APPENDIX C

Cumulative List of Wildlife Species

BIRD

BLACKBIRDS, ORIOLES AND ALLIES

***ICTERIDAE*—BLACKBIRDS**

Agelaius tricolor—Tricolored blackbird
Euphagus cyanocephalus—Brewer's blackbird
Icterus bullockii—Bullock's oriole
Sturnella neglecta—Western meadowlark

BUSHTITS

***AEGITHALIDAE*—LONG-TAILED TITS AND BUSHTITS**

Psaltriparus minimus—Bushtit

EMBERIZINES

***EMBERIZIDAE*—EMBERIZIDS**

Amphispiza belli—Sage sparrow
Amphispiza bilineata—Black-throated sparrow
Chondestes grammacus—Lark sparrow
Junco hyemalis—Dark-eyed junco
Melozone crissalis—California towhee
Pipilo maculatus—Spotted towhee
Spizella breweri—Brewer's sparrow
Zonotrichia leucophrys—White-crowned sparrow

FALCONS

***FALCONIDAE*—CARACARAS AND FALCONS**

Falco mexicanus—Prairie falcon

FINCHES

***FRINGILLIDAE*—FRINGILLINE AND CARDUELINE FINCHES AND ALLIES**

Carpodacus mexicanus—House finch
Spinus lawrencei—Lawrence's goldfinch
Spinus psaltria—Lesser goldfinch

FLYCATCHERS

***TYRANNIDAE*—TYRANT FLYCATCHERS**

Sayornis saya—Say's phoebe
Tyrannus verticalis—Western kingbird

HAWKS

***ACCIPITRIDAE*—HAWKS, KITES, EAGLES, AND ALLIES**

Accipiter cooperii—Cooper's hawk
Buteo jamaicensis—Red-tailed hawk
Buteo swainsoni—Swainson's hawk
Circus cyaneus—Northern harrier

HERONS AND BITTERNS

***ARDEIDAE*—HERONS, BITTERNS, AND ALLIES**

Ardea herodias—Great blue heron

JAYS, MAGPIES AND CROWS

***CORVIDAE*—CROWS AND JAYS**

Aphelocoma californica—Western scrub-jay
Corvus corax—Common raven

KINGLETS

***REGULIDAE*—KINGLETS**

Regulus calendula—Ruby-crowned kinglet

LARKS

***ALAUDIDAE*—LARKS**

Eremophila alpestris—Horned lark

MOCKINGBIRDS AND THRASHERS

MIM*I*DAE—MOCKINGBIRDS AND THRASHERS

Mimus polyglottos—Northern mockingbird

NEW WORLD QUAIL

***ODONTOPHORIDAE*—NEW WORLD QUAIL**

Callipepla californica—California quail

NEW WORLD VULTURES

***CATHARTIDAE*—CARDINALS AND ALLIES**

Cathartes aura—Turkey vulture

OLD WORLD WARBLERS AND GNATCATCHERS

***SYLVIIDAE*—SYLVIID WARBLERS**

Polioptila caerulea—Blue-gray gnatcatcher

Polioptila melanura—Black-tailed gnatcatcher

OWLS

***STRIGIDAE*—TYPICAL OWLS**

Bubo virginianus—Great horned owl

PIGEONS AND DOVES

***COLUMBIDAE*—PIGEONS AND DOVES**

Streptopelia decaocto—Eurasian collared-dove

Zenaida macroura—Mourning dove

ROADRUNNERS AND CUCKOOS

***CUCULIDAE*—CUCKOOS, ROADRUNNERS, AND ANIS**

Geococcyx californianus—Greater roadrunner

SHOREBIRDS

***CHARADRIIDAE*—LAPWINGS AND PLOVERS**

Charadrius vociferus—Killdeer

SHRIKES

***LANIIDAE*—SHRIKES**

Lanius ludovicianus—Loggerhead shrike

STARLINGS AND ALLIES

***STURNIDAE*—STARLINGS**

* *Sturnus vulgaris*—European starling

SWALLOWS

***HIRUNDINIDAE*—SWALLOWS**

Petrochelidon pyrrhonota—Cliff swallow
Stelgidopteryx serripennis—Northern rough-winged swallow

THRUSHES

***TURDIDAE*—THRUSHES**

Sialia mexicana—Western bluebird

TITMICE

***PARIDAE*—CHICKADEES AND TITMICE**

Baeolophus inornatus—Oak titmouse

WOOD WARBLERS AND ALLIES

***PARULIDAE*—WOOD-WARBLERS**

Oreothlypis celata—Orange-crowned warbler
Oreothlypis ruficapilla—Nashville warbler
Setophaga coronata—Yellow-rumped warbler
Setophaga petechia—Yellow warbler

WOODPECKERS

***PICIDAE*—WOODPECKERS AND ALLIES**

Colaptes auratus—Northern flicker
Melanerpes formicivorus—Acorn woodpecker

WRENS

***TROGLODYTIDAE*—WRENS**

Catherpes mexicanus—Canyon wren
Thryomanes bewickii—Bewick's wren
Troglodytes aedon—House wren

WRENTITS

***TIMALIIDAE*—BABBLERS**

Chamaea fasciata—Wrentit

INVERTEBRATE

BUTTERFLIES

***HESPERIIDAE*—SKIPPERS**

Atalopedes campestris—Sachem
Erynnis brizo—Sleepy duskywing
Erynnis funeralis—Funereal duskywing
Erynnis propertius—Propertius duskywing
Erynnis sp.—duskywing
Erynnis tristis—Mournful duskywing
Heliopetes ericetorum—Northern white-skipper
Hesperia juba—Juba skipper
Ochlodes agricola—Rural skipper
Pholisora catullus—Common sootywing
Polites sabuleti—Sandhill skipper
Pyrgus communis—Checkered skipper

***LYCAENIDAE*—BLUES, HAIRSTREAKS, AND COPPERS**

Atlides halesus—Great purple hairstreak
Brephidium exile—Western pygmy-blue
Callophrys augustinus—Brown elfin
Callophrys perplexus—Perplexing green hairstreak
Celastrina ladon—Spring azure
Euphilotes battoides—Western square-spotted blue
Everes amyntula—Western tailed-blue
Glaucopsyche piasus—Arrowhead blue
Philotes sonorensis—Sonoran blue
Plebejus acmon—Acmon blue
Plebejus lupini—Lupine blue

***NYMPHALIDAE*—BRUSH-FOOTED BUTTERFLIES**

Chlosyne gabbii—Gabb's checkerspot
Danaus plexippus—Monarch
Euphydryas chalcedona—Variable checkerspot
Junonia coenia—Common buckeye
Vanessa annabella—West coast lady
Vanessa atalanta—Red admiral
Vanessa cardui—Painted lady
Vanessa sp.—lady

***PAPILIONIDAE*—SWALLOWTAILS**

Papilio eurymedon—Pale swallowtail
Papilio polyxenes coloro—Desert black swallowtail
Papilio rutulus—Western tiger swallowtail
Papilio sp.—swallowtail

***PIERIDAE*—WHITES AND SULFURS**

Anthocharis cethura—Desert orangetip
Anthocharis sara—Pacific sara orangetip
Anthocharis sp.—orangetip
Colias eurytheme—Orange sulphur
Colias harfordii—Harford's sulphur
Colias philodice—Clouded sulphur
Colias sp.—dogface
Euchloe hyantis lotta—Desert pearly marble
Nathalis iole—Dainty sulphur
Pieris rapae—Cabbage white
Pontia beckerii—Becker's white
Pontia protodice—Checkered white
Pontia sisymbrii—Spring white
Pontia sp.—white

***RIODINIDAE*—METALMARKS**

* *Apodemia mormo*—Mormon metalmark

MOTHS

***SPHINGIDAE*—HAWK MOTHS**

Euproserpinus phaeton—Primrose sphinx moth

***NOCTUIDAE*—OWLET MOTHS**

Autographa californica—Alfalfa looper
Heliothis belladona—no common name
Schinia amarylis—no common name
Schinia aurantiaca—no common name
Stylopoda cephalica—no common name

***CRAMBIDAE*—GRASS MOTHS**

Chrismania pictipennalis—no common name
Loxostege immerens—no common name

***EREBIDAE*—WITCH MOTHS**

Litocola sexsignata—Litocala moth
Drasteria biformata—no common name
Drasteria convergens—no common name
Drasteria divergens—no common name
Drasteria edwardsii—no common name
Drasteria fumosa—no common name
Drasteria ochracae—no common name
Drasteria tejonica—no common name
Leptarctia californica—no common name

MAMMAL

CANIDS

***CANIDAE*—WOLVES AND FOXES**

Canis latrans—Coyote

CATS

***FELIDAE*—CATS**

Lynx rufus—Bobcat
Puma concolor—Cougar

HARES AND RABBITS

***LEPORIDAE*—HARES AND RABBITS**

Lepus californicus bennettii—San Diego black-tailed jackrabbit
Sylvilagus audubonii—Desert cottontail

RATS AND MICE

***MURIDAE*—RATS AND MICE**

Neotoma sp.—woodrat

UNGULATES

***CERVIDAE*—DEERS**

Odocoileus hemionus—Mule deer

REPTILE

LIZARDS

***PHRYNOSOMATIDAE*—IGUANID LIZARDS**

Phrynosoma blainvillii—Blainville's horned lizard
Sceloporus orcutti—Granite spiny lizard

***TEIIDAE*—WHIPTAIL LIZARDS**

Aspidoscelis hyperythra beldingi—Belding's orange-throated whiptail
Aspidoscelis tigris stejnegeri—Coastal whiptail

* Signifies introduced (non-native) species

APPENDIX D

45-Day Quino Checkerspot Butterfly Summary Report (AECOM 2012c)

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February 7, 2012

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

RE: 2011 Rugged Solar Energy Project Quino Checkerspot Butterfly 45-Day Summary Report, Boulevard, California

Dear Ms. Tharatt:

In compliance with the Special Terms and Conditions for Endangered and Threatened Wildlife Species Permit TE-820658-4.6, on behalf of Rugged Solar Farm, LLC, AECOM submits this letter report summarizing the results of focused surveys conducted in 2011 for the federally listed endangered Quino checkerspot butterfly (*Euphydryas editha quino*; Quino) for the Rugged Solar project (Proposed Project or Project) in Boulevard, California. AECOM currently holds an Endangered and Threatened Species Permit issued by the U.S. Fish and Wildlife Service (USFWS) under Section 10(a)(1)(A) of the Federal Endangered Species Act. This permit authorizes AECOM to conduct presence/absence surveys for the Quino and other species.

Project Description

The Proposed Project is a concentrating photovoltaic (CPV) power plant with alternating current (AC) generating capacity of as much as approximately 100 megawatts (MW) AC. The Project will consist of up to approximately 4,375CPV trackers, although the first phase of the Project would be comprised of up to approximately 3,560 trackers grouped into approximately up to 64building blocks with up to 60 trackers and one pair of 630- to 680-kilowatt (kW) inverters each. Each inverter pair is equipped with a small step-up transformer. The AC inverter capacity determines the nameplate capacity of each building block to be 1.26 to 1.36 MW AC. The Project will be constructed on relatively flat to gently sloping land that is currently zoned as agricultural and used for grazing. The Project area is approximately 1.25 miles north of Interstate 8 (I-8), extending roughly 2 miles between Ribbonwood Road and McCain Valley Road. A smaller portion lies east of McCain Valley Road. The Project area lies within the unincorporated area of San Diego County near Boulevard, California (Figures 1, 2). It will interconnect to San Diego Gas & Electric's (SDG&E) local distribution system at the Boulevard Substation via a dedicated or shared 69-kilovolt (kV) tie-line. The Project area totals approximately 888 acres. Portions of the Project area were excluded from the Quino survey area, resulting in approximately 789 acres for the Quino Survey. The details related to acreage exclusion are defined in the survey methodology.

Site Description

The Project area is located in a desert transition zone dominated by chaparral communities, subshrub communities, alkali meadows and seeps, oak woodlands, and wildflower fields.

Elevation within the Project area ranges from approximately 3,500 to 3,670 feet above mean sea level. The Project area has gently sloping hillsides and shallow valleys, with rock outcrops and a few small hills scattered throughout. The 789-acre portion of the Project area surveyed for Quino (the Quino Survey Area) (Figure 3), is located on an active cattle ranch. The vegetation communities found within the Quino Survey Area are listed below. Vegetation was mapped during field surveys using large-plot aerial photographs at a scale of 1 inch = 200 feet. The Holland (1986) classification system for natural communities as modified by Oberbauer et al. (2008) was used for vegetation mapping. The vegetation communities are described below in order of abundance, starting with the most common community. Following the community name is the Holland (1986) classification number in parentheses (i.e., as updated by Oberbauer et al. 2008).

Semi-Desert Chaparral (37400)

Semi-desert chaparral is an open-canopy chaparral community dominated by widely spaced evergreen shrub species within a matrix of subshrubs and succulent desert transition species. This community is more open and is not quite as tall as other chaparral types, and is probably dormant in winter (due to cold temperatures) and in late summer and fall (due to drought) (Holland 1986). Dominant species are scrub oak (*Quercus* x*acutidens*), chamise (*Adenostoma fasciculatum*), holly-leaf cherry (*Prunus illicifolia*), interior flat-topped buckwheat (*Eriogonum fasciculatum* ssp. *polifolium*), foothill buckwheat (*Eriogonum wrightii* var. *membranaceum*), and mountain mahogany (*Cercocarpus betuloides*). Common desert transition species include cholla cactus (*Cylindropuntia californica* var. *parkeri*), Mojave yucca (*Yucca schidigera*), ephedra (*Ephedra californica*), and desert apricot (*Prunus fremontii*).

Alkali Seep (45320)

Alkali seep as defined in Holland (1986) and Oberbauer et al. (2008) is a wetland vegetation type that supports halophytic plant species such as salt grass (*Distichlis spicata*), salt heliotrope (*Heliotropium curassavicum*), Mexican rush (*Juncus mexicanu*s), and alkali sacaton (*Sporobolus airoides*). Within the Quino survey area, this community is consistently dominated by salt grass and salt heliotrope, with presence of the other halophytic species. This community extends throughout the floodplain of Tule Creek, which is generally flat and is subject to extensive cattle and horse grazing.

Big Sagebrush Scrub (35210)

This community is composed of soft-woody shrubs approximately 6 feet tall and is dominated by big sagebrush (*Artemisia tridentata*) with several other associated subshrub and herbaceous species. Big sagebrush scrub can occur on a wide variety of soils and terrain, from rocky well-drained slopes to fine-textured valley soils with a high water table (Holland 1986).

Upper Sonoran Subshrub Scrub (39000)

Upper Sonoran subshrub scrub is a low, open scrub community that is dominated by soft-wooded, summer-dormant, drought-tolerant shrubs. Dominant species include interior flat-topped buckwheat, foothill buckwheat, and interior goldenbush (*Ericameria linearifolia, Ericameria brachylepis*). Inter-shrub spaces are occupied by many annual species, including sun cup (*Camissonia californica*) and California matchweed (*Gutierrezia californica*) (Holland 1986).

Red Shank Chaparral (37300)

Red shank chaparral is similar to chamise chaparral but is generally taller (6.5 to 13 feet) and usually more open. Red shank (*Adenostoma sparsifolium*) is the dominant species and occupies greater than 50% of the vegetative cover. Chamise, scrub oak, and big sagebrush (*Artemisia tridentata*) often occur as co-dominant species. This community is generally restricted to granitic soils, often at higher elevations that have greater precipitation and colder winters. Red shank chaparral occurs in Southern California and is commonly found on interior cismontane slopes (Holland 1986). Other associated species often include Mohave yucca, interior flat-topped buckwheat and foothill buckwheat.

Scrub Oak Chaparral (37900)

Scrub oak chaparral is a dense, tall community that is dominated by scrub oak and, in some areas, Palmer's oak (*Quercus palmeri*), in association with various other chaparral shrub species such as chamise, sugar bush (*Rhus ovata*), silk tassel bush (*Garrya veatchii*), cup-leaf ceanothus (*Ceanothus greggii* var. *perplexens*), and big-berry Manzanita (*Arctostaphylos glauca*). This community occurs on sites that are more mesic than other chaparrals, on soils that are too shallow or xeric for oak woodland communities (Holland 1986).

Chamise Chaparral (37200)

Chamise chaparral is dominated by chamise and generally contains less species diversity than other chaparral communities (Holland 1986). However, several other shrub, subshrub, and herbaceous species are present as co-dominant species on occasion, including scrub oak, interior flat-topped buckwheat, foothill buckwheat, cup-leaf ceanothus, and Mohave yucca.

Nonnative Grassland (42200)

Nonnative grassland generally occurs on fine-textured loam or clay soils that are moist or even waterlogged during the winter rainy season and very dry during the summer and fall. It is characterized by a dense to sparse cover of annual grasses, often with native and nonnative annual forbs (Holland 1986). Typical grasses within the region are cheat grass

(*Bromus tectorum*), ripgut brome (*Bromus diandrus*), red brome (*Bromus madritensis* ssp. *rubens*), soft chess (*Bromus hordeaceus*), wild oats (*Avena* sp.), and rat-tail fescue (*Vulpia myuros*). Nonnative disturbance-related annuals such as filaree (*Erodium* spp.), and short-pod mustard (*Hirschfeldia incana*) are common to this community. Although named as a nonnative community, this community often has significant biological value, since it typically supports native grassland species such as tarweed (*Deinandra* spp.) and California goldfield (*Lasthenia gracilis*), provides foraging habitat for raptors, and often supports other sensitive wildlife species.

Freshwater Seep (45400)

Freshwater seep is a persistent wetland dominated by low-growing, perennial plant species. It occurs in permanently moist or wet soil often associated with grasslands and meadows. This vegetation community is dominated by various wetland plant species, including cluster field sedge (*Carex praegracilis*), rushes (*Juncus* spp.), and yerba mansa (*Anemopsis californica*) (Oberbauer et al. 2008).

Coast Live Oak Woodland (71160)

Coast live oak woodland varies from an open to dense tree community with interior coast live oak (*Quercus agrifolia* var. *oxyadenia*) as the dominant overstory species in the habitat on-site. The shrub understory of these communities may include foothill buckwheat in the more open phase oak woodland, and black elderberry (*Sambucus nigra* spp. *caerulea*) and hybrid scrub oak (*Quercus x acutidens*) in the dense phase (Holland 1986).

Southern Willow Scrub (63320)

Southern willow scrub is a dense, broad-leaved, winter deciduous riparian thicket dominated by several species of willow (*Salix* spp.) in association with mulefat (*Baccharis salicifolia*). Associated species found within this community include mariposa rush (*Juncus dubious*), seep monkeyflower (*Mimulus guttatus*), and hoary nettle (*Urtica dioica-holosericea*), among others. This is an early seral community that requires periodic flooding to prevent succession to riparian forest (Holland 1986).

Wildflower Field (42300)

This community is distributed from montane areas to foothills and valleys of the Californian Floristic Province below about 4,000 to 5,000 feet elevation in San Diego County. The distinguishing feature of wildflower fields is a dominance of native herbaceous species, often with conspicuous displays of annual wildflowers. Dominance varies from site to site and from year to year (Holland 1986). This community type does not apply to desert regions (too dry) or the north coast of California (too wet). Wildflower field is a sensitive habitat because of its unique character and rare occurrence.

Disturbed (11300)

Disturbed areas are those affected by human activities. Vegetation does not usually become reestablished due to frequent disturbances (Holland 1986). Disturbed habitat includes permanent dirt roads and cleared/graded areas surrounding development.

Unvegetated Channel (64200)

This community consists of unvegetated washes that are dominated by sandy substrate and little to no vegetation (Holland 1986). These channels flood with sufficient frequency to exclude vegetation. However, low cover of flood-adapted herbaceous species can be present. Within the Project area, Tecate tarplant (*Deinandra floribunda*), a California Native Plant Society (CNPS) List 1B rare plant species restricted to southern San Diego County and Baja California, was present in some areas of the unvegetated washes.

Background Information

Quino was added to the federal endangered species list by USFWS 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 at least 29 subspecies, each of which has its own range and biological and morphological characteristics. In California, there are at least 18 described subspecies (Emmel 1998). Three other subspecies of *E. editha* are currently known to occur in Southern California. Quino is the southwesternmost subspecies of *E. editha* (Mattoni et al. 1997).

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 semi-desert scrub (Ballmer et al. 2001). Quino is also associated with clay soils that possess cryptogamic crusts and vernal pools (USFWS 2002).

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.), Layia (*Layia glandulosa*), goldenbush (*Ericameria* spp.), pincushion (*Chaenactis* spp.), fiddleneck (*Amsinckia intermedia*), chia (*Salvia columbariae*), and blue dicks (*Dichelostemma capitatum*), 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 (*Antirrhinum* spp.) (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).

An adult female may lay 20 to 75 eggs per cluster and may produce up to 1,200 eggs in her lifetime of a couple weeks. The eggs hatch in approximately 10 days under favorable weather conditions, and 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*), white snapdragon (*Antirrhinum coulterianum*), and southern Chinese houses (*Collinsia concolor*) as their host plants (Pratt 2010). Dark-tip bird's beak (*Cordylanthus rigidus*) and purple owl's clover (*Castilleja exserta*) are considered secondary hosts (USFWS 2002). New evidence suggests that southern Chinese houses is a primary larval food plant for Quino in the 2,953- to 4,265-foot elevation range (Pratt 2010), which is within the range coincident with the Quino survey area.

After feeding and initial growth, the early instar larvae enter an obligatory aestival diapause (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. Quino is known to undergo population fluctuations, with extirpation of local populations and recolonization of new areas characteristic of metapopulation dynamics (Osborne 1998).

Quino was once common in Southern California. It ranged north into Ventura County, west to the Pacific Ocean, east to the desert edge, 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, which is monitored annually by USFWS. The Quino survey area is located in eastern San Diego County, and the Jacumba reference site, approximately 4.5 miles to the southeast, is the closest known population of Quino; therefore, surveys coincided with Quino activity at the Jacumba reference site. During the 2011 flight season, the first adult Quino were observed flying at the Jacumba reference site on March 15 (USFWS 2011).

Survey Methodology

In the Project area which totals 888 acres, approximately 99 acres were excluded from Quino surveys because of lack of suitable habitat, overlap with other project sites, and small modifications made to the Project area after the completion of protocol surveys (Figure 3).

One small feature of unsuitable habitat occurs on the northwestern portion of the site: a pond, which covers 0.17 acre. Two other areas of the Project area were excluded due to overlap with another project. This consisted of a construction yard and a construction corridor totaling 75.41 acres.

After Quino surveys were completed in spring 2011, the Project area boundaries shifted very slightly in some areas. One access route was shifted to a new area off of McCain Valley Road and another access route was expanded. These modifications to the Project footprint study area amount to 24.18 acres and contain similar habitat to the adjacent areas surveyed for Quino. These changes are reflected in Figure 3.

Habitat Assessment

In accordance with the *Survey Protocol for the Endangered Quino Checkerspot Butterfly* (*Euphydryas editha quino*) (USFWS 2002), a habitat assessment of the Project area was conducted on March 25, 2011, prior to the first protocol-level survey by permitted biologists (Table 1). Protocol-level surveys for Quino were determined necessary due to the presence of suitable Quino habitat, known occurrences in the region, and the USFWS recommendation for Quino surveys of the area (USFWS 2005). The Project area occurs within Area 1 of the most up-to-date USFWS Quino Recommended Survey Area Map, where capture of Quino is not allowed (USFWS 2005). Potential habitat surveyed for Quino consists of all habitat types onsite except for open water (cattle ponds), developed areas, and other portions of the Project area excluded from the survey. Results of habitat assessments defined all potentially suitable habitats as the Quino survey area (Figure 3). Closed-canopy chaparral, riparian forest, and oak woodland habitats were included in the Quino survey area because these areas were small and adjacent to open patches of habitat with the potential to support Quino.

Table 1
Permitted Biologists Who Conducted Quino Habitat Assessments

AECOM Permitted Biologists
Erin Bergman
Andrew Fisher
Mike Couffer
Subcontracted Permitted Biologists
Antonette Gutierrez
Steve Rink
Adam Behle

Focused Adult Quino Surveys

The start date for focused adult Quino surveys was determined based on conditions at the Jacumba reference site monitored by USFWS (USFWS 2011). The Jacumba reference site population of Quino uses dotseed plantain (*Plantago erecta*) as a host plant (USFWS 2011). This plant species, widespread on clay soils in western San Diego County, is restricted to basalt-derived clay soils in the vicinity of Jacumba Mountain (Osborne 2011), and is not present in the Project area. The Jacumba reference site is closer to the desert and at a slightly lower elevation than the Quino survey area. Due to higher elevations, the presence of granitic soils, the lack of clay soils, and the absence of dotseed plantain in the Quino Survey Area, any Quino population existing on-site would be expected to exhibit ecology similar to other "high" elevation Quino populations in the vicinity, which are typically associated with southern Chinese houses, white snapdragon, and dark-tip bird's beak host plants. Quino populations of higher elevations tend to fly slightly later in the season than those populations at slightly lower elevations. Based on AECOM biologists' experience with Quino in the region, it is expected that any potential Quino population in the vicinity of the Quino Survey Area will have its flight season beginning 1 or 2 weeks later than the population at the Jacumba reference site.

The first adult Quino observed at the Jacumba reference site was detected on March 15, 2011. However, due to out-of-protocol weather for most of March (mean daytime temperatures were predicted to be below protocol survey guideline temperatures), surveys were not initiated until March 30, 2011. Focused presence/absence Quino surveys within the Quino Survey Area occurred from March 30, 2011, to May 4, 2011. Surveys were conducted by permitted AECOM biologists Erin Bergman, Bonnie Hendricks, Andrew Fisher, and Barbra Calantas. Additional AECOM biologists with independent permits also conducted Quino surveys; Table 2 provides a list of all biologists who conducted surveys and their permit numbers.

Table 2
Survey Personnel and TE Permit Numbers

Biologist	Permit Number
Adam Behle	797999-7.2
Andrew Fisher	820658-4
Antonette Gutierrez	797999-7.2
Barbra Calantas	820658-4
Bonnie Hendricks	820658-4
Erin Bergman	820658-4
Ken Osborne	837760-6
Kyle Ince	797999-7.2
Margaret Mulligan	233291-0
Michael Couffer	782703-8
Steve Rink	797999-7.2

Surveys were conducted during optimal periods for detecting Quino when wind, temperature, and other weather conditions were most favorable. If weather conditions did not meet the USFWS protocol for Quino, biologists waited for the weather conditions to improve before proceeding with surveys. Surveys were terminated if sustained winds were more than 15 miles per hour. The survey routes of each permitted biologist were recorded and mapped electronically using Garmin Global Positioning System (GPS) units. Biologists walked meandering transects through all potentially suitable habitat, scanning the ground, surrounding shrubs, and all nectar sources for Quino. Biologists documented any potential Quino host plant populations, all species of flowering plants (potential nectar sources), and all species of butterflies observed. Potential Quino host plants were mapped and recorded during all habitat assessments and focused adult surveys in increments of 1–10, 11–50, 51–100, 101–500, and 500+ individual plants (Figure 3).

The Quino Survey Area was surveyed initially for 5 weeks, which is the recommended minimum duration for focused Quino presence/absence surveys in the current USFWS survey protocol (USFWS 2002). Surveys were extended an additional survey week within selected portions of the Quino Survey Area because potential Quino host plants (dark-tip bird's beak and southern Chinese houses) were present in these areas or nectar resources remained abundant. Although protocol was satisfied with the 5 weeks of survey effort, in the interest of survey rigor, a sixth week of survey was continued within portions of the Quino survey area considered to have the greatest potential to support Quino. Portions of the Quino Survey Area were excluded from this additional survey effort based on the following factors: increased evidence of heavy cattle grazing, a lack of host plant populations, and sparse nectaring resources. Therefore, approximately 559.63 acres within the Project area were surveyed during survey week 6 (Figure 3).

According to USFWS guidelines, habitat with active/in-use grazing and a lack of native vegetation can be excluded from protocol-level surveys. Evidence of cattle grazing was present during weeks 1 through 5, but these areas were still surveyed for 5 weeks given the presence of native vegetation in spite of active grazing. Table 3 provides the survey week, date, survey team, total number of survey days, and the number of permitted biologist days that surveys were conducted.

Results

No Quino were detected during the habitat assessment or the focused adult Quino surveys. The five most abundant butterflies found in the Project area in order of abundance were the Behr's metalmark (*Apodemia mormo*), Sara orangetip (*Anthocharis sara*), desert pearly marble (*Euchloe hyantis*), common buckeye (*Junonia coenia*), and Acmon blue (*Icaria acmon*). A total of 64 butterfly and various moth species were detected within the survey area, with numbers varying across survey weeks. The total abundance of butterfly species ranged across the six surveys, but was highest during survey weeks 3 through 6.

Table 3
Protocol Quino Survey Schedule

Survey Week	Date	Survey Team	# Calendar Days	# Person Days[1]
1	03/29/11 – 04/01/11	Erin Bergman, Barbra Calantas, Mike Couffer, Andrew Fisher, Bonnie Hendricks, Margie Mulligan	4	12
2	04/04/11 – 04/05/11	Barbra Calantas, Mike Couffer, Andrew Fisher, Bonnie Hendricks, Kyle Ince, Margie Mulligan, Stephen Rink, Adam Behle	2	11
3	04/14/11 – 04/15/11	Erin Bergman, Antonette Gutierrez, Bonnie Hendricks, Kyle Ince, Margie Mulligan, Stephen Rink	2	12
4	04/18/11 – 04/20/11	Erin Bergman, Mike Couffer, Antonette Gutierrez, Bonnie Hendricks, Kyle Ince, Margie Mulligan, Ken Osborne, Stephen Rink	4	10
5	04/25/11 – 05/01/11	Mike Couffer, Antonette Gutierrez, Margie Mulligan, Ken Osborne	4	10
6	05/02/11 – 05/05/11	Erin Bergman, Bonnie Hendricks, Margie Mulligan, Ken Osborne	4	11

[1] The number of person days varied depending on weather conditions, as outlined in the USFWS protocol, and included only permitted biologists.

Generally, potential nectar sources increased in diversity and abundance during survey weeks 3 through 6. A summary of weekly butterfly and moth species observations is included in Appendix A. Survey-specific weather conditions and personnel are presented in Appendix B. Field data collected during protocol surveys is included in Appendix C. A list of potential nectaring sources and host plants detected during each survey week is presented in Appendix D. A list of vertebrate wildlife species detected during Quino surveys is presented in Appendix E.

The Quino Survey Area within the Project area was initially part of a larger survey area that was separated into three separate CPV projects (LanWest Solar Farm LLC, LanEast Solar Farm LLC, and Rugged Solar LLC) after the completion of habitat assessments and Quino surveys. LanWest Solar Farm is located near the Proposed Project (on the western boundary of LanEast) and includes habitat approximately 0.5 mile west of McCain Valley Road immediately south of I-8 and north of Old Highway 80. LanEast Solar Farm is located on both sides of McCain Valley Road immediately south of I-8, but not extending all the way south to Old Highway 80. Rugged Solar Farm includes land beginning about one mile north of I-8 and on both sides of McCain Valley Road. All three project sites were surveyed at the same time for Quino (when the sites were considered one large project). Therefore, to provide additional data, some of the appendices include combined data from the now three differentiated projects. Appendix D is the same for all three project sites.

During spring 2011, rare plant surveys were ongoing and concurrent with focused Quino surveys for the Project. Botanists Bonnie Hendricks, Erin Bergman, Fred Sproul, Kyle Harper, Lance Woolley, Margaret Mulligan, John Messina, and Kyle Ince conducted rare plant surveys across 100% of the Quino Survey Area. Botanists mapped all potential Quino larval host plants observed while completing rare plant surveys. All potential host plants that were detected within the Quino Survey Area, including observations made by Quino surveyors during protocol surveys and by botanists during rare plant surveys within the same time frame as the Quino protocol surveys, are provided in Figure 3.

Two potential Quino host plant species were detected within the Quino Survey Area: dark-tip bird's beak and southern Chinese houses (Figure 3). Southern Chinese houses was most abundant in the chaparral communities on gently sloping terrain in the central portion of the Project area. A population of approximately 5,000 individuals was observed in flower during the fifth week of surveys. Chinese houses were starting to set seed in the sixth week of surveys.

Dark-tip bird's beak was observed in small numbers scattered across the Project area. This species was present as a small basal rosette and/or diminutive immature plant in April. Dark-tip bird's beak did not fully mature and bloom on-site until July. The basal rosettes were first observed during the second week of surveys.

Discussion

No Quino were found within the Quino Survey Area, despite the presence of several small discontiguous populations of potential Quino host plants, including southern Chinese houses and dark-tip bird's beak (Figure 3). One relatively larger population of Chinese houses including several thousand individuals was located in the central area of the project site in redshank chaparral. No dot-seed plantain was found within the Quino survey area.

Due to above-average rainfall during the 2010/2011 wet season, host plant population growth, as exhibited at several other locations in the general vicinity of the Project area, was not limited by rainfall (NOAA 2011). Given the ample winter precipitation, abundant wildflowers, springtime butterflies and moths, well coordinated timing of the survey relative to activity of local Quino populations, and extensive experience of the survey biologists, AECOM is confident that the negative survey results for Quino are valid on all portions of the Quino Survey Area.

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

Sincerely,

Andrew Fisher
Wildlife Biologist

Attachments:
- Figure 1 – Regional Map
- Figure 2 – Vicinity Map
- Figure 3 – Quino Habitat Assessment and Larval Host Plants Map
- Appendix A – Summary of Weekly Butterfly and Moth Species Observations During Quino Surveys
- Appendix B – Daily Weather Conditions During Quino Surveys
- Appendix C – Field Data Collected During Quino Surveys
- Appendix D – Potential Nectaring Sources and Host Plants Detected During Quino Surveys
- Appendix E – Vertebrate Wildlife Species Detected During Quino Surveys

11280175 QCB 45-day Draft Rpt

Certification

Qualified biologists who conducted Quino surveys for the proposed Rugged Solar LLC project certify that the information in this survey report fully and accurately represents the work performed. Signatures of permitted biologists, as listed in Table 1, who conducted protocol surveys (March 29, 2011, through May 5, 2011) are included below. The results of focused surveys for listed species are typically considered valid for 1 year by the resource agencies.

Erin Bergman AECOM Biologist	Adam Behle Subcontracted Biologist	Barbra Calantas AECOM Biologist
Michael Couffer AECOM Biologist	Andrew Fisher AECOM Biologist	Antonette Gutierrez Subcontracted Biologist
Bonnie Hendricks AECOM Biologist	Kyle Ince Subcontracted Biologist	Margaret Mulligan AECOM Biologist
Ken Osborne AECOM Biologist	Erin Riley AECOM Biologist	Steve Rink Subcontracted Biologist

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FIGURES

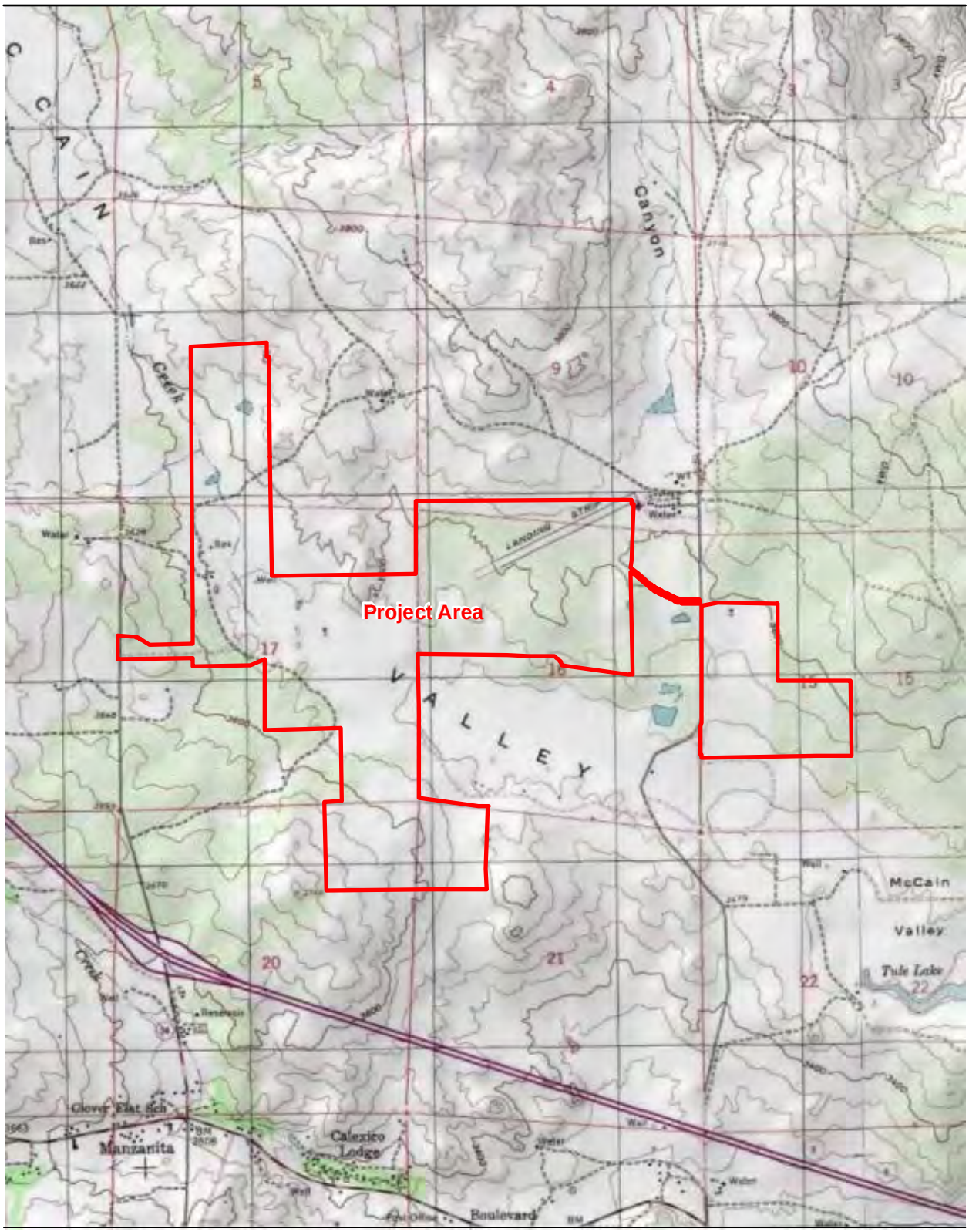
Source: Soitec 2011; AECOM 2011; ESRI 2011

5 2.5 0 5 Miles

Scale: 1 = 316,800; 1 inch = 5 mile(s)

Figure 1
Regional Map

Path: P:\2011\11280175.01_Concentrix_S\06GIS\6.3_Layout\QCB_45DayReport\RuggedSolar\RegionalMap.mxd, 11/29/2011, johnsonaa



Source: Soitec; ESRI; AECOM 2011

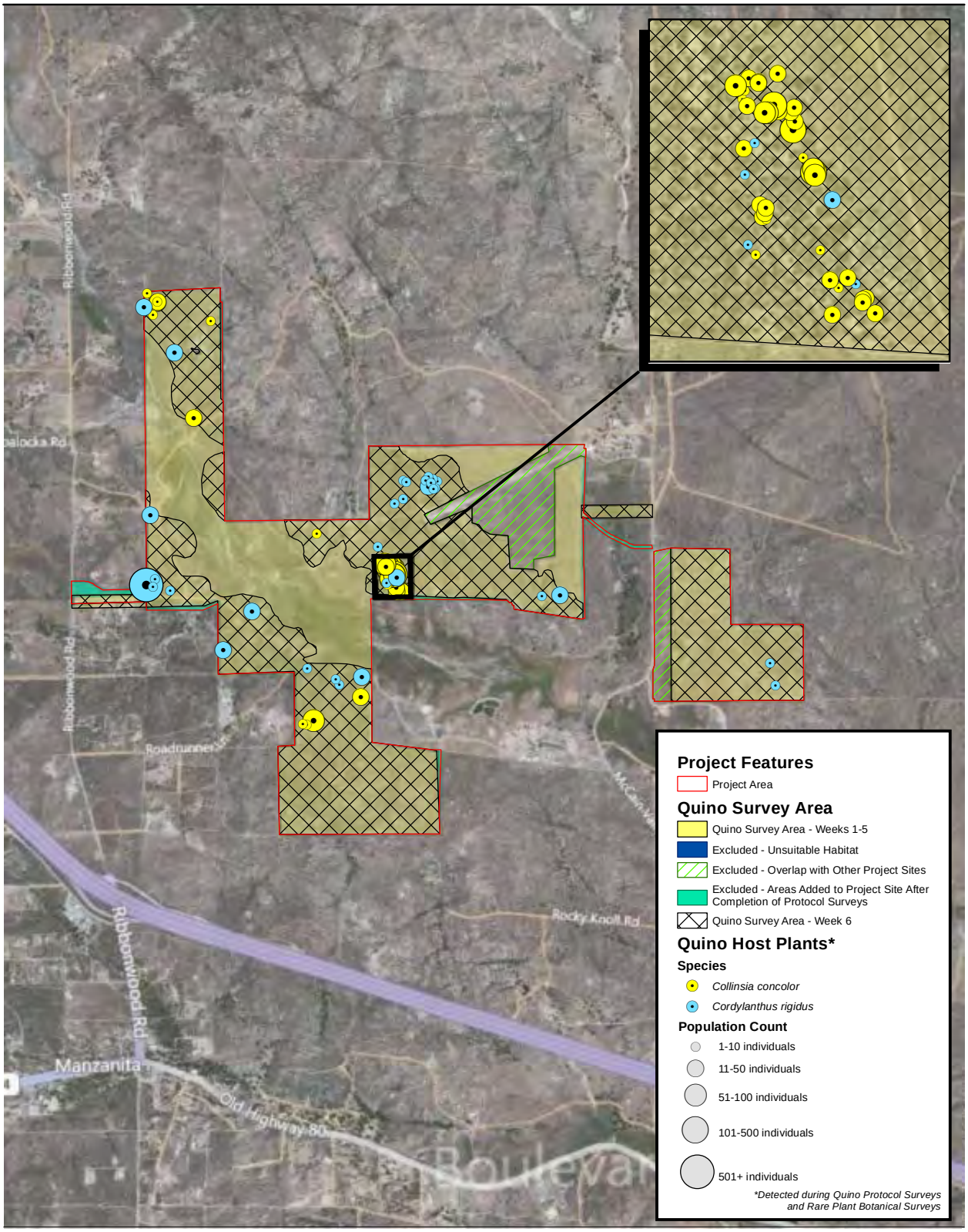
Live Oak Springs and Jacumba USGS Quadrangles, San Diego County

0.5 0.25 0 0.5 Miles

1:31,680 1 inch = 0.5 mile(s)

Figure 2
Vicinity Map

Path: P:\2011\11280175.01_Concentrix_S\06GIS\6.3_Layout\QCB_45DayReport\RuggedSolar\VicinityMap.mxd, 11/29/2011, steinb



Source: Soitec; ESRI; AECOM 2011

0.5 0.25 0 0.5 Miles

1:31,680 1 inch = 0.5 mile(s)

Figure 3
Quino Habitat Assessment and Larval Host Plants Map

Path: P:\2011\11280175.01_Concentrix_S\06GIS\6.3_Layout\QCB_45DayReport\RuggedSolar\QCBMap.mxd, 1/4/2012, johnsonaa

APPENDIX A
SUMMARY OF WEEKLY BUTTERFLY AND MOTH SPECIES OBSERVATIONS DURING QUINO SURVEYS

APPENDIX A
SUMMARY OF WEEKLY BUTTERFLY AND MOTH SPECIES OBSERVATIONS DURING QUINO SURVEYS

	Survey Week 1	Survey Week 2	Survey Week 3	Survey Week 4	Survey Week 5	Survey Week 6	TOTAL
Nymphalidae (Brushfooted Butterflies)							
Chlosyne gabbii (Gabb's checkerspot)	0	1	0	0	1	1	3
Euphydryas chalcedona (Henne's checkerspot)	2	0	0	0	2	2	6
Junonia coenia (common buckeye)	0	3	39	61	55	45	203
Vanessa annabella (west coast lady)	1	0	2	1	0	0	4
Vanessa atalanta (red admiral)	0	0	0	0	2	1	3
Vanessa cardui (painted lady)	3	4	2	0	3	0	12
Vanessa sp. (lady sp.)	2	5	2	0	0	0	9
Danaidae (Milkweed Butterflies)							
Danaus plexippus (monarch)	0	0	0	0	0	1	1
Pieridae (Whites, Sulphurs)							
Anthocaris sp. (orangetip sp.)	0	9	0	0	0	0	9
Anthocharis cethura (Felder's orangetip)	3	2	0	0	0	0	5
Anthocharis sara (Sara orangetip)	59	78	51	17	10	4	219
Colias eurytheme (Orange sulphur)	7	0	1	7	5	30	50
Colias harfordii (Harford's sulphur)	5	3	6	7	11	54	86
Colias sp. (sulphur sp.)	3	3	4	4	0	0	14
Euchloe hyantis (desert pearly marble)	98	69	25	5	7	0	204
Nathalis iole (dainty sulphur)	3	0	2	0	1	18	24
Pieris rapae (cabbage white)	0	2	0	0	0	0	2
Pontia beckerii (Beker's white)	0	5	2	3	4	1	15
Pontia protodice (common white)	9	16	9	34	22	57	147
Pontia sisymbrii (spring white)	5	0	0	3	1	0	9
Pontia sp. (white sp.)	11	4	0	0	0	0	15
Papilionidae (Swallowtails)							
Papilio eurymedon (pale swallowtail)	0	1	3	1	1	4	10
Papilio polyxenes (desert black swallowtail)	1	1	1	0	0	0	3
Papilio rutulus (western tiger swallowtail)	0	0	0	0	3	0	3
Papilo sp. (swallowtail sp.)	0	1	0	0	0	0	1
Riodiniade (Metalmarks)							
Apodemia mormo (Behr's metalmark)	365	574	679	684	940	439	3,681
Lycaenidae (Hairstreaks and Blues)							
Atlides halesus (great purple hairstreak)	0	0	0	0	2	0	2
Brephidium exile (western pygmy blue)	0	0	0	0	0	2	2
Callophrys augustinus (brown elfin)	4	0	1	2	4	0	11
Callophrys dumetorum (perplexing green hairstreak)	55	20	10	4	1	1	91
Euphilotes battoides	0	0	0	0	0	12	12
Everes amyntula (western-tailed blue)	1	4	5	1	7	32	50
Glaucopsyche lygdamus (southern blue/silvery blue)	0	2	0	0	5	2	9
Glaucopsyche piasus	0	0	0	0	1	0	1
Icaria acmon (acmon blue)	28	52	17	9	25	46	177
Philotes sonorensis (sonoran blue)	0	0	0	2	0	0	2
Plebejus lupine	0	0	0	0	3	3	6

	Survey Week 1	Survey Week 2	Survey Week 3	Survey Week 4	Survey Week 5	Survey Week 6	TOTAL
Hesperiidae (Skippers)							
Atalopedes campestris (sachem)	0	5	0	0	0	0	5
Erynnis brizo (sleepy duskywing)	6	3	1	2	2	4	18
Erynnis funeralis (funereal duskywing)	5	8	3	0	3	0	19
Erynnis propertius (propertius duskywing)	6	14	10	11	12	10	63
Erynnis sp. (duskywing sp.)	12	9	2	1	0	0	24
Erynnis tristis (sad duskywing)	1	1	1	1	4	0	8
Heliopetes ericetorum (northern white skipper)	0	0	0	0	2	2	4
Hesperia juba (juba skipper)	0	2	6	10	8	29	55
Ochlodes agricola	0	0	0	0	1	0	1
Philosora catullus (common sootywing)	0	9	19	14	10	8	60
Polites sabuleti (sandhill skipper)	0	0	1	45	58	23	127
Pyrgus communis (checkered skipper)	0	0	0	1	0	0	1
Moths							
Autographa californica	0	0	1	0	0	0	1
Drasteria biformata	0	0	1	0	0	0	1
Drasteria convergens	0	0	0	0	1	0	1
Drasteria divergens	0	0	1	0	0	0	1
Drasteria fumosa	0	0	1	0	0	0	1
Drasteria ochracae	0	0	0	0	1	3	4
Drasteria tejonica	3	0	0	3	0	0	6
Heliothis belladona	0	0	2	0	0	0	2
Kodiosoma fulva	0	0	0	0	3	1	4
Leptarctia californica	0	0	0	2	0	0	2
Litocola sexsignata	16	1	0	0	0	0	17
Schinia aurantiaca	0	0	0	1	6	3	10
Stylopoda cephalica	0	0	0	0	4	0	4
Unknown moth	0	0	4	2	0	0	6

APPENDIX B
DAILY WEATHER CONDITIONS
DURING QUINO SURVEYS

APPENDIX B
DAILY WEATHER CONDITIONS DURING QUINO SURVEYS

Date	Survey Week	Personnel	Time	Temperature (°F)	Wind Speed range (mph)	Cloud Cover (%)	General Sky Condition
3/29/2011	1	Erin Bergman	0945	68.9	1.4-3.8	0	clear
3/29/2011	1	Erin Bergman	1045	70.1	1.9-2.6	0	clear
3/29/2011	1	Erin Bergman	1145	71.8	1.0-2.6	0	clear
3/29/2011	1	Erin Bergman	1245	76.9	1.9-2.3	0	clear
3/29/2011	1	Erin Bergman	1345	70.0	0.8-2.5	0	clear
3/29/2011	1	Erin Bergman	1445	69.0	0.8-2.5	0	patchy
3/29/2011	1	Erin Bergman	1600	68.0	0.8-2.5	80	patchy
3/29/2011	1	Andrew Fisher	0920	64	1–2 W	0	clear
3/29/2011	1	Andrew Fisher	1130	68	2–3 W	0	clear
3/29/2011	1	Andrew Fisher	1430	73	3 W	5	clear
3/29/2011	1	Andrew Fisher	1530	75	2–3 W	65	patchy
3/29/2011	1	Bonnie Hendricks	0900	66	3.6-7.5	0	clear
3/29/2011	1	Bonnie Hendricks	1000	68	2.7-3.9	0	clear
3/29/2011	1	Bonnie Hendricks	1100	67	1.4-6.0	0	clear
3/29/2011	1	Bonnie Hendricks	1220	71	2.4-7.0	0	clear
3/29/2011	1	Bonnie Hendricks	1345	70	1.9-3	0	clear
3/29/2011	1	Bonnie Hendricks	1500	74	2.4-4.2	50	patchy
3/29/2011	1	Bonnie Hendricks	1600	68	1.2-3.5	80	overcast
3/29/2011	1	Margie Mulligan	0910	68	1–3	0	clear
3/29/2011	1	Margie Mulligan	1200	70	2–3	2	clear
3/29/2011	1	Margie Mulligan	1410	70	1–3	5	clear
3/30/2011	1	Erin Bergman	0930	63	1.5	15	clear
3/30/2011	1	Erin Bergman	1250	72	1.5	0	clear
3/30/2011	1	Erin Bergman	1430	73	6–8	0	clear
3/30/2011	1	Barbra Calantas	0840	64.2	1.5-3.0	0	clear
3/30/2011	1	Barbra Calantas	0940	67.1	2.8-3.5	5	clear
3/30/2011	1	Barbra Calantas	1040	68.5	4.3-5.5	2	clear
3/30/2011	1	Barbra Calantas	1140	71.7	4.5-4.6	2	clear
3/30/2011	1	Barbra Calantas	1240	72.1	10.4-15.1	2	clear
3/30/2011	1	Barbra Calantas	1330	72.0	6.3-8.9	2	clear
3/30/2011	1	Bonnie Hendricks	0850	63.7	1.5-4.3	15	clear
3/30/2011	1	Bonnie Hendricks	1000	69.1	7.1-11.4	2	clear
3/30/2011	1	Bonnie Hendricks	1230	72.1	8.6-13.4	1	clear
3/30/2011	1	Bonnie Hendricks	1330	73.2	6.7-12.2	5	clear
3/30/2011	1	Bonnie Hendricks	1430	75.8	3.2-6	60	patchy
3/30/2011	1	Bonnie Hendricks	1600	75.2	1.3-2.6	80	patchy
3/31/2011	1	Andrew Fisher	1300	85	2–3 W	0	clear
3/31/2011	1	Andrew Fisher	1500	81	2–3 W	0	clear
3/31/2011	1	Andrew Fisher	1726	81	1–2 W	0	clear
4/1/2011	1	Mike Couffer	0830	81	0	0	clear
4/1/2011	1	Mike Couffer	0900	83	0–1	0	clear
4/1/2011	1	Mike Couffer	1000	85	0–3	0	clear
4/1/2011	1	Mike Couffer	1100	85	0–3	0	clear
4/1/2011	1	Mike Couffer	1200	87	1–5	0	clear
4/1/2011	1	Mike Couffer	1300	86	1–4	0	clear
4/1/2011	1	Mike Couffer	1400	86	0	0	clear
4/1/2011	1	Andrew Fisher	0837	75.5	0	0	clear
4/1/2011	1	Andrew Fisher	1347	88	0	0	clear
4/4/2011	2	Adam Behle	0900	62	2-10	0	clear
4/4/2011	2	Adam Behle	1200	73	2-9	0	clear
4/4/2011	2	Adam Behle	1520	-	2-6	0	clear
4/4/2011	2	Erin Bergman	0900	61	1–3	0	clear
4/4/2011	2	Erin Bergman	1100	70	1–5	0	clear

Date	Survey Week	Personnel	Time	Temperature (°F)	Wind Speed range (mph)	Cloud Cover (%)	General Sky Condition
4/4/2011	2	Erin Bergman	1200	69	1–3	0	clear
4/4/2011	2	Erin Bergman	1300	68	1–6	0	clear
4/4/2011	2	Erin Bergman	1400	72	2–6	0	clear
4/4/2011	2	Erin Bergman	1600	73	2–7	0	clear
4/4/2011	2	Margie Mulligan	0915	60	5–8	0	clear
4/4/2011	2	Margie Mulligan	1030	64	2–4	0	clear
4/4/2011	2	Margie Mulligan	1300	71	2–5	0	clear
4/4/2011	2	Margie Mulligan	1420	74	3–6	0	clear
4/4/2011	2	Margie Mulligan	1600	76	3–5	0	clear
4/5/2011	2	Barbra Calantas	0900	60.8	0.7-2.3	12 haze	clear
4/5/2011	2	Barbra Calantas	1000	70.5	1.9–3.7	15 haze	clear
4/5/2011	2	Barbra Calantas	1100	72.3	1.9-2.8	25 haze	clear
4/5/2011	2	Barbra Calantas	1200	79.1	1.1-5.0	40 haze	clear
4/5/2011	2	Barbra Calantas	1300	78.4	1.0-5.4	70 haze	patchy
4/5/2011	2	Mike Couffer	0830	68	0	high clouds	clear
4/5/2011	2	Mike Couffer	0900	70	0–1	high clouds	clear
4/5/2011	2	Mike Couffer	1000	73	0–2	high clouds	clear
4/5/2011	2	Mike Couffer	1100	75	0–4	high clouds	clear
4/5/2011	2	Mike Couffer	1200	77	0–4	high clouds	clear
4/5/2011	2	Mike Couffer	1300	77	2–7	30	patchy
4/5/2011	2	Mike Couffer	1400	79	2–6	50	overcast
4/5/2011	2	Andrew Fisher	1220	80	3–4	50	patchy
4/5/2011	2	Andrew Fisher	1400	78	4-10.0	80	patchy
4/5/2011	2	Andrew Fisher	1515	72	5-10.0	85	patchy
4/5/2011	2	Bonnie Hendricks	0900	69.4	2.2-5.5	10	clear
4/5/2011	2	Bonnie Hendricks	1050	81.2	1.8-3.3	40	clear
4/5/2011	2	Bonnie Hendricks	1130	83.5	2.1-4.5	30	clear
4/5/2011	2	Bonnie Hendricks	1250	76.8	3.2-7.8	50	patchy
4/5/2011	2	Bonnie Hendricks	1320	73.5	5.6-8.7	75	patchy
4/5/2011	2	Bonnie Hendricks	1430	80.6	5.3-8.5	75	patchy
4/5/2011	2	Bonnie Hendricks	1600	72.7	4.1-7.2	80	overcast
4/5/2011	2	Kyle Ince	0915	66	2-3	5	clear
4/5/2011	2	Kyle Ince	1020	66	2-5	10	clear
4/5/2011	2	Kyle Ince	1130	80	5-10	15	patchy
4/5/2011	2	Kyle Ince	1300	76	2-8	25	patchy
4/5/2011	2	Kyle Ince	1430	74	2-8	50	patchy
4/5/2011	2	Kyle Ince	1500	-	5-8	75	overcast
4/5/2011	2	Margie Mulligan	0915	68	2–5	35	patchy
4/5/2011	2	Margie Mulligan	1115	72	3–6	35	patchy
4/5/2011	2	Margie Mulligan	1300	74	3–6	55	patchy
4/5/2011	2	Margie Mulligan	1400	77	6–8	65	patchy
4/5/2011	2	Steve Rink	0800	61	1-2	15	patchy
4/5/2011	2	Steve Rink	1021	70	5-3	15	patchy
4/5/2011	2	Steve Rink	1205	72	5-7	15	patchy
4/5/2011	2	Steve Rink	1420	72	7-12	15	patchy
4/5/2011	2	Steve Rink	1520	70	7-12	15	patchy
4/14/2011	3	Erin Bergman	0900	60	0–3	0	clear
4/14/2011	3	Erin Bergman	1000	63	0–3	0	clear
4/14/2011	3	Erin Bergman	1100	66	0–3	0	clear
4/14/2011	3	Erin Bergman	1200	68	0–3	0	clear
4/14/2011	3	Erin Bergman	1300	72	0–3	0	clear
4/14/2011	3	Erin Bergman	1400	73	0–3	0	clear

Date	Survey Week	Personnel	Time	Temperature (°F)	Wind Speed range (mph)	Cloud Cover (%)	General Sky Condition
4/14/2011	3	Antonette Gutierrez	1000	60	3.2–6	0	clear
4/14/2011	3	Antonette Gutierrez	1100	60	3.2-6	0	clear
4/14/2011	3	Antonette Gutierrez	1200	62	3-8	0	clear
4/14/2011	3	Antonette Gutierrez	1300	62	2-6	0	clear
4/14/2011	3	Antonette Gutierrez	1400	64	2-6	0	clear
4/14/2011	3	Antonette Gutierrez	1500	64	2-6	0	clear
4/14/2011	3	Antonette Gutierrez	1600	64	2-6	0	clear
4/14/2011	3	Bonnie Hendricks	1115	70.6	2.6-5.6	0	clear
4/14/2011	3	Bonnie Hendricks	1200	70.2	3.2-5.9	0	clear
4/14/2011	3	Bonnie Hendricks	1305	67.1	5.3-9.5	0	clear
4/14/2011	3	Bonnie Hendricks	1400	71.5	4.1-7.2	0	clear
4/14/2011	3	Bonnie Hendricks	1500	70.2	4.3-6.4	0	clear
4/14/2011	3	Bonnie Hendricks	1610	69.0	2.9-5.7	0	clear
4/14/2011	3	Kyle Ince	1000	61	2	2	clear
4/14/2011	3	Kyle Ince	1115	65	2	2	clear
4/14/2011	3	Kyle Ince	1230	68	2	0	clear
4/14/2011	3	Kyle Ince	1340	70	2	0	clear
4/14/2011	3	Kyle Ince	1430	70	2	0	clear
4/14/2011	3	Kyle Ince	1545	70	3	0	clear
4/14/2011	3	Margie Mulligan	0845	60	1–5	2	clear
4/14/2011	3	Margie Mulligan	1130	64	3–8	5	clear
4/14/2011	3	Margie Mulligan	1420	68	3–5	5	clear
4/14/2011	3	Margie Mulligan	1600	68	2–5	5	clear
4/14/2011	3	Steve Rink	1000	60	3.2-6	0	clear
4/14/2011	3	Steve Rink	1200	63	1.7-5	0	clear
4/14/2011	3	Steve Rink	1400	64	3-7	0	clear
4/14/2011	3	Steve Rink	1602	63	3-5	0	clear
4/15/2011	3	Mike Couffer	1100	65	4–10	0	clear
4/15/2011	3	Mike Couffer	1200	69	4–10	0	clear
4/15/2011	3	Mike Couffer	1300	72	2–7	0	clear
4/15/2011	3	Mike Couffer	1330	73	1–6	0	clear
4/15/2011	3	Mike Couffer	1400	73	1–4	0	clear
4/15/2011	3	Mike Couffer	1500	74	1–3	0	clear
4/15/2011	3	Mike Couffer	1600	76	0–3	0	clear
4/15/2011	3	Antonette Gutierrez	0930	64	6.2-10	0	clear
4/15/2011	3	Antonette Gutierrez	1030	68	6.4-12	0	clear
4/15/2011	3	Antonette Gutierrez	1130	70	6.4-12	0	clear
4/15/2011	3	Antonette Gutierrez	1230	72	6-12	0	clear
4/15/2011	3	Antonette Gutierrez	1330	74	6.2-12	0	clear
4/15/2011	3	Antonette Gutierrez	1430	74	3.2-8	0	clear
4/15/2011	3	Antonette Gutierrez	1530	74	3.2-6	0	clear
4/15/2011	3	Margie Mulligan	0930	64	2–7	0	clear
4/15/2011	3	Margie Mulligan	1242	73	3–7	0	clear
4/15/2011	3	Margie Mulligan	1520	76	2–5	0	clear
4/15/2011	3	Ken Osborne	1030	69	5.2-7.4	0	clear
4/15/2011	3	Ken Osborne	1145	67	5.7-12.9	0	clear
4/15/2011	3	Ken Osborne	1345	77	5-10	0	clear
4/15/2011	3	Ken Osborne	1600	74	4-6	0	clear
4/15/2011	3	Erin Bergman	1000	60	1–2	0	clear
4/15/2011	3	Erin Bergman	1200	63	1–2	0	clear
4/15/2011	3	Erin Bergman	1400	64	1–2	0	clear
4/15/2011	3	Erin Bergman	1602	63	1–2	0	clear
4/18/2011	4	Erin Bergman	1100	62	1–2	0	clear
4/18/2011	4	Erin Bergman	1400	60	0	0	clear
4/18/2011	4	Antonette Gutierrez	1100	60	1.6-9.2	70	patchy
4/18/2011	4	Antonette Gutierrez	1200	65	3-9.2	15	clear

Date	Survey Week	Personnel	Time	Temperature (°F)	Wind Speed range (mph)	Cloud Cover (%)	General Sky Condition
4/18/2011	4	Antonette Gutierrez	1300	64	6-13	40	patchy
4/18/2011	4	Antonette Gutierrez	1400	60	9-20	75	patchy
4/18/2011	4	Antonette Gutierrez	1420	60	9-20	75	patchy
4/19/2011	4	Mike Couffer	1030	64	5–11	0	clear
4/19/2011	4	Mike Couffer	1100	66	2–6	0	clear
4/19/2011	4	Mike Couffer	1200	70	3–12	0	clear
4/19/2011	4	Mike Couffer	1300	70	2–7	0	clear
4/19/2011	4	Mike Couffer	1400	72	3–11	0	clear
4/19/2011	4	Mike Couffer	1500	73	2–8	0	clear
4/19/2011	4	Margie Mulligan	1030	62	4–11	10	clear
4/19/2011	4	Margie Mulligan	1230	73	6–15	10	clear
4/19/2011	4	Margie Mulligan	1345	63	5–13	5	clear
4/19/2011	4	Margie Mulligan	1600	69	3–6	5	clear
4/19/2011	4	Ken Osborne	1030	69	3-9.5	0	clear
4/19/2011	4	Ken Osborne	1148	71	2.4–8.8	0	clear
4/19/2011	4	Ken Osborne	1432	69	7.4-10	0	clear
4/19/2011	4	Ken Osborne	1600	69	2.5-6.8	0	clear
4/19/2011	4	Steve Rink	1015	63	7-3.5	2–5	patchy
4/19/2011	4	Steve Rink	1210	65	12-6.2	2–5	patchy
4/19/2011	4	Steve Rink	1300	67	16.5-6.5	0	clear
4/19/2011	4	Steve Rink	1545	67	15.8-5.2	0	clear
4/20/2011	4	Mike Couffer	1200	73	7–16	0	clear
4/20/2011	4	Mike Couffer	1300	72	5–11	0	clear
4/20/2011	4	Mike Couffer	1400	71	3–17	0	clear
4/20/2011	4	Mike Couffer	1500	70	10–13	0	clear
4/20/2011	4	Mike Couffer	1600	70	7–12	0	clear
4/20/2011	4	Ken Osborne	0900	63	2-3	0	clear
4/20/2011	4	Ken Osborne	1040	68	2.5-4.9	0	clear
4/20/2011	4	Steve Rink	0938	62	2-7	2–5	patchy
4/20/2011	4	Steve Rink	1105	63	6.2-2.5	2–5	patchy
4/20/2011	4	Steve Rink	1235	64	7.2-16.5	2–5	patchy
4/20/2011	4	Steve Rink	1417	65	12.9-20.8	1–2	clear
4/20/2011	4	Steve Rink	1556	67	9.6-16.8	0	clear
4/21/2011	4	Barbra Calantas	1045	64	6.2-17	5	clear
4/21/2011	4	Barbra Calantas	1145	66.2	5.3-13.8	5	clear
4/21/2011	4	Barbra Calantas	1245	66.8	3.8-9.2	5	clear
4/21/2011	4	Barbra Calantas	1345	67.2	3.9-8.2	10	clear
4/21/2011	4	Barbra Calantas	1445	66.7	10.1-13.8	10	clear
4/21/2011	4	Barbra Calantas	1530	67.1	2.1-8.8	15	clear
4/25/2011	5	Mike Couffer	0900	67	0	0	clear
4/25/2011	5	Mike Couffer	1000	72	0–1	0	clear
4/25/2011	5	Mike Couffer	1100	76	0	0	clear
4/25/2011	5	Mike Couffer	1200	76	3–9	0	clear
4/25/2011	5	Mike Couffer	1300	76	2–9	0	clear
4/25/2011	5	Mike Couffer	1400	76	4–8	0	clear
4/25/2011	5	Mike Couffer	1500	76	4–12	0	clear
4/25/2011	5	Antonette Gutierrez	0900	62	0	15	clear
4/25/2011	5	Antonette Gutierrez	1000	70	0-2.1	15	clear
4/25/2011	5	Antonette Gutierrez	1100	74	0-16.1	15	clear
4/25/2011	5	Antonette Gutierrez	1200	76	2.1-7	15	clear
4/25/2011	5	Antonette Gutierrez	1300	76	6-13	15	clear
4/25/2011	5	Antonette Gutierrez	1400	76	6-13	15	clear
4/25/2011	5	Antonette Gutierrez	1530	74	9.7-15	15	clear
4/25/2011	5	Margie Mulligan	0910	66	1–3	10	clear
4/25/2011	5	Margie Mulligan	1200	74	4–8	10	clear
4/25/2011	5	Margie Mulligan	1530	77	4–9	15	clear

Date	Survey Week	Personnel	Time	Temperature (°F)	Wind Speed range (mph)	Cloud Cover (%)	General Sky Condition
4/25/2011	5	Ken Osborne	0935	73	2-4	0	clear
4/25/2011	5	Ken Osborne	1100	75	calm	0	clear
4/25/2011	5	Ken Osborne	1400	73	7-14.8	0	clear
4/25/2011	5	Ken Osborne	1545	73	10.3-20.9	0	clear
4/25/2011	5	Ken Osborne	1605	73	10.3-20.9	0	clear
4/26/2011	5	Ken Osborne	0935	64	3-5	0	clear
4/26/2011	5	Ken Osborne	1045	67	4-7	0	clear
4/26/2011	5	Ken Osborne	1200	70	1-8	0	clear
4/26/2011	5	Ken Osborne	1345	71	2-5	0	clear
4/26/2011	5	Ken Osborne	1410	72	3.6-5	0	clear
4/26/2011	5	Antonette Gutierrez	0900	62	1.8-6	0	clear
4/26/2011	5	Antonette Gutierrez	1100	71	1.1-5	0	clear
4/26/2011	5	Antonette Gutierrez	1200	75	0-5	0	clear
4/26/2011	5	Antonette Gutierrez	1315	78	2.1-3.6	0	clear
4/26/2011	5	Antonette Gutierrez	1330	76	2.1-8	0	clear
4/26/2011	5	Antonette Gutierrez	1450	76	1.9-7.8	0	clear
4/26/2011	5	Mike Couffer	0900	61	0–1	0	clear
4/26/2011	5	Mike Couffer	1000	68	0–5	0	clear
4/26/2011	5	Mike Couffer	1100	74	0–3	0	clear
4/26/2011	5	Mike Couffer	1200	73	0–7	0	clear
4/26/2011	5	Mike Couffer	1230	76	0–3	0	clear
4/26/2011	5	Mike Couffer	1300	77	0	0	clear
4/26/2011	5	Mike Couffer	1400	80	0–1	0	clear
4/26/2011	5	Mike Couffer	1500	78	2–6	0	clear
4/27/2011	5	Ken Osborne	0834	63	1.5-3	0	clear
4/27/2011	5	Ken Osborne	0930	71	3-6	0	clear
4/27/2011	5	Ken Osborne	1115	75	5-12	0	clear
4/27/2011	5	Ken Osborne	1415	72	6-9	0	clear
4/27/2011	5	Ken Osborne	1500	71	1.8-5	0	clear
4/27/2011	5	Ken Osborne	1600	72	calm	0	clear
4/27/2011	5	Erin Bergman	0830	70	1–4	0	clear
4/27/2011	5	Erin Bergman	0900	72	1–4	0	clear
4/27/2011	5	Erin Bergman	1000	73	1–4	0	clear
4/27/2011	5	Erin Bergman	1100	73	1–4	0	clear
4/27/2011	5	Erin Bergman	1200	77	1–4	0	clear
4/27/2011	5	Erin Bergman	1600	74	1–4	0	clear
5/1/2011	5	Ken Osborne	0930	56	7-14	0	clear
5/1/2011	5	Ken Osborne	1030	62	8-15	0	clear
5/1/2011	5	Ken Osborne	1200	61	8-14	0	clear
5/2/2011	6	Bonnie Hendricks/ Ken Osborne	1050	67	7.2-14.9	0	clear
5/2/2011	6	Bonnie Hendricks/ Ken Osborne	1200	65	8-12	0	clear
5/2/2011	6	Bonnie Hendricks/ Ken Osborne	1300	68	6-11	0	clear
5/2/2011	6	Bonnie Hendricks/ Ken Osborne	1400	70	5-9	0	clear
5/2/2011	6	Bonnie Hendricks/ Ken Osborne	1500	71	11-6	0	clear
5/3/2011	6	Ken Osborne/ Bonnie Hendricks	0925	69	4-6	0	clear
5/3/2011	6	Ken Osborne/ Bonnie Hendricks	1115	75	4-6.2	0	clear
5/3/2011	6	Ken Osborne/ Bonnie Hendricks	1200	75	4-8	0	clear
5/3/2011	6	Ken Osborne/ Bonnie Hendricks	1315	75	7.8-9.8	0	clear

Date	Survey Week	Personnel	Time	Temperature (°F)	Wind Speed range (mph)	Cloud Cover (%)	General Sky Condition
5/3/2011	6	Ken Osborne/ Bonnie Hendricks	1445	75	5-8	0	clear
5/3/2011	6	Ken Osborne/ Bonnie Hendricks	1610	74	calm	0	clear
5/3/2011	6	Margie Mulligan	0900	75	2–5	0	clear
5/3/2011	6	Margie Mulligan	1130	78	3–6	0	clear
5/3/2011	6	Margie Mulligan	1200	80	2–4	0	clear
5/3/2011	6	Margie Mulligan	1500	83	2–4	0	clear
5/4/2011	6	Erin Bergman	1200	85	0	0	clear
5/4/2011	6	Erin Bergman	1630	94	0	0	clear
5/4/2011	6	Ken Osborne	1140	88	4-6	0	clear
5/4/2011	6	Ken Osborne	1550	90	calm	0	clear
5/5/2011	6	Bonnie Hendricks/ Erin Bergman	0945	82	1.9-3.7	0	clear
5/5/2011	6	Bonnie Hendricks/ Erin Bergman	1045	85	2.3-5.1	0	clear
5/5/2011	6	Bonnie Hendricks/ Erin Bergman	1145	88.5	4.6-7.4	0	clear
5/5/2011	6	Bonnie Hendricks/ Erin Bergman	1300	90.5	3-5.6	0	clear
5/5/2011	6	Bonnie Hendricks/ Erin Bergman	1400	90.7	2.2-4.6	0	clear
5/5/2011	6	Bonnie Hendricks/ Erin Bergman	1500	89	1.3-2.1	0	clear
5/5/2011	6	Bonnie Hendricks/ Erin Bergman	1600	87.5	5.6-9.6	0	clear
5/5/2011	6	Margie Mulligan	0930	82	2–6	5	clear
5/5/2011	6	Margie Mulligan	1200	89	2–4	5	clear
5/5/2011	6	Margie Mulligan	1500	91	0–2	0	clear
5/5/2011	6	Margie Mulligan	1600	88	2–6	0	clear
5/5/2011	6	Ken Osborne	0930	85	2-4	0	clear
5/5/2011	6	Ken Osborne	1100	90	calm	0	clear
5/5/2011	6	Ken Osborne	1315	87	1-2	0	clear
5/5/2011	6	Ken Osborne	1445	85	3.3-5.5	0	clear
5/5/2011	6	Ken Osborne	1600	85	3-5	0	clear
5/5/2011	6	Erin Bergman	0950	83	-	0	clear
5/5/2011	6	Erin Bergman	1600	90	-	0	clear

APPENDIX C
FIELD DATA COLLECTED
DURING QUINO SURVEYS

Quino Checkerspot Butterfly Protocol Survey — Field Data Sheet

Recorder: Erin Bergman Add'l Person: N/A Date: March 29, 11 GPS Unit: 11

Project: Concentrix Solar Project Map #: 2 Survey Sxn: QCB Protocol Survey # 1 of 5

TIME (24-hour)	Temp (F°):	Wind (avg/max)	% CC	Sky
Start 9:45	68.9	1.4/3.8	0	(clear) patchy overcast drizzle shower
10:45	70.1	1.7/2.6	0	(clear) patchy overcast drizzle shower
11:45	71.8	1.0/2.0	0	(clear) patchy overcast drizzle shower
12:45	76.9	1.9/2.3	0	(clear) patchy overcast drizzle shower
1:45	70.0	1.8/2.5	0	(clear) patchy overcast drizzle shower
2:45	67.0	[illegible]	0	clear patchy overcast drizzle shower
End 3:00	68.2	0.8/[illegible]	3	clear (patchy) overcast drizzle shower

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

	Total
Nymphalidae (Brushfooted Butterflies)	
Euphydryas editha (Quino Checkerspot)	
Euphydryas chalcedona (Hanna's Checkerspot)	
Thessalia leanira (Wright's Checkerspot)	
Chlosyne californica (California Patch)	
Chlosyne gabbii (Gabb's Checkerspot)	
Phyciodes mylitta (Mylitta Crescent)	
Junonia coenia (Common Buckeye)	
Vanessa annabella (West Coast Lady)	
Vanessa atalanta (Red Admiral)	
Vanessa cardui (Painted Lady)	1
Vanessa virginiensis (Virginia Lady)	
Nymphalis californica (California Tortoiseshell)	
Danaidae (Milkweed Butterflies)	
Danaus plexippus (Monarch)	
Danaus gilippus (Queen)	
Satyridae (Satyrs)	
Coenonympha californica (Common California Ringlet)	
Pieridae (Whites, Sulphurs)	
Pieris rapae (Cabbage White)	
Pontia sisymbrii (Spring White)	
Pontia beckerii (Beker's White)	
Pontia protodice (Common White)	
Anthocharis sara (Sara Orangetip)	2
Anthocharis cethura (Felder's Orangetip)	
Euchloe hyantis (Desert Pearly Marble)	6
Colias eurytheme (Orange Sulphur)	1
Colias harfordii (Harford's Sulphur)	
Nathalis iole (Dainty Sulphur)	
Papilionidae (Swallowtails)	
Papilio polyxenes (Desert Black Swallowtail)	
Papilio eurymedon (Pale swallowtail)	
Papilio rutulus (Western Tiger Swallowtail)	
Riodiniade (Metalmarks)	
Apodemia mormo (Behr's Metalmark)	12
Lycaenidae (Hairstreaks and Blues)	
Celastrina ladon (Spring Azure)	
Leptotes marina (Marine Blue)	
Brephidium exile (Western Pygmy Blue)	
Glaucopsyche lygdamus (Southern Blue/Silvery blue)	
Hemiargus ceraunus (Edward's Blue)	
Icaria acmon (Acmon Blue)	7
Philotes sonorensis (Sonoran Blue)	
Callophrys augustinus (Brown Elfin)	
Callophrys dumetorum (Perplexing Green Hairstreak)	4
Strymon melinus (Gray Hairstreak)	
Atlides halesus (Great Purple Hairstreak)	

	Total
Hesperidae (Skippers)	
Erynnis funeralis (Funereal Duskywing)	1
Erynnis tristis (Sad Duskywing)	
Erynnis propertius (Propertius Duskywing)	
Erynnis brizo (Sleepy Duskywing)	
Pyrgus communis (Checkered Skipper)	
Hesperia jubia (Jubia Skipper)	
Polites sabuleti (Sandhill Skipper)	
Megathymidae (Giant Skippers)	
Megathymus yuccae (Yucca Giant Skipper)	
Other Butterflies:	
white sp. 1	1
Duskywing sp	1

Notes:

California quail at least 45
Scaly-throated Lizard at least 15
Common Raven - 1
Red-tailed Hawk - 2
Kestrel - 1
Spotted Towhee - 1
Lesser Nighthawk - many
Western Meadowlark - many

Nectaring or Host Plants for Quino Checkerspot Butterfly in Boulevard, California (Concentrix Solar)

Please Place a Check Mark Beside Flowering Plants. Use Numbered Notes to Add Species Detail.

PLEASE RECORD HOST PLANTS ON GPS See Codes Below: Erin Bergman

Antirrhinum coulterianum = AC *Collinsia concolor* = CC *Cordylanthus rigidus* = CR *Plantago patagonica* = PP March 29, 11

X	*Amsinckia menziesii*	Rancher's Fiddleneck
	Antirrhinum coulterianum	**Coulter's Snapdragon**
	Antirrhinum nuttallianum	Nuttall's Snapdragon
	Asclepias fascicularis	Narrow-leaf Milkweed
	Boechera sp.	Rock Cress
	Calandrinia ciliata	Red Maids
	Calochortus concolor	Golden-bowl Mariposa Lily
	Calystegia longipes	Morning-glory
	Camissonia sp.	Sun Cup
	Castilleja exerta	**Paintbrush**
	Caulanthus heterophyllus	San Diego Jewelflower
X	*Caulanthus simulans*	Payson's Caulanthus
X	*Ceanothus cuneatus*	Buck Brush
X	*Ceanothus greggii*	Cup-leaf-lilac
	Ceanothus leucodermis	Chaparral Whitethorn
	Chaenactis artemisiifolia	White Pincushion
	Chaenactis glabriuscula	Yellow Pincushion
X	*Clematis sp.*	Clematis
	Collinsia concolor	**Southern Chinese Houses**
	Cordylanthus rigidus	**Dark-tip Bird's Beak**
	Coreopsis californica	California Coreopsis
	Corethrogyne filaginifolia	Common Sand-aster
X	*Cryptantha sp.*	Cryptantha
	Cucurbita foetidissima	Calabazilla
X	*Descurainia sp.*	Tansy-mustard
	Dicentra chrysantha	Golden Ear-drops
	Dichelostemma capitatum	Blue Dicks
	Dudleya sp	Dudleya
	Emmenanthe penduliflora	Whispering Bells
	Eriastrum sp.	Woolly-star
X	*Ericameria sp.*	Goldenbush
	Erigeron foliosus	Leafy Daisy
	Eriodictyon trichocalyx	Hairy Yerba Santa
	Eriogonum fasciculatum	Inland California Buckwheat
	Eriogonum sp.	Buckwheat
	Eriophyllum sp.	Long-stem Golden-yarrow
X	*Erodium cicutarium**	Red-stem Storksbill
	Erysimum capitatum	Western Wallflower
X	*Eschscholzia californica*	California Poppy
	Eucrypta chrysanthemifolia	Spotted Hideseed
	Euthamia occidentalis	Western Goldenrod
	Garrya veatchii	Canyon Silk Tassel
	Gilia sp.	Gilia
	Gnaphalium	Cudweed
	Guillenia lasiophylla	California Mustard
	Gutierrezia sarothrae	Broom Matchweed
	Heliotropium curassavicum	Salt Heliotrope
	Hirshfeldia incana	Short-pod Mustard
	Lamium amplexicaule	Henbit
X	*Lasthenia gracilis*	Common Goldfields
	Layia glandulosa	White Layia
	Lepidium sp.	Pepperweed
	Linanthus bellus	Desert Beauty
	Linanthus dichotomus	Evening Snow
	Lonicera subspicata	Johnston's Honeysuckle
	Malacothrix californica	California Dandelion
	Malacothrix clevelandii	Cleveland's Malacothrix
	Marah macrocarpus	Wild-cucumber
	*Marrubium vulgare**	Horehound
	*Matricaria matricarioides**	Common Pineapple-weed
	Mentzelia veatchiana	Veatch's Stick-leak
	Microsteris gracilis	Slender Phlox
	Mimulus sp.	Monkeyflower
X	*Nemophila menziesii*	Small-flower Baby Blue Eyes
	Orobanche bulbosa	Chaparral Broom-rape
	Osmadenia tenella	Osmadenia
	Paeonia californica	California Peony
X	*Pectocarya sp.*	Pectocarya
	Phacelia sp.	Phacelia
	Pholistoma membranaceum	White Fiesta Flower
X	*Plagiobothrys sp.*	Popcornflower
	Plantago patagonica	**Desert Plantain**
	Platystemon californicus	Cream Cups
	Prunus ilicifolia	Holly-leaf Cherry
	Rafinesquia neomexicana	Desert Chicory
	Ribes quercetorum	Oak Gooseberry
	Rorripa nasturtium-aquaticum	Water-cress
	Rosa californica	California Rose
	Saltugilia australis	Southern Gilia
	Senecio californicus	California Butterweed
	Senecio flaccidus	Butterweed
	Sidalcea malvaeflora	Checker-bloom
	Sisymbrium sp.	Tumble Mustard
	Solidago californica	California Goldenrod
	Stachys ajugoides	Hedge-nettle
	Stephanomeria sp.	Wreathplant
	Streptanthus campestris	Southern Jewelflower
	Stylocline gnaphalioides	Everlasting Nest-straw
	Tetradymia comosa	Cotton-thorn
	Thysanocarpus sp.	Fringepod
	Trichostemma parishii	Mountain Bluecurls
	Tropidocarpum gracile	Slender Doble-pod
	Uropappus lindleyi	Silver Puffs
	Viola purpurea	Oak Yellow Violet

Other Flowering Plants:

Plagiobothrys arizonicus
Cryptantha lepida
Cryptantha intermedia
Lomatium dasycarpum var dasycarpum
Lupinus concinnus – nectar? Bee pollinated

Rare Wildlife or Rare Plants:

EBCS01 2 plants
EBbj01 1 jackrabbit
EBbj02 1 jackrabbit
EBad01 1 plant
EBad02 1 plant
EBad03 1 plant

ad = Astragalus oolonglensis var. parishii
CS = Caulanthus simulans

Quino Checkerspot Butterfly Protocol Survey — Field Data Sheet

Recorder: Andrew Fisher Add'l Person: — Date: 3-29-11 GPS Unit: 2

Project: Concentrix Solar Project Map #: 1 Survey Sxn: 1 QCB Protocol Survey # 1 of 5

	TIME (24-hour)	Temp (F°)	Wind (avg/max)	% CC	Sky
Start	0920	64°F	1-2 W	0	(clear) patchy overcast drizzle shower
	1130	68°F	2-3 W	0	(clear) patchy overcast drizzle shower
	1430	73°F	3 W	5%	(clear) patchy overcast drizzle shower
END:	1530	75°F	2-3 W	65%	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

	Total		Total
Nymphalidae (Brushfooted Butterflies)		**Hesperiidae (Skippers)**	
Euphydryas editha (Quino Checkerspot)		*Erynnis funeralis* (Funereal Duskywing)	
Euphydryas chalcedona (Henne's Checkerspot)		*Erynnis tristis* (Sad Duskywing)	
Thessalia leanira (Wright's Checkerspot)		*Erynnis propertius* (Properties Duskywing)	
Chlosyne californica (California Patch)		*Erynnis brizo* (Sleepy Duskywing)	
Chlosyne gabbii (Gabb's Checkerspot)		*Pyrgus communis* (Checkered Skipper)	
Phyciodes mylitta (Mylitta Crescent)		*Hesperia jubia* (Jubia Skipper)	
Junonia coenia (Common Buckeye)		*Polites sabuleti* (Sandhill Skipper)	
Vanessa annabella (West Coast Lady)	1	**Megathymidae (Giant Skippers)**	
Vanessa atalanta (Red Admiral)		*Megathymus yuccae* (Yucca Giant Skipper)	
Vanessa cardui (Painted Lady)	1		
Vanessa virginiensis (Virginia Lady)		**Other Butterflies:**	
Nymphalis californica (California Tortoiseshell)		Pontia sp.	5
Danaidae (Milkweed Butterflies)		Erynnis sp.	2
Danaus plexippus (Monarch)			
Danaus gilippus (Queen)			
Satyridae (Satyrs)			
Coenonympha californica (Common California Ringlet)			
Pieridae (Whites, Sulphurs)			
Pieris rapae (Cabbage White)			
Pontia sisymbrii (Spring Waite) Pontia sp.			
Pontia beckerii (Beker's White)			
Pontia protodice (Common White)	1		
Anthocharis sara (Sara Orangetip)	10		
Anthocharis cethura (Felder's Orangetip)		NO QUINO!	
Euchloe hyantis (Desert Pearly Marble)			
Colias eurytheme (Orange Sulphur)	5		
Colias harfordii (Harford's Sulphur)	1		
Nathalis iole (Dainty Sulphur)			
Papilionidae (Swallowtails)		**Notes:**	
Papilio polyxenes (Desert Black Swallowtail)		BUOR	
Papilio eurymedon (Pale swallowtail)		HOWR, BTSP, CALT, WSSA	
Papilio rutulus (Western Tiger Swallowtail)		NOFL, WREN, CALT, SPTO	
Riodiniade (Metalmarks)			
Apodemia mormo (Behr's Metalmark)	35	WCSP, CAQU, BUSH, RCKI	
Lycaenidae (Hairstreaks and Blues)		Mule deer tks, BT jackrabbit,	
Celastrina ladon (Spring Azure)		Cottontail, WAVI, GR FL, WEME	
Leptotes marina (Marine Blue)			
Brephidium exile (Western Pygmy Blue)		DESU, HUVI, OCWA, BEWR	
Glaucopsyche lygdamus (Southern Blue/Silvery blue)			
Hemiargus ceraunus (Edward's Blue)			
Icaria acmon (Acmon Blue)	8		
Philotes sonorensis (Sonoran Blue)		Side-blotched lizard, desert Spiny	
Callophrys augustinus (Brown Elfin)		lizard, Coast horned lizard	
Callophrys dumetorum (Perplexing Green Hairstreak)	4		
Strymon melinus (Gray Hairstreak)			
Atlides halesus (Great Purple Hairstreak)		AMKE TUVU COKA, RTHA, AGWD	
		YRWA, COYE, WEBB, BLPH, EAST	

…tial Nectaring or Host Plants for Quino Checkerspot Butterfly in Boulevard, California (Concentrix Solar)

…ctions

Please Place a Check Mark Beside Flowering Plants. Use Numbered Notes to Add Species Detail.

