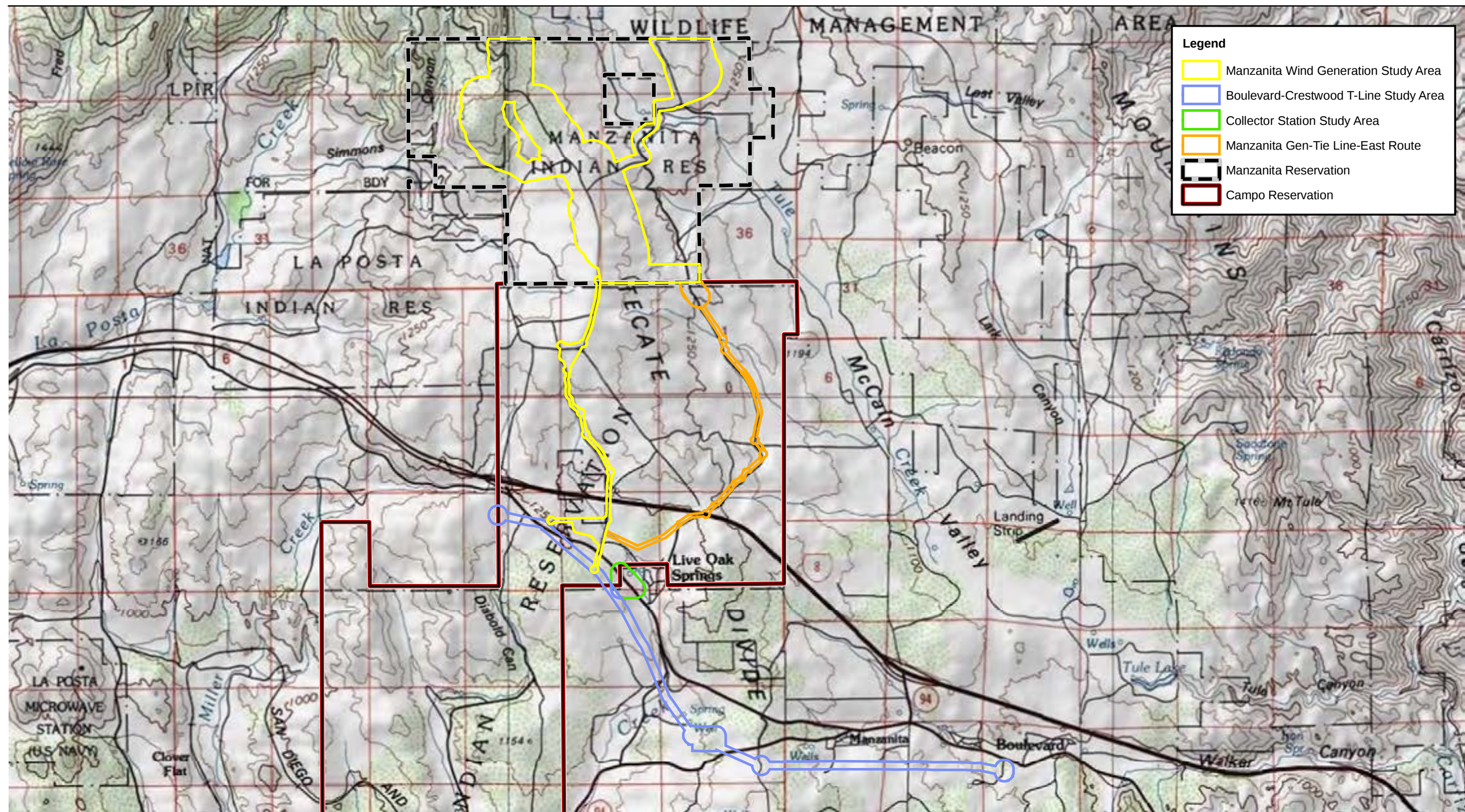
A handwritten signature in black ink, appearing to read 'Barbra Calantas'.

Barbra Calantas
Wildlife Biologist

Enclosures: Figure 1 Regional Map
Figure 2 Vicinity Map
Figure 3 Quino Observation Location Map

cc: Eric Porter, USFWS
Alison Anderson, USFWS
Beverly Blessant, SDG&E
Kirstie Reynolds, SDG&E
Tom Acuna, SDG&E
Monique LaChappa, Chairwoman, Campo Kumeyaay Nation
Johnny Elliot, Manzanita Tribal Representative
John Rydzik, BIA





Source: USGS 30x60 Minute Series El Cajon, Calif. 1979; SDG&E 2010

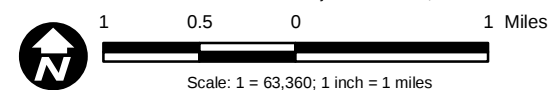


Figure 2
Vicinity Map

USFWS 24-hour Notification of Quino Sighting

Path: P:\2009\09080155_Manz_SDGE\06GIS\6.3_Layout\USFWS\vicinity.mxd, 04/02/10, AugelloP

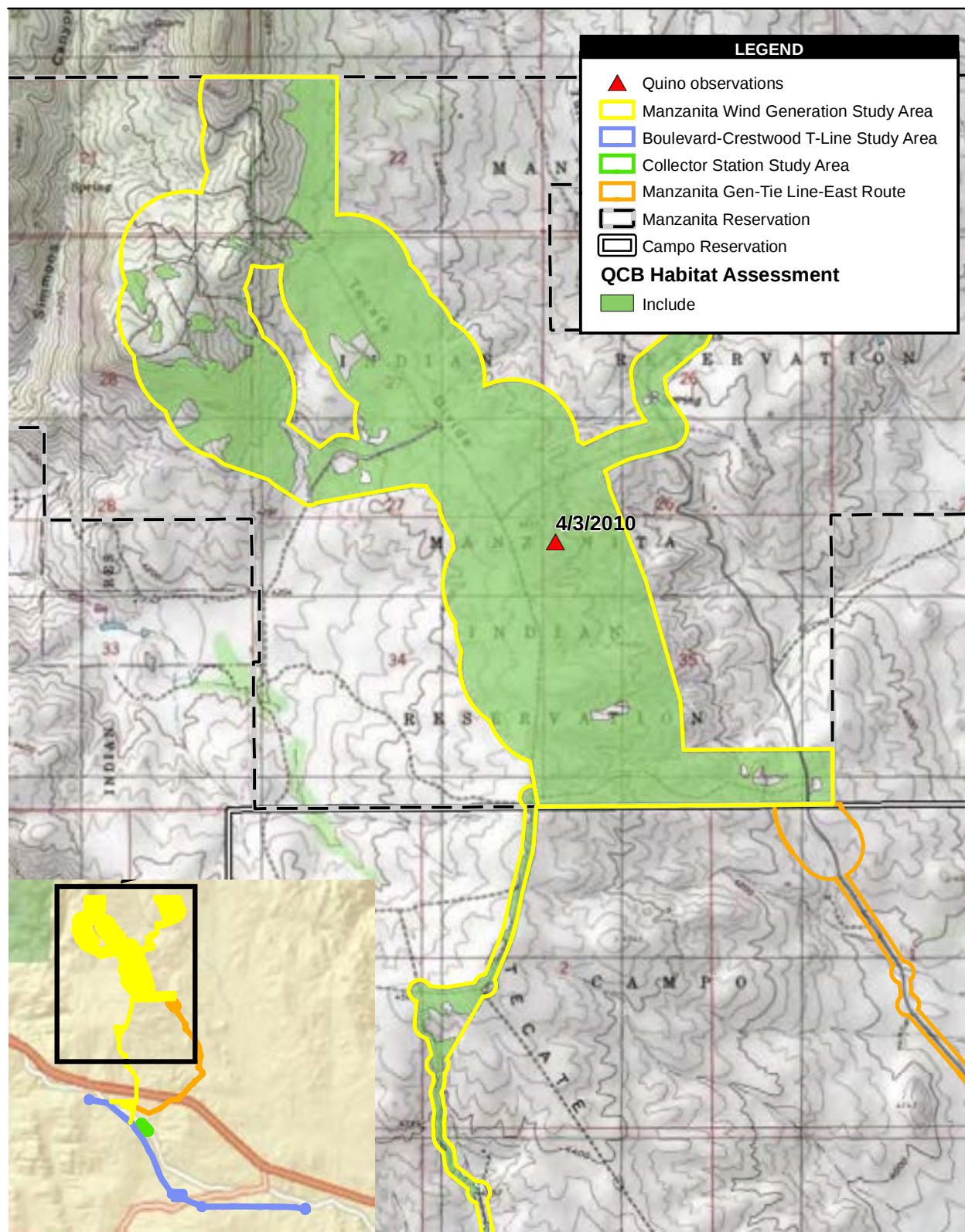


Figure 3
Quino Observation Location Map

USFWS 24-hour Notification of Quino Sighting

Path: P:\2009\09080155_Manz_SDGE\06GIS\6.3_Layout\USFWS\24hr_notification\QCB_observation_20100403.mxd, 04/05/10, AugelloP

APPENDIX F.3
04/10/2010 and 04/11/2010 24-HOUR NOTIFICATION LETTER TO USFWS

April 12, 2010

Ms. Sandra Marquez
Recovery Permit Coordinator
Carlsbad Fish and Wildlife Office
6010 Hidden Valley Road, Suite 101
Carlsbad, California 92011

RE: Notification of the Third, Fourth, and Fifth Quino Checkerspot Butterfly Observations at the Manzanita Wind Energy Project, San Diego County, California

Dear Ms. Marquez:

AECOM is submitting this notification letter to inform you that an additional three Quino checkerspot butterfly (*Euphydryas editha quino*; Quino) individuals were observed at the proposed Manzanita Wind Energy project site in southeastern San Diego County, California. On April 10 and 11, 2010, Consulting Biologists Michael Couffer (permit number TE-782703-8) and Dale Powell (permit number TE-820658-4), sub-contractors to AECOM observed Quino during a protocol level survey for this species. Although the project site exists within U.S. Fish and Wildlife (USFWS) Quino Survey Area 2, Mr. Couffer and Mr. Powell did not collect any specimens for identification according to the USFWS protocol (2002), per the pre-activity notification letter submitted for the proposed project on April 2, 2010. The sighting is detailed below.