► **PLEASE RECORD HOST PLANTS ON GPS** See Codes Below:

Antirrhinum coulterianum = AC *Collinsia concolor* = CC *Cordylanthus rigidus* = CR *Plantago patagonica* = PP

Amsinckia menziesii	Rancher's Fiddleneck
Antirrhinum coulterianum	**Coulter's Snapdragon**
Antirrhinum nuttallianum	Nuttall's Snapdragon
Asclepias fascicularis	Narrow-leaf Milkweed
Boechera sp.	Rock Cress
Calandrinia ciliata	Red Maids
Calochortus concolor	Golden-bowl Mariposa Lily
Calystegia longipes	Morning-glory
Camissonia sp.	Sun Cup
Castilleja exerta	**Paintbrush**
Caulanthus heterophyllus	San Diego Jewelflower
Caulanthus simulans	Payson's Caulanthus
Ceanothus cuneatus	Buck Brush } 1 of these
Ceanothus greggii	Cup-leaf-lilac
Ceanothus leucodermis	Chaparral Whitethorn
Chaenactis artemisiifolia	White Pincushion
Chaenactis glabriuscula	Yellow Pincushion
Clematis sp.	Clematis
Collinsia concolor	**Southern Chinese Houses**
Cordylanthus rigidus	**Dark-tip Bird's Beak**
Coreopsis californica	California Coreopsis
Corethrogyne filaginifolia	Common Sand-aster
Cryptantha sp.	Cryptantha
Cucurbita foetidissima	Calabazilla
Descurainia sp.	Tansy-mustard
Dicentra chrysantha	Golden Ear-drops
Dichelostemma capitatum	Blue Dicks
Dudleya sp.	Dudleya
Emmenanthe penduliflora	Whispering Bells
Eriastrum sp.	Woolly-star
Ericameria sp.	Goldenbush
Erigeron foliosus	Leafy Daisy
Eriodictyon trichocalyx	Hairy Yerba Santa
Eriogonum fasciculatum	Inland California Buckwheat
Eriogonum sp.	Buckwheat
Eriophyllum sp.	Long-stem Golden-yarrow
*Erodium cicutarium**	Red-stem Storksbill
Erysimum capitatum	Western Wallflower
Eschscholzia californica	California Poppy
Eucrypta chrysanthemifolia	Spotted Hideseed
Euthamia occidentalis	Western Goldenrod
Garrya veatchii	Canyon Silk Tassel
Gilia sp.	Gilia
Gnaphalium	Cudweed
Guillenia lasiophylla	California Mustard
Gutierrezia sarothrae	Broom Matchweed
Heliotropium curassavicum	Salt Heliotrope
Hirshfeldia incana	Short-pod Mustard
Lamium amplexicaule	Henbit
Lasthenia gracilis	Common Goldfields
Layia glandulosa	White Layia
Lepidium sp	Pepperweed
Linanthus bellus	Desert Beauty
Linanthus dichotomus	Evening Snow
Lonicera subspicata	Johnston's Honeysuckle
Malacothrix californica	California Dandelion
Malacothrix clevelandii	Cleveland's Malacothrix
Marah macrocarpus	Wild-cucumber
*Marrubium vulgare**	Horehound
*Matricaria matricarioides**	Common Pineapple-weed
Mentzelia veatchiana	Veatch's Stick-leaf
Microsteris gracilis	Slender Phlox
Mimulus sp.	Monkeyflower
Nemophila menziesii	Small-flower Baby Blue Eyes
Orobanche bulbosa	Chaparral Broom-rape
Osmadenia tenella	Osmadenia
Paeonia californica	California Peony
Pectocarya sp.	Pectocarya
Phacelia sp.	Phacelia
Pholistoma membranaceum	White Fiesta Flower
Plagiobothrys sp.	Popcornflower
Plantago patagonica	**Desert Plantain**
Platystemon californicus	Cream Cups
Prunus ilicifolia	Holly-leaf Cherry
Rafinesquia neomexicana	Desert Chicory
Ribes quercetorum	Oak Gooseberry
Rorripa nasturtium-aquaticum	Water-cress
Rosa californica	California Rose
Saltugilia australis	Southern Gilia
Senecio californicus	California Butterweed
Senecio flaccidus	Butterweed
Sidalcea malvaeflora	Checker-bloom
Sisymbrium sp.	Tumble Mustard
Solidago californica	California Goldenrod
Stachys ajugoides	Hedge-nettle
Stephanomeria sp.	Wreathplant
Streptanthus campestris	Southern Jewelflower
Stylocline gnaphalioides	Everlasting Nest-straw
Tetradymia comosa	Cotton-thorn
Thysanocarpus sp	Fringepod
Trichostemma parishii	Mountain Bluecurls
Tropidocarpum gracile	Slender Dobie-pod
Uropappus lindleyi	Silver Puffs
Viola purpurea	Oak Yellow Violet

Other Flowering Plants:

Rare Wildlife or Rare Plants:

AFBJ01 = 1 BT jackrabbit

AFAL01 = 1 juv. Horned Lizard

Quino Checkerspot Butterfly Protocol Survey — Field Data Sheet

Recorder: [illegible] Add'l Person: _____ Date: [illegible] GPS Unit: [illegible]

Project: Concentrix Solar Project Map #: _____ Survey Sxn: _____ QCB Protocol Survey # _____ of 5

TIME (24-hour)	Temp (F°)	Wind (avg/max)	% CC	Sky
Start [illegible]	68	1-3	0	clear patchy overcast drizzle shower
12:00	70	2-3	5	clear patchy overcast drizzle shower
3:10	70	1-3	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, old roads, various nectar sources

	Total		Total
Nymphalidae (Brushfooted Butterflies)		**Hesperiidae (Skippers)**	
Euphydryas editha (Quino Checkerspot)		*Erynnis funeralis* (Funereal Duskywing)	
Euphydryas chalcedona (Hanne's Checkerspot)		*Erynnis tristis* (Sad Duskywing)	
Thessalia leanira (Wright's Checkerspot)		*Erynnis propertius* (Propertius Duskywing)	
Chlosyne californica (California Patch)		*Erynnis brizo* (Sleepy Duskywing)	
Chlosyne gabbii (Gabb's Checkerspot)		*Pyrgus communis*(Checkered Skipper)	
Phyciodes mylitta (Mylitta Crescent)		*Hesperia juba* (Juba Skipper)	
Junonia coenia (Common Buckeye)		*Polites sabuleti* (Sandhill Skipper)	
Vanessa annabella (West Coast Lady		**Megathymidae (Giant Skippers)**	
Vanessa atalanta (Red Admiral)		*Megathymus yuccae* (Yucca Giant Skipper)	
Vanessa cardui (Painted Lady)			
Vanessa virginiensis (Virginia Lady)		**Other Butterflies:**	
Nymphalis californica (California Tortoiseshell)		[illegible] sp	1
Danaidae (Milkweed Butterflies)			
Danaus plexippus (Monarch)			
Danaus gilippus (Queen)			
Satyridae (Satyrs)			
Coenonympha californica (Common California Ringlet)			
Pieridae (Whites, Sulphurs)			
Pieris rapae (Cabbage White)			
Pontia sisymbrii (Spring White)			
Pontia beckerii (Beker's White)			
Pontia protodice (Common White)			
Anthocharis sara (Sara Orangetip)	[illegible]	[illegible]	
Anthocharis cethura (Felder's Orangetip)			
Euchloe hyantis (Desert Pearly Marble)	[illegible]	[illegible]	
Colias eurytheme (Orange Sulphur)			
Colias harfordii (Harford's Sulphur)			
Nathalis iole (Dainty Sulphur)			
Papilionidae (Swallowtails)		**Notes:**	
Papilio polyxenes (Desert Black Swallowtail)			
Papilio eurymedon (Pale swallowtail)			
Papilio rutulus(Western Tiger Swallowtail)			
Riodinidae (Metalmarks)			
Apodemia mormo (Behr's Metalmark)	[illegible]	[illegible]	
Lycaenidae (Hairstreaks and Blues)			
Celastrina ladon (Spring Azure)			
Leptotes marina(Marine Blue)			
Brephidium exile (Western Pygmy Blue)			
Glaucopsyche lygdamus (Southern Blue/Silvery blue)			
Hemiargus ceraunus (Edward's Blue)			
Icaria acmon (Acmon Blue)			
Philotes sonorensis(Sonoran Blue)			
Callophrys augustinus (Brown Elfin)			
Callophrys dumetorum (Perplexing Green Hairstreak)	[illegible]		
Strymon melinus (Gray Hairstreak)			
Atlides halesus (Great Purple Hairstreak)			

Potential Nectaring or Host Plants for Quino Checkerspot Butterfly in Boulevard, California (Concentrix Solar)

Instructions:

- Please Place a Check Mark Beside Flowering Plants. Use Numbered Notes to Add Species Detail.
- **PLEASE RECORD HOST PLANTS ON GPS** See Codes Below:

Antirrhinum coulterianum = AC *Collinsia concolor* = CC *Cordylanthus rigidus* = CR *Plantago patagonica* = PP

X	*Amsinckia menziesii*	Rancher's Fiddleneck
o	***Antirrhinum coulterianum***	**Coulter's Snapdragon**
o	*Antirrhinum nuttallianum*	Nuttall's Snapdragon
o	*Asclepias fascicularis*	Narrow-leaf Milkweed
X	*Boechera sp.*	Rock Cress
o	*Calandrinia ciliata*	Red Maids
o	*Calochortus concolor*	Golden-bowl Mariposa Lily
o	*Calystegia longipes*	Morning-glory
o	*Camissonia sp.*	Sun Cup
o	***Castilleja exerta***	**Paintbrush**
o	*Caulanthus heterophyllus*	San Diego Jewelflower
o	*Caulanthus simulans*	Payson's Caulanthus
X	*Ceanothus cuneatus*	Buck Brush
X	*Ceanothus greggii*	Cup-leaf-lilac
o	*Ceanothus leucodermis*	Chaparral Whitethorn
o	*Chaenactis artemisiifolia*	White Pincushion
o	*Chaenactis glabriuscula*	Yellow Pincushion
o	*Clematis sp.*	Clematis
o	***Collinsia concolor***	**Southern Chinese Houses**
o	***Cordylanthus rigidus***	**Dark-tip Bird's Beak**
o	*Coreopsis californica*	California Coreopsis
o	*Corethrogyne filaginifolia*	Common Sand-aster
X	*Cryptantha sp.*	Cryptantha
o	*Cucurbita foetidissima*	Calabazilla
X	*Descurainia sp.*	Tansy-mustard
o	*Dicentra chrysantha*	Golden Ear-drops
o	*Dichelostemma capitatum*	Blue Dicks
o	*Dudleya sp.*	Dudleya
o	*Emmenanthe penduliflora*	Whispering Bells
o	*Eriastrum sp.*	Woolly-star
o	*Ericameria sp.*	Goldenbush
o	*Erigeron foliosus*	Leafy Daisy
o	*Eriodictyon trichocalyx*	Hairy Yerba Santa
o	*Eriogonum fasciculatum*	Inland California Buckwheat
o	*Eriogonum sp.*	Buckwheat
o	*Eriophyllum sp.*	Long-stem Golden-yarrow
X	*Erodium cicutarium**	Red-stem Storksbill
o	*Erysimum capitatum*	Western Wallflower
o	*Eschscholzia californica*	California Poppy
o	*Eucrypta chrysanthemifolia*	Spotted Hideseed
o	*Euthamia occidentalis*	Western Goldenrod
X	*Garrya veatchii*	Canyon Silk Tassel
o	*Gilia sp.*	Gilia
o	*Gnaphalium*	Cudweed
o	*Guillenia lasiophylla*	California Mustard
o	*Gutierrezia sarothrae*	Broom Matchweed
o	*Heliotropium curassavicum*	Salt Heliotrope
o	*Hirshfeldia incana*	Short-pod Mustard
o	*Lamium amplexicaule*	Henbit
o	*Lasthenia gracilis*	Common Goldfields
o	*Layia glandulosa*	White Layia
o	*Lepidium sp.*	Pepperweed
X	*Linanthus bellus*	Desert Beauty
o	*Linanthus dichotomus*	Evening Snow
o	*Lonicera subspicata*	Johnston's Honeysuckle
o	*Malacothrix californica*	California Dandelion
o	*Malacothrix clevelandii*	Cleveland's Malacothrix
o	*Marah macrocarpus*	Wild-cucumber
o	*Marrubium vulgare**	Horehound
o	*Matricaria matricarioides**	Common Pineapple-weed
o	*Mentzelia veatchiana*	Veatch's Stick-leak
o	*Microsteris gracilis*	Slender Phlox
o	*Mimulus sp.*	Monkeyflower
o	*Nemophila menziesii*	Small-flower Baby Blue Eyes
o	*Orobanche bulbosa*	Chaparral Broom-rape
o	*Osmadenia tenella*	Osmadenia
o	*Paeonia californica*	California Peony
o	*Pectocarya sp.*	Pectocarya
o	*Phacelia sp.*	Phacelia
o	*Pholistoma membranaceum*	White Fiesta Flower
X	*Plagiobothrys sp.*	Popcornflower
o	***Plantago patagonica***	**Desert Plantain**
o	*Platystemon californicus*	Cream Cups
o	*Prunus ilicifolia*	Holly-leaf Cherry
o	*Rafinesquia neomexicana*	Desert Chicory
o	*Ribes quercetorum*	Oak Gooseberry
o	*Rorripa nasturtium-aquaticum*	Water-cress
o	*Rosa californica*	California Rose
o	*Saltugilia australis*	Southern Gilia
o	*Senecio californicus*	California Butterweed
o	*Senecio flaccidus*	Butterweed
o	*Sidalcea malvaeflora*	Checker-bloom
o	*Sisymbrium sp.*	Tumble Mustard
o	*Solidago californica*	California Goldenrod
o	*Stachys ajugoides*	Hedge-nettle
o	*Stephanomeria sp.*	Wreathplant
o	*Streptanthus campestris*	Southern Jewelflower
X	*Stylocline gnaphalioides*	Everlasting Nest-straw
o	*Tetradymia comosa*	Cotton-thorn
o	*Thysanocarpus sp.*	Fringepod
o	*Trichostemma parishii*	Mountain Bluecurls
o	*Tropidocarpum gracile*	Slender Doble-pod
o	*Uropappus lindleyi*	Silver Puffs
o	*Viola purpurea*	Oak Yellow Violet
o		
o		
o	**Other Flowering Plants:**	
o	Lomatium [illegible]	
o	[illegible]	
o	Ceanothus betuloides betuloides	
o		
o		
o		
o		
o	**Rare Wildlife or Rare Plants:**	
o	Astragalus douglasii parishii	
o	AMADO201	
o	[illegible]	
o	[illegible]	
o	[illegible]	
o	[illegible]	
o	[illegible]	
o	[illegible]	
o	[illegible]	
o	MMRTC101	
o	[illegible]	
o	[illegible]	
o	[illegible]	
o	[illegible]	
o	[illegible]	
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o	[illegible]	
o	[illegible]	

Quino Checkerspot Butterfly Protocol Survey — Field Data Sheet

Recorder: Bonnie Hendricks Add'l Person: NA Date: 3/29/11 GPS Unit: 10

Project: Concentrix Solar Project Map #: 5 Survey Sxn: 5 QCB Protocol Survey # 1 of 5

	TIME (24-hour)	Temp (F°)	Wind (avg/max)	% CC	Sky
Start	9:00	66°	3.6/7.5	0	(clear) patchy overcast drizzle shower
	10:00	68°	2.7/3.9	0	(clear) patchy overcast drizzle shower
	11:00	67°	4/6.0	0	(clear) patchy overcast drizzle shower
	12:20	71°	2.4/7.0	0	(clear) patchy overcast drizzle shower
	13:45	70°	1.9/2.3	0	(clear) patchy overcast drizzle shower
	15:00	74°	2.4/4.2	50%	clear (patchy) overcast drizzle shower
End	16:00	68°	1.2/3.5	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

	Total		Total
Nymphalidae (Brushfooted Butterflies)		**Hesperiidae (Skippers)**	
Euphydryas editha (Quino Checkerspot)		*Erynnis funeralis* (Funereal Duskywing)	
Euphydryas chalcedona (Hence's Checkerspot)		*Erynnis tristis* (Sad Duskywing)	
Thessalia leanira (Wright's Checkerspot)		*Erynnis propertius* (Propertius Duskywing)	
Chlosyne californica (California Patch)		*Erynnis brizo* (Sleepy Duskywing) III (or E. prop.)	3
Chlosyne gabbii (Gabb's Checkerspot)		*Pyrgus communis* (Checkered Skipper)	
Phyciodes mylitta (Mylitta Crescent)		*Hesperia jubia* (Jubia Skipper)	
Junonia coenia (Common Buckeye)		*Polites sabuleti* (Sandhill Skipper)	
Vanessa annabella (West Coast Lady		**Megathymidae (Giant Skippers)**	
Vanessa atalanta (Red Admiral)		*Megathymus yuccae* (Yucca Giant Skipper)	
Vanessa cardui (Painted Lady)			
Vanessa virginiensis (Virginia Lady)		**Other Butterflies:**	
Nymphalis californica (California Tortoiseshell)		Everes amyntula (Western tailed blue)	1
Danaidae (Milkweed Butterflies)			
Danaus plexippus (Monarch)			
Danaus gilippus (Queen)		Nectaring on lupine	
Satyridae (Satyrs)		Hostplant Astragalus douglasii nearby.	
Coenonymphe californica (Common California Ringlet)			
Pieridae (Whites, Sulphurs)			
Pieris rapae (Cabbage White)		Colorful Moth (orange, cream + brown) IIII	7
Pontia sisymbrii (Spring White)			
Pontia beckerii (Beker's White)		Small cream moth IIII	6
Pontia protodice (Common White)		Black Moth w/ large cream spots	1
Anthocharis sara (Sara Orangetip)			
Anthocharis cethura (Felder's Orangetip)		Sulpher sp.	1
Euchloe hyantis (Desert Pearly Marble) IIII IIII IIII IIII IIII IIII	30		
Colias eurytheme (Orange Sulphur)			
Colias harfordii (Harford's Sulphur)			
Nathalis iole (Dainty Sulphur)			
Papilionidae (Swallowtails)		**Notes:**	
Papilio polyxenes (Desert Black Swallowtail)		Cattle – Area is heavily grazed.	
Papilio eurymedon (Pale swallowtail)			
Papilio rutulus (Western Tiger Swallowtail)		COBA	
Riodiniade (Metalmarks)		SCJA Deer Scat	
Apodemia mormo (Behr's Metalmark) IIII IIII IIII IIII IIII IIII	30	LASP Wren sp.	
Lycaenidae (Hairstreaks and Blues)		AMGR, MODO, Sylvilagus audubonii	
Celastrina ladon (Spring Azure)			
Leptotes marina (Marine Blue)		pocket gophers, ground squirrel	
Brophidium exile (Western Pygmy Blue)			
Glaucopsyche lygdamus (Southern Blue/Silvery blue)		*LOSH – Bh1S01 (see next pg)	
Hemiargus ceraunus (Edward's Blue)		Bh1S02	
Icaria acmon (Acmon Blue) I	1	Honeybee, flies, gnats	
Philotes sonorensis (Sonoran Blue)			
Callophrys augustinus (Brown Elfin)		WCSP Uta stansburiana	
Callophrys dumetorum (Perplexing Green Hairstreak) IIII	4	CAQU Sceloporus occidentalis	
Strymon melinus (Gray Hairstreak)		BUSH Abundant Lizards	
Atlides halesus (Great Purple Hairstreak)		VESP OCWA Nemaspiza sp.	
		FLY CHSP	
		WREN LCTH ?	
		SPTO	

Bonnie 3/29/11

...ential Nectaring or Host Plants for Quino Checkerspot Butterfly in Boulevard, California (Concentrix/Solar)

...ctions.

Please Place a Check Mark Beside Flowering Plants. Use Numbered Notes to Add Species Detail.

Pg 2
Area 5

PLEASE RECORD HOST PLANTS ON GPS See Codes Below:

Antirrhinum coulterianum = AC *Collinsia concolor* = CC *Cordylanthus rigidus* = CR *Plantago patagonica* = PP

	Amsinckia menziesii	Rancher's Fiddleneck
	Antirrhinum coulterianum	**Coulter's Snapdragon**
	Antirrhinum nuttallianum	Nuttall's Snapdragon
	Asclepias fascicularis	Narrow-leaf Milkweed
	Boechera sp.	Rock Cress
	Calandrinia ciliata	Red Maids
	Calochortus concolor	Golden-bowl Mariposa Lily
	Calystegia longipes	Morning-glory
	Camissonia sp.	Sun Cup
	Castilleja exerta	**Paintbrush**
	Ceanothus heterophyllus	San Diego Jewelflower
	Ceanothus simulans	Payson's Ceanothus
	Ceanothus cuneatus	Buck Brush
X	*Ceanothus greggii*	Cup-leaf-lilac
	Ceanothus leucodermis	Chaparral Whitethorn
	Chaenactis erfomisifolia	White Pincushion
	Chaenactis glabriuscula	Yellow Pincushion
	Clematis sp.	Clematis
	Collinsia concolor	**Southern Chinese Houses**
	Cordylanthus rigidus	**Dark-tip Bird's Beak**
	Coreopsis californica	California Coreopsis
	Corethrogyne filaginifolia	Common Sand-aster
X	*Cryptantha sp.*	Cryptantha
	Cucurbita foetidissima	Calabazilla
	Descurainia sp.	Tansy-mustard
	Dicentra chrysantha	Golden Ear-drops
	Dichelostemma capitatum	Blue Dicks
	Dudleya sp.	Dudleya
	Emmenanthe penduliflora	Whispering Bells
	Eriastrum sp.	Woolly-star
X	*Ericameria sp.*	Goldenbush
	Erigeron foliosus	Leafy Daisy
	Eriodictyon trichocalyx	Hairy Yerba Santa
	Eriogonum fasciculatum	Inland California Buckwheat
	Eriogonum sp.	Buckwheat
	Eriophyllum sp	Long-stem Golden-yarrow
X	*Erodium cicutarium**	Red-stem Storksbill
	Erysimum capitatum	Western Wallflower
X	*Eschscholzia californica*	California Poppy
	Eucrypta chrysanthemifolia	Spotted Hideseed
	Euthamia occidentalis	Western Goldenrod
	Garrya veatchii	Canyon Silk Tassel
	Gilia sp.	Gilia
	Gnaphalium	Cudweed
	Guillenia lasiophylla	California Mustard
	Gutierrezia sarothrae	Broom Matchweed
	Heliotropium curassavicum	Salt Heliotrope
	Hirschfeldia incana	Short-pod Mustard
	Lamium amplexicaule	Henbit
X	*Lasthenia gracilis*	Common Goldfields
	Layia glandulosa	White Layia
	Lepidium sp.	Pepperweed
	Linanthus bellus	Desert Beauty
	Linanthus dichotomus	Evening Snow
	Lonicera subspicata	Johnston's Honeysuckle
	Malacothrix californica	California Dandelion
X	*Malacothrix cleveland*	Cleveland's Malacothrix
	Marah macrocarpus	Wild-cucumber
	*Marrubium vulgare**	Horehound
	*Matricaria matricarioides**	Common Pineapple-weed
	Mentzelia veatchiana	Veatch's Stick-leak
	Microsteris gracilis	Slender Phlox
	Mimulus sp.	Monkeyflower
	Nemophila menziesii	Small-flower Baby Blue Eyes
	Orobanche bulbosa	Chaparral Broom-rape
	Osmadenia tenella	Osmadenia
	Paeonia californica	California Peony
	Pectocarya sp.	Pectocarya
X	*Phacelia sp.*	Phacelia
	Pholistoma membranaceum	White Fiesta Flower
	Plagiobothrys sp.	Popcornflower
	Plantago patagonica	Desert Plantain
	Platystemon californicus	Cream Cups
	Prunus ilicifolia	Holly-leaf Cherry
	Rafinesquia neomexicana	Desert Chicory
	Ribes quercetorum	Oak Gooseberry
	Rorippa nasturtium-aquaticum	Water-cress
	Rosa californica	California Rose
	Saltugilia australis	Southern Gilia
	Senecio californicus	California Butterweed
	Senecio flaccidus	Butterweed
	Sidalcea malvaeflora	Checker-bloom
X	*Sisymbrium sp.*	Tumble Mustard
	Solidago californica	California Goldenrod
	Stachys ajugoides	Hedge-nettle
	Stephanomeria sp.	Wreathplant
	Streptanthus campestris	Southern Jewelflower
	Stylocline gnaphaloides	Everlasting Nest-straw
	Tetradymia comosa	Cotton-thorn
	Thysanocarpus sp.	Fringepod
	Trichostemma peirsii	Mountain Bluecurls
	Trapidocarpum gracile	Slender Dobie-pod
	Uropappus lindleyi	Silver Puffs
	Viola purpurea	Oak Yellow Violet

Other Flowering Plants:

Arabis pulchra
Lupinus concinus
Sanicula

Rare Wildlife or Rare Plants:

Bh1S01 Loggerhead Shrike carried nest material. Then perched with a lizard hanging out of its bill (feet + body of lizard). Went into bush.

Astragalis douglasii
Did not GPS locations.

Bh1S02 - 2 SH perched on oak
Bhwr01 - Woodrat nest-huge
Bh ~~wr02~~ ~~by rock~~ huge rat nest
rock w/cactus
Bh wr03 - by boulder - not much cactus
Bh wr04 on rock " " "
Bhwr05 - rock over w/ cactus
Bhwr06 - under rock no cactus

Quino Checkerspot Butterfly Protocol Survey — Field Data Sheet

Recorder: BCA Add'l Person: none Date: 03/20/11 GPS Unit: 6

Project: Concentrix Solar Project Map #: 4 Survey Sxn: North of fenced area QCB Protocol Survey # 1 of 5

TIME (24-hour)	Temp (F°):	Wind (avg/max)	% CC	Sky
Start 0840	64.2	1.5/3.0	5	clear / patchy / overcast / drizzle / shower
0940	67.1	2.8/3.5	2	clear / patchy / overcast / drizzle / shower
1040	68.5	4.3/5.5	2	clear / patchy / overcast / drizzle / shower
1140	71.7	4.5/4.6	2	clear / patchy / overcast / drizzle / shower
1240	72.1	10.4/15.1	2	clear / patchy / overcast / drizzle / shower
End 1330	72.0	6.3/8.9	2	clear / patchy / overcast / drizzle / shower

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

	Total		Total
Nymphalidae (Brushfooted Butterflies)		**Hesperiidae (Skippers)**	
Euphydryas editha (Quino Checkerspot)		*Erynnis funeralis* (Funereal Duskywing)	
Euphydryas chalcedona (Henne's Checkerspot)		*Erynnis tristis* (Sad Duskywing)	
Thessalia leanira (Wright's Checkerspot)		*Erynnis propertius* (Propertius Duskywing)	
Chlosyne californica (California Patch)		*Erynnis brizo* (Sleepy Duskywing) ||	2
Chlosyne gabbii (Gabb's Checkerspot)		*Pyrgus communis* (Checkered Skipper)	
Phyciodes mylitta (Mylitta Crescent)		*Hesperia juba* (Juba Skipper)	
Junonia coenia (Common Buckeye)		*Polites sabuleti* (Sandhill Skipper)	
Vanessa annabella (West Coast Lady		**Megathymidae (Giant Skippers)**	
Vanessa atalanta (Red Admiral)		*Megathymus yuccae* (Yucca Giant Skipper)	
Vanessa cardui (Painted Lady)			
Vanessa virginiensis (Virginia Lady)		**Other Butterflies:**	
Nymphalis californica (California Tortoiseshell)			
Danaidae (Milkweed Butterflies)			
Danaus plexippus (Monarch)			
Danaus gilippus (Queen)			
Satyridae (Satyrs)			
Coenonympha californica (Common California Ringlet)			
Pieridae (Whites, Sulphurs)			
Pieris rapae (Cabbage White)			
Pontia sisymbrii (Spring White)			
Pontia beckerii (Beker's White)			
Pontia protodice (Common White) ||	2		
Anthocharis sara (Sara Orangetip) |	1		
Anthocharis cethura (Felder's Orangetip) |||	3		
Euchloe hyantis (Desert Pearly Marble) |||	3		
Colias eurytheme (Orange Sulphur)			
Colias harfordii (Harford's Sulphur) |	1		
Nathalis iole (Dainty Sulphur)			
Papilionidae (Swallowtails)		**Notes:**	
Papilio polyxenes (Desert Black Swallowtail)		CORA Western fence lizard	
Papilio eurymedon (Pale swallowtail)		RITA side-blotched "	
Papilio rutulus (Western Tiger Swallowtail)		MODO WEMI	
Riodinlade (Metalmarks)		SPTO CATH	
Apodemia mormo (Behr's Metalmark) ||||| ||	7	CALT	
Lycaenidae (Hairstreaks and Blues)		Cottontail	
Celastrina ladon (Spring Azure)		WEST	
Leptotes marina (Marine Blue)		HOLA - BCHA01	
Brephidium exile (Western Pygmy Blue)		SAPH	
Glaucopsyche lygdamus (Southern Blue/Silvery blue)		DEJU	
Hemiargus ceraunus (Edward's Blue)		OATI	
Icaria acmon (Acmon Blue) |	1	BJ jackrabbit BCBJ01	
Philotes sonorensis (Sonoran Blue)		ACMO	
Callophrys augustinus (Brown Elfin)		CAGU	
Callophrys dumetorum (Perplexing Green Hairstreak) ||	2	S. alligator lizard	
Strymon melinus (Gray Hairstreak)		LASP	
Atlides halesus (Great Purple Hairstreak)		WCSP	
		SD whiptail lizard - BCHL01	

Potential Nectaring or Host Plants for Quino Checkerspot Butterfly in Boulevard, California (Concentrix Solar)

Instructions

Please Place a Check Mark Beside Flowering Plants. Use Numbered Notes to Add Species Detail.

PLEASE RECORD HOST PLANTS ON GPS See Codes Below:

Antirrhinum coulterianum = AC *Collinsia concolor* = CC *Cordylanthus rigidus* = CR *Plantago patagonica* = PP

✓	*Amsinckia menziesii*	Rancher's Fiddleneck
○	***Antirrhinum coulterianum***	**Coulter's Snapdragon**
○	*Antirrhinum nuttallianum*	Nuttall's Snapdragon
○	*Asclepias fascicularis*	Narrow-leaf Milkweed
○	*Boechera sp.*	Rock Cress
○	*Calandrinia ciliata*	Red Maids
○	*Calochortus concolor*	Golden-bowl Mariposa Lily
○	*Calystegia longipes*	Morning-glory
○	*Camissonia sp.*	Sun Cup
○	***Castilleja exerta***	**Paintbrush**
○	*Caulanthus heterophyllus*	San Diego Jewelflower
○	*Caulanthus simulans*	Payson's Caulanthus
○	*Ceanothus cuneatus*	Buck Brush
○	*Ceanothus greggii*	Cup-leaf-lilac
○	*Ceanothus leucodermis*	Chaparral Whitethorn
○	*Chaenactis artemisiifolia*	White Pincushion
○	*Chaenactis glabriuscula*	Yellow Pincushion
○	*Clematis sp.*	Clematis
○	***Collinsia concolor***	**Southern Chinese Houses**
○	***Cordylanthus rigidus***	**Dark-tip Bird's Beak**
○	*Coreopsis californica*	California Coreopsis
○	*Corethrogyne filaginifolia*	Common Sand-aster
✓	*Cryptantha sp.*	Cryptantha
○	*Cucurbita foetidissima*	Calabazilla
○	*Descurainia sp.*	Tansy-mustard
○	*Dicentra chrysantha*	Golden Ear-drops
○	*Dichelostemma capitatum*	Blue Dicks
○	*Dudleya sp.*	Dudleya
○	*Emmenanthe penduliflora*	Whispering Bells
○	*Eriastrum sp.*	Woolly-star
○	*Ericameria sp.*	Goldenbush
○	*Erigeron foliosus*	Leafy Daisy
○	*Eriodictyon trichocalyx*	Hairy Yerba Santa
○	*Eriogonum fasciculatum*	Inland California Buckwheat
○	*Eriogonum sp.*	Buckwheat
○	*Eriophyllum sp.*	Long-stem Golden-yarrow
✓	*Erodium cicutarium**	Red-stem Storksbill
○	*Erysimum capitatum*	Western Wallflower
✓	*Eschscholzia californica*	California Poppy
○	*Eucrypta chrysanthemifolia*	Spotted Hideseed
○	*Euthamia occidentalis*	Western Goldenrod
○	*Garrya veatchii*	Canyon Silk Tassel
○	*Gilia sp.*	Gilia
○	*Gnaphalium*	Cudweed
○	*Guillenia lasiophylla*	California Mustard
○	*Gutierrezia sarothrae*	Broom Matchweed
○	*Heliotropium curassavicum*	Salt Heliotrope
✓	*Hirschfeldia incana*	Short-pod Mustard
○	*Lamium amplexicaule*	Henbit
✓	*Lasthenia gracilis*	Common Goldfields
✓	*Layia glandulosa*	White Layia
○	*Lepidium sp.*	Pepperweed
○	*Linanthus bellus*	Desert Beauty
○	*Linanthus dichotomus*	Evening Snow
○	*Lonicera subspicata*	Johnston's Honeysuckle
○	*Malacothrix californica*	California Dandelion
○	*Malacothrix clevelandii*	Cleveland's Malacothrix
○	*Marah macrocarpus*	Wild-cucumber
○	*Marrubium vulgare**	Horehound
○	*Matricaria matricarioides**	Common Pineapple-weed
○	*Mentzelia veatchiana*	Veatch's Stick-leak
○	*Microsteris gracilis*	Slender Phlox
○	*Mimulus sp.*	Monkeyflower
○	*Nemophila menziesii*	Small-flower Baby Blue Eyes
○	*Orobanche bulbosa*	Chaparral Broom-rape
○	*Osmadenia tenella*	Osmadenia
○	*Paeonia californica*	California Peony
○	*Pectocarya sp.*	Pectocarya
○	*Phacelia sp.*	Phacelia
○	*Pholistoma membranaceum*	White Fiesta Flower
✓	*Plagiobothrys sp.*	Popcornflower
○	***Plantago patagonica***	**Desert Plantain**
○	*Platystemon californicus*	Cream Cups
○	*Prunus ilicifolia*	Holly-leaf Cherry
○	*Rafinesquia neomexicana*	Desert Chicory
○	*Ribes quercetorum*	Oak Gooseberry
○	*Rorripa nasturtium-aquaticum*	Water-cress
○	*Rosa californica*	California Rose
○	*Saltugilia australis*	Southern Gilia
✓	*Senecio californicus*	California Butterweed
○	*Senecio flaccidus*	Butterweed
○	*Sidalcea malvaeflora*	Checker-bloom
○	*Sisymbrium sp.*	Tumble Mustard
○	*Solidago californica*	California Goldenrod
○	*Stachys ajugoides*	Hedge-nettle
○	*Stephanomeria sp.*	Wreathplant
○	*Streptanthus campestris*	Southern Jewelflower
○	*Stylocline gnaphaloides*	Everlasting Nest-straw
○	*Tetradymia comosa*	Cotton-thorn
○	*Thysanocarpus sp.*	Fringepod
○	*Trichostemma parishii*	Mountain Bluecurls
○	*Tropidocarpum gracile*	Slender Dobie-pod
○	*Uropappus lindleyi*	Silver Puffs
○	*Viola purpurea*	Oak Yellow Violet
○		
○		
○	**Other Flowering Plants:**	
○	Lomatium daisycarpum	
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○	**Rare Wildlife or Rare Plants:**	
○	prairie sage	
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Quino Checkerspot Butterfly Protocol Survey — Field Data Sheet

Recorder: BCA Add'l Person: — Date: 3/30/11 GPS Unit: 6

Project: Concentrix Solar Project Map #: 2 Survey Sxn: portion of Erin's map QCB Protocol Survey # 1 of 5

TIME (24-hour)	Temp (F°):	Wind (avg/max)	% CC	Sky
Start 1350				clear patchy overcast drizzle shower
see Erin Bo/ Bonnie's datasheet for weather				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 1605				clear patchy overcast drizzle shower

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

	Total		Total
Nymphalidae (Brushfooted Butterflies)		**Hesperiidae (Skippers)**	
Euphydryas editha (Quino Checkerspot)		*Erynnis funeralis* (Funereal Duskywing)	1
Euphydryas chalcedona (Henne's Checkerspot)		*Erynnis tristis* (Sad Duskywing)	
Thessalia leanira (Wright's Checkerspot)		*Erynnis propertius* (Propertius Duskywing)	
Chlosyne californica (California Patch)		*Erynnis brizo* (Sleepy Duskywing)	
Chlosyne gabbii (Gabb's Checkerspot)		*Pyrgus communis*(Checkered Skipper)	
Phyciodes mylitta (Mylitta Crescent)		*Hesperia jubia* (Jubia Skipper)	
Junonia coenia (Common Buckeye)		*Polites sabuleti* (Sandhill Skipper)	
Vanessa annabella (West Coast Lady		**Megathymidae (Giant Skippers)**	
Vanessa atalanta (Red Admiral)		*Megathymus yuccae* (Yucca Giant Skipper)	
Vanessa cardui (Painted Lady)			
Vanessa virginiensis (Virginia Lady)		**Other Butterflies:**	
Nymphalis californica (California Tortoiseshell)			
Danaidae (Milkweed Butterflies)			
Danaus plexippus (Monarch)			
Danaus gilippus (Queen)			
Satyridae (Satyrs)			
Coenonympha californica (Common California Ringlet)			
Pieridae (Whites, Sulphurs)			
Pieris rapae (Cabbage White)			
Pontia sisymbrii (Spring White)			
Pontia beckeri (Beker's White)			
Pontia protodice (Common White)	1		
Anthocharis sara (Sara Orangetip)	1		
Anthocharis cethura (Felder's Orangetip)			
Euchloe hyantis (Desert Pearly Marble)			
Colias eurytheme (Orange Sulphur)			
Colias harfordii (Harford's Sulphur)			
Nathalis iole (Dainty Sulphur)			
Papilionidae (Swallowtails)		**Notes:**	
Papilio polyxenes (Desert Black Swallowtail)			
Papilio eurymedon (Pale swallowtail)		random trailers parked in	
Papilio rutulus(Western Tiger Swallowtail)		survey area	
Riodinidae (Metalmarks)			
Apodemia mormo (Behr's Metalmark)			
Lycaenidae (Hairstreaks and Blues)			
Celastrina ladon (Spring Azure)			
Leptotes marina(Marine Blue)			
Brephidium exile (Western Pygmy Blue)			
Glaucopsyche lygdamus (Southern Blue/Silvery blue)			
Hemiargus ceraunus (Edward's Blue)			
Icaria acmon (Acmon Blue) III	3		
Philotes sonorensis(Sonoran Blue)			
Callophrys augustinus (Brown Elfin)			
Callophrys dumetorum (Perplexing Green Hairstreak)			
Strymon melinus (Gray Hairstreak)			
Atlides halesus (Great Purple Hairstreak)			

..ntial Nectaring or Host Plants for Quino Checkerspot Butterfly In Boulevard, California (Concentrix Solar)

..tions:

Please Place a Check Mark Beside Flowering Plants. Use Numbered Notes to Add Species Detail.

PLEASE RECORD HOST PLANTS ON GPS See Codes Below:

Antirrhinum coulterianum = AC *Collinsia concolor* = CC *Cordylanthus rigidus* = CR *Plantago patagonica* = PP

	Species	Common Name
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○	***Antirrhinum coulterianum***	**Coulter's Snapdragon**
○	*Antirrhinum nuttallianum*	Nuttall's Snapdragon
○	*Asclepias fascicularis*	Narrow-leaf Milkweed
○	*Boechera sp.*	Rock Cress
○	*Calandrinia ciliata*	Red Maids
○	*Calochortus concolor*	Golden-bowl Mariposa Lily
○	*Calystegia longipes*	Morning-glory
○	*Camissonia sp.*	Sun Cup
○	*Castilleja exerta*	Paintbrush
○	*Caulanthus heterophyllus*	San Diego Jewelflower
○	*Caulanthus simulans*	Payson's Caulanthus
○	*Ceanothus cuneatus*	Buck Brush
○	*Ceanothus greggii*	Cup-leaf-lilac
○	*Ceanothus leucodermis*	Chaparral Whitethorn
○	*Chaenactis artemisiifolia*	White Pincushion
○	*Chaenactis glabriuscula*	Yellow Pincushion
○	*Clematis sp*	Clematis
○	***Collinsia concolor***	**Southern Chinese Houses**
○	***Cordylanthus rigidus***	**Dark-tip Bird's Beak**
○	*Coreopsis californica*	California Coreopsis
○	*Corethrogyne filaginifolia*	Common Sand-aster
○	*Cryptantha sp.*	Cryptantha
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○	*Descurainia sp.*	Tansy-mustard
○	*Dicentra chrysantha*	Golden Ear-drops
○	*Dichelostemma capitatum*	Blue Dicks
○	*Dudleya sp.*	Dudleya
○	*Emmenanthe penduliflora*	Whispering Bells
○	*Eriastrum sp*	Woolly-star
○	*Ericameria sp.*	Goldenbush
○	*Erigeron foliosus*	Leafy Daisy
○	*Eriodictyon trichocalyx*	Hairy Yerba Santa
○	*Eriogonum fasciculatum*	Inland California Buckwheat
○	*Eriogonum sp.*	Buckwheat
○	*Eriophyllum sp.*	Long-stem Golden-yarrow
○	*Erodium cicutarium**	Red-stem Storksbill
○	*Erysimum capitatum*	Western Wallflower
○	*Eschscholzia californica*	California Poppy
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○	*Euthamia occidentalis*	Western Goldenrod
○	*Garrya veatchii*	Canyon Silk Tassel
○	*Gilia sp.*	Gilia
○	*Gnaphalium*	Cudweed
○	*Guillenia lasiophylla*	California Mustard
○	*Gutierrezia sarothrae*	Broom Matchweed
○	*Heliotropium curassavicum*	Salt Heliotrope
○	*Hirshfeldia incana*	Short-pod Mustard
○	*Lamium amplexicaule*	Henbit
○	*Lasthenia gracilis*	Common Goldfields
○	*Layia glandulosa*	White Layia
○	*Lepidium sp.*	Pepperweed
○	*Linanthus bellus*	Desert Beauty
○	*Linanthus dichotomus*	Evening Snow
○	*Lonicera subspicata*	Johnston's Honeysuckle
○	*Malacothrix californica*	California Dandelion
○	*Malacothrix clevelandii*	Cleveland's Malacothrix
○	*Marah macrocarpus*	Wild-cucumber
○	*Marrubium vulgare**	Horehound
○	*Matricaria matricarioides**	Common Pineapple-weed
○	*Mentzelia veatchiana*	Veatch's Stick-leak
○	*Microsteris gracilis*	Slender Phlox
○	*Mimulus sp.*	Monkeyflower
○	*Nemophila menzeisii*	Small-flower Baby Blue Eyes
○	*Orobanche bulbosa*	Chaparral Broom-rape

	Species	Common Name
○	*Osmadenia tenella*	Osmadenia
○	*Paeonia californica*	California Peony
○	*Pectocarya sp.*	Pectocarya
○	*Phacelia sp.*	Phacelia
○	*Pholistoma membranaceum*	White Fiesta Flower
○	*Plagiobothrys sp.*	Popcornflower
○	***Plantago patagonica***	**Desert Plantain**
○	*Platystemon californicus*	Cream Cups
○	*Prunus ilicifolia*	Holly-leaf Cherry
○	*Rafinesquia neomexicana*	Desert Chicory
○	*Ribes quercetorum*	Oak Gooseberry
○	*Rorripa nasturtium-aquaticum*	Water-cress
○	*Rosa californica*	California Rose
○	*Saltugilia australis*	Southern Gilia
○	*Senecio californicus*	California Butterweed
○	*Senecio flaccidus*	Butterweed
○	*Sidalcea malvaeflora*	Checker-bloom
○	*Sisymbrium sp.*	Tumble Mustard
○	*Solidago californica*	California Goldenrod
○	*Stachys ajugoides*	Hedge-nettle
○	*Stephanomeria sp.*	Wreathplant
○	*Streptanthus campestris*	Southern Jewelflower
○	*Stylocline gnaphalioides*	Everlasting Nest-straw
○	*Tetradymia comosa*	Cotton-thorn
○	*Thysanocarpus sp.*	Fringepod
○	*Trichostemma parishii*	Mountain Bluecurls
○	*Tropidocarpum gracile*	Slender Dobie-pod
○	*Uropappus lindleyi*	Silver Puffs
○	*Viola purpurea*	Oak Yellow Violet
○		
○		

Other Flowering Plants:

○
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Rare Wildlife or Rare Plants:

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Quino Checkerspot Butterfly Protocol Survey — Field Data Sheet

4 & 1

Recorder: Bonnie Hendricks Add'l Person: Barbra Calantos Date: 3/30/11 GPS Unit: 2

Project: Concentrix Solar Project Map #: 4 on N.E. part of area 4 Survey Sxn: S.W. Sxn USFWS Protocol Survey # 1 of 5

TIME (24-hour)	Temp (F°):	Wind (avg/max)	% CC	Sky
Start 9:50	63.7	1.5/4.3	15%	(clear) patchy overcast drizzle shower
10:00	69.1	2.1/11.4	7%	(clear) patchy overcast drizzle shower
12:30	72.1	8.6/13.4	1%	(clear) patchy overcast drizzle shower
1:30	73.2	6.8/12.2	5%	(clear) patchy overcast drizzle shower
2:30	75.8	3.2/6.0	60%	clear (patchy) overcast drizzle shower
				clear patchy overcast drizzle shower
End 4:00	75.2	1.3/2.6	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

	Total
Nymphalidae (Brushfooted Butterflies)	
Euphydryas editha (Quino Checkerspot)	
Euphydryas chalcedona (Hanne's Checkerspot)	
Thessalia leanira (Wright's Checkerspot)	
Chlosyne californica (California Patch)	
Chlosyne gabbii (Gabb's Checkerspot)	
Phyciodes mylitta (Mylitta Crescent)	
Junonia coenia (Common Buckeye)	
Vanessa annabella (West Coast Lady	
Vanessa atalanta (Red Admiral)	
Vanessa cardui (Painted Lady)	
Vanessa virginiensis (Virginia Lady)	
Nymphalis californica (California Tortoiseshell)	
Danaidae (Milkweed Butterflies)	
Danaus plexippus (Monarch)	
Danaus gilippus (Queen)	
Satyridae (Satyrs)	
Coenonympha californica (Common California Ringlet)	
Pieridae (Whites, Sulphurs)	
Pieris rapae (Cabbage White)	
Pontia sisymbrii (Spring White)	
Pontia beckerii (Beker's White)	
Pontia protodice (Common White) //	2
Anthocharis sara (Sara Orangetip) //// //	6
Anthocharis cethura (Felder's Orangetip)	
Euchloe hyantis (Desert Pearly Marble) ////	4
Colias eurytheme (Orange Sulphur)	
Colias harfordii (Harford's Sulphur)	
Nathalis iole (Dainty Sulphur)	
Papilionidae (Swallowtails)	
Papilio polyxenes (Desert Black Swallowtail)	
Papilio eurymedon (Pale swallowtail)	
Papilio rutulus(Western Tiger Swallowtail)	
Riodinidae (Metalmarks)	
Apodemia mormo (Behr's Metalmark) ~~//// //// //// //// //~~	12
Lycaenidae (Hairstreaks and Blues)	
Celastrina ladon (Spring Azure)	
Leptotes marina(Marine Blue)	
Brephidium exile (Western Pygmy Blue)	
Glaucopsyche lygdamus (Southern Blue/Silvery blue)	
Hemiargus ceraunus (Edward's Blue)	
Icaria acmon (Acmon Blue)	1
Philotes sonorensis(Sonoran Blue)	
Callophrys augustinus (Brown Elfin)	
[illegible]rphrys dumetorum (Perplexing Green Hairstreak) ////	4
[illegible] melinus (Gray Hairstreak)	
[illegible]asus (Great Purple Hairstreak)	

	Total
Hesperiidae (Skippers)	
Erynnis funeralis (Funereal Duskywing)	
Erynnis tristis (Sad Duskywing)	
Erynnis propertius (Properties Duskywing)	
Erynnis brizo (Sleepy Duskywing)	
Pyrgus communis(Checkered Skipper)	
Hesperia juba (Juba Skipper)	
Polites sabuleti (Sandhill Skipper)	
Megathymidae (Giant Skippers)	
Megathymus yuccae (Yucca Giant Skipper)	
Other Butterflies:	
Duskywing sp. /	1
Sulphur sp. //	2
Whites sp. //	2
Spotted nectaring on Lasthenia	
Black + white checkered (15	16
(Pontocoia sexiguata)	
Notes:	
GL, CLOW, BSS, Wet Meadow, Wi, CHP	
CAQA, WEME, RTHA, CORA, BTSP, NOFL, WCSP, YRWA, SCJA, BETH, BUSH, BRID, LE60	
beehive in old oak tree	
gnats	
Marked fenceline corner because is outside project boundary, but boundary follows fence in other areas	
Deer scat, Calif. Sq., Squirrel, Meat fly maggots, Lepus calif. 2	

...ntial Nectaring or Host Plants for Quino Checkerspot Butterfly in Boulevard, California (Concentrix Solar)

...ctions:

Please Place a Check Mark Beside Flowering Plants. Use Numbered Notes to Add Species Detail. 3/30/11

PLEASE RECORD HOST PLANTS ON GPS See Codes Below: Bonnie Hendricks

Antirrhinum coulterianum = AC *Collinsia concolor* = CC *Cordylanthus rigidus* = CR *Plantago patagonica* = PP

#4 + #1

X	*Amsinckia menziesii*	Rancher's Fiddleneck
o	***Antirrhinum coulterianum***	**Coulter's Snapdragon**
o	*Antirrhinum nuttallianum*	Nuttall's Snapdragon
o	*Asclepias fascicularis*	Narrow-leaf Milkweed
o	*Boechera sp.*	Rock Cress
o	*Calandrinia ciliata*	Red Maids
o	*Calochortus concolor*	Golden-bowl Mariposa Lily
o	*Calystegia longipes*	Morning-glory
o	*Camissonia sp.*	Sun Cup
o	***Castilleja exerta***	**Paintbrush**
o	*Caulanthus heterophyllus*	San Diego Jewelflower
o	*Caulanthus simulans*	Payson's Caulanthus
o	*Ceanothus cuneatus*	Buck Brush
X	*Ceanothus greggii*	Cup-leaf-lilac
o	*Ceanothus leucodermis*	Chaparral Whitethorn
o	*Chaenactis artemisiifolia*	White Pincushion
o	*Chaenactis glabriuscula*	Yellow Pincushion
o	*Clematis sp.*	Clematis
o	***Collinsia concolor***	**Southern Chinese Houses**
o	***Cordylanthus rigidus***	**Dark-tip Bird's Beak**
o	*Coreopsis californica*	California Coreopsis
o	*Corethrogyne filaginifolia*	Common Sand-aster
X	*Cryptantha sp.*	Cryptantha
o	*Cucurbita foetidissima*	Calabazilla
o	*Descurainia sp.*	Tansy-mustard
o	*Dicentra chrysantha*	Golden Ear-drops
o	*Dichelostemma capitatum*	Blue Dicks
o	*Dudleya sp.*	Dudleya
o	*Emmenanthe penduliflora*	Whispering Bells
o	*Eriastrum sp.*	Woolly-star
X	*Ericameria sp.*	Goldenbush
o	*Erigeron foliosus*	Leafy Daisy
o	*Eriodictyon trichocalyx*	Hairy Yerba Santa
o	*Eriogonum fasciculatum*	Inland California Buckwheat
o	*Eriogonum sp.*	Buckwheat
o	*Eriophyllum sp.*	Long-stem Golden-yarrow
X	*Erodium cicutarium**	Red-stem Storksbill
o	*Erysimum capitatum*	Western Wallflower
X	*Eschscholzia californica*	California Poppy
o	*Eucrypta chrysanthemifolia*	Spotted Hideseed
o	*Euthamia occidentalis*	Western Goldenrod
o	*Garrya veatchii*	Canyon Silk Tassel
o	*Gilia sp.*	Gilia
o	*Gnaphalium*	Cudweed
o	*Guillenia lasiophylla*	California Mustard
o	*Gutierrezia sarothrae*	Broom Matchweed
o	*Heliotropium curassavicum*	Salt Heliotrope
X	*Hirshfeldia incana*	Short-pod Mustard
o	*Lamium amplexicaule*	Henbit
X	*Lasthenia gracilis*	Common Goldfields
o	*Layia glandulosa*	White Layia
X	*Lepidium sp.*	Pepperweed
o	*Linanthus bellus*	Desert Beauty
o	*Linanthus dichotomus*	Evening Snow
o	*Lonicera subspicata*	Johnston's Honeysuckle
o	*Malacothrix californica*	California Dandelion
o	*Malacothrix clevelandii*	Cleveland's Malacothrix
o	*Marah macrocarpus*	Wild-cucumber
o	*Marrubium vulgare**	Horehound
o	*Matricaria matricarioides**	Common Pineapple-weed
o	*Mentzelia veatchiana*	Veatch's Stick-leak
o	*Microsteris gracilis*	Slender Phlox
o	*Mimulus sp.*	Monkeyflower
o	*Nemophila menziesii*	Small-flower Baby Blue Eyes
o	*Orobanche bulbosa*	Chaparral Broom-rape
o	*Osmadenia tenella*	Osmadenia
o	*Paeonia californica*	California Peony
o	*Pectocarya sp.*	Pectocarya
X	*Phacelia sp.*	Phacelia
o	*Phoilisfoma membranaceum*	White Fiesta Flower
X	*Plagiobothrys sp.*	Popcornflower
o	***Plantago patagonica***	**Desert Plantain**
o	*Platystemon californicus*	Cream Cups
o	*Prunus ilicifolia*	Holly-leaf Cherry
o	*Rafinesquia neomexicana*	Desert Chicory
o	*Ribes quercetorum*	Oak Gooseberry
o	*Rorripa nasturtium-aquaticum*	Water-cress
o	*Rosa californica*	California Rose
o	*Saltugilia australis*	Southern Gilia
o	*Senecio californicus*	California Butterweed
o	*Senecio flaccidus*	Butterweed
o	*Sidalcea malvaeflora*	Checker-bloom
X	*Sisymbrium sp.*	Tumble Mustard
o	*Solidago californica*	California Goldenrod
o	*Stachys ajugoides*	Hedge-nettle
o	*Stephanomeria sp.*	Wreathplant
o	*Streptanthus campestris*	Southern Jewelflower
o	*Stylocline gnaphalioides*	Everlasting Nest-straw
o	*Tetradymia comosa*	Cotton-thorn
o	*Thysanocarpus sp.*	Fringepod
o	*Trichostemma parishii*	Mountain Bluecurls
o	*Tropidocarpum gracile*	Slender Dobie-pod
o	*Uropappus lindleyi*	Silver Puffs
o	*Viola purpurea*	Oak Yellow Violet
o		
o		
o	**Other Flowering Plants:**	
o	Taraxacum sp.	
o	Castilleja sp.	
o	Arabis pulchra	
o	Nemophila sp.	
o	Lupinus concinnus	
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o	**Rare Wildlife or Rare Plants:**	
o	Bhn/01 - woodrat midden	
o	Bhn/02, 03, 04, 05, 06, 07, 08, 09, 10, 11	
o		
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o	Bhh/01-50 Horned Lizard	
o	Bhbj01. - B.tailed jack rabbit - saw 2.	
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Quino Checkerspot Butterfly Protocol Survey — Field Data Sheet

Recorder: Erin Bergman Add'l Person: _____ Date: March 30, 11 GPS Unit: 11

Project: Concentrix Solar Project Map #: Survey Sxn: QCB Protocol Survey # _____ of 5

TIME (24-hour)	Temp (F°):	Wind (avg/max)	% CC	Sky
Start 9:30	63	(1.5)-2 max	15	(clear) patchy overcast drizzle shower
		with 2		clear patchy overcast drizzle shower
12:00	72	(1.5)-2 max	0	clear patchy overcast drizzle shower
				clear patchy overcast drizzle shower
2:30	73	4-8 maxes		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

	Total		Total
Nymphalidae (Brushfooted Butterflies)		**Hesperiidae (Skippers)**	
Euphydryas editha (Quino Checkerspot)		*Erynnis funeralis* (Funereal Duskywing)	
Euphydryas chalcedona (Hanne's Checkerspot)		*Erynnis tristis* (Sad Duskywing)	1
Thessalia leanira (Wright's Checkerspot)		*Erynnis propertius* (Propertius Duskywing)	
Chlosyne californica (California Patch)		*Erynnis brizo* (Sleepy Duskeywing)	
Chlosyne gabbii (Gabb's Checkerspot)		*Pyrgus communis* (Checkered Skipper)	
Phyciodes mylitta (Mylitta Crescent)		*Hesperia jubia* (Jubia Skipper)	
Junonia coenia (Common Buckeye)		*Polites sabuleti* (Sandhill Skipper)	
Vanessa annabella (West Coast Lady		**Megathymidae (Giant Skippers)**	
Vanessa atalanta (Red Admiral)		*Megathymus yuccae* (Yucca Giant Skipper)	
Vanessa cardui (Painted Lady)			
Vanessa virginiensis (Virginia Lady)		**Other Butterflies:**	
Nymphalis californica (California Tortoiseshell)			
Danaidae (Milkweed Butterflies)		Moth	
Danaus plexippus (Monarch)			
Danaus gilippus (Queen)		Drastavia tejonica III	3
Satyridae (Satyrs)			
Coenonympha californica (Common California Ringlet)		White sp. III	3
Pieridae (Whites, Sulphurs)			
Pieris rapae (Cabbage White)			
Pontia sisymbrii (Spring White)			
Pontia beckerii (Beker's White)			
Pontia protodice (Common White)	1		
Anthocharis sara (Sara Orangetip) III	3		
Anthocharis cethura (Felder's Orangetip)			
Euchloe hyantis (Desert Pearly Marble) IIII II	7		
Colias eurytheme (Orange Sulphur)	1		
Colias harfordii (Harford's Sulphur)			
Nathalis iole (Dainty Sulphur)			
Papilionidae (Swallowtails)	1	**Notes:**	
Papilio polyxenes (Desert Black Swallowtail)		Meadowlark singing	
Papilio eurymedon (Pale swallowtail)		California Quail	
Papilio rutulus (Western Tiger Swallowtail)		Spotted towhee	
Riodinidae (Metalmarks)		Red tail	
Apodemia mormo (Behr's Metalmark) IIII IIII IIII II	20	Scrub jay	
Lycaenidae (Hairstreaks and Blues)		Raven	
Celastrina ladon (Spring Azure)	1	Mourning dove	
Leptotes marina (Marine Blue)			
Brephidium exile (Western Pygmy Blue)			
Glaucopsyche lygdamus (Southern Blue/Silvery blue)			
Hemiargus ceraunus (Edward's Blue)			
Icaria acmon (Acmon Blue) III			
Philotes sonorensis (Sonoran Blue)			
Callophrys augustinus (Brown Elfin)			
Callophrys dumetorum (Perplexing Green Hairstreak)			
Strymon melinus (Gray Hairstreak)			
Atlides halesus (Great Purple Hairstreak)			

ential Nectaring or Host Plants for Quino Checkerspot Butterfly in Boulevard, California (Concentrix Solar)

ctions:

Please Place a Check Mark Beside Flowering Plants. Use Numbered Notes to Add Species Detail.

PLEASE RECORD HOST PLANTS ON GPS See Codes Below:

Antirrhinum coulterianum = AC *Collinsia concolor* = CC *Cordylanthus rigidus* = CR *Plantago patagonica* = PP

Amsinckia menziesii	Rancher's Fiddleneck
Antirrhinum coulterianum	Coulter's Snapdragon
Antirrhinum nuttallianum	Nuttall's Snapdragon
Asclepias fascicularis	Narrow-leaf Milkweed
Boechera sp.	Rock Cress
Calandrinia ciliata	Red Maids
Calochortus concolor	Golden-bowl Mariposa Lily
Calystegia longipes	Morning-glory
Camissonia sp.	Sun Cup
Castilleja exerta	Paintbrush
Caulanthus heterophyllus	San Diego Jewelflower
Caulanthus simulans	Payson's Caulanthus
Ceanothus cuneatus	Buck Brush
Ceanothus greggii	Cup-leaf-lilac
Ceanothus leucodermis	Chaparral Whitethorn
Chaenactis artemisifolia	White Pincushion
Chaenactis glabriuscula	Yellow Pincushion
Clematis sp.	Clematis
Collinsia concolor	Southern Chinese Houses
Cordylanthus rigidus	Dark-tip Bird's Beak
Coreopsis californica	California Coreopsis
Corethrogyne filaginifolia	Common Sand-aster
Cryptantha sp.	Cryptantha
Cucurbita foetidissima	Calabazilla
Descurainia sp.	Tansy-mustard
Dicentra chrysantha	Golden Ear-drops
Dichelostemma capitatum	Blue Dicks
Dudleya sp.	Dudleya
Emmenanthe penduliflora	Whispering Bells
Eriastrum sp.	Woolly-star
Ericameria sp.	Goldenbush
Erigeron foliosus	Leafy Daisy
Eriodictyon trichocalyx	Hairy Yerba Santa
Eriogonum fasciculatum	Inland California Buckwheat
Eriogonum sp.	Buckwheat
Eriophyllum sp.	Long-stem Golden-yarrow
*Erodium cicutarium**	Red-stem Storksbill
Erysimum capitatum	Western Wallflower
Eschscholzia californica	California Poppy
Eucrypta chrysanthemifolia	Spotted Hideseed
Euthamia occidentalis	Western Goldenrod
Garrya veatchii	Canyon Silk Tassel
Gilia sp.	Gilia
Gnaphalium	Cudweed
Guillenia lasiophylla	California Mustard
Gutierrezia sarothrae	Broom Matchweed
Heliotropium curassavicum	Salt Heliotrope
Hirshfeldia incana	Short-pod Mustard
Lamium amplexicaule	Henbit
Lasthenia gracilis	Common Goldfields
Layia glandulosa	White Layia
Lepidium sp.	Pepperweed
Linanthus bellus	Desert Beauty
Linanthus dichotomus	Evening Snow
Lonicera subspicata	Johnston's Honeysuckle
Malacothrix californica	California Dandelion
Malacothrix clevelandii	Cleveland's Malacothrix
Marah macrocarpus	Wild-cucumber
*Marrubium vulgare**	Horehound
*Matricaria matricarioides**	Common Pineapple-weed
Mentzelia veatchiana	Veatch's Stick-leak
Microsteris gracilis	Slender Phlox
Mimulus sp.	Monkeyflower
Nemophila menziesii	Small-flower Baby Blue Eyes
Orobanche bulbosa	Chaparral Broom-rape
Osmadenia tenella	Osmadenia
Paeonia californica	California Peony
Pectocarya sp.	Pectocarya
Phacelia sp.	Phacelia
Pholistoma membranaceum	White Fiesta Flower
Plagiobothrys sp.	Popcornflower
Plantago patagonica	Desert Plantain
Platystemon californicus	Cream Cups
Prunus ilicifolia	Holly-leaf Cherry
Rafinesquia neomexicana	Desert Chicory
Ribes quercetorum	Oak Gooseberry
Rorippa nasturtium-aquaticum	Water-cress
Rosa californica	California Rose
Salvugilia australis	Southern Gilia
Senecio californicus	California Butterweed
Senecio flaccidus	Butterweed
Sidalcea malvaeflora	Checker-bloom
Sisymbrium sp.	Tumble Mustard
Solidago californica	California Goldenrod
Stachys ajugoides	Hedge-nettle
Stephanomeria sp.	Wreathplant
Streptanthus campestris	Southern Jewelflower
Stylocline gnaphalioides	Everlasting Nest-straw
Tetradymia comosa	Cotton-thorn
Thysanocarpus sp.	Fringepod
Trichostemma parishii	Mountain Bluecurls
Tropidocarpum gracile	Slender Dobie-pod
Uropappus lindleyi	Silver Puffs
Viola purpurea	Oak Yellow Violet

Other Flowering Plants:

Cryptantha lepida
Lupinus concinnus
Lomatium deltacarpum

Rare Wildlife or Rare Plants:

CBA005 - 1
CBA006 - 1
CBA007 - 1
CBA008 - pop 5
CBA009 - pop 2
CBA010 - pop 1
CBA010

Quino Checkerspot Butterfly Protocol Survey — Field Data Sheet

Recorder: Margie Mulligan Add'l Person: _____ Date: 3 2 11 GPS Unit: 12

Project: Concentrix Solar Project Map #: _____ Survey Sxn: _____ QCB Protocol Survey # 1 of 5

TIME (24 hour)	Temp (F°)	Wind (avg/max)	% CC	Sky
Start				clear patchy overcast drizzle shower
1100	5°	1-4	1	clear patchy overcast drizzle shower
1200	12°	5-8	1	clear patchy overcast drizzle shower
1300	75°	4-6	4/2	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

	Total		Total
Nymphalidae (Brushfooted Butterflies)		**Hesperiidae (Skippers)**	
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Euphydryas chalcedona (Henne's Checkerspot)		*Erynnis tristis* (Sad Duskywing)	
Thessalia leanira (Wright's Checkerspot)		*Erynnis propertius* (Propertius Duskywing)	
Chlosyne californica (California Patch)		*Erynnis brizo* (Sleepy Duskywing)	1
Chlosyne gabbii (Gabb's Checkerspot)		*Pyrgus communis*(Checkered Skipper)	
Phyciodes mylitta (Mylitta Crescent)		*Hesperia jubia* (Jubia Skipper)	
Junonia coenia (Common Buckeye)		*Polites sabuleti* (Sandhill Skipper)	
Vanessa annabella (West Coast Lady		**Megathymidae (Giant Skippers)**	
Vanessa atalanta (Red Admiral)		*Megathymus yuccae* (Yucca Giant Skipper)	
Vanessa cardui (Painted Lady)	1		
Vanessa virginiensis (Virginia Lady)		**Other Butterflies:**	
Nymphalis californica (California Tortoiseshell)		[illegible]	1
Danaidae (Milkweed Butterflies)			
Danaus plexippus (Monarch)			
Danaus gilippus (Queen)			
Satyridae (Satyrs)			
Coenonympha californica (Common California Ringlet)			
Pieridae (Whites, Sulphurs)			
Pieris rapae (Cabbage White)			
Pontia sisymbrii (Spring White)			
Pontia beckerii (Becker's White)			
Pontia protodice (Common White)			
Anthocharis sara (Sara Orangetip)	III		
Anthocharis cethura (Felder's Orangetip)			
Euchloe hyantis (Desert Pearly Marble)	III		
Colias eurytheme (Orange Sulphur)			
Colias harfordii (Harford's Sulphur)			
Nathalis iole (Dainty Sulphur)			
Papilionidae (Swallowtails)		**Notes:**	
Papilio polyxenes (Desert Black Swallowtail)			
Papilio eurymedon (Pale swallowtail)			
Papilio rutulus(Western Tiger Swallowtail)			
Riodinidae (Metalmarks)			
Apodemia mormo (Behr's Metalmark)	III		
Lycaenidae (Hairstreaks and Blues)			
Celastrina ladon (Spring Azure)			
Leptotes marina(Marine Blue)			
Brephidium exile (Western Pygmy Blue)			
Glaucopsyche lygdamus (Southern Blue/Silvery blue)			
Hemiargus ceraunus (Edward's Blue)			
Icaria acmon (Acmon Blue)			
Philotes sonorensis(Sonoran Blue)			
Callophrys augustinus (Brown Elfin)			
Callophrys dumetorum (Perplexing Green Hairstreak)	III		
Strymon melinus (Gray Hairstreak)			
[illegible]es halesus (Great Purple Hairstreak)			

...tial Nectaring or Host Plants for Quino Checkerspot Butterfly in Boulevard, California (Concentrix Solar)

...ons:

Please Place a Check Mark Beside Flowering Plants. Use Numbered Notes to Add Species Detail.

PLEASE RECORD HOST PLANTS ON GPS See Codes Below:

Antirrhinum coulterianum = AC *Collinsia concolor* = CC *Cordylanthus rigidus* = CR *Plantago patagonica* = PP

X	*Amsinckia menziesii*	Rancher's Fiddleneck
o	***Antirrhinum coulterianum***	**Coulter's Snapdragon**
o	*Antirrhinum nuttallianum*	Nuttall's Snapdragon
o	*Asclepias fascicularis*	Narrow-leaf Milkweed
o	*Boechera sp.*	Rock Cress
o	*Calandrinia ciliata*	Red Maids
o	*Calochortus concolor*	Golden-bowl Mariposa Lily
o	*Calystegia longipes*	Morning-glory
o	*Camissonia sp*	Sun Cup
o	***Castilleja exerta***	**Paintbrush**
o	*Caulanthus heterophyllus*	San Diego Jewelflower
o	*Caulanthus simulans*	Payson's Caulanthus
o	*Ceanothus cuneatus*	Buck Brush
o	*Ceanothus greggii*	Cup-leaf-lilac
o	*Ceanothus leucodermis*	Chaparral Whitethorn
o	*Chaenactis artemisiifolia*	White Pincushion
o	*Chaenactis glabriuscula*	Yellow Pincushion
o	*Clematis sp.*	Clematis
o	***Collinsia concolor***	**Southern Chinese Houses**
o	***Cordylanthus rigidus***	**Dark-tip Bird's Beak**
o	*Coreopsis californica*	California Coreopsis
o	*Corethrogyne filaginifolia*	Common Sand-aster
X	*Cryptantha sp.*	Cryptantha
o	*Cucurbita foetidissima*	Calabazilla
o	*Descurainia sp.*	Tansy-mustard
o	*Dicentra chrysantha*	Golden Ear-drops
o	*Dichelostemma capitatum*	Blue Dicks
o	*Dudleya sp.*	Dudleya
o	*Emmenanthe penduliflora*	Whispering Bells
o	*Eriastrum sp.*	Woolly-star
o	*Ericameria sp.*	Goldenbush
o	*Erigeron foliosus*	Leafy Daisy
o	*Eriodictyon trichocalyx*	Hairy Yerba Santa
o	*Eriogonum fasciculatum*	Inland California Buckwheat
o	*Eriogonum sp.*	Buckwheat
o	*Eriophyllum sp.*	Long-stem Golden-yarrow
o	*Erodium cicutarium**	Red-stem Storksbill
o	*Erysimum capitatum*	Western Wallflower
X	*Eschscholzia californica*	California Poppy
X	*Eucrypta chrysanthemifolia*	Spotted Hideseed
o	*Euthamia occidentalis*	Western Goldenrod
X	*Garrya veatchii*	Canyon Silk Tassel
o	*Gilia sp.*	Gilia
o	*Gnaphalium*	Cudweed
o	*Guillenia lasiophylla*	California Mustard
o	*Gutierrezia sarothrae*	Broom Matchweed
o	*Heliotropium curassavicum*	Salt Heliotrope
o	*Hirshfeldia incana*	Short-pod Mustard
o	*Lamium amplexicaule*	Henbit
X	*Lasthenia gracilis*	Common Goldfields
o	*Layia glandulosa*	White Layia
o	*Lepidium sp.*	Pepperweed
X	*Linanthus bellus*	Desert Beauty
o	*Linanthus dichotomus*	Evening Snow
o	*Lonicera subspicata*	Johnston's Honeysuckle
o	*Malacothrix californica*	California Dandelion
o	*Malacothrix clevelandii*	Cleveland's Malacothrix
o	*Marah macrocarpus*	Wild-cucumber
o	*Marrubium vulgare**	Horehound
o	*Matricaria matricarioides**	Common Pineapple-weed
o	*Mentzelia veatchiana*	Veatch's Stick-leaf
o	*Microsteris gracilis*	Slender Phlox
o	*Mimulus sp.*	Monkeyflower
X	*Nemophila menziesii*	Small-flower Baby Blue Eyes
o	*Orobanche bulbosa*	Chaparral Broom-rape
o	*Osmadenia tenella*	Osmadenia
o	*Paeonia californica*	California Peony
X	*Pectocarya sp.*	Pectocarya
X	*Phacelia sp.*	Phacelia
o	*Pholistoma membranaceum*	White Fiesta Flower
X	*Plagiobothrys sp.*	Popcornflower
o	***Plantago patagonica***	**Desert Plantain**
o	*Platystemon californicus*	Cream Cups
o	*Prunus ilicifolia*	Holly-leaf Cherry
o	*Rafinesquia neomexicana*	Desert Chicory
o	*Ribes quercetorum*	Oak Gooseberry
o	*Rorripa nasturtium-aquaticum*	Water-cress
o	*Rosa californica*	California Rose
o	*Saltugilia australis*	Southern Gilia
o	*Senecio californicus*	California Butterweed
o	*Senecio flaccidus*	Butterweed
o	*Sidalcea malvaeflora*	Checker-bloom
o	*Sisymbrium sp.*	Tumble Mustard
o	*Solidago californica*	California Goldenrod
o	*Stachys ajugoides*	Hedge-nettle
o	*Stephanomeria sp.*	Wreathplant
o	*Streptanthus campestris*	Southern Jewelflower
o	*Stylocline gnaphalicides*	Everlasting Nest-straw
o	*Tetradymia comosa*	Cotton-thorn
o	*Thysanocarpus sp.*	Fringepod
o	*Trichostemma parishii*	Mountain Bluecurls
o	*Tropidocarpum gracile*	Slender Dobie-pod
o	*Uropappus lindleyi*	Silver Puffs
o	*Viola purpurea*	Oak Yellow Violet

Other Flowering Plants:

Rare Wildlife or Rare Plants:

Black-Jackrabbit

MMBB01

Horn Lizard

MMHL01

Linanthus bellus

MMLB 01-09

Quino Checkerspot Butterfly Protocol Survey — Field Data Sheet

Recorder: Anne Fisher Add'l Person: _____ Date: 3-31-2011 GPS Unit: 12

Project: Concentrix Solar Project Map #: 14 Survey Sxn: 4 QCB Protocol Survey # 1 of 5

TIME (24-hour)	Temp (F°):	Wind (avg/max)	% CC	Sky
Start 1300	85°F	2-3 W	0	clear patchy overcast drizzle shower
1500	81°F	2-3 W	0	clear patchy overcast drizzle shower
End 1726	81°F	1-2 W	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

	Total		Total
Nymphalidae (Brushfooted Butterflies)		**Hesperiidae (Skippers)**	
Euphydryas editha (Quino Checkerspot)		*Erynnis funeralis* (Funereal Duskywing)	
Euphydryas chalcedona (Henne's Checkerspot) I	1	*Erynnis tristis* (Sad Duskywing)	
Thessalia leanira (Wright's Checkerspot)		*Erynnis propertius* (Propertius Duskywing)	
Chlosyne californica (California Patch)		*Erynnis brizo* (Sleepy Duskywing)	
Chlosyne gabbii (Gabb's Checkerspot)		*Pyrgus communis* (Checkered Skipper)	
Phyciodes mylitta (Mylitta Crescent)		*Hesperia jubia* (Jubia Skipper)	
Junonia coenia (Common Buckeye)		*Polites sabuleti* (Sandhill Skipper)	
Vanessa annabella (West Coast Lady		**Megathymidae (Giant Skippers)**	
Vanessa atalanta (Red Admiral)		*Megathymus yuccae* (Yucca Giant Skipper)	
Vanessa cardui (Painted Lady)			
Vanessa virginiensis (Virginia Lady)		**Other Butterflies:**	
Nymphalis californica (California Tortoiseshell)		*Erynnis* sp. IIII II	7
Danaidae (Milkweed Butterflies)			
Danaus plexippus (Monarch)			
Danaus gilippus (Queen)			
Satyridae (Satyrs)			
Coenonympha californica (Common California Ringlet)			
Pieridae (Whites, Sulphurs)			
Pieris rapae (Cabbage White)			
Pontia sisymbri (Spring White)			
Pontia beckerii (Beker's White)			
Pontia protodice (Common White)		NO QUINO	
Anthocharis sara (Sara Orangetip) II	2		
Anthocharis cethura (Felder's Orangetip)			
Euchloe hyantis (Desert Pearly Marble) IIII IIII	10		
Colias eurytheme (Orange Sulphur) II	2		
Colias harfordii (Harford's Sulphur)			
Nathalis iole (Dainty Sulphur)			
Papilionidae (Swallowtails)		**Notes:**	
Papilio polyxenes (Desert Black Swallowtail)			
Papilio eurymedon (Pale swallowtail)		Birds: CORA, WCSP, SAVH, BTSP	
Papilio rutulus (Western Tiger Swallowtail)		NALA, LASP, WEME, SVSP	
Riodiniade (Metalmarks)			
Apodemia mormo (Behr's Metalmark) IIII IIII IIII IIII IIII	50	Side-blotched lizard, striped-racer	
Lycaenidae (Hairstreaks and Blues) IIII IIII IIII IIII IIII			
Celastrina ladon (Spring Azure)		NOMO, DEJU, BUSH, CAQU	
Leptotes marina (Marine Blue)			
Brephidium exile (Western Pygmy Blue)		NOFL, BEWR, WSTA, TUVU,	
Glaucopsyche lygdamus (Southern Blue/Silvery blue)			
Hemiargus ceraunus (Edward's Blue)		MOUO,	
Icaria acmon (Acmon Blue)			
Philotes sonorensis (Sonoran Blue)			
Callophrys augustinus (Brown Elfin)			
Callophrys dumetorum (Perplexing Green Hairstreak)			
Strymon melinus (Gray Hairstreak)			
Atlides halesus (Great Purple Hairstreak)			

...tial Nectaring or Host Plants for Quino Checkerspot Butterfly in Boulevard, California (Concentrix Solar)

...tions.

Please Place a Check Mark Beside Flowering Plants. Use Numbered Notes to Add Species Detail.

► **PLEASE RECORD HOST PLANTS ON GPS** See Codes Below:

Antirrhinum coulterianum = AC *Collinsia concolor* = CC *Cordylanthus rigidus* = CR *Plantago patagonica* = PP

Amsinckia menziesii	Rancher's Fiddleneck
Antirrhinum coulterianum	**Coulter's Snapdragon**
Antirrhinum nuttallianum	Nuttall's Snapdragon
Asclepias fascicularis	Narrow-leaf Milkweed
Boechera sp.	Rock Cress
Calandrinia ciliata	Red Maids
Calochortus concolor	Golden-bowl Mariposa Lily
Calystegia longipes	Morning-glory
Camissonia sp.	Sun Cup
Castilleja exerta	**Paintbrush**
Ceanothus heterophyllus	San Diego Jewelflower
Ceanothus simulans	Payson's Ceanothus
Ceanothus cuneatus	Buck Brush
Ceanothus greggii	Cup-leaf Lilac
Ceanothus leucodermis	Chaparral Whitethorn
Chaenactis artemisiifolia	White Pincushion
Chaenactis glabriuscula	Yellow Pincushion
Clematis sp.	Clematis
Collinsia concolor	**Southern Chinese Houses**
Cordylanthus rigidus	**Dark-tip Bird's Beak**
Coreopsis californica	California Coreopsis
Corethrogyne filaginifolia	Common Sand-aster
Cryptantha sp.	Cryptantha
Cucurbita foetidissima	Calabazilla
Descurainia sp.	Tansy-mustard
Dicentra chrysantha	Golden Ear-drops
Dichelostomma capitatum	Blue Dicks
Dudleya sp.	Dudleya
Emmenanthe penduliflora	Whispering Bells
Eriastrum sp.	Woolly-star
Ericameria sp.	Goldenbush
Erigeron foliosus	Leafy Daisy
Eriodictyon trichocalyx	Hairy Yerba Santa
Eriogonum fasciculatum	Inland California Buckwheat
Eriogonum sp.	Buckwheat
Eriophyllum sp.	Long-stem Golden-yarrow
*Erodium cicutarium**	Red-stem Storksbill
Erysimum capitatum	Western Wallflower
Eschscholzia californica	California Poppy
Eucrypta chrysanthemifolia	Spotted Hideseed
Euthamia occidentalis	Western Goldenrod
Garrya veatchii	Canyon Silk Tassel
Gilia sp.	Gilia
Gnaphalium	Cudweed
Guillenia lasiophylla	California Mustard
Gutierrezia sarothrae	Broom Matchweed
Heliotropium curassavicum	Salt Heliotrope
Hirshfeldia incana	Short-pod Mustard
Lamium amplexicaule	Henbit
Lasthenia gracilis	Common Goldfields
Layia glandulosa	White Layia
Lepidium sp.	Pepperweed
Linanthus bellus	Desert Beauty
Linanthus dichotomus	Evening Snow
Lonicera subspicata	Johnston's Honeysuckle
Malacothrix californica	California Dandelion
*Malacothrix cleveland*ii	Cleveland's Malacothrix
Marah macrocarpus	Wild-cucumber
*Marrubium vulgare**	Horehound
*Matricaria matricarioides**	Common Pineapple-weed
Mentzelia veatchiana	Veatch's Stick-leak
Microsteris gracilis	Slender Phlox
Mimulus sp.	Monkeyflower
Nemophila menziesii	Small-flower Baby Blue Eyes
Orobanche bulbosa	Chaparral Broom-rape

Osmadenia tenella	Osmadenia
Paeonia californica	California Peony
Pectocarya sp.	Pectocarya
Phacelia sp.	Phacelia
Phalistoma membranaceum	White Fiesta Flower
Plagiobothrys sp.	Popcornflower
Plantago patagonica	**Desert Plantain**
Platystemon californicus	Cream Cups
Prunus ilicifolia	Holly-leaf Cherry
Rafinesquia neomexicana	Desert Chicory
Ribes quercetorum	Oak Gooseberry
Rorripa nasturtium-aquaticum	Water-cress
Rosa californica	California Rose
Saltugilia australis	Southern Gilia
Senecio californicus	California Butterweed
Senecio flaccidus	Butterweed
Sidalcea malvaeflora	Checker-bloom
Sisymbrium sp.	Tumble Mustard
Solidago californica	California Goldenrod
Stachys ajugoides	Hedge-nettle
Stephanomeria sp.	Wreathplant
Streptanthus campestris	Southern Jewelflower
Stylocline gnaphalioides	Everlasting Nest-straw
Tetradymia comosa	Cotton-thorn
Thysanocarpus sp.	Fringepod
Trichostemma parishii	Mountain Bluecurls
Tropidocarpum gracile	Slender Dobie-pod
Uropappus lindleyi	Silver Puffs
Viola purpurea	Oak Yellow Violet

Other Flowering Plants:

Rare Wildlife or Rare Plants:

AF CH01: 1♀ Cooper's Hawk

AF HL01: 1 individual adult horned lark + 1 pair in vicinity

AF HL02: 1 pair Horn

AF HL03: 2 pairs of Horn

Quino Checkerspot Butterfly Protocol Survey — Field Data Sheet

Recorder: MIKE GOUFFER Add'l Person: Ø Date: 1 APRIL, 2011 GPS Unit: 10

Project: Concentrix Solar Project Map #: 4 Survey Sxn: Ø QCB Protocol Survey # 1 of 5

	TIME (24-hour)	Temp (F°):	Wind (avg/max)	% CC	Sky
Start	0830 HRS	81°F	Ø	Ø	(clear) patchy overcast drizzle shower
	0900 HRS	83°F	Ø→1 MPH	Ø	(clear) patchy overcast drizzle shower
	1000 HRS	85°F	Ø→3 MPH	Ø	(clear) patchy overcast drizzle shower
	1100 HRS	85°F	Ø→3 MPH	Ø	(clear) patchy overcast drizzle shower
	1200 HRS	87°F	1→5 MPH	Ø	(clear) patchy overcast drizzle shower
	1300 HRS	86°F	1→4 MPH	Ø	(clear) patchy overcast drizzle shower
End	1400 HRS	86°F	Ø	Ø	(clear) patchy overcast drizzle shower

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

	Total		Total
Nymphalidae (Brushfooted Butterflies)		**Hesperiidae (Skippers)**	
Euphydryas editha (Quino Checkerspot)		*Erynnis funeralis* (Funereal Duskywing)	3
Euphydryas chalcedona (Hanne's Checkerspot)	1	*Erynnis tristis* (Sad Duskywing)	
Thessalia leanira (Wright's Checkerspot)		*Erynnis propertius* (Propertius Duskywing)	
Chlosyne californica (California Patch)		*Erynnis brizo* (Sleepy Duskywing)	
Chlosyne gabbii (Gabb's Checkerspot)		*Pyrgus communis*(Checkered Skipper)	
Phyciodes mylitta (Mylitta Crescent)		*Hesperia jubia* (Jubia Skipper)	
Junonia coenia (Common Buckeye)		*Polites sabuleti* (Sandhill Skipper)	
Vanessa annabella (West Coast Lady		**Megathymidae (Giant Skippers)**	
Vanessa atalanta (Red Admiral)		*Megathymus yuccae* (Yucca Giant Skipper)	
Vanessa cardui (Painted Lady)			
Vanessa virginiensis (Virginia Lady)		**Other Butterflies:**	
Nymphalis californica (California Tortoiseshell)		VANESSA SP. (UNIDENTIFIED LADY)	71
Danaidae (Milkweed Butterflies)			
Danaus plexippus (Monarch)			
Danaus gilippus (Queen)			
Satyridae (Satyrs)			
Coenonympha californica (Common California Ringlet)			
Pieridae (Whites, Sulphurs)			
Pieris rapae (Cabbage White)			
Pontia sisymbrii (Spring White)	5		
Pontia beckerii (Beker's White)			
Pontia protodice (Common White)			
Anthocharis sara (Sara Orangetip)	11		
Anthocharis cethura (Felder's Orangetip)			
Euchloe hyantis (Desert Pearly Marble)	7		
Colias eurytheme (Orange Sulphur)			
Colias harfordii (Harford's Sulphur)	3		
Nathalis iole (Dainty Sulphur)	3		
Papilionidae (Swallowtails)		**Notes:**	
Papilio polyxenes (Desert Black Swallowtail)			
Papilio eurymedon (Pale swallowtail)			
Papilio rutulus(Western Tiger Swallowtail)			
Riodiniade (Metalmarks)			
Apodemia mormo (Behr's Metalmark)	III		
Lycaenidae (Hairstreaks and Blues)			
Celastrina ladon (Spring Azure)			
Leptotes marina(Marine Blue)			
Brephidium exile (Western Pygmy Blue)			
Glaucopsyche lygdamus (Southern Blue/Silvery blue)			
Homiargus cerenus (Edward's Blue)			
Icaris acmon (Acmon Blue)	7		
Philotes sonorensis(Sonoran Blue)			
Callophrys augustinus (Brown Elfin)	4		
Callophrys dumetorum (Perplexing Green Hairstreak)	4		
Strymon melinus (Gray Hairstreak)			
Atlides halesus (Great Purple Hairstreak)			

...tential Nectaring or Host Plants for Quino Checkerspot Butterfly in Boulevard, California (Concentrix Solar)

...uctions.

Please Place a Check Mark Beside Flowering Plants. Use Numbered Notes to Add Species Detail.

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○	*Boechera sp.*	Rock Cress
○	*Calandrinia ciliata*	Red Maids
○	*Calochortus concolor*	Golden-bowl Mariposa Lily
○	*Calystegia longipes*	Morning-glory
○	*Camissonia sp.*	Sun Cup
○	***Castilleja exerta***	**Paintbrush**
○	***Ceanothus heterophyllus***	**San Diego Jewelflower**
○	*Ceanothus simulans*	Payson's Ceanothus
○	*Ceanothus cuneatus*	Buck Brush
○	*Ceanothus greggii*	Cup-leaf-lilac
○	*Ceanothus leucodermis*	Chaparral Whitethorn
○	*Chaenactis artemisiifolia*	White Pincushion
○	*Chaenactis glabriuscula*	Yellow Pincushion
○	*Clematis sp.*	Clematis
○	***Collinsia concolor***	**Southern Chinese Houses**
○	***Cordylanthus rigidus***	**Dark-lip Bird's Beak**
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○	*Corethrogyne filaginifolia*	Common Sand-aster
(○)	*Cryptantha sp.*	Cryptantha
○	*Cucurbita foetidissima*	Calabazilla
○	*Descurainia sp.*	Tansy-mustard
○	*Dicentra chrysantha*	Golden Ear-drops
○	*Dichelostemma capitatum*	Blue Dicks
○	*Dudleya sp.*	Dudleya
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○	*Erastrum sp.*	Woolly-star
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○	*Gilia sp.*	Gilla
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○	*Heliotropium curassavicum*	Salt Heliotrope
○	*Hirshfeldia incana*	Short-pod Mustard
○	*Lamium amplexicaule*	Henbit
○	*Lasthenia gracilis*	Common Goldfields
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○	*Lepidium sp*	Pepperweed
○	*Linanthus bellus*	Desert Beauty
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○	*Malacothrix clevelandii*	Cleveland's Malacothrix
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○	*Mentzelia veatchiana*	Veatch's Stick-leak
○	*Microsteris gracilis*	Slender Phlox
○	*Mimulus sp.*	Monkeyflower
○	*Nemophila menziesii*	Small-flower Baby Blue Eyes
○	*Orobanche bulbosa*	Chaparral Broom-rape
○	*Osmadenia tenella*	Osmadenia
○	*Paeonia californica*	California Peony
○	*Pectocarya sp.*	Pectocarya
○	*Phacelia sp.*	Phacelia
○	*Pholistoma membranaceum*	White Fiesta Flower
(○)	*Plagiobothrys sp.*	Popcornflower
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○	*Ribes quercetorum*	Oak Gooseberry
○	*Rorripa nasturtium-aquaticum*	Water-cress
○	*Rosa californica*	California Rose
○	*Saltugilia australis*	Southern Gilia
○	*Senecio californicus*	California Butterweed
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○	*Sisymbrium sp.*	Tumble Mustard
○	*Solidago californica*	California Goldenrod
○	*Stachys ajugoides*	Hedge-nettle
○	*Stephanomeria sp.*	Wreathplant
○	*Streptanthus campestris*	Southern Jewelflower
○	*Stylocline gnaphalioides*	Everlasting Nest-straw
○	*Tetradymia comosa*	Cotton-thorn
○	*Thysanocarpus sp.*	Fringepod
○	*Trichostemma parishii*	Mountain Bluecurls
○	*Tropidocarpum gracile*	Slender Doble-pod
○	*Uropappus lindleyi*	Silver Puffs
○	*Viola purpurea*	Oak Yellow Violet

Other Flowering Plants:

(○) CEANOTHUS SP.

NO QUINO HOST PLANTS OBSERVED

Rare Wildlife or Rare Plants:

MCLA01 HORNED LARK
MCBJ08 BLACK-TAILED JACKRABBIT
MCBJ01 " " "
MCHL01 S.D. HORNED LIZARD

Quino Checkerspot Butterfly Protocol Survey — Field Data Sheet

Recorder: Andrew Fisher Add'l Person: — Date: 4-1-2011 GPS Unit: 12

Project: Concentrix Solar Project Map #: 4 Survey Sxn: 4 QCB Protocol Survey # 1 of 5

TIME (24-hour)	Temp (F°):	Wind (avg/max)	% CC	Sky
Start 0837	75.5	Ø	Ø	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 1347	88	Ø	Ø	clear patchy overcast drizzle shower

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

	Total		Total
Nymphalidae (Brushfooted Butterflies)		**Hesperiidae (Skippers)**	
Euphydryas editha (Quino Checkerspot)		*Erynnis funeralis* (Funereal Duskywing)	
Euphydryas chalcedona (Henne's Checkerspot)		*Erynnis tristis* (Sad Duskywing)	
Thessalia leanira (Wright's Checkerspot)		*Erynnis propertius* (Propertius Duskywing) 卌	5
Chlosyne californica (California Patch)		*Erynnis brizo* (Sleepy Duskywing)	
Chlosyne gabbii (Gabb's Checkerspot)		*Pyrgus communis* (Checkered Skipper)	
Phyciodes mylitta (Mylitta Crescent)		*Hesperia jubia* (Jubia Skipper)	
Junonia coenia (Common Buckeye)		*Polites sabuleti* (Sandhill Skipper)	
Vanessa annabella (West Coast Lady		**Megathymidae (Giant Skippers)**	
Vanessa atalanta (Red Admiral)		*Megathymus yuccae* (Yucca Giant Skipper)	
Vanessa cardui (Painted Lady)			
Vanessa virginiensis (Virginia Lady)		**Other Butterflies:**	
Nymphalis californica (California Tortoiseshell)			
Danaidae (Milkweed Butterflies)		Birds:	
Danaus plexippus (Monarch)		OATI, CHSP, BTSP, CAQU, SAPH	
Danaus gilippus (Queen)		WSSA, LBWO, DEJU, BUSH, NOFL	
Satyridae (Satyrs)		BEWR, WEME, CALT, CATH	
Coenonympha californica (Common California Ringlet)			
Pieridae (Whites, Sulphurs)		Sturgeon racer, side-blotch lizard,	
Pieris rapae (Cabbage White)		granite spiny lizard	
Pontia sisymbrii (Spring White)			
Pontia beckerii (Beker's White)			
Pontia protodice (Common White) 〃	2		
Anthocharis sara (Sara Orangetip) 卌 卌 〃	12		
Anthocharis cethura (Felder's Orangetip)			
Euchloe hyantis (Desert Pearly Marble) 卌 卌 卌 卌	20	NO QUINO	
Colias eurytheme (Orange Sulphur) 〃	2		
Colias harfordii (Harford's Sulphur)			
Nathalis iole (Dainty Sulphur)			
Papilionidae (Swallowtails)		**Notes:**	
Papilio polyxenes (Desert Black Swallowtail) 〃	1		
Papilio eurymedon (Pale swallowtail)		AFNL01: 1 adult coast horned lizard	
Papilio rutulus (Western Tiger Swallowtail)		AFNL02: 6 juv. coast horned lizard	
Riodiniade (Metalmarks)			
Apodemia mormo (Behr's Metalmark) 卌 卌 卌 卌 卌 卌 卌 卌	65	AF BJ 01: 1 adult BT jackrabbit	
Lycaenidae (Hairstreaks and Blues) 卌 卌 卌 卌 卌		AF BJ 02: 2 adult BT jackrabbit	
Celestrina ladon (Spring Azure)		AF BJ 03: 1 adult BT jackrabbit	
Leptotes marina (Marine Blue)			
Brephidium exile (Western Pygmy Blue)		AF COKANEST01: Common raven	
Glaucopsyche lygdamus (Southern Blue/Silvery blue)		dead - active w/ pain in area	
Hemiargus coraunus (Edward's Blue)			
Icaria acmon (Acmon Blue)			
Philotes sonorensis (Sonoran Blue)			
Callophrys augustinus (Brown Elfin)			
Callophrys dumetorum (Perplexing Green Hairstreak) 〃	3		
Strymon melinus (Gray Hairstreak)			
Atlides halesus (Great Purple Hairstreak)			

...ntial Nectaring or Host Plants for Quino Checkerspot Butterfly in Boulevard, California (Concentrix Solar)

...tions.

Please Place a Check Mark Beside Flowering Plants. Use Numbered Notes to Add Species Detail.