On April 10, 2010, Mr. Powell detected one Quino in an open clearing within southern mixed chaparral habitat approximately 1.7 miles southeast of Live Oak Springs (Photo 1). The specific location of the sighting was at UTM coordinates 11S 0563382, 3614590 (Figure 3, Quino 1). Weather consisted of clear skies and mild winds. The butterfly was initially detected in flight at 13:44, then observed stopping and basking in the sun on the ground for short periods of time. The butterfly appeared to have emerged recently and was in a fresh condition. Its red colored abdominal bands were easily discernable (Photo 2).

Mr. Couffer's Quino was observed on April 10, 2010 near the community of Boulevard, south of Campo Road, east of Tierra del Sol Road, and west of Jewel Valley Road. The specific location of the sighting was at UTM coordinates 11S 0564921, 3613993 (see Figure 3, Quino 2). The approximate elevation was 3770 feet above mean sea level. The Quino was detected on a gradual slope with sandy soils supporting primarily *Lasthenia* sp. (Photo 3). The Quino was captured and photographed in the hand before being released unharmed (Photo 4). This Quino was somewhat drab, overall, but its wing edges were still in good condition, indicating a butterfly that was neither a fresh individual, nor an individual that was near the end of its life.

On April 11, 2010, Mr. Couffer incidentally observed another Quino within the project's boundaries after completing the areas assigned to him for protocol surveys for the species. After completing the area assigned to him for protocol-level Quino surveys, Mr. Couffer moved to a different portion of the project site to meet with other biologists surveying their assigned area. As he was walking down a dirt road through chamise chaparral to meet the biologists, a Quino flew past him on the road, for approximately 50 feet and landed on the ground in a patch of low-density annual grassland to one side of the road (Photo

5). The Quino stayed long enough to be positively identified with binoculars, and then flew into dense chamise chaparral before a photo could be taken. This Quino was somewhat drab, with no major tears in the wings.

Mr. Couffer observed the Quino was along the same telephone alignment as where he observed a Quino the previous day; however, this Quino was observed northwest of the previous location. The Quino was located at UTM coordinates 11S 0563773, 3614200, at approximately 3873 feet above mean sea level (Figure 3, Quino 3). This general location was southwest of the community of Boulevard. More specifically, the sighting was made along an existing telephone easement road northwest of Tierra del Sol Road, and southeast of State Route 94.

This letter is official notification of this sighting and capture as required by the USFWS protocol for this species. Following this transmittal, a fax and a hard copy of this letter including maps will be sent as well. If you have any questions or comments, please contact me at (619) 233-1454.

Sincerely,

A handwritten signature in black ink, appearing to read 'Barbra Calantas', with a stylized, cursive script.

Barbra Calantas
Wildlife Biologist

Enclosures: Figure 1 Regional Map
Figure 2 Vicinity Map
Figure 3 Quino Observation Location Map

cc: Eric Porter, USFWS
Alison Anderson, USFWS
Beverly Blessant, SDG&E
Kirstie Reynolds, SDG&E
Tom Acuna, SDG&E
Monique LaChappa, Chairwoman, Campo Kumeyaay Nation
Johnny Elliot, Manzanita Tribal Representative
John Rydzik, BIA