PLEASE RECORD HOST PLANTS ON GPS See Codes Below:

Antirrhinum coulterianum = AC *Collinsia concolor* = CC *Cordylanthus rigidus* = CR *Plantago patagonica* = PP

✓	*Amsinckia menziesii*	Rancher's Fiddleneck
○	***Antirrhinum coulterianum***	**Coulter's Snapdragon**
○	*Antirrhinum nuttallianum*	Nuttall's Snapdragon
○	*Asclepias fascicularis*	Narrow-leaf Milkweed
✓	*Boechera sp.*	Rock Cress
○	*Calandrinia ciliata*	Red Maids
○	*Calochortus concolor*	Golden-bowl Mariposa Lily
○	*Calystegia longipes*	Morning-glory
○	*Camissonia sp.*	Sun Cup
○	***Castilleja exerta***	**Paintbrush**
○	*Caulanthus heterophyllus*	San Diego Jewelflower
○	*Caulanthus simulans*	Payson's Caulanthus
○	*Ceanothus cuneatus*	Buck Brush
✓	*Ceanothus greggii*	Cup-leaf-lilac
○	*Ceanothus leucodermis*	Chaparral Whitethorn
○	*Chaenactis artemisiifolia*	White Pincushion
○	*Chaenactis glabriuscula*	Yellow Pincushion
○	*Clematis sp.*	Clematis
○	***Collinsia concolor***	**Southern Chinese Houses**
○	***Cordylanthus rigidus***	**Dark-tip Bird's Beak**
○	*Coreopsis californica*	California Coreopsis
○	*Corethrogyne filaginifolia*	Common Sand-aster
✓	*Cryptantha sp*	Cryptantha
○	*Cucurbita foetidissima*	Calabazilla
✓	*Descurainia sp.*	Tansy-mustard
○	*Dicentra chrysantha*	Golden Ear-drops
○	*Dichelostemma capitatum*	Blue Dicks
○	*Dudleya sp.*	Dudleya
○	*Emmenanthe penduliflora*	Whispering Bells
○	*Eriastrum sp.*	Woolly-star
○	*Ericameria sp.*	Goldenbush
○	*Erigeron foliosus*	Leafy Daisy
○	*Eriodictyon trichocalyx*	Hairy Yerba Santa
○	*Eriogonum fasciculatum*	Inland California Buckwheat
○	*Eriogonum sp.*	Buckwheat
○	*Eriophyllum sp.*	Long-stem Golden-yarrow
✓	*Erodium cicutarium**	Red-stem Storksbill
○	*Erysimum capitatum*	Western Wallflower
○	*Eschscholzia californica*	California Poppy
○	*Eucrypta chrysanthemifolia*	Spotted Hideseed
○	*Euthamia occidentalis*	Western Goldenrod
○	*Garrya veatchii*	Canyon Silk Tassel
○	*Gilia sp.*	Gilia
○	*Gnaphalium*	Cudweed
✓	*Guillenia lasiophylla*	California Mustard
○	*Gutierrezia sarothrae*	Broom Matchweed
○	*Heliotropium curassavicum*	Salt Heliotrope
○	*Hirshfeldia incana*	Short-pod Mustard
○	*Lamium amplexicaule*	Henbit
✓	*Lasthenia gracilis*	Common Goldfields
○	*Layia glandulosa*	White Layia
○	*Lepidium sp.*	Pepperweed
○	*Linanthus bellus*	Desert Beauty
○	*Linanthus dichotomus*	Evening Snow
○	*Lonicera subspicata*	Johnston's Honeysuckle
○	*Malacothrix californica*	California Dandelion
○	*Malacothrix clevelandii*	Cleveland's Malacothrix
○	*Marah macrocarpus*	Wild-cucumber
○	*Marrubium vulgare**	Horehound
○	*Matricaria matricarioides**	Common Pineapple-weed
○	*Mentzelia veatchiana*	Veatch's Stick-leaf
○	*Microsteris gracilis*	Slender Phlox
○	*Mimulus sp.*	Monkeyflower
○	*Nemophila menziesii*	Small-flower Baby Blue Eyes
○	*Orobanche bulbosa*	Chaparral Broom-rape

○	*Osmadenia tenella*	Osmadenia
○	*Paeonia californica*	California Peony
○	*Pectocarya sp.*	Pectocarya
○	*Phacelia sp.*	Phacelia
○	*Pholistoma membranaceum*	White Fiesta Flower
✓	*Plagiobothrys sp.*	Popcornflower
○	*Plantago patagonica*	Desert Plantain
○	*Platystemon californicus*	Cream Cups
○	*Prunus ilicifolia*	Holly-leaf Cherry
○	*Rafinesquia neomexicana*	Desert Chicory
○	*Ribes quercetorum*	Oak Gooseberry
○	*Rorripa nasturtium-aquaticum*	Water-cress
○	*Rosa californica*	California Rose
○	*Saltugilia australis*	Southern Gilia
○	*Senecio californicus*	California Butterweed
○	*Senecio flaccidus*	Butterweed
○	*Sidalcea malvaeflora*	Checker-bloom
○	*Sisymbrium sp.*	Tumble Mustard
○	*Solidago californica*	California Goldenrod
○	*Stachys ajugoides*	Hedge-nettle
○	*Stephanomeria sp.*	Wreathplant
○	*Streptanthus campestris*	Southern Jewelflower
○	*Stylocline gnaphalioides*	Everlasting Nest-straw
○	*Tetradymia comosa*	Cotton-thorn
○	*Thysanocarpus sp.*	Fringepod
○	*Trichostemma parishii*	Mountain Bluecurls
○	*Tropidocarpum gracile*	Slender Doble-pod
○	*Uropappus lindleyi*	Silver Puffs
○	*Viola purpurea*	Oak Yellow Violet
○		Miners Lettuce
○		
○	**Other Flowering Plants:**	
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○	**Rare Wildlife or Rare Plants:**	
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Quino Checkerspot Butterfly Protocol Survey — Field Data Sheet

Recorder: Erin Bergman Add'l Person: NA Date: 4/4/11 GPS Unit: #6

Project: Concentrix Solar Project Map #: 4 Survey Sxn: — QCB Protocol Survey # 2 of 5

TIME (24 hour)	Temp (F°):	Wind (avg/max)	% CC	Sky
Start 9:00	61°	1-3	0	clear / partly / overcast / drizzle / shower
11:00	70°	1-5	0	clear / partly / overcast / drizzle / shower
12:00	69°	1-3	0	clear / partly / overcast / drizzle / shower
1:00	68°	1-6	0	clear / partly / overcast / drizzle / shower
2:00	72°	2-6	0	clear / partly / overcast / drizzle / shower
			0	clear / partly / overcast / drizzle / shower
End 4:00	73°	2-7	0	clear / partly / overcast / drizzle / shower

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

	Total		Total
Nymphalidae (Brushfooted Butterflies)		**Hesperiidae (Skippers)**	
Euphydryas editha (Quino Checkerspot)		*Erynnis funeralis* (Funereal Duskywing)	1
Euphydryas chalcedona (Hanne's Checkerspot)		*Erynnis tristis* (Sad Duskywing)	
Thessalia leanira (Wright's Checkerspot)		*Erynnis propertius* (Propertius Duskywing)	1
Chlosyne californica (California Patch)		*Erynnis brizo* (Sleepy Duskywing)	
Chlosyne gabbii (Gabb's Checkerspot)		*Pyrgus communis* (Checkered Skipper)	
Phyciodes mylitta (Mylitta Crescent)		*Hesperia juba* (Juba Skipper)	
Junonia coenia (Common Buckeye)		*Polites sabuleti* (Sandhill Skipper)	
Vanessa annabella (West Coast Lady		**Megathymidae (Giant Skippers)**	
Vanessa atalanta (Red Admiral)		*Megathymus yuccae* (Yucca Giant Skipper)	
Vanessa cardui (Painted Lady)			
Vanessa virginiensis (Virginia Lady)		**Other Butterflies:**	
Nymphalis californica (California Tortoiseshell)			
Danaidae (Milkweed Butterflies)		Monk III	3
Danaus plexippus (Monarch)		Western tailed blue IIII	4
Danaus gilippus (Queen)			
Satyridae (Satyrs)		MORE BIRDS BREEDING/NOTES	
Coenonympha californica (Common California Ringlet)		BUSK EUCD CAQU	
Pieridae (Whites, Sulphurs)		WEST NOMO BCHA SITE	
Pieris rapae (Cabbage White)		DATI SAPH CALM	
Pontia sisymbrii (Spring White)		DESU HOFI SPTO #6	
Pontia beckerii (Beker's White)		WCSP WEBL ROWR	
Pontia protodice (Common White)		BUSH TUVU RTSP	
Anthocharis sara (Sara Orangetip) IIII IIII	9	CUST YWAR BRSP	
Anthocharis cethura (Felder's Orangetip)		NOFL ACWO TRBL	
Euchloe hyantis (Desert Pearly Marble) IIII IIII IIII IIII IIII	26	RTHA RCKI BREL	
Colias eurytheme (Orange Sulphur)		BGGN KILL HOME	
Colias harfordii (Harford's Sulphur)		YRWA NRWS NAWA	
Nathalis iole (Dainty Sulphur)		WEKI CANW OCWA	
Papilionidae (Swallowtails)		**Notes:**	
Papilio polyxenes (Desert Black Swallowtail)		Common raven CORA	
Papilio eurymedon (Pale swallowtail)		W. Scrub jay WEST	
Papilio rutulus (Western Tiger Swallowtail)		California quail CAQU	
Riodinidae (Metalmarks)		Anna's hummingbird ANHU	
Apodemia mormo (Behr's Metalmark) IIII IIII IIII IIII IIII IIII IIII	66	Bushtit BUSH	
Lycaenidae (Hairstreaks and Blues)		Kestrel AMKE SITE	
Celastrina ladon (Spring Azure)		Cal. towhee CALT #11	
Leptotes marina (Marine Blue)		dove species	
Brephidium exile (Western Pygmy Blue)		Audubon's cottontail	
Glaucopsyche lygdamus (Southern Blue/Silvery blue)		Western kingbird WEKI	
Hemiargus ceraunus (Edward's Blue)		Red tail RTHA	
Icaria acmon (Acmon Blue) IIII II	7	Spotted towhee SPTO	
Philotes sonorensis (Sonoran Blue)			
Callophrys augustinus (Brown Elfin)			
Callophrys dumetorum (Perplexing Green Hairstreak) III	4		
Strymon melinus (Gray Hairstreak)			
Atlides halesus (Great Purple Hairstreak)			

...tial Nectaring or Host Plants for Quino Checkerspot Butterfly in Boulevard, California (Concentrix Solar)

...tions:

Please Place a Check Mark Beside Flowering Plants. Use Numbered Notes to Add Species Detail

PLEASE RECORD HOST PLANTS ON GPS See Codes Below:

Antirrhinum coulterianum = AC *Collinsia concolor* = CC *Cordylanthus rigidus* = CR *Plantago patagonica* = PP

○	*Amsinckia menziesii*	Rancher's Fiddleneck
○	***Antirrhinum coulterianum***	**Coulter's Snapdragon**
○	*Antirrhinum nuttallianum*	Nuttall's Snapdragon
○	*Asclepias fascicularis*	Narrow-leaf Milkweed
○	*Boechera sp.*	Rock Cress
○	*Calandrinia ciliata*	Red Maids
○	*Calochortus concolor*	Golden-bowl Mariposa Lily
○	*Calystegia longipes*	Morning-glory
○	*Camissonia sp.*	Sun Cup
○	***Castilleja exerta***	**Paintbrush**
○	*Caulanthus heterophyllus*	San Diego Jewelflower
○	*Caulanthus simulans*	Payson's Caulanthus
○	*Ceanothus cuneatus*	Buck Brush
✓	*Ceanothus greggii*	Cup-leaf-lilac
○	*Ceanothus leucodermis*	Chaparral Whitethorn
○	*Chaenactis artemisiifolia*	White Pincushion
○	*Chaenactis glabriuscula*	Yellow Pincushion
○	*Clematis sp.*	Clematis
○	***Collinsia concolor***	**Southern Chinese Houses**
○	***Cordylanthus rigidus***	**Dark-tip Bird's Beak**
○	*Coreopsis californica*	California Coreopsis
○	*Corethrogyne filaginifolia*	Common Sand-aster
✓	***Cryptantha sp.***	**Cryptantha**
○	*Cucurbita foetidissima*	Calabazilla
○	*Descurainia sp.*	Tansy-mustard
○	*Dicentra chrysantha*	Golden Ear-drops
○	*Dichelostemma capitatum*	Blue Dicks
○	*Dudleya sp.*	Dudleya
○	*Emmenanthe penduliflora*	Whispering Bells
○	*Eriastrum sp.*	Woolly-star
✓	*Ericameria sp.*	Goldenbush
○	*Erigeron foliosus*	Leafy Daisy
○	*Eriodictyon trichocalyx*	Hairy Yerba Santa
○	*Eriogonum fasciculatum*	Inland California Buckwheat
○	*Eriogonum sp.*	Buckwheat
✓	*Eriophyllum sp.* wallacei	Long-stem Golden-yarrow EB
✓	*Erodium cicutarium**	Red-stem Storksbill
○	*Erysimum capitatum*	Western Wallflower
✓	*Eschscholzia californica*	California Poppy
○	*Eucrypta chrysanthemifolia*	Spotted Hideseed
○	*Euthamia occidentalis*	Western Goldenrod
○	*Garrya veatchii*	Canyon Silk Tassel
○	*Gilia sp.*	Gilia
○	*Gnaphalium*	Cudweed
○	*Guillenia lasiophylla*	California Mustard
○	*Gutierrezia sarothrae*	Broom Matchweed
○	*Heliotropium curassavicum*	Salt Heliotrope
○	*Hirshfeldia incana*	Short-pod Mustard
○	*Lamium amplexicaule*	Henbit
✓	*Lasthenia gracilis*	Common Goldfields
✓	*Layia glandulosa*	White Layia
○	*Lepidium sp.*	Pepperweed
○	*Linanthus bellus*	Desert Beauty
○	*Linanthus dichotomus*	Evening Snow
○	*Lonicera subspicata*	Johnston's Honeysuckle
○	*Malacothrix californica*	California Dandelion
○	*Malacothrix clevelandii*	Cleveland's Malacothrix
○	*Marah macrocarpus*	Wild-cucumber
○	*Marrubium vulgare**	Horehound
○	*Matricaria matricaroides**	Common Pineapple-weed
○	*Mentzelia veatchiana*	Veatch's Stick-leak
○	*Microsteris gracilis*	Slender Phlox
○	*Mimulus sp.*	Monkeyflower
○	*Nemophila menziesii*	Small-flower Baby Blue Eyes
○	*Orobanche bulbosa*	Chaparral Broom-rape

○	*Osmadenia tenella*	Osmadenia	
○	*Paeonia californica*	California Peony	EBAD18-35
○	*Pectocarya sp.*	Pectocarya	EBAD19-35
✓	*Phacelia sp.*	Phacelia	EBAD50-2
○	*Pholistoma membranaceum*	White Fiesta Flower	EBAD51-15
✓	*Plagiobothrys sp.*	Popcornflower	EBAD52-6
○	***Plantago patagonica***	**Desert Plantain**	EBAD53-8
○	*Platystemon californicus*	Cream Cups	EBAD54-10
○	*Prunus ilicifolia*	Holly-leaf Cherry	EBAD55-20
○	*Rafinesquia neomexicana*	Desert Chicory	EBAD56-11
○	*Ribes quercetorum*	Oak Gooseberry	EBAD57-24
○	*Rorripa nasturtium-aquaticum*	Water-cress	EBAD58-2
○	*Rosa californica*	California Rose	EBAD59-2
○	*Saltugilia australis*	Southern Gilia	EBAD60-5
✓	*Senecio californicus*	California Butterweed	EBAD61-16
○	*Senecio flaccidus*	Butterweed	EBAD62-4
○	*Sidalcea malvaeflora*	Checker-bloom	EBAD63-2
✓	*Sisymbrium sp.*	Tumble Mustard	EBAD64-4
○	*Solidago californica*	California Goldenrod	EBAD65-8
○	*Stachys ajugoides*	Hedge-nettle	EBAD66-3
○	*Stephanomeria sp.*	Wreathplant	EBAD67-2
○	*Streptanthus campestris*	Southern Jewelflower	EBAD68-3
○	*Stylocline gnaphalioides*	Everlasting Nest-straw	EBAD69-35
○	*Tetradymia comosa*	Cotton-thorn	EBAD70-1
○	*Thysanocarpus sp*	Fringepod	EBAD71-1
○	*Trichostema parishii*	Mountain Bluecurls	
○	*Tropidocarpum gracile*	Slender Dobie-pod	
○	*Uropappus lindleyi*	Silver Puffs	
○	*Viola purpurea*	Oak Yellow Violet	
○	Phacelia distans		
○	Eriophyllum wallacei		

○ **Other Flowering Plants:**

○ Lupinus concinnus, Salvia columbariae
○ Lupinus bicolor
○ Lomatium dasycarpum var. dasycarpum
○ Cryptantha intermedia
○ Cryptantha micromeria var. micromeria

○	EBGV06-4	EBAD42-21	EBAD45-10
○	EBGV07-1	EBAD43-25	EBAD46-6
○	EBGV08-1	EBAD44-13	EBAD47-9

○ **Rare Wildlife or Rare Plants:**

○	EBAD01 - 15	plants in population	
○	EBAD02 - 8	plants	EBAD23-5
○	EBAD03 - 8	plants	EBAD29-2
○	EBAD04 - 85	plants	EBAD25-9
○	EBAD05 - 18	plants	EBAD26-3
○	EBAD06 - 35	plants	EBAD27-10
○	EBAD07 - 11	plants	EBAD28-10
○	EBAD08 - 3	plants	EBAD29-5
○	EBAD09 - 5	plants	EBAD30-10
○	EBAD10 - 7	plants	EBAD31-3
○	EBAD11 - 3	plants	EBAD32-[illegible]
○	EBAD12 - 5	plants	EBAD33-1
○	EBAD13 - 3	plants	EBAD34-6
○	EBAD14 - 1	plant	EBAD35-4
○	EBAD15 - 3	plants	EBAD36-16
○	EBAD16 - 11	plants	EBAD37-9
○	EBAD17 - 2	plants	EBAD38-2
○	EBBJ01 - 1		EBAD39-1
○	EBAD18 - 2	plant	EBAD40-12
○	EBAD19 - 5	plants	EBAD41-1
○	EBAD20 - 8	plants	EBGV01-1
○	EBAD21 - 5	plants	EBGV02-1
○	EBAD22 - 12	plants	EBGV03-1
			EBGV04-1
			[illegible]-1

Quino Checkerspot Butterfly Protocol Survey — Field Data Sheet

Recorder: ADAM BENLE Add'l Person: — Date: APRIL 7, 2011 GPS Unit: 5

Project: Concentrix Solar Project Map #: 1 Survey Sxn: QCB Protocol Survey # 2 of 5

	TIME (24-hour)	Temp (F°):	Wind (avg/max)	% CC	Sky
Start	0900	62°	2/10 MPH	0%	clear patchy overcast drizzle shower
	1200	73°	2/9 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
End	1520		2/6 MPH	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

	Total		Total
Nymphalidae (Brushfooted Butterflies)		**Hesperiidae (Skippers)**	
Euphydryas editha (Quino Checkerspot)		*Erynnis funeralis* (Funereal Duskywing)	
Euphydryas chalcedona (Henne's Checkerspot)		*Erynnis tristis* (Sad Duskywing)	
Thessalia leanira (Wright's Checkerspot)		*Erynnis propertius* (Propertius Duskywing)	
Chlosyne californica (California Patch)		*Erynnis brizo* (Sleepy Duskeywing)	2
Chlosyne gabbii (Gabb's Checkerspot)		*Pyrgus communis* (Checkered Skipper)	
Phyciodes mylitta (Mylitta Crescent)		*Hesperia jubia* (Jubia Skipper)	
Junonia coenia (Common Buckeye)		*Polites sabuleti* (Sandhill Skipper)	
Vanessa annabella (West Coast Lady		**Megathymidae (Giant Skippers)**	
Vanessa atalanta (Red Admiral)		*Megathymus yuccae* (Yucca Giant Skipper)	
Vanessa cardui (Painted Lady)			
Vanessa virginiensis (Virginia Lady)		**Other Butterflies:**	
Nymphalis californica (California Tortoiseshell)			
Danaidae (Milkweed Butterflies)			
Danaus plexippus (Monarch)			
Danaus gilippus (Queen)			
Satyridae (Satyrs)			
Coenonympha californica (Common California Ringlet)			
Pieridae (Whites, Sulphurs)			
Pieris rapae (Cabbage White)	2		
Pontia sisymbrii (Spring White)			
Pontia beckerii (Beker's White)			
Pontia protodice (Common White)	2		
Anthocharis sara (Sara Orangetip)	6		
Anthocharis cethura (Felder's Orangetip)			
Euchloe hyantis (Desert Pearly Marble)			
Colias eurytheme (Orange Sulphur)			
Colias harfordii (Harford's Sulphur)			
Nathalis iole (Dainty Sulphur)			
Papilionidae (Swallowtails)		**Notes:**	
Papilio polyxenes (Desert Black Swallowtail)			
Papilio eurymedon (Pale swallowtail)		AREAS ON NORTH & EAST HAVE ROUGH	
Papilio rutulus (Western Tiger Swallowtail)		TERRAIN BUT MANY INTERESTING ROCKY	
Riodiniade (Metalmarks)		OUTCROPS AND OPEN SPACES	
Apodemia mormo (Behr's Metalmark)	36		
Lycaenidae (Hairstreaks and Blues)		BUTTERFLIES MOST ACTIVE FROM	
Celastrina ladon (Spring Azure)		1000-1200, WITH SIGNIFICANTLY	
Leptotes marina (Marine Blue)		LESS ACTIVITY AFTER 1200	
Brephidium exile (Western Pygmy Blue)			
Glaucopsyche lygdamus (Southern Blue/Silvery blue)		LASTHENIA IS CARPETING LARGE	
Hemiargus ceraunus (Edward's Blue)		PORTIONS OF GROUND IN AREAS	
Icaria acmon (Acmon Blue)			
Philotes sonorensis (Sonoran Blue)			
Callophrys augustinus (Brown Elfin)			
Callophrys dumetorum (Perplexing Green Hairstreak)	8		
Strymon melinus (Gray Hairstreak)			
Allides halesus (Great Purple Hairstreak)			

...tial Nectaring or Host Plants for Quino Checkerspot Butterfly in Boulevard, California (Concentrix Solar)

...tions

Please Place a Check Mark Beside Flowering Plants. Use Numbered Notes to Add Species Detail.

► **PLEASE RECORD HOST PLANTS ON GPS** See Codes Below:

Antirrhinum coulterianum = AC *Collinsia concolor* = CC *Cordylanthus rigidus* = CR *Plantago patagonica* = PP

✓	*Amsinckia menziesii*	Rancher's Fiddleneck
○	***Antirrhinum coulterianum***	**Coulter's Snapdragon**
○	*Antirrhinum nuttallianum*	Nuttall's Snapdragon
○	*Asclepias fascicularis*	Narrow-leaf Milkweed
○	*Boechera sp.*	Rock Cress
○	*Calandrinia ciliata*	Red Maids
○	*Calochortus concolor*	Golden-bowl Mariposa Lily
○	*Calystegia longipes*	Morning-glory
○	*Camissonia sp.*	Sun Cup
○	***Castilleja exerta***	**Paintbrush**
○	*Ceanothus heterophyllus*	San Diego Jewelflower
○	*Ceanothus simulans*	Payson's Ceanothus
○	*Ceanothus cuneatus*	Buck Brush
○	*Ceanothus greggii*	Cup-leaf-lilac
○	*Ceanothus leucodermis*	Chaparral Whitethorn
○	*Chaenactis artemisiifolia*	White Pincushion
○	*Chaenactis glabriuscula*	Yellow Pincushion
○	*Clematis sp.*	Clematis
○	***Collinsia concolor***	**Southern Chinese Houses**
○	***Cordylanthus rigidus***	**Dark-tip Bird's Beak**
○	*Coreopsis californica*	California Coreopsis
○	*Corethrogyne filaginifolia*	Common Sand-aster
✓	*Cryptantha sp.*	Cryptantha
○	*Cucurbita foetidissima*	Calabazilla
○	*Descurainia sp.*	Tansy-mustard
○	*Dicentra chrysantha*	Golden Ear-drops
○	*Dichelostemma capitatum*	Blue Dicks
○	*Dudleya sp.*	Dud'eya
○	*Emmenanthe penduliflora*	Whispering Bells
○	*Eriastrum sp.*	Woolly-star
○	*Ericameria sp.*	Goldenbush
○	*Erigeron foliosus*	Leafy Daisy
○	*Eriodictyon trichocalyx*	Hairy Yerba Santa
○	*Eriogonum fasciculatum*	Inland California Buckwheat
○	*Eriogonum sp.*	Buckwheat
○	*Eriophyllum sp.*	Long-stem Golden-yarrow
✓	*Erodium cicutarium**	Red-stem Storksbill
○	*Erysimum capitatum*	Western Wallflower
○	*Eschscholzia californica*	California Poppy
○	*Eucrypta chrysanthemifolia*	Spotted Hideseed
○	*Euthamia occidentalis*	Western Goldenrod
○	*Garrya veatchii*	Canyon Silk Tassel
○	*Gilia sp.*	Gilia
○	*Gnaphalium*	Cudweed
○	*Guillenia lasiophylla*	California Mustard
○	*Gutierrezia sarothrae*	Broom Matchweed
○	*Heliotropium curassavicum*	Salt Heliotrope
○	*Hirschfeldia incana*	Short-pod Mustard
○	*Lamium amplexicaule*	Henbit
✓	*Lasthenia gracilis*	Common Goldfields
✓	*Layia glandulosa*	White Layia
○	*Lepidium sp.*	Pepperweed
✓	*Linanthus bellus*	Desert Beauty
○	*Linanthus dichotomus*	Evening Snow
○	*Lonicera subspicata*	Johnston's Honeysuckle
○	*Malacothrix californica*	California Dandelion
○	*Malacothrix clevelandii*	Cleveland's Malacothrix
○	*Marah macrocarpus*	Wild-cucumber
○	*Marrubium vulgare**	Horehound
○	*Matricaria matricarioides**	Common Pineapple-weed
○	*Mentzelia veatchiana*	Veatch's Stick-leak
○	*Microsteris gracilis*	Slender Phlox
○	*Mimulus sp.*	Monkeyflower
○	*Nemophila menziesii*	Small-flower Baby Blue Eyes
○	*Orobanche bulbosa*	Chaparral Broom-rape
○	*Osmadenia tenella*	Osmadenia
○	*Paeonia californica*	California Peony
○	*Pectocarya sp.*	Pectocarya
○	*Phacelia sp.*	Phacelia
○	*Pholistoma membranaceum*	White Fiesta Flower
○	*Plagiobothrys sp.*	Popcornflower
○	***Plantago patagonica***	**Desert Plantain**
○	*Platystemon californicus*	Cream Cups
○	*Prunus ilicifolia*	Holly-leaf Cherry
○	*Rafinesquia neomexicana*	Desert Chicory
○	*Ribes quercetorum*	Oak Gooseberry
○	*Rorippa nasturtium-aquaticum*	Water-cress
○	*Rosa californica*	California Rose
○	*Saltugilia australis*	Southern Gilia
○	*Senecio californicus*	California Butterweed
○	*Senecio flaccidus*	Butterweed
○	*Sidalcea malvaeflora*	Checker-bloom
✓	*Sisymbrium sp.*	Tumble Mustard
○	*Solidago californica*	California Goldenrod
○	*Stachys ajugoides*	Hedge-nettle
○	*Stephanomeria sp.*	Wreathplant
○	*Streptanthus campestris*	Southern Jewelflower
○	*Stylocline gnaphalioides*	Everlasting Nest-straw
○	*Tetradymia canosa*	Cotton-thorn
○	*Thysanocarpus sp.*	Fringepod
○	*Trichostemma parishii*	Mountain Bluecurls
○	*Tropidocarpum gracile*	Slender Dobie-pod
○	*Uropappus lindleyi*	Silver Puffs
○	*Viola purpurea*	Oak Yellow Violet
○		
○		
○	**Other Flowering Plants:**	
○	LOMATIUM DASYCARPUM	
○	RHUS OVATA	
○		
○		
○		
○		
○		
○		
○	**Rare Wildlife or Rare Plants:**	
○	ABNL01 - NEST	
○	ABNL02	
○	03	
○	04	
○	05	
○	06	
○	07	
○		
○	ABBJ01 - BT JACK RABBIT	
○	02	
○	03	
○	04	
○		
○		
○	ABLB01 - LINANTHUS BELLUS NOS	
○		
○	NO SPECIES CODE LISTED.	
○		
○		
○		
○		
○		
○		

Quino Checkerspot Butterfly Protocol Survey — Field Data Sheet

Recorder: [handwritten name] Add'l Person: Date: 4-4-11 GPS Unit: 10

Project: Concentrix Solar Project Map #: Survey Sxn: QCB Protocol Survey # of 5

TIME (24-hour)	Temp (F°)	Wind (avg/max)	% cc	Sky
Start 915	66 F	5-7 (10)	0	(clear) patchy overcast drizzle shower
1030	69 F	2-4	0	(clear) patchy overcast drizzle shower
1300	71 F	2-5 (8)	0	(clear) patchy overcast drizzle shower
1420	74 F	3-6	0	(clear) patchy overcast drizzle shower
1600	76 F	3-5	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

Species	Total
Nymphalidae (Brushfooted Butterflies)	
Euphydryas editha (Quino Checkerspot)	
Euphydryas chalcedona (Henne's Checkerspot)	
Thessalia leanira (Wright's Checkerspot)	
Chlosyne californica (California Patch)	
Chlosyne gabbii (Gabb's Checkerspot)	
Phyciodes mylitta (Mylitta Crescent)	
Junonia coenia (Common Buckeye)	I
Vanessa annabella (West Coast Lady	
Vanessa atalanta (Red Admiral)	
Vanessa cardui (Painted Lady)	
Vanessa virginiensis (Virginia Lady)	
Nymphalis californica (California Tortoiseshell)	
Danaidae (Milkweed Butterflies)	
Danaus plexippus (Monarch)	
Danaus gilippus (Queen)	
Satyridae (Satyrs)	
Coenonympha california (Common California Ringlet)	
Pieridae (Whites, Sulphurs)	
Pieris rapae (Cabbage White)	
Pontia sisymbrii (Spring White)	[scribbled out]
Pontia beckerii (Beker's White)	
Pontia protodice (Common White)	III
Anthocharis sara (Sara Orangetip)	~~IIII~~ III
Anthocharis cethura (Felder's Orangetip)	
Euchloe hyantis (Desert Pearly Marble)	~~IIII~~ I
Colias eurytheme (Orange Sulphur)	
Colias harfordii (Harford's Sulphur)	II
Nathalis iole (Dainty Sulphur)	
Papilionidae (Swallowtails)	
Papilio polyxenes (Desert Black Swallowtail)	
Papilio eurymedon (Pale swallowtail)	
Papilio rutulus (Western Tiger Swallowtail)	
Riodiniade (Metalmarks)	
Apodemia mormo (Behr's Metalmark)	~~IIII~~ ~~IIII~~ III ~~IIII~~ ~~IIII~~ ~~IIII~~ ~~IIII~~ ~~IIII~~ ~~IIII~~ ~~IIII~~ ~~IIII~~ III ~~IIII~~ ~~IIII~~ ~~IIII~~ II
Lycaenidae (Hairstreaks and Blues)	
Celastrina ladon (Spring Azure)	
Leptotes marina (Marine Blue)	
Brephidium exilis (Western Pygmy Blue)	
Glaucopsyche lygdamus (Southern Blue/Silvery blue)	
Hemiargus ceraunus (Edward's Blue)	
Icaria acmon (Acmon Blue)	I
Philotes sonorensis (Sonoran Blue)	
Callophrys augustinus (Brown Elfin)	
Callophrys dumetorum (Perplexing Green Hairstreak)	I
Strymon melinus (Gray Hairstreak)	
Atlides halesus (Great Purple Hairstreak)	

Species	Total
Hesperiidae (Skippers)	
Erynnis funeralis (Funereal Duskywing)	
Erynnis tristis (Sad Duskywing)	
Erynnis propertius (Propertius Duskywing)	II
Erynnis brizo (Sleepy Duskeywing)	
Pyrgus communis (Checkered Skipper)	
Hesperia ~~*jubia* (Jubia Skipper)~~ sp. [crossed out] (either juba or columbia)	I
Polites sabuleti (Sandhill Skipper)	
Megathymidae (Giant Skippers)	
Megathymus yuccae (Yucca Giant Skipper)	
Other Butterflies:	
Pholisora catullus (Common Sootywing)	I

Notes:

…ntial Nectaring or Host Plants for Quino Checkerspot Butterfly in Boulevard, California (Concentrix Solar)

…ctions:

Please Place a Check Mark Beside Flowering Plants. Use Numbered Notes to Add Species Detail.

PLEASE RECORD HOST PLANTS ON GPS See Codes Below:

Antirrhinum coulterianum = AC *Collinsia concolor* = CC *Cordylanthus rigidus* = CR *Plantago patagonica* = PP

Check	Scientific name	Common name
X	*Amsinckia menziesii*	Rancher's Fiddleneck
o	***Antirrhinum coulterianum***	**Coulter's Snapdragon**
o	*Antirrhinum nuttallianum*	Nuttall's Snapdragon
o	*Asclepias fascicularis*	Narrow-leaf Milkweed
o	*Boechera sp.*	Rock Cress
o	*Calandrinia ciliata*	Red Maids
o	*Calochortus concolor*	Golden-bowl Mariposa Lily
o	*Calystegia longipes*	Morning-glory
o	*Camissonia sp.*	Sun Cup
o	***Castilleja exerta***	**Paintbrush**
o	*Caulanthus heterophyllus*	San Diego Jewelflower
o	*Caulanthus simulans*	Payson's Caulanthus
X	*Ceanothus cuneatus*	Buck Brush
X	*Ceanothus greggii*	Cup-leaf-lilac
o	*Ceanothus leucodermis*	Chaparral Whitethorn
o	*Chaenactis artemisiifolia*	White Pincushion
o	*Chaenactis glabriuscula*	Yellow Pincushion
o	*Clematis sp*	Clematis
o	***Collinsia concolor***	**Southern Chinese Houses**
o	***Cordylanthus rigidus***	**Dark-tip Bird's Beak**
X	*Coreopsis californica*	California Coreopsis
o	*Corethrogyne filaginifolia*	Common Sand-aster
X	*Cryptantha sp.*	Cryptantha
o	*Cucurbita foetidissima*	Calabazilla
o	*Descurainia sp.*	Tansy-mustard
o	*Dicentra chrysantha*	Golden Ear-drops
o	*Dichelostemma capitatum*	Blue Dicks
o	*Dudleya sp*	Dudleya
o	*Emmenanthe penduliflora*	Whispering Bells
o	*Eriastrum sp.*	Woolly-star
X	*Ericameria sp.* linearifolia	Goldenbush
o	*Erigeron foliosus*	Leafy Daisy
o	*Eriodictyon trichocalyx*	Hairy Yerba Santa
o	*Eriogonum fasciculatum*	Inland California Buckwheat
o	*Eriogonum sp.*	Buckwheat
o	*Eriophyllum sp.*	Long-stem Golden-yarrow
X	*Erodium cicutarium**	Red-stem Storksbill
o	*Erysimum capitatum*	Western Wallflower
o	*Eschscholzia californica*	California Poppy
o	*Eucrypta chrysanthemifolia*	Spotted Hideseed
o	*Euthamia occidentalis*	Western Goldenrod
o	*Garrya veatchii*	Canyon Silk Tassel
o	*Gilia sp.*	Gilia
o	*Gnaphalium*	Cudweed
o	*Guillenia lasiophylla*	California Mustard
o	*Gutierrezia sarothrae*	Broom Matchweed
o	*Heliotropium curassavicum*	Salt Heliotrope
X	*Hirshfeldia incana*	Short-pod Mustard
o	*Lamium amplexicaule*	Henbit
X	*Lasthenia gracilis*	Common Goldfields
o	*Layia glandulosa*	White Layia
X	*Lepidium sp.*	Pepperweed
o	*Linanthus bellus*	Desert Beauty
o	*Linanthus dichotomus*	Evening Snow
o	*Lonicera subspicata*	Johnston's Honeysuckle
o	*Malacothrix californica*	California Dandelion
o	*Malacothrix clevelandii*	Cleveland's Malacothrix
o	*Marah macrocarpus*	Wild-cucumber
o	*Marrubium vulgare**	Horehound
o	*Matricaria matricarioides**	Common Pineapple-weed
o	*Mentzelia veatchiana*	Veatch's Stick-leaf
o	*Microsteris gracilis*	Slender Phlox
o	*Mimulus sp*	Monkeyflower
o	*Nemophila menziesii*	Small-flower Baby Blue Eyes
o	*Orobanche bulbosa*	Chaparral Broom-rape
o	*Osmadenia tenella*	Osmadenia
o	*Paeonia californica*	California Peony
X	*Pectocarya sp.*	Pectocarya
o	*Phacelia sp.*	Phacelia
o	*Pholistoma membranaceum*	White Fiesta Flower
X	*Plagiobothrys sp.*	Popcornflower
o	***Plantago patagonica***	**Desert Plantain**
o	*Platystemon californicus*	Cream Cups
o	*Prunus ilicifolia*	Holly-leaf Cherry
o	*Rafinesquia neomexicana*	Desert Chicory
o	*Ribes quercetorum*	Oak Gooseberry
o	*Rorripa nasturtium-aqualicum*	Water-cress
o	*Rosa californica*	California Rose
o	*Saltugilia australis*	Southern Gilia
o	*Senecio californicus*	California Butterweed
o	*Senecio flaccidus*	Butterweed
o	*Sidalcea malvaeflora*	Checker-bloom
o	*Sisymbrium sp.*	Tumble Mustard
o	*Solidago californica*	California Goldenrod
o	*Stachys ajugoides*	Hedge-nettle
o	*Stephanomeria sp.*	Wreathplant
o	*Streptanthus campestris*	Southern Jewelflower
o	*Stylocline gnaphalioides*	Everlasting Nest-straw
o	*Tetradymia comosa*	Cotton-thorn
o	*Thysanocarpus sp.*	Fringepod
o	*Trichostemma parishii*	Mountain Bluecurls
o	*Tropidocarpum gracile*	Slender Dobie-pod
X	*Uropappus lindleyi*	Silver Puffs
o	*Viola purpurea*	Oak Yellow Violet

Other Flowering Plants: [illegible]

Rare Wildlife or Rare Plants:

Astragalus douglasii perstrictus
MMAD01-04

Black Jackrabbit
MMJ01-03

MMRTH01 – RED-TAIL nesting??

Quino Checkerspot Butterfly Protocol Survey — Field Data Sheet

Recorder: Kyle Ivice Add'l Person: Bonnie Hendricks Date: 4/5/11 GPS Unit: 3

Project: Concentrix Solar Project Map #: 3 Survey Sxn: QCB Protocol Survey # 2 of 5

TIME (24-hour)	Temp (F°):	Wind (avg/max)	% CC	Sky
Start			5%	clear / patchy / overcast / drizzle / shower
0945	60°	2/3	5%	clear / patchy / overcast / drizzle / shower
1020	66°	2/5	10%	clear / patchy / overcast / drizzle / shower
1130	70	5/10	15%	clear / patchy / overcast / drizzle / shower
1200	76	2/8	25%	clear / patchy / overcast / drizzle / shower
1430	79	2/8	50%	clear / patchy / overcast / drizzle / shower
End 1500		5/8	75%	clear / patchy / overcast / drizzle / shower

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

	Total
Nymphalidae (Brushfooted Butterflies)	
Euphydryas editha (Quino Checkerspot)	
Euphydryas chalcodona (Henno's Checkerspot)	
Thessalia leanira (Wright's Checkerspot)	
Chlosyne californica (California Patch)	
Chlosyne gabbii (Gabb's Checkerspot)	
Phyciodes mylitta (Mylitta Crescent)	
Junonia coenia (Common Buckeye) 1	1
Vanessa annabella (West Coast Lady	
Vanessa atalanta (Red Admiral)	
Vanessa cardui (Painted Lady)	
Vanessa virginiensis (Virginia Lady)	
Nymphalis californica (California Tortoiseshell)	
Danaidae (Milkweed Butterflies)	
Danaus plexippus (Monarch)	
Danaus gilippus (Queen)	
Satyridae (Satyrs)	
Coenonympha californica (Common California Ringlet)	
Pieridae (Whites, Sulphurs)	
Pieris rapae (Cabbage White)	
Pontia sisymbrii (Spring White)	
Pontia beckerii (Beker's White)	
Pontia protodice (Common White)	
Anthocharis sara (Sara Orangetip) 1111	4
Anthocharis cethura (Felder's Orangetip)	
Euchloe hyantis (Desert Pearly Marble)	
Colias eurytheme (Orange Sulphur)	
Colias harfordii (Harford's Sulphur)	
Nathalis iole (Dainty Sulphur)	
Papilionidae (Swallowtails)	
Papilio polyxenes (Desert Black Swallowtail)	
Papilio eurymedon (Pale swallowtail) 1 Papilio sp.	1
Papilio rutulus (Western Tiger Swallowtail)	
Riodinidae (Metalmarks)	
Apodemia mormo (Behr's Metalmark) ~~1111~~ ~~1111~~ 111	13
Lycaenidae (Hairstreaks and Blues)	
Celastrina ladon (Spring Azure)	
Leptotes marina (Marine Blue)	
Brephidium exile (Western Pygmy Blue)	
Glaucopsyche lygdamus (Southern Blue/Silvery blue)	
Hemiargus ceraunus (Edward's Blue)	
Icaria acmon (Acmon Blue)	
Philotes sonorensis (Sonoran Blue)	
Callophrys augustinus (Brown Elfin)	
Callophrys perplexa (Perplexing Green Hairstreak)	
Strymon melinus (Gray Hairstreak)	
Atlides halesus (Great Purple Hairstreak)	

	Total
Hesperiidae (Skippers)	
Erynnis funeralis (Funereal Duskywing) 1	1
Erynnis tristis (Sad Duskywing)	
Erynnis propertius (Propertius Duskywing)	
Erynnis brizo (Sleepy Duskywing)	
Pyrgus albescens (Checkered Skipper)	
Hesperia juba (Juba Skipper)	
Polites sabuleti (Sandhill Skipper)	
Megathymidae (Giant Skippers)	
Megathymus yuccae (Yucca Giant Skipper)	
Other Butterflies:	
Common Sootywing 1	1

Notes:

ial Nectaring or Host Plants for Quino Checkerspot Butterfly in Boulevard, California (Concentrix Solar)

ions.

Please Place a Check Mark Beside Flowering Plants. Use Numbered Notes to Add Species Detail.

PLEASE RECORD HOST PLANTS ON GPS See Codes Below:

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	Antirrhinum nuttallianum	Nuttall's Snapdragon
	Asclepias fascicularis	Narrow-leaf Milkweed
	Boechera sp.	Rock Cress
	Calandrinia ciliata	Red Maids
	Calochortus concolor	Golden-bowl Mariposa Lily
	Calystegia longipes	Morning-glory
	Camissonia sp.	Sun Cup
	Castilleja exerta	**Paintbrush**
	Caulanthus heterophyllus	San Diego Jewelflower
	Caulanthus simulans	Payson's Caulanthus
	Ceanothus cuneatus	Buck Brush
	Ceanothus greggii	Cup-leaf-lilac
	Ceanothus leucodermis	Chaparral Whitethorn
	Chaenactis artemisiifolia	White Pincushion
	Chaenactis glabriuscula	Yellow Pincushion
	Clematis sp.	Clematis
	Collinsia concolor	**Southern Chinese Houses**
	Cordylanthus rigidus	**Dark-tip Bird's Beak**
	Coreopsis californica	California Coreopsis
	Corethrogyne filaginifolia	Common Sand-aster
	Cryptantha sp.	Cryptantha
	Cucurbita foetidissima	Calabazilla
	Descurainia sp.	Tansy-mustard
	Dicentra chrysantha	Golden Ear-drops
	Dichelostemma capitatum	Blue Dicks
	Dudleya sp.	Dudleya
	Emmenanthe penduliflora	Whispering Bells
	Eriastrum sp.	Woolly-star
	Ericameria sp.	Goldenbush
	Erigeron foliosus	Leafy Daisy
	Eriodictyon trichocalyx	Hairy Yerba Santa
	Eriogonum fasciculatum	Inland California Buckwheat
	Eriogonum sp.	Buckwheat
	Eriophyllum sp.	Golden-yarrow
	*Erodium cicutarium**	Red-stem Storksbill
	Erysimum capitatum	Western Wallflower
	Eschscholzia californica	California Poppy
	Eucrypta chrysanthemifolia	Spotted Hideseed
	Euthamia occidentalis	Western Goldenrod
	Garrya veatchii	Canyon Silk Tassel
	Gilia sp.	Gilia
	Gnaphalium	Cudweed
	Guillenia lasiophylla	California Mustard
	Gutierrezia sarothrae	Broom Matchweed
	Heliotropium curassavicum	Salt Heliotrope
	Hirschfeldia incana	Short-pod Mustard
	Lamium amplexicaule	Henbit
	Lasthenia gracilis	Common Goldfields
	Layia glandulosa	White Layia
	Lepidium sp	Pepperweed
	Linanthus bellus	Desert Beauty
	Linanthus dichotomus	Evening Snow
	Lonicera subspicata	Johnston's Honeysuckle
	Malacothrix californica	California Dandelion
	Malacothrix clevelandii	Cleveland's Malacothrix
	Marah macrocarpus	Wild-cucumber
	*Marrubium vulgare**	Horehound
	*Matricaria matricarioides**	Common Pineapple-weed
	Mentzelia veatchiana	Veatch's Stick-leak
	Microsteris gracilis	Slender Phlox
	Mimulus sp.	Monkeyflower
	Nemophila menziesii	Small-flower Baby Blue Eyes
	Orobanche bulbosa	Chaparral Broom-rape
	Osmadenia tenella	Osmadenia
	Paeonia californica	California Peony
	Pectocarya sp.	Pectocarya
	Phacelia sp.	Phacelia
	Pholistoma membranaceum	White Fiesta Flower
	Plagiobothrys sp.	Popcornflower
	Plantago patagonica	**Desert Plantain**
	Platystemon californicus	Cream Cups
	Prunus ilicifolia	Holly-leaf Cherry
	Rafinesquia neomexicana	Desert Chicory
	Ribes quercetorum	Oak Gooseberry
	Rorripa nasturtium-aquaticum	Water-cress
	Rosa californica	California Rose
	Saltugilia australis	Southern Gilia
	Senecio californicus	California Butterweed
	Senecio flaccidus	Butterweed
	Sidalcea malvaeflora	Checker-bloom
	Sisymbrium sp.	Tumble Mustard
	Solidago californica	California Goldenrod
	Stachys ajugoides	Hedge-nettle
	Stephanomeria sp.	Wreathplant
	Streptanthus campestris	Southern Jewelflower
	Stylocline gnaphalioides	Everlasting Nest-straw
	Tetradymia comosa	Cotton-thorn
	Thysanocarpus sp.	Fringepod
	Trichostemma parishii	Mountain Bluecurls
	Tropidocarpum gracile	Slender Dobie-pod
	Uropappus lindleyi	Silver Puffs
	Viola purpurea	Oak Yellow Violet

Other Flowering Plants:

Linanthus jonesii

Gopher Snake

Rare Wildlife or Rare Plants:

Ki GV 01 – 7 plants
Ki Ad 01 – 4 plants
Ki Lb 01 – 1 plant
Ki Lb 02 – 1 plant
Ki Lb 03 – 1 plant
Ki Lb 04 – 27 plants
Ki Ad 02 – 4 plants
Ki Ad 03 – 2 plants
Ki Lb 05 – 2 plants
Ki Horn 12 01 – 1 juvenile horned lizard
Ki Lb 06 – 2 plants
Ki Lb 07 – 3 plants
Ki Lb 08 – 15 plants
Ki Ad 04 – 2 plants
Ki AL 02 – 1 Adult Blainville's Horned Lizard, 5 LB
Ki Ad 05 – 1 [illegible]
Ki AL 03 – 1 Horned Lizard
Ki Lb 09 – 2 plants
Ki Lb 10 – 10 plants
Ki Lb 11 – 7 plants
Ki Lb 12 – 7 plants
Ki Lb 13 – 14 plants
Ki Ad 06 – 3 plants
Ki Lb 14 – 5 plants

Kilb 15 - 1 plant
KiGV03 - 1 plant
Kilb16 - 11 plants
Kilb17 - 15 plants
Kilb18 - 35 plants

Quino Checkerspot Butterfly Protocol Survey — Field Data Sheet

Recorder: BCA Add'l Person: none Date: 04/05/11 GPS Unit: 2

Project: Concentrix Solar Project Map #: 4 Survey Sxn: SDGE Portion QCB Protocol Survey # 2 of 5

TIME (24-hour)	Temp (F°)	Wind (avg/max)	% CC	Sky
Start 0900	60.8	0.7/2.3	12% haze	(clear) patchy overcast drizzle shower
1000	70.5	1.4/3.7	15% haze	(clear) patchy overcast drizzle shower
1100	72.3	1.1/2.9	25% haze	(clear) patchy overcast drizzle shower
1200	79.1	1.1/5.0	40% haze/hot	(clear) patchy overcast drizzle shower
1300	78.4	1.0/5.4	70% haze/clear	clear patchy overcast drizzle shower
End 1400	see Margie's temp			clear (patchy) overcast drizzle shower
				clear patchy overcast drizzle shower

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

Species	Tally	Total
Nymphalidae (Brushfooted Butterflies)		
Euphydryas editha (Quino Checkerspot)		
Euphydryas chalcedona (Henne's Checkerspot)		
Thessalia leanira (Wright's Checkerspot)		
Chlosyne californica (California Patch)		
Chlosyne gabbii (Gabb's Checkerspot)		
Phyciodes mylitta (Mylitta Crescent)		
Junonia coenia (Common Buckeye)		
Vanessa annabella (West Coast Lady)		
Vanessa atalanta (Red Admiral)		
Vanessa cardui (Painted Lady)	II	2
Vanessa virginiensis (Virginia Lady)		
Nymphalis californica (California Tortoiseshell)		
Danaidae (Milkweed Butterflies)		
Danaus plexippus (Monarch)		
Danaus gilippus (Queen)		
Satyridae (Satyrs)		
Coenonympha californica (Common California Ringlet)		
Pieridae (Whites, Sulphurs)		
Pieris rapae (Cabbage White)		
Pontia sisymbrii (Spring White)		
Pontia beckerii (Beker's White)		
Pontia protodice (Common White)	卌 IIII	9
Anthocharis sara (Sara Orangetip)	卌 I	6
Anthocharis cethura (Felder's Orangetip)	II	2
Euchloe hyantis (Desert Pearly Marble)	卌 I	6
Colias eurytheme (Orange Sulphur)		
Colias harfordii (Harford's Sulphur)	I	
Nathalis iole (Dainty Sulphur)		
Papilionidae (Swallowtails)		
Papilio polyxenes (Desert Black Swallowtail)		
Papilio eurymedon (Pale swallowtail)		
Papilio rutulus (Western Tiger Swallowtail)		
Riodinidae (Metalmarks)	卌 卌 卌 I	
Apodemia mormo (Behr's Metalmark)	卌 卌 卌 卌 卌 卌	46
Lycaenidae (Hairstreaks and Blues)		
Celastrina ladon (Spring Azure)		
Leptotes marina (Marine Blue)		
Brephidium exile (Western Pygmy Blue)		
Glaucopsyche lygdamus (Southern Blue/Silvery blue)	II	2
Hemiargus ceraunus (Edward's Blue)		
Icaria acmon (Acmon Blue)	IIII	4
Philotes sonorensis (Sonoran Blue)		
Callophrys augustinus (Brown Elfin)		
Callophrys perplexa (Perplexing Green Hairstreak)		
Strymon melinus (Gray Hairstreak)		
Atlides halesus (Great Purple Hairstreak)		

Species	Tally	Total
Hesperiidae (Skippers)		
Erynnis funeralis (Funereal Duskywing)		
Erynnis tristis (Sad Duskywing)		
Erynnis propertius (Propertius Duskywing)		
Erynnis brizo (Sleepy Duskeywing)		
Pyrgus albescens (Checkered Skipper)		
Hesperia jubia (Jubia Skipper)		
Polites sabuleti (Sandhil. Skipper)		
Megathymidae (Giant Skippers)		
Megathymus yuccae (Yucca Giant Skipper)		
Other Butterflies:		
Erynnis sp.	卌	5
orange moth! fly like		1
small gray moth	III	3
Sulphur sp	II	2

Notes:

MODO Black rab BCBJ01
CALT LASP
WCSP
Red-tailed hawk (BCNL01) 1117 am
CAQU
CORA
WEST
BTSP
Western fence lizard
cottontail
AMKE
BCNL02 1028
SPTO
CATH
WEME
orange throated whiptail BCOW at 1121
WESC
COHA (BCCH01)

Potential Nectaring or Host Plants for Quino Checkerspot Butterfly in Boulevard, California (Concentrix Solar)

Instructions:

- Please Place a Check Mark Beside Flowering Plants. Use Numbered Notes to Add Species Detail.
- **PLEASE RECORD HOST PLANTS ON GPS** See Codes Below:

Antirrhinum coulterianum = AC *Collinsia concolor* = CC *Cordylanthus rigidus* = CR *Plantago patagonica* = PP

✓	*Amsinckia menziesii*	Rancher's Fiddleneck
	Antirrhinum coulterianum	**Coulter's Snapdragon**
	Antirrhinum nuttallianum	Nuttall's Snapdragon
	Asclepias fascicularis	Narrow-leaf Milkweed
	Boechera sp.	Rock Cress
	Calandrinia ciliata	Red Maids
	Calochortus concolor	Golden-bowl Mariposa Lily
	Calystegia longipes	Morning-glory
	Camissonia sp.	Sun Cup
	Castilleja exerta	**Paintbrush**
	Ceanothus heterophyllus	San Diego Jewelflower
	Ceanothus simulans	Payson's Ceanothus
	Ceanothus cuneatus	Buck Brush
	Ceanothus greggii	Cup-leaf-lilac
	Ceanothus leucodermis	Chaparral Whitethorn
	Chaenactis artemisiifolia	White Pincushion
	Chaenactis glabriuscula	Yellow Pincushion
	Clematis sp.	Clematis
	Collinsia concolor	**Southern Chinese Houses**
	Cordylanthus rigidus	**Dark-tip Bird's Beak**
	Coreopsis californica	California Coreopsis
	Corethrogyne filaginifolia	Common Sand-aster
✓	*Cryptantha sp.*	Cryptantha
	Cucurbita foetidissima	Calabazilla
	Descurainia sp.	Tansy-mustard
	Dicentra chrysantha	Golden Ear-drops
✓	*Dichelostemma capitatum*	Blue Dicks
	Dudleya sp.	Dudleya
	Emmenanthe penduliflora	Whispering Bells
	Eriastrum sp.	Woolly-star
	Ericameria sp.	Goldenbush
	Erigeron foliosus	Leafy Daisy
	Eriodictyon trichocalyx	Hairy Yerba Santa
	Eriogonum fasciculatum	Inland California Buckwheat
	Eriogonum sp.	Buckwheat
	Eriophyllum sp.	Golden-yarrow
✓	*Erodium cicutarium**	Red-stem Storksbill
	Erysimum capitatum	Western Wallflower
	Eschscholzia californica	California Poppy
	Eucrypta chrysanthemifolia	Spotted Hideseed
	Euthamia occidentalis	Western Goldenrod
	Garrya veatchii	Canyon Silk Tassel
	Gilia sp.	Gilia
	Gnaphalium	Cudweed
	Guillonia lasiophylla	California Mustard
	Gutierrezia sarothrae	Broom Matchweed
	Heliotropium curassavicum	Salt Heliotrope
	Hirshfeldia incana	Short-pod Mustard
	Lamium amplexicaule	Henbit
✓	*Lasthenia gracilis*	Common Goldfields
	Layia glandulosa	White Layia
	Lepidium sp.	Pepperweed
✓	*Linanthus bellus*	Desert Beauty
	Linanthus dichotomus	Evening Snow
	Lonicera subspicata	Johnston's Honeysuckle
	Malacothrix californica	California Dandelion
	Malacothrix clevelandii	Cleveland's Malacothrix
	Marah macrocarpus	Wild-cucumber
	*Marrubium vulgare**	Horehound
	*Matricaria matricarioides**	Common Pineapple-weed
	Mentzelia veatchiana	Veatch's Stick-leak
	Microsteris gracilis	Slender Phlox
	Mimulus sp.	Monkeyflower
	Nemophila menziesii	Small-flower Baby Blue Eyes
	Orobanche bulbosa	Chaparral Broom-rape
	Osmadenia tenella	Osmadenia
	Paeonia californica	California Peony
	Pectocarya sp.	Pectocarya
✓	*Phacelia sp.*	Phacelia
	Pholistoma membranaceum	White Fiesta Flower
✓	*Plagiobothrys sp.*	Popcornflower
	Plantago patagonica	**Desert Plantain**
	Platystemon californicus	Cream Cups
	Prunus ilicifolia	Holly-leaf Cherry
	Rafinesquia neomexicana	Desert Chicory
	Ribes quercetorum	Oak Gooseberry
	Rorripa nasturtium-aquaticum	Water-cress
	Rosa californica	California Rose
	Saltugilia australis	Southern Gilia
✓	*Senecio californicus*	California Butterweed
	Senecio flaccidus	**Butterweed**
	Sidalcea malvaeflora	Checker-bloom
	Sisymbrium sp.	Tumble Mustard
	Solidago californica	California Goldenrod
	Stachys ajugoides	Hedge-nettle
	Stephanomeria sp.	Wreath-plant
	Streptanthus campestris	Southern Jewelflower
	Stylocline gnaphalioides	Everlasting Nest-straw
	Tetradymia comosa	Cotton-thorn
	Thysanocarpus sp.	Fringepod
	Trichostemma parishii	Mountain Bluecurls
	Tropidocarpum gracile	Slender Dobie-pod
	Uropappus lindleyi	Silver Puffs
	Viola purpurea	Oak Yellow Violet

Other Flowering Plants:

Rare Wildlife or Rare Plants:

Linanthus bellus ? BCLB01 ≈ 50 ind
BCLB02 ≈ 20
BCLB03 ≈ 1
BCLB04 ≈ 1
BCLB05 ≈ 1
BCLB06 ≈ 1

took photos of Wright's astragalus

*fenceline not accurate w/ project boundary on eastern most side

Quino Checkerspot Butterfly Protocol Survey — Field Data Sheet

No boundary on GPS Unit

Recorder: Bonnie Hendricks Add'l Person: Kyle Ince Date: 4/5/11 GPS Unit: 11

Project: Concentrix Solar Project Map #: 3 Survey Sxn: N. + E. QCB Protocol Survey # 2 of 5

	TIME (24 hour)	Temp (F°):	Wind (avg/max)	% CC	Sky
Start	9:00	69.4	2.2/5.5	10%	clear patchy overcast drizzle shower
	10:50	81.2	1.8/3.3	40%	clear patchy overcast drizzle shower
	11:30	83.5	2.1/4.5	30	clear patchy overcast drizzle shower
	12:50	76.8	3.2/7.8	50	clear patchy overcast drizzle shower
	1:20	73.5	5.6/8.7	75	clear patchy overcast drizzle shower
	2:30	80.6	5.3/8.5	75	clear patchy overcast drizzle shower
End	4:00	72.7	4.1/7.2	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 flat, rolling

	Total		Total
Nymphalidae (Brushfooted Butterflies)		**Hesperiidae (Skippers)**	
Euphydryas editha (Quino Checkerspot)		*Erynnis funeralis* (Funereal Duskywing) } 11	2
Euphydryas chalcedona (Henne's Checkerspot)		*Erynnis tristis* (Sad Duskywing) }	
Thessalia leanira (Wright's Checkerspot)		*Erynnis propertius* (Propertius Duskywing)	
Chlosyne californica (California Patch)		*Erynnis brizo* (Sleepy Duskeywing)	
Chlosyne gabbii (Gabb's Checkerspot)		*Pyrgus communis* (Checkered Skipper)	
Phyciodes mylitta (Mylitta Crescent)		*Hesperia jubia* (Jubia Skipper)	
Junonia coenia (Common Buckeye)		*Polites sabulati* (Sandhill Skipper)	
Vanessa annabella (West Coast Lady		**Megathymidae (Giant Skippers)**	
Vanessa atalanta (Red Admiral)		*Megathymus yuccae* (Yucca Giant Skipper)	
Vanessa cardui (Painted Lady)			
Vanessa virginiensis (Virginia Lady)		**Other Butterflies:**	
Nymphalis californica (California Tortoiseshell)		Duskywing sp. (beat up) 11	2
Danaidae (Milkweed Butterflies)			
Danaus plexippus (Monarch)		Orangetip sp. 卌 IIII	9
Danaus gilippus (Queen)			
Satyridae (Satyrs)			
Coenonympha californica (Common California Ringlet)		Sulphur sp. / large yellow	1
Pieridae (Whites, Sulphurs)			
Pieris rapae (Cabbage White)			
Pontia sisymbrii (Spring White)		White sp. IIII	4
Pontia beckerii (Beker's White)			
Pontia protodice (Common White) I	1	Six-spotted Moth 11	2
Anthocharis sara (Sara Orangetip) 卌 II	7	Beige Moth I	1
Anthocharis cethura (Felder's Orangetip)			
Euchloe hyantis (Desert Pearly Marble) 卌 II	7		
Colias eurytheme (Orange Sulphur)			
Colias harfordii (Harford's Sulphur)			
Nathalis iole (Dainty Sulphur)			
Papilionidae (Swallowtails)		**Notes:**	
Papilio polyxenes (Desert Black Swallowtail)		Deer tracks, Nectlep nests	
Papilio eurymedon (Pale swallowtail)		SCJA ; Lepus calif	
Papilio rutulus (Western Tiger Swallowtail)		CORA ; Sylv ando.	
Riodiniade (Metalmarks)		WCSP	
Apodemia mormo (Behr's Metalmark) 卌 卌 卌 卌 卌	32	CAQA	
Lycaenidae (Hairstreaks and Blues) 卌 II		BUSH	
Celastrina ladon (Spring Azure)		CATH	
Leptotes marina (Marine Blue)			
Brophidium exile (Western Pygmy Blue)			
Glaucopsyche lygdamus (Southern Blue/Silvery blue)			
Hemiargus ceraunus (Edward's Blue)			
Icaria acmon (Acmon Blue) I	1		
Philotes sonorensis (Sonoran Blue)			
Callophrys augustinus (Brown Elfin)			
Callophrys dumetorum (Perplexing Green Hairstreak) III	3		
Strymon melinus (Gray Hairstreak)			
Atlides halesus (Great Purple Hairstreak)			

...tial Nectaring or Host Plants for Quino Checkerspot Butterfly in Boulevard, California (Concentrix Solar)

...ons:

Please Place a Check Mark Beside Flowering Plants. Use Numbered Notes to Add Species Detail. Bonnie M. 4/5/11

PLEASE RECORD HOST PLANTS ON GPS See Codes Below:

Antirrhinum coulterianum = AC *Collinsia concolor* = CC *Cordylanthus rigidus* = CR *Plantago patagonica* = PP Area 3 N. of E.

	Amsinckia menziesii	Rancher's Fiddleneck
	Antirrhinum coulterianum	**Coulter's Snapdragon**
	Antirrhinum nuttallianum	Nuttall's Snapdragon
	Asclepias fascicularis	Narrow-leaf Milkweed
	Boechera sp.	Rock Cress
	Calandrinia ciliata	Red Maids
X	*Calochortus concolor*	Golden-bowl Mariposa Lily
	Calystegia longipes	Morning-glory
	Camissonia sp.	Sun Cup
	Castilleja exerta	**Paintbrush**
	Coulanthus heterophyllus	San Diego Jewelflower
	Caulanthus simulans	Payson's Caulanthus
	Ceanothus cuneatus	Buck Brush
X	*Ceanothus greggii*	Cup-leaf-lilac
	Ceanothus leucodermis	Chaparral Whitethorn
	Chaenactis artemisiifolia	White Pincushion
	Chaenactis glabriuscula	Yellow Pincushion
	Clematis sp.	Clematis
X	***Collinsia concolor***	**Southern Chinese Houses**
	Cordylanthus rigidus	**Dark-tip Bird's Beak**
	Coreopsis californica	California Coreopsis
	Corethrogyne filaginifolia	Common Sand-aster
X	*Cryptantha* sp. / *lepida*	Cryptantha
	Cucurbita foetidissima	Calabazilla
	Descurainia sp.	Tansy-mustard
	Dicentra chrysantha	Golden Ear-drops
	Dichelostemma capitatum	Blue Dicks
	Dudleya sp.	Dudleya
	Emmenanthe penduliflora	Whispering Bells
	Eriastrum sp.	Woolly-star
	Ericameria sp.	Goldenbush
	Erigeron foliosus	Leafy Daisy
	Eriodictyon trichocalyx	Hairy Yerba Santa
	Eriogonum fasciculatum	Inland California Buckwheat
	Eriogonum sp.	Buckwheat
	Eriophyllum sp	Long-stem Golden-yarrow
X	*Erodium cicutarium**	Red-stem Storksbill
	Erysimum capitatum	Western Wallflower
X	*Eschscholzia californica*	California Poppy
	Eucrypta chrysanthemifolia	Spotted Hideseed
	Euthamia occidentalis	Western Goldenrod
X	*Garrya veatchii*	Canyon Silk Tassel
	Gilia sp.	Gilia
	Gnaphalium	Cudweed
	Guillenia lasiophylla	California Mustard
	Gutierrezia sarothrae	Broom Matchweed
	Heliotropium curassavicum	Salt Heliotrope
	Hirschfeldia incana	Short-pod Mustard
	Lamium amplexicaule	Henbit
X	*Lasthenia gracilis*	Common Goldfields
X	*Layia glandulosa*	White Layia
	Lepidium sp.	Pepperweed
X	*Linanthus bellus*	Desert Beauty
	Linanthus dichotomus	Evening Snow
	Lonicera subspicata	Johnston's Honeysuckle
	Malacothrix californica	California Dandelion
	Malacothrix clevelandii	Cleveland's Malacothrix
	Marah macrocarpus	Wild-cucumber
	*Marrubium vulgare**	Horehound
	*Matricaria matricarioides**	Common Pineapple-weed
	Mentzelia veatchiana	Veatch's Stick-leak
	Microsteris gracilis	Slender Phlox
	Mimulus sp.	Monkeyflower
	Nemophila menziesii	Small-flower Baby Blue Eyes
	Orobanche bulbosa	Chaparral Broom-rape
	Osmadenia tenella	Osmadenia
X	*Paeonia californica*	California Peony
	Pectocarya sp.	Pectocarya
	Phacelia sp.	Phacelia
	Phacelia membranaceum	White Fiesta Flower
	Plagiobothrys sp.	Popcornflower
	Plantago patagonica	**Desert Plantain**
	Platystemon californicus	Cream Cups
	Prunus ilicifolia	Holly-leaf Cherry
	Rafinesquia neomexicana	Desert Chicory
	Ribes quercetorum	Oak Gooseberry
	Rorripa nasturtium-aquaticum	Water-cress
	Rosa californica	California Rose
	Saltugilia australis	Southern Gilia
	Senecio californicus	California Butterweed
	Senecio flaccidus	Butterweed
	Sidalcea malvaeflora	Checker-bloom
X	*Sisymbrium sp.*	Tumble Mustard
	Solidago californica	California Goldenrod
	Stachys ajugoides	Hedge-nettle
	Stephanomeria sp.	Wreathplant
	Streptanthus campestris	Southern Jewelflower
X	*Stylocline gnaphaloides*	Everlasting Nest-straw
	Tetradymia comosa	Cotton-thorn
	Thysanocarpus sp.	Fringepod
X	*Trichostema parishii*	Mountain Bluecurls
	Tropidocarpum gracile	Slender Dobie-pod
	Uropappus lindleyi	Silver Puffs
	Viola purpurea	Oak Yellow Violet

Other Flowering Plants:

Lupinus concinnus
Arabis pulchra
Tauschia argute

Rare Wildlife or Rare Plants:

Bhnl01 - woodrat nest Bhnl02
Bhbj01 - jackrabbit
X Bhcc01C - Collinsia concolor 75 vegetative
Bhlb01X - Linanthus bellus in bud
Bhlb02 >25 5 in bloom
03 >25 " "
04 few
Bhasd001 1 plant Astrag. douglasii
Bhbj02 - jackrabbit
Bhlb05, 06, 07, 08 few at each pt.
Bhasd002:3 = Astr. douglasii 13 plants
Bhlb09C, 10A, 11A, 12A, 13B

Quino Checkerspot Butterfly Protocol Survey — Field Data Sheet

Recorder: Mike Couffer Add'l Person: Ø Date: 5 April, 2011 GPS Unit: 6

Project: Concentrix Solar Project Map #: 4 Survey Sxn: Ø QCB Protocol Survey # 2 of 5

TIME (24-hour)	Temp (F°):	Wind (avg/max)	% CC	Sky
Start 0830 HRS	68°F	Ø	High Clouds	(clear) patchy overcast drizzle shower
0900	70	Ø → 1 mph	"	(clear) patchy overcast drizzle shower
1000	73	Ø → 2 mph	"	(clear) patchy overcast drizzle shower
1100	75	Ø → 4 mph	"	(clear) patchy overcast drizzle shower
1200	77	Ø → 4 mph	"	(clear) patchy overcast drizzle shower
1300	77	2 → 7 mph	30%	clear (patchy) overcast drizzle shower
End 1400	79	2 → 6 mph	50%	clear patchy (overcast) drizzle shower

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

	Total
Nymphalidae (Brushfooted Butterflies)	
Euphydryas editha (Quino Checkerspot)	
Euphydryas chalcedona (Henne's Checkerspot)	
Thessalia leanira (Wright's Checkerspot)	
Chlosyne californica (California Patch)	
Chlosyne gabbii (Gabb's Checkerspot)	
Phyciodes mylitta (Mylitta Crescent)	
Junonia coenia (Common Buckeye)	1
Vanessa annabella (West Coast Lady	
Vanessa atalanta (Red Admiral)	
Vanessa cardui (Painted Lady)	2
Vanessa virginiensis (Virginia Lady)	
Nymphalis californica (California Tortoiseshell)	
Danaidae (Milkweed Butterflies)	
Danaus plexippus (Monarch)	
Danaus gilippus (Queen)	
Satyridae (Satyrs)	
Coenonympha californica (Common California Ringlet)	
Pieridae (Whites, Sulphurs)	
Pieris rapae (Cabbage White)	
Pontia sisymbrii (Spring White)	5
Pontia beckerii (Beker's White)	
Pontia protodice (Common White)	
Anthocharis sara (Sara Orangetip)	8
Anthocharis cethura (Felder's Orangetip)	
Euchloe hyantis (Desert Pearly Marble)	12
Colias eurytheme (Orange Sulphur)	
Colias harfordii (Harford's Sulphur)	1
Nathalis iole (Dainty Sulphur)	
Papilionidae (Swallowtails)	
Papilio polyxenes (Desert Black Swallowtail)	1
Papilio eurymedon (Pale swallowtail)	
Papilio rutulus (Western Tiger Swallowtail)	
Riodinlade (Metalmarks)	
Apodemia mormo (Behr's Metalmark)	113
Lycaenidae (Hairstreaks and Blues)	
Celastrina ladon (Spring Azure)	
Leptotes marina (Marine Blue)	
Brephidium exile (Western Pygmy Blue)	
Glaucopsyche lygdamus (Southern Blue/Silvery blue)	
Hemiargus ceraunus (Edward's Blue)	
Icaria acmon (Acmon Blue)	19
Philotes sonorensis (Sonoran Blue)	
Callophrys augustinus (Brown Elfin)	
Callophrys perplexa (Perplexing Green Hairstreak)	2
Strymon melinus (Gray Hairstreak)	
Atlides halesus (Great Purple Hairstreak)	

	Total
Hesperiidae (Skippers)	
Erynnis funeralis (Funereal Duskywing)	3
Erynnis tristis (Sad Duskywing)	1
Erynnis propertius (Propertius Duskywing)	8
Erynnis brizo (Sleepy Duskywing)	
Pyrgus albescens (Checkered Skipper)	
Hesperia juba (Juba Skipper)	
Polites sabuleti (Sandhill Skipper)	
Megathymidae (Giant Skippers)	
Megathymus yuccae (Yucca Giant Skipper)	
Other Butterflies:	
JUBA SKIPPER	1
SACHEM	5
MOURNFUL DUSKYWING (SEE SAD DUSKYWING)	
CALIFORNIA SCOTYWING	5

Notes:

1500 HRS, 76°F, WIND = 1 → 9 mph, 70%

1518 HRS, 72°F, WIND = 5 → 14 mph, 80% Cover

Nectaring or Host Plants for Quino Checkerspot Butterfly in Boulevard, California (Concentrix Solar)

Please Place a Check Mark Beside Flowering Plants. Use Numbered Notes to Add Species Detail.

PLEASE RECORD HOST PLANTS ON GPS See Codes Below:

Antirrhinum coulterianum = AC *Collinsia concolor* = CC *Cordylanthus rigidus* = CR *Plantago patagonica* = PP

	Amsinckia menziesii	Rancher's Fiddleneck
	Antirrhinum coulterianum	**Coulter's Snapdragon**
	Antirrhinum nuttallianum	Nuttall's Snapdragon
	Asclepias fascicularis	Narrow-leaf Milkweed
	Boechera sp.	Rock Cress
	Calandrinia ciliata	Red Maids
	Calochortus concolor	Golden-bowl Mariposa Lily
	Calystegia longipes	Morning-glory
	Camissonia sp.	Sun Cup
	Castilleja exerta	**Paintbrush**
	Caulanthus heterophyllus	San Diego Jewelflower
	Caulanthus simulans	Payson's Caulanthus
	Ceanothus cuneatus	Buck Brush
	Ceanothus greggii	Cup-leaf-lilac
	Ceanothus leucodermis	Chaparral Whitethorn
	Chaenactis artemisiifolia	White Pincushion
	Chaenactis glabriuscula	Yellow Pincushion
	Clematis sp.	Clematis
	Collinsia concolor	**Southern Chinese Houses**
	Cordylanthus rigidus	**Dark-lip Bird's Beak**
	Coreopsis californica	California Coreopsis
	Corethrogyne filaginifolia	Common Sand-aster
	Cryptantha sp.	Cryptantha
	Cucurbita foetidissima	Calabazilla
	Descurainia sp.	Tansy-mustard
	Dicentra chrysantha	Golden Ear-drops
	Dichelostemma capitatum	Blue Dicks
	Dudleya sp.	Dudleya
	Emmenanthe penduliflora	Whispering Bells
	Eriastrum sp.	Woolly-star
	Ericameria sp.	Goldenbush
	Erigeron foliosus	Leafy Daisy
	Eriodictyon trichocalyx	Hairy Yerba Santa
	Eriogonum fasciculatum	Inland California Buckwheat
	Eriogonum sp.	Buckwheat
	Eriophyllum sp.	Golden-yarrow
	*Erodium cicutarium**	Red-stem Storksbill
	Erysimum capitatum	Western Wallflower
	Eschscholzia californica	California Poppy
	Eucrypta chrysanthemifolia	Spotted Hideseed
	Euthamia occidentalis	Western Goldenrod
	Garrya veatchii	Canyon Silk Tassel
	Gilia sp.	Gilia
	Gnaphalium	Cudweed
	Guillenia lasiophylla	California Mustard
	Gutierrezia sarothrae	Broom Matchweed
	Heliotropium curassavicum	Salt Heliotrope
	Hirschfeldia incana	Short-pod Mustard
	Lamium amplexicaule	Henbit
	Lasthenia gracilis	Common Goldfields
	Layia glandulosa	White Layia
	Lepidium sp.	Pepperweed
	Linanthus bellus	Desert Beauty
	Linanthus dichotomus	Evening Snow
	Lonicera subspicata	Johnston's Honeysuckle
	Malacothrix californica	California Dandelion
	Malacothrix cleveland	Cleveland's Malacothrix
	Marah macrocarpus	Wild-cucumber
	*Marrubium vulgare**	Horehound
	*Matricaria matricarioides**	Common Pineapple-weed
	Menzelia veatchiana	Veatch's Stick-leak
	Microsteris gracilis	Slender Phlox
	Mimulus sp.	Monkeyflower
	Nemophila menziesii	Small-flower Baby Blue Eyes
	Orobanche hulbosa	Chaparral Broom-rape
	Osmadenia tenella	Osmadenia
	Paeonia californica	California Peony
	Pectocarya sp.	Pectocarya
	Phacelia sp.	Phacelia
	Pholistoma membranaceum	White Fiesta Flower
	Plagiobothrys sp.	Popcornflower
	Plantago patagonica	Desert Plantain
	Platystemon californicus	Cream Cups
	Prunus ilicifolia	Holly-leaf Cherry
	Rafinesquia neomexicana	Desert Chicory
	Ribes quercetorum	Oak Gooseberry
	Rorripa nasturtium-aquaticum	Water-cress
	Rosa californica	California Rose
	Saltugilia australis	Southern Gilia
	Senecio californicus	California Butterweed
	Senecio flaccidus	Butterweed
	Sidalcea malvaeflora	Checker-bloom
	Sisymbrium sp.	Tumble Mustard
	Solidago californica	California Goldenrod
	Stachys ajugoides	Hedge-nettle
	Stephanomeria sp.	Wreathplant
	Streptanthus campestris	Southern Jewelflower
	Stylocline gnaphalioides	Everlasting Nest-straw
	Tetradymia comosa	Cotton-thorn
	Thysanocarpus sp.	Fringepod
	Trichostemma parishii	Mountain Bluecurls
	Tropidocarpum gracile	Slender Dobie-pod
	Uropappus lindleyi	Silver Puffs
	Viola purpurea	Oak Yellow Violet

Other Flowering Plants:

Rare Wildlife or Rare Plants:

MCLA01
MCBJ01
MCBJ02
MCBJ03
MCBJ04
MCBJ05
MCCEA

Quino Checkerspot Butterfly Protocol Survey — Field Data Sheet

Recorder: [illegible] Add'l Person: ______ Date: 4-5-11 GPS Unit: 12

Project: Concentrix Solar Project Map #: 4 Survey Sxn: ______ QCB Protocol Survey # 2 of 5

TIME (24-hour)	Temp (F°)	Wind (avg/max)	% CC	Sky
Start				clear patchy overcast drizzle shower
0915	68°F	2-5	35%	clear (patchy) overcast drizzle shower
1115	72°F	3-5	35%	clear (patchy) overcast drizzle shower
1300	74°F	3-6	55%	clear (patchy) overcast drizzle shower
1400	77°F	6-8	65%	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 Wash

Species	Total
Nymphalidae (Brushfooted Butterflies)	
Euphydryas editha (Quino Checkerspot)	
Euphydryas chalcedona (Henne's Checkerspot)	
Thessalia leanira (Wright's Checkerspot)	
Chlosyne californica (California Patch)	
Chlosyne gabbii (Gabb's Checkerspot)	I
Phyciodes mylitta (Mylitta Crescent)	
Junonia coenia (Common Buckeye)	
Vanessa annabella (West Coast Lady	
Vanessa atalanta (Red Admiral)	
Vanessa cardui (Painted Lady)	
Vanessa virginiensis (Virginia Lady)	
Nymphalis californica (California Tortoiseshell)	
Danaidae (Milkweed Butterflies)	
Danaus plexippus (Monarch)	
Danaus gilippus (Queen)	
Satyridae (Satyrs)	
Coenonympha californica (Common California Ringlet)	
Pieridae (Whites, Sulphurs)	
Pieris rapae (Cabbage White)	
Pontia sisymbrii (Spring White)	
Pontia beckerii (Beker's White)	
Pontia protodice (Common White)	I
Anthocharis sara (Sara Orangetip)	卌 卌 卌 III
Anthocharis cethura (Felder's Orangetip)	
Euchloe hyantis (Desert Pearly Marble)	卌 II
Colias eurytheme (Orange Sulphur)	
Colias harfordii (Harford's Sulphur)	
Nathalis iole (Dainty Sulphur)	
Papilionidae (Swallowtails)	
Papilio polyxenes (Desert Black Swallowtail)	
Papilio eurymedon (Pale swallowtail)	
Papilio rutulus (Western Tiger Swallowtail)	
Riodinidae (Metalmarks)	
Apodemia mormo (Behr's Metalmark)	[illegible tally marks]
Lycaenidae (Hairstreaks and Blues)	
Celastrina ladon (Spring Azure)	
Leptotes marina (Marine Blue)	
Brephidium exile (Western Pygmy Blue)	
Glaucopsyche lygdamus (Southern Blue/Silvery blue)	
Hemiargus ceraunus (Edward's Blue)	
Icaria acmon (Acmon Blue)	卌 卌 卌 II
Philotes sonorensis (Sonoran Blue)	
Callophrys augustinus (Brown Elfin)	
Callophrys dumetorum (Perplexing Green Hairstreak)	II
Strymon melinus (Gray Hairstreak)	
Atlides halesus (Great Purple Hairstreak)	

Species	Total
Hesperiidae (Skippers)	
Erynnis funeralis (Funereal Duskywing)	I
Erynnis tristis (Sad Duskywing)	
Erynnis propertius (Propertius Duskywing)	III
Erynnis brizo (Sleepy Duskeywing)	I
Pyrgus communis (Checkered Skipper)	
Hesperia juba (Jubia Skipper)	
Polites sabuleti (Sandhill Skipper)	
Megathymidae (Giant Skippers)	
Megathymus yuccae (Yucca Giant Skipper)	
Other Butterflies:	
Common Sootywing	II

Notes:

ial Nectaring or Host Plants for Quino Checkerspot Butterfly in Boulevard, California (Concentrix Solar)

ons:

Please Place a Check Mark Beside Flowering Plants. Use Numbered Notes to Add Species Detail.

PLEASE RECORD HOST PLANTS ON GPS See Codes Below:

Antirrhinum coulterianum = AC *Collinsia concolor* = CC *Cordylanthus rigidus* = CR *Plantago patagonica* = PP

X	*Amsinckia menziesii*	Rancher's Fiddleneck
	Antirrhinum coulterianum	**Coulter's Snapdragon**
	Antirrhinum nuttallianum	Nuttall's Snapdragon
	Asclepias fascicularis	Narrow-leaf Milkweed
	Boechera sp.	Rock Cress
	Calandrinia ciliata	Red Maids
	Calochortus concolor	Golden-bowl Mariposa Lily
	Calystegia longipes	Morning-glory
X	*Camissonia spp*	Sun Cup
	Castilleja exerta	**Paintbrush**
	Caulanthus heterophyllus	San Diego Jewelflower
	Caulanthus simulans	Payson's Caulanthus
	Ceanothus cuneatus	Buck Brush
X	*Ceanothus greggii*	Cup-leaf-lilac
	Ceanothus leucodermis	Chaparral Whitethorn
	Chaenactis artemisiifolia	White Pincushion
	Chaenactis glabriuscula	Yellow Pincushion
	Clematis sp	Clematis
	Collinsia concolor	**Southern Chinese Houses**
	Cordylanthus rigidus	**Dark-tip Bird's Beak**
X	***Coreopsis californica***	California Coreopsis
	Corethrogyne filaginifolia	Common Sand-aster
X	*Cryptantha sp*	Cryptantha
	Cucurbita foetidissima	Calabazilla
X	*Descurainia sp.*	Tansy-mustard
	Dicentra chrysantha	Golden Ear-drops
	Dichelostemma capitatum	Blue Dicks
	Dudleya sp.	Dudleya
	Emmenanthe penduliflora	Whispering Bells
	Eriastrum sp.	Woolly-star
X	*Ericameria sp.*	Goldenbush
	Erigeron foliosus	Leafy Daisy
	Eriodictyon trichocalyx	Hairy Yerba Santa
	Eriogonum fasciculatum	Inland California Buckwheat
	Eriogonum sp.	Buckwheat
	Eriophyllum sp.	Long-stem Golden-yarrow
X	*Erodium cicutarium**	Red-stem Storksbill
	Erysimum capitatum	Western Wallflower
	Eschscholzia californica	California Poppy
	Eucrypta chrysanthemifolia	Spotted Hideseed
	Euthamia occidentalis	Western Goldenrod
	Garrya veatchii	Canyon Silk Tassel
	Gilia sp.	Gilia
	Gnaphalium	Cudweed
	Guillenia lasiophylla	California Mustard
	Gutierrezia sarothrae	Broom Matchweed
	Heliotropium curassavicum	Salt Heliotrope
X	*Hirshfeldia incana*	Short-pod Mustard
	Lamium amplexicaule	Henbit
X	*Lasthenia gracilis*	Common Goldfields
X	*Layia glandulosa*	White Layia
	Lepidium sp.	Pepperweed
	Linanthus bellus	Desert Beauty
	Linanthus dichotomus	Evening Snow
	Lonicera subspicata	Johnston's Honeysuckle
	Malacothrix californica	California Dandelion
	Malacothrix clevelandii	Cleveland's Malacothrix
	Marah macrocarpus	Wild-cucumber
	*Marrubium vulgare**	Horehound
	*Matricaria matricarioides**	Common Pineapple-weed
	Mentzelia veatchiana	Veatch's Stick-leaf
	Microsteris gracilis	Slender Phlox
	Mimulus sp.	Monkeyflower
	Nemophila menziesii	Small-flower Baby Blue Eyes
	Orobanche bulbosa	Chaparral Broom-rape
	Osmadenia tenella	Osmadenia
	Paeonia californica	California Peony
X	*Pectocarya sp.*	Pectocarya
	Phacelia sp.	Phacelia
	Pholistoma membranaceum	White Fiesta Flower
X	*Plagiobothrys sp.*	Popcornflower
	Plantago patagonica	**Desert Plantain**
	Platystemon californicus	Cream Cups
	Prunus ilicifolia	Holly-leaf Cherry
	Rafinesquia neomexicana	Desert Chicory
	Ribes quercetorum	Oak Gooseberry
	Rorripa nasturtium-aquaticum	Water-cress
	Rosa californica	California Rose
	Saltugilia australis	Southern Gilia
X	*Senecio californicus*	California Butterweed
	Senecio flaccidus	Butterweed
	Sidalcea malvaeflora	Checker-bloom
X	*Sisymbrium sp.*	Tumble Mustard
	Solidago californica	California Goldenrod
	Stachys ajugoides	Hedge-nettle
	Stephanomeria sp.	Wreathplant
	Streptanthus campestris	Southern Jewelflower
X	*Stylocline gnaphaloides*	Everlasting Nest-straw
	Tetradymia comosa	Cotton-thorn
	Thysanocarpus sp	Fringepod
	Trichostemma parishii	Mountain Bluecurls
	Tropidocarpum gracile	Slender Dobie-pod
X	*Uropappus lindleyi*	Silver Puffs
	Viola purpurea	Oak Yellow Violet

Other Flowering Plants:

Rhus ovata

Rare Wildlife or Rare Plants:

Astragalus douglasii peastridus
MMAD01-11

Black Jackrabbit
MMBJ01-03

Geraea viscida
MMGV01

Liantus bellus
MMLB01

Lathyrus splendens
MMLS01

Quino Checkerspot Butterfly Protocol Survey — Field Data Sheet

Recorder: Stephen Rink Add'l Person: _____ Date: 4-5-11 GPS Unit: 7

Project: Concentrix Solar Project Map #: 2 Survey Sxn: _____ QCB Protocol Survey # _____ of 5

TIME (24-hour)	Temp (F°):	Wind (avg/max)	% CC	Sky
Start 0800	61	1/2	15	clear patchy overcast drizzle shower
10:41	70	5/3	15	clear patchy overcast drizzle shower
12:05	72	5/7	15	clear patchy overcast drizzle shower
14:30	72	7/10	15	clear patchy overcast drizzle shower
[illegible]				clear patchy overcast drizzle shower
End 15:30	70	7/12	15	clear patchy overcast drizzle shower

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

	Total
Nymphalidae (Brushfooted Butterflies)	
Euphydryas editha (Quino Checkerspot)	
Euphydryas chalcedona (Henne's Checkerspot)	
Thessalia leanira (Wright's Checkerspot)	
Chlosyne californica (California Patch)	
Chlosyne gabbii (Gabb's Checkerspot)	
Phyciodes mylitta (Mylitta Crescent)	
Junonia coenia (Common Buckeye)	
Vanessa annabella (West Coast Lady	
Vanessa atalanta (Red Admiral)	
Vanessa cardui (Painted Lady)	
Vanessa virginiensis (Virginia Lady)	
Nymphalis californica (California Tortoiseshell)	
Danaidae (Milkweed Butterflies)	
Danaus plexippus (Monarch)	
Danaus gilippus (Queen)	
Satyridae (Satyrs)	
Coenonympha californica (Common California Ringlet)	
Pieridae (Whites, Sulphurs)	
Pieris rapae (Cabbage White)	
Pontia sisymbri (Spring White)	
Pontia beckerii (Beker's White)	
Pontia protodice (Common White)	
Anthocharis sara (Sara Orangetip) ~~IIII~~	12
Anthocharis cethura (Felder's Orangetip)	
Euchloe hyantis (Desert Pearly Marble)	
Colias eurytheme (Orange Sulphur)	
Colias harfordii (Harford's Sulphur)	
Nathalis iole (Dainty Sulphur)	
Papilionidae (Swallowtails)	
Papilio polyxenes (Desert Black Swallowtail)	
Papilio eurymedon (Pale swallowtail)	
Papilio rutulus(Western Tiger Swallowtail)	
Riodinlade (Metalmarks)	
Apodemia mormo (Behr's Metalmark) III	4
Lycaonidae (Hairstreaks and Blues)	
Celastrina ladon (Spring Azure)	
Leptotes marina (Marine Blue)	
Brephidium exile (Western Pygmy Blue)	
Glaucopsyche lygdamus (Southern Blue/Silvery blue)	
Hemiargus ceraunus (Edward's Blue)	
Icaria acmon (Acmon Blue) II	3
Philotes sonorensis (Sonoran Blue)	
Callophrys augustinus (Brown Elfin)	
Callophrys perplexa (Perplexing Green Hairstreak)	
Strymon melinus (Gray Hairstreak)	
Atlides halesus (Great Purple Hairstreak)	

	Total
Hesperiidae (Skippers)	
Erynnis funeralis (Funereal Duskywing) II	2
Erynnis tristis (Sad Duskywing)	
Erynnis propertius (Propertius Duskywing)	
Erynnis brizo (Sleepy Duskeywing)	
Pyrgus albescens (Checkered Skipper)	
Hesperia juba (Juba Skipper)	
Polites sabuleti (Sandhill Skipper)	
Megathymidae (Giant Skippers)	
Megathymus yuccae (Yucca Giant Skipper)	
Other Butterflies:	

Notes:

Potential Nectaring or Host Plants for Quino Checkerspot Butterfly in Boulevard, California (Concentrix Solar)

Instructions:

- Please Place a Check Mark Beside Flowering Plants. Use Numbered Notes to Add Species Detail.
- **PLEASE RECORD HOST PLANTS ON GPS** See Codes Below:

Antirrhinum coulterianum = AC *Collinsia concolor* = CC *Cordylanthus rigidus* = CR *Plantago patagonica* = PP

✓	*Amsinckia menziesii*	Rancher's Fiddleneck
○	***Antirrhinum coulterianum***	**Coulter's Snapdragon**
○	*Antirrhinum nuttallianum*	Nuttall's Snapdragon
○	*Asclepias fascicularis*	Narrow-leaf Milkweed
○	*Boechera sp.*	Rock Cress
○	*Calandrinia ciliata*	Red Maids
○	*Calochortus concolor*	Golden-bowl Mariposa Lily
○	*Calystegia longipes*	Morning-glory
○	*Camissonia sp.*	Sun Cup
✓	***Castilleja exerta***	**Paintbrush**
○	*Castilleja heterophyllus*	San Diego Jewelflower
○	*Caulanthus simulans*	Payson's Caulanthus
○	*Ceanothus cuneatus*	Buck Brush
○	*Ceanothus greggii*	Cup-leaf-lilac
○	*Ceanothus leucodermis*	Chaparral Whitethorn
○	*Chaenactis artemisiifolia*	White Pincushion
○	*Chaenactis glabriuscula*	Yellow Pincushion
○	*Clematis sp.*	Clematis
○	***Collinsia concolor***	**Southern Chinese Houses**
○	***Cordylanthus rigidus***	**Dark-tip Bird's Beak**
○	*Coreopsis californica*	California Coreopsis
○	*Corethrogyne filaginifolia*	Common Sand-aster
○	*Cryptantha sp.*	Cryptantha
○	*Cucurbita foetidissima*	Calabazilla
○	*Descurainia sp.*	Tansy-mustard
○	*Dicentra chrysantha*	Golden Ear-drops
○	*Dichelostemma capitatum*	Blue Dicks
○	*Dudleya sp.*	Dudleya
○	*Emmenanthe penduliflora*	Whispering Bells
○	*Eriastrum sp.*	Woolly-star
○	*Ericameria sp.*	Goldenbush
○	*Erigeron foliosus*	Leafy Daisy
○	*Eriodictyon trichocalyx*	Hairy Yerba Santa
○	*Eriogonum fasciculatum*	Inland California Buckwheat
○	*Eriogonum sp.*	Buckwheat
○	*Eriophyllum sp.*	Golden-yarrow
✓	*Erodium cicutarium**	Red-stem Storksbill
○	*Erysimum capitatum*	Western Wallflower
○	*Eschscholzia californica*	California Poppy
○	*Eucrypta chrysanthemifolia*	Spotted Hideseed
○	*Euthamia occidentalis*	Western Goldenrod
○	*Garrya veatchii*	Canyon Silk Tassel
○	*Gilia sp.*	Gilia
○	*Gnaphalium*	Cudweed
○	*Guillenia lasiophylla*	California Mustard
○	*Gutierrezia sarothrae*	Broom Matchweed
○	*Heliotropium curassavicum*	Salt Heliotrope
○	*Hirshfeldia incana*	Short-pod Mustard
○	*Lamium amplexicaule*	Henbit
✓	*Lasthenia gracilis*	Common Goldfields
○	*Layia glandulosa*	White Layia
○	*Lepidium sp.*	Pepperweed
○	*Linanthus bellus*	Desert Beauty
○	*Linanthus dichotomus*	Evening Snow
○	*Lonicera subspicata*	Johnston's Honeysuckle
○	*Malacothrix californica*	California Dandelion
○	*Malacothrix clevelandii*	Cleveland's Malacothrix
○	*Marah macrocarpus*	Wild-cucumber
○	*Marrubium vulgare**	Horehound
○	*Matricaria matricarioides**	Common Pineapple-weed
○	*Mentzelia veatchiana*	Veatch's Stick-leak
○	*Microsteris gracilis*	Slender Phlox
○	*Mimulus sp.*	Monkeyflower
○	*Nemophila menziesii*	Small-flower Baby Blue Eyes
○	*Orobanche bulbosa*	Chaparral Broom-rape

○	*Osmadenia tenella*	Osmadenia
○	*Paeonia californica*	California Peony
○	*Pectocarya sp.*	Pectocarya
○	*Phacelia sp.*	Phacelia
○	*Pholistoma membranaceum*	White Fiesta Flower
✓	*Plagiobothrys sp.*	Popcornflower
○	*Plantago patagonica*	Desert Plantain
○	*Platystemon californicus*	Cream Cups
○	*Prunus ilicifolia*	Holly-leaf Cherry
○	*Rafinesquia neomexicana*	Desert Chicory
○	*Ribes quercetorum*	Oak Gooseberry
○	*Rorripa nasturtium-aquaticum*	Water-cress
○	*Rosa californica*	California Rose
○	*Saltugilia australis*	Southern Gilia
○	*Senecio californicus*	California Butterweed
○	*Senecio flaccidus*	Butterweed
○	*Sidalcea malvaeflora*	Checker-bloom
○	*Sisymbrium sp.*	Tumble Mustard
○	*Solidago californica*	California Goldenrod
○	*Stachys ajugoides*	Hedge-nettle
○	*Stephanomeria sp.*	Wreathplant
○	*Streptanthus campestris*	Southern Jewelflower
○	*Stylocline gnaphalioides*	Everlasting Nest-straw
○	*Tetradymia comosa*	Cotton-thorn
○	*Thysanocarpus sp.*	Fringepod
○	*Trichostemma parishii*	Mountain Bluecurls
○	*Tropidocarpum gracile*	Slender Noble-pod
○	*Uropappus lindleyi*	Silver Puffs
○	*Viola purpurea*	Oak Yellow Violet
○		
○		
○	**Other Flowering Plants:**	
○	Castilleja exilis - 4, individual plants within 10' radius of GPS point.	
○		
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○	**Rare Wildlife or Rare Plants:**	
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Quino Checkerspot Butterfly Protocol Survey — Field Data Sheet

Recorder: Annie Fisher Add'l Person: — Date: 4-5-2011 GPS Unit: 10

Project: Concentrix Solar Project Map #: 4 Survey Sxn: SDG+E QCB Protocol Survey # 2 of 5

	TIME (24-hour)	Temp (F°):	Wind (avg/max)	% CC	Sky
Start	1220	80°F	3-4 W	50%	clear patchy overcast drizzle shower
	1400	78°F	4 W/10 max	80%	clear patchy overcast drizzle shower
End	1515	72°F	5 W/10 max	85%	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

	Total		Total
Nymphalidae (Brushfooted Butterflies)		**Hesperiidae (Skippers)**	
Euphydryas editha (Quino Checkerspot)		*Erynnis funeralis* (Funereal Duskywing)	
Euphydryas chalcedona (Henne's Checkerspot)		*Erynnis tristis* (Sad Duskywing)	
Thessalia leanira (Wright's Checkerspot)		*Erynnis propertius* (Propertius Duskywing)	
Chlosyne californica (California Patch)		*Erynnis brizo* (Sleepy Duskeywing)	
Chlosyne gabbii (Gabb's Checkerspot)		*Pyrgus albescens* (Checkered Skipper)	
Phyciodes mylitta (Mylitta Crescent)		*Hesperia jubia* (Jubia Skipper)	
Junonia coenia (Common Buckeye)		*Polites sabuleti* (Sandhill Skipper)	
Vanessa annabella (West Coast Lady) Lady Sp. 111	3	**Megathymidae (Giant Skippers)**	
Vanessa atalanta (Red Admiral)		*Megathymus yuccae* (Yucca Giant Skipper)	
Vanessa cardui (Painted Lady)			
Vanessa virginiensis (Virginia Lady)		**Other Butterflies:**	
Nymphalis californica (California Tortoiseshell)			
Danaidae (Milkweed Butterflies)			
Danaus plexippus (Monarch)			
Danaus gilippus (Queen)			
Satyridae (Satyrs)			
Coenonympha californica (Common California Ringlet)			
Pieridae (Whites, Sulphurs)			
Pieris rapae (Cabbage White)			
Pontia sisymbrii (Spring White)			
Pontia beckerii (Beker's White)			
Pontia protodice (Common White)			
Anthocharis sara (Sara Orangetip)			
Anthocharis cethura (Felder's Orangetip)			
Euchloe hyantis (Desert Pearly Marble) 111	5		
Colias eurytheme (Orange Sulphur)			
Colias harfordii (Harford's Sulphur)			
Nathalis iole (Dainty Sulphur)			
Papilionidae (Swallowtails)		**Notes:**	
Papilio polyxenes (Desert Black Swallowtail)			
Papilio eurymedon (Pale swallowtail) 1	1	Birds: HOLA, CORA, BTSP, CASP, TUVU	
Papilio rutulus (Western Tiger Swallowtail)		WEME, CACT, CATH,	
Riodiniade (Metalmarks) 111 111 111			
Apodemia mormo (Behr's Metalmark) 111 111 111 111 111	65		
Lycaenidae (Hairstreaks and Blues) 111 111 111 111 111			
Celastrina ladon (Spring Azure)			
Leptotes marina (Marine Blue)			
Brephidium exile (Western Pygmy Blue)			
Glaucopsyche lygdamus (Southern Blue/Silvery blue)			
Hemiargus ceraunus (Edward's Blue)			
Icaria acmon (Acmon Blue)			
Philotes sonorensis (Sonoran Blue)			
Callophrys augustinus (Brown Elfin)			
Callophrys perplexa (Perplexing Green Hairstreak)			
Strymon melinus (Gray Hairstreak)			
Atlides halesus (Great Purple Hairstreak)			

ial Nectaring or Host Plants for Quino Checkerspot Butterfly in Boulevard, California (Concentrix Solar)

ions:

Please Place a Check Mark Beside Flowering Plants. Use Numbered Notes to Add Species Detail.

PLEASE RECORD HOST PLANTS ON GPS See Codes Below:

Antirrhinum coulterianum = AC *Collinsia concolor* = CC *Cordylanthus rigidus* = CR *Plantago patagonica* = PP

✓	*Amsinckia menziesii*	Rancher's Fiddleneck
	Antirrhinum coulterianum	**Coulter's Snapdragon**
	Antirrhinum nuttallianum	Nuttall's Snapdragon
	Asclepias fascicularis	Narrow-leaf Milkweed
✓	*Boechera sp.*	Rock Cress
	Calandrinia ciliata	Red Maids
	Calochortus concolor	Golden-bowl Mariposa Lily
	Calystegia longipes	Morning-glory
	Camissonia sp.	Sun Cup
	Castilleja exerta	**Paintbrush**
	Ceanothus heterophyllus	San Diego Jewelflower
	Ceanothus simulans	Payson's Ceanothus
	Ceanothus cuneatus	Buck Brush
✓	*Ceanothus greggii*	Cup-leaf-lilac
	Ceanothus leucodermis	Chaparral Whitethorn
	Chaenactis artemisiifolia	White Pincushion
	Chaenactis glabriuscula	Yellow Pincushion
	Clematis sp	Clematis
	Collinsia concolor	**Southern Chinese Houses**
	Cordylanthus rigidus	**Dark-tip Bird's Beak**
	Coreopsis californica	California Coreopsis
	Corethrogyne filaginifolia	Common Sand-aster
✓	*Cryptantha sp.*	Cryptantha
	Cucurbita foetidissima	Calabazilla
✓	*Descurainia sp.*	Tansy-mustard
	Dicentra chrysantha	Golden Ear-drops
	Dichelostemma capitatum	Blue Dicks
	Dudleya sp.	Dudleya
	Emmenanthe penduliflora	Whispering Bells
	Eriastrum sp.	Woolly-star
	Ericameria sp.	Goldenbush
	Engeron foliosus	Leafy Daisy
	Eriodictyon trichocalyx	Hairy Yerba Santa
	Eriogonum fasciculatum	Inland California Buckwheat
	Eriogonum sp.	Buckwheat
	Eriophyllum sp.	Golden-yarrow
✓	*Erodium cicutarium**	Red-stem Storksbill
	Erysimum capitatum	Western Wallflower
	Eschscholzia californica	California Poppy
	Eucrypta chrysanthemifolia	Spotted Hideseed
	Euthamia occidentalis	Western Goldenrod
	Garrya veatchii	Canyon Silk Tassel
	Gilia sp.	Gilia
	Gnaphalium	Cudweed
	Guillonia tasiophylla	California Mustard
	Gutierrezia sarothrae	Broom Matchweed
	Heliotropium curassavicum	Salt Heliotrope
✓	*Hirschfeldia incana*	Short-pod Mustard
	Lamium amplexicaule	Henbit
✓	*Lasthenia gracilis*	Common Goldfields
	Layia glandulosa	White Layia
	Lepidium sp.	Pepperweed
✓	*Linanthus bolfus*	Desert Beauty
	Linanthus dichotomus	Evening Snow
	Lonicera subspicata	Johnston's Honeysuckle
	Malacothrix californica	California Dandelion
	Malacothrix clevelandii	Cleveland's Malacothrix
	Marah macrocarpus	Wild-cucumber
	*Marrubium vulgare**	Horehound
	*Matricaria matricarioides**	Common Pineapple-weed
	Mentzelia veatchiana	Veatch's Stick-leak
	Microsteris gracilis	Slender Phlox
	Mimulus sp.	Monkeyflower
	Nemophila menziesii	Small-flower Baby Blue Eyes
	Orobanche bulbosa	Chaparral Broom-rape

	Osmadenia tenella	Osmadenia
	Paeonia californica	California Peony
	Pectocarya sp.	Pectocarya
	Phacelia sp.	Phacelia
	Pholistoma membranaceum	White Fiesta Flower
✓	*Plagiobothrys sp.*	Popcornflower
	Plantago patagonica	**Desert Plantain**
	Platystemon californicus	Cream Cups
	Prunus ilicifolia	Holly-leaf Cherry
	Rafinesquia neomexicana	Desert Chicory
	Ribes quercetorum	Oak Gooseberry
	Rorripa nasturtium-aquaticum	Water-cress
	Rosa californica	California Rose
	Saltugilia australis	Southern Gilia
	Senecio californicus	California Butterweed
	Senecio flaccidus	Butterweed
	Sidalcea malvaeflora	Checker-bloom
	Sisymbrium sp.	Tumble Mustard
	Solidago californica	California Goldenrod
	Stachys rigugulus	Hedge-nettle
	Stephanomeria sp.	Wreathplant
	Streptanthus campestris	Southern Jewelflower
	Stylocline gnaphalioides	Everlasting Nest-straw
	Tetradymia comosa	Cotton-thorn
	Thysanocarpus sp.	Fringepod
	Trichostemma parishii	Mountain Bluecurls
	Tropidocarpum gracile	Slender Dobie-pod
	Uropappus lindleyi	Silver Puffs
	Viola purpurea	Oak Yellow Violet

Other Flowering Plants:

Rare Wildlife or Rare Plants:

AP WhitaBO1 : 1 adult western whiptail

Quino Checkerspot Butterfly Protocol Survey — Field Data Sheet

Recorder: [illegible signature] Add'l Person: ______ Date: 4/14/11 GPS Unit: ______

Project: Concentrix Solar Project Map #: ______ Survey Sxn: ______ QCB Protocol Survey # 3 of 5

	TIME (24-hour)	Temp (F°)	Wind (avg/max)	% CC	Sky
Start	9:00	60°	0-3	0	(clear) patchy overcast drizzle shower
	10:00	63°	"	0	(clear) patchy overcast drizzle shower
	11:00	66°	"	0	(clear) patchy overcast drizzle shower
	12:00	68°	"	0	(clear) patchy overcast drizzle shower
	1:00	72°	"	0	(clear) patchy overcast drizzle shower
	2:00	73°	"	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

Species	Total
Nymphalidae (Brushfooted Butterflies)	
Euphydryas editha (Quino Checkerspot)	
Euphydryas chalcedona (Henne's Checkerspot)	
Thessalia leanira (Wright's Checkerspot)	
Chlosyne californica (California Patch)	
Chlosyne gabbii (Gabb's Checkerspot)	
Phyciodes mylitta (Mylitta Crescent)	
Junonia coenia (Common Buckeye) I	1
Vanessa annabella (West Coast Lady	
Vanessa atalanta (Red Admiral)	
Vanessa cardui (Painted Lady)	
Vanessa virginiensis (Virginia Lady)	
Nymphalis californica (California Tortoiseshell)	
Danaidae (Milkweed Butterflies)	
Danaus plexippus (Monarch)	
Danaus gilippus (Queen)	
Satyridae (Satyrs)	
Coenonympha californica (Common California Ringlet)	
Pieridae (Whites, Sulphurs)	
Pieris rapae (Cabbage White)	
Pontia sisymbrii (Spring White)	
Pontia beckerii (Beker's White)	
Pontia protodice (Common White)	
Anthocharis sara (Sara Orangetip) ~~IIII~~ III	4
Anthocharis cethura (Felder's Orangetip)	
Euchloe hyantis (Desert Pearly Marble) II	2
Colias eurytheme (Orange Sulphur)	
Colias harfordii (Harford's Sulphur)	
Nathalis iole (Dainty Sulphur)	
Papilionidae (Swallowtails)	
Papilio polyxenes (Desert Black Swallowtail)	
Papilio eurymedon (Pale swallowtail)	
Papilio rutulus (Western Tiger Swallowtail)	
Riodiniade (Metalmarks) ~~IIII~~ ~~IIII~~ ~~IIII~~ ~~IIII~~ ~~IIII~~ ~~IIII~~ ~~IIII~~ ~~IIII~~ 94	
Apodemia mormo (Behr's Metalmark) ~~IIII~~ ~~IIII~~ ~~IIII~~ IIII 44	
Lycaenidae (Hairstreaks and Blues)	
Celastrina ladon (Spring Azure)	
Leptotes marina (Marine Blue)	
Brephidium exile (Western Pygmy Blue)	
Glaucopsyche lygdamus (Southern Blue/Silvery blue)	
Hemiargus ceraunus (Edward's Blue)	
Icaria acmon (Acmon Blue)	
Philotes sonorensis (Sonoran Blue)	
Callophrys augustinus (Brown Elfin)	
Callophrys perplexa (Perplexing Green Hairstreak)	
Strymon melinus (Gray Hairstreak)	
Atlides halesus (Great Purple Hairstreak)	

Species	Total
Hesperiidae (Skippers)	
Erynnis funeralis (Funereal Duskywing)	
Erynnis tristis (Sad Duskywing)	
Erynnis propertius (Propertius Duskywing)	
Erynnis brizo (Sleepy Duskeywing)	
Pyrgus albescens (Checkered Skipper)	
Hesperia jubia (Jubia Skipper)	
Polites sabuleti (Sandhill Skipper)	
Megathymidae (Giant Skippers)	
Megathymus yuccae (Yucca Giant Skipper)	

Other Butterflies:

White-tailed antelope squirrel (?)
Cal. gnat (?)
San Diego (?)
Kangaroo rat (?)
Raven
~~[illegible]~~ Red-tail
Black-throated sparrow

Notes:

SB AD 01 - 1
SB AD 02 - 4
SB AD 01 - [illegible]
SB AD 03 - 2
SB CB 01 - 1
SB AD 04 - 1
SB CB -01 - 14
SB CB -03 - 15
SB CB 03 - 4
SB AD 05 - 1
SB AD 06 - 1
SB AD 07 - 1
SB AD 08 - 4
SB AD 09 - 7
SB AD 10 - 1
SB AD 11 - 2
SB CB 04 - 15
SB DP 01 - 1 Delphinium parishii (needs to be keyed no flowers most)
SB DP 02 - 2
SB CB 05 - 20

SB CB 06 - 16
SB DP 03 - 1
SB AD 12 - 5
SB CB 07 - 15
SB CB 09 - 7
SB CB 10 - 7
SB CB 11 - 8
SB CB 11 - 9
SB NC 02 - Middle
SB BI 01 - 1
SB CB 12 - 17
Lathyrus splendens
SB CB 13 - 8
SB CB 14 - 2
SB AD 13 - 4
SB CB 15 - 7
SB CB 16 - 30

SB CB 17 - 2
SB AD 14 - 1
[illegible]

Potential Nectaring or Host Plants for Quino Checkerspot Butterfly in Boulevard, California (Concentrix Solar)

Instructions:

- Please Place a Check Mark Beside Flowering Plants. Use Numbered Notes to Add Species Detail.
- **PLEASE RECORD HOST PLANTS ON GPS** See Codes Below:

Antirrhinum coulterianum = AC *Collinsia concolor* = CC *Cordylanthus rigidus* = CR *Plantago patagonica* = PP

	Amsinckia menziesii	Rancher's Fiddleneck
	Antirrhinum coulterianum	**Coulter's Snapdragon**
	Antirrhinum nuttallianum	Nuttall's Snapdragon
	Asclepias fascicularis	Narrow-leaf Milkweed
	Boechera sp.	Rock Cress
	Calandrinia ciliata	Red Maids
	Calochortus concolor	Golden-bowl Mariposa Lily
	Calystegia longipes	Morning-glory
	Camissonia sp.	Sun Cup
	Castilleja exerta	**Paintbrush**
	Caulanthus heterophyllus	San Diego Jewelflower
	Caulanthus simulans	Payson's Caulanthus
	Ceanothus cuneatus	Buck Brush
	Ceanothus greggii	Cup-leaf-lilac
	Ceanothus leucodermis	Chaparral Whitethorn
	Chaenactis artemisiifolia	White Pincushion
	Chaenactis glabriuscula	Yellow Pincushion
	Clematis sp	Clematis
	Collinsia concolor	**Southern Chinese Houses**
	Cordylanthus rigidus	**Dark-tip Bird's Beak**
	Coreopsis californica	California Coreopsis
	Corethrogyne filaginifolia	Common Sand-aster
	Cryptantha sp.	Cryptantha
	Cucurbita foetidissima	Calabazilla
	Descurainia sp.	Tansy-mustard
	Dicentra chrysantha	Golden Ear-drops
	Dichelostemma capitatum	Blue Dicks
	Dudleya sp.	Dudleya
	Emmenanthe penduliflora	Whispering Bells
	Eriastrum sp.	Woolly-star
	Ericameria sp.	Goldenbush
	Erigeron foliosus	Leafy Daisy
	Eriodictyon trichocalyx	Hairy Yerba Santa
	Eriogonum fasciculatum	Inland California Buckwheat
	Eriogonum sp.	Buckwheat
	Eriophyllum sp.	Golden-yarrow
	*Erodium cicutarium**	Red-stem Storksbill
	Erysimum capitatum	Western Wallflower
	Eschscholzia californica	California Poppy
	Eucrypta chrysanthemifolia	Spotted Hideseed
	Euthamia occidentalis	Western Goldenrod
	Garrya veatchii	Canyon Silk Tassel
	Gilia sp.	Gilia
	Gnaphalium	Cudweed
	Guillenia lasiophylla	California Mustard
	Gutierrezia sarothrae	Broom Matchweed
	Heliotropium curassavicum	Salt Heliotrope
	Hirschfeldia incana	Short-pod Mustard
	Lamium amplexicaule	Henbit
	Lasthenia gracilis	Common Goldfields
	Layia glandulosa	White Layia
	Lepidium sp.	Pepperweed
	Linanthus bellus	Desert Beauty
	Linanthus dichotomus	Evening Snow
	Lonicera subspicata	Johnston's Honeysuckle
	Malacothrix californica	California Dandelion
	Malacothrix clevelandii	Cleveland's Malacothrix
	Marah macrocarpus	Wild-cucumber
	*Marrubium vulgare**	Horehound
	*Matricaria matricarioides**	Common Pineapple-weed
	Mentzelia veatchiana	Veatch's Stick-leak
	Microsteris gracilis	Slender Phlox
	Mimulus sp.	Monkeyflower
	Nemophila menziesii	Small-flower Baby Blue Eyes
	Orobanche bulbosa	Chaparral Broom-rape
	Osmadenia tenella	Osmadenia
	Paeonia californica	California Peony
	Pectocarya sp	Pectocarya
	Phacelia sp.	Phacelia
	Phlistoma membranaceum	White Fiesta Flower
	Plagiobothrys sp.	Popcornflower
	Plantago patagonica	Desert Plantain
	Platystemon californicus	Cream Cups
	Prunus ilicifolia	Holly-leaf Cherry
	Rafinesquia neomexicana	Desert Chicory
	Ribes quercetorum	Oak Gooseberry
	Rorripa nasturtium-aquaticum	Water-cress
	Rosa californica	California Rose
	Saltugilia australis	Southern Gilia
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	Senecio flaccidus	Butterweed
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	Sisymbrium sp	Tumble Mustard
	Solidago californica	California Goldenrod
	Stachys ajugoides	Hedge-nettle
	Stephanomeria sp.	Wreathplant
	Streptanthus campestris	Southern Jewelflower
	Stylocline gnaphalioides	Everlasting Nest-straw
	Tetradymia comosa	Cotton-thorn
	Thysanocarpus sp.	Fringepod
	Trichostemma parishii	Mountain Bluecurls
	Tropidocarpum gracile	Slender Dobie-pod
	Uropappus lindleyi	Silver Puffs
	Viola purpurea	Oak Yellow Violet

Other Flowering Plants:

Prunus ilicifolia
Ceanothus greggii
Lupinus bicolor

Rare Wildlife or Rare Plants:

Quino Checkerspot Butterfly Protocol Survey — Field Data Sheet

Recorder: Antonette Gutierrez Add'l Person: None Date: 4/14/11 GPS Unit: 10

Project: Concentrix Solar Project Map #: 2 Survey Sxn: Concentric QCB Protocol Survey # 3 of 5

TIME (24-hour)	Temp (F°):	Wind (avg/max)	% CC	Sky
Start 10:00	60	3.2/6	0	clear patchy overcast drizzle shower
11:00	60	3.2/6	0	clear patchy overcast drizzle shower
12:00	62	3/8	0	clear patchy overcast drizzle shower
13:00	62	2/6	0	clear patchy overcast drizzle shower
14:00	64	2/6	0	clear patchy overcast drizzle shower
15:00	64	2/6	0	clear patchy overcast drizzle shower
End 16:00	64	2/6	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

	Total		Total
Nymphalidae (Brushfooted Butterflies)		**Hesperiidae (Skippers)**	
Euphydryas editha (Quino Checkerspot)		*Erynnis funeralis* (Funereal Duskywing)	
Euphydryas chalcedona (Henne's Checkerspot)		*Erynnis tristis* (Sad Duskywing)	
Thessalia leanira (Wright's Checkerspot)		*Erynnis propertius* (Propertius Duskywing)	
Chlosyne californica (California Patch)		*Erynnis brizo* (Sleepy Duskeywing)	
Chlosyne gabbii (Gabb's Checkerspot)		*Pyrgus albescens* (Checkered Skipper)	
Phyciodes mylitta (Mylitta Crescent)		*Hesperia jubia* (Jubia Skipper)	
Junonia coenia (Common Buckeye) 1111	4	*Polites sabuleti* (Sandhill Skipper)	
Vanessa annabella (West Coast Lady)		**Megathymidae (Giant Skippers)**	
Vanessa atalanta (Red Admiral)		*Megathymus yuccae* (Yucca Giant Skipper)	
Vanessa cardui (Painted Lady)			
Vanessa virginiensis (Virginia Lady)		**Other Butterflies:**	
Nymphalis californica (California Tortoiseshell)		Und Sulphur 1	
Danaidae (Milkweed Butterflies)		Sooty Duskywing 1	
Danaus plexippus (Monarch)			
Danaus gilippus (Queen)			
Satyridae (Satyrs)			
Coenonympha californica (Common California Ringlet)			
Pieridae (Whites, Sulphurs)			
Pieris rapae (Cabbage White)			
Pontia sisymbrii (Spring White)			
Pontia beckerii (Beker's White)			
Pontia protodice (Common White) 11	2		
Anthocharis sara (Sara Orangetip) 11	2		
Anthocharis cethura (Felder's Orangetip)			
Euchloe hyantis (Desert Pearly Marble)			
Colias eurytheme (Orange Sulphur)			
Colias harfordii (Harford's Sulphur) 1	1		
Nathalis iole (Dainty Sulphur)			
Papilionidae (Swallowtails)		**Notes:**	
Papilio polyxenes (Desert Black Swallowtail)		AGBS 1	
Papilio eurymedon (Pale swallowtail)		AGAD 1 pop = 75 Astragalis drag.	
Papilio rutulus (Western Tiger Swallowtail)		AGAD 2 pop = 3 " "	
Riodiniade (Metalmarks)		AGAD 3 pop = 4 " "	
Apodemia mormo (Behr's Metalmark) 1111 1111 1111 1111 1111 1111	31	AGAD 4 pop = 6 " "	
Lycaenidae (Hairstreaks and Blues)		AGRN 1 2 raptor nest Red tailed Hawk	
Celastrina ladon (Spring Azure)		AGAD 2 pop 4 Astragalis lag.	
Leptotes marina (Marine Blue)		AGLS 1 Loggerhead Shrike	
Brephidium exile (Western Pygmy Blue)		AGNL 1 S.D. woodrat nest	
Glaucopsyche lygdamus (Southern Blue/Silvery blue)		AGNL 2	
Hemiargus ceraunus (Edward's Blue)		AGNL 3	
Icaria acmon (Acmon Blue) 1111	5	AGNL 4	
Philotes sonorensis (Sonoran Blue)		AGNL 5	
Callophrys augustinus (Brown Elfin)		AGNL 6	
Callophrys perplexa (Perplexing Green Hairstreak)			
Strymon melinus (Gray Hairstreak)		CORA, CAQU, WESJ, RTHA, TUVU	
Atlides halesus (Great Purple Hairstreak)		WEME, WCSP, OATE, YRWA, ANHU,	
		BUSH, CATH	

side blotch lizard, fenced lizard

Potential Nectaring or Host Plants for Quino Checkerspot Butterfly in Boulevard, California (Concentrix Solar)

Instructions:

- Please Place a Check Mark Beside Flowering Plants. Use Numbered Notes to Add Species Detail.
- **PLEASE RECORD HOST PLANTS ON GPS** See Codes Below:

Antirrhinum coulterianum = AC *Collinsia concolor* = CC *Cordylanthus rigidus* = CR *Plantago patagonica* = PP

○	*Amsinckia menziesii*	Rancher's Fiddleneck
○	***Antirrhinum coulterianum***	**Coulter's Snapdragon**
○	*Antirrhinum nuttallianum*	Nuttall's Snapdragon
○	*Asclepias fascicularis*	Narrow-leaf Milkweed
○	*Boechera sp.*	Rock Cress
○	*Calandrinia ciliata*	Red Maids
○	*Calochortus concolor*	Golden-bowl Mariposa Lily
○	*Calystegia longipes*	Morning-glory
○	*Camissonia sp.*	Sun Cup
○	***Castilleja exerta***	**Paintbrush**
○	***Caulanthus heteropyllus***	**San Diego Jewelflower**
○	*Caulanthus simulans*	Payson's Caulanthus
○	*Ceanothus cuneatus*	Buck Brush
○	*Ceanothus greggii*	Cup-leaf-lilac
○	*Ceanothus leucodermis*	Chaparral Whitethorn
○	*Chaenactis artemisiifolia*	White Pincushion
○	*Chaenactis glabriuscula*	Yellow Pincushion
○	*Clematis sp*	Clematis
○	***Collinsia concolor***	**Southern Chinese Houses**
○	***Cordylanthus rigidus***	**Dark-tip Bird's Beak**
○	*Coreopsis californica*	California Coreopsis
○	*Corethrogyne filaginifolia*	Common Sand-aster
○	*Cryptantha sp.*	Cryptantha
○	*Cucurbita foetidissima*	Calabazilla
○	*Descurainia sp.*	Tansy-mustard
○	*Dicentra chrysantha*	Golden Ear-drops
○	*Dichelostemma capitatum*	Blue Dicks
○	*Dudleya sp*	Dudleya
○	*Emmenanthe penduliflora*	Whispering Bells
○	*Eriastrum sp.*	Woolly-star
○	*Ericameria sp.*	Goldenbush
○	*Erigeron foliosus*	Leafy Daisy
○	***Eriodictyon trichocalyx***	**Hairy Yerba Santa**
○	*Eriogonum fasciculatum*	Inland California Buckwheat
○	*Eriogonum sp.*	Buckwheat
○	*Eriophyllum sp.*	Golden-yarrow
●	*Erodium cicutarium**	Red-stem Storksbill
○	*Erysimum capitatum*	Western Wallflower
○	*Eschscholzia californica*	California Poppy
○	*Eucrypta chrysanthemifolia*	Spotted Hideseed
○	*Euthamia occidentalis*	Western Goldenrod
○	*Garrya veatchii*	Canyon Silk Tassel
○	*Gilia sp.*	Gilia
○	*Gnaphalium*	Cudweed
○	*Guillenia lasiophylla*	California Mustard
○	*Gutierrezia sarothrae*	Broom Matchweed
○	*Heliotropium curassavicum*	Salt Heliotrope
●	*Hirschfeldia incana*	Short-pod Mustard
○	*Lamium amplexicaule*	Henbit
●	*Lasthenia gracilis*	Common Goldfields
○	*Layia glandulosa*	White Layia
○	*Lepidium sp.*	Pepperweed
○	*Linanthus bellus*	Desert Beauty
○	*Linanthus dichotomus*	Evening Snow
○	*Lonicera subspicata*	Johnston's Honeysuckle
●	*Malacothrix californica*	California Dandelion
○	*Malacothrix clevelandii*	Cleveland's Malacothrix
○	*Marah macrocarpus*	Wild-cucumber
○	*Marrubium vulgare**	Horehound
○	*Matricaria matricarioides**	Common Pineapple-weed
○	*Mentzelia veatchiana*	Veatch's Stick-leak
○	*Microsteris gracilis*	Slender Phlox
○	*Mimulus sp.*	Monkeyflower
○	*Nemophila menziesii*	Small-flower Baby Blue Eyes
○	*Orobanche bulbosa*	Chaparral Broom-rape

○	*Osmadenia tenella*	Osmadenia
○	*Paeonia californica*	California Peony
○	*Pectocarya sp*	Pectocarya
○	*Phacelia sp*	Phacelia
○	*Pholistoma membranaceum*	White Fiesta Flower
○	*Plagiobothrys sp.*	Popcornflower
○	***Plantago patagonica***	**Desert Plantain**
○	*Platystemon californicus*	Cream Cups
○	*Prunus ilicifolia*	Holly-leaf Cherry
○	*Rafinesquia neomexicana*	Desert Chicory
○	*Ribes quercetorum*	Oak Gooseberry
○	*Rorripa nasturtium-aquaticum*	Water-cress
○	*Rosa californica*	California Rose
○	*Saltugilia australis*	Southern Gilia
○	*Senecio californicus*	California Butterweed
○	*Senecio flaccidus*	Butterweed
○	*Sidalcea malvaeflora*	Checker-bloom
○	*Sisymbrium sp.*	Tumble Mustard
○	*Solidago californica*	California Goldenrod
○	*Stachys ajugoides*	Hedge-nettle
○	*Stephanomeria sp.*	Wreathplant
○	*Streptanthus campestris*	Southern Jewelflower
○	*Stylocline gnaphalioides*	Everlasting Nest-straw
○	*Tetradymia comosa*	Cotton-thorn
○	*Thysanocarpus sp.*	Fringepod
○	*Trichostemma parishii*	Mountain Bluecurls
○	*Tropidocarpum gracile*	Slender Dobie-pod
○	*Uropappus lindleyi*	Silver Puffs
○	*Viola purpurea*	Oak Yellow Violet
○		
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○	**Other Flowering Plants:**	
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○	**Rare Wildlife or Rare Plants:**	
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Quino Checkerspot Butterfly Protocol Survey — Field Data Sheet

Recorder: Bonnie Hendricks Add'l Person: Erin Bergman Date: 4/14/11 GPS Unit: 7

Project: Concentrix Solar Project Map #: Survey Sxn: SDGE QCB Protocol Survey # 3 of 5

	TIME (24-hour)	Temp (F°)	Wind (avg/max)	% CC	Sky
Start	11:15	70.6	2.6/5.6	0	clear patchy overcast drizzle shower
	12:00	70.2	3.2/5.9	0	clear patchy overcast drizzle shower
	1:05	67.1	5.3/9.5	0	clear patchy overcast drizzle shower
					clear patchy overcast drizzle shower
	2:00	71.5	4.1/7.2	0	clear patchy overcast drizzle shower
	3:00	70.2	4.3/6.4	0	clear patchy overcast drizzle shower
End	4:10	69.0	2.9/5.7	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

	Total		Total
Nymphalidae (Brushfooted Butterflies)		**Hesperiidae (Skippers)**	
Euphydryas editha (Quino Checkerspot)		*Erynnis funeralis* (Funereal Duskywing)	
Euphydryas chalcedona (Henne's Checkerspot)		*Erynnis tristis* (Sad Duskywing)	1
Thessalia leanira (Wright's Checkerspot)		*Erynnis propertius* (Propertius Duskywing)	
Chlosyne californica (California Patch)		*Erynnis brizo* (Sleepy Duskeywing)	
Chlosyne gabbii (Gabb's Checkerspot)		*Pyrgus albescens* (Checkered Skipper)	
Phyciodes mylitta (Mylitta Crescent)		*Hesperia jubia* (Jubia Skipper)	
Junonia coenia (Common Buckeye)	1	*Polites sabuleti* (Sandhill Skipper)	
Vanessa annabella (West Coast Lady)		**Megathymidae (Giant Skippers)**	
Vanessa atalanta (Red Admiral)		*Megathymus yuccae* (Yucca Giant Skipper)	
Vanessa cardui (Painted Lady)			
Vanessa virginiensis (Virginia Lady)		**Other Butterflies:**	
Nymphalis californica (California Tortoiseshell)			
Danaidae (Milkweed Butterflies)		Sulphur sp.	11 2
Danaus plexippus (Monarch)			
Danaus gilippus (Queen)		Colorful Moth (orange hindwings w/ eye spots)	11 2
Satyridae (Satyrs)			
Coenonympha californica (Common California Ringlet)			
Pieridae (Whites, Sulphurs)		Sage Moth (w/ 2 partial eye spots on hindwings)	11 2
Pieris rapae (Cabbage White)			
Pontia sisymbrii (Spring White)			
Pontia beckerii (Beker's White)			
Pontia protodice (Common White)			
Anthocharis sara (Sara Orangetip)	3		
Anthocharis cethura (Felder's Orangetip)			
Euchloe hyantis (Desert Pearly Marble)	2		
Colias eurytheme (Orange Sulphur)			
Colias harfordii (Harford's Sulphur)			
Nathalis iole (Dainty Sulphur)			
Papilionidae (Swallowtails)		**Notes:**	
Papilio polyxenes (Desert Black Swallowtail)			
Papilio eurymedon (Pale swallowtail)		CAQU	
Papilio rutulus (Western Tiger Swallowtail)		CORA	
Riodinidae (Metalmarks)		MEDO	
Apodemia mormo (Behr's Metalmark)	68	BT SP	
Lycaenidae (Hairstreaks and Blues)		VESP	
Celastrina ladon (Spring Azure)		WCSP	
Leptotes marina (Marine Blue)		TUVU	
Brephidium exile (Western Pygmy Blue)		HOWE	
Glaucopsyche lygdamus (Southern Blue/Silvery blue)			
Hemiargus ceraunus (Edward's Blue)			
Icaria acmon (Acmon Blue)			
Philotes sonorensis (Sonoran Blue)			
Callophrys augustinus (Brown Elfin)			
Callophrys perplexa (Perplexing Green Hairstreak)			
Strymon melinus (Gray Hairstreak)			
Atlides halesus (Great Purple Hairstreak)			

Potential Nectaring or Host Plants for Quino Checkerspot Butterfly in Boulevard, California (Concentrix Solar)

Instructions:

- Please Place a Check Mark Beside Flowering Plants. Use Numbered Notes to Add Species Detail.
- **PLEASE RECORD HOST PLANTS ON GPS** See Codes Below:

Antirrhinum coulterianum = AC *Collinsia concolor* = CC *Cordylanthus rigidus* = CR *Plantago patagonica* = PP

	Amsinckia menziesii	Rancher's Fiddleneck
	Antirrhinum coulterianum	**Coulter's Snapdragon**
	Antirrhinum nuttallianum	Nuttall's Snapdragon
	Asclepias fascicularis	Narrow-leaf Milkweed
	Boechera sp.	Rock Cress
	Calandrinia ciliata	Red Maids
	Calochortus concolor	Golden-bowl Mariposa Lily
	Calystegia longipes	Morning-glory
	Camissonia sp.	Sun Cup
	Castilleja exerta	**Paintbrush**
	Caulanthus heterophyllus	San Diego Jewelflower
	Caulanthus simulans	Payson's Caulanthus
	Ceanothus cuneatus	Buck Brush
X	*Ceanothus greggii*	Cup-leaf-lilac
	Ceanothus leucodermis	Chaparral Whitethorn
	Chaenactis artemisiifolia	White Pincushion
	Chaenactis glabriuscula	Yellow Pincushion
	Clematis sp	Clematis
	Collinsia concolor	**Southern Chinese Houses**
	Cordylanthus rigidus	**Dark-tip Bird's Beak**
X	*Coreopsis californica*	California Coreopsis
	Corethrogyne filaginifolia	Common Sand-aster
X	*Cryptantha sp.*	Cryptantha
	Cucurbita foetidissima	Calabazilla
	Descurainia sp.	Tansy-mustard
	Dicentra chrysantha	Golden Ear-drops
	Dichelostemma capitatum	Blue Dicks
	Dudleya sp.	Dudleya
	Emmenanthe penduliflora	Whispering Bells
	Eriastrum sp.	Woolly-star
	Ericameria sp.	Goldenbush
	Erigeron foliosus	Leafy Daisy
	Eriodictyon trichocalyx	Hairy Yerba Santa
	Eriogonum fasciculatum	Inland California Buckwheat
	Eriogonum sp.	Buckwheat
	Eriophyllum sp.	Golden-yarrow
X	*Erodium cicutarium**	Red-stem Storksbill
	Erysimum capitatum	Western Wallflower
	Eschscholzia californica	California Poppy
	Eucrypta chrysanthemifolia	Spotted Hideseed
	Euthamia occidentalis	Western Goldenrod
	Garrya veatchii	Canyon Silk Tassel
	Gilia sp.	Gilia
	Gnaphalium	Cudweed
	Guillenia lasiophylla	California Mustard
	Gutierrezia sarothrae	Broom Matchweed
	Heliotropium curassavicum	Salt Heliotrope
	Hirshfeldia incana	Short-pod Mustard
	Lamium amplexicaule	Henbit
X	*Lasthenia gracilis*	Common Goldfields
X	*Layia glandulosa*	White Layia
	Lepidium sp.	Pepperweed
	Linanthus bellus	Desert Beauty
	Linanthus dichotomus	Evening Snow
	Lonicera subspicata	Johnston's Honeysuckle
	Malacothrix californica	California Dandelion
	Malacothrix cleveland	Cleveland's Malacothrix
	Marah macrocarpus	Wild-cucumber
	*Marrubium vulgare**	Horehound
	*Matricaria matricarioides**	Common Pineapple-weed
	Montzelia veatchiana	Veatch's Stick-leak
	Microsteris gracilis	Slender Phlox
	Mimulus sp.	Monkeyflower
	Nemophila menziesii	Small-flower Baby Blue Eyes
	Orobanche bulbosa	Chaparral Broom-rape

	Osmadenia tenella	Osmadenia
	Paeonia californica	California Peony
	Pectocarya sp.	Pectocarya
X	*Phacelia sp.*	Phacelia
	Phacelia membranaceum	White Fiesta Flower
	Plagiobothrys sp.	Popcornflower
	Plantago patagonica	**Desert Plantain**
	Platystemon californicus	Cream Cups
	Prunus ilicifolia	Holly-leaf Cherry
	Rafinesquia neomexicana	Desert Chicory
	Ribes quercetorum	Oak Gooseberry
	Rorripa nasturtium-aquaticum	Water-cress
	Rosa californica	California Rose
	Saltugilia australis	Southern Gilia
	Senecio californicus	California Butterweed
	Senecio flaccidus	Butterweed
	Sidalcea malvaeflora	Checker-bloom
	Sisymbrium sp.	Tumble Mustard
	Solidago californica	California Goldenrod
	Stachys ajugoides	Hedge-nettle
	Stephanomeria sp.	Wreathplant
	Streptanthus campestris	Southern Jewelflower
	Stylocline gnaphalioides	Everlasting Nest-straw
	Tetradymia comosa	Cotton-thorn
	Thysanocarpus sp.	Fringepod
	Trichostemma parishii	Mountain Bluecurls
	Tropidocarpum gracile	Slender Dobie-pod
	Uropappus lindleyi	Silver Puffs
	Viola purpurea	Oak Yellow Violet
	Other Flowering Plants:	
X	Lathyrus splendens	
	Er	
	Rare Wildlife or Rare Plants:	
	BH DOIA	Astrag. doug. pers. 2 plants
	Bh1b01A	Linanthus bellus few
	Bh1b02A	" " "
	Bhad02A	Astrag doug pers. 1
	Bhad03A	" " 1 large clump
	Bhad04A	" " "
	Bh1b03B	Linanthus bellus
	" 04C	" "
	" 05B	" "
	" 06B	" "
	Bhn101	Woodrat nest
	Bhn102	" "
	Bhn103	" "
	Bh1a801	Lathyrus splendens 1
	Bh1b07B	Lin. bellus on Elus
	Bhaelphinium	1 plant
	Bhn104	Woodrat nest

Quino Checkerspot Butterfly Protocol Survey — Field Data Sheet

Recorder: Kyle Ince Add'l Person: _____ Date: 4/14/11 GPS Unit: 6

Project Concentrix Solar Project Map #: _____ Survey Sxn: _____ QCB Protocol Survey # 3 of 5

TIME (24-hour)	Temp (F°):	Wind (avg/max)	% CC	Sky
Start				clear patchy overcast drizzle shower
1000	61°	2mph	2%	clear patchy overcast drizzle shower
1115	65°	2mph	2%	clear patchy overcast drizzle shower
1230	68°	2mph	0%	clear patchy overcast drizzle shower
1340	70°	2mph	0%	clear patchy overcast drizzle shower
1430	70°	2mph	0%	clear patchy overcast drizzle shower
End 1545	70°	3mph	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

	Total		Total
Nymphalidae (Brushfooted Butterflies)		**Hesperiidae (Skippers)**	
Euphydryas editha (Quino Checkerspot)		*Erynnis funeralis* (Funereal Duskywing)	1
Euphydryas chalcedona (Henne's Checkerspot)		*Erynnis tristis* (Sad Duskywing)	
Thessalia leanira (Wright's Checkerspot)		*Erynnis propertius* (Propertius Duskywing)	3
Chlosyne californica (California Patch)		*Erynnis brizo* (Sleepy Duskeywing)	
Chlosyne gabbii (Gabb's Checkerspot)		*Pyrgus albescens* (Checkered Skipper)	
Phyciodes mylitta (Mylitta Crescent)		*Hesperia jubia* (Jubia Skipper)	
Junonia coenia (Common Buckeye)	10	*Polites sabuleti* (Sandhill Skipper)	
Vanessa annabella (West Coast Lady)		**Megathymidae (Giant Skippers)**	
Vanessa atalanta (Red Admiral)		*Megathymus yuccae* (Yucca Giant Skipper)	
Vanessa cardui (Painted Lady)			
Vanessa virginiensis (Virginia Lady)		**Other Butterflies:**	
Nymphalis californica (California Tortoiseshell)			
Danaidae (Milkweed Butterflies)			
Danaus plexippus (Monarch)			
Danaus gilippus (Queen)			
Satyridae (Satyrs)			
Coenonympha californica (Common California Ringlet)			
Pieridae (Whites, Sulphurs)			
Pieris rapae (Cabbage White)			
Pontia sisymbrii (Spring White)			
Pontia beckeni (Beker's White)			
Pontia protodice (Common White)			
Anthocharis sara (Sara Orangetip)	7		
Anthocharis cethura (Felder's Orangetip)			
Euchloe hyantis (Desert Pearly Marble)			
Colias eurytheme (Orange Sulphur)			
Colias harfordii (Harford's Sulphur)			
Nathalis iole (Dainty Sulphur)	1		
Papilionidae (Swallowtails)		**Notes:**	
Papilio polyxenes (Desert Black Swallowtail)		Ki Ad1 [illegible] N=1	
Papilio eurymedon (Pale swallowtail)		Ki Ad2 N=6	
Papilio rutulus (Western Tiger Swallowtail)		Ki GV02 Gerrea Viridia N=8	
Riodiniade (Metalmarks)		Ki lb 01 [illegible] N=4	
Apodemia mormo (Behr's Metalmark)	28	Ki hl 01 - Horned Lizard N=1	
Lycaenidae (Hairstreaks and Blues)		Ki GV01 - N=2	
Celastrina ladon (Spring Azure)		Ki lb 02 - N=36	
Leptotes marina (Marine Blue)		Ki lb 03 - N=68	
Brephidium exile (Western Pygmy Blue)		Ki lb 04 - N=55	
Glaucopsyche lygdamus (Southern Blue/Silvery blue)		Ki gV 03 N=2	
Hemiargus ceraunus (Edward's Blue)		Ki gV 04 N=25	
Icaria acmon (Acmon Blue)	3	Ki lb 05 N=8	
Philotes sonorensis (Sonoran Blue)		Ki lb 06 N=60	
Callophrys augustinus (Brown Elfin)		Ki lb 07 N=90	
Callophrys perplexa (Perplexing Green Hairstreak)	1	Ki ad 03 N=1	
Strymon melinus (Gray Hairstreak)		Ki ad 04 N=4	
Atlides halesus (Great Purple Hairstreak)		Ki cr 01 - Cordylanthus rigidus - N=30	
		Ki lb 08 - N=9	

Ki lb 01 - N=19

Ki GS 01 Granite Spiny Lizard N=2

Potential Nectaring or Host Plants for Quino Checkerspot Butterfly in Boulevard, California (Concentrix Solar)

Instructions:

- Please Place a Check Mark Beside Flowering Plants. Use Numbered Notes to Add Species Detail
- **PLEASE RECORD HOST PLANTS ON GPS** See Codes Below:

Antirrhinum coulterianum = AC *Collinsia concolor* = CC *Cordylanthus rigidus* = CR *Plantago patagonica* = PP

X	*Amsinckia menziesii*	Rancher's Fiddleneck
o	***Antirrhinum coulterianum***	**Coulter's Snapdragon**
o	*Antirrhinum nuttallianum*	Nuttall's Snapdragon
o	*Asclepias fascicularis*	Narrow-leaf Milkweed
o	*Boechera sp.*	Rock Cress
o	*Calandrinia ciliata*	Red Maids
o	*Calochortus concolor*	Golden-bowl Mariposa Lily
o	*Calystegia longipes*	Morning-glory
o	*Camissonia sp.*	Sun Cup
o	***Castilleja exerta***	**Paintbrush**
o	*Caulanthus heterophyllus*	San Diego Jewelflower
o	*Caulanthus simulans*	Payson's Caulanthus
o	*Ceanothus cuneatus*	Buck Brush
X	*Ceanothus greggii*	Cup-leaf-lilac
o	*Ceanothus leucodermis*	Chaparral Whitethorn
o	*Chaenactis artemisiifolia*	White Pincushion
o	*Chaenactis glabriuscula*	Yellow Pincushion
o	*Clematis sp.*	Clematis
o	***Collinsia concolor***	**Southern Chinese Houses**
X	***Cordylanthus rigidus***	**Dark-tip Bird's Beak**
o	*Coreopsis californica*	California Coreopsis
o	*Corethrogyne filaginifolia*	Common Sand-aster
X	*Cryptantha sp.*	Cryptantha
o	*Cucurbita foetidissima*	Calabazilla
X	*Descurainia sp.*	Tansy-mustard
o	*Dicentra chrysantha*	Golden Ear-drops
o	*Dichelostemma capitatum*	Blue Dicks
o	*Dudleya sp*	Dudleya
o	*Emmenanthe penduliflora*	Whispering Bells
X	*Eriastrum sp.*	Woolly-star
X	*Ericameria sp.*	Goldenbush
o	*Engeron foliosus*	Leafy Daisy
X	*Eriodictyon trichocalyx*	Hairy Yerba Santa
X	*Eriogonum fasciculatum*	Inland California Buckwheat
o	*Eriogonum sp.*	Buckwheat
X	*Eriophyllum sp*	Golden-yarrow
o	*Erodium cicutarium**	Red-stem Storksbill
o	*Erysimum capitatum*	Western Wallflower
o	*Eschscholzia californica*	California Poppy
o	*Eucrypta chrysanthemifolia*	Spotted Hideseed
o	*Euthamia occidentalis*	Western Goldenrod
X	*Garrya veatchii*	Canyon Silk Tassel
X	*Gilia sp.*	Gilia
o	*Gnaphalium*	Cudweed
o	*Guillenia lasiophylla*	California Mustard
o	*Gutierrezia sarothrae*	Broom Matchweed
o	*Heliotropium curassavicum*	Salt Heliotrope
o	*Hirshfeldia incana*	Short-pod Mustard
o	*Lamium amplexicaule*	Henbit
X	*Lasthenia gracilis*	Common Goldfields
X	*Layia glandulosa*	White Layia
o	*Lepidium sp.*	Pepperweed
X	*Linanthus bellus*	Desert Beauty
o	*Linanthus dichotomus*	Evening Snow
X	*Lonicera subspicata*	Johnston's Honeysuckle
o	*Malacothrix californica*	California Dandelion
o	*Malacothrix clevelandii*	Cleveland's Malacothrix
o	*Marah macrocarpus*	Wild-cucumber
o	*Marrubium vulgare**	Horehound
o	*Matricaria matricarioides**	Common Pineapple-weed
o	*Mentzelia veatchiana*	Veatch's Stick-leak
o	*Microsteris gracilis*	Slender Phlox
o	*Mimulus sp.*	Monkeyflower
o	*Nemophila menziesii*	Small-flower Baby Blue Eyes
o	*Orobanche bulbosa*	Chaparral Broom-rape
o	*Osmadenia tenella*	Osmadenia
o	*Paeonia californica*	California Peony
o	*Pectocarya sp.*	Pectocarya
X	*Phacelia sp.*	Phacelia
o	*Pholistoma membranaceum*	White Fiesta Flower
o	*Plagiobothrys sp.*	Popcornflower
o	***Plantago patagonica***	**Desert Plantain**
o	*Platystemon californicus*	Cream Cups
X	*Prunus ilicifolia*	Holly-leaf Cherry
o	*Rafinesquia neomexicana*	Desert Chicory
X	*Ribes quercetorum*	Oak Gooseberry
o	*Rorripa nasturtium-aquaticum*	Water-cress
o	*Rosa californica*	California Rose
o	*Saltugilia australis*	Southern Gilia
o	*Senecio californicus*	California Butterweed
o	*Senecio flaccidus*	Butterweed
o	*Sidalcea malvaeflora*	Checker-bloom
X	*Sisymbrium sp.*	Tumble Mustard
o	*Solidago californica*	California Goldenrod
o	*Stachys ajugoides*	Hedge-nettle
o	*Stephanomeria sp.*	Wreathplant
o	*Streptanthus campestris*	Southern Jewelflower
X	*Stylocline gnaphalioides*	Everlasting Nest-straw
o	*Tetradymia comosa*	Cotton-thorn
o	*Thysanocarpus sp.*	Fringepod
o	*Trichostemma parishii*	Mountain Bluecurls
o	*Tropidocarpum gracile*	Slender Dobie-pod
X	*Uropappus lindleyi*	Silver Puffs
o	*Viola purpurea*	Oak Yellow Violet
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o	**Other Flowering Plants:**	
o	Amsinckia menziesii	
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o	**Rare Wildlife or Rare Plants:**	
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Quino Checkerspot Butterfly Protocol Survey — Field Data Sheet

Recorder: Margie Mulligan Add'l Person: ______ Date: 4-14-11 GPS Unit: 3

Project: Concentrix Solar Project Map #: 5 Survey Sxn: ______ QCB Protocol Survey # 3 of 5

	TIME (24-hour)	Temp (F°)	Wind (avg/max)	% CC	Sky
Start	0845	60°	1-5	2	(clear) patchy overcast drizzle shower
	1130	64°	3-6 (8)	5	(clear) patchy overcast drizzle shower
	1420	68°	3-5	5	(clear) patchy overcast drizzle shower
	1600	68°	2-5	5	(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)

Species	Tally	Total
Nymphalidae (Brushfooted Butterflies)		
Euphydryas editha (Quino Checkerspot)		
Euphydryas chalcedona (Henne's Checkerspot)		
Thessalia leanira (Wright's Checkerspot)		
Chlosyne californica (California Patch)		
Chlosyne gabbii (Gabb's Checkerspot)		
Phyciodes mylitta (Mylitta Crescent)		
Junonia coenia (Common Buckeye)	|||	3
Vanessa annabella (West Coast Lady)		
Vanessa atalanta (Red Admiral)		
Vanessa cardui (Painted Lady)		
Vanessa virginiensis (Virginia Lady)		
Nymphalis californica (California Tortoiseshell)		
Danaidae (Milkweed Butterflies)		
Danaus plexippus (Monarch)		
Danaus gilippus (Queen)		
Satyridae (Satyrs)		
Coenonympha californica (Common California Ringlet)		
Pieridae (Whites, Sulphurs)		
Pieris rapae (Cabbage White)		
Pontia sisymbrii (Spring White)		
Pontia beckerii (Becker's White)		
Pontia protodice (Common White)		
Anthocharis sara (Sara Orangetip)	||||	4
Anthocharis cethura (Felder's Orangetip)		
Euchloe hyantis (Desert Pearly Marble)			1
Colias eurytheme (Orange Sulphur)		
Colias harfordii (Harford's Sulphur)			1
Nathalis iole (Dainty Sulphur)		
Papilionidae (Swallowtails)		
Papilio polyxenes (Desert Black Swallowtail)		
Papilio eurymedon (Pale swallowtail)		
Papilio rutulus (Western Tiger Swallowtail)		
Riodiniade (Metalmarks)		
Apodemia mormo (Behr's Metalmark)	(tally marks)	98
Lycaenidae (Hairstreaks and Blues)		
Celastrina ladon (Spring Azure)		
Leptotes marina (Marine Blue)		
Brephidium exile (Western Pygmy Blue)		
Glaucopsyche lygdamus (Southern Blue/Silvery blue)		
Hemiargus ceraunus (Edward's Blue)		
Icaria acmon (Acmon Blue)	|||	3
Philotes sonorensis (Sonoran Blue)		
Callophrys augustinus (Brown Elfin)		
Callophrys perplexa (Perplexing Green Hairstreak)			1
Strymon melinus (Gray Hairstreak)		
Atlides halesus (Great Purple Hairstreak)		
Western-tailed Blue	||||	4

Species	Tally	Total
Hesperiidae (Skippers)		
Erynnis funeralis (Funereal Duskywing)			1
Erynnis tristis (Sad Duskywing)		
Erynnis propertius (Propertius Duskywing)			1
Erynnis brizo (Sleepy Duskeywing)		
Pyrgus albescens (Checkered Skipper)		
Hesperia jubia (Jubia Skipper)		
Polites sabuleti (Sandhill Skipper) photo			1
Megathymidae (Giant Skippers)		
Megathymus yuccae (Yucca Giant Skipper)		
Other Butterflies:		
Common Sootywing			1

Notes:

Potential Nectaring or Host Plants for Quino Checkerspot Butterfly in Boulevard, California (Concentrix Solar)

Instructions:

- Please Place a Check Mark Beside Flowering Plants. Use Numbered Notes to Add Species Detail.
- **PLEASE RECORD HOST PLANTS ON GPS** See Codes Below:

Antirrhinum coulterianum = AC *Collinsia concolor* = CC *Cordylanthus rigidus* = CR *Plantago patagonica* = PP

X	*Amsinckia menziesii*	Rancher's Fiddleneck
○	***Antirrhinum coulterianum***	**Coulter's Snapdragon**
○	*Antirrhinum nuttallianum*	Nuttall's Snapdragon
○	*Asclepias fascicularis*	Narrow-leaf Milkweed
X	*Boechera sp.*	Rock Cress
○	*Calandrinia ciliata*	Red Maids
○	*Calochortus concolor*	Golden-bowl Mariposa Lily
○	*Calystegia longipes*	Morning-glory
X	*Camissonia sp.* Californica	Sun Cup
○	***Castilleja exerta***	Paintbrush
○	*Caulanthus heterophyllus*	San Diego Jewelflower
○	*Caulanthus simulans*	Payson's Caulanthus
○	*Ceanothus cuneatus*	Buck Brush
X	*Ceanothus greggii*	Cup-leaf-lilac
○	*Ceanothus leucodermis*	Chaparral Whitethorn
○	*Chaenactis artemisiifolia*	White Pincushion
○	*Chaenactis glabriuscula*	Yellow Pincushion
○	*Clematis sp.*	Clematis
○	***Collinsia concolor***	**Southern Chinese Houses**
○	***Cordylanthus rigidus***	**Dark-tip Bird's Beak**
X	*Coreopsis californica*	California Coreopsis
○	*Corethrogyne filaginifolia*	Common Sand-aster
X	*Cryptantha sp.*	Cryptantha
○	*Cucurbita foetidissima*	Calabazilla
X	*Descurainia sp.*	Tansy-mustard
○	*Dicentra chrysantha*	Golden Ear-drops
○	*Dichelostemma capitatum*	Blue Dicks
○	*Dudleya sp.*	Dudleya
○	*Emmenanthe penduliflora*	Whispering Bells
○	*Eriastrum sp.*	Woolly-star
X	*Encelia sp.* californica	Goldenbush
○	*Erigeron foliosus*	Leafy Daisy
○	*Eriodictyon trichocalyx*	Hairy Yerba Santa
○	*Eriogonum fasciculatum*	Inland California Buckwheat
○	*Eriogonum sp.*	Buckwheat
X	*Eriophyllum sp.* wallacei	Golden-yarrow
X	*Erodium cicutarium**	Red-stem Stork's-bill
○	*Erysimum capitatum*	Western Wallflower
○	*Eschscholzia californica*	California Poppy
○	*Eucrypta chrysanthemifolia*	Spotted Hideseed
○	*Euthamia occidentalis*	Western Goldenrod
○	*Garrya veatchii*	Canyon Silk Tassel
○	*Gilia sp.*	Gilia
○	*Gnaphalium*	Cudweed
○	*Guillenia lasiophylla*	California Mustard
○	*Gutierrezia sarothrae*	Broom Matchweed
○	*Heliotropium curassavicum*	Salt Heliotrope
X	*Hirschfeldia incana*	Short-pod Mustard
○	*Lamium amplexicaule*	Henbit
X	*Lasthenia gracilis*	Common Goldfields
X	*Layia glandulosa*	White Layia
○	*Lepidium sp.*	Pepperweed
X	*Linanthus bellus*	Desert Beauty
○	*Linanthus dichotomus*	Evening Snow
○	*Lonicera subspicata*	Johnston's Honeysuckle
○	*Malacothrix californica*	California Dandelion
○	*Malacothrix clevelandii*	Cleveland's Malacothrix
○	*Marah macrocarpus*	Wild-cucumber
○	*Marrubium vulgare**	Horehound
○	*Matricaria matricarioides**	Common Pineapple-weed
○	*Mentzelia veatchiana*	Veatch's Stick-leaf
○	*Microsteris gracilis*	Slender Phlox
○	*Mimulus sp.*	Monkeyflower
○	*Nemophila menziesii*	Small-flower Baby Blue Eyes
○	*Orobanche bulbosa*	Chaparral Broom-rape
○	*Osmadenia tenella*	Osmadenia
○	*Paeonia californica*	California Peony
X	*Pectocarya sp.*	Pectocarya
X	*Phacelia sp.* distans	Phacelia
○	*Pholistoma membranaceum*	White Fiesta Flower
X	*Plagiobothrys sp.*	Popcornflower
○	*Plantago patagonica*	Desert Plantain
○	*Platystemon californicus*	Cream Cups
○	*Prunus ilicifolia*	Holly-leaf Cherry
○	*Rafinesquia neomexicana*	Desert Chicory
○	*Ribes quercetorum*	Oak Gooseberry
○	*Rorippa nasturtium-aquaticum*	Water-cress
○	*Rosa californica*	California Rose
●	*Saltugilia australis*	Southern Gilia
X	*Senecio californicus*	California Butterweed
○	*Senecio flaccidus*	Butterweed
○	*Sidalcea malvaeflora*	Checker-bloom
X	*Sisymbrium sp.*	Tumble Mustard
○	*Solidago californica*	California Goldenrod
○	*Stachys ajugoides*	Hedge-nettle
○	*Stephanomeria sp.*	Wreathplant
○	*Streptanthus campestris*	Southern Jewelflower
X	*Stylocline gnaphalioides*	Everlasting Nest-straw
○	*Tetradymia comosa*	Cotton-thorn
X	*Thysanocarpus sp*	Fringepod
○	*Trichostemma parishii*	Mountain Bluecurls
○	*Tropidocarpum gracile*	Slender Dobie-pod
○	*Uropappus lindleyi*	Silver Puffs
○	*Viola purpurea*	Oak Yellow Violet
○		
○		
○	**Other Flowering Plants:**	
○	Leptosiphon hammonii	
○	Rhus ovata	
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○	**Rare Wildlife or Rare Plants:**	
○	Astragalus douglasii parishii S	
○	MMAD01-06	
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○	Gerrea viscida	
○	MMGV01 – 3 plants	
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○	Linanthus bellus – [illegible]	
○	MMLB02-04	
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○	Delphinium parishii subglobosum	
○	MMDP01	
○		
○		
○	Loggerhead Shrike	
○	MMLH01	

HORNED LIZARD
MMHL01

Quino Checkerspot Butterfly Protocol Survey — Field Data Sheet

Recorder: Stephen Rink Add'l Person: _____ Date: 4/14/11 GPS Unit: 2

Project: Concentrix Solar Project Map #: 2 Survey Sxn: _____ QCB Protocol Survey # 3 of 5

TIME (24-hour)	Temp (F°):	Wind (avg/max)	% CC	Sky
Start				clear patchy overcast drizzle shower
1000	60	3-2/6	0%	clear patchy overcast drizzle shower
1200	63	1.7/5	0%	clear patchy overcast drizzle shower
1400	64	3/7	0	clear patchy overcast drizzle shower
1602	63	3/5	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

	Total		Total
Nymphalidae (Brushfooted Butterflies)		**Hesperiidae (Skippers)**	
Euphydryas editha (Quino Checkerspot)		*Erynnis funeralis* (Funereal Duskywing)	
Euphydryas chalcedona (Henne's Checkerspot)		*Erynnis tristis* (Sad Duskywing)	
Thessalia leanira (Wright's Checkerspot)		*Erynnis propertius* (Propertius Duskywing)	
Chlosyne californica (California Patch)		*Erynnis brizo* (Sleepy Duskeywing)	
Chlosyne gabbii (Gabb's Checkerspot)		*Pyrgus albescens* (Checkered Skipper)	
Phyciodes mylitta (Mylitta Crescent)		*Hesperia jubia* (Jubia Skipper)	
Junonia coenia (Common Buckeye) ~~IIII~~ III	8	*Polites sabuleti* (Sandhill Skipper)	
Vanessa annabella (West Coast Lady) II	2	**Megathymidae (Giant Skippers)**	
Vanessa atalanta (Red Admiral)		*Megathymus yuccae* (Yucca Giant Skipper)	
Vanessa cardui (Painted Lady)			
Vanessa virginiensis (Virginia Lady)		**Other Butterflies:**	
Nymphalis californica (California Tortoiseshell)		Sulphur sp. 1	
Danaidae (Milkweed Butterflies)			
Danaus plexippus (Monarch)			
Danaus gilippus (Queen)			
Satyridae (Satyrs)			
Coenonympha californica (Common California Ringlet)			
Pieridae (Whites, Sulphurs)			
Pieris rapae (Cabbage White)			
Pontia sisymbrii (Spring White)			
Pontia beckerii (Beker's White)			
Pontia protodice (Common White) II	2		
Anthocharis sara (Sara Orangetip)			
Anthocharis cethura (Felder's Orangetip)			
Euchloe hyantis (Desert Pearly Marble)			
Colias eurytheme (Orange Sulphur)			
Colias harfordii (Harford's Sulphur)			
Nathalis iole (Dainty Sulphur)			
Papilionidae (Swallowtails)		**Notes:**	
Papilio polyxenes (Desert Black Swallowtail)			
Papilio eurymedon (Pale swallowtail)			
Papilio rutulus (Western Tiger Swallowtail)			
Riodiniade (Metalmarks)			
Apodemia mormo (Behr's Metalmark) ~~IIII~~	5		
Lycaenidae (Hairstreaks and Blues)			
Celastrina ladon (Spring Azure)			
Leptotes marina (Marine Blue)			
Brephidium exile (Western Pygmy Blue)			
Glaucopsyche lygdamus (Southern Blue/Silvery blue)			
Hemiargus ceraunus (Edward's Blue)			
Icaria acmon (Acmon Blue)			
Philotes sonorensis (Sonoran Blue)			
Callophrys augustinus (Brown Elfin)			
Callophrys perplexa (Perplexing Green Hairstreak) II	2		
Strymon melinus (Gray Hairstreak)			
Atlides halesus (Great Purple Hairstreak)			

Potential Nectaring or Host Plants for Quino Checkerspot Butterfly in Boulevard, California (Concentrix Solar)

Instructions.

- Please Place a Check Mark Beside Flowering Plants. Use Numbered Notes to Add Species Detail.
- **PLEASE RECORD HOST PLANTS ON GPS** See Codes Below:

Antirrhinum coulterianum = AC *Collinsia concolor* = CC *Cordylanthus rigidus* = CR *Plantago patagonica* = PP

✓	*Amsinckia menziesii*	Rancher's Fiddleneck
○	***Antirrhinum coulterianum***	**Coulter's Snapdragon**
○	*Antirrhinum nuttallianum*	Nuttall's Snapdragon
○	*Asclepias fascicularis*	Narrow-leaf Milkweed
○	*Boechera sp*	Rock Cress
○	*Calandrinia ciliata*	Red Maids
○	*Calochortus concolor*	Golden-bowl Mariposa Lily
○	*Calystegia longipes*	Morning-glory
○	*Camissonia sp.*	Sun Cup
○	***Castilleja exerta***	**Paintbrush**
○	*Caulanthus heterophyllus*	San Diego Jewelflower
○	*Caulanthus simulans*	Payson's Caulanthus
○	*Ceanothus cuneatus*	Buck Brush
○	*Ceanothus greggii*	Cup-leaf-lilac
○	***Ceanothus leucodermis***	**Chaparral Whitethorn**
○	*Chaenactis artemisiifolia*	White Pincushion
○	*Chaenactis glabriuscula*	Yellow Pincushion
○	*Clematis sp.*	Clematis
○	***Collinsia concolor***	**Southern Chinese Houses**
○	***Cordylanthus rigidus***	**Dark-tip Bird's Beak**
○	*Coreopsis californica*	California Coreopsis
○	*Corethrogyne filaginifolia*	Common Sand-aster
○	*Cryptantha sp.*	Cryptantha
○	*Cucurbita foetidissima*	Calabazilla
○	*Descurainia sp.*	Tansy-mustard
○	*Dicentra chrysantha*	Golden Ear-drops
○	*Dichelostemma capitatum*	Blue Dicks
○	*Dudleya sp.*	Dud'eya
○	*Emmenanthe penduliflora*	Whispering Bells
○	*Eriastrum sp.*	Woolly-star
○	*Ericameria sp.*	Goldenbush
○	*Erigeron foliosus*	Leafy Daisy
○	*Eriodictyon trichocalyx*	Hairy Yerba Santa
○	*Eriogonum fasciculatum*	Inland California Buckwheat
○	*Eriogonum sp.*	Buckwheat
○	*Eriophyllum sp.*	Golden-yarrow
✓	*Erodium cicutarium**	Red-stem Storksbill
○	*Erysimum capitatum*	Western Wallflower
○	*Eschscholzia californica*	California Poppy
○	*Eucrypta chrysanthemifolia*	Spotted Hideseed
○	*Euthamia occidentalis*	Western Goldenrod
○	*Garrya veatchii*	Canyon Silk Tassel
○	*Gilia sp.*	Gilia
○	*Gnaphalium*	Cudweed
○	*Guillenia lasiophylla*	California Mustard
○	*Gutierrezia sarothrae*	Broom Matchweed
○	*Heliotropium curassavicum*	Salt Heliotrope
○	*Hirschfeldia incana*	Short-pod Mustard
○	*Lamium amplexicaule*	Henbit
✓	*Lasthenia gracilis*	Common Goldfields
○	*Layia glandulosa*	White Layia
○	*Lepidium sp.*	Pepperweed
✓	*Linanthus bellus*	Desert Beauty
○	*Linanthus dichotomus*	Evening Snow
○	*Lonicera subspicata*	Johnston's Honeysuckle
○	*Malacothrix californica*	California Dandelion
○	*Malacothrix clevelandii*	Cleveland's Malacothrix
○	*Marah macrocarpus*	Wild-cucumber
○	*Marrubium vulgare**	Horehound
○	*Matricaria matricarioides**	Common Pineapple-weed
○	*Mentzelia veatchiana*	Veatch's Stick-leak
○	*Microsteris gracilis*	Slender Phlox
○	*Mimulus sp.*	Monkeyflower
○	*Nemophila menziesii*	Small-flower Baby Blue Eyes
○	*Orobanche bulbosa*	Chaparral Broom-rape

○	*Osmadenia tenella*	Osmadenia
○	*Paeonia californica*	California Peony
○	*Pectocarya sp.*	Pectocarya
○	*Phacelia sp.*	Phacelia
○	*Pholistoma membranaceum*	White Fiesta Flower
✓	*Plagiobothrys sp*	Popcornflower
○	*Plantago patagonica*	Desert Plantain
○	*Platystemon californicus*	Cream Cups
○	*Prunus ilicifolia*	Holly-leaf Cherry
○	*Rafinesquia neomexicana*	Desert Chicory
○	*Ribes quercetorum*	Oak Gooseberry
○	*Rorripa nasturtium-aquaticum*	Water-cress
○	*Rosa californica*	California Rose
○	*Saltugilia australis*	Southern Gilia
○	*Senecio californicus*	California Butterweed
○	*Senecio flaccidus*	Butterweed
○	*Sidalcea malvaeflora*	Checker-bloom
○	*Sisymbrium sp.*	Tumble Mustard
○	*Solidago californica*	California Goldenrod
○	*Stachys ajugoides*	Hedge-nettle
○	*Stephanomeria sp.*	Wreathplant
○	*Streptanthus campestris*	Southern Jewelflower
○	*Stylocline gnaphalioides*	Everlasting Nest-straw
○	*Tetradymia comosa*	Cotton-thorn
○	*Thysanocarpus sp*	Fringepod
○	*Trichostemma parishii*	Mountain Bluecurls
○	*Tropidocarpum gracile*	Slender Dobie-pod
○	*Uropappus lindleyi*	Silver Puffs
○	*Viola purpurea*	Oak Yellow Violet
○		
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○	**Other Flowering Plants:**	
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○	**Rare Wildlife or Rare Plants:**	
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Quino Checkerspot Butterfly Protocol Survey — Field Data Sheet

Recorder: Erin Bergman Add'l Person: _____ Date: 4/15/11 GPS Unit: 10

Project: Concentrix Solar Project Map #: _____ Survey Sxn: _____ QCB Protocol Survey # _____ 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

	Total		Total
Nymphalidae (Brushfooted Butterflies)		**Hesperiidae (Skippers)**	
Euphydryas editha (Quino Checkerspot)		*Erynnis funeralis* (Funereal Duskywing)	
Euphydryas chalcedona (Henne's Checkerspot)		*Erynnis tristis* (Sad Duskywing)	
Thessalia leanira (Wright's Checkerspot)		*Erynnis propertius* (Propertius Duskywing)	
Chlosyne californica (California Patch)		*Erynnis brizo* (Sleepy Duskeywing)	
Chlosyne gabbii (Gabb's Checkerspot)		*Pyrgus albescens* (Checkered Skipper)	
Phyciodes mylitta (Mylitta Crescent)		*Hesperia jubia* (Jubia Skipper)	
Junonia coenia (Common Buckeye)		*Polites sabuleti* (Sandhill Skipper)	
Vanessa annabella (West Coast Lady)		**Megathymidae (Giant Skippers)**	
Vanessa atalanta (Red Admiral)		*Megathymus yuccae* (Yucca Giant Skipper)	
Vanessa cardui (Painted Lady)		Common Sootjwing	1
Vanessa virginiensis (Virginia Lady)		**Other Butterflies:**	
Nymphalis californica (California Tortoiseshell)			
Danaidae (Milkweed Butterflies)			
Danaus plexippus (Monarch)			
Danaus gilippus (Queen)		White crowned sparrow	
Satyridae (Satyrs)		Cal gnard	
Coenonympha californica (Common California Ringlet)		Red tail	
Pieridae (Whites, Sulphurs)		Scrub jay	
Pieris rapae (Cabbage White)		Western blue bird	
Pontia sisymbrii (Spring White)		Raven	
Pontia beckeri (Beker's White)		Meadow lark	
Pontia protodice (Common White)			
Anthocharis sara (Sara Orangetip) 卌 1	6		
Anthocharis cethura (Felder's Orangetip)			
Euchloe hyantis (Desert Pearly Marble) 卌	4		
Colias eurytheme (Orange Sulphur)			
Colias harfordii (Harford's Sulphur)			
Nathalis iole (Dainty Sulphur)			
Papilionidae (Swallowtails)		**Notes:**	
Papilio polyxenes (Desert Black Swallowtail)			
Papilio eurymedon (Pale swallowtail) 1	1	EBDP01 - 4	
Papilio rutulus (Western Tiger Swallowtail)		EBDP02 - 2	
Riodiniade (Metalmarks)		EBA001 - 1	
Apodemia mormo (Behr's Metalmark) 卌 卌 卌 卌 40	58	EBA002 - 2	
Lycaenidae (Hairstreaks and Blues)		EBA003 - 3	
Celastrina ladon (Spring Azure)		EBDJ01 - 1	
Leptotes marina (Marine Blue)		EBDJ02 - 1	
Brephidium exile (Western Pygmy Blue)		EBCJ01 - 10	
Glaucopsyche lygdamus (Southern Blue/Silvery blue)		EBdp01 - 1	
Hemiargus ceraunus (Edward's Blue)		EBdp02 - 1	
Icaria acmon (Acmon Blue)		EBed01 - 1	
Philotes sonorensis (Sonoran Blue)		EBec02 - 1	
Callophrys augustinus (Brown Elfin)		EBav01 - 5	
Callophrys perplexa (Perplexing Green Hairstreak)		EBLb01 - 15	
Strymon melinus (Gray Hairstreak)		EBlb02 - 5	
Atlides halesus (Great Purple Hairstreak)		EBLb03 - 15	
		EBNL01 - midden	
		EBNL02 - midden	
		EBNL03 - midden	

Potential Nectaring or Host Plants for Quino Checkerspot Butterfly in Boulevard, California (Concentrix Solar)

Instructions.

- Please Place a Check Mark Beside Flowering Plants. Use Numbered Notes to Add Species Detail.
- **PLEASE RECORD HOST PLANTS ON GPS** See Codes Below:

Antirrhinum coulterianum = AC *Collinsia concolor* = CC *Cordylanthus rigidus* = CR *Plantago patagonica* = PP

	Amsinckia menziesii	Rancher's Fiddleneck
	Antirrhinum coulterianum	**Coulter's Snapdragon**
	Antirrhinum nuttallianum	Nuttall's Snapdragon
	Asclepias fascicularis	Narrow-leaf Milkweed
	Boechera sp.	Rock Cress
	Calandrinia ciliata	Red Maids
	Calochortus concolor	Golden-bowl Mariposa Lily
	Calystegia longipes	Morning-glory
	Camissonia sp. (California)	Sun Cup
	Castilleja exerta	**Paintbrush**
	Caulanthus heterophyllus	San Diego Jewelflower
	Caulanthus simulans	Payson's Caulanthus
	Ceanothus cuneatus	Buck Brush
	Ceanothus greggii	Cup-leaf-lilac
	Ceanothus leucodermis	Chaparral Whitethorn
	Chaenactis artemisiifolia	White Pincushion
	Chaenactis glabriuscula	Yellow Pincushion
	Clematis sp.	Clematis
	Collinsia concolor	**Southern Chinese Houses**
	Cordylanthus rigidus	**Dark-lip Bird's Beak**
	Coreopsis californica	California Coreopsis
	Corethrogyne filaginifolia	Common Sand-aster
	Cryptantha sp.	Cryptantha
	Cucurbita foetidissima	Calabazilla
	Descurainia sp.	Tansy-mustard
	Dicentra chrysantha	Golden Ear-drops
	Dichelostemma capitatum	Blue Dicks
	Dudleya sp.	Dudleya
	Emmenanthe penduliflora	Whispering Bells
	Eriastrum sp.	Woolly-star
	Ericameria sp.	Goldenbush
	Erigeron foliosus	Leafy Daisy
	Eriodictyon trichocalyx	Hairy Yerba Santa
	Eriogonum fasciculatum	Inland California Buckwheat
	Eriogonum sp.	Buckwheat
	Eriophyllum sp.	Golden-yarrow
	*Erodium cicutarium**	Red-stem Storksbill
	Erysimum capitatum	Western Wallflower
	Eschscholzia californica	California Poppy
	Eucrypta chrysanthemifolia	Spotted Hideseed
	Euthamia occidentalis	Western Goldenrod
	Garrya veatchii	Canyon Silk Tassel
	Gilia sp.	Gilia
	Gnaphalium	Cudweed
	Guillenia lasiophylla	California Mustard
	Gutierrezia sarothrae	Broom Matchweed
	Heliotropium curassavicum	Salt Heliotrope
	Hirshfeldia incana	Short-pod Mustard
	Lamium amplexicaule	Henbit
	Lasthenia gracilis	Common Goldfields
	Layia glandulosa	White Layia
	Lepidium sp.	Pepperweed
	Linanthus bellus	**Desert Beauty**
	Linanthus dichotomus	Evening Snow
	Lonicera subspicata	Johnston's Honeysuckle
	Malacothrix californica	California Dandelion
	Malacothrix clevelandii	Cleveland's Malacothrix
	Marah macrocarpus	Wild-cucumber
	*Marrubium vulgare**	Horehound
	*Matricaria matricarioides**	Common Pineapple-weed
	Montzelia veatchiana	Veatch's Stick-leak
	Microsteris gracilis	Slender Phlox
	Mimulus sp.	Monkeyflower
	Nemophila menziesii	Small-flower Baby Blue Eyes
	Orobanche bulbosa	Chaparral Broom-rape
	Osmadenia tenella	Osmadenia
	Paeonia californica	California Peony
	Pectocarya sp.	Pectocarya
	Phacelia sp	Phacelia
	Pholistoma membranaceum	White Fiesta Flower
	Plagiobothrys sp.	Popcornflower
	Plantago patagonica	Desert Plantain
	Platystemon californicus	Cream Cups
	Prunus ilicifolia	Holly-leaf Cherry
	Rafinesquia neomexicana	Desert Chicory
	Ribes quercetorum	Oak Gooseberry
	Rorripa nasturtium-aquaticum	Water-cress
	Rosa californica	California Rose
	Saltugilia australis	Southern Gilia
	Senecio californicus	California Butterweed
	Senecio flaccidus	Butterweed
	Sidalcea malvaeflora	Checker-bloom
	Sisymbrium sp	Tumble Mustard
	Solidago californica	California Goldenrod
	Stachys ajugoides	Hedge-nettle
	Stephanomeria sp.	Wreathplant
	Streptanthus campestris	Southern Jewelflower
	Stylocline gnaphalioides	Everlasting Nest-straw
	Tetradymia comosa	Cotton-thorn
	Thysanocarpus sp.	Fringepod
	Trichostemma parishii	Mountain Bluecurls
	Tropidocarpum gracile	Slender Dobie-pod
	Uropappus lindleyi	Silver Puffs
	Viola purpurea	Oak Yellow Violet

Other Flowering Plants:

Lupinus bicolor
Lupinus sp. (purple)

Rare Wildlife or Rare Plants:

Quino Checkerspot Butterfly Protocol Survey — Field Data Sheet

Recorder: MIKE COUFFER Add'l Person: Ø Date: 15 APRIL 2011 GPS Unit: 6

Project: Concentrix Solar Project Map #: 2 Survey Sxn: Ø QCB Protocol Survey # 3 of 5

TIME (24-hour)	Temp (F°):	Wind (avg/max)	% CC	Sky				
Start 1100 HRS	65	4 -> 10 MPH	Ø	clear	patchy	overcast	drizzle	shower
1200 HRS	69	1 -> 5	Ø	clear	patchy	overcast	drizzle	shower
1300 HRS	72	2 -> 7	Ø	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

	Total
Nymphalidae (Brushfooted Butterflies)	
Euphydryas editha (Quino Checkerspot)	
Euphydryas chalcedona (Henne's Checkerspot)	
Thessalia leanira (Wright's Checkerspot)	
Chlosyne californica (California Patch)	
Chlosyne gabbii (Gabb's Checkerspot)	
Phyciodes mylitta (Mylitta Crescent)	
Junonia coenia (Common Buckeye)	4
Vanessa annabella (West Coast Lady)	
Vanessa atalanta (Red Admiral)	
Vanessa cardui (Painted Lady)	
Vanessa virginiensis (Virginia Lady)	
Nymphalis californica (California Tortoiseshell)	
Danaidae (Milkweed Butterflies)	
Danaus plexippus (Monarch)	
Danaus gilippus (Queen)	
Satyridae (Satyrs)	
Coenonympha californica (Common California Ringlet)	
Pieridae (Whites, Sulphurs)	
Pieris rapae (Cabbage White)	
Pontia sisymbrii (Spring White)	
Pontia beckerii (Beker's White)	
Pontia protodice (Common White)	
Anthocharis sara (Sara Orangetip)	1
Anthocharis cethura (Felder's Orangetip)	
Euchloe hyantis (Desert Pearly Marble)	5
Colias eurytheme (Orange Sulphur)	
Colias harfordii (Harford's Sulphur)	
Nathalis iole (Dainty Sulphur)	
Papilionidae (Swallowtails)	
Papilio polyxenes (Desert Black Swallowtail)	
Papilio eurymedon (Pale swallowtail)	
Papilio rutulus(Western Tiger Swallowtail)	
Riodinlade (Metalmarks)	
Apodemia mormo (Behr's Metalmark)	59
Lycaenidae (Hairstreaks and Blues)	
Celastrina lsdon (Spring Azure)	
Leptotes marina (Marine Blue)	
Brephidium exile (Western Pygmy Blue)	
Glaucopsyche lygdamus (Southern Blue/Silvery blue)	
Hemiargus ceraunus (Edward's Blue)	
Icaria acmon (Acmon Blue)	3
Philotes sonorensis (Sonoran Blue)	
Callophrys augustinus (Brown Elfin)	
Callophrys perplexa (Perplexing Green Hairstreak)	
Strymon melinus (Gray Hairstreak)	
Atlides halesus (Great Purple Hairstreak)	

	Total
Hesperiidae (Skippers)	
Erynnis funeralis (Funereal Duskywing)	
Erynnis tristis (Sad Duskywing)	
Erynnis propertius (Propertius Duskywing)	1
Erynnis brizo (Sleepy Duskywing)	
Pyrgus albescens (Checkered Skipper)	
Hesperia juba (Juba Skipper)	
Poites sabuleti (Sandhill Skipper)	
Megathymidae (Giant Skippers)	
Megathymus yuccae (Yucca Giant Skipper)	
Other Butterflies:	
WESTERN TAILED BLUE	1
CALIFORNIA SOOTYWING	11

Notes:

MC HL 01 HORNED LIZARD

Potential Nectaring or Host Plants for Quino Checkerspot Butterfly in Boulevard, California (Concentrix Solar)

Instructions

- Please Place a Check Mark Beside Flowering Plants. Use Numbered Notes to Add Species Detail.
- **PLEASE RECORD HOST PLANTS ON GPS** See Codes Below:

Antirrhinum coulterianum = AC *Collinsia concolor* = CC *Cordylanthus rigidus* = CR *Plantago patagonica* = PP

- o *Amsinckia menziesii* — Rancher's Fiddleneck
- o ***Antirrhinum coulterianum*** — **Coulter's Snapdragon**
- o *Antirrhinum nuttallianum* — Nuttall's Snapdragon
- o *Asclepias fascicularis* — Narrow-leaf Milkweed
- o *Boechera* sp. — Rock Cress
- o *Calandrinia ciliata* — Red Maids
- o *Calochortus concolor* — Golden-bowl Mariposa Lily
- o *Calystegia longipes* — Morning-glory
- o *Camissonia* sp. — Sun Cup
- o ***Castilleja exerta*** — **Paintbrush**
- o *Caulanthus heterophyllus* — San Diego Jewelflower
- o *Caulanthus simulans* — Payson's Caulanthus
- o *Ceanothus cuneatus* — Buck Brush
- o *Ceanothus greggii* — Cup-leaf-lilac
- o *Ceanothus leucodermis* — Chaparral Whitethorn
- o *Chaenactis artemisiifolia* — White Pincushion
- o *Chaenactis glabriuscula* — Yellow Pincushion
- o *Clematis* sp. — Clematis
- o ***Collinsia concolor*** — **Southern Chinese Houses**
- o ***Cordylanthus rigidus*** — **Dark-tip Bird's Beak**
- o *Coreopsis californica* — California Coreopsis
- o *Corethrogyne filaginifolia* — Common Sand-aster
- o *Cryptantha* sp. — Cryptantha
- o *Cucurbita foetidissima* — Calabazilla
- o *Descurainia* sp. — Tansy-mustard
- o *Dicentra chrysantha* — Golden Ear-drops
- o *Dichelostemma capitatum* — Blue Dicks
- o *Dudleya* sp. — Dudleya
- o *Emmenanthe penduliflora* — Whispering Bells
- o *Eriastrum* sp. — Woolly-star
- o *Ericameria* sp. — Goldenbush
- o *Erigeron foliosus* — Leafy Daisy
- o *Eriodictyon trichocalyx* — Hairy Yerba Santa
- o *Eriogonum fasciculatum* — Inland California Buckwheat
- o *Eriogonum* sp. — Buckwheat
- o *Eriophyllum* sp. — Golden-yarrow
- o *Erodium cicutarium** — Red-stem Storksbill
- o *Erysimum capitatum* — Western Wallflower
- o *Eschscholzia californica* — California Poppy
- o *Eucrypta chrysanthemifolia* — Spotted Hideseed
- o *Euthamia occidentalis* — Western Goldenrod
- o *Garrya veatchii* — Canyon Silk Tassel
- o *Gilia* sp — Gilia
- o *Gnaphalium* — Cudweed
- o *Guillenia lasiophylla* — California Mustard
- o *Gutierrezia sarothrae* — Broom Matchweed
- o *Heliotropium curassavicum* — Salt Heliotrope
- o *Hirschfeldia incana* — Short-pod Mustard
- o *Lamium amplexicaule* — Henbit
- o *Lasthenia gracilis* — Common Goldfields
- o *Layia glandulosa* — White Layia
- o *Lepidium* sp — Pepperweed
- o *Linanthus bellus* — Desert Beauty
- o *Linanthus dichotomus* — Evening Snow
- o *Lonicera subspicata* — Johnston's Honeysuckle
- o *Malacothrix californica* — California Dandelion
- o *Malacothrix clevelandii* — Cleveland's Malacothrix
- o *Marah macrocarpus* — Wild-cucumber
- o *Marrubium vulgare** — Horehound
- o *Matricaria matricarioides** — Common Pineapple-weed
- o *Mentzelia veatchiana* — Veatch's Stick-leaf
- o *Microsteris gracilis* — Slender Phlox
- o *Mimulus* sp. — Monkeyflower
- o *Nemophila menzeisii* — Small-flower Baby Blue Eyes
- o *Orobanche bulbosa* — Chaparral Broom-rape
- o *Osmadenia tenella* — Osmadenia
- o *Paeonia californica* — California Peony
- o *Pectocarya* sp. — Pectocarya
- o *Phacelia* sp. — Phacelia
- o *Pholistoma membranaceum* — White Fiesta Flower
- o *Plagiobothrys* sp. — Popcornflower
- o ***Plantago patagonica*** — **Desert Plantain**
- o *Platystemon californicus* — Cream Cups
- o *Prunus ilicifolia* — Holly-leaf Cherry
- o *Rafinesquia neomexicana* — Desert Chicory
- o *Ribes quercetorum* — Oak Gooseberry
- o *Rorripa nasturtium-aquaticum* — Water-cress
- o *Rosa californica* — California Rose
- o *Saltugilia australis* — Southern Gilia
- o *Senecio californicus* — California Butterweed
- o *Senecio flaccidus* — Butterweed
- o *Sidalcea malvaeflora* — Checker-bloom
- o *Sisymbrium* sp. — Tumble Mustard
- o *Solidago californica* — California Goldenrod
- o *Stachys ajugoides* — Hedge-nettle
- o *Stephanomeria* sp. — Wreathplant
- o *Streptanthus campestris* — Southern Jewelflower
- o *Stylocline gnaphalioides* — Everlasting Nest-straw
- o *Tetradymia comosa* — Cotton-thorn
- o *Thysanocarpus* sp. — Fringepod
- o *Trichostemma parishii* — Mountain Bluecurls
- o *Tropidocarpum gracile* — Slender Dobie-pod
- o *Uropappus lindleyi* — Silver Puffs
- o *Viola purpurea* — Oak Yellow Violet
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- o **Other Flowering Plants:**
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- o **Rare Wildlife or Rare Plants:**
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Quino Checkerspot Butterfly Protocol Survey — Field Data Sheet

Recorder: Mike Couffer Add'l Person: Ø Date: 15 APRIL 2011 GPS Unit: 6

Project: Concentrix Solar Project Map #: 3 Survey Sxn: Ø QCB Protocol Survey # 3 of 5

TIME (24-hour)	Temp (F°):	Wind (avg/max)	% CC	Sky
Start 1330 HRS	73°	1 → 6 MPH	Ø	clear patchy overcast drizzle shower
1400 HRS	73	1 → 4	Ø	clear patchy overcast drizzle shower
1600 HRS	74	1 → 3	Ø	clear patchy overcast drizzle shower
1600 HRS	76	Ø → 3	Ø	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

	Total
Nymphalidae (Brushfooted Butterflies)	
Euphydryas editha (Quino Checkerspot)	
Euphydryas chalcedona (Henne's Checkerspot)	
Thessalia leanira (Wright's Checkerspot)	
Chlosyne californica (California Patch)	
Chlosyne gabbii (Gabb's Checkerspot)	
Phyciodes mylitta (Mylitta Crescent)	
Junonia coenia (Common Buckeye)	1
Vanessa annabella (West Coast Lady)	
Vanessa atalanta (Red Admiral)	
Vanessa cardui (Painted Lady)	
Vanessa virginiensis (Virginia Lady)	
Nymphalis californica (California Tortoiseshell)	
Danaidae (Milkweed Butterflies)	
Danaus plexippus (Monarch)	
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Satyridae (Satyrs)	
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Nathalis iole (Dainty Sulphur)	1
Papilionidae (Swallowtails)	
Papilio polyxenes (Desert Black Swallowtail)	
Papilio eurymedon (Pale swallowtail)	
Papilio rutulus(Western Tiger Swallowtail)	
Riodiniade (Metalmarks)	
Apodemia mormo (Behr's Metalmark)	55
Lycaenidae (Hairstreaks and Blues)	
Celastrina ladon (Spring Azure)	
Leptotes marina (Marine Blue)	
Brephidium exile (Western Pygmy Blue)	
Glaucopsyche lygdamus (Southern Blue/Silvery blue)	
Hemiargus ceraunus (Edward s Blue)	
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Philotes sonorensis (Sonoran Blue)	
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Strymon melinus (Gray Hairstreak)	
Atlides halesus (Great Purple Hairstreak)	

	Total
Hesperiidae (Skippers)	
Erynnis funeralis (Funereal Duskywing)	1
Erynnis tristis (Sad Duskywing)	
Erynnis propertius (Propertius Duskywing)	1
Erynnis brizo (Sleepy Duskywing)	1
Pyrgus albescens (Checkered Skipper)	
Hesperia juba (Juba Skipper)	3
Polites sabuleti (Sandhill Skipper)	
Megathymidae (Giant Skippers)	
Megathymus yuccae (Yucca Giant Skipper)	
Other Butterflies:	
DAINTY SULPHUR	1
VANESSA SP.	1
CALIFORNIA SOOTYWING	3

Notes:

MCBJ03 JACKRABBIT
MCBJ04 "
MCBJ05 "
MCBJ06 "

Potential Nectaring or Host Plants for Quino Checkerspot Butterfly in Boulevard, California (Concentrix Solar)

Instructions:

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○	*Asclepias fascicularis*	Narrow-leaf Milkweed
○	*Boechera sp.*	Rock Cress
○	*Calandrinia ciliata*	Red Maids
○	*Calochortus concolor*	Golden-bowl Mariposa Lily
○	*Calystegia longipes*	Morning-glory
○	*Camissonia sp.*	Sun Cup
○	***Castilleja exerta***	**Paintbrush**
○	*Caulanthus heterophyllus*	San Diego Jewelflower
○	*Caulanthus simulans*	Payson's Caulanthus
○	*Ceanothus cuneatus*	Buck Brush
○	*Ceanothus greggii*	Cup-leaf-lilac
○	*Ceanothus leucodermis*	Chaparral Whitethorn
○	*Chaenactis artemisiifolia*	White Pincushion
○	*Chaenactis glabriuscula*	Yellow Pincushion
○	*Clematis sp.*	Clematis
○	***Collinsia concolor***	**Southern Chinese Houses**
○	***Cordylanthus rigidus***	**Dark-tip Bird's Beak**
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○	*Descurainia sp.*	Tansy-mustard
○	*Dicentra chrysantha*	Golden Ear-drops
○	*Dichelostemma capitatum*	Blue Dicks
○	*Dudleya sp*	Dudleya
○	*Emmenanthe penduliflora*	Whispering Bells
○	*Eriastrum sp.*	Woolly-star
○	*Ericameria sp.*	Goldenbush
○	*Erigeron foliosus*	Leafy Daisy
○	*Eriodictyon trichocalyx*	Hairy Yerba Santa
○	*Eriogonum fasciculatum*	Inland California Buckwheat
○	*Eriogonum sp.*	Buckwheat
○	*Eriophyllum sp.*	Golden-yarrow
○	*Erodium cicutarium**	Red-stem Storksbill
○	*Erysimum capitatum*	Western Wallflower
○	*Eschscholzia californica*	California Poppy
○	*Eucrypta chrysanthemifolia*	Spotted Hideseed
○	*Euthamia occidentalis*	Western Goldenrod
○	*Garrya veatchii*	Canyon Silk Tassel
○	*Gilia sp*	Gilia
○	*Gnaphalium*	Cudweed
○	*Guillenia lasiophylla*	California Mustard
○	*Gutierrezia sarothrae*	Broom Matchweed
○	*Heliotropium curassavicum*	Salt Heliotrope
○	*Hirshfeldia incana*	Short-pod Mustard
○	*Lamium amplexicaule*	Henbit
○	*Lasthenia gracilis*	Common Goldfields
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○	*Lepidium sp.*	Pepperweed
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○	*Malacothrix clevelandii*	Cleveland's Malacothrix
○	*Marah macrocarpus*	Wild-cucumber
○	*Marrubium vulgare**	Horehound
○	*Matricaria matricaroides**	Common Pineapple-weed
○	*Mentzelia veatchiana*	Veatch's Stick-leak
○	*Microsteris gracilis*	Slender Phlox
○	*Mimulus sp.*	Monkeyflower
○	*Nemophila menzeisii*	Small-flower Baby Blue Eyes
○	*Orobanche bulbosa*	Chaparral Broom-rape

○	*Osmadenia tenella*	Osmadenia
○	*Paeonia californica*	California Peony
○	*Pectocarya sp*	Pectocarya
○	*Phacelia sp.*	Phacelia
○	*Pholistoma membranaceum*	White Fiesta Flower
○	*Plagiobothrys sp.*	Popcornflower
○	*Plantago patagonica*	Desert Plantain
○	*Platystemon californicus*	Cream Cups
○	*Prunus ilicifolia*	Holly-leaf Cherry
○	*Rafinesquia neomexicana*	Desert Chicory
○	*Ribes quercetorum*	Oak Gooseberry
○	*Rorippa nasturtium-aquaticum*	Water-cress
○	*Rosa californica*	California Rose
○	*Saltugilia australis*	Southern Gilia
○	*Senecio californicus*	California Butterweed
○	*Senecio flaccidus*	Butterweed
○	*Sidalcea malvaeflora*	Checker-bloom
○	*Sisymbrium sp.*	Tumble Mustard
○	*Solidago californica*	California Goldenrod
○	*Stachys ajugoides*	Hedge-nettle
○	*Stephanomeria sp.*	Wreathplant
○	*Streptanthus campestris*	Southern Jewelflower
○	*Stylocline gnaphaloides*	Everlasting Nest-straw
○	*Tetradymia comosa*	Cotton-thorn
○	*Thysanocarpus sp.*	Fringepod
○	*Trichostemma parishii*	Mountain Bluecurls
○	*Tropidocarpum gracile*	Slender Dobie-pod
○	*Uropappus lindleyi*	Silver Puffs
○	*Viola purpurea*	Oak Yellow Violet
○		
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○	**Other Flowering Plants:**	
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○	**Rare Wildlife or Rare Plants:**	
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Quino Checkerspot Butterfly Protocol Survey — Field Data Sheet

Recorder: Antoinette Gotiérrez Add'l Person: None Date: 4-15-11 GPS Unit: 3

Project: Concentrix Solar Project Map #: 3 Survey Sxn: Concentrix QCB Protocol Survey # 3 of 5

TIME (24-hour)	Temp (F°)	Wind (avg/max)	% CC	Sky
Start 930	64	6.2/10	0	clear patchy overcast drizzle shower
1030	68	6.4/12	0	clear patchy overcast drizzle shower
1130	70	6.4/12	0	clear patchy overcast drizzle shower
1230	72	6/12	0	clear patchy overcast drizzle shower
1330	74	6.2/12	0	clear patchy overcast drizzle shower
1430	74	3.2/8	0	clear patchy overcast drizzle shower
End 1530	74	3.2/6	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

	Total
Nymphalidae (Brushfooted Butterflies)	
Euphydryas editha (Quino Checkerspot)	
Euphydryas chalcedona (Henne's Checkerspot)	
Thessalia leanira (Wright's Checkerspot)	
Chlosyne californica (California Patch)	
Chlosyne gabbii (Gabb's Checkerspot)	
Phyciodes mylitta (Mylitta Crescent)	
Junonia coenia (Common Buckeye)	
Vanessa annabella (West Coast Lady)	
Vanessa atalanta (Red Admiral)	
Vanessa cardui (Painted Lady)	
Vanessa virginiensis (Virginia Lady)	
Nymphalis californica (California Tortoiseshell)	
Danaidae (Milkweed Butterflies)	
Danaus plexippus (Monarch)	
Danaus gilippus (Queen)	
Satyridae (Satyrs)	
Coenonympha californica (Common California Ringlet)	
Pieridae (Whites, Sulphurs)	
Pieris rapae (Cabbage White)	
Pontia sisymbrii (Spring White)	
Pontia beckerii (Beker's White) II	2
Pontia protodice (Common White) I	1
Anthocharis sara (Sara Orangetip) III	3
Anthocharis cethura (Felder's Orangetip)	
Euchloe hyantis (Desert Pearly Marble)	
Colias eurytheme (Orange Sulphur)	
Colias harfordii (Harford's Sulphur) I	1
Nathalis iole (Dainty Sulphur)	
Papilionidae (Swallowtails)	
Papilio polyxenes (Desert Black Swallowtail)	
Papilio eurymedon (Pale swallowtail)	
Papilio rutulus(Western Tiger Swallowtail)	
Riodinlade (Metalmarks)	
Apodemia mormo (Behr's Metalmark) 卌 卌 卌 卌 卌 卌	32
Lycaenidae (Hairstreaks and Blues)	
Celastrina ladon (Spring Azure)	
Leptotes marina (Marine Blue)	
Brephidium exile (Western Pygmy Blue)	
Glaucopsycha lygdamus (Southern Blue/Silvery blue)	
Hemiargus ceraunus (Edward's Blue)	
Icaria acmon (Acmon Blue)	
Philotes sonorensis (Sonoran Blue)	
Callophrys augustinus (Brown Elfin)	
Callophrys perplexa (Perplexing Green Hairstreak) 卌 I	6
Strymon melinus (Gray Hairstreak)	
Atlides halesus (Great Purple Hairstreak)	

	Total
Hesperiidae (Skippers)	
Erynnis funeralis (Funereal Duskywing)	
Erynnis tristis (Sad Duskywing)	
Erynnis propertius (Propertius Duskywing)	
Erynnis brizo (Sleepy Duskeywing) I	1
Pyrgus albescens (Checkered Skipper)	
Hesperia juba (Juba Skipper)	
Polites sabuleti (Sandhill Skipper)	
Megathymidae (Giant Skippers)	
Megathymus yuccae (Yucca Giant Skipper)	
Other Butterflies:	
Sooty Duskywing II	2
Unid. Vanessa - fleeting I	1
Unid. Duskywing fleeting II	2

Notes:

AGBS 1 - SO Jack Rabbit
AGHL 1 SO Horned Lizard
AGHL 2 SO Horned Lizard
AGNL 1 SO Desert Woodrat Nest
AGNL 2 " " " "
AGNL 3 " " " "
AGNL 4 " " " "
AGNL 5 " " " "

Potential Nectaring or Host Plants for Quino Checkerspot Butterfly in Boulevard, California (Concentrix Solar)

Instructions.