Photo 1



Photo 2



Photo 3

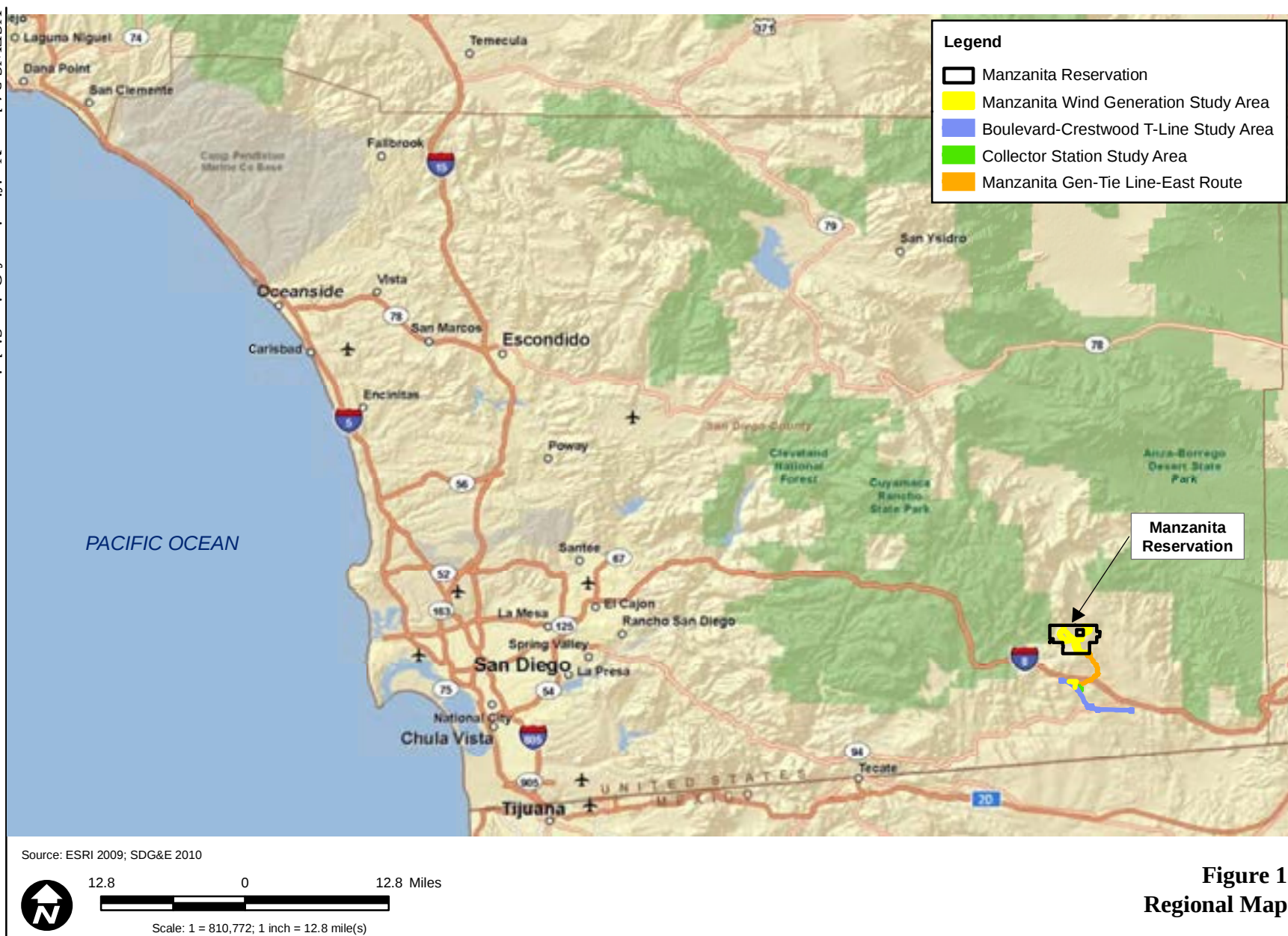


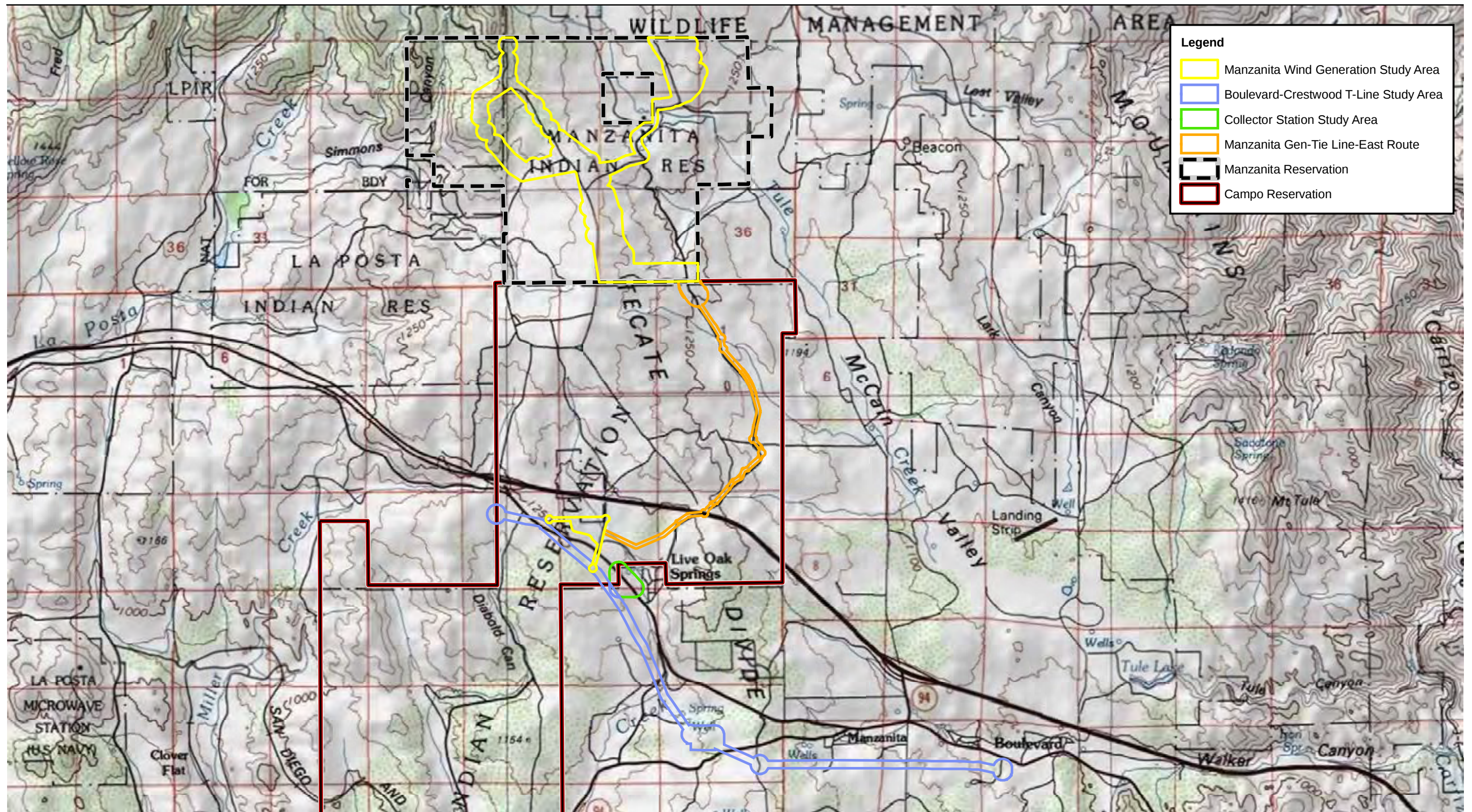
Photo 4



Photo 5







Source: USGS 30x60 Minute Series El Cajon, Calif. 1979; SDG&E 2010

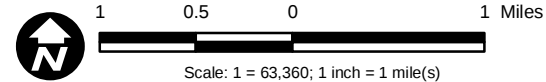
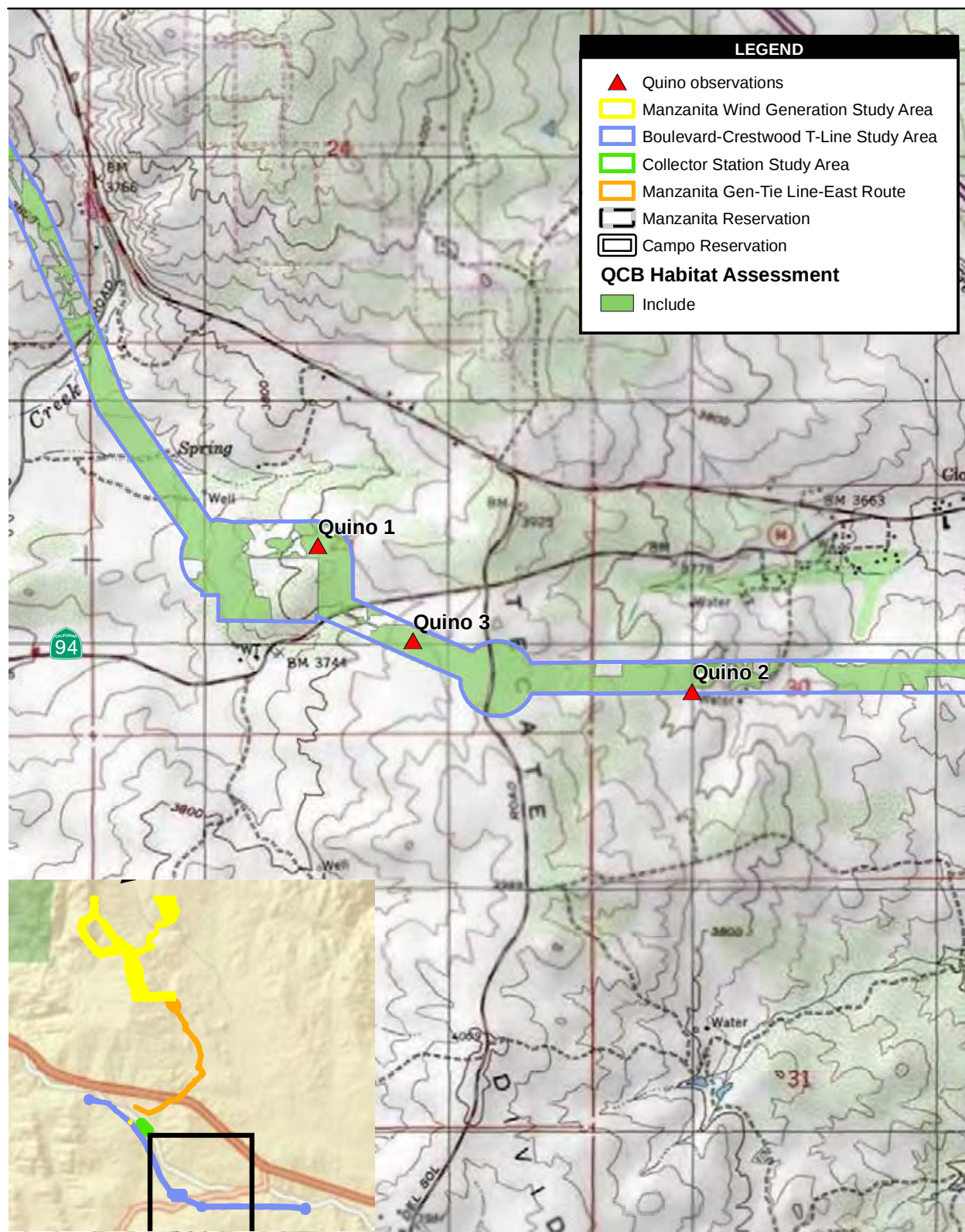


Figure 2
Vicinity Map

USFWS 24-hour Notification of Quino Sighting

Path: P:\2009\09080155_Manz_SDGE\06GIS\6.3_Layout\USFWS\vicinity.mxd, 04/12/10, johnsonaa



Source: DigitalGlobe 2008; SDG&E 2010

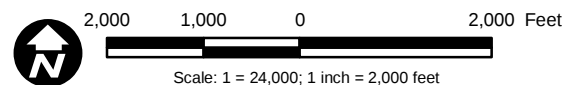


Figure 3
QCB Suitable Habitat Assessment

USFWS 24-hour Notification of Quino Sighting

Path: P:\2009\09080155_Manz_SDGE\06GIS\6.3_Layout\USFWS\24hr_notification\QCB_observation_20100409.mxd, 04/12/10, johnsonaa

APPENDIX F.4
04/16/2010 24-HOUR NOTIFICATION LETTER TO USFWS

April 17, 2010

Ms. Sandra Marquez
Recovery Permit Coordinator
Carlsbad Fish and Wildlife Office
6010 Hidden Valley Road, Suite 101
Carlsbad, California 92011

RE: Notification of the Sixth Quino Checkerspot Butterfly Observation at the Manzanita Wind Energy Project, San Diego County, California

Dear Ms. Marquez:

AECOM is submitting this notification letter to inform you that an additional one Quino checkerspot butterfly (*Euphydryas editha quino*; Quino) individual was observed at the proposed Manzanita Wind Energy project site in southeastern San Diego County, California. On April 16, 2010, Consulting Biologist Martha Heath (permit number #TE-099005-1), sub-contractor to AECOM, observed Quino during a protocol level survey for this species. Although the project site exists within U.S. Fish and Wildlife (USFWS) Quino Survey Area 2, Ms. Heath did not collect the specimen for identification according to the USFWS protocol (2002), per the pre-activity notification letter submitted for the proposed project on April 2, 2010. The sighting is detailed below.

On April 16, 2010, Ms. Heath detected one Quino individual at 09:55 in open buckwheat scrub habitat. She observed it flying initially, then observed it stopping and basking on the ground in an open area. The Quino was in a fresh condition, brightly colored with no nicks or tears in the wings. Ms. Heath was not able to take a photograph of the individual as it flew away before she was able to take a picture. The specific location of the sighting was at UTM coordinates 11S 0563476, 3614531 (Figure 3). Weather consisted of sunny clear skies and mild winds with a temperature of 64 degrees Fahrenheit. Nectaring sources in the area included stork's bill (*Erodium botrys*), fiddleneck (*Amsinckia menziesii*), goldfields (*Lasthenia californica*), cup leaf lilac (*Ceanothus greggii perplexans*), popcorn flower (*Plagiobotrys* sp.), California poppy (*Eschscholzia californica*), California primrose (*Camissonia californica*), and baby blue eyes (*Nemophila menziesii*).

This letter is official notification of this sighting and capture as required by the USFWS protocol for this species. Following this transmittal, a fax and a hard copy of this letter including maps will be sent as well. If you have any questions or comments, please contact me at (619) 233-1454.

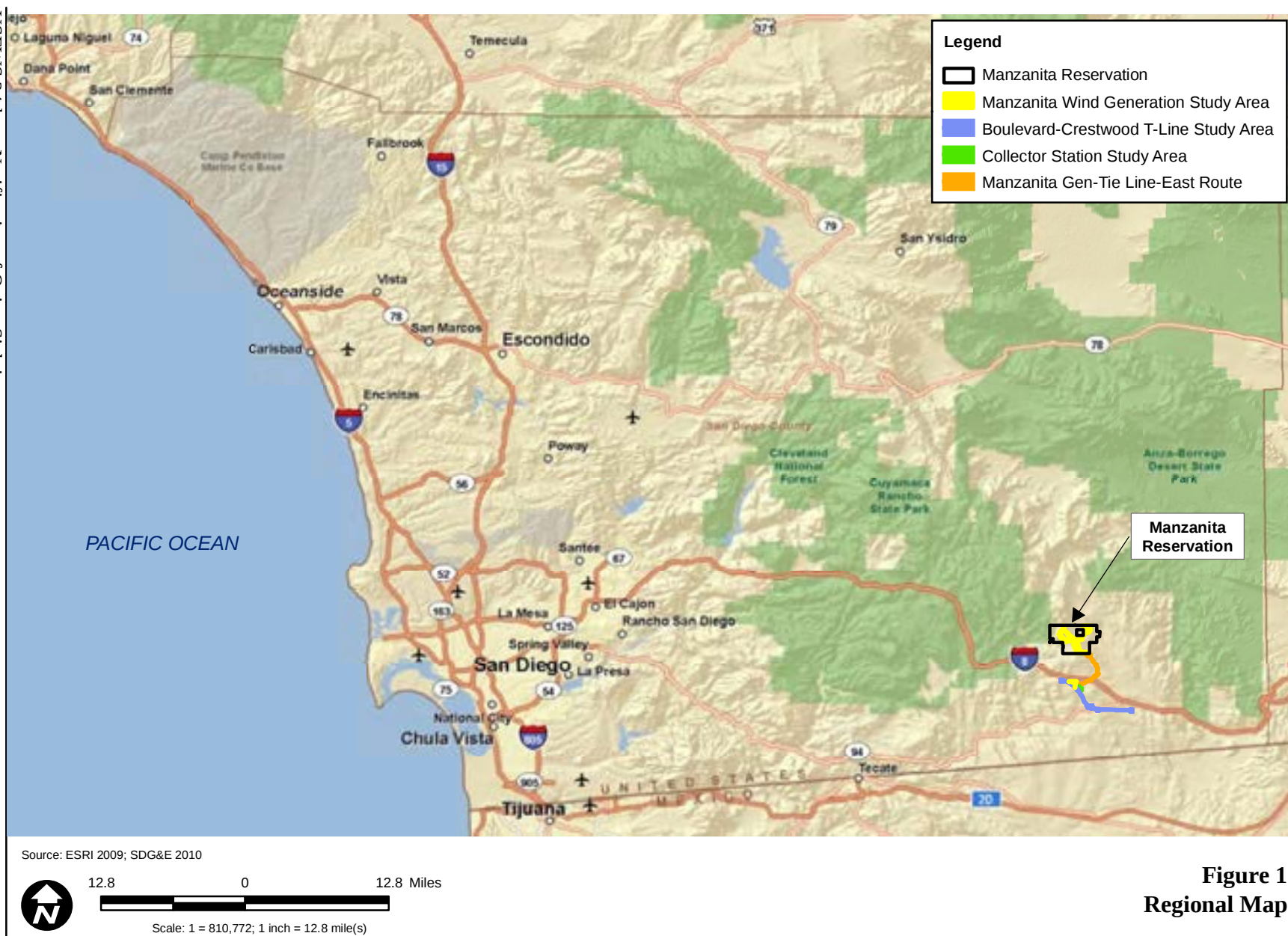
Sincerely,

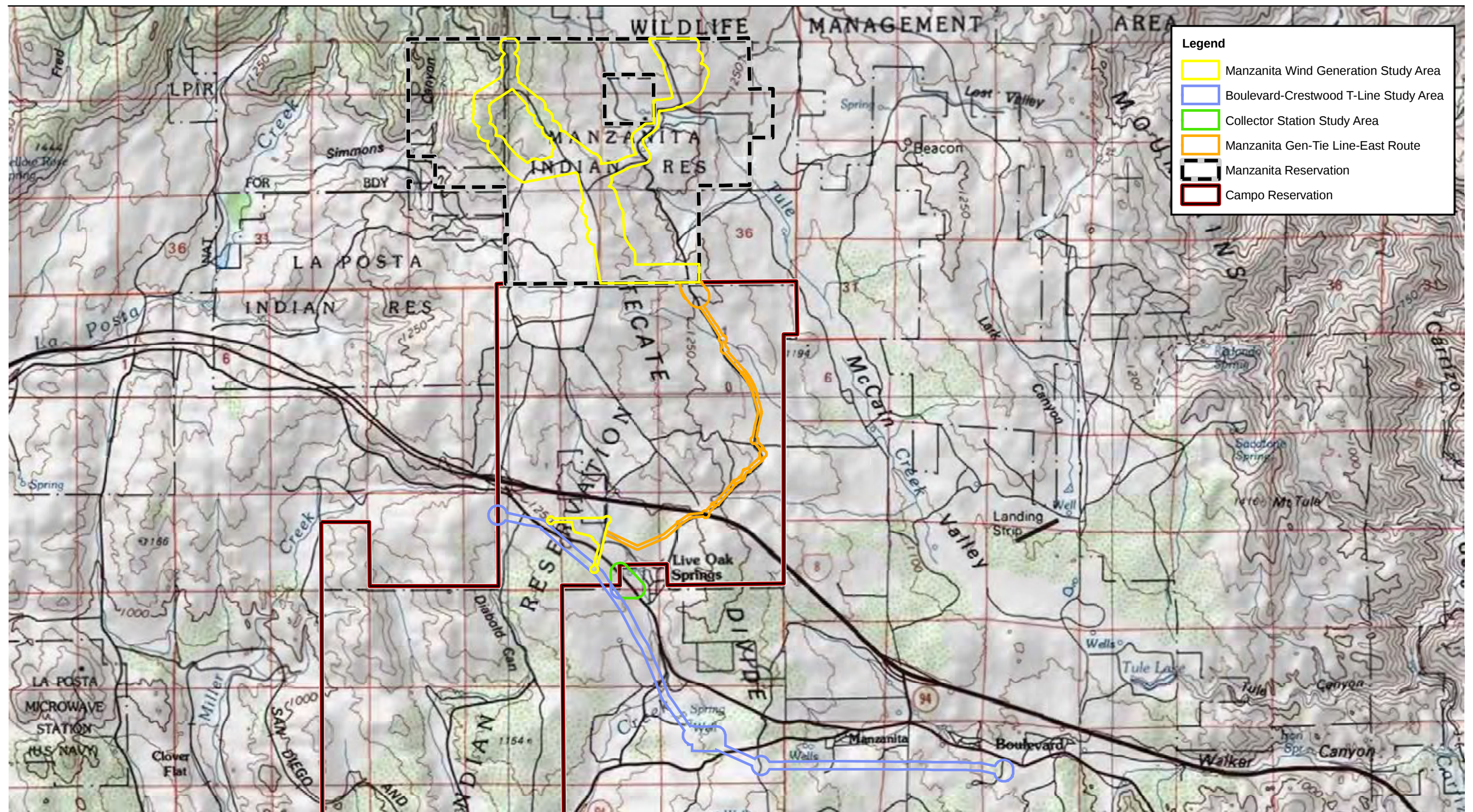


Barbra Calantas
Wildlife Biologist

Enclosures: Figure 1 Regional Map
Figure 2 Vicinity Map
Figure 3 Quino Observation Location Map

cc: Eric Porter, USFWS
Alison Anderson, USFWS
Beverly Blessant, SDG&E
Kirstie Reynolds, SDG&E
Tom Acuna, SDG&E
Monique LaChappa, Chairwoman, Campo Kumeyaay Nation
Johnny Elliot, Manzanita Tribal Representative
John Rydzik, BIA