- Please Place a Check Mark Beside Flowering Plants. Use Numbered Notes to Add Species Detail.
- **PLEASE RECORD HOST PLANTS ON GPS** See Codes Below:

Antirrhinum coulterianum = AC *Collinsia concolor* = CC *Cordylanthus rigidus* = CR *Plantago patagonica* = PP

Amsinckia menziesii	Rancher's Fiddleneck
Antirrhinum coulterianum	**Coulter's Snapdragon**
Antirrhinum nuttallianum	Nuttall's Snapdragon
Asclepias fascicularis	Narrow-leaf Milkweed
Boechera sp.	Rock Cress
Calandrinia ciliata	Red Maids
Calochortus concolor	Golden-bowl Mariposa Lily
Calystegia longipes	Morning-glory
Camissonia sp.	Sun Cup
Castilleja exerta	Paintbrush
Caulanthus heterophyllus	San Diego Jewelflower
Caulanthus simulans	Payson's Caulanthus
Ceanothus cuneatus	Buck Brush
Ceanothus greggii	Cup-leaf-lilac
Ceanothus leucodermis	Chaparral Whitethorn
Chaenactis artemisiifolia	White Pincushion
Chaenactis glabriuscula	Yellow Pincushion
Clematis sp	Clematis
Collinsia concolor	**Southern Chinese Houses**
Cordylanthus rigidus	**Dark-tip Bird's Beak**
Coreopsis californica	California Coreopsis
Corethrogyne filaginifolia	Common Sand-aster
Cryptantha sp.	Cryptantha
Cucurbita foetidissima	Calabazilla
Descurainia sp	Tansy-mustard
Dicentra chrysantha	Golden Ear-drops
Dichelostemma capitatum	Blue Dicks
Dudleya sp	Dudleya
Emmenanthe penduliflora	Whispering Bells
Eriastrum sp.	Woolly-star
Ericameria sp.	Goldenbush
Erigeron foliosus	Leafy Daisy
Eriodictyon trichocalyx	Hairy Yerba Santa
Eriogonum fasciculatum	Inland California Buckwheat
Eriogonum sp.	Buckwheat
Eriophyllum sp.	Golden-yarrow
*Erodium cicutarium**	Red-stem Storksbill
Erysimum capitatum	Western Wallflower
Eschscholzia californica	California Poppy
Eucrypta chrysanthemifolia	Spotted Hideseed
Euthamia occidentalis	Western Goldenrod
Garrya veatchii	Canyon Silk Tassel
Gilia sp.	Gilia
Gnaphalium	Cudweed
Guillenia lasiophylla	California Mustard
Gutierrezia sarothrae	Broom Matchweed
Heliotropium curassavicum	Salt Heliotrope
Hirshfeldia incana	Short-pod Mustard
Lamium amplexicaule	Henbit
Lasthenia gracilis	Common Goldfields
Layia glandulosa	White Layia
Lepidium sp.	Pepperweed
Linanthus bellus	Desert Beauty
Linanthus dichotomus	Evening Snow
Lonicera subspicata	Johnston's Honeysuckle
Malacothrix californica	California Dandelion
Malacothrix clevelandii	Cleveland's Malacothrix
Marah macrocarpus	Wild-cucumber
*Marrubium vulgare**	Horehound
*Matricaria matricarioides**	Common Pineapple-weed
Monardella veatchiana	Veatch's Stick-leak
Microsteris gracilis	Slender Phlox
Mimulus sp.	Monkeyflower
Nemophila menzeisii	Small-flower Baby Blue Eyes
Orobanche bulbosa	Chaparral Broom-rape
Osmadenia tenella	Osmadenia
Paeonia californica	California Peony
Pectocarya sp.	Pectocarya
Phacelia sp.	Phacelia
Pholistoma membranaceum	White Fiesta Flower
Plagiobothrys sp.	Popcornflower
Plantago patagonica	**Desert Plantain**
Platystemon californicus	Cream Cups
Prunus ilicifolia	Holly-leaf Cherry
Rafinesquia neomexicana	Desert Chicory
Ribes quercetorum	Oak Gooseberry
Rorripa nasturtium-aqualicum	Water-cress
Rosa californica	California Rose
Saltugilia australis	Southern Gilia
Senecio californicus	California Butterweed
Senecio flaccidus	Butterweed
Sidalcea malvaeflora	Checker-bloom
Sisymbrium sp.	Tumble Mustard
Solidago californica	California Goldenrod
Stachys ajugoides	Hedge-nettle
Stephanomeria sp.	Wreathplant
Streptanthus campestris	Southern Jewelflower
Stylocline gnaphalioides	Everlasting Nest-straw
Tetradymia comosa	Cotton-thorn
Thysanocarpus sp.	Fringepod
Trichostemma parishii	Mountain Bluecurls
Tropidocarpum gracile	Slender Dobie-pod
Uropappus lindleyi	Silver Puffs
Viola purpurea	Oak Yellow Violet

Other Flowering Plants:

Rare Wildlife or Rare Plants:

Quino Checkerspot Butterfly Protocol Survey — Field Data Sheet

Recorder: Margie Mulligan Add'l Person: _____ Date: 4.15.11 GPS Unit 2

Project: Concentrix Solar Project Map #: 4 Survey Sxn: _____ QCB Protocol Survey # 3 of 5

	TIME (24-hour)	Temp (F°):	Wind (avg/max)	% CC	Sky				
Start	0930	64°F	2-4 (7)	0	clear	patchy	overcast	drizzle	shower
	1242	73°F	3-6 (7)	0	clear	patchy	overcast	drizzle	shower
	1520	76°F	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

	Total		Total
Nymphalidae (Brushfooted Butterflies)		**Hesperiidae (Skippers)**	
Euphydryas editha (Quino Checkerspot)		*Erynnis funeralis* (Funereal Duskywing)	I (1)
Euphydryas chalcedona (Henne's Checkerspot)		*Erynnis tristis* (Sad Duskywing)	
Thessalia leanira (Wright's Checkerspot)		*Erynnis propertius* (Propertius Duskywing)	IIII (3)
Chlosyne californica (California Patch)		*Erynnis brizo* (Sleepy Duskywing)	
Chlosyne gabbii (Gabb's Checkerspot)		*Pyrgus albescens* (Checkered Skipper)	
Phyciodes mylitta (Mylitta Crescent)		*Hesperia jubia* (Jubia Skipper)	
Junonia coenia (Common Buckeye)		*Polites sabuleti* (Sandhill Skipper)	
Vanessa annabella (West Coast Lady)		**Megathymidae (Giant Skippers)**	
Vanessa atalanta (Red Admiral)		*Megathymus yuccae* (Yucca Giant Skipper)	
Vanessa cardui (Painted Lady)			
Vanessa virginiensis (Virginia Lady)		**Other Butterflies:**	
Nymphalis californica (California Tortoiseshell)			
Danaidae (Milkweed Butterflies)			
Danaus plexippus (Monarch)			
Danaus gilippus (Queen)			
Satyridae (Satyrs)			
Coenonympha californica (Common California Ringlet)			
Pieridae (Whites, Sulphurs)			
Pieris rapae (Cabbage White)			
Pontia sisymbrii (Spring White)			
Pontia beckerii (Becker's White)			
Pontia protodice (Common White)	I (1)		
Anthocharis sara (Sara Orangetip)	IIIII (6)		
Anthocharis cethura (Felder's Orangetip)			
Euchloe hyantis (Desert Pearly Marble)	III (3)		
Colias eurytheme (Orange Sulphur)			
Colias harfordii (Harford's Sulphur)			
Nathalis iole (Dainty Sulphur)			
Papilionidae (Swallowtails)		**Notes:**	
Papilio polyxenes (Desert Black Swallowtail)	I (1)		
Papilio eurymedon (Pale swallowtail)	II (2)		
Papilio rutulus(Western Tiger Swallowtail)			
Riodiniade (Metalmarks)			
Apodemia mormo (Behr's Metalmark)	IIIII IIIII IIIII IIIII IIIII IIIII IIIII II (42)		
Lycaenidae (Hairstreaks and Blues)			
Celastrina ladon (Spring Azure)			
Leptotes marina (Marine Blue)			
Brephidium exile (Western Pygmy Blue)			
Glaucopsyche lygdamus (Southern Blue/Silvery blue)			
Hemiargus ceraunus (Edward's Blue)			
Icaria acmon (Acmon Blue)			
Philotes sonorensis (Sonoran Blue)			
Callophrys augustinus (Brown Elfin)			
Callophrys perplexa (Perplexing Green Hairstreak)			
Strymon melinus (Gray Hairstreak)			
Atlides halesus (Great Purple Hairstreak)			

Potential Nectaring or Host Plants for Quino Checkerspot Butterfly in Boulevard, California (Concentrix Solar)

Instructions:

- Please Place a Check Mark Beside Flowering Plants. Use Numbered Notes to Add Species Detail.
- **PLEASE RECORD HOST PLANTS ON GPS** See Codes Below:

Antirrhinum coulterianum = AC *Collinsia concolor* = CC *Cordylanthus rigidus* = CR *Plantago patagonica* = PP

X	*Amsinckia menziesii*	Rancher's Fiddleneck
o	***Antirrhinum coulterianum***	**Coulter's Snapdragon**
o	*Antirrhinum nuttallianum*	Nuttall's Snapdragon
o	*Asclepias fascicularis*	Narrow-leaf Milkweed
X	*Boechera sp.*	Rock Cress
o	*Calandrinia ciliata*	Red Maids
o	*Calochortus concolor*	Golden-bowl Mariposa Lily
o	*Calystegia longipes*	Morning-glory
X	*Camissonia sp.*	Sun Cup
o	***Castilleja exerta***	**Paintbrush**
o	*Caulanthus heterophyllus*	San Diego Jewelflower
o	*Caulanthus simulans*	Payson's Caulanthus
o	*Ceanothus cuneatus*	Buck Brush
X	*Ceanothus greggii*	Cup-leaf-lilac
X	*Ceanothus leucodermis*	Chaparral Whitethorn
o	*Chaenactis artemisiifolia*	White Pincushion
o	*Chaenactis glabriuscula*	Yellow Pincushion
X	*Clematis sp.*	Clematis
o	***Collinsia concolor***	**Southern Chinese Houses**
o	***Cordylanthus rigidus***	**Dark-tip Bird's Beak**
X	*Coreopsis californica*	California Coreopsis
o	*Corethrogyne filaginifolia*	Common Sand-aster
X	*Cryptantha sp.*	Cryptantha
o	*Cucurbita foetidissima*	Calabazilla
X	*Descurainia sp*	Tansy-mustard
o	*Dicentra chrysantha*	Golden Ear-drops
o	*Dichelostemma capitatum*	Blue Dicks
o	*Dudleya sp.*	Dudleya
X	*Emmenanthe penduliflora*	Whispering Bells
o	*Enastrum sp*	Woolly-star
X	*Ericameria sp.*	Goldenbush
o	*Erigeron foliosus*	Leafy Daisy
o	*Eriodictyon trichocalyx*	Hairy Yerba Santa
o	*Eriogonum fasciculatum*	Inland California Buckwheat
o	*Eriogonum sp.*	Buckwheat
X	*Eriophyllum sp.* wallacei	Golden-yarrow
o	*Erodium cicutarium**	Red-stem Storksbill
o	*Erysimum capitatum*	Western Wallflower
X	*Eschscholzia californica*	California Poppy
X	*Eucrypta chrysanthemifolia*	Spotted Hideseed
o	*Euthamia occidentalis*	Western Goldenrod
o	*Garrya veatchii*	Canyon Silk Tassel
o	*Gilia sp.*	Gilia
o	*Gnaphalium*	Cudweed
o	*Guillenia lasiophylla*	California Mustard
o	*Gutierrezia sorothrae*	Broom Matchweed
o	*Heliotropium curassavicum*	Salt Heliotrope
X	*Hirshfeldia incana*	Short-pod Mustard
o	*Lamium amplexicaule*	Henbit
X	*Lasthenia gracilis*	Common Goldfields
X	*Layia glandulosa*	White Layia
X	*Lepidium sp.* perfoliatum	Pepperweed
X	*Linanthus bellus*	Desert Beauty
o	*Linanthus dichotomus*	Evening Snow
o	*Lonicera subspicata*	Johnston's Honeysuckle
o	*Malacothrix californica*	California Dandelion
o	***Malacothrix clevelandii***	**Cleveland's Malacothrix**
o	*Marah macrocarpus*	Wild-cucumber
o	*Marrubium vulgare**	Horehound
o	*Matricaria matricarioides**	Common Pineapple-weed
o	*Mentzelia veatchiana*	Veatch's Stick-leak
o	*Microsteris gracilis*	Slender Phlox
o	*Mimulus sp.*	Monkeyflower
X	*Nemophila menziesii*	Small-flower Baby Blue Eyes
o	*Orobanche bulbosa*	Chaparral Broom-rape
o	*Osmadenia tenella*	Osmadenia
o	*Paeonia californica*	California Peony
X	*Pectocarya sp.*	Pectocarya
X	*Phacelia sp.* distans	Phacelia
o	*Pholistoma membranaceum*	White Fiesta Flower
X	*Plagiobothrys sp.*	Popcornflower
o	*Plantago patagonica*	Desert Plantain
o	*Platystemon californicus*	Cream Cups
o	*Prunus ilicifolia*	Holly-leaf Cherry
o	*Rafinesquia neomexicana*	Desert Chicory
o	*Ribes quercetorum*	Oak Gooseberry
o	*Rorippa nasturtium-aquaticum*	Water-cress
o	*Rosa californica*	California Rose
o	*Saltugilia australis*	Southern Gilia
X	*Senecio californicus*	California Butterweed
o	*Senecio flaccidus*	Butterweed
o	*Sidalcea malvaeflora*	Checker-bloom
X	*Sisymbrium sp.*	Tumble Mustard
o	*Solidago californica*	California Goldenrod
o	*Stachys ajugoides*	Hedge-nettle
o	*Stephanomeria sp.*	Wreathplant
o	*Streptanthus campestris*	Southern Jewelflower
X	*Stylocline gnaphalioides*	Everlasting Nest-straw
o	*Tetradymia comosa*	Cotton-thorn
o	*Thysanocarpus sp.*	Fringepod
o	*Trichostemma parishii*	Mountain Bluecurls
o	*Tropidocarpum gracile*	Slender Dobie-pod
X	*Uropappus lindleyi*	Silver Puffs
o	*Viola purpurea*	Oak Yellow Violet
o		
o		
o	Other Flowering Plants:	
o	Penstemon cleveland;	
o	leptosiphon lemmoni;	
o	Bowlesia incana	
o	Scrophularia	
o		
o	Rare Wildlife or Rare Plants:	
o		
o	MMBO 1 ≈30 plants	
o	Linanthus bellus	
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Quino Checkerspot Butterfly Protocol Survey — Field Data Sheet

Recorder: K H Osborne Add'l Person: _____ Date: 4/15/2011 GPS Unit: 7

Project: Concentrix Solar Project Map #: _____ Survey Sxn: 4 & 3 QCB Protocol Survey # _____ of 5

	TIME (24-hour)	Temp (F°):	Wind (avg/max)	% CC	Sky
Start	1030	69	5.2/7.4		clear / patchy / overcast / drizzle / shower
	1145	67	5.7/12.9		clear / patchy / overcast / drizzle / shower
	1345	77	5/10		clear / patchy / overcast / drizzle / shower
	1410				clear / patchy / overcast / drizzle / shower
	1512	4 footMage			clear / patchy / overcast / drizzle / shower
	1512				clear / patchy / overcast / drizzle / shower
End	1600	74	4/6		clear / patchy / overcast / drizzle / shower

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

	area 4	area 3	Total
Nymphalidae (Brushfooted Butterflies)			
Euphydryas editha (Quino Checkerspot)			
Euphydryas chalcedona (Henne's Checkerspot)			
Thessalia fenenira (Wright's Checkerspot)			
Chlosyne californica (California Patch)			
Chlosyne gabbii (Gabb's Checkerspot)			
Phyciodes mylitta (Mylitta Crescent)			
Junonia coenia (Common Buckeye) VII			7
Vanessa annabella (West Coast Lady)			
Vanessa atalanta (Red Admiral)			
Vanessa cardui (Painted Lady) II			2
Vanessa virginiensis (Virginia Lady)			
Nymphalis californica (California Tortoiseshell)			
Danaidae (Milkweed Butterflies)			
Danaus plexippus (Monarch)			
Danaus gilippus (Queen)			
Satyridae (Satyrs)			
Coenonympha californica (Common California Ringlet)			
Pieridae (Whites, Sulphurs)			
Pieris rapae (Cabbage White)			
Pontia sisymbrii (Spring White)			
Pontia beckeri (Beker's White)			
Pontia protodice (Common White) I	I		I
Anthocharis sara (Sara Orangetip) II	I		2
Anthocharis cethura (Felder's Orangetip)			
Euchloe hyantis (Desert Pearly Marble) II	II		2
Colias eurytheme (Orange Sulphur) I			I
Colias harfordii (Harford's Sulphur) I	I		I
Nathalis iole (Dainty Sulphur)			
Papilionidae (Swallowtails)			
Papilio polyxenes (Desert Black Swallowtail)			
Papilio eurymedon (Pale swallowtail)			
Papilio rutulus(Western Tiger Swallowtail)			
Riodinidae (Metalmarks)			
Apodemia mormo (Behr's Metalmark) XXXXXX	XX	XX 6/24/20	
Lycaenidae (Hairstreaks and Blues)			
Celastrina ladon (Spring Azure)			
Leptotes marina (Marine Blue)			
Brephidium exile (Western Pygmy Blue)			
Glaucopsyche lygdamus (Southern Blue/Silvery Blue)			
Hemiargus ceraunus (Edward's Blue)			
Icaria acmon (Acmon Blue) II			3
Philotes sonorensis (Sonoran Blue)			
Callophrys augustinus (Brown Elfin)			
Callophrys perplexa (Perplexing Green Hairstreak)			
Strymon melinus (Gray Hairstreak)			
Atlides halesus (Great Purple Hairstreak)			

	#4	#3	Total
Hesperiidae (Skippers)			3
Erynnis funeralis (Funereal Duskywing)			
Erynnis tristis (Sad Duskywing)			
Erynnis propertius (Propertius Duskywing) II			2
Erynnis brizo (Sleepy Duskywing)			
Pyrgus albescens (Checkered Skipper)			
Hesperia jubia (Jubia Skipper) II	I		2
Polites sabuleti (Sandhill Skipper)			I
Megathymidae (Giant Skippers)			
Megathymus yuccae (Yucca Giant Skipper)			
Other Butterflies:	#4	#3	
H. hyllalus	I	I	I
D. fumosa	I		I
D. bifurcata		I	I

Notes:

KOCR 01 n=2
KOCR 02 n=2
KOCR 03 n≈10 in 10 m
KOCR n≈30 in 10 m
KOCR 05 n=1
KOCR 06 n=5
KOCR 07 n=2

Potential Nectaring or Host Plants for Quino Checkerspot Butterfly in Boulevard, California (Concentrix Solar)

Instructions:

- Please Place a Check Mark Beside Flowering Plants. Use Numbered Notes to Add Species Detail.
- **PLEASE RECORD HOST PLANTS ON GPS** See Codes Below:

Antirrhinum coulterianum = AC *Collinsia concolor* = CC *Cordylanthus rigidus* = CR *Plantago patagonica* = PP

	Scientific name	Common name
o	*Amsinckia menziesii*	Rancher's Fiddleneck
o	***Antirrhinum coulterianum***	**Coulter's Snapdragon**
o	*Antirrhinum nuttallianum*	Nuttall's Snapdragon
o	*Asclepias fascicularis*	Narrow-leaf Milkweed
o	*Boechera sp.*	Rock Cress
o	*Calandrinia ciliata*	Red Maids
o	*Calochortus concolor*	Golden-bowl Mariposa Lily
o	*Calystegia longipes*	Morning-glory
o	*Camissonia sp.*	Sun Cup
o	*Castilleja exerta*	Paintbrush
o	*Caulanthus heterophyllus*	San Diego Jewelflower
o	*Caulanthus simulans*	Payson's Caulanthus
o	*Ceanothus cuneatus*	Buck Brush
✓	*Ceanothus greggii*	Cup-leaf-lilac
o	*Ceanothus leucodermis*	Chaparral Whitethorn
o	*Chaenactis artemisiifolia*	White Pincushion
o	*Chaenactis glabriuscula*	Yellow Pincushion
o	*Clematis sp*	Clematis
o	***Collinsia concolor***	**Southern Chinese Houses**
o	***Cordylanthus rigidus***	**Dark-tip Bird's Beak**
✓	*Coreopsis californica*	California Coreopsis
o	*Corethrogyne filaginifolia*	Common Sand-aster
✓	*Cryptantha sp*	Cryptantha
o	*Cucurbita foetidissima*	Calabazilla
o	*Descurainia sp.*	Tansy-mustard
o	*Dicentra chrysantha*	Golden Ear-drops
o	*Dichelostemma capitatum*	Blue Dicks
o	*Dudleya sp.*	Dudleya
o	*Emmenanthe penduliflora*	Whispering Bells
o	*Eriastrum sp*	Woolly-star
✓	*Ericameria sp.*	Goldenbush
o	*Erigeron foliosus*	Leafy Daisy
o	*Eriodictyon trichocalyx*	Hairy Yerba Santa
o	*Eriogonum fasciculatum*	Inland California Buckwheat
o	*Eriogonum sp.*	Buckwheat
o	*Eriophyllum sp.*	Golden-yarrow
o	*Erodium cicutarium**	Red-stem Storksbill
o	*Erysimum capitatum*	Western Wallflower
o	*Eschscholzia californica*	California Poppy
o	*Eucrypta chrysanthemifolia*	Spotted Hideseed
o	*Euthamia occidentalis*	Western Goldenrod
o	*Garrya veatchii*	Canyon Silk Tassel
o	*Gilia sp*	Gilia
o	*Gnaphalium*	Cudweed
o	*Guillenia lasiophylla*	California Mustard
o	*Gutierrezia sarothrae*	Broom Matchweed
o	*Heliotropium curassavicum*	Salt Heliotrope
o	*Hirschfeldia incana*	Short-pod Mustard
o	*Lamium amplexicaule*	Henbit
✓	*Lasthenia gracilis*	Common Goldfields
✓	*Layia glandulosa*	White Layia
o	*Lepidium sp.*	Pepperweed
o	*Linanthus bellus*	Desert Beauty
o	*Linanthus dichotomus*	Evening Snow
o	*Lonicera subspicata*	Johnston's Honeysuckle
o	*Malacothrix californica*	California Dandelion
o	*Malacothrix clevelandii*	Cleveland's Malacothrix
o	*Marah macrocarpus*	Wild-cucumber
o	*Marrubium vulgare**	Horehound
o	*Matricaria matricarioides**	Common Pineapple-weed
o	*Mentzelia veatchiana*	Veatch's Stick-leaf
o	*Microsteris gracilis*	Slender Phlox
o	*Mimulus sp.*	Monkeyflower
o	*Nemophila menziesii*	Small-flower Baby Blue Eyes
o	*Orobanche bulbosa*	Chaparral Broom-rape
o	*Osmadenia tenella*	Osmadenia
o	*Paeonia californica*	California Peony
o	*Pectocarya sp.*	Pectocarya
o	*Phacelia sp.*	Phacelia
o	*Pholistoma membranaceum*	White Fiesta Flower
o	*Plagiobothrys sp.*	Popcornflower
o	***Plantago patagonica***	**Desert Plantain**
o	*Platystemon californicus*	Cream Cups
o	*Prunus ilicifolia*	Holly-leaf Cherry
o	*Rafinesquia neomexicana*	Desert Chicory
o	*Ribes quercetorum*	Oak Gooseberry
o	*Rorripa nasturtium-aquaticum*	Water-cress
o	*Rosa californica*	California Rose
o	*Saltugilia australis*	Southern Gilia
o	*Senecio californicus*	California Butterweed
o	*Senecio flaccidus*	Butterweed
o	*Sidalcea malvaeflora*	Checker-bloom
o	*Sisymbrium sp.*	Tumble Mustard
o	*Solidago californica*	California Goldenrod
o	*Stachys ajugoides*	Hedge-nettle
o	*Stephanomeria sp.*	Wreathplant
o	*Streptanthus campestris*	Southern Jewelflower
o	*Stylocline gnaphalioides*	Everlasting Nest-straw
o	*Tetradymia comosa*	Cotton-thorn
o	*Thysanocarpus sp.*	Fringepod
o	*Trichostemma parishii*	Mountain Bluecurls
o	*Tropidocarpum gracile*	Slender Dobie-pod
o	*Uropappus lindleyi*	Silver Puffs
o	*Viola purpurea*	Oak Yellow Violet

Other Flowering Plants:

Rare Wildlife or Rare Plants:

Quino Checkerspot Butterfly Protocol Survey — Field Data Sheet

Recorder: Erin Bergman Add'l Person: _____ Date: 4/18/11 GPS Unit: 3

Project: Concentrix Solar Project Map #: _____ Survey Sxn: _____ QCB Protocol Survey # _____ of 5

TIME (24-hour)	Temp (F°):	Wind (avg/max)	% CC	Sky
Start 11:00	62°	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 2:00	60		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

	Total
Nymphalidae (Brushfooted Butterflies)	
Euphydryas editha (Quino Checkerspot)	
Euphydryas chalcedona (Henne's Checkerspot)	
Thessalia leanira (Wright's Checkerspot)	
Chlosyne californica (California Patch)	
Chlosyne gabbii (Gabb's Checkerspot)	
Phyciodes mylitta (Mylitta Crescent)	
Junonia coenia (Common Buckeye)	
Vanessa annabella (West Coast Lady	
Vanessa atalanta (Red Admiral)	
Vanessa cardui (Painted Lady)	
Vanessa virginiensis (Virginia Lady)	
Nymphalis californica (California Tortoiseshell)	
Danaidae (Milkweed Butterflies)	
Danaus plexippus (Monarch)	
Danaus gilippus (Queen)	
Satyridae (Satyrs)	
Coenonympha californica (Common California Ringlet)	
Pieridae (Whites, Sulphurs)	
Pieris rapae (Cabbage White)	
Pontia sisymbrii (Spring White)	
Pontia beckerii (Beker's White)	
Pontia protodice (Common White)	
Anthocharis sara (Sara Orangetip)	
Anthocharis cethura (Felder's Orangetip)	
Euchloe hyantis (Desert Pearly Marble)	
Colias eurytheme (Orange Sulphur)	
Colias harfordii (Harford's Sulphur)	
Nathalis iole (Dainty Sulphur)	
Papilionidae (Swallowtails)	
Papilio polyxenes (Desert Black Swallowtail)	
Papilio eurymedon (Pale swallowtail)	
Papilio rutulus(Western Tiger Swallowtail)	
Riodiniade (Metalmarks)	
Apodemia mormo (Behr's Metalmark)	
Lycaenidae (Hairstreaks and Blues)	
Celastrina ladon (Spring Azure)	
Leptotes marina (Marine Blue)	
Brephidium exile (Western Pygmy Blue)	
Glaucopsyche lygdamus (Southern Blue/Silvery blue)	
Hemiargus ceraunus (Edward's Blue)	
Icaria acmon (Acmon Blue)	
Philotes sonorensis (Sonoran Blue)	
Callophrys augustinus (Brown Elfin)	
Callophrys perplexa (Perplexing Green Hairstreak)	
Strymon melinus (Gray Hairstreak)	
Atlides halesus (Great Purple Hairstreak)	

	Total
Hesperiidae (Skippers)	
Erynnis funeralis (Funereal Duskywing)	
Erynnis tristis (Sad Duskywing)	
Erynnis propertius (Propertius Duskywing)	
Erynnis brizo (Sleepy Duskeywing)	
Pyrgus albescens (Checkered Skipper)	
Hesperia jubia (Jubia Skipper)	
Polites sabuleti (Sandhill Skipper)	
Megathymidae (Giant Skippers)	
Megathymus yuccae (Yucca Giant Skipper)	
Common sootywing	
Other Butterflies:	

Notes:

Red tail
cotton tail
white [illegible]
California [illegible]
Scrub jay

ential Nectaring or Host Plants for Quino Checkerspot Butterfly in Boulevard, California (Concentrix Solar)

structions.

- Please Place a Check Mark Beside Flowering Plants. Use Numbered Notes to Add Species Detail.
- **PLEASE RECORD HOST PLANTS ON GPS** See Codes Below:

Antirrhinum coulterianum = AC *Collinsia concolor* = CC *Cordylanthus rigidus* = CR *Plantago patagonica* = PP

X	*Amsinckia menziesii*	Rancher's Fiddleneck
	Antirrhinum coulterianum	**Coulter's Snapdragon**
	Antirrhinum nuttallianum	Nuttall's Snapdragon
	Asclepias fascicularis	Narrow-leaf Milkweed
X	*Boechera sp.*	Rock Cress
	Calandrinia ciliata	Red Maids
	Calochortus concolor	Golden-bowl Mariposa Lily
	Calystegia longipes	Morning-glory
X	*Camissonia sp*	Sun Cup
	Castilleja exerta	**Paintbrush**
	Caulanthus heterophyllus	San Diego Jewelflower
	Caulanthus simulans	Payson's Caulanthus
	Ceanothus cuneatus	Buck Brush
X	*Ceanothus greggii*	Cup-leaf-lilac
	Ceanothus leucodermis	Chaparral Whitethorn
	Chaenactis artemisifolia	White Pincushion
	Chaenactis glabriuscula	Yellow Pincushion
	Clematis sp.	Clematis
	Collinsia concolor	**Southern Chinese Houses**
	Cordylanthus rigidus	**Dark-lip Bird's Beak**
	Coreopsis californica	California Coreopsis
	Corethrogyne filaginifolia	Common Sand-aster
	Cryptantha sp.	Cryptantha
	Cucurbita foetidissima	Calabazilla
	Descurainia sp.	Tansy-mustard
	Dicentra chrysantha	Golden Ear-drops
	Dichelostemma capitatum	Blue Dicks
	Dudleya sp.	Dudleya
	Emmenanthe penduliflora	Whispering Bells
	Eriastrum sp.	Woolly-star
X	*Ericameria sp.*	Goldenbush
	Erigeron foliosus	Leafy Daisy
	Eriodictyon trichocalyx	Hairy Yerba Santa
	Eriogonum fasciculatum	Inland California Buckwheat
	Eriogonum sp.	Buckwheat
	Eriophyllum sp.	Golden-yarrow
X	*Erodium cicutarium**	Red-stem Storksbill
	Erysimum capitatum	Western Wallflower
	Eschscholzia californica	California Poppy
	Eucrypta chrysanthemifolia	Spotted Hideseed
	Euthamia occidentalis	Western Goldenrod
	Garrya veatchii	Canyon Silk Tassel
	Gilia sp.	Gilia
	Gnaphalium	Cudweed
	Guillenia lasiophylla	California Mustard
	Gutierrezia sarothrae	Broom Matchweed
X	*Heliotropium curassavicum*	Salt Heliotrope
X	*Hirshfeldia incana*	Short-pod Mustard
	Lamium amplexicaule	Henbit
X	*Lasthenia gracilis*	Common Goldfields
X	*Layia glandulosa*	White Layia
X	*Lepidium sp.*	Pepperweed
X	*Linanthus bellus*	Desert Beauty
	Linanthus dichotomus	Evening Snow
	Lonicera subspicata	Johnston's Honeysuckle
	Malacothrix californica	California Dandelion
	Malacothrix clevelandii	Cleveland's Malacothrix
	Marah macrocarpus	Wild-cucumber
	*Marrubium vulgare**	Horehound
	*Matricaria matricarioides**	Common Pineapple-weed
	Mentzelia veatchiana	Veatch's Stick-leak
	Microsteris gracilis	Slender Phlox
	Mimulus sp.	Monkeyflower
	Nemophila menziesii	Small-flower Baby Blue Eyes
	Orobanche bulbosa	Chaparral Broom-rape
	Osmadenia tenella	Osmadenia
	Paeonia californica	California Peony
	Pectocarya sp.	Pectocarya
	Phacelia sp.	Phacelia
	Pholistoma membranaceum	White Fiesta Flower
	Pleiobothrys sp.	Popcornflower
	Plantago patagonica	**Desert Plantain**
	Platystemon californicus	Cream Cups
	Prunus ilicifolia	Holly-leaf Cherry
	Rafinesquia neomexicana	Desert Chicory
	Ribes quercetorum	Oak Gooseberry
	Rorripa nasturtium-aquaticum	Water-cress
	Rosa californica	California Rose
	Saltugilia australis	Southern Gilia
	Senecio californicus	California Butterweed
	Senecio flaccidus	Butterweed
	Sidalcea malvaeflora	Checker-bloom
X	*Sisymbrium sp.*	Tumble Mustard
	Solidago californica	California Goldenrod
	Stachys ajugoides	Hedge-nettle
	Stephanomeria sp	Wreathplant
	Streptanthus campestris	Southern Jewelflower
	Stylocline gnaphalioides	Everlasting Nest-straw
	Tetradymia comosa	Cotton-thorn
	Thysanocarpus sp.	Fringepod
	Trichostemma parishii	Mountain Bluecurls
	Tropidocarpum gracile	Slender Dobie-pod
	Uropappus lindleyi	Silver Puffs
	Viola purpurea	Oak Yellow Violet

Other Flowering Plants:

Phacelia ciliata — SBOJ01-1
Lupinus bicolor — SBOJ02-1
Lupinus concinnus — SBOJ03-2
SBOJ04-2

SBNL01 - milkweed
SBBJ01-1
SBBJ02-1
SBBJ03-1

Rare Wildlife or Rare Plants:

SBGU01 - 2
SBGU02 - 4
SBGU03 - 8
SBGU04 - 10
SBGU05 - 8
SBGU06 - 3
SBGU07 - 3
SBGU08 - 2
SBGU09 - 5
SBGU10 - 5
SBGU11 - 5
SBGU12 - 5
SBGU13 - 1
SBGU15 - 5
SBGU16 - 7
SBGU17 - 3
SBGU18 - 3
SBGU19 - 1
SBGU20 - 1
SBGU21 - 2
SBGU22 - 3
SBGU23

SBGU24 - 2
SBGU25 - 3
SBGU26 - 4
SBGU27 - 3
SBGU28 - 8
SBGU29 - 2
SBGU30 - 3
SBGU31 - 5
SBGU32 - 3
SBGU33 - 2
SBGU34 - 8
SBGU35 - 2
SBGU36 - 1

SCLE01-20

Quino Checkerspot Butterfly Protocol Survey — Field Data Sheet

Recorder: Antoinette Gutierrez Add'l Person: Neal Date: 4/18/11 GPS Unit: 7

Project: Concentrix Solar Project Map #: 5 Survey Sxn. Concentrix QCB Protocol Survey # 4 of 5

TIME (24-hour)	Temp (F°):	Wind (avg/max)	% CC	Sky
Start 1100	60	1.6/9.2	70	clear (patchy) overcast drizzle shower
1200	65	3/9.2	15	clear (patchy) overcast drizzle shower
1300	64	6/13.0	40	clear (patchy) overcast drizzle shower
1400	60	9/20	75	clear (patchy) overcast drizzle shower
1420	"	"	"	clear patchy overcast drizzle shower
end survey too windy or cold				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

	Total
Nymphalidae (Brushfooted Butterflies)	
Euphydryas editha (Quino Checkerspot)	
Euphydryas chalcedona (Henne's Checkerspot)	
Thessalia leanira (Wright's Checkerspot)	
Chlosyne californica (California Patch)	
Chlosyne gabbii (Gabb's Checkerspot)	
Phyciodes mylitta (Mylitta Crescent)	
Junonia coenia (Common Buckeye)	
Vanessa annabella (West Coast Lady	
Vanessa atalanta (Red Admiral)	
Vanessa cardui (Painted Lady)	
Vanessa virginiensis (Virginia Lady)	
Nymphalis californica (California Tortoiseshell)	
Danaidae (Milkweed Butterflies)	
Danaus plexippus (Monarch)	
Danaus gilippus (Queen)	
Satyridae (Satyrs)	
Coenonympha californica (Common California Ringlet)	
Pieridae (Whites, Sulphurs)	
Pieris rapae (Cabbage White)	
Pontia sisymbrii (Spring White)	
Pontia beckerii (Beker's White) III	3
Pontia protodice (Common White) II	2
Anthocharis sara (Sara Orangetip) I	1
Anthocharis cethura (Felder's Orangetip)	
Euchloe hyantis (Desert Pearly Marble)	
Colias eurytheme (Orange Sulphur)	
Colias harfordii (Harford's Sulphur) II	2
Nathalis iole (Dainty Sulphur)	
Papilionidae (Swallowtails)	
Papilio polyxenes (Desert Black Swallowtail)	
Papilio eurymedon (Pale swallowtail)	
Papilio rutulus(Western Tiger Swallowtail)	
Riodinidae (Metalmarks)	
Apodemia mormo (Behr's Metalmark)	56
Lycaenidae (Hairstreaks and Blues)	
Celastrina ladon (Spring Azure)	
Leptotes marina (Marine Blue)	
Brephidium exile (Western Pygmy Blue)	
Glaucopsyche lygdamus (Southern Blue/Silvery blue)	
Hemiargus ceraunus (Edward's Blue)	
Icaria acmon (Acmon Blue) I	1
Philotes sonorensis (Sonoran Blue)	
Callophrys augustinus (Brown Elfin)	
Callophrys perplexa (Perplexing Green Hairstreak) II	2
Strymon melinus (Gray Hairstreak)	
Atlides halesus (Great Purple Hairstreak)	

	Total
Hesperiidae (Skippers)	
Erynnis funeralis (Funereal Duskywing)	
Erynnis tristis (Sad Duskywing)	
Erynnis propertius (Propertius Duskywing)	
Erynnis brizo (Sleepy Duskywing)	1
Pyrgus albescens (Checkered Skipper)	
Hesperia juba (Juba Skipper)	
Polites sabuleti (Sandhill Skipper)	
Megathymidae (Giant Skippers)	
Megathymus yuccae (Yucca Giant Skipper)	
Other Butterflies:	
Unid. Sulphur Flying 20' away	3
Unid. Duskywing " "	1
Sooty Dusky wing IIII I	6

Notes:

CORA, TUVU, WCSP, WESJ, CAKE,
cottontailed rabbit
juv rabbit (already recorded at location)
side blotch lizard
ca ground squirrel
active cattle grazing

…ential Nectaring or Host Plants for Quino Checkerspot Butterfly in Boulevard, California (Concentrix Solar)

…structions:

- Please Place a Check Mark Beside Flowering Plants. Use Numbered Notes to Add Species Detail.
- **PLEASE RECORD HOST PLANTS ON GPS** See Codes Below:

Antirrhinum coulterianum = AC *Collinsia concolor* = CC *Cordylanthus rigidus* = CR *Plantago patagonica* = PP

Check	Scientific Name	Common Name
✓	*Amsinckia menziesii*	Rancher's Fiddleneck
	Antirrhinum coulterianum	**Coulter's Snapdragon**
	Antirrhinum nuttallianum	Nuttall's Snapdragon
	Asclepias fascicularis	Narrow-leaf Milkweed
	Boechera sp.	Rock Cress
✓	*Calandrinia ciliata*	Red Maids
	Calochortus concolor	Golden-bowl Mariposa Lily
✓	*Calystegia longipes*	Morning-glory
	Camissonia sp.	Sun Cup
	Castilleja exerta	**Paintbrush**
✓	*Caulanthus heterophyllus*	San Diego Jewelflower
	Caulanthus simulans	Payson's Caulanthus
	Ceanothus cuneatus	Buck Brush
	Ceanothus greggii	Cup-leaf-lilac
	Ceanothus leucodermis	Chaparral Whitethorn
	Chaenactis artemisiifolia	White Pincushion
	Chaenactis glabriuscula	Yellow Pincushion
	Clematis sp.	Clematis
	Collinsia concolor	**Southern Chinese Houses**
	Cordylanthus rigidus	**Dark-tip Bird's Beak**
	Coreopsis californica	California Coreopsis
	Corethrogyne filaginifolia	Common Sand-aster
✓	*Cryptantha sp.*	Cryptantha
	Cucurbita foetidissima	Calabazilla
	Descurainia sp.	Tansy-mustard
	Dicentra chrysantha	Golden Ear-drops
	Dichelostemma capitatum	Blue Dicks
	Dudleya sp.	Dudleya
	Emmenanthe penduliflora	Whispering Bells
	Eriastrum sp.	Woolly-star
	Ericameria sp.	Goldenbush
	Erigeron foliosus	Leafy Daisy
	Eriodictyon trichocalyx	Hairy Yerba Santa
	Eriogonum fasciculatum	Inland California Buckwheat
✓	*Eriogonum sp.*	Buckwheat
	Eriophyllum sp.	Golden-yarrow
	*Erodium cicutarium**	Red-stem Storksbill
	Erysimum capitatum	Western Wallflower
	Eschscholzia californica	California Poppy
	Eucrypta chrysanthemifolia	Spotted Hideseed
	Euthamia occidentalis	Western Goldenrod
	Garrya veatchii	Canyon Silk Tassel
✓	*Gilia sp*	Gilia
	Gnaphalium	Cudweed
	Guillenia lasiophylla	California Mustard
✓	*Gutierrezia sarothrae*	Broom Matchweed
✓	*Heliotropium curassavicum*	Salt Heliotrope
	Hirschfeldia incana	Short-pod Mustard
	Lamium amplexicaule	Henbit
✓	*Lasthenia gracilis*	Common Goldfields
	Layia glandulosa	White Layia
	Lepidium sp.	Pepperweed
	Linanthus bellus	Desert Beauty
✓	*Linanthus dichotomus*	Evening Snow
	Lonicera subspicata	Johnston's Honeysuckle
	Malacothrix californica	California Dandelion
	Malacothrix clevelandii	Cleveland's Malacothrix
	Marah macrocarpus	Wild-cucumber
	*Marrubium vulgare**	Horehound
	*Matricaria matricarioides**	Common Pineapple-weed
	Mentzelia veatchiana	Veatch's Stick-leaf
	Microsteris gracilis	Slender Phlox
	Mimulus sp.	Monkeyflower
	Nemophila menzeisii	Small-flower Baby Blue Eyes
	Orobanche bulbosa	Chaparral Broom-rape
	Osmadenia tenella	Osmadenia
	Paeonia californica	California Peony
	Pectocarya sp	Pectocarya
	Phacelia sp.	Phacelia
	Pholistoma membranaceum	White Fiesta Flower
✓	*Plagiobothrys sp.*	Popcornflower
	Plantago patagonica	Desert Plantain
✓	*Platystemon californicus*	Cream Cups
	Prunus ilicifolia	Holly-leaf Cherry
	Rafinesquia neomexicana	Desert Chicory
	Ribes quercetorum	Oak Gooseberry
	Rorripa nasturtium-aquaticum	Water-cress
	Rosa californica	California Rose
	Saltugilia australis	Southern Gilia
	Senecio californicus	California Butterweed
	Senecio flaccidus	Butterweed
	Sidalcea malvaeflora	Checker-bloom
	Sisymbrium sp.	Tumble Mustard
	Solidago californica	California Goldenrod
	Stachys ajugoides	Hedge-nettle
	Stephanomeria sp.	Wreathplant
	Streptanthus campestris	Southern Jewelflower
	Stylocline gnaphalioides	Everlasting Nest-straw
	Tetradymia comosa	Cotton-thorn
	Thysanocarpus sp.	Fringepod
	Trichostemma parishii	Mountain Bluecurls
	Tropidocarpum gracile	Slender Dobie-pod
	Uropappus lindleyi	Silver Puffs
	Viola purpurea	Oak Yellow Violet

Other Flowering Plants:

Rare Wildlife or Rare Plants:

Quino Checkerspot Butterfly Protocol Survey — Field Data Sheet

Recorder: Mike Cooper Add'l Person: — Date: 19 April 2011 GPS Unit: 6

Project: Concentrix Solar Project Map #: 4 Survey Sxn: — QCB Protocol Survey # 4 of 5

TIME (24-hour)	Temp (F°)	Wind (avg/max)	% CC	Sky
Start 1030 HRS	64°F	5→11 mph	—	clear patchy overcast drizzle shower
1100 HRS	66	2→6	—	clear patchy overcast drizzle shower
1200 HRS	70	3→12	—	clear patchy overcast drizzle shower
1300 HRS	70	2→7	—	clear patchy overcast drizzle shower
1400 HRS	74	3→11	—	clear patchy overcast drizzle shower
1500 HRS	73	2→8	—	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

	Total		Total
Nymphalidae (Brushfooted Butterflies)		**Hesperiidae (Skippers)**	
Euphydryas editha (Quino Checkerspot)		*Erynnis funeralis* (Funereal Duskywing)	
Euphydryas chalcedona (Henne's Checkerspot)		*Erynnis tristis* (Sad Duskywing)	1
Thessalia leanira (Wright's Checkerspot)		*Erynnis propertius* (Propertius Duskywing)	5
Chlosyne californica (California Patch)		*Erynnis brizo* (Sleepy Duskywing)	
Chlosyne gabbii (Gabb's Checkerspot)		*Pyrgus albescens* (Checkered Skipper)	
Phyciodes mylitta (Mylitta Crescent)		*Hesperia juba* (Juba Skipper)	1
Junonia coenia (Common Buckeye)	9	*Polites sabuleti* (Sandhill Skipper)	
Vanessa annabella (West Coast Lady)		**Megathymidae (Giant Skippers)**	
Vanessa atalanta (Red Admiral)		*Megathymus yuccae* (Yucca Giant Skipper)	
Vanessa cardui (Painted Lady)			
Vanessa virginiensis (Virginia Lady)		**Other Butterflies:**	
Nymphalis californica (California Tortoiseshell)		Common Sootywing (Pholisora catullus)	2
Danaidae (Milkweed Butterflies)			
Danaus plexippus (Monarch)			
Danaus gilippus (Queen)			
Satyridae (Satyrs)			
Coenonympha californica (Common California Ringlet)			
Pieridae (Whites, Sulphurs)			
Pieris rapae (Cabbage White)			
Pontia sisymbrii (Spring White)			
Pontia beckerii (Beker's White)			
Pontia protodice (Common White)			
Anthocharis sara (Sara Orangetip)	4		
Anthocharis cethura (Felder's Orangetip)			
Euchloe hyantis (Desert Pearly Marble)			
Colias eurytheme (Orange Sulphur)			
Colias harfordii (Harford's Sulphur)			
Nathalis iole (Dainty Sulphur)			
Papilionidae (Swallowtails)		Notes:	
Papilio polyxenes (Desert Black Swallowtail)			
Papilio eurymedon (Pale swallowtail)			
Papilio rutulus(Western Tiger Swallowtail)			
Riodiniade (Metalmarks)			
Apodemia mormo (Behr's Metalmark)	307		
Lycaenidae (Hairstreaks and Blues)			
Celastrina ladon (Spring Azure)			
Leptotes marina (Marine Blue)			
Brephidium exile (Western Pygmy Blue)			
Glaucopsyche lygdamus (Southern Blue/Silvery blue)			
Hemiargus ceraunus (Edward's Blue)			
Icaria acmon (Acmon Blue)	1		
Philotes sonorensis (Sonoran Blue)			
Callophrys augustinus (Brown Elfin)	2		
Callophrys perplexa (Perplexing Green Hairstreak)			
Strymon melinus (Gray Hairstreak)			
Atlides halesus (Great Purple Hairstreak)			

Potential Nectaring or Host Plants for Quino Checkerspot Butterfly in Boulevard, California (Concentrix Solar)

Instructions:

- Please Place a Check Mark Beside Flowering Plants. Use Numbered Notes to Add Species Detail.
- **PLEASE RECORD HOST PLANTS ON GPS** See Codes Below:

Antirrhinum coulterianum = AC *Collinsia concolor* = CC *Cordylanthus rigidus* = CR *Plantago patagonica* = PP

○	*Amsinckia menziesii*	Rancher's Fiddleneck
○	***Antirrhinum coulterianum***	**Coulter's Snapdragon**
○	*Antirrhinum nuttalianum*	Nuttall's Snapdragon
○	*Asclepias fascicularis*	Narrow-leaf Milkweed
○	*Boechera sp.*	Rock Cress
○	*Calandrinia ciliata*	Red Maids
○	*Calochortus concolor*	Golden-bowl Mariposa Lily
○	*Calystegia longipes*	Morning-glory
○	*Camissonia sp.*	Sun Cup
○	***Castilleja exerta***	**Paintbrush**
○	*Caulanthus heterophyllus*	San Diego Jewelflower
○	*Caulanthus simulans*	Payson's Caulanthus
○	*Ceanothus cuneatus*	Buck Brush
○	*Ceanothus greggii*	Cup-leaf-lilac
○	*Ceanothus leucodermis*	Chaparral Whitethorn
○	*Chaenactis artemisiifolia*	White Pincushion
○	*Chaenactis glabriuscula*	Yellow Pincushion
○	*Clematis sp.*	Clematis
○	***Collinsia concolor***	**Southern Chinese Houses**
○	***Cordylanthus rigidus***	**Dark-tip Bird's Beak**
○	*Coreopsis californica*	California Coreopsis
○	*Corethrogyne filaginifolia*	Common Sand-aster
○	*Cryptantha sp*	Cryptantha
○	*Cucurbita foetidissima*	Calabazilla
○	*Descurainia sp.*	Tansy-mustard
○	*Dicentra chrysantha*	Golden Ear-drops
○	*Dichelostemma capitatum*	Blue Dicks
○	*Dudleya sp.*	Dudleya
○	*Emmenanthe penduliflora*	Whispering Bells
○	*Eriastrum sp.*	Woolly-star
○	*Ericameria sp.*	Goldenbush
○	*Erigeron foliosus*	Leafy Daisy
○	*Eriodictyon trichocalyx*	Hairy Yerba Santa
○	*Eriogonum fasciculatum*	Inland California Buckwheat
○	*Eriogonum sp.*	Buckwheat
○	*Eriophyllum sp.*	Golden-yarrow
○	*Erodium cicutarium**	Red-stem Storksbill
○	*Erysimum capitatum*	Western Wallflower
○	*Eschscholzia californica*	California Poppy
○	*Eucrypta chrysanthemifolia*	Spotted Hideseed
○	*Euthamia occidentalis*	Western Goldenrod
○	*Garrya veatchii*	Canyon Silk Tassel
○	*Gilia sp.*	Gilia
○	*Gnaphalium*	Cudweed
○	*Guillenia lasiophylla*	California Mustard
○	*Gutierrezia sarothrae*	Broom Matchweed
○	*Heliotropium curassavicum*	Salt Heliotrope
○	*Hirschfeldia incana*	Short-pod Mustard
○	*Lamium amplexicaule*	Henbit
○	*Lasthenia gracilis*	Common Goldfields
○	*Layia glandulosa*	White Layia
○	*Lepidium sp.*	Pepperweed
○	*Linanthus bellus*	Desert Beauty
○	*Linanthus dichotomus*	Evening Snow
○	*Lonicera subspicata*	Johnston's Honeysuckle
○	*Malacothrix californica*	California Dandelion
○	*Malacothrix clevelandii*	Cleveland's Malacothrix
○	*Marah macrocarpus*	Wild-cucumber
○	*Marrubium vulgare**	Horehound
○	*Matricaria matricarioides**	Common Pineapple-weed
○	*Mentzelia veatchiana*	Veatch's Slick-leaf
○	*Microsteris gracilis*	Slender Phlox
○	*Mimulus sp.*	Monkeyflower
○	*Nemophila menziesii*	Small-flower Baby Blue Eyes
○	*Orobanche bulbosa*	Chaparral Broom-rape
○	*Osmadenia tenella*	Osmadenia
○	*Paeonia californica*	California Peony
○	*Pectocarya sp.*	Pectocarya
○	*Phacelia sp.*	Phacelia
○	*Pholistoma membranaceum*	White Fiesta Flower
○	*Plagiobothrys sp.*	Popcornflower
○	***Plantago patagonica***	**Desert Plantain**
○	*Platystemon californicus*	Cream Cups
○	*Prunus ilicifolia*	Holly-leaf Cherry
○	*Rafinesquia neomexicana*	Desert Chicory
○	*Ribes quercetorum*	Oak Gooseberry
○	*Rorripa nasturtium-aquaticum*	Water-cress
○	*Rosa californica*	California Rose
○	*Saltugilia australis*	Southern Gilia
○	*Senecio californicus*	California Butterweed
○	*Senecio flaccidus*	Butterweed
○	*Sidalcea malvaeflora*	Checker-bloom
○	*Sisymbrium sp.*	Tumble Mustard
○	*Solidago californica*	California Goldenrod
○	*Stachys ajugoides*	Hedge-nettle
○	*Stephanomeria sp*	Wreathplant
○	*Streptanthus campestris*	Southern Jewelflower
○	*Stylocline gnaphalioides*	Everlasting Nest-straw
○	*Tetradymia canescens*	Cotton-thorn
○	*Thysanocarpus sp.*	Fringepod
○	*Trichostemma parishii*	Mountain Bluecurls
○	*Tropidocarpum gracile*	Slender Dobie-pod
○	*Uropappus lindleyi*	Silver Puffs
○	*Viola purpurea*	Oak Yellow Violet
○		
○		
○	**Other Flowering Plants:**	
○		
○		
○		
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○		
○	**Rare Wildlife or Rare Plants:**	
○	MCHL01	HORNED LIZARD
○	MCBJ01	BLACK-TAILED JACKRABBIT
○	MCBJ02	"
○	MCBJ03	"
○	MCBJ04	"
○	MCBJ05	"
○	MCBJ06	"
○	MCBJ07	"
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Quino Checkerspot Butterfly Protocol Survey — Field Data Sheet

Pol / Instr

Recorder: Margie Mulligan Add'l Person: _____ Date: 4.19.11 GPS

Project: Concentrix Solar Project Map #: 4 Survey Sxn: _____ QCB Protocol Survey # 4 of ___

	TIME (24-hour)	Temp (F°):	Wind (mph/max)	% CC	Sky				
Start	1030	63	4-8 (11)	10	clear	patchy	overcast	drizzle	shower
	1230	73	6-8 (15)	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					clear	patchy	overcast	drizzle	shower

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

	Total		Total
Nymphalidae (Brushfooted Butterflies)		**Hesperiidae (Skippers)**	
Euphydryas editha (Quino Checkerspot)		*Erynnis funeralis* (Funereal Duskywing)	
Euphydryas chalcedona (Henne's Checkerspot)		*Erynnis tristis* (Sad Duskywing)	
Thessalia leanira (Wright's Checkerspot)		*Erynnis propertius* (Propertius Duskywing)	1 (1)
Chlosyne californica (California Patch)		*Erynnis brizo* (Sleepy Duskywing)	1 (1)
Chlosyne gabbii (Gabb's Checkerspot)		*Pyrgus albescens* (Checkered Skipper)	
Phyciodes mylitta (Mylitta Crescent)		*Hesperia jubia* (Jubla Skipper)	
Junonia coenia (Common Buckeye)	1 (2)	*Polites sabuleti* (Sandhill Skipper)	
Vanessa annabella (West Coast Lady		**Megathymidae (Giant Skippers)**	
Vanessa atalanta (Red Admiral)		*Megathymus yuccae* (Yucca Giant Skipper)	
Vanessa cardui (Painted Lady)			
Vanessa virginiensis (Virginia Lady)		**Other Butterflies:**	
Nymphalis californica (California Tortoiseshell)			
Danaidae (Milkweed Butterflies)			
Danaus plexippus (Monarch)			
Danaus gilippus (Queen)			
Satyridae (Satyrs)			
Coenonympha californica (Common California Ringlet)			
Pieridae (Whites, Sulphurs)			
Pieris rapae (Cabbage White)			
Pontia sisymbrii (Spring White)			
Pontia beckerii (Beker's White)			
Pontia protodice (Common White)	1	(1)	
Anthocharis sara (Sara Orangetip)			
Anthocharis cethura (Felder's Orangetip)			
Euchloe hyantis (Desert Pearly Marble)	11	(8)	
Colias eurytheme (Orange Sulphur)	1 photo	(1)	
Colias harfordii (Harford's Sulphur)			
Nathalis iole (Dainty Sulphur)			
Papilionidae (Swallowtails)		**Notes:**	
Papilio polyxenes (Desert Black Swallowtail)			
Papilio eurymedon (Pale swallowtail)			
Papilio rutulus(Western Tiger Swallowtail)			
Riodiniade (Metalmarks)			
Apodemia mormo (Behr's Metalmark)	~~IIII IIII IIII IIII IIII IIII~~ (29)		
Lycaenidae (Hairstreaks and Blues)			
Celastrina ladon (Spring Azure)			
Leptotes marina (Marine Blue)			
Brephidium exilé (Western Pygmy Blue)			
Glaucopsyche lygdamus (Southern Blue/Silvery blue)			
Hemiargus ceraunus (Edward's Blue)			
Icaria acmon (Acmon Blue)			
Philotes sonoransis (Sonoran Blue)			
Callophrys augustinus (Brown Elfin)			
Callophrys perplexa (Perplexing Green Hairstreak)			
Strymon melinus (Gray Hairstreak)			
Atlides halesus (Great Purple Hairstreak)			

ential Nectaring or Host Plants for Quino Checkerspot Butterfly in Boulevard, California (Concentrix Solar)

ctions.

Please Place a Check Mark Beside Flowering Plants. Use Numbered Notes to Add Species Detail.

PLEASE RECORD HOST PLANTS ON GPS See Codes Below:

Antirrhinum coulterianum = AC *Collinsia concolor* = CC *Cordylanthus rigidus* = CR *Plantago patagonica* = PP

X	*Amsinckia menziesii*	Rancher's Fiddleneck
	Antirrhinum coulterianum	**Coulter's Snapdragon**
	Antirrhinum nuttallianum	Nuttall's Snapdragon
	Asclepias fascicularis	Narrow-leaf Milkweed
X	*Boechera sp.*	Rock Cress
	Calandrinia ciliata	Red Maids
	Calochortus concolor	Golden-bowl Mariposa Lily
	Calystegia longipes	Morning-glory
X	*Camissonia sp.*	Sun Cup
	Castilleja exerta	Paintbrush
	Caulanthus heterophyllus	San Diego Jewelflower
	Caulanthus simulans	Payson's Caulanthus
X	*Ceanothus cuneatus*	Buck Brush
X	*Ceanothus greggii*	Cup-leaf-lilac
	Ceanothus leucodermis	Chaparral Whitethorn
	Chaenactis artemisiifolia	White Pincushion
	Chaenactis glabriuscula	Yellow Pincushion
	Clematis sp	Clematis
	Collinsia concolor	**Southern Chinese Houses**
	Cordylanthus rigidus	**Dark-tip Bird's Beak**
X	*Coreopsis californica*	California Coreopsis
	Corethrogyne filaginifolia	Common Sand-aster
X	*Cryptantha sp.*	Cryptantha
	Cucurbita foetidissima	Calabazilla
X	*Descurainia sp.*	Tansy-mustard
	Dicentra chrysantha	Golden Ear-drops
	Dichelostemma capitatum	Blue Dicks
	Dudleya sp.	Dudleya
	Emmenanthe penduliflora	Whispering Bells
	Eriastrum sp	Woolly-star
	Ericameria sp.	Goldenbush
	Erigeron foliosus	Leafy Daisy
	Eriodictyon trichocalyx	Hairy Yerba Santa
	Eriogonum fasciculatum	Inland California Buckwheat
	Eriogonum sp.	Buckwheat
X	*Eriophyllum sp.* wallacei	Golden-yarrow
X	*Erodium cicutarium**	Red-stem Storksbill
	Erysimum capitatum	Western Wallflower
	Eschscholzia californica	California Poppy
	Eucrypta chrysanthemifolia	Spotted Hideseed
	Euthamia occidentalis	Western Goldenrod
X	*Garrya veatchii*	Canyon Silk Tassel
	Gilia sp.	Gilia
	Gnaphalium	Cudweed
	Guillenia lasiophylla	California Mustard
	Gutierrezia sarothrae	Broom Matchweed
	Heliotropium curassavicum	Salt Heliotrope
X	*Hirshfeldia incana*	Short-pod Mustard
	Lamium amplexicaule	Henbit
X	*Lasthenia gracilis*	Common Goldfields
X	*Layia glandulosa*	White Layia
	Lepidium sp.	Pepperweed
X	*Linanthus bellus*	Desert Beauty
	Linanthus dichotomus	Evening Snow
	Lonicera subspicata	Johnston's Honeysuckle
	Malacothrix californica	California Dandelion
	Malacothrix clevelandii	Cleveland's Malacothrix
	Marah macrocarpus	Wild-cucumber
	*Marrubium vulgare**	Horehound
	*Matricaria matricarioides**	Common Pineapple-weed
	Mentzelia veatchiana	Veatch's Stick-leak
	Microsteris gracilis	Slender Phlox
	Mimulus sp.	Monkeyflower
	Nemophila menziesii	Small-flower Baby Blue Eyes
	Orobanche bulbosa	Chaparral Broom-rape
	Osmadenia tenella	Osmadenia
	Paeonia californica	California Peony
X	*Pectocarya sp.*	Pectocarya
X	*Phacelia sp.* distans	Phacelia
	Pholistoma membranaceum	White Fiesta Flower
X	*Plagiobothrys sp.*	Popcornflower
	Plantago patagonica	**Desert Plantain**
	Platystemon californicus	Cream Cups
	Prunus ilicifolia	Holly-leaf Cherry
	Rafinesquia neomexicana	Desert Chicory
	Ribes quercetorum	Oak Gooseberry
	Rorippa nasturtium-aquaticum	Water-cress
	Rosa californica	California Rose
	Saltugilia australis	Southern Gilia
X	*Senecio californicus*	California Butterweed
	Senecio flaccidus	Butterweed
	Sidalcea malvaeflora	Checker-bloom
	Sisymbrium sp.	Tumble Mustard
	Solidago californica	California Goldenrod
	Stachys ajugoides	Hedge-nettle
	Stephanomeria sp.	Wreathplant
	Streptanthus campestris	Southern Jewelflower
X	*Stylocline gnaphalioides*	Everlasting Nest-straw
	Terradymia comosa	Cotton-thorn
	Thysanocarpus sp.	Fringepod
	Trichostemma parishii	Mountain Bluecurls
	Tropidocarpum gracile	Slender Dobie-pod
X	*Uropappus lindleyi*	Silver Puffs
	Viola purpurea	Oak Yellow Violet

Other Flowering Plants:

Anisocaulis acaule
Calyptridium m
Leptosiphon tenuiorum

Rare Wildlife or Rare Plants:

Astragalus douglasii parishii
MMAD01-09
Black Jackrabbit
MMBJ01
Cordylanthus rigidus
MMCR01 - 1 plant
MMA Linanthus bellus
MMLB01-08
Woodrat Nest
MMWR01-02

Quino Checkerspot Butterfly Protocol Survey — Field Data Sheet

Recorder: Margie Mulligan Add'l Person: ______ Date: 4-19-11 GPS Unit: 7

Project: Concentrix Solar Project Map #: 5 Survey Sxn: ______ QCB Protocol Survey # 4 of 5

TIME (24-hour)	Temp (F°)	Wind (avg/max)	% CC	Sky
Start 1345	63°	5-11 (13)	5	(clear) patchy overcast drizzle shower
1600	69°	3-6	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, old roads, various nectar sources

Species	Total
Nymphalidae (Brushfooted Butterflies)	
Euphydryas editha (Quino Checkerspot)	
Euphydryas chalcedona (Henne's Checkerspot)	
Thessalia leanira (Wright's Checkerspot)	
Chlosyne californica (California Patch)	
Chlosyne gabbii (Gabb's Checkerspot)	
Phyciodes mylitta (Mylitta Crescent)	
Junonia coenia (Common Buckeye)	11
Vanessa annabella (West Coast Lady)	
Vanessa atalanta (Red Admiral)	
Vanessa cardui (Painted Lady)	
Vanessa virginiensis (Virginia Lady)	
Nymphalis californica (California Tortoiseshell)	
Danaidae (Milkweed Butterflies)	
Danaus plexippus (Monarch)	
Danaus gilippus (Queen)	
Satyridae (Satyrs)	
Coenonympha californica (Common California Ringlet)	
Pieridae (Whites, Sulphurs)	
Pieris rapae (Cabbage White)	
Pontia sisymbrii (Spring White)	
Pontia beckerii (Beker's White)	
Pontia protodice (Common White)	
Anthocharis sara (Sara Orangetip)	
Anthocharis cethura (Felder's Orangetip)	
Euchloe hyantis (Desert Pearly Marble)	
Colias eurytheme (Orange Sulphur)	1
Colias harfordii (Harford's Sulphur)	
Nathalis iole (Dainty Sulphur)	
Papilionidae (Swallowtails)	
Papilio polyxenes (Desert Black Swallowtail)	
Papilio eurymedon (Pale swallowtail)	
Papilio rutulus (Western Tiger Swallowtail)	
Riodinidae (Metalmarks)	
Apodemia mormo (Behr's Metalmark)	~~||||~~ ~~||||~~ ~~||||~~ ~~||||~~ ~~||||~~ |||
Lycaenidae (Hairstreaks and Blues)	
Celastrina ladon (Spring Azure)	
Leptotes marina (Marine Blue)	
Brephidium exile (Western Pygmy Blue)	
Glaucopsyche lygdamus (Southern Blue/Silvery blue)	
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Icaria acmon (Acmon Blue)	
Philotes sonorensis (Sonoran Blue)	
Callophrys augustinus (Brown Elfin)	
Callophrys perplexa (Perplexing Green Hairstreak)	
Strymon melinus (Gray Hairstreak)	
Atlides halesus (Great Purple Hairstreak)	

Species	Total
Hesperiidae (Skippers)	
Erynnis funeralis (Funereal Duskywing)	
Erynnis tristis (Sad Duskywing)	
Erynnis propertius (Propertius Duskywing)	1
Erynnis brizo (Sleepy Duskeywing)	
Pyrgus albescens (Checkered Skipper)	
Hesperia jubia (Jubia Skipper)	
Polites sabuleti (Sandhill Skipper)	
Megathymidae (Giant Skippers)	
Megathymus yuccae (Yucca Giant Skipper)	

Other Butterflies:

Notes:

Potential Nectaring or Host Plants for Quino Checkerspot Butterfly in Boulevard, California (Concentrix Solar)

Instructions:

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Check	Scientific Name	Common Name
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o	***Antirrhinum coulterianum***	**Coulter's Snapdragon**
o	*Antirrhinum nuttallianum*	Nuttall's Snapdragon
✓	*Asclepias fascicularis*	Narrow-leaf Milkweed
X	*Boechera sp.*	Rock Cress
o	*Calandrinia ciliata*	Red Maids
o	*Calochortus concolor*	Golden-bowl Mariposa Lily
o	*Calystegia longipes*	Morning-glory
X	*Camissonia sp.*	Sun Cup
o	***Castilleja exerta***	**Paintbrush**
o	*Caulanthus heterophyllus*	San Diego Jewelflower
o	*Caulanthus simulans*	Payson's Caulanthus
o	*Ceanothus cuneatus*	Buck Brush
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o	*Dudleya sp.*	Dudleya
o	*Emmenanthe penduliflora*	Whispering Bells
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o	*Erigeron foliosus*	Leafy Daisy
o	*Eriodictyon trichocalyx*	Hairy Yerba Santa
o	*Eriogonum fasciculatum*	Inland California Buckwheat
o	*Eriogonum sp.*	Buckwheat
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o	*Erodium cicutarium**	Red-stem Storksbill
o	*Erysimum capitatum*	Western Wallflower
X	*Eschscholzia californica*	California Poppy
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o	*Euthamia occidentalis*	Western Goldenrod
o	*Garrya veatchii*	Canyon Silk Tassel
o	*Gilia sp.*	Gilia
o	*Gnaphalium*	Cudweed
o	*Guillenia lasiophylla*	California Mustard
o	*Gutierrezia sarothrae*	Broom Matchweed
o	*Heliotropium curassavicum*	Salt Heliotrope
o	*Hirschfeldia incana*	Short-pod Mustard
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X	*Lasthenia gracilis*	Common Goldfields
X	*Layia glandulosa*	White Layia
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o	*Linanthus dichotomus*	Evening Snow
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o	*Mentzelia veatchiana*	Veatch's Stick-leaf
o	*Microsteris gracilis*	Slender Phlox
o	*Mimulus sp.*	Monkeyflower
o	*Nemophila menziesii*	Small-flower Baby Blue Eyes
o	*Orobanche bulbosa*	Chaparral Broom-rape
o	*Osmadenia tenella*	Osmadenia
o	*Paeonia californica*	California Peony
X	*Pectocarya sp*	Pectocarya
X	*Phacelia sp.*	Phacelia
o	*Pholistoma membranaceum*	White Fiesta Flower
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o	***Plantago patagonica***	**Desert Plantain**
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o	*Ribes quercetorum*	Oak Gooseberry
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o	*Rosa californica*	California Rose
o	*Saltugilia australis*	Southern Gilia
X	*Senecio californicus*	California Butterweed
o	*Senecio flaccidus*	Butterweed
o	*Sidalcea malvaeflora*	Checker-bloom
X	*Sisymbrium sp.*	Tumble Mustard
o	*Solidago californica*	California Goldenrod
o	*Stachys ajugoides*	Hedge-nettle
o	*Stephanomeria sp.*	Wreathplant
o	*Streptanthus campestris*	Southern Jewelflower
X	*Stylocline gnaphalioides*	Everlasting Nest-straw
o	*Tetradymia comosa*	Cotton-thorn
o	*Thysanocarpus sp.*	Fringepod
o	*Trichostemma parishii*	Mountain Bluecurls
o	*Tropidocarpum gracile*	Slender Dobie-pod
X	*Uropappus lindleyi*	Silver Puffs
o	*Viola purpurea*	Oak Yellow Violet

Other Flowering Plants:

Rare Wildlife or Rare Plants:

Astragalus douglasi pos
MMAD100-104
Delphinium parishi subglobosum
MMDP100-103
Gerea viscida
MMGV100
Linanthus bellus
MMLB100-102.

Quino Checkerspot Butterfly Protocol Survey — Field Data Sheet

Recorder: Stephen Rinde Add'l Person: _____ Date: 4/19/11 GPS Unit: 11

Project: Concentrix Solar Project Map #: _____ Survey Sxn: 2 QCB Protocol Survey # _____ of 5

TIME (24-hour)	Temp (F°):	Wind (avg/max)	% CC	Sky
Start 1015	63	7/8.5	0.5	clear patchy overcast drizzle shower
1010	65	12/6.0	2.5	clear patchy overcast drizzle shower
1300	67	10.5/6.5	0	clear patchy overcast drizzle shower
1545	67	14.8/5.0	0	clear patchy overcast drizzle shower
				clear patchy overcast drizzle shower
				clear patchy overcast drizzle shower
End				

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

	Total
Nymphalidae (Brushfooted Butterflies)	
Euphydryas editha (Quino Checkerspot)	
Euphydryas chalcedona (Henne's Checkerspot)	
Thessalia leanira (Wright's Checkerspot)	
Chlosyne californica (California Patch)	
Chlosyne gabbii (Gabb's Checkerspot)	
Phyciodes mylitta (Mylitta Crescent)	
Junonia coenia (Common Buckeye)	6
Vanessa annabella (West Coast Lady)	
Vanessa atalanta (Red Admiral)	
Vanessa cardui (Painted Lady)	
Vanessa virginiensis (Virginia Lady)	
Nymphalis californica (California Tortoiseshell)	
Danaidae (Milkweed Butterflies)	
Danaus plexippus (Monarch)	
Danaus gilippus (Queen)	
Satyridae (Satyrs)	
Coenonympha californica (Common California Ringlet)	
Pieridae (Whites, Sulphurs)	
Pieris rapae (Cabbage White)	
Pontia sisymbrii (Spring White)	
Pontia beckerii (Beker's White)	
Pontia protodice (Common White)	
Anthocharis sara (Sara Orangetip)	4
Anthocharis cethura (Felder's Orangetip)	
Euchloe hyantis (Desert Pearly Marble)	
Colias eurytheme (Orange Sulphur)	
Colias harfordii (Harford's Sulphur)	
Nathalis iole (Dainty Sulphur)	
Papilionidae (Swallowtails)	
Papilio polyxenes (Desert Black Swallowtail)	
Papilio eurymedon (Pale swallowtail)	
Papilio rutulus (Western Tiger Swallowtail)	
Riodiniade (Metalmarks)	
Apodemia mormo (Behr's Metalmark)	30
Lycaenidae (Hairstreaks and Blues)	
Celastrina ladon (Spring Azure)	
Leptotes marina (Marine Blue)	
Brephidium exile (Western Pygmy Blue)	
Glaucopsyche lygdamus (Southern Blue/Silvery blue)	
Hemiargus ceraunus (Edward's Blue)	
Icaria acmon (Acmon Blue)	
Philotes sonorensis (Sonoran Blue)	
Callophrys augustinus (Brown Elfin)	
Callophrys perplexa (Perplexing Green Hairstreak)	
Strymon melinus (Gray Hairstreak)	
Atlides halesus (Great Purple Hairstreak)	

	Total
Hesperiidae (Skippers)	
Erynnis funeralis (Funereal Duskywing)	
Erynnis tristis (Sad Duskywing)	
Erynnis propertius (Propertius Duskywing)	
Erynnis brizo (Sleepy Duskeywing)	
Pyrgus albescens (Checkered Skipper)	
Hesperia juba (Juba Skipper)	
Polites sabuleti (Sandhill Skipper)	
Megathymidae (Giant Skippers)	
Megathymus yuccae (Yucca Giant Skipper)	
Other Butterflies:	

Notes:

Sp adot: pop: 1
Sp ad02: pop: 1
Sp ad03: pop: 1
Sp ad04: pop: 4

...ntial Nectaring or Host Plants for Quino Checkerspot Butterfly in Boulevard, California (Concentrix Solar)

...uctions:

- Please Place a Check Mark Beside Flowering Plants. Use Numbered Notes to Add Species Detail.
- **PLEASE RECORD HOST PLANTS ON GPS** See Codes Below:

Antirrhinum coulterianum = AC *Collinsia concolor* = CC *Cordylanthus rigidus* = CR *Plantago patagonica* = PP

✓	*Amsinckia menziesii*	Rancher's Fiddleneck
	Antirrhinum coulterianum	**Coulter's Snapdragon**
	Antirrhinum nuttallianum	Nuttall's Snapdragon
	Asclepias fascicularis	Narrow-leaf Milkweed
	Boechera sp.	Rock Cress
	Calandrinia ciliata	Red Maids
	Calochortus concolor	Golden-bowl Mariposa Lily
	Calystegia longipes	Morning-glory
	Camissonia sp.	Sun Cup
	Castilleja exerta	**Paintbrush**
	Caulanthus heterophyllus	San Diego Jewelflower
	Caulanthus simulans	Payson's Caulanthus
	Ceanothus cuneatus	Buck Brush
	Ceanothus greggii	Cup-leaf-lilac
	Ceanothus leucodermis	Chaparral Whitethorn
	Chaenactis artemisiifolia	White Pincushion
	Chaenactis glabriuscula	Yellow Pincushion
	Clematis sp.	Clematis
	Collinsia concolor	**Southern Chinese Houses**
	Cordylanthus rigidus	**Dark-tip Bird's Beak**
	Coreopsis californica	California Coreopsis
	Corethrogyne filaginifolia	Common Sand-aster
	Cryptantha sp.	Cryptantha
	Cucurbita foetidissima	Calabazilla
	Descurainia sp.	Tansy-mustard
	Dicentra chrysantha	Golden Ear-drops
	Dichelostemma capitatum	Blue Dicks
	Dudleya sp.	Dudleya
	Emmenanthe penduliflora	Whispering Bells
	Eriastrum sp.	Woolly-star
	Ericameria sp.	Goldenbush
	Erigeron foliosus	Leafy Daisy
	Eriodictyon trichocalyx	Hairy Yerba Santa
	Eriogonum fasciculatum	Inland California Buckwheat
	Eriogonum sp	Buckwheat
	Eriophyllum sp.	Golden-yarrow
✓	*Erodium cicutarium**	Red-stem Storksbill
	Erysimum capitatum	Western Wallflower
	Eschscholzia californica	California Poppy
	Eucrypta chrysanthemifolia	Spotted Hideseed
	Euthamia occidentalis	Western Goldenrod
	Garrya veatchii	Canyon Silk Tassel
	Gilia sp.	Gilia
	Gnaphalium	Cudweed
	Guillenia lasiophylla	California Mustard
	Gutierrezia sarothrae	Broom Matchweed
	Heliotropium curassavicum	Salt Heliotrope
	Hirschfeldia incana	Short-pod Mustard
✓	*Lamium amplexicaule*	Henbit
✓	*Lasthenia gracilis*	Common Goldfields
	Layia glandulosa	White Layia
	Lepidium sp.	Pepperweed
	Linanthus bolus	Desert Beauty
	Linanthus dichotomus	Evening Snow
	Lonicera subspicata	Johnston's Honeysuckle
	Malacothrix californica	California Dandelion
	Malacothrix clevelandii	Cleveland's Malacothrix
	Marah macrocarpus	Wild-cucumber
	*Marrubium vulgare**	Horehound
	*Matricaria matricarioides**	Common Pineapple-weed
	Mentzelia veatchiana	Veatch's Stick-leak
	Microsteris gracilis	Slender Phlox
	Mimulus sp.	Monkeyflower
	Nemophila menziesii	Small-flower Baby Blue Eyes
	Orobanche bulbosa	Chaparral Broom-rape
	Osmadenia tenella	Osmadenia
	Paeonia californica	California Peony
	Pectocarya sp.	Pectocarya
	Phacelia sp.	Phacelia
	Pholistoma membranaceum	White Fiesta Flower
✓	*Plagiobothrys sp.*	Popcornflower
	Plantago patagonica	**Desert Plantain**
	Platystemon californicus	Cream Cups
	Prunus ilicifolia	Holly-leaf Cherry
	Rafinesquia neomexicana	Desert Chicory
	Ribes quercetorum	Oak Gooseberry
	Rorripa nasturtium-aquaticum	Water-cress
	Rosa californica	California Rose
	Saltugilia australis	Southern Gilia
	Senecio californicus	California Butterweed
	Senecio flaccidus	Butterweed
	Sidalcea malvaeflora	Checker-bloom
	Sisymbrium sp.	Tumble Mustard
	Solidago californica	California Goldenrod
	Stachys ajugoides	Hedge-nettle
	Stephanomeria sp.	Wreathplant
	Streptanthus campestris	Southern Jewelflower
	Stylocline gnaphalioides	Everlasting Nest-straw
	Tetradymia comosa	Cotton-thorn
	Thysanocarpus sp.	Fringepod
	Trichostema parishii	Mountain Bluecurls
	Tropidocarpum gracile	Slender Dobie-pod
	Uropappus lindleyi	Silver Puffs
	Viola purpurea	Oak Yellow Violet

Other Flowering Plants:

Rare Wildlife or Rare Plants:

Quino Checkerspot Butterfly Protocol Survey — Field Data Sheet

Recorder: K H Osborne Add'l Person: — Date: 4/19/2011 GPS Unit: 10

Project: Concentrix Solar Project Map #: Survey Sxn: QCB Protocol Survey # of 6

TIME (24-hour)	Temp (F°)	Wind (avg/max)	% CC	Sky
Start 10 30	69	3/5.5	0	(clear) patchy overcast drizzle shower
1148	71	3.4/5.8	0	clear patchy overcast drizzle shower
2 32	69	7.4/10	0	(clear) patchy overcast drizzle shower
				clear patchy overcast drizzle shower
				clear patchy overcast drizzle shower
				clear patchy overcast drizzle shower
End 4 00	69	2.5/6.8	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

Species	Tally	Total
Nymphalidae (Brushfooted Butterflies)		
Euphydryas editha (Quino Checkerspot)		
Euphydryas chalcedona (Henne's Checkerspot)		
Thessalia leanira (Wright's Checkerspot)		
Chlosyne californica (California Patch)		
Chlosyne gabbii (Gabb's Checkerspot)		
Phyciodes mylitta (Mylitta Crescent)		
Junonia coenia (Common Buckeye)	~~IIII~~ IIII	9
Vanessa annabella (West Coast Lady)	I	1
Vanessa atalanta (Red Admiral)		
Vanessa cardui (Painted Lady)		
Vanessa virginiensis (Virginia Lady)		
Nymphalis californica (California Tortoiseshell)		
Danaidae (Milkweed Butterflies)		
Danaus plexippus (Monarch)		
Danaus gilippus (Queen)		
Satyridae (Satyrs)		
Coenonympha californica (Common California Ringlet)		
Pieridae (Whites, Sulphurs)		
Pieris rapae (Cabbage White)		
Pontia sisymbrii (Spring White)		
Pontia beckerii (Beker's White)		
Pontia protodice (Common White)	~~IIII~~ IIII	9
Anthocharis sara (Sara Orangetip)		
Anthocharis cethura (Felder's Orangetip)		
Euchloe hyantis (Desert Pearly Marble)		
Colias eurytheme (Orange Sulphur)	II	2
Colias harfordii (Harford's Sulphur)		
Nathalis iole (Dainty Sulphur)		
Papilionidae (Swallowtails)		
Papilio polyxenes (Desert Black Swallowtail)		
Papilio eurymedon (Pale swallowtail)	I	1
Papilio rutulus (Western Tiger Swallowtail)		
Riodinidae (Metalmarks)		
Apodemia mormo (Behr's Metalmark)	IIXXXIIIIII	40
Lycaenidae (Hairstreaks and Blues)		
Celastrina ladon (Spring Azure)		
Leptotes marina (Marine Blue)		
Brephidium exile (Western Pygmy Blue)		
Glaucopsyche lygdamus (Southern Blue/Silvery blue)		
Hemiargus ceraunus (Edward's Blue)		
Icaria acmon (Acmon Blue)	II	2
Philotes sonorensis (Sonoran Blue)		
Callophrys augustinus (Brown Elfin)		
Callophrys perplexa (Perplexing Green Hairstreak)		
Strymon melinus (Gray Hairstreak)		
Atlides halesus (Great Purple Hairstreak)		
Everes amyntula		1

Species	Tally	Total
Hesperiidae (Skippers)		
Erynnis funeralis (Funereal Duskywing)		
Erynnis tristis (Sad Duskywing)		
Erynnis propertius (Propertius Duskywing)	II	2
Erynnis brizo (Sleepy Duskeywing)		
Pyrgus albescens (Checkered Skipper)	I	1
Hesperia jubia (Jubia Skipper)	IIII	4
Polites sabuleti (Sandhill Skipper)	I X XXX	35
Megathymidae (Giant Skippers)		
Megathymus yuccae (Yucca Giant Skipper)		
Other Butterflies:		

Notes:

Steady wind all day but many butterflies

Cordylanthus is 1 to 2" tall in SE portion

ential Nectaring or Host Plants for Quino Checkerspot Butterfly in Boulevard, California (Concentrix Solar)

ctions:

Please Place a Check Mark Beside Flowering Plants. Use Numbered Notes to Add Species Detail.