Source: USGS 30x60 Minute Series El Cajon, Calif. 1979; SDG&E 2010

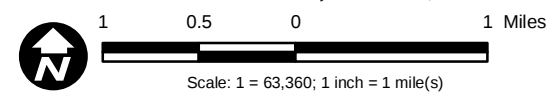
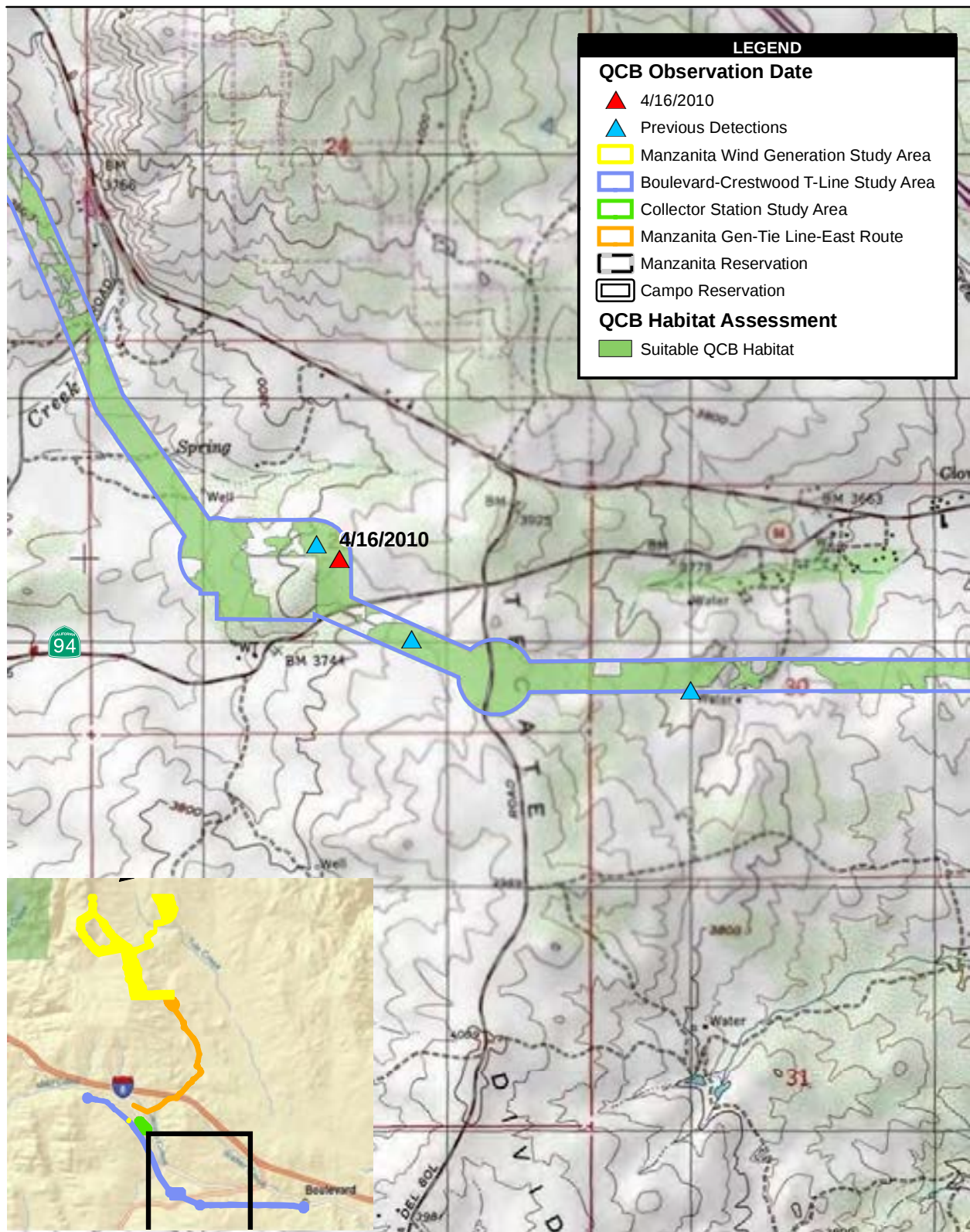


Figure 2
Vicinity Map

USFWS 24-hour Notification of Quino Sighting

Path: P:\2009\09080155_Manz_SDGE\06GIS\6.3_Layout\USFWS\vicinity.mxd, 04/12/10, johnsonaa



Source: DigitalGlobe 2008; SDG&E 2010

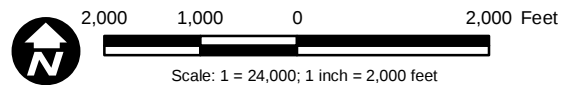


Figure 3
QCB Suitable Habitat Assessment

USFWS 24-hour Notification of Quino Sighting

Path: P:\2009\09080155_Manz_SDGE\06GIS\6.3_Layout\USFWS\24hr_notification\QCB_observation_20100416.mxd, 04/16/10, johnsonaa

APPENDIX F.5
04/16/2010 24-HOUR NOTIFICATION LETTER TO USFWS

April 19, 2010

Ms. Sandra Marquez
Recovery Permit Coordinator
Carlsbad Fish and Wildlife Office
6010 Hidden Valley Road, Suite 101
Carlsbad, California 92011

**RE: Notification of the Seventh Quino Checkerspot Butterfly Observation at the
Manzanita Wind Energy Project, San Diego County, California**

Dear Ms. Marquez:

AECOM is submitting this notification letter to inform you that three additional Quino checkerspot butterfly (*Euphydryas editha quino*; Quino) individuals were observed at the proposed Manzanita Wind Energy project site in southeastern San Diego County, California. On April 16, 2010, AECOM biologist Barbra Calantas (permit number #TE-820658-4) and Consulting Biologist Martha Heath (permit number #TE-099005-1), sub-contractor to AECOM, observed Quino during a protocol level survey for this species. Although the project site exists within U.S. Fish and Wildlife (USFWS) Quino Survey Area 2, Ms. Heath did not collect the specimen for identification according to the USFWS protocol (2002), per the pre-activity notification letter submitted for the proposed project on April 2, 2010. The sighting is detailed below.

On April 18, 2010, Ms. Heath detected one Quino individual at 12:20 in open buckwheat scrub habitat along a ridgeline. She observed it flying initially, around a pile of old Manzanita wood. The Quino was in a fresh condition, brightly colored with no nicks or tears in the wings. It landed in open grass approximately 20-25 feet away from Ms. Heath and stayed for approximately five minutes. She was able to take a photograph of the individual, which will be forwarded to you at a later time. The specific location of the sighting was at UTM coordinates 11S 0561838, 3622727 (Figure 3; Quino 1). Nectaring sources in the area included wild cucumber (*Eriogonum fasciculatum*), stork's bill (*Erodium botrys*), fiddleneck (*Amsinckia menziesii*), goldfields (*Lasthenia californica*), cup leaf lilac (*Ceanothus greggii perplexans*), popcorn flower (*Plagiobotrys* sp.), phacelia (*Phacelia* sp.), and baby blue eyes (*Nemophila menziesii*). Additionally, Chinese houses (*Collinsia concolor*) was present within the vicinity of this Quino.

At 12:51, Ms. Heath detected a second Quino individual. She was surveying the same ridgeline she detected Quino 1 on, heading west of the first observation, when she saw the second Quino flying from a dirt road, flying 1-3 feet above the ground and landing 25 feet from her. She observed the butterfly with her binoculars and confirmed it was a Quino. It was also a brightly colored in a fresh condition. As she attempted to take a photograph, it took flight to the west. Ms. Heath headed back towards the location of the first Quino to verify her second was a unique individual, and observed her first Quino in the same location. Thus, she confirmed this was a second distinct individual. The specific location of this sighting was at UTM coordinates 11S 0561479, 3622719 (Figure 3; Quino 2).

At 13:25, I observed a Quino in a separate area from Ms. Heath's survey area, east of where Ms. Heath was located. I stopped on a hillside in an open area with various nectar sources, including goldfields (*Lasthenia californica*), popcorn flower, phacelia, and baby blue eyes, and observed a butterfly with a flight pattern like a Quino flying towards me. It landed approximately 15 feet in front of me. I observed the butterfly with my binoculars as it nectared on popcorn flower and confirmed it was female Quino. It was also in a fresh condition, with no nicks or tears in its wings, and brightly colored orange bands on its abdomen. Unfortunately, it flew away as I was attempting to take a picture. The specific location of this sighting was at UTM coordinates 11S 0562056, 3622196 (Figure 3; Quino 3).

Weather for all three observations consisted of sunny, clear skies and mild winds with temperatures ranging from 66 to 72 degrees Fahrenheit during the time period the butterflies were detected.

This letter is official notification of this sighting and capture as required by the USFWS protocol for this species. Following this transmittal, a fax and a hard copy of this letter including maps will be sent as well. If you have any questions or comments, please contact me at (619) 233-1454.

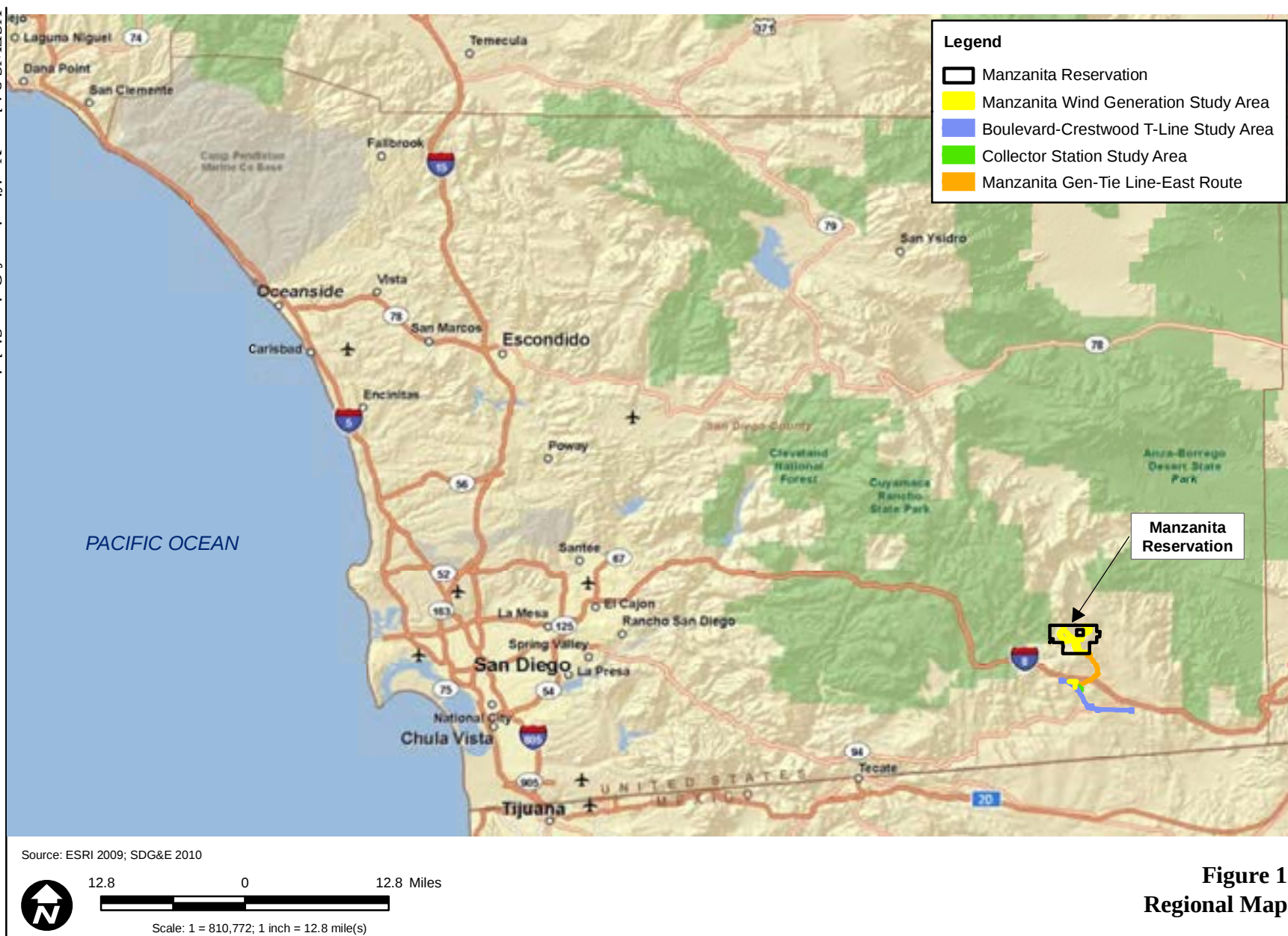
Sincerely,

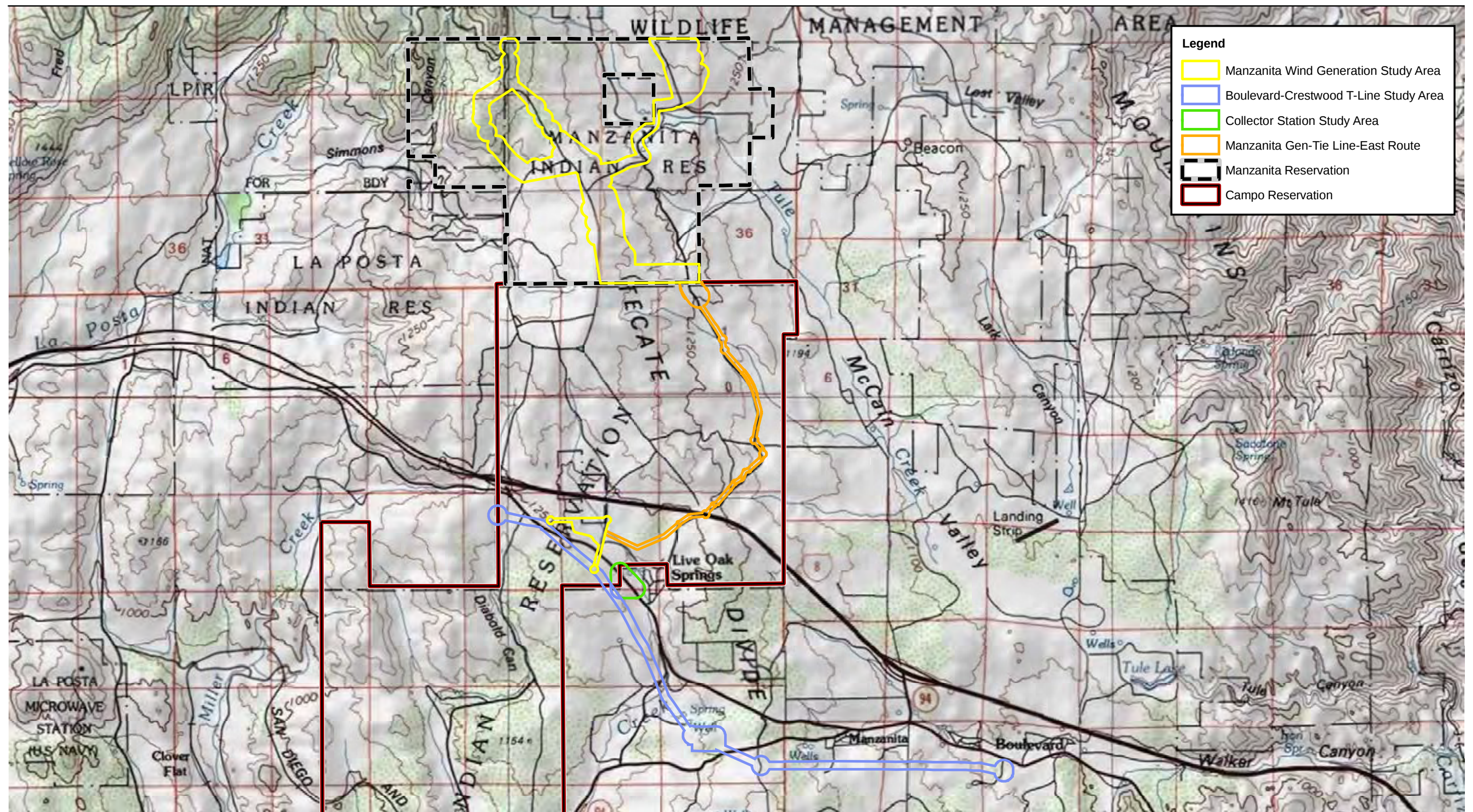
A handwritten signature in black ink, appearing to read 'Barbra Calantas', written in a cursive style.

Barbra Calantas
Wildlife Biologist

Enclosures: Figure 1 Regional Map
Figure 2 Vicinity Map
Figure 3 Quino Observation Location Map

cc: Eric Porter, USFWS
Alison Anderson, USFWS
Beverly Blessant, SDG&E
Kirstie Reynolds, SDG&E
Tom Acuna, SDG&E
Monique LaChappa, Chairwoman, Campo Kumeyaay Nation
Johnny Elliot, Manzanita Tribal Representative
John Rydzik, BIA





Source: USGS 30x60 Minute Series El Cajon, Calif. 1979; SDG&E 2010

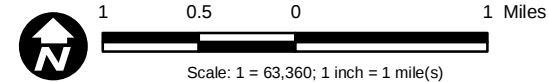
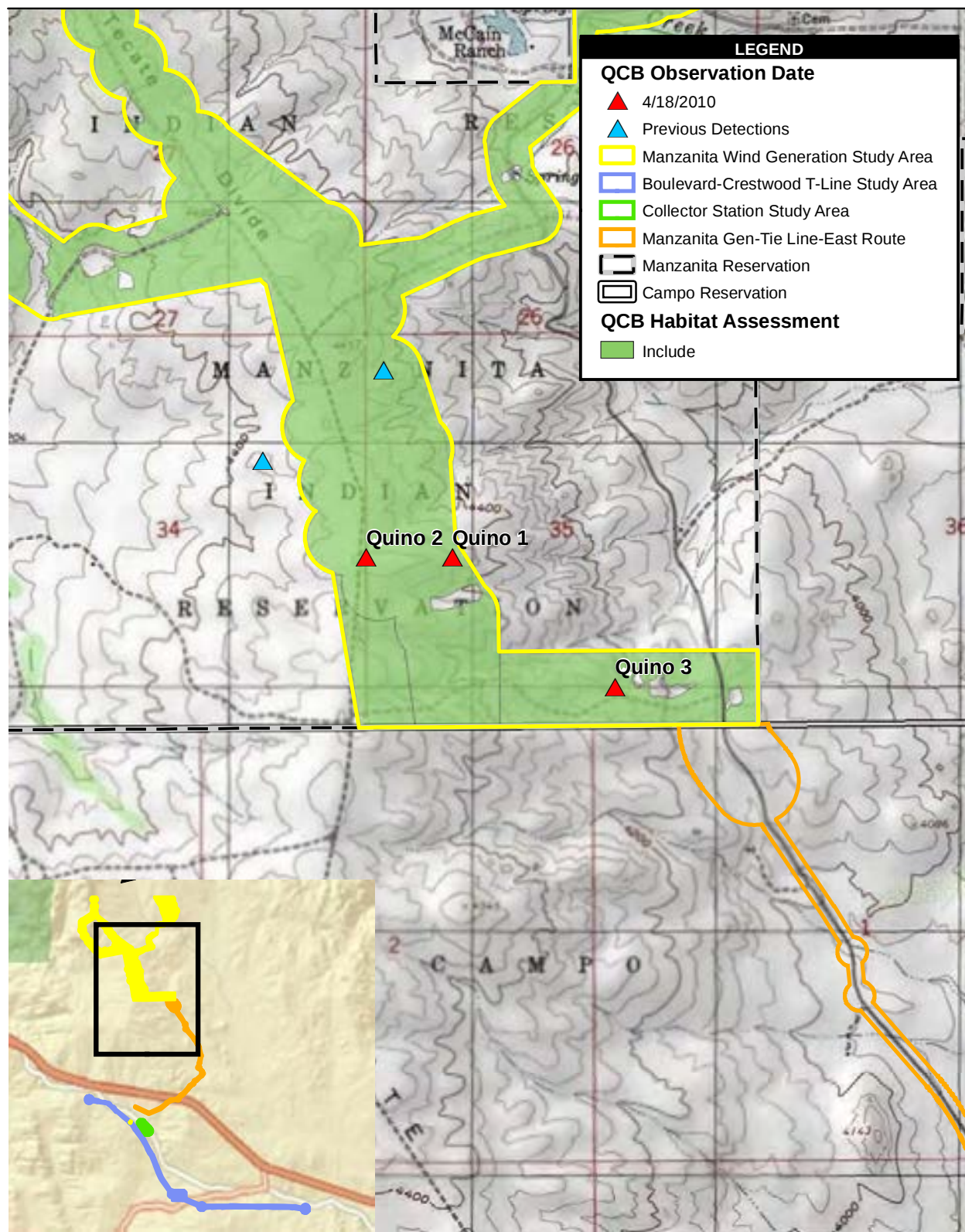