PLEASE RECORD HOST PLANTS ON GPS See Codes Below:

Antirrhinum coulterianum = AC *Collinsia concolor* = CC *Cordylanthus rigidus* = CR *Plantago patagonica* = PP

	Amsinckia menziesii	Rancher's Fiddleneck
	Antirrhinum coulterianum	**Coulter's Snapdragon**
	Antirrhinum nuttallianum	Nuttall's Snapdragon
	Asclepias fascicularis	Narrow-leaf Milkweed
	Boechera sp	Rock Cress
	Calandrinia ciliata	Red Maids
	Calochortus concolor	Golden-bowl Mariposa Lily
	Calystegia longipes	Morning-glory
	Camissonia sp.	Sun Cup
	Castilleja exerta	**Paintbrush**
	Ceanothus heterophyllus	San Diego Jewelflower
	Ceanothus simulans	Payson's Ceanothus
	Ceanothus cuneatus	Buck Brush
✓	*Ceanothus greggii*	Cup-leaf-lilac
	Ceanothus leucodermis	Chaparral Whitethorn
	Chaenactis artemisiifolia	White Pincushion
	Chaenactis glabriuscula	Yellow Pincushion
	Clematis sp.	Clematis
	Collinsia concolor	**Southern Chinese Houses**
	Cordylanthus rigidus	**Dark-tip Bird's Beak**
	Coreopsis californica	California Coreopsis
	Corethrogyne filaginifolia	Common Sand-aster
	Cryptantha sp.	Cryptantha
	Cucurbita foetidissima	Calabazilla
	Descurainia sp.	Tansy-mustard
	Dicentra chrysantha	Golden Eardrops
	Dichelostemma capitatum	Blue Dicks
	Dudleya sp	Dudleya
	Emmenanthe penduliflora	Whispering Bells
	Eriastrum sp.	Woolly-star
	Ericameria sp.	Goldenbush
	Erigeron foliosus	Leafy Daisy
	Eriodictyon trichocalyx	Hairy Yerba Santa
	Eriogonum fasciculatum	Inland California Buckwheat
	Eriogonum sp.	Buckwheat
	Eriophyllum sp.	Golden-yarrow
✓	*Erodium cicutarium**	Red-stem Storksbill
	Erysimum capitatum	Western Wallflower
	Eschscholzia californica	California Poppy
	Eucrypta chrysanthemifolia	Spotted Hideseed
	Euthamia occidentalis	Western Goldenrod
	Garrya veatchii	Canyon Silk Tassel
	Gilia sp.	Gilia
	Gnaphalium	Cudweed
	Guillenia lasiophylla	California Mustard
	Gutierrezia sarothrae	Broom Matchweed
	Heliotropium curassavicum	Salt Heliotrope
✓	*Hirschfeldia incana*	Short-pod Mustard
	Lamium amplexicaule	Henbit
✓	*Lasthenia gracilis*	Common Goldfields
✓	*Layia glandulosa*	White Layia
	Lepidium sp.	Pepperweed
	Linanthus bolfus	Desert Beauty
	Linanthus dichotomus	Evening Snow
	Lonicera subspicata	Johnston's Honeysuckle
	Malacothrix californica	California Dandelion
	Malacothrix clevelandii	Cleveland's Malacothrix
	Marah macrocarpus	Wild-cucumber
	*Marrubium vulgare**	Horehound
	*Matricaria matricarioides**	Common Pineapple-weed
	Mentzelia veatchiana	Veatch's Stick-leak
	Microsteris gracilis	Slender Phlox
	Mimulus sp.	Monkeyflower
	Nemophila menziesii	Small-flower Baby Blue Eyes
	Orobanche bulbosa	Chaparral Broom-rape

	Osmadenia tenella	Osmadenia
	Paeonia californica	California Peony
	Pectocarya sp.	Pectocarya
	Phacelia sp.	Phacelia
	Pholistoma membranaceum	White Fiesta Flower
	Plagiobothrys sp	Popcornflower
	Plantago patagonica	**Desert Plantain**
	Platystemon californicus	Cream Cups
	Prunus ilicifolia	Holly-leaf Cherry
	Rafinesquia neomexicana	Desert Chicory
	Ribes quercetorum	Oak Gooseberry
	Rorripa nasturtium-aquaticum	Water-cress
	Rosa californica	California Rose
	Saltugilia australis	Southern Gilia
	Senecio californicus	California Butterweed
	Senecio flaccidus	Butterweed
	Sidalcea malvaeflora	Checker-bloom
	Sisymbrium sp.	Tumble Mustard
	Solidago californica	California Goldenrod
	Stachys ajugoides	Hedge-nettle
	Stephanomeria sp.	Wreathplant
	Streptanthus campestris	Southern Jewelflower
	Stylocline gnaphalioides	Everlasting Nest-straw
	Tetradymia canosa	Cotton-thorn
	Thysanocarpus sp.	Fringepod
	Trichostemma parishii	Mountain Bluecurls
	Tropidocarpum gracile	Slender Dobie-pod
	Uropappus lindleyi	Silver Puffs
	Viola purpurea	Oak Yellow Violet

Other Flowering Plants:

Astragalus

Rare Wildlife or Rare Plants:

Quino Checkerspot Butterfly Protocol Survey — Field Data Sheet

Survey 4

Recorder: Erin Bergman Add'l Person: Kyle Harper Date: 4/19/11 GPS Unit: 2

Project: Concentrix Solar Project Map #: Survey Sxn: QCB Protocol Survey # 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

	Total
Nymphalidae (Brushfooted Butterflies)	
Euphydryas editha (Quino Checkerspot)	
Euphydryas chalcedona (Henne's Checkerspot)	
Thessalia leanira (Wright's Checkerspot)	
Chlosyne californica (California Patch)	
Chlosyne gabbii (Gabb's Checkerspot)	
Phyciodes mylitta (Mylitta Crescent)	
Junonia coenia (Common Buckeye)	
Vanessa annabella (West Coast Lady	
Vanessa atalanta (Red Admiral)	
Vanessa cardui (Painted Lady)	
Vanessa virginiensis (Virginia Lady)	
Nymphalis californica (California Tortoiseshell)	
Danaidae (Milkweed Butterflies)	
Danaus plexippus (Monarch)	
Danaus gilippus (Queen)	
Satyridae (Satyrs)	
Coenonympha californica (Common California Ringlet)	
Pieridae (Whites, Sulphurs)	
Pieris rapae (Cabbage White)	
Pontia sisymbrii (Spring White)	
Pontia beckerii (Beker's White)	
Pontia protodice (Common White)	
Anthocharis sara (Sara Orangetip)	1
Anthocharis cethura (Felder's Orangetip)	
Euchloe hyantis (Desert Pearly Marble)	2
Colias eurytheme (Orange Sulphur)	
Colias harfordii (Harford's Sulphur)	3
Nathalis iole (Dainty Sulphur)	
Papilionidae (Swallowtails)	
Papilio polyxenes (Desert Black Swallowtail)	
Papilio eurymedon (Pale swallowtail)	
Papilio rutulus(Western Tiger Swallowtail)	
Riodinlade (Metalmarks)	
Apodemia mormo (Behr's Metalmark)	24
Lycaenidae (Hairstreaks and Blues)	
Celastrina ladon (Spring Azure)	
Leptotes marina (Marine Blue)	
Brephidium exile (Western Pygmy Blue)	
Glaucopsyche lygdamus (Southern Blue/Silvery blue)	
Hemiargus ceraunus (Edward's Blue)	
Icaria acmon (Acmon Blue)	1
Philotes sonorensis (Sonoran Blue)	
Callophrys augustinus (Brown Elfin)	
Callophrys perplexa (Perplexing Green Hairstreak)	
Strymon melinus (Gray Hairstreak)	
Atlides halesus (Great Purple Hairstreak)	

	Total
Hesperiidae (Skippers)	
Erynnis funeralis (Funereal Duskywing)	
Erynnis tristis (Sad Duskywing)	
Erynnis propertius (Propertius Duskywing)	1
Erynnis brizo (Sleepy Duskywing)	
Pyrgus albescens (Checkered Skipper)	
Hesperia juba (Juba Skipper)	
Polites sabuleti (Sandhill Skipper)	
Megathymidae (Giant Skippers)	
Megathymus yuccae (Yucca Giant Skipper)	
Other Butterflies:	

Notes:

See botany sp. list for plants seen today

Figure 2 Habitat

Quino Checkerspot Butterfly Protocol Survey — Field Data Sheet

Recorder: MIKE COUFFER Add'l Person: JIMMY MC MORRAN Date: 20 APRIL 2011 GPS Unit: Go

Project: Concentrix Solar Project Map #: 4 Survey Sxn: Ø QCB Protocol Survey # 4 of 5

TIME (24-hour)	Temp (F°):	Wind (mph/mph)	% CC	Sky
Start 1200 HRS	73	7→16 MPH	Ø	(clear) patchy overcast drizzle shower
1300	72	5→11	Ø	(clear) patchy overcast drizzle shower
1400	71	3→7	Ø	(clear) patchy overcast drizzle shower
1500	70	10→13	Ø	(clear) patchy overcast drizzle shower
1600	70	7→12	Ø	(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

	Total		Total
Nymphalidae (Brushfooted Butterflies)		**Hesperiidae (Skippers)**	
Euphydryas editha (Quino Checkerspot)		*Erynnis funeralis* (Funereal Duskywing)	
Euphydryas chalcedona (Henne's Checkerspot)		*Erynnis tristis* (Sad Duskywing)	
Thessalia leanira (Wright's Checkerspot)		*Erynnis propertius* (Propertius Duskywing)	
Chlosyne californica (California Patch)		*Erynnis brizo* (Sleepy Duskywing)	
Chlosyne gabbii (Gabb's Checkerspot)		*Pyrgus albescens* (Checkered Skipper)	
Phyciodes mylitta (Mylitta Crescent)		*Hesperia jubia* (Jubia Skipper)	2
Junonia coenia (Common Buckeye)	18	*Poanes sabuleti* (Sandhill Skipper)	1
Vanessa annabella (West Coast Lady)		**Megathymidae (Giant Skippers)**	
Vanessa atalanta (Red Admiral)		*Megathymus yuccae* (Yucca Giant Skipper)	
Vanessa cardui (Painted Lady)			
Vanessa virginiensis (Virginia Lady)		**Other Butterflies:**	
Nymphalis californica (California Tortoiseshell)			
Danaidae (Milkweed Butterflies)			
Danaus plexippus (Monarch)			
Danaus gilippus (Queen)			
Satyridae (Satyrs)			
Coenonympha californica (Common California Ringlet)			
Pieridae (Whites, Sulphurs)			
Pieris rapae (Cabbage White)			
Pontia sisymbri (Spring White)	3		
Pontia beckerii (Beker's White)			
Pontia protodice (Common White)			
Anthocharis sara (Sara Orangetip)			
Anthocharis cethura (Felder's Orangetip)			
Euchloe hyantis (Desert Pearly Marble)			
Colias eurytheme (Orange Sulphur)	2		
Colias harfordii (Harford's Sulphur)			
Nathalis iole (Dainty Sulphur)			
Papilionidae (Swallowtails)		**Notes:**	
Papilio polyxenes (Desert Black Swallowtail)		MCBJ08 BLACK-TAILED JACKRABBIT	
Papilio eurymedon (Pale swallowtail)		MCBJ09	
Papilio rutulus(Western Tiger Swallowtail)		MCBJ10	
Riodiniade (Metalmarks)		MCBJ11	
Apodemia mormo (Behr's Metalmark)	75	MCHL01 HORNED LIZARD	
Lycaenidae (Hairstreaks and Blues)		MCSH01 SWAINSON'S HAWK	
Celastrina ladon (Spring Azure)		MCSG01 SAGE SPARROW	
Leptotes marina (Marine Blue)		MCFA01 PRAIRIE FALCON (OVERFLY)	
Brephidium exile (Western Pygmy Blue)		MCHL02 HORNED LIZARD	
Glaucopsyche lygdamus (Southern Blue/Silvery blue)			
Hemiargus ceraunus (Edward's Blue)			
Icaria acmon (Acmon Blue)	3		
Philotes sonorensis (Sonoran Blue)			
Callophrys augustinus (Brown Elfin)			
Callophrys perplexa (Perplexing Green Hairstreak)			
Strymon melinus (Gray Hairstreak)			
Atlides halesus (Great Purple Hairstreak)			

...l Nectaring or Host Plants for Quino Checkerspot Butterfly in Boulevard, California (Concentrix Solar)

...ease Place a Check Mark Beside Flowering Plants. Use Numbered Notes to Add Species Detail.

PLEASE RECORD HOST PLANTS ON GPS See Codes Below:

Antirrhinum coulterianum = AC *Collinsia concolor* = CC *Cordylanthus rigidus* = CR *Plantago patagonica* = PP

Amsinckia menziesii	Rancher's Fiddleneck
Antirrhinum coulterianum	**Coulter's Snapdragon**
Antirrhinum nuttallianum	Nuttall's Snapdragon
Asclepias fascicularis	Narrow-leaf Milkweed
Boechera sp.	Rock Cress
Calandrinia ciliata	Red Maids
Calochortus concolor	Golden-bowl Mariposa Lily
Calystegia longipes	Morning-glory
Camissonia sp.	Sun Cup
Castilleja exerta	**Paintbrush**
Cautanthus heterophyllus	San Diego Jewelflower
Cautanthus simulans	Payson's Cautanthus
Ceanothus cuneatus	**Buck Brush**
Ceanothus greggii	Cup-leaf-lilac
Ceanothus leucodermis	Chaparral Whitethorn
Chaenactis artemisiifolia	White Pincushion
Chaenactis glabriuscula	Yellow Pincushion
Clematis sp.	Clematis
Collinsia concolor	**Southern Chinese Houses**
Cordylanthus rigidus	**Dark-tip Bird's Beak**
Coreopsis californica	California Coreopsis
Corethrogyne filaginifolia	Common Sand-aster
Cryptantha sp.	Cryptantha
Cucurbita foetidissima	Calabazilla
Descurainia sp.	Tansy-mustard
Dicentra chrysantha	Golden Ear-drops
Dichelostemma capitatum	Blue Dicks
Dudleya sp	Dudleya
Emmenanthe penduliflora	Whispering Bells
Eriastrum sp.	Woolly-star
Ericameria sp.	**Goldenbush**
Erigeron foliosus	Leafy Daisy
Eriodictyon trichocalyx	Hairy Yerba Santa
Eriogonum fasciculatum	Inland California Buckwheat
Eriogonum sp.	Buckwheat
Eriophyllum sp.	Golden-yarrow
*Erodium cicutarium**	Red-stem Storksbill
Erysimum capitatum	Western Wallflower
Eschscholzia californica	California Poppy
Eucrypta chrysanthemifolia	Spotted Hideseed
Euthamia occidentalis	Western Goldenrod
Garrya veatchii	Canyon Silk Tassel
Gilia sp.	Gilia
Gnaphalium	Cudweed
Guillenia lasiophylla	California Mustard
Gutierrezia sarothrae	Broom Matchweed
Heliotropium curassavicum	Salt Heliotrope
Hirshfeldia incana	Short-pod Mustard
Lamium amplexicaule	Henbit
Lasthenia gracilis	Common Goldfields
Layia glandulosa	White Layia
Lepidium sp.	Pepperweed
Linanthus bellus	Desert Beauty
Linanthus dichotomus	Evening Snow
Lonicera subspicata	Johnston's Honeysuckle
Malacothrix californica	California Dandelion
Malacothrix clevelandii	Cleveland's Malacothrix
Marah macrocarpus	Wild-cucumber
*Marrubium vulgare**	Horehound
*Matricaria matricarioides**	Common Pineapple-weed
Mentzelia veatchiana	Veatch's Stick-leak
Microsteris gracilis	Slender Phlox
Mimulus sp.	Monkeyflower
Nemophila menziesii	Small-flower Baby Blue Eyes
Orobanche bulbosa	Chaparral Broom-rape

Osmadenia tenella	Osmadenia
Paeonia californica	California Peony
Pectocarya sp	Pectocarya
Phacelia sp.	Phacelia
Pholistoma membranaceum	White Fiesta Flower
Plagiobothrys sp.	Popcornflower
Plantago patagonica	Desert Plantain
Platystemon californicus	Cream Cups
Prunus ilicifolia	Holly-leaf Cherry
Rafinesquia neomexicana	Desert Chicory
Ribes quercetorum	Oak Gooseberry
Rorippa nasturtium-aquaticum	Water-cress
Rosa californica	California Rose
Saltugilia australis	Southern Gilia
Senecio californicus	California Butterweed
Senecio flaccidus	Butterweed
Sidalcea malvaeflora	Checker-bloom
Sisymbrium sp.	Tumble Mustard
Solidago californica	California Goldenrod
Stachys ajugoides	Hedge-nettle
Stephanomeria sp.	Wreathplant
Streptanthus campestris	Southern Jewelflower
Stylocline gnaphalioides	Everlasting Nest-straw
Toiradymia canosa	Cotton-thorn
Thysanocarpus sp.	Fringepod
Trichostemma parishii	Mountain Bluecurls
Tropidocarpum gracile	Slender Dobie-pod
Uropappus lindleyi	Silver Puffs
Viola purpurea	Oak Yellow Violet

Other Flowering Plants:

RHUS OVATA (NECTAR SOURCE)

Rare Wildlife or Rare Plants:

Quino Checkerspot Butterfly Protocol Survey — Field Data Sheet

Recorder: KH Osborne Add'l Person: ∅ Date: 4/20/2011 GPS Unit: 10

Project: Concentrix Solar Project Map #: Survey Sxn: QCB Protocol Survey # of 5

TIME (24-hour)	Temp (F°):	Wind (avg/max)	% CC	Sky
Start 9 00	63	2/3	0	clear patchy overcast drizzle shower
1040	68	2.5/4.9	0	clear patchy overcast drizzle shower
1200	70	8/13.2	0	clear patchy overcast drizzle shower
236	70	9.9/16	0	clear patchy overcast drizzle shower
				clear patchy overcast drizzle shower
				clear patchy overcast drizzle shower
End 4 00	69	5/9.8	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

	Total		Total
Nymphalidae (Brushfooted Butterflies)		**Hesperiidae (Skippers)**	
Euphydryas editha (Quino Checkerspot)		*Erynnis funeralis* (Funereal Duskywing)	
Euphydryas chalcedona (Henne's Checkerspot)		*Erynnis tristis* (Sad Duskywing)	
Thessalia leanira (Wright's Checkerspot)		*Erynnis propertius* (Propertius Duskywing) /	1
Chlosyne californica (California Patch)		*Erynnis brizo* (Sleepy Duskeywing)	
Chlosyne gabbii (Gabb's Checkerspot)		*Pyrgus albescens* (Checkered Skipper)	
Phyciodes mylitta (Mylitta Crescent)		*Hesperia jubia* (Jubia Skipper) H. juba ///	3
Junonia coenia (Common Buckeye) /////	5	*Polites sabuleti* (Sandhill Skipper) ///	9
Vanessa annabella (West Coast Lady		**Megathymidae (Giant Skippers)**	
Vanessa atalanta (Red Admiral)		*Megathymus yuccae* (Yucca Giant Skipper)	
Vanessa cardui (Painted Lady)			
Vanessa virginiensis (Virginia Lady)		**Other Butterflies:**	
Nymphalis californica (California Tortoiseshell)			
Danaidae (Milkweed Butterflies)		Philosina ///	5
Danaus plexippus (Monarch)			
Danaus gilippus (Queen)			
Satyridae (Satyrs)			
Coenonympha californica (Common California Ringlet)		B. tejonica /// /	3
Pieridae (Whites, Sulphurs)		Schinia aurantiaca /	1
Pieris rapae (Cabbage White)		Leptarctia californica //	2
Pontia sisymbrii (Spring White)			
Pontia beckerii (Baker's White)			
Pontia protodice (Common White) //	2		
Anthocharis sara (Sara Orangetip)			
Anthocharis cethura (Felder's Orangetip)			
Euchloe hyantis (Desert Pearly Marble)			
Colias eurytheme (Orange Sulphur) /	1		
Colias harfordii (Harford's Sulphur)			
Nathalis iole (Dainty Sulphur)			
Papilionidae (Swallowtails)		**Notes:**	
Papilio polyxenes (Desert Black Swallowtail)			
Papilio eurymedon (Pale swallowtail)			
Papilio rutulus (Western Tiger Swallowtail)			
Riodiniade (Metalmarks)			
Apodemia mormo (Behr's Metalmark) XXXX XX XXX X	100		
Lycaenidae (Hairstreaks and Blues)			
Celastrina ladon (Spring Azure)			
Leptotes marina (Marine Blue)			
Brephidium exile (Western Pygmy Blue)			
Glaucopsyche lygdamus (Southern Blue/Silvery blue)			
Hemiargus ceraunus (Edward's Blue)			
Icaria acmon (Acmon Blue) /	1		
Philotes sonorensis (Sonoran Blue)			
Callophrys augustinus (Brown Elfin)			
Callophrys perplexa (Perplexing Green Hairstreak) //	2		
Strymon melinus (Gray Hairstreak)			
Atlides halesus (Great Purple Hairstreak)			

Potential Nectaring or Host Plants for Quino Checkerspot Butterfly in Boulevard, California (Concentrix Solar)

Instructions:

- Please Place a Check Mark Beside Flowering Plants. Use Numbered Notes to Add Species Detail.
- **PLEASE RECORD HOST PLANTS ON GPS** See Codes Below:

Antirrhinum coulterianum = AC *Collinsia concolor* = CC *Cordylanthus rigidus* = CR *Plantago patagonica* = PP

○	*Amsinckia menziesii*	Rancher's Fiddleneck
○	***Antirrhinum coulterianum***	**Coulter's Snapdragon**
○	*Antirrhinum nuttallianum*	Nuttall's Snapdragon
○	*Asclepias fascicularis*	Narrow-leaf Milkweed
○	*Boechera sp.*	Rock Cress
○	*Calandrinia ciliata*	Red Maids
○	*Calochortus concolor*	Golden-bowl Mariposa Lily
○	*Calystegia longipes*	Morning-glory
○	*Camissonia sp.*	Sun Cup
○	***Castilleja exerta***	**Paintbrush**
○	*Caulanthus heterophyllus*	San Diego Jewelflower
○	*Caulanthus simulans*	Payson's Caulanthus
○	*Ceanothus cuneatus*	Buck Brush
✓	*Ceanothus greggii*	Cup-leaf-lilac
○	*Ceanothus leucodermis*	Chaparral Whitethorn
○	*Chaenactis artemisiifolia*	White Pincushion
○	*Chaenactis glabriuscula*	Yellow Pincushion
○	*Clematis sp.*	Clematis
○	***Collinsia concolor***	**Southern Chinese Houses**
○	***Cordylanthus rigidus***	**Dark-tip Bird's Beak**
○	*Coreopsis californica*	California Coreopsis
○	*Corethrogyne filaginifolia*	Common Sand-aster
✓	*Cryptantha sp.*	Cryptantha
○	*Cucurbita foetidissima*	Calabazilla
○	*Descurainia sp.*	Tansy-mustard
○	*Dicentra chrysantha*	Golden Ear-drops
○	*Dichelostemma capitatum*	Blue Dicks
○	*Dudleya sp*	Dudleya
○	*Emmenanthe penduliflora*	Whispering Bells
○	*Eriastrum sp.*	Woolly-star
✓	*Ericameria sp.*	Goldenbush
○	*Erigeron foliosus*	Leafy Daisy
○	*Eriodictyon trichocalyx*	Hairy Yerba Santa
○	*Eriogonum fasciculatum*	Inland California Buckwheat
○	*Eriogonum sp.*	Buckwheat
○	*Eriophyllum sp.*	Golden-yarrow
✓	*Erodium cicutarium**	Red-stem Storksbill
○	*Erysimum capitatum*	Western Wallflower
○	*Eschscholzia californica*	California Poppy
○	*Eucrypta chrysanthemifolia*	Spotted Hideseed
○	*Euthamia occidentalis*	Western Goldenrod
○	*Garrya veatchii*	Canyon Silk Tassel
○	*Gilia sp.*	Gilia
○	*Gnaphalium*	Cudweed
○	*Guillenia lasiophylla*	California Mustard
○	*Gutierrezia sarothrae*	Broom Matchweed
○	*Heliotropium curassavicum*	Salt Heliotrope
✓	*Hirschfeldia incana*	Short-pod Mustard
○	*Lamium amplexicaule*	Henbit
✓	*Lasthenia gracilis*	Common Goldfields
✓	*Layia glandulosa*	White Layia
○	*Lepidium sp.*	Pepperweed
○	*Linanthus bellus*	Desert Beauty
○	*Linanthus dichotomus*	Evening Snow
○	*Lonicera subspicata*	Johnston's Honeysuckle
○	*Malacothrix californica*	California Dandelion
○	*Malacothrix clevelandii*	Cleveland's Malacothrix
○	*Marah macrocarpus*	Wild-cucumber
○	*Marrubium vulgare**	Horehound
○	*Matricaria matricarioides**	Common Pineapple-weed
○	*Mentzelia veatchiana*	Veatch's Stick-leak
○	*Microstons gracilis*	Slender Phlox
○	*Mimulus sp.*	Monkeyflower
○	*Nemophila menzeisii*	Small-flower Baby Blue Eyes
○	*Orobanche bulbosa*	Chaparral Broom-rape

○	*Osmadenia tenella*	Osmadenia
○	*Paeonia californica*	California Peony
○	*Pectocarya sp.*	Pectocarya
✓	*Phacelia sp.*	Phacelia
○	*Pholistoma membranaceum*	White Fiesta Flower
○	*Plagiobothrys sp.*	Popcornflower
○	***Plantago patagonica***	**Desert Plantain**
○	*Platystemon californicus*	Cream Cups
○	*Prunus ilicifolia*	Holly-leaf Cherry
○	*Rafinesquia neomexicana*	Desert Chicory
○	*Ribes quercetorum*	Oak Gooseberry
○	*Rorripa nasturtium-aquaticum*	Water-cress
○	*Rosa californica*	California Rose
○	*Saltugilia australis*	Southern Gilia
○	*Senecio californicus*	California Butterweed
○	*Senecio flaccidus*	Butterweed
○	*Sidalcea malvaeflora*	Checker-bloom
○	*Sisymbrium sp.*	Tumble Mustard
○	*Solidago californica*	California Goldenrod
○	*Stachys ajugoides*	Hedge-nettle
○	*Stephanomeria sp.*	Wreathplant
○	*Streptanthus campestris*	Southern Jewelflower
○	*Stylocline gnaphalioides*	Everlasting Nest-straw
○	*Tetradymia comosa*	Cotton-thorn
○	*Thysanocarpus sp.*	Fringepod
○	*Trichostemma parishii*	Mountain Bluecurls
○	*Tropidocarpum gracile*	Slender Dobie-pod
○	*Uropappus lindleyi*	Silver Puffs
○	*Viola purpurea*	Oak Yellow Violet
○		
○		
○	**Other Flowering Plants:**	
○	Rhus ovata	
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○	**Rare Wildlife or Rare Plants:**	
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Quino Checkerspot Butterfly Protocol Survey — Field Data Sheet

Recorder: Stephen Rink Add'l Person: _____ Date: 4/20/11 GPS Unit: 12

Project: Concentrix Solar Project Map #: ____ Survey Sxn: ____ QCB Protocol Survey # ____ of 5

TIME (24-hour)	Temp (F°):	Wind (avg/max)	% CC	Sky
Start				clear patchy overcast drizzle shower
0938	62	0/7	0-5	clear patchy overcast drizzle shower
1105	63	0.2/12.5	2-5	clear patchy overcast drizzle shower
1235	64	4.2/10.5	2-5	clear patchy overcast drizzle shower
1417	65	12.7/20.8	1-2	clear patchy overcast drizzle shower
1556	67	9.6/16.8	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

	Total
Nymphalidae (Brushfooted Butterflies)	
Euphydryas editha (Quino Checkerspot)	
Euphydryas chalcedona (Henne's Checkerspot)	
Thessalia leanira (Wright's Checkerspot)	
Chlosyne californica (California Patch)	
Chlosyne gabbii (Gabb's Checkerspot)	
Phyciodes mylitta (Mylitta Crescent)	
Junonia coenia (Common Buckeye)	3
Vanessa annabella (West Coast Lady)	
Vanessa atalanta (Red Admiral)	
Vanessa cardui (Painted Lady)	
Vanessa virginiensis (Virginia Lady)	
Nymphalis californica (California Tortoiseshell)	
Danaidae (Milkweed Butterflies)	
Danaus plexippus (Monarch)	
Danaus gilippus (Queen)	
Satyridae (Satyrs)	
Coenonympha californica (Common California Ringlet)	
Pieridae (Whites, Sulphurs)	
Pieris rapae (Cabbage White)	
Pontia sisymbrii (Spring White)	
Pontia beckerii (Becker's White)	
Pontia protodice (Common White)	19
Anthocharis sara (Sara Orangetip)	7
Anthocharis cethura (Felder's Orangetip)	
Euchloe hyantis (Desert Pearly Marble)	
Colias eurytheme (Orange Sulphur)	
Colias harfordii (Harford's Sulphur)	
Nathalis iole (Dainty Sulphur)	
Papilionidae (Swallowtails)	
Papilio polyxenes (Desert Black Swallowtail)	
Papilio eurymedon (Pale swallowtail)	
Papilio rutulus(Western Tiger Swallowtail)	
Riodinidae (Metalmarks)	
Apodemia mormo (Behr's Metalmark)	63
Lycaenidae (Hairstreaks and Blues)	
Celastrina ladon (Spring Azure)	
Leptotes marina (Marine Blue)	
Brephidium exile (Western Pygmy Blue)	
Glaucopsyche lygdamus (Southern Blue/Silvery blue)	
Hemiargus ceraunus (Edward's Blue)	
Icaria acmon (Acmon Blue)	2
Philotes sonorensis (Sonoran Blue)	
Callophrys augustinus (Brown Elfin)	
Callophrys perplexa (Perplexing Green Hairstreak)	
Strymon melinus (Gray Hairstreak)	
Atlides halesus (Great Purple Hairstreak)	

	Total
Hesperiidae (Skippers)	
Erynnis funeralis (Funereal Duskywing)	
Erynnis tristis (Sad Duskywing)	
Erynnis propertius (Proportius Duskywing)	
Erynnis brizo (Sleepy Duskywing)	
Pyrgus albescens (Checkered Skipper)	
Hesperia juba (Juba Skipper)	
Polites sabuleti (Sandhill Skipper)	
Megathymidae (Giant Skippers)	
Megathymus yuccae (Yucca Giant Skipper)	
Other Butterflies:	
Sulphur sp. 1	

Notes:

SR. adv. pg. 2

Potential Nectaring or Host Plants for Quino Checkerspot Butterfly in Boulevard, California (Concentrix Solar)

Instructions:

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	Scientific name	Common name
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○	***Castilleja exerta***	**Paintbrush**
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○	*Gnaphalium*	Cudweed
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○	*Hirshfeldia incana*	Short-pod Mustard
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○	*Rafinesquia neomexicana*	Desert Chicory
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○	*Tetradymia comosa*	Cotton-thorn
○	*Thysanocarpus sp.*	Fringepod
○	*Trichostemma parishii*	Mountain Bluecurls
○	*Tropidocarpum gracile*	Slender Dobie-pod
○	*Uropappus lindleyi*	Silver Puffs
○	*Viola purpurea*	Oak Yellow Violet

Other Flowering Plants:

Rare Wildlife or Rare Plants:

Quino Checkerspot Butterfly Protocol Survey — Field Data Sheet

Recorder: Margie Mulligan Add'l Person: _____ Date: 4.25.11 GPS Unit: 12

Project: Concentrix Solar Project Map #: 3 Survey Sxn: _____ QCB Protocol Survey # 5 of 5

	TIME (24-hour)	Temp (F°):	Wind (avg/max)	% CC	Sky
Start	0910	66°F	1-3	10	clear patchy overcast drizzle shower
	1200	74°F	4-8	10	clear patchy overcast drizzle shower
	1530	77°F	4-9	15	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

	Total		Total
Nymphalidae (Brushfooted Butterflies)		**Hesperiidae (Skippers)**	
Euphydryas editha (Quino Checkerspot)		*Erynnis funeralis* (Funereal Duskywing)	
Euphydryas chalcedona (Henne's Checkerspot)		*Erynnis tristis* (Sad Duskywing)	
Thessalia leanira (Wright's Checkerspot)		*Erynnis propertius* (Propertius Duskywing)	
Chlosyne californica (California Patch)		*Erynnis brizo* (Sleepy Duskeywing)	
Chlosyne gabbii (Gabb's Checkerspot)		*Pyrgus albescens* (Checkered Skipper)	
Phyciodes mylitta (Mylitta Crescent)		*Hesperia jubia* (Jubia Skipper)	
Junonia coenia (Common Buckeye)		*Polites sabuleti* (Sandhill Skipper)	
Vanessa annabella (West Coast Lady		**Megathymidae (Giant Skippers)**	
Vanessa atalanta (Red Admiral)		*Megathymus yuccae* (Yucca Giant Skipper)	
Vanessa cardui (Painted Lady)	I ①		
Vanessa virginiensis (Virginia Lady)		**Other Butterflies:**	
Nymphalis californica (California Tortoiseshell)			
Danaidae (Milkweed Butterflies)			
Danaus plexippus (Monarch)			
Danaus gilippus (Queen)			
Satyridae (Satyrs)			
Coenonympha californica (Common California Ringlet)			
Pieridae (Whites, Sulphurs)			
Pieris rapae (Cabbage White)			
Pontia sisymbrii (Spring White)			
Pontia beckerii (Beker's White)			
Pontia protodice (Common White)	II	②	
Anthocharis sara (Sara Orangetip)			
Anthocharis cethura (Felder's Orangetip)			
Euchloe hyantis (Desert Pearly Marble)			
Colias eurytheme (Orange Sulphur)			
Colias harfordii (Harford's Sulphur)	II	②	
Nathalis iole (Dainty Sulphur)			
Papilionidae (Swallowtails)		**Notes:**	
Papilio polyxenes (Desert Black Swallowtail)		Birds-	
Papilio eurymedon (Pale swallowtail)			
Papilio rutulus (Western Tiger Swallowtail)		Black-throated Gray Warbler	
Riodiniada (Metalmarks)		Red-tail hawk → 2 flying	
Apodemia mormo (Behr's Metalmark)	IIII IIII IIII IIII IIII IIII IIII IIII IIII III		
Lycaenidae (Hairstreaks and Blues)		④	
Celastrina ladon (Spring Azure)			
Leptotes marina (Marine Blue)			
Brephidium exile (Western Pygmy Blue)			
Glaucopsyche lygdamus (Southern Blue/Silvery blue)	II	②	
Hemiargus ceraunus (Edward's Blue)			
Icaria acmon (Acmon Blue)			
Philotes sonorensis (Sonoran Blue)			
Callophrys augustinus (Brown Elfin)			
Callophrys perplexa (Perplexing Green Hairstreak)	I	①	
Strymon melinus (Gray Hairstreak)			
Atlides halesus (Great Purple Hairstreak)			

...tial Nectaring or Host Plants for Quino Checkerspot Butterfly in Boulevard, California (Concentrix Solar)

...ions:

Please Place a Check Mark Beside Flowering Plants. Use Numbered Notes to Add Species Detail.

PLEASE RECORD HOST PLANTS ON GPS See Codes Below:

Antirrhinum coulterianum = AC *Collinsia concolor* = CC *Cordylanthus rigidus* = CR *Plantago patagonica* = PP

X	*Amsinckia menziesii*	Rancher's Fiddleneck
o	***Antirrhinum coulterianum***	**Coulter's Snapdragon**
o	*Antirrhinum nuttallianum*	Nuttall's Snapdragon
o	*Asclepias fascicularis*	Narrow-leaf Milkweed
o	*Boechera sp.*	Rock Cress
o	*Calandrinia ciliata*	Red Maids
o	*Calochortus concolor*	Golden-bowl Mariposa Lily
o	*Calystegia longipes*	Morning-glory
X	*Camissonia sp*	Sun Cup
o	***Castilleja exerta***	**Paintbrush**
o	*Caulanthus heterophyllus*	San Diego Jewelflower
o	*Caulanthus simulans*	Payson's Caulanthus
o	*Ceanothus cuneatus*	Buck Brush
X	*Ceanothus greggii*	Cup-leaf-lilac
o	*Ceanothus leucodermis*	Chaparral Whitethorn
o	*Chaenactis artemisiifolia*	White Pincushion
o	*Chaenactis glabriuscula*	Yellow Pincushion
o	*Clematis sp.*	Clematis
o	***Collinsia concolor***	**Southern Chinese Houses**
o	***Cordylanthus rigidus***	**Dark-tip Bird's Beak**
o	*Coreopsis californica*	California Coreopsis
o	*Corethrogyne filaginifolia*	Common Sand-aster
X	*Cryptantha sp.*	Cryptantha
o	*Cucurbita foetidissima*	Calabazilla
X	*Descurainia sp.*	Tansy-mustard
o	*Dicentra chrysantha*	Golden Ear-drops
o	*Dichelostemma capitatum*	Blue Dicks
o	*Dudleya sp.*	Dudleya
o	*Emmenanthe penduliflora*	Whispering Bells
o	*Eriastrum sp.*	Woolly-star
X	*Encelia sp.* linearifolia	Goldenbush
o	*Erigeron foliosus*	Leafy Daisy
o	*Erodictyon trichocalyx*	Hairy Yerba Santa
o	*Eriogonum fasciculatum*	Inland California Buckwheat
o	*Eriogonum sp.*	Buckwheat
o	*Eriophyllum sp.*	Golden-yarrow
X	*Erodium cicutarium**	Red-stem Storksbill
o	*Erysimum capitatum*	Western Wallflower
X	*Eschscholzia californica*	California Poppy
o	*Eucrypta chrysanthemifolia*	Spotted Hideseed
o	*Euthamia occidentalis*	Western Goldenrod
o	*Garrya veatchii*	Canyon Silk Tassel
o	*Gilia sp*	Gilia
o	*Gnaphalium*	Cudweed
o	*Guillenia lasiophylla*	California Mustard
o	*Gutierrezia sarothrae*	Broom Matchweed
o	*Heliotropium curassavicum*	Salt Heliotrope
X	*Hirschfeldia incana*	Short-pod Mustard
o	*Lamium amplexicaule*	Henbit
X	*Lasthenia gracilis*	Common Goldfields
o	*Layia glandulosa*	White Layia
o	*Lepidium sp.*	Pepperweed
X	*Linanthus bellus*	Desert Beauty
o	*Linanthus dichotomus*	Evening Snow
o	*Lonicera subspicata*	Johnston's Honeysuckle
o	*Malacothrix californica*	California Dandelion
o	*Malacothrix clevelandii*	Cleveland's Malacothrix
X	*Marah macrocarpus*	Wild-cucumber
o	*Marrubium vulgare**	Horehound
o	*Matricaria matricarioides**	Common Pineapple-weed
o	*Mentzelia veatchiana*	Veatch's Stick-leak
o	*Microsteris gracilis*	Slender Phlox
o	*Mimulus sp.*	Monkeyflower
o	*Nemophila menziesii*	Small-flower Baby Blue Eyes
o	*Orobanche bulbosa*	Chaparral Broom-rape

o	*Osmadenia tenella*	Osmadenia
o	*Paeonia californica*	California Peony
X	*Pectocarya sp*	Pectocarya
X	*Phacelia sp.* distans	Phacelia
o	*Phoulistomia membranaceum*	White Fiesta Flower
X	*Plagiobothrys sp.*	Popcornflower
o	***Plantago patagonica***	**Desert Plantain**
o	*Platystemon californicus*	Cream Cups
o	*Prunus ilicifolia*	Holly-leaf Cherry
o	*Rafinesquia neomexicana*	Desert Chicory
o	*Ribes quercetorum*	Oak Gooseberry
o	*Rorripa nasturtium-aquaticum*	Water-cress
o	*Rosa californica*	California Rose
o	*Saltugilia australis*	Southern Gilia
o	*Senecio californicus*	California Butterweed
o	*Senecio flaccidus*	Butterweed
o	*Sidalcea malvaeflora*	Checker-bloom
X	*Sisymbrium sp.* altissimum	Tumble Mustard
o	*Solidago californica*	California Goldenrod
o	*Stachys ajugoides*	Hedge-nettle
o	*Stephanomeria sp.*	Wreathplant
o	*Streptanthus campestris*	Southern Jewelflower
o	*Stylocline gnaphalioides*	Everlasting Nest-straw
o	*Tetradymia comosa*	Cotton-thorn
o	*Thysanocarpus sp*	Fringepod
X	*Trichostemma parishii*	Mountain Bluecurls
o	*Tropidocarpum gracile*	Slender Doble-pod
X	*Uropappus lindleyi*	Silver Puffs
o	*Viola purpurea*	Oak Yellow Violet
o		
o		
o	**Other Flowering Plants:**	
o	Rhus ovata	
o	Leptosiphon hammoni	
o		
o		
o		
o		
o		
o		
o	**Rare Wildlife or Rare Plants:**	
o	Astragalus douglasii parishiis	
o	MMAD01-05	
o	BLACKJACKRABBIT	
o	MMBJ01-04	
o	Delphinium parishii subglobosum	
o	MMDP01	
o		
o	Gerara viscida	
o	MMGV01-03	
o		
o	Linanthus bellus	
o	MMLB01-50	
o		
o	Woodrat Home	
o	MMWR01-04	

Quino Checkerspot Butterfly Protocol Survey — Field Data Sheet

Recorder: Antoinette Gutierrez Add'l Person: None Date: 25 APR 2011 GPS Unit: 2

Project: Concentrix Solar Project Map #: 5 Survey Sxn: Corrugatrix QCB Protocol Survey # 5 of 5

	Time (24-hour)	Temp (F°):	Wind (avg/max)	% CC	Sky				
Start	0900	62	0/0	15	clear	patchy	overcast	drizzle	shower
	1000	70	0/2.1	15	clear	patchy	overcast	drizzle	shower
	1100	74	0/6.1	15	clear	patchy	overcast	drizzle	shower
	1200	76	2.1/7.0	15	clear	patchy	overcast	drizzle	shower
	1300	76	6.0/10	15	clear	patchy	overcast	drizzle	shower
	1400	76	6.0/13	15	clear	patchy	overcast	drizzle	shower
End	1530	74	9.7/15	15	clear	patchy	overcast	drizzle	shower

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

	Total
Nymphalidae (Brushfooted Butterflies)	
Euphydryas editha (Quino Checkerspot)	
Euphydryas chalcedona (Henne's Checkerspot)	
Thessalia leanira (Wright's Checkerspot)	
Chlosyne californica (California Patch)	
Chlosyne gabbii (Gabb's Checkerspot)	
Phyciodes mylitta (Mylitta Crescent)	
Junonia coenia (Common Buckeye)	
Vanessa annabella (West Coast Lady)	
Vanessa atalanta (Red Admiral)	
Vanessa cardui (Painted Lady)	
Vanessa virginiensis (Virginia Lady)	
Nymphalis californica (California Tortoiseshell)	
Danaidae (Milkweed Butterflies)	
Danaus plexippus (Monarch)	
Danaus gilippus (Queen)	
Satyridae (Satyrs)	
Coenonympha californica (Common California Ringlet)	
Pieridae (Whites, Sulphurs)	
Pieris rapae (Cabbage White)	
Pontia sisymbrii (Spring White)	
Pontia beckeri (Beker's White) I	1
Pontia protodice (Common White) III	3
Anthocharis sara (Sara Orangetip)	
Anthocharis cethura (Felder's Orangetip)	
Euchloe hyantis (Desert Pearly Marble)	
Colias eurytheme (Orange Sulphur)	
Colias harfordii (Harford's Sulphur) IIII	6
Nathalis iole (Dainty Sulphur)	
Papilionidae (Swallowtails)	
Papilio polyxenes (Desert Black Swallowtail)	
Papilio eurymedon (Pale swallowtail)	
Papilio rutulus (Western Tiger Swallowtail)	
Riodinidae (Metalmarks)	
Apodemia mormo (Behr's Metalmark)	62
Lycaenidae (Hairstreaks and Blues)	
Celastrina ladon (Spring Azure)	
Leptotes marina (Marine Blue)	
Brephidium exile (Western Pygmy Blue)	
Glaucopsyche lygdamus (Southern Blue/Silvery blue)	
Hemiargus ceraunus (Edward's Blue)	
Icaria acmon (Acmon Blue) I	1
Philotes sonorensis (Sonoran Blue)	
Callophrys augustinus (Brown Elfin)	
Callophrys perplexa (Perplexing Green Hairstreak)	
Strymon melinus (Gray Hairstreak)	
Atlides halesus (Great Purple Hairstreak)	

	Total
Hesperiidae (Skippers)	
Erynnis funeralis (Funereal Duskywing) II	2
Erynnis tristis (Sad Duskywing)	
Erynnis propertius (Propertius Duskywing)	
Erynnis brizo (Sleepy Duskywing)	
Pyrgus albescens (Checkered Skipper)	
Hesperia jubia (Jubia Skipper)	
Polites sabuleti (Sandhill Skipper)	
Megathymidae (Giant Skippers)	
Megathymus yuccae (Yucca Giant Skipper)	
Other Butterflies:	

Notes:

CORA WEST CAQU BRUR BUSH ~~for~~ ATFL TINV, RTHA, LEGO

III 2 recorded

side blocked from fenced lizard

~~sa~~ cottontailed rabbit ca. ground squirrel

cows - active grazing

gopher snake

...ial Nectaring or Host Plants for Quino Checkerspot Butterfly in Boulevard, California (Concentrix Solar)

...ons:

Please Place a Check Mark Beside Flowering Plants. Use Numbered Notes to Add Species Detail.

PLEASE RECORD HOST PLANTS ON GPS See Codes Below:

Antirrhinum coulterianum = AC *Collinsia concolor* = CC *Cordylanthus rigidus* = CR *Plantago patagonica* = PP

✓	*Amsinckia menziesii*	Rancher's Fiddleneck
	Antirrhinum coulterianum	**Coulter's Snapdragon**
	Antirrhinum nuttallianum	Nuttall's Snapdragon
	Asclepias fascicularis	Narrow-leaf Milkweed
	Boechera sp.	Rock Cress
✓	*Calandrinia ciliata*	Red Maids
	Calochortus concolor	Golden-bowl Mariposa Lily
	Calystegia longipes	Morning-glory
	Camissonia sp.	Sun Cup
	Castilleja exerta	**Paintbrush**
	Caulanthus heterophyllus	San Diego Jewelflower
	Caulanthus simulans	Payson's Caulanthus
	Ceanothus cuneatus	Buck Brush
	Ceanothus greggii	Cup-leaf-lilac
	Ceanothus leucodermis	Chaparral Whitethorn
	Chaenactis artemisiifolia	White Pincushion
	Chaenactis glabriuscula	Yellow Pincushion
	Clematis sp.	Clematis
	Collinsia concolor	**Southern Chinese Houses**
	Cordylanthus rigidus	**Dark-tip Bird's Beak**
	Coreopsis californica	California Coreopsis
	Corethrogyne filaginifolia	Common Sand-aster
	Cryptantha sp.	Cryptantha
	Cucurbita foetidissima	Calabazilla
	Descurainia sp.	Tansy-mustard
	Dicentra chrysantha	Golden Ear-drops
	Dichelostemma capitatum	Blue Dicks
	Dudleya sp	Dudleya
	Emmenanthe penduliflora	Whispering Bells
	Eriastrum sp.	Woolly-star
	Ericameria sp.	Goldenbush
	Erigeron foliosus	Leafy Daisy
	Eriodictyon trichocalyx	Hairy Yerba Santa
✓	*Eriogonum fasciculatum*	Inland California Buckwheat
	Eriogonum sp.	Buckwheat
	Eriophyllum sp.	Golden-yarrow
✓	*Erodium cicutarium**	Red-stem Storksbill
	Erysimum capitatum	Western Wallflower
✓	*Eschscholzia californica*	California Poppy
	Eucrypta chrysanthemifolia	Spotted Hideseed
	Euthamia occidentalis	Western Goldenrod
	Garrya veatchii	Canyon Silk Tassel
✓	*Gilia sp.*	Gilia
	Gnaphalium	Cudweed
	Guillenia lasiophylla	California Mustard
✓	*Gutierrezia sarothrae*	Broom Matchweed
	Heliotropium curassavicum	Salt Heliotrope
	Hirshfeldia incana	Short-pod Mustard
	Lamium amplexicaule	Henbit
✓	*Lasthenia gracilis*	Common Goldfields
✓	*Layia glandulosa*	White Layia
	Lepidium sp.	Pepperweed
	Linanthus bellus	Desert Beauty
	Linanthus dichotomus	Evening Snow
	Lonicera subspicata	Johnston's Honeysuckle
✓	*Malacothrix californica*	California Dandelion
	Malacothrix clevelandii	Cleveland's Malacothrix
✓	*Marah macrocarpus*	Wild-cucumber
	*Marrubium vulgare**	Horehound
	*Matricaria matricarioides**	Common Pineapple-weed
	Mentzelia veatchiana	Veatch's Stick-leak
	Microsteris gracilis	Slender Phlox
	Mimulus sp.	Monkeyflower
	Nemophila menziesii	Small-flower Baby Blue Eyes
	Orobanche bulbosa	Chaparral Broom-rape

	Osmadenia tenella	Osmadenia
	Paeonia californica	California Peony
	Pectocarya sp.	Pectocarya
✓	*Phacelia sp.*	Phacelia
	Pholistoma membranaceum	White Fiesta Flower
✓	*Plagiobothrys sp.*	Popcornflower
	Plantago patagonica	Desert Plantain
✓	*Platystemon californicus*	Cream Cups
	Prunus ilicifolia	Holly-leaf Cherry
	Rafinesquia neomexicana	Desert Chicory
	Ribes quercetorum	Oak Gooseberry
	Rorripa nasturtium-aquaticum	Water-cress
	Rosa californica	California Rose
	Saltugilia australis	Southern Gilia
	Senecio californicus	California Butterweed
	Senecio flaccidus	Butterweed
	Sidalcea malvaeflora	Checker-bloom
	Sisymbrium sp.	Tumble Mustard
	Solidago californica	California Goldenrod
	Stachys ajugoides	Hedge-nettle
	Stephanomeria sp.	Wreathplant
	Streptanthus campestris	Southern Jewelflower
	Stylocline gnaphalioides	Everlasting Nest-straw
	Tetradymia comosa	Cotton-thorn
	Thysanocarpus sp.	Fringepod
	Trichostemma parishii	Mountain Bluecurls
	Tropidocarpum gracile	Slender Dobie-pod
	Uropappus lindleyi	Silver Puffs
	Viola purpurea	Oak Yellow Violet

Other Flowering Plants:

Cac

succulent

Rare Wildlife or Rare Plants:

AGNL 1 woodrat nest

AGNL 2 woodrat nest

AGNL 3 woodrat nest

AGHL 1 Horned lizard

AGDP 1 Delphinium parishii population 10

2 " " 12

3 " " 21

4 " " 5

5 " " 12

6 " " 12

7 " " 5

8 " " 20

9 " " 5

10 " " 15

11 " " 5

12 " " 10

13 " " 15

14 " " 5

15 " " 5

16 " " 5

AGBL 1 Black-tailed Jackrabbit

Quino Checkerspot Butterfly Protocol Survey — Field Data Sheet

Recorder: Mike Couffer Add'l Person: Ø Date: [illegible] GPS Unit: 11

Project: Concentrix Solar Project Map #: 4 Survey Sxn: Ø QCB Protocol Survey # [illegible] of 5

	TIME (24-hour)	Temp (F°):	Wind (avg/max)	% CC	Sky				
Start	0900 HRS	67°F	Ø MPH	Ø	clear	patchy	overcast	drizzle	shower
	1000 HRS	72°F	Ø → 1 MPH	Ø	clear	patchy	overcast	drizzle	shower
	1100 HRS	76°	Ø MPH	Ø	clear	patchy	overcast	drizzle	shower
	1200 HRS	76°	3→9 MPH	Ø	clear	patchy	overcast	drizzle	shower
	1300 HRS	76°	2→9 MPH	Ø	clear	patchy	overcast	drizzle	shower
	1400 HRS	76°	4→8 MPH	Ø	clear	patchy	overcast	drizzle	shower
End	1500 HRS	76°F	4→12 MPH	Ø	clear	patchy	overcast	drizzle	shower

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

	Total		Total
Nymphalidae (Brushfooted Butterflies)		**Hesperiidae (Skippers)**	
Euphydryas editha (Quino Checkerspot)		*Erynnis funeralis* (Funereal Duskywing)	
Euphydryas chalcedona (Henne's Checkerspot)	1	*Erynnis tristis* (Sad Duskywing)	1
Thessalia leanira (Wright's Checkerspot)		*Erynnis propertius* (Propertius Duskywing)	2
Chlosyne californica (California Patch)		*Erynnis brizo* (Sleepy Duskeywing)	
Chlosyne gabbii (Gabb's Checkerspot)		*Pyrgus albescens* (Checkered Skipper)	
Phyciodes mylitta (Mylitta Crescent)		*Hesperia juba* (Juba Skipper)	
Junonia coenia (Common Buckeye)	4	*Polites sabuleti* (Sandhill Skipper)	
Vanessa annabella (West Coast Lady)		**Megathymidae (Giant Skippers)**	
Vanessa atalanta (Red Admiral)		*Megathymus yuccae* (Yucca Giant Skipper)	
Vanessa cardui (Painted Lady)	2		
Vanessa virginiensis (Virginia Lady)		**Other Butterflies:**	
Nymphalis californica (California Tortoiseshell)		PHOLISORA CATULLUS (Common Sootywing)	
Danaidae (Milkweed Butterflies)			
Danaus plexippus (Monarch)			
Danaus gilippus (Queen)			
Satyridae (Satyrs)			
Coenonympha californica (Common California Ringlet)			
Pieridae (Whites, Sulphurs)			
Pieris rapae (Cabbage White)			
Pontia sisymbrii (Spring White)	1		
Pontia beckerii (Beker's White)	1		
Pontia protodice (Common White)			
Anthocharis sara (Sara Orangetip)			
Anthocharis cethura (Felder's Orangetip)			
Euchloe hyantis (Desert Pearly Marble)	1		
Colias eurytheme (Orange Sulphur)	1		
Colias harfordii (Harford's Sulphur)			
Nathalis iole (Dainty Sulphur)			
Papilionidae (Swallowtails)		**Notes:**	
Papilio polyxenes (Desert Black Swallowtail)		END 1530 HRS, 77°F, WIND 5→11 MPH, CLEAR	
Papilio eurymedon (Pale swallowtail)			
Papilio rutulus(Western Tiger Swallowtail)			
Riodiniade (Metalmarks)			
Apodemia mormo (Behr's Metalmark)	310		
Lycaenidae (Hairstreaks and Blues)			
Celastrina ladon (Spring Azure)			
Leptotes marina (Marine Blue)			
Brephidium exile (Western Pygmy Blue)			
Glaucopsyche lygdamus (Southern Blue/Silvery blue)	3		
Hemiargus ceraunus (Edward's Blue)			
Icaria acmon (Acmon Blue)	4		
Philotes sonorensis (Sonoran Blue)			
Callophrys augustinus (Brown Elfin)	2		
Callophrys perplexa (Perplexing Green Hairstreak)			
Strymon melinus (Gray Hairstreak)			
Atlides halesus (Great Purple Hairstreak)			

Potential Nectaring or Host Plants for Quino Checkerspot Butterfly in Boulevard, California (Concentrix Solar)

Instructions:

- Please Place a Check Mark Beside Flowering Plants. Use Numbered Notes to Add Species Detail.
- **PLEASE RECORD HOST PLANTS ON GPS** See Codes Below:

Antirrhinum coulterianum = AC *Collinsia concolor* = CC *Cordylanthus rigidus* = CR *Plantago patagonica* = PP

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○	*Antirrhinum nuttallianum*	Nuttall's Snapdragon
○	*Asclepias fascicularis*	Narrow-leaf Milkweed
○	*Boechera sp.*	Rock Cress
○	*Calandrinia ciliata*	Red Maids
○	*Calochortus concolor*	Golden-bowl Mariposa Lily
○	*Calystegia longipes*	Morning-glory
○	*Camissonia sp.*	Sun Cup
○	***Castilleja exerta***	**Paintbrush**
○	*Caulanthus heterophyllus*	San Diego Jewelflower
○	*Caulanthus simulans*	Payson's Caulanthus
○	*Ceanothus cuneatus*	Buck Brush
○	*Ceanothus greggii*	Cup-leaf lilac
○	*Ceanothus leucodermis*	Chaparral Whitethorn
○	*Chaenactis artemisiifolia*	White Pincushion
○	*Chaenactis glabriuscula*	Yellow Pincushion
○	*Clematis sp.*	Clematis
○	***Collinsia concolor***	**Southern Chinese Houses**
○	***Cordylanthus rigidus***	**Dark-lip Bird's Beak**
○	*Coreopsis californica*	California Coreopsis
○	*Corethrogyne filaginifolia*	Common Sand-aster
○	*Cryptantha sp.*	Cryptantha
○	*Cucurbita foetidissima*	Calabazilla
○	*Descurainia sp.*	Tansy-mustard
○	*Dicentra chrysantha*	Golden Ear-drops
○	*Dichelostemma capitatum*	Blue Dicks
○	*Dudleya sp.*	Dudleya
○	*Emmenanthe penduliflora*	Whispering Bells
○	*Eriastrum sp.*	Woolly-star
○	*Ericameria sp.*	Goldenbush
○	*Erigeron foliosus*	Leafy Daisy
○	*Erodictyon trichocalyx*	Hairy Yerba Santa
○	*Eriogonum fasciculatum*	Inland California Buckwheat
○	*Eriogonum sp.*	Buckwheat
○	*Eriophyllum sp.*	Golden-yarrow
○	*Erodium cicutarium**	Red-stem Storksbill
○	*Erysimum capitatum*	Western Wallflower
○	*Eschscholzia californica*	California Poppy
○	*Eucrypta chrysanthemifolia*	Spotted Hideseed
○	*Euthamia occidentalis*	Western Goldenrod
○	*Garrya veatchii*	Canyon Silk Tassel
○	*Gilia sp.*	Gilia
○	*Gnaphalium*	Cudweed
○	*Guillenia lasiophylla*	California Mustard
○	*Gutierrezia sarothrae*	Broom Matchweed
○	*Heliotropium curassavicum*	Salt Heliotrope
○	*Hirshfeldia incana*	Short-pod Mustard
○	*Lamium amplexicaule*	Henbit
○	*Lasthenia gracilis*	Common Goldfields
○	*Layia glandulosa*	White Layia
○	*Lepidium sp.*	Pepperweed
○	*Linanthus bellus*	Desert Beauty
○	*Linanthus dichotomus*	Evening Snow
○	*Lonicera subspicata*	Johnston's Honeysuckle
○	*Malacothrix californica*	California Dandelion
○	*Malacothrix clevelandii*	Cleveland's Malacothrix
○	*Marah macrocarpus*	Wild-cucumber
○	*Marrubium vulgare**	Horehound
○	*Matricaria matricarioides**	Common Pineapple-weed
○	*Menizelia veatchiana*	Veatch's Stick-leak
○	*Microsteris gracilis*	Slender Phlox
○	*Mimulus sp.*	Monkeyflower
○	*Nemophila menzeisii*	Small-flower Baby Blue Eyes
○	*Orobanche bulbosa*	Chaparral Broom-rape
○	*Osmadenia tenella*	Osmadenia
○	*Paeonia californica*	California Peony
○	*Pectocarya sp.*	Pectocarya
○	*Phacelia sp.*	Phacelia
○	*Pholistoma membranaceum*	White Fiesta Flower
○	*Plagiobothrys sp.*	Popcornflower
○	***Plantago patagonica***	**Desert Plantain**
○	*Platystemon californicus*	Cream Cups
○	*Prunus ilicifolia*	Holly-leaf Cherry
○	*Rafinesquia neomexicana*	Desert Chicory
○	*Ribes quercetorum*	Oak Gooseberry
○	*Rorripa nasturtium-aquaticum*	Water-cress
○	*Rosa californica*	California Rose
○	*Saltugilia australis*	Southern Gilia
○	*Senecio californicus*	California Butterweed
○	*Senecio flaccidus*	Butterweed
○	*Sidalcea malvaeflora*	Checker-bloom
○	*Sisymbrium sp.*	Tumble Mustard
○	*Solidago californica*	California Goldenrod
○	*Stachys ajugoides*	Hedge-nettle
○	*Stephanomeria sp.*	Wreathplant
○	*Streptanthus campestris*	Southern Jewelflower
○	*Stylocline gnaphaloides*	Everlasting Nest-straw
○	*Tetradymia comosa*	Cotton-thorn
○	*Thysanocarpus sp.*	Fringepod
○	*Trichostemma parishii*	Mountain Bluecurls
○	*Tropidocarpum gracile*	Slender Dobie-pod
○	*Uropappus lindleyi*	Silver Puffs
○	*Viola purpurea*	Oak Yellow Violet
○		
○		
○	**Other Flowering Plants:**	
○	RHUS OVATA	SUGAR BUSH
○		
○		
○		
○		
○		
○		
○	**Rare Wildlife or Rare Plants:**	
○	MCWW01	WESTERN WHIPTAIL
○	MCWW02	"
○	MCBJ01	BLACK-TAILED JACKRABBIT
○	MCBJ02	"
○	MCBJ03	"
○	MCCH01B	COLLINSIA CONCOLOR
○	MCCH02B	"
○	MCCH03A	"
○	MCCH04A	"
○	MCCH05A	"
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Quino Checkerspot Butterfly Protocol Survey — Field Data Sheet

Recorder: KH Osborne Add'l Person: [illegible] Date: 4/25/2011 GPS Unit: 3

Project: Concentrix Solar Project Map #: 1 Survey Sxn: 1 QCB Protocol Survey # ____ of 5

	TIME (24-hour)	Temp (F°):	Wind (avg/max)	% CC	Sky
Start	9 35	73	2/4	0	clear patchy overcast drizzle shower
	11 00	75	calm	0	clear patchy overcast drizzle shower
	2 00	73	7/14.8	0	clear patchy overcast drizzle shower
	winds like this last 2 hrs				clear patchy overcast drizzle shower
					clear patchy overcast drizzle shower
	3 45	73	10.3/20.9	0	clear patchy overcast drizzle shower
End	4 05	73	" "	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

	Total
Nymphalidae (Brushfooted Butterflies)	
Euphydryas editha (Quino Checkerspot)	
Euphydryas chalcedona (Henne's Checkerspot)	
Thessalia leanira (Wright's Checkerspot)	
Chlosyne californica (California Patch)	
Chlosyne gabbii (Gabb's Checkerspot)	
Phyciodes mylitta (Mylitta Crescent)	
Junonia coenia (Common Buckeye)	
Vanessa annabella (West Coast Lady	
Vanessa atalanta (Red Admiral)	
Vanessa cardui (Painted Lady)	
Vanessa virginiensis (Virginia Lady)	
Nymphalis californica (California Tortoiseshell)	
Danaidae (Milkweed Butterflies)	
Danaus plexippus (Monarch)	
Danaus gilippus (Queen)	
Satyridae (Satyrs)	
Coenonympha californica (Common California Ringlet)	
Pieridae (Whites, Sulphurs)	
Pieris rupae (Cabbage White)	
Pontia sisymbrii (Spring White)	
Pontia beckerii (Beker's White)	
Pontia protodice (Common White)	
Anthocharis sara (Sara Orangetip)	
Anthocharis cethura (Felder's Orangetip)	
Euchloe hyantis (Desert Pearly Marble)	1
Colias eurytheme (Orange Sulphur)	
Colias harfordii (Harford's Sulphur)	
Nathalis iole (Dainty Sulphur)	
Papilionidae (Swallowtails)	
Papilio polyxenes (Desert Black Swallowtail)	
Papilio eurymedon (Pale swallowtail)	
Papilio rutulus (Western Tiger Swallowtail)	1
Riodiniade (Metalmarks)	
Apodemia mormo (Behr's Metalmark)	
Lycaenidae (Hairstreaks and Blues)	
Celastrina ladon (Spring Azure)	
Leptotes marina (Marine Blue)	
Brephidium exile (Western Pygmy Blue)	
Glaucopsyche lygdamus (Southern Blue/Silvery blue) pinsus	1
Hemiargus ceraunus (Edward's Blue)	
Icaria acmon (Acmon Blue)	1111
Philotes sonorensis (Sonoran Blue)	
Callophrys augustinus (Brown Elfin)	1
Callophrys perplexa (Perplexing Green Hairstreak)	
Strymon melinus (Gray Hairstreak)	
Atlides halesus (Great Purple Hairstreak)	

	Total
Hesperiidae (Skippers)	
Erynnis funeralis (Funereal Duskywing)	
Erynnis tristis (Sad Duskywing)	1
Erynnis propertius (Propertius Duskywing)	11
Erynnis brizo (Sleepy Duskeywing)	1
Pyrgus albescens (Checkered Skipper)	
Hesperia jubia (Jubla Skipper)	H. juba 11
Polites sabuleti (Sandhill Skipper)	11
Megathymidae (Giant Skippers)	
Megathymus yuccae (Yucca Giant Skipper)	
Other Butterflies:	
Philosoma catalus	
Ochlodes agricola	
Moths	
Drasteria ochraceae	
Drasteria convergens	
Kodiosoma fulva	

Notes:

...rtial Nectaring or Host Plants for Quino Checkerspot Butterfly in Boulevard, California (Concentrix Solar)

...ions:

Please Place a Check Mark Beside Flowering Plants. Use Numbered Notes to Add Species Detail.

PLEASE RECORD HOST PLANTS ON GPS See Codes Below:

Antirrhinum coulterianum = AC *Collinsia concolor* = CC *Cordylanthus rigidus* = CR *Plantago patagonica* = PP

	Amsinckia menziesii	Rancher's Fiddleneck
	Antirrhinum coulterianum	**Coulter's Snapdragon**
	Antirrhinum nuttallianum	Nuttall's Snapdragon
	Asclepias fascicularis	Narrow-leaf Milkweed
	Boechera sp.	Rock Cress
	Calandrinia ciliata	Red Maids
	Calochortus concolor	Golden-bowl Mariposa Lily
	Calystegia longipes	Morning-glory
	Camissonia sp.	Sun Cup
	Castilleja exerta	**Paintbrush**
	Caulanthus heterophyllus	San Diego Jewelflower
	Caulanthus simulans	Payson's Caulanthus
	Ceanothus cuneatus	Buck Brush
	Ceanothus greggii	Cup-leaf-lilac
	Ceanothus leucodermis	Chaparral Whitethorn
	Chaenactis artemisiifolia	White Pincushion
	Chaenactis glabriuscula	Yellow Pincushion
	Clematis sp.	Clematis
	Collinsia concolor	**Southern Chinese Houses**
	Cordylanthus rigidus	**Dark-lip Bird's Beak**
	Coreopsis californica	California Coreopsis
	Corethrogyne filaginifolia	Common Sand-aster
	Cryptantha sp.	Cryptantha
	Cucurbita foetidissima	Calabazilla
	Descurainia sp.	Tansy-mustard
	Dicentra chrysantha	Golden Ear-drops
	Dichelostemma capitatum	Blue Dicks
	Dudleya sp	Dudleya
	Emmenanthe penduliflora	Whispering Bells
	Eriastrum sp.	Woolly-star
	Ericameria sp.	Goldenbush
	Erigeron foliosus	Leafy Daisy
	Eriodictyon trichocalyx	Hairy Yerba Santa
	Eriogonum fasciculatum	Inland California Buckwheat
	Eriogonum sp.	Buckwheat
	Eriophyllum sp.	Golden-yarrow
	*Erodium cicutarium**	Red-stem Storksbill
	Erysimum capitatum	Western Wallflower
	Eschscholzia californica	California Poppy
	Eucrypta chrysanthemifolia	Spotted Hideseed
	Euthamia occidentalis	Western Goldenrod
	Garrya veatchii	Canyon Silk Tassel
	Gilia sp.	Gilia
	Gnaphalium	Cudweed
	Guillenia lasiophylla	California Mustard
	Gutierrezia sarothrae	Broom Matchweed
	Heliotropium curassavicum	Salt Heliotrope
	Hirschfeldia incana	Short-pod Mustard
	Lepidium amphoxicauda	Henbit
	Lasthenia gracilis	Common Goldfields
	Layia glandulosa	White Layia
	Lepidium sp.	Pepperweed
	Linanthus bellus	Desert Beauty
	Linanthus dichotomus	Evening Snow
	Lonicera subspicata	Johnston's Honeysuckle
	Malacothrix californica	California Dandelion
	Malacothrix clevelandii	Cleveland's Malacothrix
	Marah macrocarpus	Wild-cucumber
	*Marrubium vulgare**	Horehound
	*Matricaria matricaroides**	Common Pineapple-weed
	Mentzelia veatchiana	Veatch's Slick-leak
	Microsteris gracilis	Slender Phlox
	Mimulus sp.	Monkeyflower
	Nemophila menziesii	Small-flower Baby Blue Eyes
	Orobanche bulbosa	Chaparral Broom-rape
	Osmadenia tenella	Osmadenia
	Paeonia californica	California Peony
	Pectocarya sp.	Pectocarya
	Phacelia sp.	Phacelia
	Pholistoma membranaceum	White Fiesta Flower
	Plagiobothrys sp.	Popcornflower
	Plantago patagonica	Desert Plantain
	Platystemon californicus	Cream Cups
	Prunus ilicifolia	Holly-leaf Cherry
	Rafinesquia neomexicana	Desert Chicory
	Ribes quercetorum	Oak Gooseberry
	Rorripa nasturtium-aquaticum	Water-cress
	Rosa californica	California Rose
	Saltugilia australis	Southern Gilia
	Senecio californicus	California Butterweed
	Senecio flaccidus	Butterweed
	Sidalcea malvaeflora	Checker-bloom
	Sisymbrium sp.	Tumble Mustard
	Solidago californica	California Goldenrod
	Stachys ajugoides	Hedge-nettle
	Stephanomeria sp.	Wreathplant
	Streptanthus campestris	Southern Jewelflower
	Stylocline gnaphalioides	Everlasting Nest-straw
	Tetradymia comosa	Cotton-thorn
	Thysanocarpus sp.	Fringepod
	Trichostemma parishii	Mountain Bluecurls
	Tropidocarpum gracile	Slender Dobie-pod
	Uropappus lindleyi	Silver Puffs
	Viola purpurea	Oak Yellow Violet

Other Flowering Plants:

Rare Wildlife or Rare Plants:

Quino Checkerspot Butterfly Protocol Survey — Field Data Sheet

Recorder: Mike Couffer Add'l Person: Ø Date: 26 APRIL GPS Unit: 11

Project: Conceptrix Solar Project Map #: Survey Sxn: Ø QCB Protocol Survey # 5 of 5

	TIME (24-hour)	Temp (F°)	Wind (avg/max)	% CC	Sky
Start	0900HRS	61°F	Ø->1 MPH	Ø	clear patchy overcast drizzle shower
	1000HRS	68°F	Ø->5	Ø	clear patchy overcast drizzle shower
	1100HRS	74°F	Ø->3	Ø	clear patchy overcast drizzle shower
	1200HRS	73°F	Ø->7	Ø	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

	Total		Total
Nymphalidae (Brushfooted Butterflies)		**Hesperiidae (Skippers)**	
Euphydryas editha (Quino Checkerspot)		*Erynnis funeralis* (Funereal Duskywing)	
Euphydryas chalcedona (Henne's Checkerspot)	1	*Erynnis tristis* (Sad Duskywing)	
Thessalia leanira (Wright's Checkerspot)		*Erynnis propertius* (Propertius Duskywing)	1
Chlosyne californica (California Patch)		*Erynnis brizo* (Sleepy Duskeywing)	
Chlosyne gabbii (Gabb's Checkerspot)		*Pyrgus albescens* (Checkered Skipper)	
Phyciodes mylitta (Mylitta Crescent)		*Hesperia juba* (Juba Skipper)	
Junonia coenia (Common Buckeye)	2	*Polites sabuleti* (Sandhill Skipper)	
Vanessa annabella (West Coast Lady)		**Megathymidae (Giant Skippers)**	
Vanessa atalanta (Red Admiral)		*Megathymus yuccae* (Yucca Giant Skipper)	
Vanessa cardui (Painted Lady)			
Vanessa virginiensis (Virginia Lady)		**Other Butterflies:**	
Nymphalis californica (California Tortoiseshell)		PHOLISORA CATULLUS (Common Sootywing)	
Danaidae (Milkweed Butterflies)			
Danaus plexippus (Monarch)			
Danaus gilippus (Queen)			
Satyridae (Satyrs)			
Coenonympha californica (Common California Ringlet)			
Pieridae (Whites, Sulphurs)			
Pieris rapae (Cabbage White)			
Pontia sisymbrii (Spring White)			
Pontia beckerii (Beker's White)	1		
Pontia protodice (Common White)			
Anthocharis sara (Sara Orangetip)			
Anthocharis cethura (Felder's Orangetip)			
Euchloe hyantis (Desert Pearly Marble)	1		
Colias eurytheme (Orange Sulphur)			
Colias harfordii (Harford's Sulphur)			
Nathalis iole (Dainty Sulphur)			
Papilionidae (Swallowtails)		**Notes:**	
Papilio polyxenes (Desert Black Swallowtail)			
Papilio eurymedon (Pale swallowtail)			
Papilio rutulus(Western Tiger Swallowtail)			
Riodiniade (Metalmarks)			
Apodemia mormo (Behr's Metalmark)	145		
Lycaenidae (Hairstreaks and Blues)			
Celastrina ladon (Spring Azure)			
Leptotes marina (Marine Blue)			
Brephidium exile (Western Pygmy Blue)			
Glaucopsyche lygdamus (Southern Blue/Silvery blue)			
Hemiargus ceraunus (Edward's Blue)			
Icaria acmon (Acmon Blue)	1		
Philotes sonorensis (Sonoran Blue)			
Callophrys augustinus (Brown Elfin)	1		
Callophrys perplexa (Perplexing Green Hairstreak)			
Strymon melinus (Gray Hairstreak)			
Atlides halesus (Great Purple Hairstreak)			

Potential Nectaring or Host Plants for Quino Checkerspot Butterfly in Boulevard, California (Concentrix Solar)

Instructions:

- Please Place a Check Mark Beside Flowering Plants. Use Numbered Notes to Add Species Detail.
- **PLEASE RECORD HOST PLANTS ON GPS** See Codes Below:

Antirrhinum coulterianum = AC *Collinsia concolor* = CC *Cordylanthus rigidus* = CR *Plantago patagonica* = PP

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Antirrhinum nuttalianum	Nuttall's Snapdragon
Asclepias fascicularis	Narrow-leaf Milkweed
Boechera sp.	Rock Cress
Calandrinia ciliata	Red Maids
Calochortus concolor	Golden-bowl Mariposa Lily
Calystegia longipes	Morning-glory
Camissonia sp.	Sun Cup
Castilleja exerta	Paintbrush
Caulanthus heterophyllus	San Diego Jewelflower
Caulanthus simulans	Payson's Caulanthus
Ceanothus cuneatus	Buck Brush
Ceanothus greggii	Cup-leaf-lilac
Ceanothus leucodermis	Chaparral Whitethorn
Chaenactis artemisiifolia	White Pincushion
Chaenactis glabriuscula	Yellow Pincushion
Clematis sp.	Clematis
Collinsia concolor	Southern Chinese Houses
Cordylanthus rigidus	Dark-tip Bird's Beak
Coreopsis californica	California Coreopsis
Corethrogyne filaginifolia	Common Sand-aster
Cryptantha sp.	Cryptantha
Cucurbita foetidissima	Calabazilla
Descurainia sp.	Tansy-mustard
Dicentra chrysantha	Golden Ear-drops
Dichelostemma capitatum	Blue Dicks
Dudleya sp.	Dudleya
Emmenanthe penduliflora	Whispering Bells
Eriastrum sp.	Woolly-star
Ericameria sp.	Goldenbush
Erigeron foliosus	Leafy Daisy
Eriodictyon trichocalyx	Hairy Yerba Santa
Eriogonum fasciculatum	Inland California Buckwheat
Eriogonum sp.	Buckwheat
Eriophyllum sp.	Golden-yarrow
*Erodium cicutarium**	Red-stem Stork's-bill
Erysimum capitatum	Western Wallflower
Eschscholzia californica	California Poppy
Eucrypta chrysanthemifolia	Spotted Hideseed
Euthamia occidentalis	Western Goldenrod
Garrya veatchii	Canyon Silk Tassel
Gilia sp.	Gilia
Gnaphalium	Cudweed
Guillenia lasiophylla	California Mustard
Gutierrezia sarothrae	Broom Matchweed
Heliotropium curassavicum	Salt Heliotrope
Hirschfeldia incana	Short-pod Mustard
Lamium amplexicaule	Henbit
Lasthenia gracilis	Common Goldfields
Layia glandulosa	White Layia
Lepidium sp.	Pepperweed
Linanthus bellus	Desert Beauty
Linanthus dichotomus	Evening Snow
Lonicera subspicata	Johnston's Honeysuckle
Malacothrix californica	California Dandelion
Malacothrix clevelandii	Cleveland's Malacothrix
Marah macrocarpus	Wild-cucumber
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*Matricaria matricarioides**	Common Pineapple-weed
Mentzelia veatchiana	Veatch's Stick-leaf
Microsteris gracilis	Slender Phlox
Mimulus sp.	Monkeyflower
Nemophila menziesii	Small-flower Baby Blue Eyes
Orobanche bulbosa	Chaparral Broom-rape
Osmadenia tenella	Osmadenia
Paeonia californica	California Peony
Pectocarya sp.	Pectocarya
Phacelia sp.	Phacelia
Phoilistoma membranaceum	White Fiesta Flower
Plagiobothrys sp.	Popcornflower
Plantago patagonica	Desert Plantain
Platystemon californicus	Cream Cups
Prunus ilicifolia	Holly-leaf Cherry
Rafinesquia neomexicana	Desert Chicory
Ribes quercetorum	Oak Gooseberry
Rorippa nasturtium-aquaticum	Water-cress
Rosa californica	California Rose
Saltugilia australis	Southern Gilia
Senecio californicus	California Butterweed
Senecio flaccidus	Butterweed
Sidalcea malvaeflora	Checker-bloom
Sisymbrium sp.	Tumble Mustard
Solidago californica	California Goldenrod
Stachys ajugoides	Hedge-nettle
Stephanomeria sp.	Wreathplant
Streptanthus campestris	Southern Jewelflower
Stylocline gnaphalioides	Everlasting Nest-straw
Tetradymia comosa	Cotton-thorn
Thysanocarpus sp.	Fringepod
Trichostemma parishii	Mountain Bluecurls
Tropidocarpum gracile	Slender Doble-pod
Uropappus lindleyi	Silver Puffs
Viola purpurea	Oak Yellow Violet

Other Flowering Plants:

RHUS OVATA SUGAR BUSH

Rare Wildlife or Rare Plants:

MCBJ01 BLACK-TAILED JACKRABBIT
MCBJ02 "
MCBJ03 "
MCBJ04 "
MCBJ05 "

Quino Checkerspot Butterfly Protocol Survey — Field Data Sheet

Recorder: Antonette Gutierrez Add'l Person: None Date: 26 APR 2011 GPS Unit: 2

Project: Concentrix Solar Project Map #: 2 Survey Sxn: Concentrix QCB Protocol Survey # 5 of 5

	TIME (24-hour)	Temp (F°):	Wind (avg/max)	% CC	Sky
Start	1330	76	2.1/8.0	0	clear patchy overcast drizzle shower
	~~1450~~	~~76~~	~~1.9/7.8~~	~~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	1450	76	1.9/7.8	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

	Total		Total
Nymphalidae (Brushfooted Butterflies)		**Hesperiidae (Skippers)**	
Euphydryas editha (Quino Checkerspot)		*Erynnis funeralis* (Funereal Duskywing)	1
Euphydryas chalcedona (Henne's Checkerspot)		*Erynnis tristis* (Sad Duskywing)	
Thessalia leanira (Wright's Checkerspot)		*Erynnis propertius* (Propertius Duskywing)	
Chlosyne californica (California Patch)		*Erynnis brizo* (Sleepy Duskeywing)	
Chlosyne gabbii (Gabb's Checkerspot)		*Pyrgus albescens* (Checkered Skipper)	
Phyciodes mylitta (Mylitta Crescent)		*Hesperia jubia* (Jubia Skipper)	
Junonia coenia (Common Buckeye)		*Polites sabuleti* (Sandhill Skipper)	
Vanessa annabella (West Coast Lady		**Megathymidae (Giant Skippers)**	
Vanessa atalanta (Red Admiral)		*Megathymus yuccae* (Yucca Giant Skipper)	
Vanessa cardui (Painted Lady)			
Vanessa virginiensis (Virginia Lady)		**Other Butterflies:**	
Nymphalis californica (California Tortoiseshell)		Sooty dusky wing	1
Danaidae (Milkweed Butterflies)			
Danaus plexippus (Monarch)			
Danaus gilippus (Queen)			
Satyridae (Satyrs)			
Coenonympha californica (Common California Ringlet)			
Pieridae (Whites, Sulphurs)			
Pieris rapae (Cabbage White)			
Pontia sisymbrii (Spring White)			
Pontia beckerii (Baker's White)			
Pontia protodice (Common White)			
Anthocharis sara (Sara Orangetip)			
Anthocharis cethura (Felder's Orangetip)			
Euchloe hyantis (Desert Pearly Marble)			
Colias eurytheme (Orange Sulphur)			
Colias harfordii (Harford's Sulphur)			
Nathalis iole (Dainty Sulphur)			
Papilionidae (Swallowtails)		**Notes:**	
Papilio polyxenes (Desert Black Swallowtail)		WESJ, BUSH, RTHA, WCSP, LEGO	
Papilio eurymedon (Pale swallowtail)		CAQU, CORA, ANHU	
Papilio rutulus (Western Tiger Swallowtail)			
Riodiniade (Metalmarks)			
Apodemia mormo (Behr's Metalmark)	16	Western fence lizard, side blotch lizard	
Lycaenidae (Hairstreaks and Blues)			
Celastrina ladon (Spring Azure)			
Leptotes marina (Marine Blue)			
Brephidium exile (Western Pygmy Blue)			
Glaucopsyche lygdamus (Southern Blue/Silvery blue)			
Hemiargus ceraunus (Edward's Blue)			
Icaria acmon (Acmon Blue)			
Philotes sonorensis (Sonoran Blue)			
Callophrys augustinus (Brown Elfin)			
Callophrys perplexa (Perplexing Green Hairstreak)			
Strymon melinus (Gray Hairstreak)			
Atlides halesus (Great Purple Hairstreak)			

...al Nectaring or Host Plants for Quino Checkerspot Butterfly in Boulevard, California (Concentrix Solar)

...ons:

Please Place a Check Mark Beside Flowering Plants. Use Numbered Notes to Add Species Detail.

PLEASE RECORD HOST PLANTS ON GPS See Codes Below:

Antirrhinum coulterianum = AC *Collinsia concolor* = CC *Cordylanthus rigidus* = CR *Plantago patagonica* = PP

Amsinckia menziesii	Rancher's Fiddleneck
Antirrhinum coulterianum	**Coulter's Snapdragon**
Antirrhinum nuttallianum	Nuttall's Snapdragon
Asclepias fascicularis	Narrow-leaf Milkweed
Boechera sp.	Rock Cress
Calandrinia ciliata	Red Maids
Calochortus concolor	Golden-bowl Mariposa Lily
Calystegia longipes	Morning-glory
Camissonia sp.	Sun Cup
Castilleja exerta	**Paintbrush**
Caulanthus heterophyllus	San Diego Jewelflower
Caulanthus simulans	Payson's Caulanthus
Ceanothus cuneatus	Buck Brush
Ceanothus greggii	Cup-leaf-lilac
Ceanothus leucodermis	Chaparral Whitethorn
Chaenactis artemisiifolia	White Pincushion
Chaenactis glabriuscula	Yellow Pincushion
Clematis sp.	Clematis
Collinsia concolor	**Southern Chinese Houses**
Cordylanthus rigidus	**Dark-tip Bird's Beak**
Coreopsis californica	California Coreopsis
Corethrogyne filaginifolia	Common Sand-aster
Cryptantha sp.	Cryptantha
Cucurbita foetidissima	Calabazilla
Descurainia sp.	Tansy-mustard
Dicentra chrysantha	Golden Ear-drops
Dichelostomma capitatum	Blue Dicks
Dudleya sp.	Dudleya
Emmenanthe penduliflora	Whispering Bells
Eriastrum sp.	Woolly-star
Ericameria sp.	Goldenbush
Erigeron foliosus	Leafy Daisy
Eriodictyon trichocalyx	Hairy Yerba Santa
Eriogonum fasciculatum	Inland California Buckwheat
Eriogonum sp.	Buckwheat
Eriophyllum sp.	Golden-yarrow
*Erodium cicutarium**	Red-stem Storksbill
Erysimum capitatum	Western Wallflower
Eschscholzia californica	California Poppy
Eucrypta chrysanthemifolia	Spotted Hideseed
Euthamia occidentalis	Western Goldenrod
Garrya veatchii	Canyon Silk Tassel
Gilia sp.	Gilia
Gnaphalium	Cudweed
Guillenia lasiophylla	California Mustard
Gutierrezia sarothrae	Broom Matchweed
Heliotropium curassavicum	Salt Heliotrope
Hirshfeldia incana	Short-pod Mustard
Lamium amplexicaule	Henbit
Lasthenia gracilis	Common Goldfields
Layia glandulosa	White Layia
Lepidium sp.	Pepperweed
Linanthus bellus	Desert Beauty
Linanthus dichotomus	Evening Snow
Lonicera subspicata	Johnston's Honeysuckle
Malacothrix californica	California Dandelion
Malacothrix clevelandii	Cleveland's Malacothrix
Marah macrocarpus	Wild-cucumber
*Marrubium vulgare**	Horehound
*Matricaria matricarioides**	Common Pineapple-weed
Mentzelia veatchiana	Veatch's Stick-leak
Microsteris gracilis	Slender Phlox
Mimulus sp.	Monkeyflower
Nemophila menziesii	Small-flower Baby Blue Eyes
Orobanche hulbosa	Chaparral Broom-rape
Osmadenia tenella	Osmadenia
Paeonia californica	California Peony
Pectocarya sp.	Pectocarya
Phacelia sp.	Phacelia
Pholistoma membranaceum	White Fiesta Flower
Plagiobothrys sp.	Popcornflower
Plantago patagonica	Desert Plantain
Platystemon californicus	Cream Cups
Prunus ilicifolia	Holly-leaf Cherry
Rafinesquia neomexicana	Desert Chicory
Ribes quercetorum	Oak Gooseberry
Rorripa nasturtium-aquaticum	Water-cress
Rosa californica	California Rose
Saltugilia australis	Southern Gilia
Senecio californicus	California Butterweed
Senecio flaccidus	Butterweed
Sidalcea malvaeflora	Checker-bloom
Sisymbrium sp.	Tumble Mustard
Solidago californica	California Goldenrod
Stachys ajugoides	Hedge-nettle
Stephanomeria sp	Wreathplant
Streptanthus campestris	Southern Jewelflower
Stylocline gnaphalioides	Everlasting Nest-straw
Tetradymia comosa	Cotton-thorn
Thysanocarpus sp.	Fringepod
Trichostemma parishii	Mountain Bluecurls
Tropidocarpum gracile	Slender Dobie-pod
Uropappus lindleyi	Silver Puffs
Viola purpurea	Oak Yellow Violet

Other Flowering Plants:

Rare Wildlife or Rare Plants:

AG LB 1 Linanthus bellus pop=5

AG LB 2 " " pop=65

AG NL 1 woodrat nest

AG DP 1 Delphinium parishii pop=2

Quino Checkerspot Butterfly Protocol Survey — Field Data Sheet

Recorder: Antonette Gutierrez Add'l Person: None Date: 26 APR 2011 GPS Unit: 2

Project: Concentrix Solar Project Map #: 5 Survey Sxn: Concentrix QCB Protocol Survey # 5 of 5

	TIME (24-hour)	Temp (F°):	Wind (avg/max)	% CC	Sky
Start	0900	62	1.8/6.0	0	clear patchy overcast drizzle shower
	1100	71	1.1/5.0	0	clear patchy overcast drizzle shower
	1200	75	0/5.0	0	clear patchy overcast drizzle shower
	1315	78	2.1/3.6	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

	Total		Total
Nymphalidae (Brushfooted Butterflies)		**Hesperiidae (Skippers)**	
Euphydryas editha (Quino Checkerspot)		*Erynnis funeralis* (Funereal Duskywing)	
Euphydryas chalcedona (Henne's Checkerspot)		*Erynnis tristis* (Sad Duskywing)	
Thessalia leanira (Wright's Checkerspot)		*Erynnis propertius* (Propertius Duskywing)	
Chlosyne californica (California Patch)		*Erynnis brizo* (Sleepy Duskeywing)	
Chlosyne gabbii (Gabb's Checkerspot)		*Pyrgus albescens* (Checkered Skipper)	
Phyciodes mylitta (Mylitta Crescent)		*Hesperia jubia* (Jubia Skipper)	1
Junonia coenia (Common Buckeye) 𝍸 IIII	9	*Politos sabuleti* (Sandhill Skipper)	
Vanessa annabella (West Coast Lady		**Megathymidae (Giant Skippers)**	
Vanessa atalanta (Red Admiral)		*Megathymus yuccae* (Yucca Giant Skipper)	
Vanessa cardui (Painted Lady)			
Vanessa virginiensis (Virginia Lady)		**Other Butterflies:**	
Nymphalis californica (California Tortoiseshell)		Western tail blue 𝍸	6
Danaidae (Milkweed Butterflies)		sooty dusky wing II	2
Danaus plexippus (Monarch)			
Danaus gilippus (Queen)			
Satyridae (Satyrs)			
Coenonympha californica (Common California Ringlet)			
Pieridae (Whites, Sulphurs)			
Pieris rapae (Cabbage White)			
Pontia sisymbrii (Spring White)			
Pontia beckeni (Beker's White) I	1		
Pontia protodice (Common White) II	2		
Anthocharis sara (Sara Orangetip) I	1		
Anthocharis cethura (Felder's Orangetip)			
Euchloe hyantis (Desert Pearly Marble)			
Colias eurytheme (Orange Sulphur)			
Colias harfordii (Harford's Sulphur)			
Nathalis iole (Dainty Sulphur)			
Papilionidae (Swallowtails)		**Notes:**	
Papilio polyxenes (Desert Black Swallowtail)		WESJ, ATFL, CARI, CORA, RTHAPr, HOLAPr,	
Papilio eurymedon (Pale swallowtail)		CAQU, TUVU, LEGO, NOMO, WEME, EUST,	
Papilio rutulus (Western Tiger Swallowtail) II	2	BUDZ, LATH, COHU, WESP	
Riodiniade (Metalmarks)		GOSHpr or nest with 2 nestling 5 ♀	
Apodemia mormo (Behr's Metalmark)	61 ♀	In scrub oak	
Lycaenidae (Hairstreaks and Blues)		Western whiptail, western fence lizard,	
Celastrina ladon (Spring Azure)		side blotch lizard,	
Leptotes marina (Marine Blue)			
Brephidium exile (Western Pygmy Blue)		Cottontailed rabbit	
Glaucopsyche lygdamus (Southern Blue/Silvery blue)		Ca. ground squirrel	
Hemiargus ceraunus (Edward's Blue)		jack rabbit	
Icaria acmon (Acmon Blue) IIII	4		
Philotes sonorensis (Sonoran Blue)			
Callophrys augustinus (Brown Elfin)			
Callophrys perplexa (Perplexing Green Hairstreak)			
Strymon melinus (Gray Hairstreak)			
Atlides halesus (Great Purple Hairstreak) I	1		

...ntial Nectaring or Host Plants for Quino Checkerspot Butterfly in Boulevard, California (Concentrix Solar)

...ctions:

Please Place a Check Mark Beside Flowering Plants. Use Numbered Notes to Add Species Detail.

► **PLEASE RECORD HOST PLANTS ON GPS** See Codes Below:

Antirrhinum coulterianum = AC *Collinsia concolor* = CC *Cordylanthus rigidus* = CR *Plantago patagonica* = PP

✓	*Amsinckia menziesii*	Rancher's Fiddleneck
	Antirrhinum coulterianum	**Coulter's Snapdragon**
	Antirrhinum nuttallianum	Nuttall's Snapdragon
	Asclepias fascicularis	Narrow-leaf Milkweed
	Boechera sp.	Rock Cress
✓	*Calandrinia ciliata*	Red Maids
	Calochortus concolor	Golden-bowl Mariposa Lily
✓	*Calystegia longipes*	Morning-glory
✓	*Camissonia sp.*	Sun Cup
	Castilleja exerta	**Paintbrush**
✓	*Caulanthus heterophyllus*	San Diego Jewelflower
	Caulanthus simulans	Payson's Caulanthus
	Ceanothus cuneatus	Buck Brush
	Ceanothus greggii	Cup-leaf-lilac
	Ceanothus leucodermis	Chaparral Whitethorn
	Chaenactis artemisiifolia	White Pincushion
	Chaenactis glabriuscula	Yellow Pincushion
✓	*Clematis sp*	Clematis
	Collinsia concolor	**Southern Chinese Houses**
	Cordylanthus rigidus	**Dark-lip Bird's Beak**
	Coreopsis californica	California Coreopsis
	Corethrogyne filaginifolia	Common Sand-aster
✓	*Cryptantha sp.*	Cryptantha
	Cucurbita foetidissima	Calabazilla
	Descurainia sp.	Tansy-mustard
	Dicentra chrysantha	Golden Ear-drops
	Dichelostemma capitatum	Blue Dicks
	Dudleya sp.	Dudleya
	Emmenantho penduliflora	Whispering Bells
	Eriastrum sp	Woolly-star
✓	*Ericameria sp.*	Goldenbush
	Erigeron foliosus	Leafy Daisy
	Eriodictyon trichocalyx	Hairy Yerba Santa
✓	*Eriogonum fasciculatum*	Inland California Buckwheat
✓	*Eriogonum sp*	Buckwheat
	Eriophyllum sp.	Golden-yarrow
	*Erodium cicutarium**	Red-stem Storksbill
	Erysimum capitatum	Western Wallflower
✓	*Eschscholzia californica*	California Poppy
	Eucrypta chrysanthemifolia	Spotted Hideseed
	Euthamia occidentalis	Western Goldenrod
	Garrya veatchii	Canyon Silk Tassel
✓	*Gilia sp.*	Gilia
	Gnaphalium	Cudweed
✓	*Guillenia lasiophylla*	California Mustard
✓	*Gutierrezia sarothrae*	Broom Matchweed
	Heliotropium curassavicum	Salt Heliotrope
	Hirshfeldia incana	Short-pod Mustard
	Lamium amplexicaule	Henbit
✓	*Lasthenia gracilis*	Common Goldfields
	Layia glandulosa	White Layia
	Lepidium sp.	Pepperweed
	Linanthus bellus	Desert Beauty
	Linanthus dichotomus	Evening Snow
	Lonicera subspicata	Johnston's Honeysuckle
✓	*Malacothrix californica*	California Dandelion
	Malacothrix clevelandii	Cleveland's Malacothrix
✓	*Marah macrocarpus*	Wild-cucumber
	*Marrubium vulgare**	Horehound
	*Matricaria matricarioides**	Common Pineapple-weed
	Mentzelia veatchiana	Veatch's Stick-leak
	Microsteris gracilis	Slender Phlox
	Mimulus sp.	Monkeyflower
	Nemophila menziesii	Small-flower Baby Blue Eyes
	Orobanche bulbosa	Chaparral Broom-rape
	Osmadenia tenella	Osmadenia
	Paeonia californica	California Peony
	Pectocarya sp.	Pectocarya
	Phacelia sp.	Phacelia
	Pholistoma membranaceum	White Fiesta Flower
✓	*Plagiobothrys sp.*	Popcornflower
	Plantago patagonica	**Desert Plantain**
✓	*Platystemon californicus*	Cream Cups
	Prunus ilicifolia	Holly-leaf Cherry
	Rafinesquia neomexicana	Desert Chicory
	Ribes quercetorum	Oak Gooseberry
	Rorripa nasturtium-aquaticum	Water-cress
	Rosa californica	California Rose
	Saltugilia australis	Southern Gilia
	Senecio californicus	California Butterweed
	Senecio flaccidus	Butterweed
	Sidalcea malvaeflora	Checker-bloom
	Sisymbrium sp.	Tumble Mustard
	Solidago californica	California Goldenrod
	Stachys ajugoides	Hedge-nettle
	Stephanomeria sp.	Wreathplant
	Streptanthus campestris	Southern Jewelflower
	Stylocline gnaphalioides	Everlasting Nest-straw
	Tetradymia canosa	Cotton-thorn
	Thysanocarpus sp.	Fringepod
	Trichostemma parishii	Mountain Bluecurls
	Tropidocarpum gracile	Slender Dobie-pod
	Uropappus lindleyi	Silver Puffs
	Viola purpurea	Oak Yellow Violet

Other Flowering Plants:

Rare Wildlife or Rare Plants:

AGWH 1 western whiptail

AGLA 1 pair HOLA horned larks

AGLA 2 " " " "

AGWH 2 western whiptail

AGLH 1 Loggerhead shrike Nest + pair

Quino Checkerspot Butterfly Protocol Survey — Field Data Sheet

Recorder: K.H. Osborn Add'l Person: [illegible] Date: 4/26/2011 GPS Unit: 10

Project: Concentrix Solar Project Map #: Survey Sxn: QCB Protocol Survey # of 5

	TIME (24-hour)	Temp (F°):	Wind (avg/max)	% cc	Sky
Map 3 Start	935	64	3/5	0	clear patchy overcast drizzle shower
	1045	67	4/7	0	clear patchy overcast drizzle shower
	1200	70	1/8	0	clear patchy overcast drizzle shower
					clear patchy overcast drizzle shower
Map 6	145	71	2/5	0	clear patchy overcast drizzle shower
					clear patchy overcast drizzle shower
End	210	72	3.6/5	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

	Map 3	Map 6	Total
Nymphalidae (Brushfooted Butterflies)			
Euphydryas editha (Quino Checkerspot)			
Euphydryas chalcedona (Henne's Checkerspot)			
Thessalia leanira (Wright's Checkerspot)			
Chlosyne californica (California Patch)			
Chlosyne gabbii (Gabb's Checkerspot)			
Phyciodes mylitta (Mylitta Crescent)			
Junonia coenia (Common Buckeye)	IIII	III	7/3
Vanessa annabella (West Coast Lady)			
Vanessa atalanta (Red Admiral)			
Vanessa cardui (Painted Lady)			
Vanessa virginiensis (Virginia Lady)			
Nymphalis californica (California Tortoiseshell)			
Danaidae (Milkweed Butterflies)			
Danaus plexippus (Monarch)			
Danaus gilippus (Queen)			
Satyridae (Satyrs)			
Coenonympha californica (Common California Ringlet)			
Pieridae (Whites, Sulphurs)			
Pieris rapae (Cabbage White)			
Pontia sisymbrii (Spring White)			
Pontia beckerii (Beker's White)			
Pontia protodice (Common White) III		4	
Anthocharis sara (Sara Orangetip)			
Anthocharis cethura (Felder's Orangetip)			
Euchloe hyantis (Desert Pearly Marble) II		2	
Colias eurytheme (Orange Sulphur)	1	1	
Colias harfordii (Harford's Sulphur)			
Nathalis iole (Dainty Sulphur)			
Papilionidae (Swallowtails)			
Papilio polyxenes (Desert Black Swallowtail)			
Papilio eurymedon (Pale swallowtail)			
Papilio rutulus (Western Tiger Swallowtail)			
Riodinlade (Metalmarks)			
Apodemia mormo (Behr's Metalmark) XX	XX	80/20	
Lycaenidae (Hairstreaks and Blues)			
Celastrina ladon (Spring Azure)			
Leptotes marina (Marine Blue)			
Brephidium exile (Western Pygmy Blue)			
Glaucopsyche lygdamus (Southern Blue/Silvery blue)			
Hemiargus ceraunus (Edward's Blue)			
Icaria acmon (Acmon Blue) IIII	III	4/3	
Philotes sonorensis (Sonoran Blue)			
Callophrys augustinus (Brown Elfin)			
Callophrys perplexa (Perplexing Green Hairstreak)			
Strymon melinus (Gray Hairstreak)			
Atlides halesus (Great Purple Hairstreak) I		1	

	Map 3	Map 6	Total
Hesperiidae (Skippers)			
Erynnis funeralis (Funereal Duskywing)			
Erynnis tristis (Sad Duskywing)			
Erynnis propertius (Propertius Duskywing)			
Erynnis brizo (Sleepy Duskywing)			
Pyrgus albescens (Checkered Skipper)			
Hesperia juba (Juba Skipper) II			2
Polites sabuleti (Sandhill Skipper)			
Megathymidae (Giant Skippers)			
Megathymus yuccae (Yucca Giant Skipper)			
Other Butterflies:			
Plebejus lupini I			1
Philosoma catalina III			3
Moths			
Kodiosoma fulva II			2
Stylopoda cephalica II			2
Schinia aurantiaca V			5

Notes:

Very good conditions

Lasthenia gracilis to end of

Also Calochortus, Gallardia

larvae on Castilleja [illegible]

Potential Nectaring or Host Plants for Quino Checkerspot Butterfly in Boulevard, California (Concentrix Solar)

Instructions:

- Please Place a Check Mark Beside Flowering Plants. Use Numbered Notes to Add Species Detail.
- **PLEASE RECORD HOST PLANTS ON GPS** See Codes Below:

Antirrhinum coulterianum = AC *Collinsia concolor* = CC *Cordylanthus rigidus* = CR *Plantago patagonica* = PP

Check	Scientific name	Common name	Notes
	Amsinckia menziesii	Rancher's Fiddleneck	
	Antirrhinum coulterianum	**Coulter's Snapdragon**	
	Antirrhinum nuttallianum	Nuttall's Snapdragon	
	Asclepias fascicularis	Narrow-leaf Milkweed	
	Boechera sp.	Rock Cress	
	Calandrinia ciliata	Red Maids	
	Calochortus concolor	Golden-bowl Mariposa Lily	
	Calystegia longipes	Morning-glory	
	Camissonia sp.	Sun Cup	
	Castilleja exerta	**Paintbrush**	
	Caulanthus heterophyllus	San Diego Jewelflower	
	Caulanthus simulans	Payson's Caulanthus	
	Ceanothus cuneatus	Buck Brush	
✓	*Ceanothus greggii*	Cup-leaf-lilac	[illegible] 3, 6
	Ceanothus leucodermis	Chaparral Whitethorn	
	Chaenactis artemisiifolia	White Pincushion	
	Chaenactis glabriuscula	Yellow Pincushion	
	Clematis sp.	Clematis	
	Collinsia concolor	**Southern Chinese Houses**	
	Cordylanthus rigidus	**Dark-tip Bird's Beak**	
	Coreopsis californica	California Coreopsis	
	Corethrogyne filaginifolia	Common Sand-aster	
✓	*Cryptantha sp.*	Cryptantha	[illegible] 3, 6
	Cucurbita foetidissima	Calabazilla	
	Descurainia sp.	Tansy-mustard	
	Dicentra chrysantha	Golden Ear-drops	
	Dichelostemma capitatum	Blue Dicks	
	Dudleya sp.	Dudleya	
	Emmenanthe penduliflora	Whispering Bells	
	Eriastrum sp.	Woolly-star	
✓	*Ericameria sp.*	Goldenbush	[illegible] 3, 6
	Erigeron foliosus	Leafy Daisy	
	Eriodictyon trichocalyx	Hairy Yerba Santa	
	Eriogonum fasciculatum	Inland California Buckwheat	
	Eriogonum sp.	Buckwheat	
	Eriophyllum sp.	Golden-yarrow	
	*Erodium cicutarium**	Red-stem Storksbill	
	Erysimum capitatum	Western Wallflower	
	Eschscholzia californica	California Poppy	
	Eucrypta chrysanthemifolia	Spotted Hideseed	
	Euthamia occidentalis	Western Goldenrod	
	Garrya veatchii	Canyon Silk Tassel	
	Gilia sp.	Gilia	
	Gnaphalium	Cudweed	
	Guillenia lasiophylla	California Mustard	
	Gutierrezia sarothrae	Broom Matchweed	
	Heliotropium curassavicum	Salt Heliotrope	
	Hirshfeldia incana	Short-pod Mustard	
	Lamium amplexicaule	Henbit	
✓	*Lasthenia gracilis*	Common Goldfields	[illegible] 3, 6
✓	*Layia glandulosa*	White Layia	[illegible] 3
	Lepidium sp.	Pepperweed	
	Linanthus bellus	Desert Beauty	
	Linanthus dichotomus	Evening Snow	
	Lonicera subspicata	Johnston's Honeysuckle	
	Malacothrix californica	California Dandelion	
	Malacothrix clevelandii	Cleveland's Malacothrix	
	Marah macrocarpus	Wild-cucumber	
	*Marrubium vulgare**	Horehound	
	*Matricaria matricarioides**	Common Pineapple-weed	
	Mentzelia veatchiana	Veatch's Stick-leaf	
	Microsteris gracilis	Slender Phlox	
	Mimulus sp.	Monkeyflower	
	Nemophila menziesii	Small-flower Baby Blue Eyes	
	Orobanche bulbosa	Chaparral Broom-rape	

Check	Scientific name	Common name	Notes
	Osmadenia tenella	Osmadenia	
	Paeonia californica	California Peony	
	Pectocarya sp.	Pectocarya	
✓	*Phacelia sp.*	Phacelia	[illegible] 3
	Pholistoma membranaceum	White Fiesta Flower	
	Plagiobothrys sp.	Popcornflower	
	Plantago patagonica	**Desert Plantain**	
	Platystemon californicus	Cream Cups	
	Prunus ilicifolia	Holly-leaf Cherry	
	Rafinesquia neomexicana	Desert Chicory	
	Ribes quercetorum	Oak Gooseberry	
	Rorippa nasturtium-aquaticum	Water-cress	
	Rosa californica	California Rose	
	Saltugilia australis	Southern Gilia	
	Senecio californicus	California Butterweed	
	Senecio flaccidus	Butterweed	
	Sidalcea malvaeflora	Checker-bloom	
	Sisymbrium sp.	Tumble Mustard	
	Solidago californica	California Goldenrod	
	Stachys ajugoides	Hedge-nettle	
	Stephanomeria sp.	Wreathplant	
	Streptanthus campestris	Southern Jewelflower	
	Stylocline gnaphalioides	Everlasting Nest-straw	
	Tetradymia comosa	Cotton-thorn	
	Thysanocarpus sp.	Fringepod	
	Trichostemma parishii	Mountain Bluecurls	
	Tropidocarpum gracile	Slender Dobie-pod	
	Uropappus lindleyi	Silver Puffs	
	Viola purpurea	Oak Yellow Violet	
	Rhus ovata		[illegible] 3, 6

Other Flowering Plants:

Rare Wildlife or Rare Plants:

148404 in un sto

Quino Checkerspot Butterfly Protocol Survey — Field Data Sheet

Recorder: K. H Osborne Add'l Person: [illegible] Date: 4/27/2011 GPS Unit: 11

Project: Concentrix Solar Project Map #: 2 Survey Sxn: 2 QCB Protocol Survey # ____ of 5

TIME (24-hour)	Temp (F°)	Wind (avg/max)	% CC	Sky
Start 8 34	63	1.5/3	0	clear patchy overcast drizzle shower
9 30	71	3/6		clear patchy overcast drizzle shower
11 15	75	5/12	0	clear patchy overcast drizzle shower
2 15	72	6/9	0	clear patchy overcast drizzle shower
				clear patchy overcast drizzle shower
3 30	71	1.8/5	0	clear patchy overcast drizzle shower
End 4 00	72	0/6	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

	Total		Total
Nymphalidae (Brushfooted Butterflies)		**Hesperiidae (Skippers)**	
Euphydryas editha (Quino Checkerspot)		*Erynnis funeralis* (Funereal Duskywing)	
Euphydryas chalcedona (Henna's Checkerspot)		*Erynnis tristis* (Sad Duskywing) //	2
Thessalia leanira (Wright's Checkerspot)		*Erynnis propertius* (Propertius Duskywing)	
Chlosyne californica (California Patch)		*Erynnis brizo* (Sleepy Duskywing) /	1
Chlosyne gabbii (Gabb's Checkerspot) /	1	*Pyrgus albescens* (Checkered Skipper)	
Phyciodes mylitta (Mylitta Crescent)		*Hesperia juba* (Juba Skipper) //	2
Junonia coenia (Common Buckeye) ////	8	*Polites sabuleti* (Sanchill Skipper) XXXIX	41
Vanessa annabella (West Coast Lady		**Megathymidae (Giant Skippers)**	
Vanessa atalanta (Red Admiral) /	1	*Megathymus yuccae* (Yucca Giant Skipper)	
Vanessa cardui (Painted Lady) /	1		
Vanessa virginiensis (Virginia Lady)		**Other Butterflies:**	
Nymphalis californica (California Tortoiseshell)		Plebejus lupini //	2
Danaidae (Milkweed Butterflies)		Heliopetes ericetorum //	2
Danaus plexippus (Monarch)		Moth/Stylopoda cephalica //	2
Danaus gilippus (Queen)		Schinia arcuatinaca /	1
Satyridae (Satyrs)			
Coenonympha californica (Common California Ringlet)			
Pieridae (Whites, Sulphurs)			
Pieris rapae (Cabbage White)			
Pontia sisymbrii (Spring White)			
Pontia beckerii (Beker's White)			
Pontia protodice (Common White) ////	6		
Anthocharis sara (Sara Orangetip) ///	3		
Anthocharis cethura (Felder's Orangetip)			
Euchloe hyantis (Desert Pearly Marble) //	2		
Colias eurytheme (Orange Sulphur) ////	4		
Colias harfordii (Harford's Sulphur) ///	3		
Nathalis iole (Dainty Sulphur) /	1		
Papilionidae (Swallowtails)		**Notes:**	
Papilio polyxenes (Desert Black Swallowtail)			
Papilio eurymedon (Pale swallowtail) /	1		
Papilio rutulus(Western Tiger Swallowtail)		KOCR013 ~200 dry stalks	
Riodinidae (Metalmarks)		and abundant	
Apodemia mormo (Behr's Metalmark) XXXXXX	60	new recruits.	
Lycaenidae (Hairstreaks and Blues)		photographs taken	
Celastrina ladon (Spring Azure)		area circumscribed	
Leptotes marina (Marine Blue)		by tracks.	
Brephidium exile (Western Pygmy Blue)			
Glaucopsyche lygdamus (Southern Blue/Silvery blue)		KOCR014 ~30 dry stalks	
Hemiargus ceraunus (Edward's Blue)		~several new recruits	
Icaria acmon (Acmon Blue) ////	4		
Philotes sonorensis (Sonoran Blue)			
Callophrys augustinus (Brown Elfin)			
Callophrys perplexa (Perplexing Green Hairstreak)			
Strymon melinus (Gray Hairstreak)			
Atlides halesus (Great Purple Hairstreak)			
Everys amyntula /	1		

Potential Nectaring or Host Plants for Quino Checkerspot Butterfly in Boulevard, California (Concentrix Solar)

Instructions:

- Please Place a Check Mark Beside Flowering Plants. Use Numbered Notes to Add Species Detail.
- **PLEASE RECORD HOST PLANTS ON GPS** See Codes Below:

Antirrhinum coulterianum = AC *Collinsia concolor* = CC *Cordylanthus rigidus* = CR *Plantago patagonica* = PP

Check	Scientific Name	Common Name
✓	*Amsinckia menziesii*	Rancher's Fiddleneck
o	***Antirrhinum coulterianum***	**Coulter's Snapdragon**
o	*Antirrhinum nuttallianum*	Nuttall's Snapdragon
o	*Asclepias fascicularis*	Narrow-leaf Milkweed
o	*Boechera sp.*	Rock Cress
o	*Calandrinia ciliata*	Red Maids
o	*Calochortus concolor*	Golden-bowl Mariposa Lily
o	*Calystegia longipes*	Morning-glory
✓	*Camissonia sp*	Sun Cup
o	***Castilleja exerta***	**Paintbrush**
o	*Caulanthus heterophyllus*	San Diego Jewelflower
o	*Caulanthus simulans*	Payson's Caulanthus
✓	~~*Ceanothus cuneatus*~~	Buck Brush
✓	*Ceanothus greggii*	Cup-leaf-lilac
o	*Ceanothus leucodermis*	Chaparral Whitethorn
o	*Chaenactis artemisiifolia*	White Pincushion
o	*Chaenactis glabriuscula*	Yellow Pincushion
o	*Clematis sp.*	Clematis
o	***Collinsia concolor***	**Southern Chinese Houses**
o	***Cordylanthus rigidus***	**Dark-tip Bird's Beak**
o	*Coreopsis californica*	California Coreopsis
o	*Corethrogyne filaginifolia*	Common Sand-aster
✓	*Cryptantha sp.*	Cryptantha
o	*Cucurbita foetidissima*	Calabazilla
o	*Descurainia sp.*	Tansy-mustard
o	*Dicentra chrysantha*	Golden Ear-drops
o	*Dichelostemma capitatum*	Blue Dicks
o	*Dudleya sp.*	Dudleya
o	*Emmenanthe penduliflora*	Whispering Bells
o	*Eriastrum sp.*	Woolly-star
✓	*Ericameria sp.*	Goldenbush
o	*Erigeron foliosus*	Leafy Daisy
o	*Eriodictyon trichocalyx*	Hairy Yerba Santa
o	*Eriogonum fasciculatum*	Inland California Buckwheat
o	*Eriogonum sp.*	Buckwheat
o	*Eriophyllum sp.*	Golden-yarrow
✓	*Erodium cicutarium**	Red-stem Storksbill
o	*Erysimum capitatum*	Western Wallflower
o	*Eschscholzia californica*	California Poppy
o	*Eucrypta chrysanthemifolia*	Spotted Hideseed
o	*Euthamia occidentalis*	Western Goldenrod
o	*Garrya veatchii*	Canyon Silk Tassel
o	*Gilia sp.*	Gilia
o	*Gnaphalium*	Cudweed
o	*Guillenia lasiophylla*	California Mustard
o	*Gutierrezia sarothrae*	Broom Matchweed
o	*Heliotropium curassavicum*	Salt Heliotrope
✓	*Hirschfeldia incana*	Short-pod Mustard
o	*Lamium amplexicaule*	Henbit
✓	*Lasthenia gracilis*	Common Goldfields
✓	*Layia glandulosa*	White Layia
o	*Lepidium sp.*	Pepperweed
✓	*Linanthus bellus*	Desert Beauty
o	*Linanthus dichotomus*	Evening Snow
o	*Lonicera subspicata*	Johnston's Honeysuckle
o	*Malacothrix californica*	California Dandelion
o	*Malacothrix clevelandii*	Cleveland's Malacothrix
o	*Marah macrocarpus*	Wild-cucumber
o	*Marrubium vulgare**	Horehound
o	*Matricaria matricarioides**	Common Pineapple-weed
o	*Mentzelia veatchiana*	Veatch's Stick-leaf
o	*Microsteris gracilis*	Slender Phlox
o	*Mimulus sp.*	Monkeyflower
o	*Nemophila menzeisii*	Small-flower Baby Blue Eyes
o	*Orobanche bulbosa*	Chaparral Broom-rape
o	*Osmadenia tenella*	Osmadenia
o	*Paeonia californica*	California Peony
o	*Pectocarya sp*	Pectocarya
✓	*Phacelia sp.*	Phacelia
o	*Pholistoma membranaceum*	White Fiesta Flower
o	*Plagiobothrys sp.*	Popcornflower
o	***Plantago patagonica***	**Desert Plantain**
o	*Platystemon californicus*	Cream Cups
o	*Prunus ilicifolia*	Holly-leaf Cherry
o	*Rafinesquia neomexicana*	Desert Chicory
o	*Ribes quercetorum*	Oak Gooseberry
o	*Rorripa nasturtium-aquaticum*	Water-cress
o	*Rosa californica*	California Rose
o	*Saltugilia australis*	Southern Gilia
o	*Senecio californicus*	California Butterweed
o	*Senecio flaccidus*	Butterweed
o	*Sidalcea malvaeflora*	Checker-bloom
o	*Sisymbrium sp.*	Tumble Mustard
o	*Solidago californica*	California Goldenrod
o	*Stachys ajugoides*	Hedge-nettle
o	*Stephanomeria sp.*	Wreathplant
o	*Streptanthus campestris*	Southern Jewelflower
o	*Stylocline gnaphalioides*	Everlasting Nest-straw
o	*Tetradymia comosa*	Cotton-thorn
o	*Thysanocarpus sp.*	Fringepod
o	*Trichostemma parishii*	Mountain Bluecurls
o	*Tropidocarpum gracile*	Slender Dobie-pod
o	*Uropappus lindleyi*	Silver Puffs
o	*Viola purpurea*	Oak Yellow Violet

Other Flowering Plants:

Rare Wildlife or Rare Plants:

Quino Checkerspot Butterfly Protocol Survey — Field Data Sheet

Recorder: Erin Bergman Add'l Person: _____ Date: 4/27/11 GPS Unit: 3

Project: Concentrix Solar Project Map #: _____ Survey Sxn: _____ QCB Protocol Survey # _____ of 5

TIME (24-hour)	Temp (F°):	Wind (avg/max)	% CC	Sky				
Start 6:30	70°	1-4	0	clear	partly	overcast	drizzle	shower
9:00	72°	"	0	clear	partly	overcast	drizzle	shower
10:00	73°	"	0	clear	partly	overcast	drizzle	shower
11:00	73°	"	0	clear	partly	overcast	drizzle	shower
12:00	77°	"	0	clear	partly	overcast	drizzle	shower
1:00	74	"	0	clear	partly	overcast	drizzle	shower
End 4:00				clear	partly	overcast	drizzle	shower

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

	Total
Nymphalidae (Brushfooted Butterflies)	
Euphydryas editha (Quino Checkerspot)	
Euphydryas chalcedona (Henne's Checkerspot)	
Thessalia leanira (Wright's Checkerspot)	
Chlosyne californica (California Patch)	
Chlosyne gabbii (Gabb's Checkerspot)	
Phyciodes mylitta (Mylitta Crescent)	
Junonia coenia (Common Buckeye) IIII	5
Vanessa annabella (West Coast Lady)	
Vanessa atalanta (Red Admiral)	
Vanessa cardui (Painted Lady)	
Vanessa virginiensis (Virginia Lady)	
Nymphalis californica (California Tortoiseshell)	
Danaidae (Milkweed Butterflies)	
Danaus plexippus (Monarch)	
Danaus gilippus (Queen)	
Satyridae (Satyrs)	
Coenonympha californica (Common California Ringlet)	
Pieridae (Whites, Sulphurs)	
Pieris rapae (Cabbage White)	
Pontia sisymbrii (Spring White)	
Pontia beckerii (Becker's White)	
Pontia protodice (Common White)	
Anthocharis sara (Sara Orangetip) IIII	6
Anthocharis cethura (Felder's Orangetip)	
Euchloe hyantis (Desert Pearly Marble)	
Colias eurytheme (Orange Sulphur)	
Colias harfordii (Harford's Sulphur)	
Nathalis iole (Dainty Sulphur)	
Papilionidae (Swallowtails)	
Papilio polyxenes (Desert Black Swallowtail)	
Papilio eurymedon (Pale swallowtail)	
Papilio rutulus (Western Tiger Swallowtail)	
Riodiniade (Metalmarks) IIII IIII IIII IIII IIII II	
Apodemia mormo (Behr's Metalmark) IIII IIII IIII IIII IIII	63
Lycaenidae (Hairstreaks and Blues)	
Celastrina ladon (Spring Azure)	
Leptotes marina (Marine Blue)	
Brephidium exile (Western Pygmy Blue)	
Glaucopsyche lygdamus (Southern Blue/Silvery blue)	
Hemiargus ceraunus (Edward's Blue)	
Icaria acmon (Acmon Blue) III	3
Philotes sonorensis (Sonoran Blue)	
Callophrys augustinus (Brown Elfin)	
Callophrys perplexa (Perplexing Green Hairstreak)	
Strymon melinus (Gray Hairstreak)	
Atlides halesus (Great Purple Hairstreak)	

	Total
Hesperidae (Skippers)	
Erynnis funeralis (Funereal Duskywing)	
Erynnis tristis (Sad Duskywing)	
Erynnis propertius (Propertius Duskywing) IIII	7
Erynnis brizo (Sleepy Duskywing)	
Pyrgus albescens (Checkered Skipper)	
Hesperia juba (Juba Skipper)	
Polites sabuleti (Sandhill Skipper)	
Megathymidae (Giant Skippers)	
Megathymus yuccae (Yucca Giant Skipper)	
Other Butterflies:	
Common Sootywing	

Notes:

SBGV01A1
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All cordylanthus wightii is dead remnant specimens

...ntial Nectaring or Host Plants for Quino Checkerspot Butterfly in Boulevard, California (Concentrix Solar)

...ctions:

Please Place a Check Mark Beside Flowering Plants. Use Numbered Notes to Add Species Detail.

PLEASE RECORD HOST PLANTS ON GPS See Codes Below:

Antirrhinum coulterianum = AC *Collinsia concolor* = CC *Cordylanthus rigidus* = CR *Plantago patagonica* = PP

X	*Amsinckia menziesii*	Rancher's Fiddleneck
	Antirrhinum coulterianum	**Coulter's Snapdragon**
	Antirrhinum nuttallianum	Nuttall's Snapdragon
	Asclepias fascicularis	Narrow-leaf Milkweed
X	*Boechora sp.*	Rock Cress
X	*Calandrinia ciliata*	Red Maids
	Calochortus concolor	Golden-bowl Mariposa Lily
	Calystegia longipes	Morning-glory
	Camissonia sp.	Sun Cup
	Castilleja exerta	**Paintbrush**
	Caulanthus heterophyllus	San Diego Jewelflower
	Caulanthus simulans	Payson's Caulanthus
	Ceanothus cuneatus	Buck Brush
X	*Ceanothus greggii*	Cup-leaf-lilac
	Ceanothus leucodermis	Chaparral Whitethorn
	Chaenactis artemisiifolia	White Pincushion
	Chaenactis glabriuscula	Yellow Pincushion
	Clematis sp	Clematis
X	***Collinsia concolor*** in flower	**Southern Chinese Houses**
	Cordylanthus rigidus	**Dark-tip Bird's Beak**
X	*Coreopsis californica*	California Coreopsis
	Corethrogyne filaginifolia not in flower	Common Sand-aster
X	*Cryptantha sp.* intermediate	Cryptantha
	Cucurbita foetidissima	Calabazilla
X	*Descurainia sp.* pinnatum	Tansy-mustard
	Dicentra chrysantha	Golden Ear-drops
X	*Dichelostemma capitatum*	**Blue Dicks**
	Dudleya sp.	Dudleya
	Emmenanthe pendulifora	Whispering Bells
	Eriastrum sp. dense silky	Woolly-star not in flower
X	*Ericameria sp.* prob. flow	Goldenbush
	Erigeron foliosus	Leafy Daisy
	Eriodictyon trichocalyx	Hairy Yerba Santa
	Eriogonum fasciculatum	Inland California Buckwheat
	Eriogonum sp.	Buckwheat
X	*Eriophyllum sp.* Lon foliolat	Golden-yarrow
X	*Erodium cicutarium**	Red-stem Storksbill
X	*Erysimum capitatum*	Western Wallflower
X	*Eschscholzia californica*	California Poppy
	Eucrypta chrysanthemifolia	Spotted Hideseed
	Euthamia occidentalis	Western Goldenrod
	Garrya veatchii	Canyon Silk Tassel
	Gilia sp.	Gilia
	Gnaphalium	Cudweed
	Guillenia lasiophylla	California Mustard
X	*Gutierrezia sarothrae*	Broom Matchweed no flower
	Heliotropium curassavicum	Salt Heliotrope
X	*Hirshfeldia incana*	Short-pod Mustard
	Lamium amplexicaule	Henbit
X	*Lasthenia gracilis*	Common Goldfields
X	*Layia glandulosa*	**White Layia**
	Lepidium sp.	Pepperweed
X	*Linanthus bellus*	**Desert Beauty**
	Linanthus dichotomus	Evening Snow
	Lonicera subspicata	Johnston's Honeysuckle
	Malacothrix californica	California Dandelion
	Malacothrix clevelandii	Cleveland's Malacothrix
	Marah macrocarpus	Wild-cucumber
	*Marrubium vulgare**	Horehound
	*Matricaria matricarioides**	Common Pineapple-weed
	Menizelia veatchiana	Veatch's Stick-leak
	Microsteris gracilis	Slender Phlox
	Mimulus sp.	Monkeyflower
	Nemophila menziesii	Small-flower Baby Blue Eyes
	Orobancho bulbosa	Chaparral Broom-rape
	Osmadenia tenella	Osmadenia
	Paeonia californica	California Peony
	Pectocarya sp.	Pectocarya
	Phacelia sp.	Phacelia
	Pholistoma membranaceum	White Fiesta Flower
X	*Plagiobothrys sp.*	Popcornflower
	Plantago patagonica	**Desert Plantain**
	Platystemon californicus	Cream Cups
	Prunus ilicifolia	Holly-leaf Cherry
	Rafinesquia neomexicana	Desert Chicory
	Ribes quercetorum	Oak Gooseberry
	Rorripa nasturtium-aquaticum	Water-cress
	Rosa californica	California Rose
	Salvigilia australis	Southern Gilia
X	*Senecio californicus*	California Butterweed
	Senecio flaccidus	Butterweed
	Sidalcea malvaeflora	Checker-bloom
	Sisymbrium sp.	Tumble Mustard
	Solidago californica	California Goldenrod
	Stachys ajugoides	Hedge-nettle
	Stephanomeria sp.	Wreathplant
	Streptanthus campestris	Southern Jewelflower
X	*Stylocline gnaphalioides*	Everlasting Nest-straw
	Tetradymia comosa	Cotton-thorn
	Thysanocarpus sp.	Fringepod
	Trichostemma parishii	Mountain Bluecurls
	Tropidocarpum gracile	Slender Dobie-pod
	Uropappus lindleyi	**Silver Puffs**
	Viola purpurea	Oak Yellow Violet

Other Flowering Plants:

Lupinus bicolor
Lupinus concinnus
Gilia angelensis

Rare Wildlife or Rare Plants:

149161 [illegible] site

Quino Checkerspot Butterfly Protocol Survey — Field Data Sheet

Recorder: KMO Osborne Add'l Person: [illegible] Date: 5/1/2011 GPS Unit: 12

Project: Concentrix Solar Project Map #: 4 Survey Sxn: QCB Protocol Survey # of 5

	TIME (24-hour)	Temp (F°):	Wind (avg/max)	% CC	Sky
Start	930	56	7/14	0	clear patchy overcast drizzle shower
	1030	62	8/15	0	clear patchy overcast drizzle shower
	1200	61	8/14	0	clear patchy overcast drizzle shower
					clear patchy overcast drizzle shower
					clear patchy overcast drizzle shower
					clear patchy overcast drizzle shower
End	1200				clear patchy overcast drizzle shower

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

	Total
Nymphalidae (Brushfooted Butterflies)	
Euphydryas editha (Quino Checkerspot)	
Euphydryas chalcedona (Henne's Checkerspot)	
Thessalia leanira (Wright's Checkerspot)	
Chlosyne californica (California Patch)	
Chlosyne gabbii (Gabb's Checkerspot)	
Phyciodes mylitta (Mylitta Crescent)	
Junonia coenia (Common Buckeye)	1
Vanessa annabella (West Coast Lady)	
Vanessa atalanta (Red Admiral)	
Vanessa cardui (Painted Lady)	
Vanessa virginiensis (Virginia Lady)	
Nymphalis californica (California Tortoiseshell)	
Danaidae (Milkweed Butterflies)	
Danaus plexippus (Monarch)	
Danaus gilippus (Queen)	
Satyridae (Satyrs)	
Coenonympha californica (Common California Ringlet)	
Pieridae (Whites, Sulphurs)	
Pieris rapae (Cabbage White)	
Pontia sisymbrii (Spring White)	
Pontia beckerii (Beker's White)	
Pontia protodice (Common White)	
Anthocharis sara (Sara Orangetip)	
Anthocharis cethura (Felder's Orangetip)	
Euchloe hyantis (Desert Pearly Marble)	
Colias eurytheme (Orange Sulphur)	
Colias harfordii (Harford's Sulphur)	
Nathalis iole (Dainty Sulphur)	
Papilionidae (Swallowtails)	
Papilio polyxenes (Desert Black Swallowtail)	
Papilio eurymedon (Pale swallowtail)	
Papilio rutulus (Western Tiger Swallowtail)	
Riodiniade (Metalmarks)	
Apodemia mormo (Behr's Metalmark)	M
Lycaenidae (Hairstreaks and Blues)	
Celastrina ludon (Spring Azure)	
Leptotes marina (Marine Blue)	
Brephidium exile (Western Pygmy Blue)	
Glaucopsyche lygdamus (Southern Blue/Silvery blue)	
Hemiargus ceraunus (Edward's Blue)	
Icaria acmon (Acmon Blue)	
Philotes sonorensis (Sonoran Blue)	
Callophrys augustinus (Brown Elfin)	
Callophrys perplexa (Perplexing Green Hairstreak)	
Strymon melinus (Gray Hairstreak)	
Atlides halesus (Great Purple Hairstreak)	

	Total
Hesperiidae (Skippers)	
Erynnis funeralis (Funereal Duskywing)	
Erynnis tristis (Sad Duskywing)	
Erynnis propertius (Propertius Duskywing)	
Erynnis brizo (Sleepy Duskeywing)	
Pyrgus albescens (Checkered Skipper)	
Hesperia jubia (Jubia Skipper)	1
Polites sabuleti (Sandhill Skipper)	X
Megathymidae (Giant Skippers)	
Megathymus yuccae (Yucca Giant Skipper)	
Other Butterflies:	
Notes:	

...ial Nectaring or Host Plants for Quino Checkerspot Butterfly in Boulevard, California (Concentrix Solar)

...tions:

Please Place a Check Mark Beside Flowering Plants. Use Numbered Notes to Add Species Detail.

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○	*Antirrhinum nuttallianum*	Nuttall's Snapdragon
○	*Asclepias fascicularis*	Narrow-leaf Milkweed
○	*Boechera sp.*	Rock Cress
○	*Calandrinia ciliata*	Red Maids
○	*Calochortus concolor*	Golden-bowl Mariposa Lily
○	*Calystegia longipes*	Morning-glory
○	*Camissonia sp.*	Sun Cup
○	***Castilleja exerta***	**Paintbrush**
○	*Caulanthus heterophyllus*	San Diego Jewelflower
○	*Caulanthus simulans*	Payson's Caulanthus
○	*Ceanothus cuneatus*	Buck Brush
○	*Ceanothus greggii*	Cup-leaf-lilac
○	*Ceanothus leucodermis*	Chaparral Whitethorn
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○	*Dudleya sp*	Dudleya
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○	*Marrubium vulgare**	Horehound
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○	*Viola purpurea*	Oak Yellow Violet
○		
○		
○	**Other Flowering Plants:**	
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○	**Rare Wildlife or Rare Plants:**	
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Quino Checkerspot Butterfly Protocol Survey — Field Data Sheet

Recorder: K. H Osborn Add'l Person: Bonnie Hendrix Date: 5/3/2011 GPS Unit: 12

Project: Concentrix Solar Project Map #. Survey Sxn: 4 QCB Protocol Survey # 5 of 5

	TIME (24-hour)	Temp (F°):	Wind (avg/max)	% CC	Sky
Start	925	69	4/6	0	clear patchy overcast drizzle shower
	1115	75	4/6.2	0	clear patchy overcast drizzle shower
	1135				clear patchy overcast drizzle shower
					clear patchy overcast drizzle shower
					clear patchy overcast drizzle shower
End	115	75	7.8/9.8		clear patchy overcast drizzle shower

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

		Total
Nymphalidae (Brushfooted Butterflies)		
Euphydryas editha (Quino Checkerspot)		
Euphydryas chalcedona (Henne's Checkerspot)		
Thessalia leanira (Wright's Checkerspot)		
Chlosyne californica (California Patch)		
Chlosyne gabbii (Gabb's Checkerspot)		
Phyciodes mylitta (Mylitta Crescent)		
Junonia coenia (Common Buckeye)	////	////
Vanessa annabella (West Coast Lady)		
Vanessa atalanta (Red Admiral)		
Vanessa cardui (Painted Lady)		
Vanessa virginiensis (Virginia Lady)		
Nymphalis californica (California Tortoiseshell)		
Danaidae (Milkweed Butterflies)		
Danaus plexippus (Monarch)		
Danaus gilippus (Queen)		
Satyridae (Satyrs)		
Coenonympha californica (Common California Ringlet)		
Pieridae (Whites, Sulphurs)		
Pieris rapae (Cabbage White)		
Pontia sisymbrii (Spring White)		
Pontia beckerii (Beker's White)		
Pontia protodice (Common White)	/	//
Anthocharis sara (Sara Orangetip)		
Anthocharis cethura (Felder's Orangetip)		
Euchloe hyantis (Desert Pearly Marble)		
Colias eurytheme (Orange Sulphur)		
Colias harfordii (Harford's Sulphur)		///
Nathalis iole (Dainty Sulphur)	/	///
Papilionidae (Swallowtails)		
Papilio polyxenes (Desert Black Swallowtail)		
Papilio eurymedon (Pale swallowtail)		
Papilio rutulus (Western Tiger Swallowtail)		
Riodiniade (Metalmarks)		
Apodemia mormo (Bohr's Metalmark)	XVVXX	VVXX
Lycaenidae (Hairstreaks and Blues)		
Celastrina ladon (Spring Azure)		
Leptotes marina (Marine Blue)		
Brephidium exile (Western Pygmy Blue)		
Glaucopsyche lygdamus (Southern Blue/Silvery blue)		
Hemiargus ceraunus (Edward's Blue)		
Icaria acmon (Acmon Blue)	/	////
Philotes sonorensis (Sonoran Blue)		
Callophrys augustinus (Brown Elfin)		
Callophrys perplexa (Perplexing Green Hairstreak)		//
Strymon melinus (Gray Hairstreak)		
Atlides halesus (Great Purple Hairstreak)		

		Total
Hesperiidae (Skippers)		
Erynnis funeralis (Funereal Duskywing)		
Erynnis tristis (Sad Duskywing)		
Erynnis propertius (Propertius Duskywing)	///	
Erynnis brizo (Sleepy Duskywing)	//	
Pyrgus albescens (Checkered Skipper)		
Hesperia jubia (Jubia Skipper)	///	/////
Polites subuleti (Sandhill Skipper)	//	////
Megathymidae (Giant Skippers)		
Megathymus yuccae (Yucca Giant Skipper)		
Other Butterflies:		
Philosoria catalus		//
Drusteria ochracea	/	/
Schinia aurantiaca		/

Notes:

...tial Nectaring or Host Plants for Quino Checkerspot Butterfly in Boulevard, California (Concentrix Solar)

...ctions:

- Please Place a Check Mark Beside Flowering Plants. Use Numbered Notes to Add Species Detail.
- **PLEASE RECORD HOST PLANTS ON GPS** See Codes Below:

Antirrhinum coulterianum = AC *Collinsia concolor* = CC *Cordylanthus rigidus* = CR *Plantago patagonica* = PP

	Amsinckia menziesii	Rancher's Fiddleneck
	Antirrhinum coulterianum	**Coulter's Snapdragon**
	Antirrhinum nuttallianum	Nuttall's Snapdragon
	Asclepias fascicularis	Narrow-leaf Milkweed
	Boechera sp.	Rock Cress
	Calandrinia ciliata	Red Maids
	Calochortus concolor	Golden-bowl Mariposa Lily
	Calystegia longipes	Morning-glory
	Camissonia sp.	Sun Cup
	Castilleja exerta	Paintbrush
	Cauliantlus heterophyllus	San Diego Jewelflower
	Cauliantlus simulans	Payson's Cauliantlus
	Ceanothus cuneatus	Buck Brush
	Ceanothus greggii	Cup-leaf-lilac
	Ceanothus leucodermis	Chaparral Whitethorn
	Chaenactis artemisifolia	White Pincushion
	Chaenactis glabriuscula	Yellow Pincushion
	Clematis sp.	Clematis
	Collinsia concolor	**Southern Chinese Houses**
	Cordylanthus rigidus	**Dark-tip Bird's Beak**
	Coreopsis californica	California Coreopsis
	Corethrogyne filaginifolia	Common Sand-aster
	Cryptantha sp.	Cryptantha
	Cucurbita foetidissima	Calabazilla
	Descurainia sp.	Tansy-mustard
	Dicentra chrysantha	Golden Ear-drops
	Dichelostemma capitatum	Blue Dicks
	Dudleya sp.	Dudleya
	Emmenanthe penduliflora	Whispering Bells
	Eriastrum sp	Woolly-star
	Ericameria sp.	Goldenbush
	Engeron foliosus	Leafy Daisy
	Eriodictyon trichocalyx	Hairy Yerba Santa
	Eriogonum fasciculatum	Inland California Buckwheat
	Eriogonum sp.	Buckwheat
	Eriophyllum sp.	Golden-yarrow
	*Erodium cicutarium**	Red-stem Storksbill
	Erysimum capitatum	Western Wallflower
	Eschscholzia californica	California Poppy
	Eucrypta chrysanthemifolia	Spotted Hideseed
	Euthamia occidentalis	Western Goldenrod
	Garrya veatchii	Canyon Silk Tassel
	Gilia sp.	Gilia
	Gnaphalium	Cudweed
	Guillenia lasiophylla	California Mustard
	Gutierrezia sarothrae	Broom Matchweed
	Heliotropium curassavicum	Salt Heliotrope
	Hirshfeldia incana	Short-pod Mustard
	Lamium amplexicaule	Henbit
	Lasthenia gracilis	Common Goldfields
	Layia glandulosa	White Layia
	Lepidium sp.	Popperweed
	Linanthus bellus	Desert Beauty
	Linanthus dichotomus	Evening Snow
	Lonicera subspicata	Johnston's Honeysuckle
	Malacothrix californica	California Dandelion
	Malacothrix clevelandii	Cleveland's Malacothrix
	Marah macrocarpus	Wild-cucumber
	*Marrubium vulgare**	Horehound
	*Matricaria matricarioides**	Common Pineapple-weed
	Mentzelia veatchiana	Veatch's Stick-leak
	Microsteris gracilis	Slender Phlox
	Mimulus sp.	Monkeyflower
	Nemophila menziesii	Small-flower Baby Blue Eyes
	Orobanche bulbosa	Chaparral Broom-rape
	Osmadenia tenella	Osmadenia
	Paeonia californica	California Peony
	Pectocarya sp.	Pectocarya
	Phacelia sp.	Phacelia
	Pholistoma membranaceum	White Fiesta Flower
	Plagiobothrys sp.	Popcornflower
	Plantago patagonica	**Desert Plantain**
	Platystemon californicus	Cream Cups
	Prunus ilicifolia	Holly-leaf Cherry
	Rafinesquia neomexicana	Desert Chicory
	Ribes quercetorum	Oak Gooseberry
	Rorippa nasturtium-aquaticum	Water-cress
	Rosa californica	California Rose
	Saltugilia australis	Southern Gilia
	Senecio californicus	California Butterweed
	Senecio flaccidus	Butterweed
	Sidalcea malvaeflora	Checker-bloom
	Sisymbrium sp.	Tumble Mustard
	Solidago californica	California Goldenrod
	Stachys ajugoides	Hedge-nettle
	Stephanomeria sp.	Wreathplant
	Streptanthus campestris	Southern Jewelflower
	Stylocline gnaphalioides	Everlasting Nest-straw
	Tetradymia comosa	Cotton-thorn
	Thysanocarpus sp.	Fringepod
	Trichostema parishii	Mountain Bluecurls
	Tropidocarpum gracile	Slender Dobie-pod
	Uropappus lindleyi	Silver Puffs
	Viola purpurea	Oak Yellow Violet

Other Flowering Plants:

Rare Wildlife or Rare Plants:

Quino Checkerspot Butterfly Protocol Survey — Field Data Sheet

Recorder: [illegible] Add'l Person: [illegible] Date: [illegible] GPS Unit: [illegible]

Project: Concentrix Solar Project Map #: [illegible] Survey Sxn: [illegible] QCB Protocol Survey # 5 of 5

TIME (24-hour)	Temp (F°):	Wind (avg/max)	% CC	Sky
Start [illegible]	[illegible]	[illegible]	[illegible]	clear / patchy / overcast / drizzle / shower
[illegible]	[illegible]	[illegible]	[illegible]	clear / patchy / overcast / drizzle / shower
[illegible]	[illegible]	[illegible]	[illegible]	clear / patchy / overcast / drizzle / shower
[illegible]	[illegible]	[illegible]	[illegible]	clear / patchy / overcast / drizzle / shower
				clear / patchy / overcast / drizzle / shower
				clear / patchy / overcast / drizzle / shower
End [illegible]	[illegible]	[illegible]	[illegible]	clear / patchy / overcast / drizzle / shower

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

	Total		Total
Nymphalidae (Brushfooted Butterflies)		**Hesperiidae (Skippers)**	
Euphydryas editha (Quino Checkerspot)		*Erynnis funeralis* (Funereal Duskywing)	
Euphydryas chalcedona (Hanne's Checkerspot)		*Erynnis tristis* (Sad Duskywing)	
Thessalia leanira (Wright's Checkerspot)		*Erynnis propertius* (Propertius Duskywing)	
Chlosyne californica (California Patch)		*Erynnis brizo* (Sleepy Duskywing)	
Chlosyne gabbii (Gabb's Checkerspot)		*Pyrgus albescens* (Checkered Skipper)	
Phyciodes mylitta (Mylitta Crescent)		*Hesperia jubia* (Jubia Skipper) ///	3
Junonia coenia (Common Buckeye) /	1	*Poanes sabuleti* (Sandhill Skipper) ////	5
Vanessa annabella (West Coast Lady)		**Megathymidae (Giant Skippers)**	
Vanessa atalanta (Red Admiral)		*Megathymus yuccae* (Yucca Giant Skipper)	
Vanessa cardui (Painted Lady)			
Vanessa virginiensis (Virginia Lady)		**Other Butterflies:**	
Nymphalis californica (California Tortoiseshell)		[illegible] ///	4
Danaidae (Milkweed Butterflies)		[illegible]	
Danaus plexippus (Monarch)		[illegible] //	2
Danaus gilippus (Queen)			
Satyridae (Satyrs)			
Coenonympha californica (Common California Ringlet)			
Pieridae (Whites, Sulphurs)			
Pieris rapae (Cabbage White)			
Pontia sisymbrii (Spring White)			
Pontia beckerii (Beker's White)			
Pontia protodice (Common White) ////	7		
Anthocharis sara (Sara Orangetip) //	2		
Anthocharis cethura (Felder's Orangetip)			
Euchloe hyantis (Desert Pearly Marble)			
Colias eurytheme (Orange Sulphur)			
Colias harfordii (Harford's Sulphur)			
Nathalis iole (Dainty Sulphur) //	2		
Papilionidae (Swallowtails)		**Notes:**	
Papilio polyxenes (Desert Black Swallowtail)		[illegible]	
Papilio eurymedon (Pale swallowtail) ///	3	[illegible]	
Papilio rutulus(Western Tiger Swallowtail)		[illegible]	
Riodiniade (Metalmarks)		[illegible]	
Apodemia mormo (Behr's Metalmark) ////////	32	[illegible]	
Lycaenidae (Hairstreaks and Blues)		[illegible]	
Celastrina ladon (Spring Azure)			
Leptotes marina (Marine Blue)			
Brephidium exile (Western Pygmy Blue)			
Glaucopsyche lygdamus (Southern Blue/Silvery blue)		[illegible]	
Hemiargus ceraunus (Edward's Blue)			
Icaria acmon (Acmon Blue) /	1		
Philotes sonorensis (Sonoran Blue)			
Callophrys augustinus (Brown Elfin)			
Callophrys perplexa (Perplexing Green Hairstreak)			
Strymon melinus (Gray Hairstreak)			
Atlides halesus (Great Purple Hairstreak)			

Initial Nectaring or Host Plants for Quino Checkerspot Butterfly in Boulevard, California (Concentrix Solar)

actions:

- Please Place a Check Mark Beside Flowering Plants. Use Numbered Notes to Add Species Detail.
- **PLEASE RECORD HOST PLANTS ON GPS** See Codes Below:

Antirrhinum coulterianum = AC *Collinsia concolor* = CC *Cordylanthus rigidus* = CR *Plantago patagonica* = PP

Amsinckia menziesii	Rancher's Fiddleneck
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Antirrhinum nuttallianum	Nuttall's Snapdragon
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Calochortus concolor	Golden-bowl Mariposa Lily
Calystegia longipes	Morning-glory
Camissonia sp.	Sun Cup
Castilleja exserta	Paintbrush
Caulanthus heterophyllus	San Diego Jewelflower
Caulanthus simulans	Payson's Caulanthus
Ceanothus cuneatus	Buck Brush
Ceanothus greggii	Cup-leaf-lilac
Ceanothus leucodermis	Chaparral Whitethorn
Chaenactis artemisiifolia	White Pincushion
Chaenactis glabriuscula	Yellow Pincushion
Clematis sp.	Clematis
Collinsia concolor	**Southern Chinese Houses**
Cordylanthus rigidus	**Dark-tip Bird's Beak**
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Corethrogyne filaginifolia	Common Sand-aster
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Cucurbita foetidissima	Calabazilla
Descurainia sp.	Tansy-mustard
Dicentra chrysantha	Golden Ear-drops
Dichelostemma capitatum	Blue Dicks
Dudleya sp.	Dudleya
Emmenanthe penduliflora	Whispering Bells
Eriastrum sp	Woolly-star
Ericameria sp.	Goldenbush
Erigeron foliosus	Leafy Daisy
Eriodictyon trichocalyx	Hairy Yerba Santa
Eriogonum fasciculatum	Inland California Buckwheat
Eriogonum sp.	Buckwheat
Eriophyllum sp.	Golden-yarrow
*Erodium cicutarium**	Red-stem Storksbill
Erysimum capitatum	Western Wallflower
Eschscholzia californica	California Poppy
Eucrypta chrysanthemifolia	Spotted Hideseed
Euthamia occidentalis	Western Goldenrod
Garrya veatchii	Canyon Silk Tassel
Gilia sp.	Gilia
Gnaphalium	Cudweed
Guillenia lasiophylla	California Mustard
Gutierrezia sarothrae	Broom Matchweed
Heliotropium curassavicum	Salt Heliotrope
Hirschfeldia incana	Short-pod Mustard
Lamium amplexicaule	Henbit
Lasthenia gracilis	Common Goldfields
Layia glandulosa	White Layia
Lepidium sp.	Pepperweed
Linanthus bellus	Desert Beauty
Linanthus dichotomus	Evening Snow
Lonicera subspicata	Johnston's Honeysuckle
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Malacothrix clevelandii	Cleveland's Malacothrix
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*Marrubium vulgare**	Horehound
*Matricaria matricarioides**	Common Pineapple-weed
Mentzelia veatchiana	Veatch's Stick-leaf
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Mimulus sp.	Monkeyflower
Nemophila menziesii	Small-flower Baby Blue Eyes
Orobanche bulbosa	Chaparral Broom-rape

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Paeonia californica	California Peony
Pectocarya sp.	Pectocarya
Phacelia sp.	Phacelia
Pholistoma membranaceum	White Fiesta Flower
Plagiobothrys sp.	Popcornflower
Plantago patagonica	**Desert Plantain**
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Prunus ilicifolia	Holly-leaf Cherry
Rafinesquia neomexicana	Desert Chicory
Ribes quercetorum	Oak Gooseberry
Rorripa nasturtium-aquaticum	Water-cress
Rosa californica	California Rose
Saltugilia australis	Southern Gilia
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Sisymbrium sp.	Tumble Mustard
Solidago californica	California Goldenrod
Stachys ajugoides	Hedge-nettle
Stephanomeria sp.	Wreathplant
Streptanthus campestris	Southern Jewelflower
Stylocline gnaphalioides	Everlasting Nest-straw
Tetradymia comosa	Cotton-thorn
Thysanocarpus sp.	Fringepod
Trichostema parishii	Mountain Bluecurls
Tropidocarpum gracile	Slender Dobie-pod
Uropappus lindleyi	Silver Puffs
Viola purpurea	Oak Yellow Violet

Other Flowering Plants:

Rare Wildlife or Rare Plants:

Quino Checkerspot Butterfly Protocol Survey — Field Data Sheet

Recorder: Margie Mulligan Add'l Person: ________ Date: 5-3-11 GPS Unit: 7

Project: Concentrix Solar Project Map #: 7 Survey Sxn: ________ QCB Protocol Survey # 6 of 5

TIME (24-hour)	Temp (F°)	Wind (avg/max)	% CC	Sky
Start 0900	75°	2-5	0	(clear) patchy overcast drizzle shower
~~1130~~	~~78°~~	~~3-6~~	~~0~~	~~(clear) patchy overcast drizzle shower~~
1200	80°	2-4	0	(clear) patchy overcast drizzle shower
1500	83°	2-4	0	(clear) patchy overcast drizzle shower
				clear patchy overcast drizzle shower
				clear patchy overcast drizzle shower
End				clear patchy overcast drizzle shower

Map 1

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

Nymphalidae (Brushfooted Butterflies) — Total

- *Euphydryas editha* (Quino Checkerspot)
- *Euphydryas chalcedona* (Henne's Checkerspot)
- *Thessalia leanira* (Wright's Checkerspot)
- *Chlosyne californica* (California Patch)
- *Chlosyne gabbii* (Gabb's Checkerspot)
- *Phyciodes mylitta* (Mylitta Crescent)
- *Junonia coenia* (Common Buckeye)
- *Vanessa annabella* (West Coast Lady)
- *Vanessa atalanta* (Red Admiral)
- *Vanessa cardui* (Painted Lady)
- *Vanessa virginiensis* (Virginia Lady)
- *Nymphalis californica* (California Tortoiseshell)

Danaidae (Milkweed Butterflies)

- *Danaus plexippus* (Monarch)
- *Danaus gilippus* (Queen)

Satyridae (Satyrs)

- *Coenonympha californica* (Common California Ringlet)

Pieridae (Whites, Sulphurs)

- *Pieris rapae* (Cabbage White)
- *Pontia sisymbrii* (Spring White)
- *Pontia beckeri* (Beker's White)
- *Pontia protodice* (Common White) — #7 #1 ||
- *Anthocharis sara* (Sara Orangetip)
- *Anthocharis cethura* (Felder's Orangetip)
- *Euchloe hyantis* (Desert Pearly Marble)
- *Colias eurytheme* (Orange Sulphur) — #7 | (1); #1 || (2)
- *Colias harfordii* (Harford's Sulphur)
- *Nathalis iole* (Dainty Sulphur)

Papilionidae (Swallowtails)

- *Papilio polyxenes* (Desert Black Swallowtail)
- *Papilio eurymedon* (Pale swallowtail)
- *Papilio rutulus* (Western Tiger Swallowtail)

Riodinidae (Metalmarks)

- *Apodemia mormo* (Behr's Metalmark) — #7 ||||; #1 (𝍸 𝍸) ||| 13

Lycaenidae (Hairstreaks and Blues)

- *Celastrina ladon* (Spring Azure)
- *Leptotes marina* (Marine Blue)
- *Brephidium exile* (Western Pygmy Blue)
- *Glaucopsyche lygdamus* (Southern Blue/Silvery blue)
- *Hemiargus ceraunus* (Edward's Blue)
- *Icaria acmon* (Acmon Blue) — #7 (𝍸 |||); #1 (||||) 4
- *Philotes sonorensis* (Sonoran Blue)
- *Callophrys augustinus* (Brown Elfin)
- *Callophrys perplexa* (Perplexing Green Hairstreak)
- *Strymon melinus* (Gray Hairstreak)
- *Atlides halesus* (Great Purple Hairstreak)
- ... -spotted Blues — #7 (||||) 4
  Euphilotes battoides (bernardino)

Hesperiidae (Skippers) — Total

- *Erynnis funeralis* (Funereal Duskywing)
- *Erynnis tristis* (Sad Duskywing)
- *Erynnis propertius* (Propertius Duskywing) — #7 | 10
- *Erynnis brizo* (Sleepy Duskeywing)
- *Pyrgus albescens* (Checkered Skipper)
- *Hesperia jubia* (Jubia Skipper)
- *Polites sabuleti* (Sandhill Skipper) — #7 ||| (1); #1 | 12

Megathymidae (Giant Skippers)

- *Megathymus yuccae* (Yucca Giant Skipper)

Other Butterflies:

Notes:

…ntial Nectaring or Host Plants for Quino Checkerspot Butterfly in Boulevard, California (Concentrix Solar)

…ctions:

Please Place a Check Mark Beside Flowering Plants. Use Numbered Notes to Add Species Detail.

PLEASE RECORD HOST PLANTS ON GPS See Codes Below:

Antirrhinum coulterianum = AC *Collinsia concolor* = CC *Cordylanthus rigidus* = CR *Plantago patagonica* = PP

✓	Scientific Name	Common Name
X	*Amsinckia menziesii*	Rancher's Fiddleneck
	Antirrhinum coulterianum	**Coulter's Snapdragon**
	Antirrhinum nuttallianum	Nuttall's Snapdragon
	Asclepias fascicularis	Narrow-leaf Milkweed
X	*Boechera* sp.	Rock Cress
	Calandrinia ciliata	Red Maids
	Calochortus concolor	Golden-bowl Mariposa Lily
	Calystegia longipes	Morning-glory
X	*Camissonia* sp.	Sun Cup
	Castilleja exserta	**Paintbrush**
	Caulanthus heterophyllus	San Diego Jewelflower
	Caulanthus simulans	Payson's Caulanthus
	Ceanothus cuneatus	Buck Brush
X	*Ceanothus greggii*	Cup-leaf-lilac
	Ceanothus leucodermis	Chaparral Whitethorn
	Chaenactis artemisiifolia	White Pincushion
X	*Chaenactis glabriuscula*	Yellow Pincushion
	Clematis sp	Clematis
	Collinsia concolor	**Southern Chinese Houses**
	Cordylanthus rigidus	**Dark-tip Bird's Beak**
	Coreopsis californica	California Coreopsis
	Corethrogyne filaginifolia	Common Sand-aster
X	*Cryptantha* sp.	Cryptantha
	Cucurbita foetidissima	Calabazilla
X	*Descurainia* sp.	Tansy-mustard
	Dicentra chrysantha	Golden Ear-drops
X	*Dichelostemma capitatum*	Blue Dicks
	Dudleya sp	Dudleya
	Emmenanthe penduliflora	Whispering Bells
	Eriastrum sp.	Woolly-star
	Ericameria sp.	Goldenbush
	Erigeron foliosus	Leafy Daisy
	Eriodictyon trichocalyx	Hairy Yerba Santa
	Eriogonum fasciculatum	Inland California Buckwheat
	Eriogonum sp.	Buckwheat
X	*Eriophyllum* sp	Golden-yarrow
X	*Erodium cicutarium**	Red-stem Storksbill
	Erysimum capitatum	Western Wallflower
X	*Eschscholzia californica*	California Poppy
	Eucrypta chrysanthemifolia	Spotted Hideseed
	Euthamia occidentalis	Western Goldenrod
	Garrya veatchii	Canyon Silk Tassel
	Gilia sp.	Gilia
	Gnaphalium	Cudweed
	Guillenia lasiophylla	California Mustard
	Gutierrezia sarothrae	Broom Matchweed
	Heliotropium curassavicum	Salt Heliotrope
X	*Hirschfeldia incana*	Short-pod Mustard
	Lamium amplexicaule	Henbit
X	*Lasthenia gracilis*	Common Goldfields
	Layia glandulosa	White Layia
	Lepidium sp.	Pepperweed
X	*Linanthus bellus*	Desert Beauty
	Linanthus dichotomus	Evening Snow
	Lonicera subspicata	Johnston's Honeysuckle
	Malacothrix californica	California Dandelion
	Malacothrix clevelandii	Cleveland's Malacothrix
	Marah macrocarpus	Wild-cucumber
	*Marrubium vulgare**	Horehound
	*Matricaria matricarioides**	Common Pineapple-weed
	Mentzelia veatchiana	Veatch's Stick-leaf
	Microsteris gracilis	Slender Phlox
	Mimulus sp.	Monkeyflower
	Nemophila menziesii	Small-flower Baby Blue Eyes
	Orobanche bulbosa	Chaparral Broom-rape
	Osmadenia tenella	Osmadenia
	Paeonia californica	California Peony
X	*Pectocarya* sp.	Pectocarya
X	*Phacelia* sp	Phacelia
	Pholistoma membranaceum	White Fiesta Flower
X	*Plagiobothrys* sp.	Popcornflower
	Plantago patagonica	**Desert Plantain**
	Platystemon californicus	Cream Cups
	Prunus ilicifolia	Holly-leaf Cherry
	Rafinesquia neomexicana	Desert Chicory
	Ribes quercetorum	Oak Gooseberry
	Rorippa nasturtium-aquaticum	Water-cress
	Rosa californica	California Rose
	Saltugilia australis	Southern Gilia
	Senecio californicus	California Butterweed
	Senecio flaccidus	Butterweed
	Sidalcea malvaeflora	Checker-bloom
X	*Sisymbrium* sp.	Tumble Mustard
	Solidago californica	California Goldenrod
	Stachys ajugoides	Hedge-nettle
	Stephanomeria sp.	Wreathplant
	Streptanthus campestris	Southern Jewelflower
	Stylocline gnaphalioides	Everlasting Nest-straw
	Tetradymia comosa	Cotton-thorn
X	*Thysanocarpus* sp.	Fringepod
	Trichostemma parishii	Mountain Bluecurls
	Tropidocarpum gracile	Slender Dobie-pod
X	*Uropappus lindleyi*	Silver Puffs
	Viola purpurea	Oak Yellow Violet

Other Flowering Plants:

vegetative Encelia actoni

Rhus ovata

Rare Wildlife or Rare Plants:

Quino Checkerspot Butterfly Protocol Survey — Field Data Sheet

149222 mi on c/b

Recorder: KH Osborne Add'l Person: Bonnie Hawkins Date: 5/5/2011 GPS Unit: 2

Project: Concentrix Solar Project Map #: 2 Survey Sxn: 2 QCB Protocol Survey # 6 of 5

	TIME (24-hour)	Temp (F°):	Wind [avg/max]	% CC	Sky
Start	1216	75	4/8	0	clear patchy overcast drizzle shower
	2245	75	5/8	0	clear patchy overcast drizzle shower
					clear patchy overcast drizzle shower
					clear patchy overcast drizzle shower
					clear patchy overcast drizzle shower
End	410	74	Calm	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

	Total
Nymphalidae (Brushfooted Butterflies)	
Euphydryas editha (Quino Checkerspot)	
Euphydryas chalcedona (Henne's Checkerspot)	
Thessalia leanira (Wright's Checkerspot)	
Chlosyne californica (California Patch)	
Chlosyne gabbii (Gabb's Checkerspot)	
Phyciodes mylitta (Mylitta Crescent)	
Junonia coenia (Common Buckeye) ///	3
Vanessa annabella (West Coast Lady)	
Vanessa atalanta (Red Admiral)	
Vanessa cardui (Painted Lady)	
Vanessa virginiensis (Virginia Lady)	
Nymphalis californica (California Tortoiseshell)	
Danaidae (Milkweed Butterflies)	
Danaus plexippus (Monarch)	
Danaus gilippus (Queen)	
Satyridae (Satyrs)	
Coenonympha californica (Common California Ringlet)	
Pieridae (Whites, Sulphurs)	
Pieris rapae (Cabbage White)	
Pontia sisymbri (Spring White)	
Pontia beckerii (Beker's White)	
Pontia protodice (Common White)	
Anthocharis sara (Sara Orangetip) /	2
Anthocharis cethura (Felder's Orangetip)	
Euchloe hyantis (Desert Pearly Marble)	
Colias eurytheme (Orange Sulphur) ////	4
Colias harfordii (Harford's Sulphur)	
Nathalis iole (Dainty Sulphur) //	2
Papilionidae (Swallowtails)	
Papilio polyxenes (Desert Black Swallowtail)	
Papilio eurymedon (Pale swallowtail)	
Papilio rutulus (Western Tiger Swallowtail)	
Riodinidae (Metalmarks)	
Apodemia mormo (Behr's Metalmark) //VIIIXXV	43
Lycaenidae (Hairstreaks and Blues)	
Celastrina ladon (Spring Azure)	
Leptotes marina (Marine Blue)	
Brephidium exile (Western Pygmy Blue) / /	2
Glaucopsyche lygdamus (Southern Blue/Silvery blue)	
Hemiargus ceraunus (Edward's Blue)	
Icaria acmon (Acmon Blue) ~~////~~ ///	8
Philotes sonorensis (Sonoran Blue)	
Callophrys augustinus (Brown Elfin)	
Callophrys perplexa (Perplexing Green Hairstreak)	
Strymon melinus (Gray Hairstreak)	
Atlides halesus (Great Purple Hairstreak)	
Plebejus lupini /	1
Everes amyntula ///	3

	Total
Hesperiidae (Skippers)	
Erynnis funeralis (Funeral Duskywing)	
Erynnis tristis (Sad Duskywing)	
Erynnis propertius (Propertius Duskywing) //	2
Erynnis brizo (Sleepy Duskywing)	
Pyrgus albescens (Checkered Skipper)	
Hesperia juba (Juba Skipper) /	1
Polites sabuleti (Sandhill Skipper) ///	3
Megathymidae (Giant Skippers)	
Megathymus yuccae (Yucca Giant Skipper)	
Other Butterflies:	
Moths	
Brastria ochrovenae	1
Schinia [illegible]	2

Notes:

...ntial Nectaring or Host Plants for Quino Checkerspot Butterfly in Boulevard, California (Concentrix Solar)

...uctions:

Please Place a Check Mark Beside Flowering Plants. Use Numbered Notes to Add Species Detail.

PLEASE RECORD HOST PLANTS ON GPS See Codes Below:

Antirrhinum coulterianum = AC *Collinsia concolor* = CC *Cordylanthus rigidus* = CR *Plantago patagonica* = PP

○	*Amsinckia menziesii*	Rancher's Fiddleneck
○	***Antirrhinum coulterianum***	**Coulter's Snapdragon**
○	*Antirrhinum nuttallianum*	Nuttall's Snapdragon
○	*Asclepias fascicularis*	Narrow-leaf Milkweed
○	*Boechera sp.*	Rock Cress
○	*Calandrinia ciliata*	Red Maids
○	*Calochortus concolor*	Golden-bowl Mariposa Lily
○	*Calystegia longipes*	Morning-glory
○	*Camissonia sp.*	Sun Cup
○	***Castilleja exerta***	**Paintbrush**
○	*Caulanthus heterophyllus*	San Diego Jewelflower
○	*Caulanthus simulans*	Payson's Caulanthus
○	*Ceanothus cuneatus*	Buck Brush
○	*Ceanothus greggii*	Cup-leaf-lilac
○	*Ceanothus leucodermis*	Chaparral Whitethorn
○	*Chaenactis artemisiifolia*	White Pincushion
○	*Chaenactis glabriuscula*	Yellow Pincushion
○	*Clematis sp*	Clematis
○	***Collinsia concolor***	**Southern Chinese Houses**
○	***Cordylanthus rigidus***	**Dark-tip Bird's Beak**
○	*Coreopsis californica*	California Coreopsis
○	*Corethrogyne filaginifolia*	Common Sand-aster
○	*Cryptantha sp.*	Cryptantha
○	*Cucurbita foetidissima*	Calabazilla
○	*Descurainia sp.*	Tansy-mustard
○	*Dicentra chrysantha*	Golden Ear-drops
○	*Dicdelostemma capitatum*	Blue Dicks
○	*Dudleya sp*	Dudleya
○	*Emmenanthe penduliflora*	Whispering Bells
○	*Eriastrum sp.*	Woolly-star
○	*Ericameria sp.*	Goldenbush
○	*Erigeron foliosus*	Leafy Daisy
○	*Eriodictyon trichocalyx*	Hairy Yerba Santa
○	*Eriogonum fasciculatum*	Inland California Buckwheat
○	*Eriogonum sp.*	Buckwheat
○	*Eriophyllum sp.*	Golden-yarrow
○	*Erodium cicutarium**	Red-stem Storksbill
○	*Erysimum capitatum*	Western Wallflower
○	*Eschscholzia californica*	California Poppy
○	*Eucrypta chrysanthemifolia*	Spotted Hideseed
○	*Euthamia occidentalis*	Western Goldenrod
○	*Garrya veatchii*	Canyon Silk Tassel
○	*Gilia sp.*	Gilia
○	*Gnaphalium*	Cudweed
○	*Guillenia lasiophylla*	California Mustard
○	*Gutierrezia sarothrae*	Broom Matchweed
○	*Heliotropium curassavicum*	Salt Heliotrope
○	*Hirshfeldia incana*	Short-pod Mustard
○	*Lamium amplexicaule*	Henbit
○	*Lasthenia gracilis*	Common Goldfields
○	*Layia glandulosa*	White Layia
○	*Lepidium sp.*	Pepperweed
○	*Linanthus bottus*	Desert Beauty
○	*Linanthus dichotomus*	Evening Snow
○	*Lonicera subspicata*	Johnston's Honeysuckle
○	*Malacothrix californica*	California Dandelion
○	*Malacothrix clevelandii*	Cleveland's Malacothrix
○	*Marah macrocarpus*	Wild-cucumber
○	*Marrubium vulgare**	Horehound
○	*Matricaria matricarioides**	Common Pineapple-weed
○	*Mentzelia veatchiana*	Veatch's Stick-leak
○	*Microsteris gracilis*	Slender Phlox
○	*Mimulus sp.*	Monkeyflower
○	*Nemophila menziesii*	Small-flower Baby Blue Eyes
○	*Orobanche bulbosa*	Chaparral Broom-rape

○	*Osmadenia tenella*	Osmadenia
○	*Paeonia californica*	California Peony
○	*Pectocarya sp.*	Pectocarya
○	*Phacelia sp.*	Phacelia
○	*Pholistoma membranaceum*	White Fiesta Flower
○	*Plagiobothrys sp.*	Popcornflower
○	***Plantago patagonica***	**Desert Plantain**
○	*Platystemon californicus*	Cream Cups
○	*Prunus ilicifolia*	Holly-leaf Cherry
○	*Ratinesquia neomexicana*	Desert Chicory
○	*Ribes quercetorum*	Oak Gooseberry
○	*Rorippa nasturtium-aquaticum*	Water-cress
○	*Rosa californica*	California Rose
○	*Saltugilia australis*	Southern Gilia
○	*Senecio californicus*	California Butterweed
○	*Senecio flaccidus*	Butterweed
○	*Sidalcea malvaeflora*	Checker-bloom
○	*Sisymbrium sp.*	Tumble Mustard
○	*Solidago californica*	California Goldenrod
○	*Stachys ajugoides*	Hedge-nettle
○	*Stephanomeria sp.*	Wreathplant
○	*Streptanthus campestris*	Southern Jewelflower
○	*Stylocline gnaphalioides*	Everlasting Nest-straw
○	*Tetradymia comosa*	Cotton-thorn
○	*Thysanocarpus sp.*	Fringepod
○	*Trichostemma parishii*	Mountain Bluecurls
○	*Tropidocarpum gracile*	Slender Dobie-pod
○	*Uropappus lindleyi*	Silver Puffs
○	*Viola purpurea*	Oak Yellow Violet
○		
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○	**Other Flowering Plants:**	
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○	**Rare Wildlife or Rare Plants:**	
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Quino Checkerspot Butterfly Protocol Survey — Field Data Sheet

Recorder: Erin Bergman Add'l Person: Margie site 1 Date: [illegible] GPS Unit: ___

Project: Concentrix Solar Project Map #: ___ Survey Sxn: ___ QCB Protocol Survey # ___ 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

	Area 1	Total
Nymphalidae (Brushfooted Butterflies)		
Euphydryas editha (Quino Checkerspot)		
Euphydryas chalcedona (Henne's Checkerspot)		
Thessalia leanira (Wright's Checkerspot)		
Chlosyne californica (California Patch)		
Chlosyne gabbii (Gabb's Checkerspot)		
Phyciodes mylitta (Mylitta Crescent)		
Junonia coenia (Common Buckeye)	IIII IIII IIII IIII	17
Vanessa annabella (West Coast Lady)		
Vanessa atalanta (Red Admiral)		
Vanessa cardui (Painted Lady)		
Vanessa virginiensis (Virginia Lady)		
Nymphalis californica (California Tortoiseshell)		
Danaidae (Milkweed Butterflies)		
Danaus plexippus (Monarch)		
Danaus gilippus (Queen)		
Satyridae (Satyrs)		
Coenonympha californica (Common California Ringlet)		
Pieridae (Whites, Sulphurs)		
Pieris rapae (Cabbage White)		
Pontia sisymbrii (Spring White)		
Pontia beckerii (Beker's White)		
Pontia protodice (Common White)		
Anthocharis sara (Sara Orangetip)		
Anthocharis cethura (Felder's Orangetip)		
Euchloe hyantis (Desert Pearly Marble)		
Colias eurytheme (Orange Sulphur)	IIII	6
Colias harfordii (Harford's Sulphur)		
Nathalis iole (Dainty Sulphur)		
Papilionidae (Swallowtails)		
Papilio polyxenes (Desert Black Swallowtail)		
Papilio eurymedon (Pale swallowtail)		
Papilio rutulus (Western Tiger Swallowtail)		
Riodinidae (Metalmarks)		
Apodemia mormo (Behr's Metalmark)	IIII IIII IIII IIII	24
Lycaenidae (Hairstreaks and Blues)		
Celastrina ladon (Spring Azure)		
Leptotes marina (Marine Blue)		
Brephidium exile (Western Pygmy Blue)		
Glaucopsyche lygdamus (Southern Blue/Silvery blue)		
Hemiargus ceraunus (Edward's Blue)		
Icaria acmon (Acmon Blue)	IIII	5
Philotes sonorensis (Sonoran Blue)		
Callophrys augustinus (Brown Elfin)		
Callophrys perplexa (Perplexing Green Hairstreak)		
[illegible] melinus (Gray Hairstreak)		
[illegible]alesus (Great Purple Hairstreak)		

	Area 1	Total
Hesperiidae (Skippers)		
Erynnis funeralis (Funereal Duskywing)		
Erynnis tristis (Sad Duskywing)		
Erynnis propertius (Propertius Duskywing)	I	1
Erynnis brizo (Sleepy Duskeywing)		
Pyrgus albescens (Checkered Skipper)		
Hesperia jubia (Jubia Skipper)	I	1
Polites sabuloti (Sandhill Skipper)	II	3
Megathymidae (Giant Skippers)		
Megathymus yuccae (Yucca Giant Skipper)		
Other Butterflies:		
Square spotted blues, Euphilotes bettoides Bernardino.	IIII	4

Notes: ___

ential Nectaring or Host Plants for Quino Checkerspot Butterfly in Boulevard, California (Concentrix S

nuctions

- Please Place a Check Mark Beside Flowering Plants. Use Numbered Notes to Add Species Detail.
- **PLEASE RECORD HOST PLANTS ON GPS** See Codes Below:

Antirrhinum coulterianum = AC *Collinsia concolor* = CC *Cordylanthus rigidus* = CR *Plantago patagonica* = PP

X	*Amsinckia menziesii*	Rancher's Fiddleneck
o	***Antirrhinum coulterianum***	**Coulter's Snapdragon**
o	*Antirrhinum nuttallianum*	Nuttall's Snapdragon
o	*Asclepias fascicularis*	Narrow-leaf Milkweed
X	*Boechora sp.*	Rock Cress
o	*Calandrinia ciliata*	Red Maids
o	*Calochortus concolor*	Golden-bowl Mariposa Lily
o	*Calystegia longipes*	Morning-glory
o	*Camissonia sp.*	Sun Cup
o	***Castilleja exerta***	**Paintbrush**
o	*Caulanthus heterophyllus*	San Diego Jewelflower
o	*Caulanthus simulans*	Payson's Caulanthus
o	*Ceanothus cuneatus*	Buck Brush
X	*Ceanothus greggii*	Cup-leaf-lilac
o	*Ceanothus leucodermis*	Chaparral Whitethorn
o	*Chaenactis artemisiifolia*	White Pincushion
X	*Chaenactis glabriuscula*	Yellow Pincushion
X	*Clematis sp.*	Clematis
X	***Collinsia concolor***	**Southern Chinese Houses**
o	***Cordylanthus rigidus***	**Dark-tip Bird's Beak**
X	*Coreopsis californica*	California Coreopsis
o	*Corethrogyne filaginifolia*	Common Sand-aster
X	*Cryptantha sp.*	Cryptantha
o	*Cucurbita foetidissima*	Calabazilla
X	*Descurainia sp.*	Tansy-mustard
o	*Dicentra chrysantha*	Golden Ear-drops
X	*Dichelostemma capitatum*	Blue Dicks
X	*Dudleya sp.*	Dudleya
X	*Emmenanthe penduliflora*	Whispering Bells
o	*Eriastrum sp.*	Woolly-star
X	*Ericameria sp.*	Goldenbush
o	*Erigeron foliosus*	Leafy Daisy
X	*Eriodictyon trichocalyx*	Hairy Yerba Santa
X	*Eriogonum fasciculatum*	Inland California Buckwheat
X	*Eriogonum sp.*	Buckwheat
X	*Eriophyllum sp.*	Golden-yarrow
X	*Erodium cicutarium**	Red-stem Storksbill
o	*Erysimum capitatum*	Western Wallflower
X	*Eschscholzia californica*	California Poppy
o	*Eucrypta chrysanthemifolia*	Spotted Hideseed
o	*Euthamia occidentalis*	Western Goldenrod
X	*Garrya veatchii*	Canyon Silk Tassel
X	*Gilia sp.*	Gilia
X	*Gnaphalium*	Cudweed
o	*Guillenia lasiophylla*	California Mustard
X	*Gutierrezia ~~sarothrae~~**	Broom Matchweed
o	*Heliotropium curassavicum*	Salt Heliotrope
X	*Hirshfeldia incana*	Short-pod Mustard
o	*Lamium amplexicaule*	Henbit
X	*Lasthenia gracilis*	Common Goldfields
X	*Layia glandulosa*	White Layia
o	*Lepidium sp.*	Pepperweed
X	*Linanthus bolus*	Desert Beauty
o	*Linanthus dichotomus*	Evening Snow
X	*Lonicera subspicata*	Johnston's Honeysuckle
o	*Malacothrix californica*	California Dandelion
o	*Malacothrix clevelandii*	Cleveland's Malacothrix
o	*Marah macrocarpus*	Wild-cucumber
X	*Marrubium vulgare**	Horehound
o	*Matricaria matricarioides**	Common Pineapple-weed
	[illegible]zelia veatchiana	Veatch's Blick-leak
	[illegible]steris gracilis	Slender Phlox
	[illegible]s sp.	Monkeyflower
	[illegible]hila menzeisii	Small-flower Baby Blue Eyes
	[illegible]be bulbosa	Chaparral Broom-rape
o	*Osmadenia tenella*	Osmadenia
o	*Paeonia californica*	California Peony
X	*Pectocarya sp.*	Pectocarya
X	*Phacelia sp.* distans	Phacelia
o	*Pholistoma membranaceum*	White Fiesta Flower
X	*Plagiobothrys sp.*	Popcornflower
o	*Plantago patagonica*	Desert Plantain
o	*Platystemon californicus*	Cream Cups
o	*Prunus ilicifolia*	Holly-leaf Cherry
o	*Rafinesquia neomexicana*	Desert Chicory
X	*Ribes quercetorum*	Oak Gooseberry
o	*Rorripa nasturtium-aquaticum*	Water-cress
o	*Rosa californica*	California Rose
o	*Saltugilia australis*	Southern Gilia
X	*Senecio californicus*	California Butterweed
o	*Senecio flaccidus*	Butterweed
o	*Sidalcea malvaeflora*	Checker-bloom
X	*Sisymbrium sp.*	Tumble Mustard
X	*Solidago californica*	California Goldenrod
o	*Stachys ajugoides*	Hedge-nettle
o	*Stephanomeria sp.*	Wreathplant
o	*Streptanthus campestris*	Southern Jewelflower
X	*Syntocline gnaphalioides*	Everlasting Nest-straw
o	*Tetradymia comosa*	Cotton-thorn
o	*Thysanocarpus sp.*	Fringepod
X	*Trichostemma parishii*	Mountain Bluecurls
o	*Tropidocarpum gracile*	Slender Dobie-pod
o	*Uropappus lindleyi*	Silver Puffs
o	*Viola purpurea*	Oak Yellow Violet
o		
o		
o	**Other Flowering Plants:**	
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o	**Rare Wildlife or Rare Plants:**	
o	SBad01A1	SB1602B2
o	SBad02A2	
o	SBad03A1	
o	SBad04A1	
o	SBbj01	
o	SBCC01A1	
o	SBCC02B5	
o	SBdp01A1	
o	SBdp02B15	
o	SBdp03A1	
o	SBgr01A1	
o	SB1601A1	

149277 mi @ end of day

Quino Checkerspot Butterfly Protocol Survey — Field Data Sheet

Recorder: Ken Osborne Add'l Person: ø Date: 5/4/2011 GPS Unit: 3

Project: Concentrix Solar Project Map #: 3 Survey Sxn: 3 QCB Protocol Survey # 6 of 5

	TIME (24-hour)	Temp (F°):	Wind (avg/max)	% CC	Sky
Start	1140	88	4/6	0	clear patchy overcast drizzle shower
	1310				clear patchy overcast drizzle shower
	1 20				clear patchy overcast drizzle shower
					clear patchy overcast drizzle shower
					clear patchy overcast drizzle shower
					clear patchy overcast drizzle shower
End	350	90	calm		clear patchy overcast drizzle shower

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

	Total		Total
Nymphalidae (Brushfooted Butterflies)		**Hesperiidae (Skippers)**	
Euphydryas editha (Quino Checkerspot)		*Erynnis funeralis* (Funereal Duskywing)	
Euphydryas chalcedona (Henne's Checkerspot)		*Erynnis tristis* (Sad Duskywing)	
Thessalia leanira (Wright's Checkerspot)		*Erynnis propertius* (Propertius Duskywing) /	1
Chlosyne californica (California Patch)		*Erynnis brizo* (Sleepy Duskeywing)	
Chlosyne gabbii (Gabb's Checkerspot)		*Pyrgus albescens* (Checkered Skipper)	
Phyciodes mylitta (Mylitta Crescent)		*Hesperia jubia* (Jubia Skipper) ///	3
Junonia coenia (Common Buckeye) ///	3	*Polites sabulati* (Sandhill Skipper)	
Vanessa annabella (West Coast Lady)		**Megathymidae (Giant Skippers)**	
Vanessa atalanta (Red Admiral)		*Megathymus yuccae* (Yucca Giant Skipper)	
Vanessa cardui (Painted Lady)			
Vanessa virginiensis (Virginia Lady)		**Other Butterflies:**	
Nymphalis californica (California Tortoiseshell)			
Danaidae (Milkweed Butterflies)			
Danaus plexippus (Monarch)		Moths	
Danaus gilippus (Queen)			
Satyridae (Satyrs)		Rodiosoma fulva /	1
Coenonymphia californica (Common California Ringlet)			
Pieridae (Whites, Sulphurs)			
Pieris rapae (Cabbage White)			
Pontia sisymbrii (Spring White)			
Pontia beckerii (Beker's White)			
Pontia protodice (Common White) //	2		
Anthocharis sara (Sara Orangetip)			
Anthocharis cethura (Felder's Orangetip)			
Euchloe hyantis (Desert Pearly Marble)			
Colias eurytheme (Orange Sulphur) //	2		
Colias harfordii (Harford's Sulphur) ~~////~~ //	7		
Nathalis iole (Dainty Sulphur) ////	4		
Papilionidae (Swallowtails)		**Notes:**	
Papilio polyxenes (Desert Black Swallowtail)			
Papilio eurymedon (Pale swallowtail)			
Papilio rutulus (Western Tiger Swallowtail)			
Riodinidae (Metalmarks)			
Apodemia mormo (Behr's Metalmark) XXX	30		
Lycaenidae (Hairstreaks and Blues)			
Celastrina ladon (Spring Azure)			
Leptotes marina (Marine Blue)			
Brephidium exile (Western Pygmy Blue)			
Glaucopsyche lygdamus (Southern Blue/Silvery blue)		KOCCOL = 50 plants in one M	
Hemiargus ceraunus (Edward's Blue)		KOTWL = Tiger whip tail lizard	
Icaria acmon (Acmon Blue) //	2		
Philotes sonorensis (Sonoran Blue)		KOCCOL = 20 plants in one Meter	
Callophrys augustinus (Brown Elfin)			
Callophrys perplexa (Perplexing Green Hairstreak)			
Strymon melinus (Gray Hairstreak)			
Atlides halesus (Great Purple Hairstreak)			
Everys amyntula ///	3		

Potential Nectaring or Host Plants for Quino Checkerspot Butterfly in Boulevard, California (Concentrix Solar)

Instructions.

- Please Place a Check Mark Beside Flowering Plants. Use Numbered Notes to Add Species Detail.
- **PLEASE RECORD HOST PLANTS ON GPS** See Codes Below:

Antirrhinum coulterianum = AC *Collinsia concolor* = CC *Cordylanthus rigidus* = CR *Plantago patagonica* = PP

○	*Amsinckia menziesii*	Rancher's Fiddleneck
○	***Antirrhinum coulterianum***	**Coulter's Snapdragon**
○	*Antirrhinum nuttallianum*	Nuttall's Snapdragon
○	*Asclepias fascicularis*	Narrow-leaf Milkweed
○	*Boechera sp.*	Rock Cress
○	*Calandrinia ciliata*	Red Maids
○	*Calochortus concolor*	Golden-bowl Mariposa Lily
○	*Calystegia longipes*	Morning-glory
○	*Camissonia sp.*	Sun Cup
○	***Castilleja exerta***	**Paintbrush**
○	*Caulanthus heterophyllus*	San Diego Jewelflower
○	*Caulanthus simulans*	Payson's Caulanthus
○	*Ceanothus cuneatus*	Buck Brush
○	*Ceanothus greggii*	Cup-leaf-lilac
○	*Ceanothus leucodermis*	Chaparral Whitethorn
○	*Chaenactis artemisiifolia*	White Pincushion
○	*Chaenactis glabriuscula*	Yellow Pincushion
○	*Clematis sp.*	Clematis
✓	***Collinsia concolor***	**Southern Chinese Houses**
○	***Cordylanthus rigidus***	**Dark-tip Bird's Beak**
○	*Coreopsis californica*	California Coreopsis
○	*Corethrogyne filaginifolia*	Common Sand-aster
○	*Cryptantha sp.*	Cryptantha
○	*Cucurbita foetidissima*	Calabazilla
○	*Descurainia sp.*	Tansy-mustard
○	*Dicentra chrysantha*	Golden Ear-drops
○	*Dichelostemma capitatum*	Blue Dicks
○	*Dudleya sp.*	Dudleya
○	*Emmenanthe penduliflora*	Whispering Bells
○	*Eriastrum sp.*	Woolly-star
○	*Ericameria sp.*	Goldenbush
○	*Erigeron foliosus*	Leafy Daisy
○	*Eriodictyon trichocalyx*	Hairy Yerba Santa
○	*Eriogonum fasciculatum*	Inland California Buckwheat
○	*Eriogonum sp.*	Buckwheat
○	*Eriophyllum sp.*	Golden-yarrow
○	*Erodium cicutarium**	Red-stem Storksbill
○	*Erysimum capitatum*	Western Wallflower
○	*Eschscholzia californica*	California Poppy
○	*Eucrypta chrysanthemifolia*	Spotted Hideseed
○	*Euthamia occidentalis*	Western Goldenrod
○	*Garrya veatchii*	Canyon Silk Tassel
○	*Gilia sp.*	Gilia
○	*Gnaphalium*	Cudweed
○	*Guillenia lasiophylla*	California Mustard
○	*Gutierrezia sarothrae*	Broom Matchweed
○	*Heliotropium curassavicum*	Salt Heliotrope
○	*Hirschfeldia incana*	Short-pod Mustard
○	*Lamium amplexicaule*	Henbit
✓	*Lasthenia gracilis*	Common Goldfields
✓	*Layia glandulosa*	White Layia
○	*Lepidium sp.*	Peppenweed
○	*Linanthus bellus*	Desert Beauty
○	*Linanthus dichotomus*	Evening Snow
○	*Lonicera subspicata*	Johnston's Honeysuckle
○	*Malacothrix californica*	California Dandelion
○	*Malacothrix clevelandii*	Cleveland's Malacothrix
○	*Marah macrocarpus*	Wild-cucumber
○	*Marrubium vulgare**	Horehound
○	*Matricaria matricarioides**	Common Pineapple-weed
○	*Mentzelia veatchiana*	Veatch's Stick-leaf
○	*Microsteris gracilis*	Slender Phlox
○	*Mimulus sp.*	Monkeyflower
○	*Nemophila menziesii*	Small-flower Baby Blue Eyes
○	*Orobanche bulbosa*	Chaparral Broom-rape
○	*Osmadenia tenella*	Osmadenia
○	*Paeonia californica*	California Peony
○	*Pectocarya sp.*	Pectocarya
✓	*Phacelia sp.*	Phacelia
○	*Pholistoma membranaceum*	White Fiesta Flower
○	*Plagiobothrys sp.*	Popcornflower
○	*Plantago patagonica*	Desert Plantain
○	*Platystemon californicus*	Cream Cups
○	*Prunus ilicifolia*	Holly-leaf Cherry
○	*Rafinesquia neomexicana*	Desert Chicory
○	*Ribes quercetorum*	Oak Gooseberry
○	*Rorripa nasturtium-aquaticum*	Water-cress
○	*Rosa californica*	California Rose
○	*Saltugilia australis*	Southern Gilia
○	*Senecio californicus*	California Butterweed
○	*Senecio flaccidus*	Butterweed
○	*Sidalcea malvaeflora*	Checker-bloom
○	*Sisymbrium sp.*	Tumble Mustard
○	*Solidago californica*	California Goldenrod
○	*Stachys ajugoides*	Hedge-nettle
○	*Stephanomeria sp.*	Wreathplant
○	*Streptanthus campestris*	Southern Jewelflower
○	*Stylocline gnaphalioides*	Everlasting Nest-straw
○	*Tetradymia comosa*	Cotton-thorn
○	*Thysanocarpus sp.*	Fringepod
○	*Trichostemma parishii*	Mountain Bluecurls
○	*Tropidocarpum gracile*	Slender Dobie-pod
○	*Uropappus lindleyi*	Silver Puffs
○	*Viola purpurea*	Oak Yellow Violet
○		
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○	**Other Flowering Plants:**	
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○	**Rare Wildlife or Rare Plants:**	
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Quino Checkerspot Butterfly Protocol Survey — Field Data Sheet

Recorder: Erin Bergman Add'l Person: _____ Date: 3/4/11 GPS Unit: 12

Project: Concentrix Solar Project Map #: _____ Survey Sxn: _____ QCB Protocol Survey # _____ of 5

TIME (24 hour)	Temp (F°):	Wind (avg/max)	% CC	Sky
Start 12:00	55			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 12:30				clear / patchy / overcast / drizzle / shower

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

	Total		Total
Nymphalidae (Brushfooted Butterflies)		**Hesperiidae (Skippers)**	
Euphydryas editha (Quino Checkerspot)		*Erynnis funeralis* (Funereal Duskywing)	
Euphydryas chalcedona (Henne's Checkerspot)		*Erynnis tristis* (Sad Duskywing)	
Thessalia leanira (Wright's Checkerspot)		*Erynnis propertius* (Propertius Duskywing)	
Chlosyne californica (California Patch)		*Erynnis brizo* (Sleepy Duskeywing)	
Chlosyne gabbii (Gabb's Checkerspot)		*Pyrgus albescens* (Checkered Skipper)	
Phyciodes mylitta (Mylitta Crescent)		*Hesperia jubia* (Jubia Skipper)	
Junonia coenia (Common Buckeye)	1	*Polites sabuleti* (Sandhill Skipper)	1
Vanessa annabella (West Coast Lady)		**Megathymidae (Giant Skippers)**	
Vanessa atalanta (Red Admiral)		*Megathymus yuccae* (Yucca Giant Skipper)	
Vanessa cardui (Painted Lady)			
Vanessa virginiensis (Virginia Lady)		**Other Butterflies:**	
Nymphalis californica (California Tortoiseshell)			
Danaidae (Milkweed Butterflies)		western tailed blue 𝍸	6
Danaus plexippus (Monarch)			
Danaus gilippus (Queen)		Squamspotted blue 1	1
Satyridae (Satyrs)			
Coenonympha californica (Common California Ringlet)			
Pieridae (Whites, Sulphurs)			
Pieris rapae (Cabbage White)			
Pontia sisymbrii (Spring White)			
Pontia beckeri (Beker's White)			
Pontia protodice (Common White) 𝍸	4		
Anthocharis sara (Sara Orangetip)			
Anthocharis cethura (Felder's Orangetip)			
Euchloe hyantis (Desert Pearly Marble)			
Colias eurytheme (Orange Sulphur)	2		
Colias harfordii (Harford's Sulphur)	1		
Nathalis iole (Dainty Sulphur)			
Papilionidae (Swallowtails)		**Notes:**	
Papilio polyxenes (Desert Black Swallowtail)			
Papilio eurymedon (Pale swallowtail)			
Papilio rutulus (Western Tiger Swallowtail)			
Riodiniade (Metalmarks)			
Apodemia mormo (Behr's Metalmark) 𝍸 𝍸 𝍸 𝍸 𝍸	24		
Lycaenidae (Hairstreaks and Blues)			
Celastrina ladon (Spring Azure)			
Leptotes marina (Marine Blue)			
Brephidium exile (Western Pygmy Blue)			
Glaucopsyche lygdamus (Southern Blue/Silvery blue)			
Hemiargus ceraunus (Edward's Blue)			
Icaria acmon (Acmon Blue) 𝍸	6		
Philotes sonorensis (Sonoran Blue)			
Callophrys augustinus (Brown Elfin)			
Callophrys perplexa (Perplexing Green Hairstreak)			
Strymon melinus (Gray Hairstreak)			
Atlides halesus (Great Purple Hairstreak)			

Nectaring or Host Plants for Quino Checkerspot Butterfly in Boulevard, California (Concentrix Solar)

Please Place a Check Mark Beside Flowering Plants. Use Numbered Notes to Add Species Detail.

PLEASE RECORD HOST PLANTS ON GPS See Codes Below:

Antirrhinum coulterianum = AC *Collinsia concolor* = CC *Cordylanthus rigidus* = CR *Plantago patagonica* = PP

	Amsinckia menziesii	Rancher's Fiddleneck
	Antirrhinum coulterianum	**Coulter's Snapdragon**
	Antirrhinum nuttallianum	Nuttall's Snapdragon
	Asclepias fascicularis	Narrow-leaf Milkweed
	Boechera sp.	Rock Cress
	Calandrinia ciliata	Red Maids
	Calochortus concolor	Golden-bowl Mariposa Lily
	Calystegia longipes	Morning-glory
	Camissonia sp.	Sun Cup
	Castilleja exerta	**Paintbrush**
	Caulanthus heterophyllus	San Diego Jewelflower
	Caulanthus simulans	Payson's Caulanthus
	Ceanothus cuneatus	Buck Brush
	Ceanothus greggii	Cup-leaf-lilac
	Ceanothus leucodermis	Chaparral Whitethorn
	Chaenactis artemisiifolia	White Pincushion
	Chaenactis glabriuscula	Yellow Pincushion
	Clematis sp.	Clematis
	Collinsia concolor	**Southern Chinese Houses**
	Cordylanthus rigidus	**Dark-tip Bird's Beak**
	Coreopsis californica	**California Coreopsis**
	Corethrogyne filaginifolia	Common Sand-aster
	Cryptantha sp.	Cryptantha
	Cucurbita foetidissima	Calabazilla
	Descurainia sp.	Tansy-mustard
	Dicentra chrysantha	Golden Ear-drops
	Dichelostemma capitatum	Blue Dicks
	Dudleya sp.	Dudleya
	Emmenantho penduliflora	Whispering Bells
	Eriastrum sp	Woolly-star
	Ericameria sp.	Goldenbush
	Erigeron foliosus	Leafy Daisy
	Eriodictyon trichocalyx	Hairy Yerba Santa
	Eriogonum fasciculatum	Inland California Buckwheat
	Eriogonum sp.	Buckwheat
	Eriophyllum sp	Golden-yarrow
	*Erodium cicutarium**	Red-stem Storksbill
	Erysimum capitatum	Western Wallflower
	Eschscholzia californica	California Poppy
	Eucrypta chrysanthemifolia	Spotted Hideseed
	Euthamia occidentalis	Western Goldenrod
	Garrya veatchii	Canyon Silk Tassel
	Gilia sp.	Gilia
	Gnaphalium	Cudweed
	Guillenia lasiophylla	California Mustard
	Gutierrezia sarothrae	Broom Matchweed
	Heliotropium curassavicum	Salt Heliotrope
	Hirshfeldia incana	Short-pod Mustard
	Lamium amplexicaule	Henbit
	Lasthenia gracilis	Common Goldfields
	Layia glandulosa	White Layia
	Lepidium sp.	Pepperweed
	Linanthus bellus	Desert Beauty
	Linanthus dichotomus	Evening Snow
	Lonicera subspicata	Johnston's Honeysuckle
	Malacothrix californica	California Dandelion
	Malacothrix clevelandii	Cleveland's Malacothrix
	Marah macrocarpus	Wild-cucumber
	*Marrubium vulgare**	Horehound
	*Matricaria matricarioides**	Common Pineapple-weed
	Mentzelia veatchiana	Veatch's Stick-leaf
	Microsteris gracilis	Slender Phlox
	Mimulus sp.	Monkeyflower
	Nemophila menziesii	Small-flower Baby Blue Eyes
	Orobanche bulbosa	Chaparral Broom-rape
	Osmadenia tenella	Osmadenia
	Paeonia californica	California Peony
	Pectocarya sp.	Pectocarya
	Phacelia sp.	Phacelia
	Pholistoma membranaceum	White Fiesta Flower
	Plagiobothrys sp.	Popcornflower
	Plantago patagonica	**Desert Plantain**
	Platystemon californicus	Cream Cups
	Prunus ilicifolia	Holly-leaf Cherry
	Rafinesquia neomexicana	Desert Chicory
	Ribes quercetorum	Oak Gooseberry
	Rorippa nasturtium-aquaticum	Water-cress
	Rosa californica	California Rose
	Saltugilia australis	Southern Gilia
	Senecio californicus	California Butterweed
	~~*Senecio flaccidus*~~	~~Butterweed~~
	Sidalcea malvaeflora	Checker-bloom
	Sisymbrium sp.	Tumble Mustard
	Solidago californica	California Goldenrod
	Stachys ajugoides	Hedge-nettle
	Stephanomeria sp.	Wreathplant
	Streptanthus campestris	Southern Jewelflower
	Stylocline gnaphalioides	Everlasting Nest-straw
	Tetradymia comosa	Cotton-thorn
	Thysanocarpus sp	Fringepod
	Trichostemma parishii	Mountain Bluecurls
	Tropidocarpum gracile	Slender Dobie-pod
	Uropappus lindleyi	Silver Puffs
	Viola purpurea	Oak Yellow Violet

Other Flowering Plants:

Rare Wildlife or Rare Plants:

Quino Checkerspot Butterfly Protocol Survey — Field Data Sheet

Recorder: Margie Mulligan Add'l Person: _____ Date: 5-5-11 GPS Unit: 3

Project: Concentrix Solar Project Map #: 4 Survey Sxn: _____ QCB Protocol Survey # 6 of 5

	TIME (24-hour)	Temp (F°)	Wind (mp/max)	% CC	Sky
Start	0930	82°	2-6	5	clear patchy overcast drizzle shower
	1200	89°	2-4	5	clear patchy overcast drizzle shower
	1500	91°	0-2	0	clear patchy overcast drizzle shower
	1600	88°	2-6	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

	Total
Nymphalidae (Brushfooted Butterflies)	
Euphydryas editha (Quino Checkerspot)	
Euphydryas chalcedona (Henne's Checkerspot)	
Thessalia leanira (Wright's Checkerspot)	
Chlosyne californica (California Patch)	
Chlosyne gabbii (Gabb's Checkerspot)	
Phyciodes mylitta (Mylitta Crescent)	
Junonia coenia (Common Buckeye)	IIII (6)
Vanessa annabella (West Coast Lady)	
Vanessa atalanta (Red Admiral)	
Vanessa cardui (Painted Lady)	
Vanessa virginiensis (Virginia Lady)	
Nymphalis californica (California Tortoseshell)	
Danaidae (Milkweed Butterflies)	
Danaus plexippus (Monarch)	
Danaus gilippus (Queen)	
Satyridae (Satyrs)	
Coenonympha californica (Common California Ringlet)	
Pieridae (Whites, Sulphurs)	
Pieris rapae (Cabbage White)	
Pontia sisymbrii (Spring White)	
Pontia beckerii (Becker's White)	I (1)
Pontia protodice (Common White)	IIII (4)
Anthocharis sara (Sara Orangetip)	
Anthocharis cethura (Felder's Orangetip)	
Euchloe hyantis (Desert Pearly Marble)	
Colias eurytheme (Orange Sulphur)	III (3)
Colias harfordii (Harford's Sulphur)	II (2)
Nathalis iole (Dainty Sulphur)	II (2)
Papilionidae (Swallowtails)	
Papilio polyxenes (Desert Black Swallowtail)	
Papilio eurymedon (Pale swallowtail)	I (1)
Papilio rutulus (Western Tiger Swallowtail)	
Riodinidae (Metalmarks)	
Apodemia mormo (Behr's Metalmark)	IIII IIII IIII IIII IIII IIII IIII IIII III (48)
Lycaenidae (Hairstreaks and Blues)	
Celastrina ladon (Spring Azure)	
Leptotes marina (Marine Blue)	
Brephidium exile (Western Pygmy Blue)	
Glaucopsyche lygdamus (Southern Blue/Silvery blue)	II (2)
Hemiargus ceraunus (Edward's Blue)	
Icaria acmon (Acmon Blue)	II (2)
Philotes sonorensis (Sonoran Blue)	
Callophrys augustinus (Brown Elfin)	
Callophrys perplexa (Perplexing Green Hairstreak)	
Strymon melinus (Gray Hairstreak)	
Atlides halesus (Great Purple Hairstreak)	
Western-tailed Blue	IIII (4)
Square-spotted Blue	II (2)

	Total
Hesperiidae (Skippers)	
Erynnis funerallis (Funereal Duskywing)	
Erynnis tristis (Sad Duskywing)	
Erynnis propertius (Propertius Duskywing)	I (1)
Erynnis brizo (Sleepy Duskywing)	
Pyrgus albescens (Checkered Skipper)	
Hesperia jubia (Jubia Skipper)	
Polites sabuleti (Sandhill Skipper)	
Megathymidae (Giant Skippers)	
Megathymus yuccae (Yucca Giant Skipper)	
Other Butterflies:	

Notes:

ial Nectaring or Host Plants for Quino Checkerspot Butterfly in Boulevard, California (Concentrix Solar)

ons:

Please Place a Check Mark Beside Flowering Plants. Use Numbered Notes to Add Species Detail.

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Calochortus concolor	Golden-bowl Mariposa Lily
Calystegia longipes	Morning-glory
Camissonia sp.	Sun Cup
Castilleja exerta	Paintbrush
Ceanothus heterophyllus	San Diego Jewelflower
Ceanothus simulans	Payson's Ceanothus
Ceanothus cuneatus	Buck Brush
Ceanothus greggii	Cup-leaf-lilac
Ceanothus leucodermis	Chaparral Whitethorn
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Dudleya sp.	Dudleya
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Eriastrum sp.	Woolly-star
Ericameria sp.	Goldenbush
Erigeron foliosus	Leafy Daisy
Eriodictyon trichocalyx	Hairy Yerba Santa
Eriogonum fasciculatum	Inland California Buckwheat
Eriogonum sp.	Buckwheat
Eriophyllum spp.	Golden-yarrow
*Erodium cicutarium**	Red-stem Storksbill
Erysimum capitatum	Western Wallflower
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Eucrypta chrysanthemifolia	Spotted Hideseed
Euthamia occidentalis	Western Goldenrod
Garrya veatchii	Canyon Silk Tassel
Gilia sp.	Gilia
Gnaphalium	Cudweed
Guillenia lasiophylla	California Mustard
Gutierrezia sarothrae	Broom Matchweed
Heliotropium curassavicum	Salt Heliotrope
Hirschfeldia incana	Short-pod Mustard
Lamium amplexicaule	Henbit
Lasthenia gracilis	Common Goldfields
Layia glandulosa	White Layia
Lepidium sp.	Pepperweed
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Linanthus dichotomus	Evening Snow
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Malacothrix clevelandii	Cleveland's Malacothrix
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*Matricaria matricarioides**	Common Pineapple-weed
Mentzelia veatchiana	Veatch's Stick-leaf
Microsteris gracilis	Slender Phlox
Mimulus sp.	Monkeyflower
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Orobanche bulbosa	Chaparral Broom-rape
Osmadenia tenella	Osmadenia
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Phacelia sp.	Phacelia
Pholistoma membranaceum	White Fiesta Flower
Plagiobothrys sp.	Popcornflower
Plantago patagonica	Desert Plantain
Platystemon californicus	Cream Cups
Prunus ilicifolia	Holly-leaf Cherry
Rafinesquia neomexicana	Desert Chicory
Ribes quercetorum	Oak Gooseberry
Rorippa nasturtium-aquaticum	Water-cress
Rosa californica	California Rose
Saltugilia australis	Southern Gilia
Senecio californicus	California Butterweed
Senecio flaccidus	Butterweed
Sidalcea malvaeflora	Checker-bloom
Sisymbrium sp.	Tumble Mustard
Solidago californica	California Goldenrod
Stachys ajugoides	Hedge-nettle
Stephanomeria sp.	Wreathplant
Streptanthus campestris	Southern Jewelflower
Stylocline gnaphalioides	Everlasting Nest-straw
Tetradymia comosa	Cotton-thorn
Thysanocarpus sp.	Fringepod
Trichostemma parishii	Mountain Bluecurls
Tropidocarpum gracile	Slender Dobie-pod
Uropappus lindleyi	Silver Puffs
Viola purpurea	Oak Yellow Violet

Other Flowering Plants:

Gilia diegensis

Rare Wildlife or Rare Plants:

- Astragalus douglasii perstrictus
  MMAD01-05
- Cordylanthus rigidus
  MMCR01-05
- Delphinium parishii subglobosum
  MMDP01-16
- Linanthus bellus
  MMLB01-03
- Lotus splendens
  MMLS01-03
- Nest egg unknown 1½ inch white on ground

Quino Checkerspot Butterfly Protocol Survey — Field Data Sheet

Recorder: Bonnie Hendricks Add'l Person: Erin Bergman Date: 5/5/11 GPS Unit: 13

Project: Concentrix Solar Project Map #: 45 Survey Sxn: ~~Middle~~ Nuttall QCB Protocol Survey # 6 of 5

	TIME (24-hour)	Temp (F°)	Wind (avg/max)	% CC	Sky
Start	9:45	82.0	1.9/3.7	0	clear patchy overcast drizzle shower
	10:45	85.0	2.3/5.1	0	clear patchy overcast drizzle shower
	11:45	88.5	4.6/7.4	0	clear patchy overcast drizzle shower
	1:00	90.5	3.0/5.6	0	clear patchy overcast drizzle shower
	2:00	90.7	2.2/4.6	0	clear patchy overcast drizzle shower
	3:00	89.0	1.3/2.4	0	clear patchy overcast drizzle shower
End	4:00	87.5	5.6/9.6	0	clear patchy overcast drizzle shower

outside SDGE

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

	Area 4	Area 5	Area 2	Total
Nymphalidae (Brushfooted Butterflies)				
Euphydryas editha (Quino Checkerspot)				
Euphydryas chalcedona (Henne's Checkerspot)				
Thessalia leanira (Wright's Checkerspot)				
Chlosyne californica (California Patch)				
Chlosyne gabbii (Gabb's Checkerspot)				
Phyciodes mylitta (Mylitta Crescent)				
Junonia coenia (Common Buckeye)				
Vanessa annabella (West Coast Lady)				3
Vanessa atalanta (Red Admiral)				
Vanessa cardui (Painted Lady)				1
Vanessa virginiensis (Virginia Lady)				
Nymphalis californica (California Tortoiseshell)				
Danaidae (Milkweed Butterflies)				
Danaus plexippus (Monarch)				
Danaus gilippus (Queen)				1
Satyridae (Satyrs)				
Coenonympha californica (Common California Ringlet)				
Pieridae (Whites, Sulphurs)				
Pieris rapae (Cabbage White)				
Pontia sisymbrii (Spring White)				
Pontia beckerii (Beker's White)				
Pontia protodice (Common White)				
Anthocharis sara (Sara Orangetip)				12
Anthocharis cethura (Felder's Orangetip)				
Euchloe hyantis (Desert Pearly Marble)				
Colias eurytheme (Orange Sulphur)				
Colias harfordii (Harford's Sulphur)				3
Nathalis iole (Dainty Sulphur)				1
Papilionidae (Swallowtails)				
Papilio polyxenes (Desert Black Swallowtail)				
Papilio eurymedon (Pale swallowtail)				
Papilio rutulus (Western Tiger Swallowtail)				
Riodiniade (Metalmarks)				
Apodemia mormo (Behr's Metalmark)				50
Lycaenidae (Hairstreaks and Blues)				
Celastrina ladon (Spring Azure)				
Leptotes marina (Marine Blue)				
Brephidium exile (Western Pygmy Blue)				
Glaucopsyche lygdamus (Southern Blue/Silvery blue)				
Hemiargus ceraunus (Edward's Blue)				
Icaria acmon (Acmon Blue)				5
Philotes sonorensis (Sonoran Blue)				
Callophrys augustinus (Brown Elfin)				
Callophrys perplexa (Perplexing Green Hairstreak)				
Strymon melinus (Gray Hairstreak)				
Atlides halesus (Great Purple Hairstreak)				

	Area 4	Area 5	Area 2	Total
Hesperiidae (Skippers)				
Erynnis funeralis (Funereal Duskywing)				
Erynnis tristis (Sad Duskywing)				
Erynnis propertius (Propertius Duskywing)				1
Erynnis brizo (Sleepy Duskeywing)				2
Pyrgus albescens (Checkered Skipper)				
Hesperia jubla (Jubla Skipper)				1
Polites sabuleti (Sandhill Skipper)				2
Megathymidae (Giant Skippers)				
Megathymus yuccae (Yucca Giant Skipper)				
Other Butterflies:				
Western Tailed blue				6

Notes:

...tial Nectaring or Host Plants for Quino Checkerspot Butterfly In Boulevard, California (Concentrix Solar)

...ons.

Please Place a Check Mark Beside Flowering Plants. Use Numbered Notes to Add Species Detail.

PLEASE RECORD HOST PLANTS ON GPS See Codes Below:

Antirrhinum coulterianum = AC *Collinsia concolor* = CC *Cordylanthus rigidus* = CR *Plantago patagonica* = PP

See Erin's List

Scientific Name	Common Name
Amsinckia menziesii	Rancher's Fiddleneck
Antirrhinum coulterianum	**Coulter's Snapdragon**
Antirrhinum nuttallianum	Nuttall's Snapdragon
Asclepias fascicularis	Narrow-leaf Milkweed
Boechera sp.	Rock Cress
Calandrinia ciliata	Red Maids
Calochortus concolor	Golden-bowl Mariposa Lily
Calystegia longipes	Morning-glory
Camissonia sp.	Sun Cup
Castilleja exerta	Paintbrush
Caulanthus heterophyllus	San Diego Jewelflower
Caulanthus simulans	Payson's Caulanthus
Ceanothus cuneatus	Buck Brush
Ceanothus greggii	Cup-leaf-lilac
Ceanothus leucodermis	Chaparral Whitethorn
Chaenactis artemisiifolia	White Pincushion
Chaenactis glabriuscula	Yellow Pincushion
Clematis sp.	Clematis
Collinsia concolor	**Southern Chinese Houses**
Cordylanthus rigidus	**Dark-tip Bird's Beak**
Coreopsis californica	California Coreopsis
Corethrogyne filaginifolia	Common Sand-aster
Cryptantha sp.	Cryptantha
Cucurbita foetidissima	Calabazilla
Descurainia sp.	Tansy-mustard
Dicentra chrysantha	Golden Ear-drops
Dichelostemma capitatum	Blue Dicks
Dudleya sp.	Dudleya
Emmenanthe penduliflora	Whispering Bells
Eriastrum sp	Woolly-star
Ericameria sp.	Goldenbush
Erigeron foliosus	Leafy Daisy
Eriodictyon trichocalyx	Hairy Yerba Santa
Eriogonum fasciculatum	Inland California Buckwheat
Eriogonum sp.	Buckwheat
Eriophyllum sp.	Golden-yarrow
*Erodium cicutarium**	Red-stem Storksbill
Erysimum capitatum	Western Wallflower
Eschscholzia californica	California Poppy
Eucrypta chrysanthemifolia	Spotted Hideseed
Euthamia occidentalis	Western Goldenrod
Garrya veatchii	Canyon Silk Tassel
Gilia sp.	Gilia
Gnaphalium	Cudweed
Guillenia lasiophylla	California Mustard
Gutierrezia sarothrae	Broom Matchweed
Heliotropium curassavicum	Salt Heliotrope
Hirshfeldia incana	Short-pod Mustard
Lamium amplexicaule	Henbit
Lasthenia gracilis	Common Goldfields
Layia glandulosa	White Layia
Lepidium sp.	Pepperweed
Linanthus bellus	Desert Beauty
Linanthus dichotomus	Evening Snow
Lonicera subspicata	Johnston's Honeysuckle
Malacothrix californica	California Dandelion
Malacothrix clevelandii	Cleveland's Malacothrix
Marah macrocarpus	Wild-cucumber
*Marrubium vulgare**	Horehound
*Matricaria matricarioides**	Common Pineapple-weed
Monardella veatchiana	Veatch's Stick-leaf
Microsteris gracilis	Slender Phlox
Mimulus sp.	Monkeyflower
Nemophila menziesii	Small-flower Baby Blue Eyes
Orobanche bulbosa	Chaparral Broom-rape

Scientific Name	Common Name
Osmadenia tenella	Osmadenia
Paeonia californica	California Peony
Pectocarya sp.	Pectocarya
Phacelia sp.	Phacelia
Pholistoma membranaceum	White Fiesta Flower
Plagiobothrys sp.	Popcornflower
Plantago patagonica	**Desert Plantain**
Platystemon californicus	Cream Cups
Prunus ilicifolia	Holly-leaf Cherry
Rafinesquia neomexicana	Desert Chicory
Ribes quercetorum	Oak Gooseberry
Rorippa nasturtium-aquaticum	Water-cress
Rosa californica	Californ.a Rose
Saltugilia australis	Southern Gilia
Senecio californicus	California Butterweed
Senecio flaccidus	Butterweed
Sidalcea malvaeflora	Checker-bloom
Sisymbrium sp.	Tumble Mustard
Solidago californica	California Goldenrod
Stachys ajugoides	Hedge-nettle
Stephanomeria sp.	Wreathplant
Streptanthus campestris	Southern Jewelflower
Stylocline gnaphalioides	Everlasting Nest-straw
Tetradymia comosa	Cotton-thorn
Thysanocarpus sp.	Fringepod
Trichostemma parishii	Mountain Bluecurls
Tropidocarpum gracile	Slender Dobie-pod
Uropappus lindleyi	Silver Puffs
Viola purpurea	Oak Yellow Violet

Other Flowering Plants:

Rare Wildlife or Rare Plants:

Quino Checkerspot Butterfly Protocol Survey — Field Data Sheet

Recorder: K H Osborne Add'l Person: — Date: 5/5/2011 GPS Unit: 2

Project: Concentrix Solar Project Map #: 3 4 Survey Sxn: 3 4 QCB Protocol Survey # 6 of 5

TIME (24-hour)	Temp (F°)	Wind (avg/max)	% CC	Sky
Start 530	85	2/4	0	clear patchy overcast drizzle shower
1100	90	calm	0	clear patchy overcast drizzle shower
115	87	1/2	0	clear patchy overcast drizzle shower
245	85	3.2/5.5	0	clear patchy overcast drizzle shower
				clear patchy overcast drizzle shower
				clear patchy overcast drizzle shower
End 400	85	3/5	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

		Total
Nymphalidae (Brushfooted Butterflies)		
Euphydryas editha (Quino Checkerspot)		
Euphydryas chalcedona (Henne's Checkerspot)	1 / 1	1/1
Thessalia leanira (Wright's Checkerspot)		
Chlosyne californica (California Patch)		
Chlosyne gabbii (Gabb's Checkerspot)	1	1/1
Phyciodes mylitta (Mylitta Crescent)		
Junonia coenia (Common Buckeye)	IIII / III	5/3
Vanessa annabella (West Coast Lady)		
Vanessa atalanta (Red Admiral)		
Vanessa cardui (Painted Lady)		
Vanessa virginiensis (Virginia Lady)		
Nymphalis californica (California Tortoiseshell)		
Danaidae (Milkweed Butterflies)		
Danaus plexippus (Monarch)		
Danaus gilippus (Queen)		
Satyridae (Satyrs)		
Coenonympha californica (Common California Ringlet)		
Pieridae (Whites, Sulphurs)		
Pieris rapae (Cabbage White)		
Pontia sisymbrii (Spring White)		
Pontia beckerii (Beker's White)		
Pontia protodice (Common White) 1	IIII / I	1/5
Anthocharis sara (Sara Orangetip)		
Anthocharis cethura (Felder's Orangetip)		
Euchloe hyantis (Desert Pearly Marble)		
Colias eurytheme (Orange Sulphur)	II	2
Colias harfordii (Harford's Sulphur)	IIII IV / IIII	11/5
Nathalis iole (Dainty Sulphur) 1	II	1/2
Papilionidae (Swallowtails)		
Papilio polyxenes (Desert Black Swallowtail)		
Papilio eurymedon (Pale swallowtail)		
Papilio rutulus (Western Tiger Swallowtail)		
Riodinidae (Metalmarks)		
Apodemia mormo (Behr's Metalmark)	IIII II IX / I XXXX	19/61
Lycaenidae (Hairstreaks and Blues)		
Celastrina ladon (Spring Azure)		
Leptotes marina (Marine Blue)		
Brephidium exile (Western Pygmy Blue)		
Glaucopsyche lygdamus (Southern Blue/Silvery blue)		
Hemiargus ceraunus (Edward's Blue)		
Icaria acmon (Acmon Blue) II	1	2/1
Philotes sonorensis (Sonoran Blue)		
Callophrys augustinus (Brown Elfin)		
Callophrys perplexa (Perplexing Green Hairstreak)		
Strymon melinus (Gray Hairstreak)		
Atlides halesus (Great Purple Hairstreak)		
Everes amyntula IIII II	1	3/1

		Total
Hesperiidae (Skippers)		
Erynnis funeralis (Funereal Duskywing)		
Erynnis tristis (Sad Duskywing)		
Erynnis propertius (Propertius Duskywing)		
Erynnis brizo (Sleepy Duskywing)		
Pyrgus albescens (Checkered Skipper)		
Hesperia juba (Juba Skipper)	IX / I	1/11
Polites sabuleti (Sandhill Skipper)		
Megathymidae (Giant Skippers)		
Megathymus yuccae (Yucca Giant Skipper)		
Other Butterflies		
Halisidota cristatum	I / II	1/1
Philosamia cecropia		1/2

Notes: GPS unit track interrupted by low battery

Potential Nectaring or Host Plants for Quino Checkerspot Butterfly in Boulevard, California (Concentrix Solar)

Instructions.

- Please Place a Check Mark Beside Flowering Plants. Use Numbered Notes to Add Species Detail.
- **PLEASE RECORD HOST PLANTS ON GPS** See Codes Below:

Antirrhinum coulterianum = AC *Collinsia concolor* = CC *Cordylanthus rigidus* = CR *Plantago patagonica* = PP

Amsinckia menziesii	Rancher's Fiddleneck
Antirrhinum coulterianum	**Coulter's Snapdragon**
Antirrhinum nuttallianum	Nuttall's Snapdragon
Asclepias fascicularis	Narrow-leaf Milkweed
Boechera sp.	Rock Cress
Calandrinia ciliata	Red Maids
Calochortus concolor	Golden-bowl Mariposa Lily
Calystegia longipes	Morning-glory
Camissonia sp.	Sun Cup
Castilleja exserta	**Paintbrush**
Caulanthus heterophyllus	San Diego Jewelflower
Caulanthus simulans	Payson's Caulanthus
Ceanothus cuneatus	Buck Brush
Ceanothus greggii	Cup-leaf-lilac
Ceanothus leucodermis	Chaparral Whitethorn
Chaenactis artemisiifolia	White Pincushion
Chaenactis glabriuscula	Yellow Pincushion
Clematis sp.	Clematis
Collinsia concolor	**Southern Chinese Houses**
Cordylanthus rigidus	**Dark-tip Bird's Beak**
Coreopsis californica	California Coreopsis
Corethrogyne filaginifolia	Common Sand-aster
Cryptantha sp.	Cryptantha
Cucurbita foetidissima	Calabazilla
Descurainia sp.	Tansy-mustard
Dicentra chrysantha	Golden Ear-drops
Dichelostemma capitatum	Blue Dicks
Dudleya sp.	Dudleya
Emmenanthe penduliflora	Whispering Bells
Eriastrum sp.	Woolly-star
Ericameria sp.	Goldenbush
Erigeron foliosus	Leafy Daisy
Eriodictyon trichocalyx	Hairy Yerba Santa
Eriogonum fasciculatum	Inland California Buckwheat
Eriogonum sp.	Buckwheat
Eriophyllum sp.	Golden-yarrow
*Erodium cicutarium**	Red-stem Storksbill
Erysimum capitatum	Western Wallflower
Eschscholzia californica	California Poppy
Eucrypta chrysanthemifolia	Spotted Hideseed
Euthamia occidentalis	Western Goldenrod
Garrya veatchii	Canyon Silk Tassel
Gilia sp.	Gilia
Gnaphalium	Cudweed
Guillenia lasiophylla	California Mustard
Gutierrezia sarothrae	Broom Matchweed
Heliotropium curassavicum	Salt Heliotrope
Hirschfeldia incana	Short-pod Mustard
Lamium amplexicaule	Henbit
Lasthenia gracilis	Common Goldfields
Layia glandulosa	White Layia
Lepidium sp.	Pepperweed
Linanthus bellus	Desert Beauty
Linanthus dichotomus	Evening Snow
Lonicera subspicata	Johnston's Honeysuckle
Malacothrix californica	California Dandelion
~~*Malacothrix clevelandii*~~	Cleveland's Malacothrix
Marah macrocarpus	Wild-cucumber
*Marrubium vulgare**	Horehound
*Matricaria matricarioides**	Common Pineapple-weed
Mentzelia veatchiana	Veatch's Stick-leaf
Microsteris gracilis	Slender Phlox
Mimulus sp.	Monkeyflower
Nemophila menzeisii	Small-flower Baby Blue Eyes
Orobanche bulbosa	Chaparral Broom-rape
Osmadenia tenella	Osmadenia
Paeonia californica	California Peony
Pectocarya sp.	Pectocarya
Phacelia sp.	Phacelia
Pholistoma membranaceum	White Fiesta Flower
Plagiobothrys sp.	Popcornflower
Plantago patagonica	**Desert Plantain**
Platystemon californicus	Cream Cups
Prunus ilicifolia	Holly-leaf Cherry
Rafinesquia neomexicana	Desert Chicory
Ribes quercetorum	Oak Gooseberry
Rorripa nasturtium-aquaticum	Water-cress
Rosa californica	California Rose
Saltugilia australis	Southern Gilia
Senecio californicus	California Butterweed
Senecio flaccidus	Butterweed
Sidalcea malvaeflora	Checker-bloom
Sisymbrium sp.	Tumble Mustard
Solidago californica	California Goldenrod
Stachys ajugoides	Hedge-nettle
Stephanomeria sp	Wreathplant
Streptanthus campestris	Southern Jewelflower
Stylocline gnaphalioides	Everlasting Nest-straw
Tetradymia comosa	Cotton-thorn
Thysanocarpus sp.	Fringepod
Trichostemma parishii	Mountain Bluecurls
Tropidocarpum gracile	Slender Dobie-pod
Uropappus lindleyi	Silver Puffs
Viola purpurea	Oak Yellow Violet

Other Flowering Plants:

Astragalus

Rhus ovata

Rare Wildlife or Rare Plants:

Quino Checkerspot Butterfly Protocol Survey — Field Data Sheet

Recorder: Eric B Add'l Person: Date: 5/6 GPS Unit 10

Project: Concentrix Solar Project Map #: 4, 2, 5 Survey Sxn: QCB Protocol Survey # of 5

TIME (24-hour)	Temp (F°):	Wind (avg/max)	% CC	Sky
Start 9:50	83		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 4:00	90		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

	Total
Nymphalidae (Brushfooted Butterflies)	
Euphydryas editha (Quino Checkerspot)	
Euphydryas chalcedona (Henne's Checkerspot)	
Thessalia leanira (Wright's Checkerspot)	
Chlosyne californica (California Patch)	
Chlosyne gabbii (Gabb's Checkerspot)	
Phyciodes mylitta (Mylitta Crescent)	
Junonia coenia (Common Buckeye) 𝍸 III	8
Vanessa annabella (West Coast Lady)	
Vanessa atalanta (Red Admiral)	
Vanessa cardui (Painted Lady)	
Vanessa virginiensis (Virginia Lady)	
Nymphalis californica (California Tortoiseshell)	
Danaidae (Milkweed Butterflies)	
Danaus plexippus (Monarch)	
Danaus gilippus (Queen)	
Satyridae (Satyrs)	
Coenonympha californica (Common California Ringlet)	
Pieridae (Whites, Sulphurs)	
Pieris rapae (Cabbage White)	
Pontia sisymbrii (Spring White)	
Pontia beckerii (Beker's White)	
Pontia protodice (Common White) 𝍸 𝍸 𝍸 IIII	14
Anthocharis sara (Sara Orangetip)	
Anthocharis cethura (Felder's Orangetip)	
Euchloe hyantis (Desert Pearly Marble)	
Colias eurytheme (Orange Sulphur) 𝍸 𝍸	10
Colias harfordii (Harford's Sulphur) 𝍸 𝍸 𝍸 𝍸 I	16
Nathalis iole (Dainty Sulphur)	
Papilionidae (Swallowtails)	
Papilio polyxenes (Desert Black Swallowtail)	
Papilio eurymedon (Pale swallowtail)	
Papilio rutulus (Western Tiger Swallowtail)	
Riodinidae (Metalmarks)	
Apodemia mormo (Behr's Metalmark) 𝍸 𝍸 𝍸 𝍸 I	21
Lycaenidae (Hairstreaks and Blues)	
Celastrina ladon (Spring Azure)	
Leptotes marina (Marine Blue)	
Brephidium exile (Western Pygmy Blue)	
Glaucopsyche lygdamus (Southern Blue/Silvery blue)	
Hemiargus ceraunus (Edward's Blue)	
Icaria acmon (Acmon Blue) 𝍸 I	6
Philotes sonorensis (Sonoran Blue)	
Callophrys augustinus (Brown Elfin)	
Callophrys perplexa (Perplexing Green Hairstreak)	
Strymon melinus (Gray Hairstreak)	
Atlides halesus (Great Purple Hairstreak)	

	Total
Hesperiidae (Skippers)	
Erynnis funeralis (Funereal Duskywing)	
Erynnis tristis (Sad Duskywing)	
Erynnis propertius (Propertius Duskywing) I	1
Erynnis brizo (Sleepy Duskywing)	
Pyrgus albescens (Checkered Skipper)	
Hesperia juba (Juba Skipper) I	1
Polites sabuleti (Sandhill Skipper)	
Megathymidae (Giant Skippers)	
Megathymus yuccae (Yucca Giant Skipper)	
Other Butterflies:	
Spram spotted blue I	1
Western tailed blue II	2
Notes:	

...al Nectaring or Host Plants for Quino Checkerspot Butterfly in Boulevard, California (Concentrix Solar)

...ctions:

Please Place a Check Mark Beside Flowering Plants. Use Numbered Notes to Add Species Detail.

PLEASE RECORD HOST PLANTS ON GPS See Codes Below:

Antirrhinum coulterianum = AC *Collinsia concolor* = CC *Cordylanthus rigidus* = CR *Plantago patagonica* = PP

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Camissonia sp.	Sun Cup
Castilleja exerta	**Paintbrush**
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Emmenanthe penduliflora	Whispering Bells
Eriastrum sp.	Woolly-star
Ericameria sp.	Goldenbush
Erigeron foliosus	Leafy Daisy
Eriodictyon trichocalyx	Hairy Yerba Santa
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Eriogonum sp.	Buckwheat
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Eucrypta chrysanthemifolia	Spotted Hideseed
Euthamia occidentalis	Western Goldenrod
Garrya veatchii	Canyon Silk Tassel
Gilia sp.	Gilia
Gnaphalium	Cudweed
Guillenia lasiophylla	California Mustard
Gutierrezia sarothrae	Broom Matchweed
Heliotropium curassavicum	Salt Heliotrope
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Microsteris gracilis	Slender Phlox
Mimulus sp.	Monkeyflower
Nemophila menziesii	Small-flower Baby Blue Eyes
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Phacelia sp.	Phacelia
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Plagiobothrys sp.	Popcornflower
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Sisymbrium sp.	Tumble Mustard
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Stachys ajugoides	Hedge-nettle
Stephanomeria sp.	Wreathplant
Streptanthus campestris	Southern Jewelflower
Stylocline gnaphalioides	Everlasting Nest-straw
Tetradymia comosa	Cotton-thorn
Thysanocarpus sp.	Fringepod
Trichostemma parishii	Mountain Bluecurls
Tropidocarpum gracile	Slender Dobie-pod
Uropappus lindleyi	Silver Puffs
Viola purpurea	Oak Yellow Violet

Other Flowering Plants:

Rare Wildlife or Rare Plants:

Quino Checkerspot Butterfly Protocol Survey — Field Data Sheet

Recorder: Eric B Add'l Person: Date: 5/6 GPS Unit: 10

Project: Concentrix Solar Project Map #: 4, 2, 5 Survey Sxn: QCB Protocol Survey # of 5

TIME (24-hour)	Temp (F°):	Wind (avg/max)	% CC	Sky
Start 9:50	83		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 4:00	90		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

	Total
Nymphalidae (Brushfooted Butterflies)	
Euphydryas editha (Quino Checkerspot)	
Euphydryas chalcedona (Henne's Checkerspot)	
Thessalia leanira (Wright's Checkerspot)	
Chlosyne californica (California Patch)	
Chlosyne gabbii (Gabb's Checkerspot)	
Phyciodes mylitta (Mylitta Crescent)	
Junonia coenia (Common Buckeye) ~~IIII~~ III	8
Vanessa annabella (West Coast Lady)	
Vanessa atalanta (Red Admiral)	
Vanessa cardui (Painted Lady)	
Vanessa virginiensis (Virginia Lady)	
Nymphalis californica (California Tortoiseshell)	
Danaidae (Milkweed Butterflies)	
Danaus plexippus (Monarch)	
Danaus gilippus (Queen)	
Satyridae (Satyrs)	
Coenonympha californica (Common California Ringlet)	
Pieridae (Whites, Sulphurs)	
Pieris rapae (Cabbage White)	
Pontia sisymbrii (Spring White)	
Pontia beckerii (Becker's White)	
Pontia protodice (Common White) ~~IIII~~ ~~IIII~~ IIII	14
Anthocharis sara (Sara Orangetip)	
Anthocharis cethura (Felder's Orangetip)	
Euchloe hyantis (Desert Pearly Marble)	
Colias eurytheme (Orange Sulphur) ~~IIII~~ ~~IIII~~	10
Colias harfordii (Harford's Sulphur) ~~IIII~~ ~~IIII~~ ~~IIII~~ I	16
Nathalis iole (Dainty Sulphur)	
Papilionidae (Swallowtails)	
Papilio polyxenes (Desert Black Swallowtail)	
Papilio eurymedon (Pale swallowtail)	
Papilio rutulus(Western Tiger Swallowtail)	
Riodinidae (Metalmarks)	
Apodemia mormo (Behr's Metalmark) ~~IIII~~ ~~IIII~~ ~~IIII~~ ~~IIII~~ I	21
Lycaenidae (Hairstreaks and Blues)	
Celastrina ladon (Spring Azure)	
Leptotes marina (Marine Blue)	
Brephidium exile (Western Pygmy Blue)	
Glaucopsyche lygdamus (Southern Blue/Silvery blue)	
Hemiargus ceraunus (Edward's Blue)	
Icaria acmon (Acmon Blue) ~~IIII~~ I	6
Philotes sonorensis (Sonoran Blue)	
Callophrys augustinus (Brown Elfin)	
Callophrys perplexa (Perplexing Green Hairstreak)	
Strymon melinus (Gray Hairstreak)	
Atlides halesus (Great Purple Hairstreak)	

	Total
Hesperiidae (Skippers)	
Erynnis funeralis (Funereal Duskywing)	
Erynnis tristis (Sad Duskywing)	
Erynnis propertius (Propertius Duskywing) I	1
Erynnis brizo (Sleepy Duskywing)	
Pyrgus albescens (Checkered Skipper)	
Hesperia juba (Juba Skipper) I	1
Polites sabuleti (Sandhill Skipper)	
Megathymidae (Giant Skippers)	
Megathymus yuccae (Yucca Giant Skipper)	
Other Butterflies	
Square spotted blue I	1
Western tailed blue II	2

Notes:

Quino Checkerspot Butterfly Protocol Survey — Field Data Sheet

Recorder: Baibra Calantas Add'l Person: — Date: 04/21/2011 GPS Unit: 7

Project: Concentrix Solar Project Map #: 4, 2 Survey Sxn. QCB Protocol Survey # 4 of 5

	TIME (24-hour)	Temp (F°):	Wind (avg/max)	% CC	Sky
Start	1045	64.0	6.2 / 17.0	5	clear patchy overcast drizzle shower
	1145	66.2	5.3 / 13.8	5	clear patchy overcast drizzle shower
	1245	66.8	3.8 / 9.2	5	clear patchy overcast drizzle shower
	1345	67.2	9.7 / 18.2	10	clear patchy overcast drizzle shower
	1445	66.7	10.1 / 13.8	10	clear patchy overcast drizzle shower
	1530	67.1	12.1 / 18.4	15	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

	Total
Nymphalidae (Brushfooted Butterflies)	
Euphydryas editha (Quino Checkerspot)	
Euphydryas chalcedona (Henne's Checkerspot)	
Thessalia leanira (Wright's Checkerspot)	
Chlosyne californica (California Patch)	
Chlosyne gabbii (Gabb's Checkerspot)	
Phyciodes mylitta (Mylitta Crescent)	
Junonia coenia (Common Buckeye) IIII	5
Vanessa annabella (West Coast Lady)	
Vanessa atalanta (Red Admiral)	
Vanessa cardui (Painted Lady)	
Vanessa virginiensis (Virginia Lady)	
Nymphalis californica (California Tortoiseshell)	
Danaidae (Milkweed Butterflies)	
Danaus plexippus (Monarch)	
Danaus gilippus (Queen)	
Satyridae (Satyrs)	
Coenonympha californica (Common California Ringlet)	
Pieridae (Whites, Sulphurs)	
Pieris rapae (Cabbage White)	
Pontia sisymbri (Spring White)	
Pontia beckeri (Beker's White)	
Pontia protodice (Common White) I	1
Anthocharis sara (Sara Orangetip)	
Anthocharis cethura (Felder's Orangetip)	
Euchloe hyantis (Desert Pearly Marble) I	1
Colias eurytheme (Orange Sulphur)	
Colias harfordii (Harford's Sulphur)	
Nathalis iole (Dainty Sulphur)	
Papilionidae (Swallowtails)	
Papilio polyxenes (Desert Black Swallowtail)	
Papilio eurymedon (Pale swallowtail)	
Papilio rutulus(Western Tiger Swallowtail)	
Riodiniade (Metalmarks)	
Apodemia mormo (Behr's Metalmark) II	2
Lycaenidae (Hairstreaks and Blues)	
Celastrina ladon (Spring Azure)	
Leptotes marina (Marine Blue)	
Brephidium exile (Western Pygmy Blue)	
Glaucopsyche lygdamus (Southern Blue/Silvery blue)	
Hemiargus ceraunus (Edward's Blue)	
Icaria acmon (Acmon Blue)	
Philotes sonorensis (Sonoran Blue)	
Callophrys augustinus (Brown Elfin)	
Callophrys perplexa (Perplexing Green Hairstreak)	
Strymon melinus (Gray Hairstreak)	
Atlides halesus (Great Purple Hairstreak)	

	Total
Hesperiidae (Skippers)	
Erynnis funeralis (Funereal Duskywing)	
Erynnis tristis (Sad Duskywing)	
Erynnis propertius (Propertius Duskywing)	
Erynnis brizo (Sleepy Duskeywing)	
Pyrgus albescens (Checkered Skipper)	
Hesperia juba (Juba Skipper)	
Polites sabuleti (Sandhill Skipper)	
Megalhymidae (Giant Skippers)	
Megathymus yuccae (Yucca Giant Skipper)	
Other Butterflies:	
~~Copitheca~~ (orange moth) II	2
unid'd	

Notes:

SPTO
LAGP
WETJ
COPA
HOFI
MODU
WEMI
CAJU
COTOTHUL
FENVELLIZARD
WEJU

Potential Nectaring or Host Plants for Quino Checkerspot Butterfly in Boulevard, California (Concentrix Solar)

Instructions:

- Please Place a Check Mark Beside Flowering Plants. Use Numbered Notes to Add Species Detail.
- **PLEASE RECORD HOST PLANTS ON GPS** See Codes Below:

Antirrhinum coulterianum = AC *Collinsia concolor* = CC *Cordylanthus rigidus* = CR *Plantago patagonica* = PP

✓	*Amsinckia menziesii*	Rancher's Fiddleneck
	Antirrhinum coulterianum	**Coulter's Snapdragon**
	Antirrhinum nuttalianum	Nuttall's Snapdragon
	Asclepias fascicularis	Narrow-leaf Milkweed
	Boechera sp	Rock Cress
	Calandrinia ciliata	Red Maids
	Calochortus concolor	Golden-bowl Mariposa Lily
	Calystegia longipes	Morning-glory
	Camissonia sp.	Sun Cup
	Castilleja exerta	**Paintbrush**
	Caulanthus heterophyllus	San Diego Jewelflower
	Caulanthus simulans	Payson's Caulanthus
	Ceanothus cuneatus	Buck Brush
	Ceanothus greggii	Cup-leaf-lilac
	Ceanothus leucodermis	Chaparral Whitethorn
	Chaenactis artemisiifolia	White Pincushion
	Chaenactis glabriuscula	Yellow Pincushion
	Clematis sp.	Clematis
	Collinsia concolor	**Southern Chinese Houses**
	Cordylanthus rigidus	**Dark-tip Bird's Beak**
	Coreopsis californica	California Coreopsis
	Corethrogyne filaginifolia	Common Sand-aster
✓	*Cryptantha sp.*	Cryptantha
	Cucurbita foetidissima	Calabazilla
	Descurainia sp.	Tansy-mustard
	Dicentra chrysantha	Golden Ear-drops
	Dichelostemma capitatum	Blue Dicks
	Dudleya sp.	Dudleya
	Emmenanthe penduliflora	Whispering Bells
	Eriastrum sp.	Woolly-star
	Ericameria sp.	Goldenbush
	Erigeron foliosus	Leafy Daisy
	Eriodictyon trichocalyx	Hairy Yerba Santa
	Eriogonum fasciculatum	Inland California Buckwheat
	Eriogonum sp.	Buckwheat
✓	*Eriophyllum sp.*	Golden-yarrow
✓	*Erodium cicutarium**	Red-stem Storksbill
	Erysimum capitatum	Western Wallflower
	Eschscholzia californica	California Poppy
	Eucrypta chrysanthemifolia	Spotted Hideseed
	Euthamia occidentalis	Western Goldenrod
	Garrya veatchii	Canyon Silk Tassel
✓	*Gilia sp*	Gilia
	Gnaphalium	Cudweed
	Guillenia lasiophylla	California Mustard
	Gutierrezia sarothrae	Broom Matchweed
	Heliotropium curassavicum	Salt Heliotrope
	Hirshfeldia incana	Short-pod Mustard
	Lamium amplexicaule	Henbit
✓	*Lasthenia gracilis*	Common Goldfields
✓	*Layia glandulosa*	White Layia
	Lepidium sp.	Pepperweed
✓	*Linanthus bellus*	Desert Beauty
	Linanthus dichotomus	Evening Snow
	Lonicera subspicata	Johnston's Honeysuckle
	Malacothrix californica	California Dandelion
	Malacothrix clevelandii	Cleveland's Malacothrix
	Marah macrocarpus	Wild-cucumber
	*Marrubium vulgare**	Horehound
	*Matricaria matricarioides**	Common Pineapple-weed
	Menzelia veatchiana	Veatch's Stick-leak
	Microsteris gracilis	Slender Phlox
✓	*Mimulus sp.*	Monkeyflower
	Nemophila menziesii	Small-flower Baby Blue Eyes
	Orobanche bulbosa	Chaparral Broom-rape
✓	*Osmadenia tenella*	Osmadenia
	Paeonia californica	California Peony
	Pectocarya sp.	Pectocarya
✓	*Phacelia sp.*	Phacelia
	Pholistoma membranaceum	White Fiesta Flower
✓	*Plagiobothrys sp.*	Popcornflower
	Plantago patagonica	**Desert Plantain**
	Platystemon californicus	Cream Cups
	Prunus ilicifolia	Holly-leaf Cherry
	Rafinesquia neomexicana	Desert Chicory
	Ribes quercetorum	Oak Gooseberry
	Rorripa nasturtium-aquaticum	Water-cress
	Rosa californica	California Rose
	Saltugilia australis	Southern Gilia
	Senecio californicus	California Butterweed
	Senecio flaccidus	Butterweed
	Sidalcea malvaeflora	Checker-bloom
	Sisymbrium sp	Tumble Mustard
	Solidago californica	California Goldenrod
	Stachys ajugoides	Hedge-nettle
	Stephanomeria sp.	Wreathplant
	Streptanthus campestris	Southern Jewelflower
	Stylocline gnaphaloides	Everlasting Nest-straw
	Tetradymia comosa	Cotton-thorn
	Thysanocarpus sp.	Fringepod
	Trichostemma parishii	Mountain Bluecurls
	Tropidocarpum gracile	Slender Dobie-pod
	Uropappus lindleyi	Silver Puffs
	Viola purpurea	Oak Yellow Violet

Other Flowering Plants:

Lupin sp. [very small and low growing]

Rare Wildlife or Rare Plants:

BCLB01 - Linanthus bellus = 3 ind.
BCLB02 - " " ~ 20 ind
BCBB01 - SD blacktailed jackrabbit
BCHL01 - Southern horned lizard
BCFF01 - Prairie falcon 1 ind, foraging
BCHL02
BCLB03 - 10 ind
BCLB04 = 25 ind

APPENDIX D
POTENTIAL NECTARING SOURCES AND HOST PLANTS DETECTED DURING QUINO SURVEYS

APPENDIX D
POTENTIAL NECTARING SOURCES AND HOST PLANT SPECIES DETECTED DURING QUINO SURVEYS[A]

		Survey Week					
Scientific Name	**Common Name**	**1**	**2**	**3**	**4**	**5**	**6**
Amsinckia menziesii	rancher's fiddleneck	x	x	x	x	x	x
Boechera pulchra	beautiful rock cress	x	x	x	x	x	x
Calandrinia ciliata	red maids			x	x	x	
Calystegia longipes	morning-glory				x	x	
Camissonia sp.	sun cup	x	x	x	x	x	x
Castilleja subinclusa	Indian paintbrush					x	
Caulanthus affinis	Indian paintbrush	x	x				
Caulanthus heterophyllus	San Diego jewelflower			x	x	x	
Caulanthus simulans	Payson's caulanthus	x					
Ceanothus cuneatus	buck brush	x	x		x		
Ceanothus greggii	cup-leaf lilac	x	x	x	x	x	x
Ceanothus leucodermis	chaparral whitethorn		x	x			
Chaenactis glabriuscula	yellow pincushion						x
Clematis sp.	clematis	x		x		x	x
Collinsia concolor	**southern Chinese houses[B]**		x			x	x
Cordylanthus rigidus	**dark-tip bird's beak**			x			
Coreopsis californica	California coreopsis	x	x	x	x	x	x
Corethrogyne filaginifolia	common sand-aster						x
Cryptantha sp.	cryptantha	x	x	x	x	x	x
Descurainia sp.	tansy-mustard	x	x	x	x	x	x
Dichelostemma capitatum	blue dicks		x			x	x
Dudleya sp.	dudleya						x
Emmenanthe pendulifera	whispering bells			x			x
Eriastrum sp.	woolly-stars		x	x			x
Ericameria sp.	goldenbush	x	x	x	x	x	x
Erigeron foliosus	leafy daisy						x
Eriodictyon trichocalyx	hairy yerba santa			x			x
Eriogonum fasciculatum	inland California buckwheat		x	x		x	x
Eriogonum sp.	buckwheat				x	x	x
Eriogonum wrightii	bastardsage			x			
Eriophyllum confertiflorum.	golden-yarrow		x	x	x	x	x
Erodium cicutarium	red-stem storksbill	x	x	x	x	x	x
Erysismum capitatum	western wallflower					x	
Eschscholzia californica	California poppy	x	x	x	x	x	x
Eucrypta chrysanthemifolia	spotted hideseed	x		x			
Garrya veatchii	canyon silk tassel	x	x	x	x		x
Gilia sp.	gilia			x	x	x	x
Gnaphalium sp.	cudweed						x
Guillenia lasiophylla	California mustard	x				x	
Gutierrezia sarothrae	broom matchweed			x	x	x	x
Heliotropium curassavicum	salt heliotrope				x	x	
Hirshfeldia incana	short-pod mustard	x	x	x	x	x	x
Lasthenia gracilis	common goldfields	x	x	x	x	x	x
Layia glandulosa	white layia	x	x	x	x	x	x
Lepidium sp.	pepperweed			x	x	x	x
Linanthus bellus	desert beauty	x	x	x	x	x	x
Lupinus bicolor	miniature lupine					x	

		Survey Week					
Scientific Name	**Common Name**	**1**	**2**	**3**	**4**	**5**	**6**
Lupinus concinnus	bajada lupine			**x**		**x**	
Linanthus dichotomus	evening snow				**x**	**x**	
Lonicera subspicata	Johnston's honeysuckle			**x**			**x**
Malacothrix californica	California dandelion			**x**		**x**	**x**
Marah macrocarpus	wild-cucumber					**x**	
Marrubium vulgare	horehound						**x**
Matricaria matricarioides	common pineapple-weed	**x**					
Mentzelia veatchiana	Veatch's stick-leak						**x**
Mimulus sp.	monkeyflower				**x**		**x**
Nemophila menzeisii	small-flower baby blue eyes	**x**	**x**	**x**		**x**	
Orobanche bulbosa	chaparral broom-rape						**x**
Osmadenia tenella	osmadenia				**x**		
Paeonia californica	California peony		**x**				
Pectocarya sp.	pectocarya	**x**	**x**	**x**	**x**	**x**	**x**
Phacelia sp.	phacelia	**x**	**x**	**x**	**x**	**x**	**x**
Phacelia distans	distant phacelia			**x**			
Pholistoma membranaceum	white fiesta flower						**x**
Plagiobothrys sp.	popcornflower	**x**	**x**	**x**	**x**	**x**	**x**
Rhus ovata	sugar bush		**x**	**x**	**x**	**x**	**x**
Rhus trilobata	skunkbush sumac	**x**					
Platystemon californicus	cream cups			**x**	**x**	**x**	
Prunus ilicifolia	holly-leaf cherry		**x**	**x**			
Ribes quercetorum	oak gooseberry			**x**			**x**
Senecio californicus	California butterweed	**x**	**x**	**x**	**x**	**x**	**x**
Sisymbrium sp.	tumble mustard	**x**	**x**	**x**	**x**	**x**	**x**
Solidago californica	California goldenrod					**x**	**x**
Streptanthus campestris	southern jewelflower			**x**		**x**	
Stylocline gnaphalioides	everlasting nest-straw		**x**	**x**	**x**	**x**	**x**
Thysanocarpus sp.	fringepod	**x**		**x**			**x**
Trichostemma parishii	mountain bluecurls		**x**			**x**	**x**
Uropappus lindleyi	silver puffs		**x**	**x**	**x**		**x**

[A] The Quino checkerspot butterfly survey area (within Rugged Solar) was initially part of a larger survey area that was separated into three separate projects (LanWest Solar Farm, LanEast Solar Farm, and Rugged Solar Farm) after the completion of protocol Quino surveys. LanWest Solar Farm is located adjacent to the proposed project (on the western boundary of LanEast). Rugged Solar Farm is located directly north of Interstate 8. All three project sites were surveyed at the same time for Quino and, therefore, the weekly potential nectaring and host plant species detected list is the same for all three project sites.

[B] This host plant was not found on LanEast, and only found on Rugged Solar.

Bold = potential Quino larval host plant species.

APPENDIX E
VERTEBRATE WILDIFE SPECIES DETECTED DURING QUINO SURVEYS

APPENDIX E
VERTEBRATE WILDLIFE SPECIES DETECTED DURING QUINO SURVEYS[A]

Scientific Name		Common Name
REPTILES		
Order Squamata		Lizards and Snakes
	Family Phrynosomatidae	
	Uta stansburiana	side-blotched lizard
	Sceloporus occidentalis	western fence lizard
	Sceloporus orcutti	granite spiny lizard
	Phrynosoma coronatum blainvillii [B]	coast horned lizard
	Family Teiidae	
	Aspidoscelis hyperthya beldingi [B]	Belding's orange-throated whiptail
	Cnemidophorus tigris	western whiptail
	Family Anguidae	
	Elgaria multicarinata	southern alligator lizard
	Family Colubridae	
	Pituophis catenifer	gopher snake
	Masticophis lateralis	striped racer
BIRDS		
Order Ciconiiformes		Herons, Storks, Ibises, and Relatives
	Family Cathartidae	
	Cathartes aura	turkey vulture
Order Falconiformes		Diurnal Birds of Prey
	Family Accipitridae	
	Accipiter cooperii [C]	Cooper's hawk
	Buteo jamaicensis	red-tailed hawk
	Buteo swainsoni [D]	Swainson's hawk
	Falco mexicanus [C]	prairie falcon
	Falco sparverius	American kestrel
Order Galliformes		Magapodes, Curassows, Pheasants, and Relatives
	Family Odontophoridae	
	Callipepla californica	California quail
Order Charadriiformes		Shorebirds, Gulls, and Relatives
	Family Charadriidae	
	Charadrius vociferus	killdeer
Order Columbiformes		Pigeons and Doves
	Family Columbidae	
	Zenaida macroura	mourning dove
Order Apodiformes		Hummingbirds and Swifts
	Family Trochilidae	
	Calypte anna	Anna's hummingbird
	Calypte costae	Costa's hummingbird
Order Piciformes		Woodpeckers
	Family Picidae	
	Melanerpes formicivorus	acorn woodpecker
	Picoides scalaris	ladder-backed woodpecker
	Colaptes auratus	northern flicker
Order Passeriformes		Song birds
	Family Tyrannidae	
	Myiarchus cinerascens	ash-throated flycatcher
	Sayornis nigricans	black phoebe
	Sayornis saya	Say's phoebe
	Tyrannus verticalis	western kingbird
	Tyrannus vociferans	Cassin's kingbird
	Empidonax hammondii	Hammond's flycatcher

Scientific Name		Common Name
	Family Laniidae	
	Lanus ludovicianus [B]	loggerhead shrike
	Family Vireonidae	
	Vireo huttoni	Hutton's vireo
	Vireo gilvus	warbling vireo
	Family Corvidae	
	Aphelocoma californica	western scrub jay
	Corvus corax	common raven
	Family Paridae	
	Baeolophus inornatus	oak titmouse
	Family Alaudidae	
	Eremophila alpestris	horned lark
	Family Aegithalidae	
	Psaltriparus minimus	bushtit
	Family Troglodytidae	
	Thryomanes bewickii	Bewick's wren
	Troglodytes aedon	house wren
	Family Sylviidae	
	Polioptila caerulea obscura	blue-gray gnatcatcher
	Family Turdidae	
	Sialia mexicana	western bluebird
	Family Timaliidae	
	Chamaea fasciata	wrentit
	Family Regulidae	
	Regulus calendula	ruby-crowned kinglet
	Family Mimidae	
	Toxostoma redivivum	California thrasher
	Family Sturnidae	
	Sturnus vularis	European starling
	Family Parulidae	
	Dendroica coronata	yellow-rumped warbler
	Dendroica nigrescens	black-throated gray warbler
	Vermivora celata	orange-crowned warbler
	Family Emberizidae	
	Chondestes grammacus	lark sparrow
	Passerculus sandwichensis	savannah sparrow
	Amphispiza belli	sage sparrow
	Amphispiza bilineata	black-throated sparrow
	Spizella passerina	chipping sparrow
	Spizella breweri	Brewer's sparrow
	Pipilo crissalis	California towhee
	Pipilo maculates	spotted towhee
	Junco hyemalis	dark-eyed junco
	Zonotrichia leucophrys	white-crowned sparrow
	Pooecetes gramineus	vesper sparrow
	Family Icteridae	
	Sturnella neglecta	western meadowlark
	Icterus bullockii	Bullock's oriole
	Family Fringillidae	
	Spinus psaltria	lesser goldfinch
MAMMALS		
Order Lagomorpha		Rabbits, Hares, and Pikas
	Family Leporidae	
	Sylvilagus audubonii	Audobon's cottontail
	Lepus californica bennettii [B]	San Diego black-tailed jackrabbit

Scientific Name		Common Name
Order Rodentia		Rodents
	Family Scuiridae	
	Spermophilus beecheyi	California ground squirrel
	Family Muridae	
	Neotoma sp.	woodrat (house)
Order Carnivora		Carnivores
	Family Canidae	
Order Artiodactyla		Even-toed Ungulates
	Family Cervidae	
	Odocoileus hemionus	mule deer

[A] The Quino checkerspot butterfly (*Euphydryas editha quino*) survey area (within the Rugged Solar project site) was initially part of a larger survey area that was separated into three separate projects (LanWest Solar Farm, LanEast Solar Farm, and Rugged Solar Farm) after the completion of protocol Quino surveys. Rugged Solar Farm is located directly north of Interstate 8. LanEast Solar Farm is located adjacent to LanWest (on the eastern boundary of LanWest). All three sites were surveyed for Quino at the same time. This list of vertebrate wildlife species detected represents species detected for the Rugged Solar Project.

[B] State species of special concern (State of California 2011)

[C] State special animal (State of California 2011)

[D] State threatened or endangered species

APPENDIX E

Data Station Forms

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Rough Acres Ranch City/County: Boulevard/San Diego County Sampling Date: 6/10/08

Applicant/Owner: Hamann Companies State: CA Sampling Point: 1

Investigator(s): Mike Howard/Travis Smith Section, Township, Range: Live Oak Springs, 16E/17S/7

Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): none Slope (%): 0

Subregion (LRR): C - Mediterranean California Lat: 32°41' 33N Long: 116° 116' 59W Datum:

Soil Map Unit Name: Loamy Alluvial Land NWI classification: PEMC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ◉ No ◯ (If no, explain in Remarks.)

Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ◉ No ◯

Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ◉	No ◯	
Hydric Soil Present?	Yes ◉	No ◯	**Is the Sampled Area within a Wetland?** Yes ◉ No ◯
Wetland Hydrology Present?	Yes ◉	No ◯	

Remarks: Sample is in the middle of the wetland. It is dry currently but has potential to be inundated.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Distichlis spicata*	5	No	FACW
2. *Juncus mexicanus*	85	Yes	FACW
3. *Erodium cicutarium*	1	No	UPL
4. *Sisymbrium altissimum*	1	No	FACU
5.			
6.			
7.			
8.			
Total Cover:	92 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 5 % % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	1	(A)
Total Number of Dominant Species Across All Strata:	1	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	100.0 %	(A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species	90	x 2 =	180
FAC species		x 3 =	0
FACU species	1	x 4 =	4
UPL species	1	x 5 =	5
Column Totals:	92 (A)		189 (B)

Prevalence Index = B/A = 2.05

Hydrophytic Vegetation Indicators:

- ☒ Dominance Test is >50%
- ☒ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ◉ No ◯

Remarks:

SOIL

Sampling Point: 1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture[3]	Remarks
0-18	7.5 YR 4/1	98	7.5 YR 4/6	2	C	RC	Sandy loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☒ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[4]:

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ◉ No ◯

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☒ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ◯	No ◉	Depth (inches):
Water Table Present?	Yes ◯	No ◉	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes ◯	No ◉	Depth (inches):

Wetland Hydrology Present? Yes ◉ No ◯

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Rough Acres Ranch City/County: Boulevard/San Diego County Sampling Date: 6/10/08

Applicant/Owner: Hamann Companies State: CA Sampling Point: 2

Investigator(s): Mike Howard/Travis Smith Section, Township, Range: Live Oak Springs, 16E/17S/2

Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): none Slope (%): 0

Subregion (LRR): C - Mediterranean California Lat: 32° 41' 33N Long: 116°116' 59W Datum:

Soil Map Unit Name: Loamy Alluvial Land NWI classification: PEMC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ◉ No ◯ (If no, explain in Remarks.)

Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ◉ No ◯

Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ◉	No ◯	
Hydric Soil Present?	Yes ◉	No ◯	**Is the Sampled Area within a Wetland?** Yes ◉ No ◯
Wetland Hydrology Present?	Yes ◉	No ◯	

Remarks:

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Distichlis spicata*	2	No	FACW
2. *Juncus mexicanus*	65	Yes	FACW
3. *Erodium cicutarium*	5	No	UPL
4. *Sisymbrium altissimum*	10	No	FACU
5. *Ambrosia psilostochya*	2	Yes	FAC
6. *Heliotropium curassavicum*	5	No	OBL
7. *Melititus indica*	1	No	FAC
8. *Hordeum murinum ssp. glaucum*	5	No	UPL
Total Cover:	95 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 5 % % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	2	(A)
Total Number of Dominant Species Across All Strata:	2	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	100.0 %	(A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	5	x 1 =	5
FACW species	67	x 2 =	134
FAC species	3	x 3 =	9
FACU species	10	x 4 =	40
UPL species	10	x 5 =	50
Column Totals:	95 (A)		238 (B)

Prevalence Index = B/A = 2.51

Hydrophytic Vegetation Indicators:

- ☒ Dominance Test is >50%
- ☒ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ◉ No ◯

Remarks:

SOIL

Sampling Point: 2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture[3]	Remarks
0-16	7.5 YR 4/1	88	7.5 YR 4/6	2	C	RC	Sandy loam	
	7.5 YR 4/2	10						

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☒ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[4]:

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ◉ No ◯

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☒ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ◯	No ◉	Depth (inches):
Water Table Present?	Yes ◯	No ◉	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes ◯	No ◉	Depth (inches):

Wetland Hydrology Present? Yes ◉ No ◯

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Rough Acres Ranch City/County: Boulevard/San Diego County Sampling Date: 6/10/08

Applicant/Owner: Hamann Companies State: CA Sampling Point: 3

Investigator(s): Mike Howard/Travis Smith Section, Township, Range: Live Oak Springs, 16E/17S/7

Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): none Slope (%): 0

Subregion (LRR): C - Mediterranean California Lat: 32° 41' 33N Long: 116° 116' 59W Datum:

Soil Map Unit Name: Loamy Alluvial Land NWI classification: PEMC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ◉ No ◯ (If no, explain in Remarks.)

Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ◉ No ◯

Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ◯	No ◉	
Hydric Soil Present?	Yes ◉	No ◯	**Is the Sampled Area within a Wetland?** Yes ◯ No ◉
Wetland Hydrology Present?	Yes ◉	No ◯	

Remarks: Although soils and hydrology are present, the area is functionally a grassland and not a wetland. The area has negligible biological function or value as wetlands and does not support wetland dependent sensitive species. Therefore the area does not meet CDFG or County wetland criteria.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Distichlis spicata*	5	No	FACW
2. *Juncus mexicanus*	5	No	FACW
3. *Erodium cicutarium*	15	Yes	UPL
4. *Sisymbrium altissimum*	15	Yes	FACU
5. *Brassica nigra*	2	No	UPL
6. *Heliotropium curassavicum*	2	No	OBL
7. *Melititus indica*	3	No	FAC
8. *Hordeum murinum ssp. glaucum*	7	No	UPL
Total Cover:	54 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 45 % % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	0	(A)
Total Number of Dominant Species Across All Strata:	2	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	0.0 %	(A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	2	x 1 =	2
FACW species	10	x 2 =	20
FAC species	3	x 3 =	9
FACU species	15	x 4 =	60
UPL species	24	x 5 =	120
Column Totals:	54 (A)		211 (B)

Prevalence Index = B/A = 3.91

Hydrophytic Vegetation Indicators:

- ◉ Dominance Test is >50%
- ◉ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ◯ No ◉

Remarks:

SOIL

Sampling Point: 3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture[3]	Remarks
0-20	7.5 YR 4/1	97	7.5 YR 4/6	3	C	RC	Loamy sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☒ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[4]:

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ◉ No ◯

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☒ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ◯	No ◉	Depth (inches):
Water Table Present?	Yes ◯	No ◉	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes ◯	No ◉	Depth (inches):

Wetland Hydrology Present? Yes ◉ No ◯

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Rough Acres Ranch City/County: Boulevard/San Diego County Sampling Date: 6/10/08

Applicant/Owner: Hamann Companies State: CA Sampling Point: 4

Investigator(s): Mike Howard/Travis Smith Section, Township, Range: Live Oak Springs, 16E/17S/7

Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): none Slope (%): 0

Subregion (LRR): C - Mediterranean California Lat: 32° 41' 33N Long: 116°116' 59W Datum:

Soil Map Unit Name: Loamy Alluvial Land NWI classification: PEMC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ◉ No ◯ (If no, explain in Remarks.)

Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ◉ No ◯

Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ◉	No ◯	
Hydric Soil Present?	Yes ◯	No ◉	**Is the Sampled Area within a Wetland?** Yes ◉ No ◯
Wetland Hydrology Present?	Yes ◯	No ◉	

Remarks: Only sampled vegetation to verify edge of wetland.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Distichlis spicata*	2	No	FACW
2. *Juncus mexicanus*	80	Yes	FACW
3. *Erodium cicutarium*	2	No	UPL
4. *Sisymbrium altissimum*	5	No	FACU
5. *Hordeum murinum ssp. glaucum*	10	No	UPL
6.			
7.			
8.			
Total Cover:	99 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 5 % % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	1	(A)
Total Number of Dominant Species Across All Strata:	1	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	100.0 %	(A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species	82	x 2 =	164
FAC species		x 3 =	0
FACU species	5	x 4 =	20
UPL species	12	x 5 =	60
Column Totals:	99 (A)		244 (B)

Prevalence Index = B/A = 2.46

Hydrophytic Vegetation Indicators:

- ☒ Dominance Test is >50%
- ☒ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ◉ No ◯

Remarks:

SOIL

Sampling Point: 4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture[3]	Remarks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[4]:

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ○ No ◉

Remarks: Not assessed.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ○	No ◉	Depth (inches):
Water Table Present?	Yes ○	No ◉	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes ○	No ◉	Depth (inches):

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Not assessed.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Rough Acres Ranch City/County: Boulevard/San Diego County Sampling Date: 6/10/08

Applicant/Owner: Hamann Companies State: CA Sampling Point: 5

Investigator(s): Mike Howard/Travis Smith Section, Township, Range: Live Oak Springs, 16E/17S/7

Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): none Slope (%): 0

Subregion (LRR): C - Mediterranean California Lat: 32° 41' 33N Long: 116°116' 59W Datum:

Soil Map Unit Name: Loamy Alluvial Land NWI classification: PEMC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ◉ No ◯ (If no, explain in Remarks.)

Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ◉ No ◯

Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ◯	No ◉	
Hydric Soil Present?	Yes ◯	No ◉	**Is the Sampled Area within a Wetland?** Yes ◯ No ◉
Wetland Hydrology Present?	Yes ◯	No ◉	

Remarks: Only sampled vegetation to verify edge of wetland. Soil and Hydrology are assumed to be positive for wetland.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Brassica nigra*	2	No	UPL
2. *Juncus mexicanus*	5	No	FACW
3. *Erodium cicutarium*	5	No	UPL
4. *Sisymbrium altissimum*	70	Yes	FACU
5. *Hordeum murinum ssp. glaucum*	5	No	UPL
6.			
7.			
8.			
Total Cover:	87 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 15 % % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	0	(A)
Total Number of Dominant Species Across All Strata:	1	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	0.0 %	(A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species	5	x 2 =	10
FAC species		x 3 =	0
FACU species	70	x 4 =	280
UPL species	12	x 5 =	60
Column Totals:	87 (A)		350 (B)

Prevalence Index = B/A = 4.02

Hydrophytic Vegetation Indicators:

- ◉ Dominance Test is >50%
- ◉ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ◯ No ◉

Remarks:

SOIL

Sampling Point: 5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture[3]	Remarks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[4]:

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ○ No ◉

Remarks: Not sampled.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ○	No ◉	Depth (inches):
Water Table Present?	Yes ○	No ◉	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes ○	No ◉	Depth (inches):

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Not sampled.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Rough Acres Ranch City/County: Boulevard/San Diego County Sampling Date: 6/10/08

Applicant/Owner: Hamann Companies State: CA Sampling Point: 6

Investigator(s): Mike Howard/Travis Smith Section, Township, Range: Live Oak Springs, 16E/17S/7

Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): none Slope (%): 0

Subregion (LRR): C - Mediterranean California Lat: 32° 41' 33N Long: 116°116' 59W Datum:

Soil Map Unit Name: Loamy Alluvial Land NWI classification: PEMC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ◉ No ◯ (If no, explain in Remarks.)

Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ◉ No ◯

Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ◉	No ◯	
Hydric Soil Present?	Yes ◉	No ◯	**Is the Sampled Area within a Wetland?** Yes ◯ No ◉
Wetland Hydrology Present?	Yes ◉	No ◯	

Remarks:

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1. *Baccharis saliciflia*	50	Yes	FACW
2. *Artemisia tridentata*	5	No	UPL
3.			
4.			
5.			
Total Cover:	55 %		
Herb Stratum			
1. *Brassica nigra*	10	Yes	UPL
2. *Juncus mexicanus*	2	No	FACW
3. *Erodium cicutarium*	15	No	UPL
4. *Sisymbrium altissimum*	5	Yes	FACU
5.			
6.			
7.			
8.			
Total Cover:	32 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 70 % % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	1	(A)
Total Number of Dominant Species Across All Strata:	3	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	33.3 %	(A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species	52	x 2 =	104
FAC species		x 3 =	0
FACU species	5	x 4 =	20
UPL species	30	x 5 =	150
Column Totals:	87 (A)		274 (B)

Prevalence Index = B/A = 3.15

Hydrophytic Vegetation Indicators:

- ◉ Dominance Test is >50%
- ◉ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☒ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ◉ No ◯

Remarks: This area showed evidence of disturbance.

SOIL

Sampling Point: 6

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture[3]	Remarks
0-11	7.5 YR 5/3	100					Sand	
11-12	7.5 YR 4/2	80	5 YR 4/6	2	C	RC	Silty Loam	Bedded
	7.5 YR 3/1	18						
12-23	7.5 YR 4/2	98	7.5 YR 4/6	2	C	RC	Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☒ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[4]:

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ◉ No ◯

Remarks: The 11-12 inch layer is bedded showing evidence of standing or flowing water.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☒ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ◯	No ◉	Depth (inches):
Water Table Present?	Yes ◯	No ◉	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes ◯	No ◉	Depth (inches):

Wetland Hydrology Present? Yes ◉ No ◯

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Rough Acres Ranch City/County: Boulevard/San Diego County Sampling Date: 6/10/08

Applicant/Owner: Hamann Companies State: CA Sampling Point: 7a

Investigator(s): Mike Howard/Travis Smith Section, Township, Range: Live Oak Springs, 16/17S/7

Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): none Slope (%): 0

Subregion (LRR): C - Mediterranean California Lat: 32° 41' 33N Long: 116°116' 59W Datum:

Soil Map Unit Name: Loamy Alluvial Land NWI classification: PEMC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ◉ No ◯ (If no, explain in Remarks.)

Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ◉ No ◯

Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ◉	No ◯	
Hydric Soil Present?	Yes ◉	No ◯	**Is the Sampled Area within a Wetland?** Yes ◉ No ◯
Wetland Hydrology Present?	Yes ◉	No ◯	

Remarks: Pit is at boundary of wetland. Vegetation to east is hydrophytic, to west is not.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Brassica nigra*	10	No	UPL
2. *Juncus mexicanus*	50	Yes	FACW
3. *Erodium cicutarium*	5	No	UPL
4. *Sisymbrium altissimum*	2	No	FACU
5. *Hordeum murinum ssp. glaucum*	2	No	UPL
6. *Heliotropium curassavicum*	10	No	OBL
7. *Bromus madritensis*	2	No	UPL
8.			
Total Cover:	81 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 20 % % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	10	x 1 =	10
FACW species	50	x 2 =	100
FAC species		x 3 =	0
FACU species	2	x 4 =	8
UPL species	19	x 5 =	95
Column Totals:	81 (A)		213 (B)

Prevalence Index = B/A = 2.63

Hydrophytic Vegetation Indicators:

- ☒ Dominance Test is >50%
- ☒ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ◉ No ◯

Remarks:

SOIL

Sampling Point: 7a

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture[3]	Remarks
0-17	7.5 YR 5/3	100					Sand	
17+	7.5 YR 4/2	99	7.5 YR 4/6	1	C	RC	Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☒ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[4]:

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ◉ No ◯

Remarks: Same soil pit for 7 and 8

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☒ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☒ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ◯	No ◉	Depth (inches):
Water Table Present?	Yes ◯	No ◉	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes ◯	No ◉	Depth (inches):

Wetland Hydrology Present? Yes ◉ No ◯

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Rough Acres Ranch City/County: Boulevard/San Diego County Sampling Date: 6/10/08

Applicant/Owner: Hamann Companies State: CA Sampling Point: 7b

Investigator(s): Mike Howard/Travis Smith Section, Township, Range: Live Oak Springs, 16E/17S/7

Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): none Slope (%): 0

Subregion (LRR): C - Mediterranean California Lat: 32° 41' 33N Long: 116°116' 59W Datum:

Soil Map Unit Name: Loamy Alluvial Land NWI classification: PEMC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ◉ No ◯ (If no, explain in Remarks.)

Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ◉ No ◯

Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ◯	No ◉	
Hydric Soil Present?	Yes ◉	No ◯	**Is the Sampled Area within a Wetland?** Yes ◯ No ◉
Wetland Hydrology Present?	Yes ◉	No ◯	

Remarks: Although soils and hydrology are present, the area is functionally a grassland and not a wetland. The area has negligible biological function or value as wetlands and does not support wetland dependent sensitive species. Therefore the area does not meet CDFG or County wetland criteria.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Brassica nigra*	40	Yes	UPL
2. *Juncus mexicanus*	5	No	FACW
3. *Erodium cicutarium*	20	Yes	UPL
4. *Sisymbrium altissimum*	5	No	FACU
5. *Hordeum murinum ssp. glaucum*	15	No	UPL
6. *Heliotropium curassavicum*	10	No	OBL
7. *Bromus madritensis*	5	No	UPL
8.			
Total Cover:	100 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 5 % % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	10	x 1 =	10
FACW species	5	x 2 =	10
FAC species		x 3 =	0
FACU species	5	x 4 =	20
UPL species	80	x 5 =	400
Column Totals:	100 (A)		440 (B)

Prevalence Index = B/A = 4.40

Hydrophytic Vegetation Indicators:

- ◉ Dominance Test is >50%
- ◉ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ◯ No ◉

Remarks:

SOIL

Sampling Point: 7b

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture[3]	Remarks
0-17	7.5 YR 5/3	100					Sand	
17+	7.5 YR 4/2	99	7.5 YR 4/6	1	C	RC	Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☒ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[4]:

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ◉ No ◯

Remarks: Same soil pit for 7 and 8.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☒ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ◯	No ◉	Depth (inches):
Water Table Present?	Yes ◯	No ◉	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes ◯	No ◉	Depth (inches):

Wetland Hydrology Present? Yes ◉ No ◯

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Rough Acres Ranch City/County: Boulevard/San Diego County Sampling Date: 3/28/12

Applicant/Owner: Hamann Companies State: CA Sampling Point: 8

Investigator(s): Callie Ford and Patricia Schuyler Section, Township, Range: Live Oak Springs, 16E/17S/7

Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): none Slope (%): 0

Subregion (LRR): C - Mediterranean California Lat: 32° 41' 33N Long: 116°116' 59W Datum:

Soil Map Unit Name: Loamy Alluvial Land NWI classification: PEMC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ◉ No ◯ (If no, explain in Remarks.)

Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ◉ No ◯

Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ◯	No ◉	
Hydric Soil Present?	Yes ◯	No ◉	**Is the Sampled Area within a Wetland?** Yes ◯ No ◉
Wetland Hydrology Present?	Yes ◯	No ◉	

Remarks: DS taken ~20' from UVC in Juncus mexicanus (dist.)

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Hordeum marinum ssp. gussoneanum*	70	Yes	FAC
2. *Erodium cicutarium*	50	Yes	UPL
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	120 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 5 % % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	1	(A)
Total Number of Dominant Species Across All Strata:	2	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	50.0 %	(A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species		x 2 =	0
FAC species	70	x 3 =	210
FACU species		x 4 =	0
UPL species	50	x 5 =	250
Column Totals:	120 (A)		460 (B)

Prevalence Index = B/A = 3.83

Hydrophytic Vegetation Indicators:

- ◉ Dominance Test is >50%
- ◉ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ◯ No ◉

Remarks: This is based on using H. hystrix as a synonym whereas H. geniculatum is also a synonym which is listed as NI. Jepson lists H. hystrix as occurring from "dry to moist" sites.

SOIL

Sampling Point: 8

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture[3]	Remarks
0-16	7.5 Y 3/2	100					Sandy loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[4]:

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: Hard Surface

Depth (inches): 10"

Hydric Soil Present? Yes ○ No ●

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ○	No ●	Depth (inches):
Water Table Present?	Yes ○	No ●	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes ○	No ●	Depth (inches):

Wetland Hydrology Present? Yes ○ No ●

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Rough Acres Ranch City/County: Boulevard/San Diego County Sampling Date: 3/22/12

Applicant/Owner: Hamann Companies State: CA Sampling Point: 9

Investigator(s): Callie Ford and Patricia Schuyler Section, Township, Range: Live Oak Springs, 16E/17S/7

Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): none Slope (%): 0

Subregion (LRR): C - Mediterranean California Lat: 32° 41' 33N Long: 116°116' 59W Datum:

Soil Map Unit Name: Loamy Alluvial Land NWI classification: PEMC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ◉ No ◯ (If no, explain in Remarks.)

Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ◉ No ◯

Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ◉	No ◯	
Hydric Soil Present?	Yes ◯	No ◉	**Is the Sampled Area within a Wetland?** Yes ◯ No ◉
Wetland Hydrology Present?	Yes ◯	No ◉	

Remarks: DS taken ~20' from UVC in Juncus mexicanus (dist.)

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Hordeum marinum ssp. gussoneanum*	78	Yes	FAC
2. *Juncus mexicanus*	68	Yes	FACW
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	146 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 0 % % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	2	(A)
Total Number of Dominant Species Across All Strata:	2	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	100.0 %	(A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species	68	x 2 =	136
FAC species	78	x 3 =	234
FACU species		x 4 =	0
UPL species		x 5 =	0
Column Totals:	146 (A)		370 (B)

Prevalence Index = B/A = 2.53

Hydrophytic Vegetation Indicators:

- ☒ Dominance Test is >50%
- ☒ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ◉ No ◯

Remarks: This is based on using H. hystrix as a synonym whereas H. geniculatum is also a synonym which is listed as NI. Jepson lists H. hystrix as occurring from "dry to moist" sites.

SOIL

Sampling Point: 9

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture[3]	Remarks
0-3	2.5 Y 4/2	100					Sandy loam	
3-10	2.5 Y 3/2	100	7.5 YR 4/6	1	C	PL	Sandy loam	PL/M

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.
[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[4]:

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: Hard Surface

Depth (inches): 10"

Hydric Soil Present? Yes ○ No ●

Remarks: Some concentrations in pore lining and very little if any in matrix, not enough to qualify as hydric.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ○	No ●	Depth (inches):
Water Table Present?	Yes ○	No ●	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes ○	No ●	Depth (inches):

Wetland Hydrology Present? Yes ○ No ●

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: About 1% evidence of oxidized rhizopheres (C3) but doesn't meet manual standard.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Rough Acres Ranch City/County: Boulevard/San Diego County Sampling Date: 3/22/12

Applicant/Owner: Hamann Companies State: CA Sampling Point: 10

Investigator(s): Callie Ford and Patricia Schuyler Section, Township, Range: Live Oak Springs, 16E/17S/7

Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): none Slope (%): 0

Subregion (LRR): C - Mediterranean California Lat: 32°41' 33N Long: 116°116' 59W Datum:

Soil Map Unit Name: Loamy Alluvial Land NWI classification: PEMC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ◉ No ◯ (If no, explain in Remarks.)

Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ◉ No ◯

Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ◯	No ◉	
Hydric Soil Present?	Yes ◯	No ◉	**Is the Sampled Area within a Wetland?** Yes ◯ No ◉
Wetland Hydrology Present?	Yes ◯	No ◉	

Remarks:

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Hordeum marinum ssp. gussoneanum*	40	Yes	FAC
2. *Juncus mexicanus*	5	No	FACW
3. *Erodium cicutarium*	20	Yes	UPL
4. *Brassica sp. (dead)*	N/A		
5.			
6.			
7.			
8.			
Total Cover:	65 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 35 % % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species	5	x 2 =	10
FAC species	40	x 3 =	120
FACU species		x 4 =	0
UPL species	20	x 5 =	100
Column Totals:	65 (A)		230 (B)

Prevalence Index = B/A = 3.54

Hydrophytic Vegetation Indicators:

- ◉ Dominance Test is >50%
- ◉ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ◯ No ◉

Remarks: This is based on using H. hystrix as a synonym whereas H. geniculatum is also a synonym which is listed as NI. Jepson lists H. hystrix as occurring from "dry to moist" sites.

SOIL

Sampling Point: 10

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture[3]	Remarks
0-16	10 YR 5/1	40					Sand	plant material
0-16	10 YR 5/2	40					Sand	
0-2	10 YR 3/2	20					Sandy loam	plant material

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[4]:

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ○ No ●

Remarks: No redox features present

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ○	No ●	Depth (inches):
Water Table Present?	Yes ○	No ●	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes ○	No ●	Depth (inches):

Wetland Hydrology Present? Yes ○ No ●

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Rough Acres Ranch City/County: Boulevard/San Diego County Sampling Date: 3/28/12

Applicant/Owner: Hamann Companies State: CA Sampling Point: 11

Investigator(s): Callie Ford and Patricia Schuyler Section, Township, Range: Live Oak Springs, 16E/17S/7

Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): none Slope (%): 0

Subregion (LRR): C - Mediterranean California Lat: 32° 41' 33N Long: 116° 116' 59W Datum:

Soil Map Unit Name: Loamy Alluvial Land NWI classification: PEMC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ◉ No ◯ (If no, explain in Remarks.)

Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ◉ No ◯

Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ◉	No ◯	
Hydric Soil