Figure 2
Vicinity Map

USFWS 24-hour Notification of Quino Sighting

Path: P:\2009\09080155_Manz_SDGE\06GIS\6.3_Layout\USFWS\vicinity.mxd, 04/12/10, johnsonaa



Source: DigitalGlobe 2008; SDG&E 2010

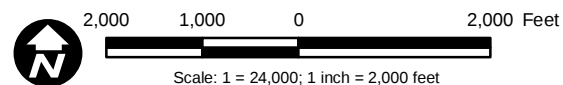


Figure 3
QCB Suitable Habitat Assessment

USFWS 24-hour Notification of Quino Sighting

Path: P:\2009\09080155_Manz_SDGE\06GIS\6.3_Layout\USFWS\24hr_notification\QCB_observation_20100418.mxd, 04/19/10, johnsonaa

APPENDIX F.6
04/20/2010 24-HOUR NOTIFICATION LETTER TO USFWS

April 21, 2010

Ms. Sandra Marquez
Recovery Permit Coordinator
Carlsbad Fish and Wildlife Office
6010 Hidden Valley Road, Suite 101
Carlsbad, California 92011

RE: Notification of the Eighth Quino Checkerspot Butterfly Observation at the Manzanita Wind Energy Project, San Diego County, California

Dear Ms. Marquez:

AECOM is submitting this notification letter to inform you that additional Quino checkerspot butterfly (*Euphydryas editha quino*; Quino) individuals were observed at the proposed Manzanita Wind Energy project site in southeastern San Diego County, California. On April 20, 2010, Consulting Biologist Antonette Guterrez (permit number #TE-797999-7), sub-contractor to AECOM, observed Quino during a protocol level survey for this species. Although the project site exists within U.S. Fish and Wildlife (USFWS) Quino Survey Area 2, Ms. Guterrez did not collect the specimen for identification according to the USFWS protocol (2002), per the pre-activity notification letter submitted for the proposed project on April 2, 2010. The sighting is detailed below.

Two Quino checkerspot butterflies were observed on April 20, 2010 within the Manzanita Project Area at UTM coordinates 11 S 0563387, 03614599 (Figure 3). A single Quino was previously detected in the same location, as noted in AECOM's 24-hour Notification letter dated April 12, 2010 (previously submitted). The first Quino was detected at 11:15 in an open pocket of southern mixed chaparral. The left hind wing appeared to have some damage but did not hinder the butterfly. This butterfly flew low to the ground in the typical zig zag pattern and repeatedly landed in open sandy patches and on twigs. The immediate surrounding habitat was within open scrub. The dominate shrub was *Eriogonum fasciculatum*. This area supported an abundance of nectar sources including *Gilia* sp., *Linanthus dianthiflorus*, *Linanthus lemmonii*, *Plagiobothrys* sp., *Nemophila menziesii*, *Erodium cicutarium*, *Sisymbrium altissimum*, *Camissonia* sp., *Filago* sp., and *Lasthenia californica*. No host plants were observed in this area during this survey. This butterfly was observed for approximately 15 minutes. Around 11:30 a second Quino flew in near the first. The two butterflies made contact flying up in the air together for a short distance and then parted. The second Quino flew into an open area surrounded by taller chaparral while the first Quino returned to the open sandy soil. The second Quino that flew into the chaparral appeared slightly larger than the first and appeared fresh with no damage to the wings. This second Quino flew up over the chaparral and was taken by the wind and not seen again. The first Quino that landed in the sandy soil remained in the area maintaining the same behavior. Several photos of the first Quino were obtained (Photo 1). A photo of this Quino's habitat was also taken (Photo 2). One photo was taken of the second Quino (larger of the two) from a distance (Photo 3). A photo of this second Quino's habitat was also taken (Photo 4).

This letter is official notification of this sighting and capture as required by the USFWS protocol for this species. Following this transmittal, a fax and a hard copy of this letter including maps will be sent as well. If you have any questions or comments, please contact me at (619) 233-1454.

Sincerely,

A handwritten signature in black ink, appearing to read 'Barbra Calantas', written in a cursive style.

Barbra Calantas
Wildlife Biologist

Enclosures: Figure 1 Regional Map
Figure 2 Vicinity Map
Figure 3 Quino Observation Location Map

cc: Eric Porter, USFWS
Alison Anderson, USFWS
Beverly Blessant, SDG&E
Kirstie Reynolds, SDG&E
Tom Acuna, SDG&E

Photo 1



Photo 2

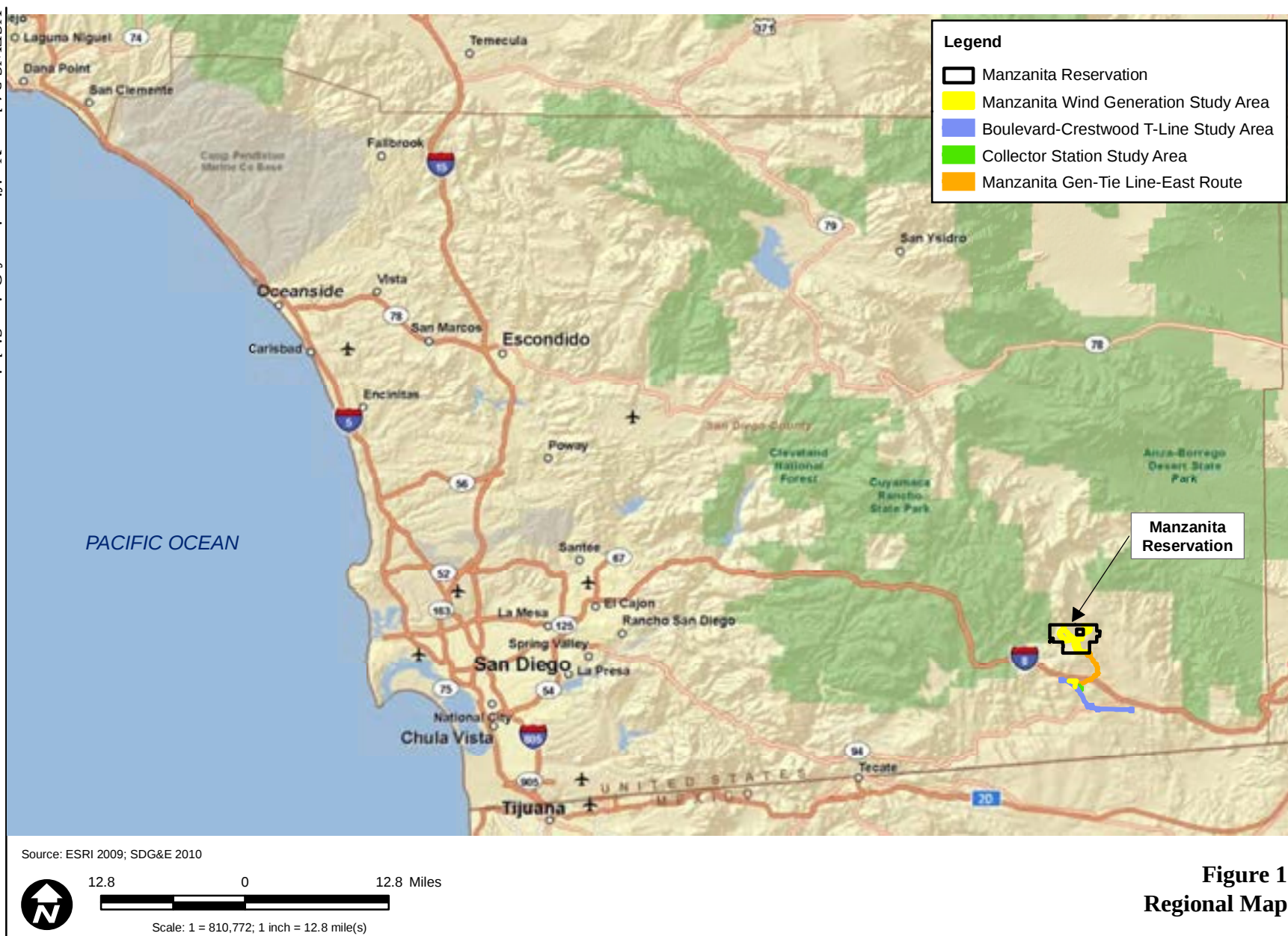


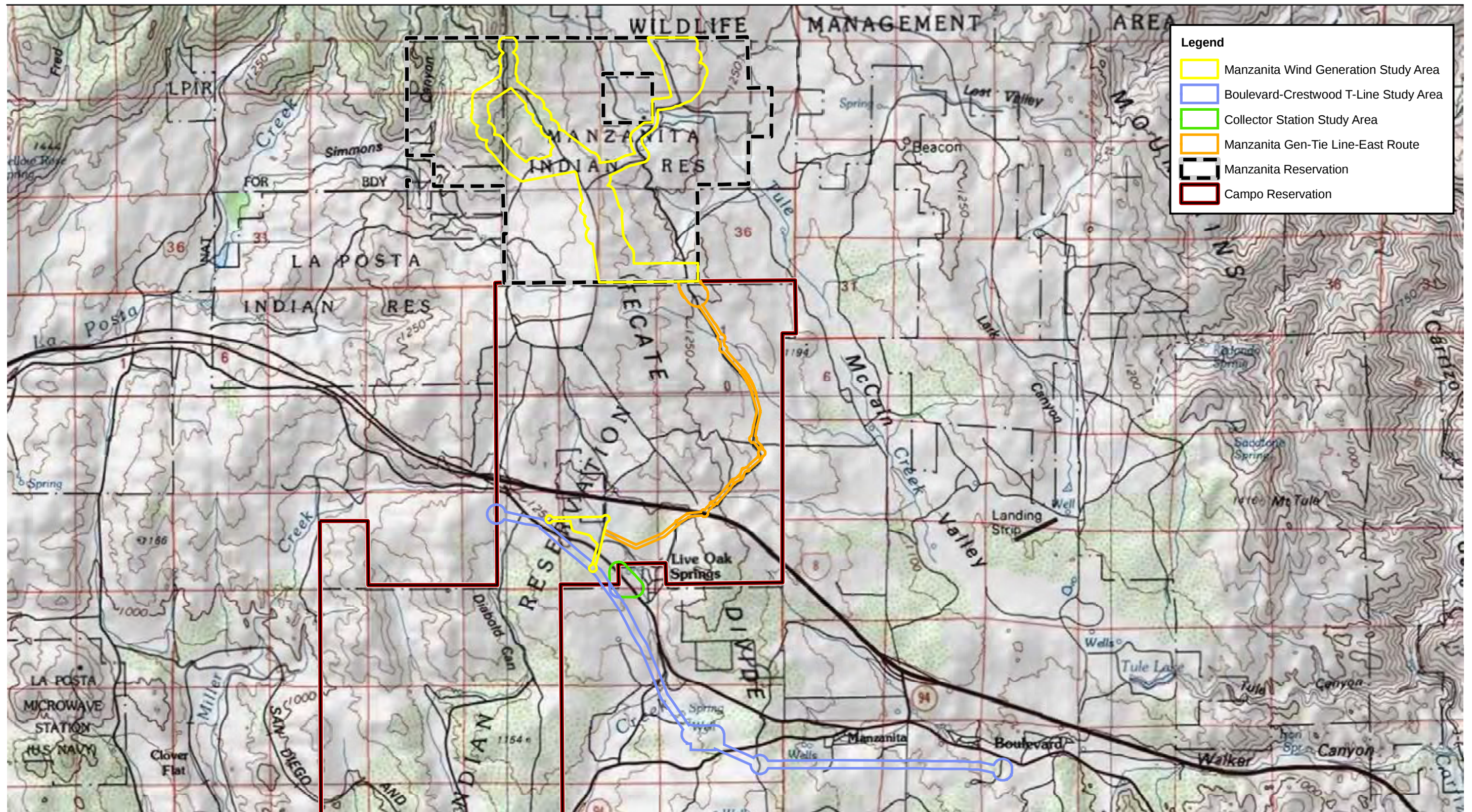
Photo 3



Photo 4







Source: USGS 30x60 Minute Series El Cajon, Calif. 1979; SDG&E 2010

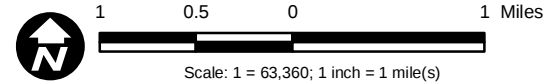
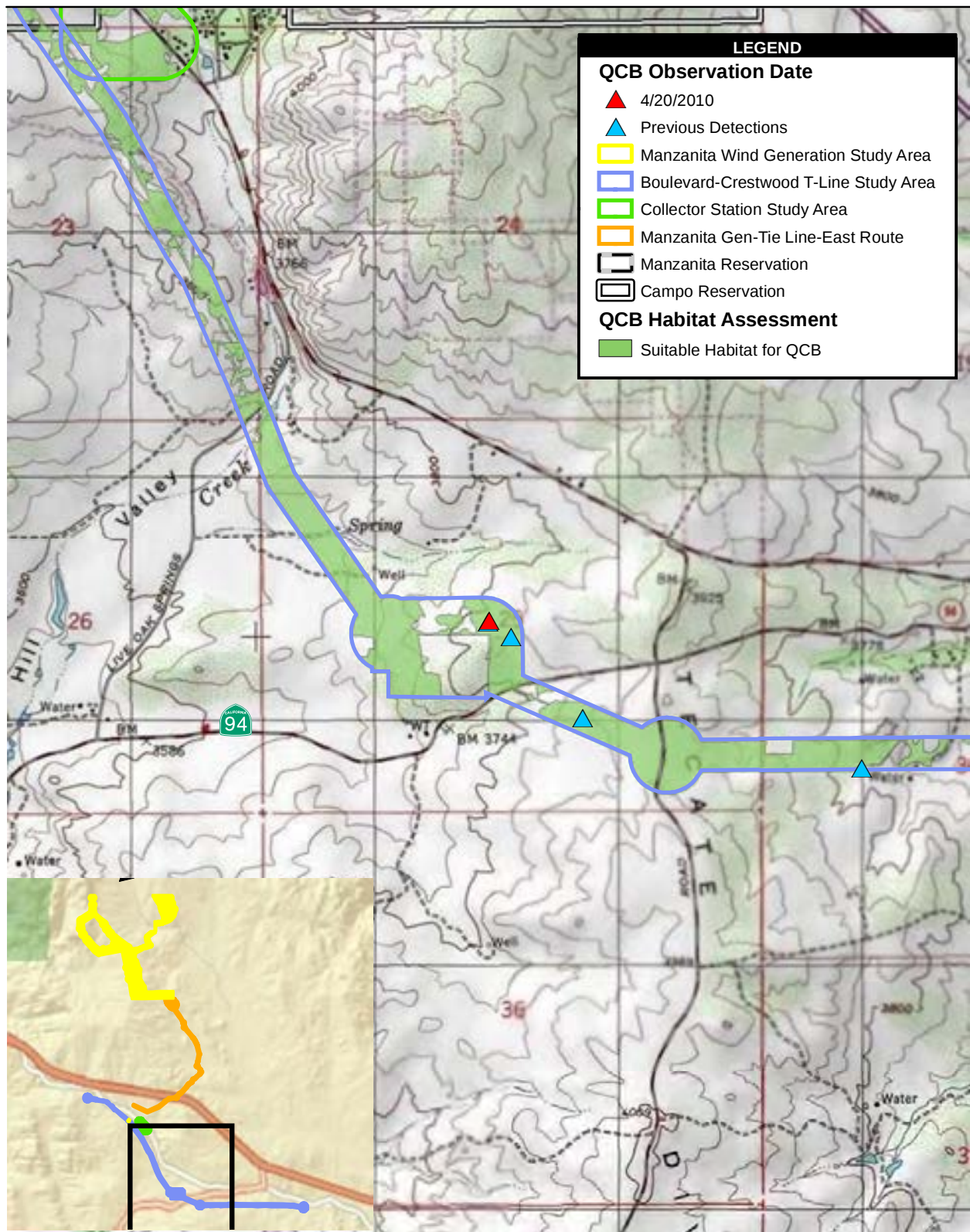


Figure 2
Vicinity Map

USFWS 24-hour Notification of Quino Sighting

Path: P:\2009\09080155_Manz_SDGE\06GIS\6.3_Layout\USFWS\vicinity.mxd, 04/12/10, johnsonaa



Source: DigitalGlobe 2008; SDG&E 2010

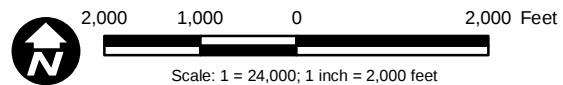


Figure 3
QCB Suitable Habitat Assessment

USFWS 24-hour Notification of Quino Sighting

Path: P:\2009\09080155_Manz_SDGE\06GIS\6.3_Layout\USFWS\24hr_notification\QCB_observation_20100420.mxd, 04/20/10, johnsonaa

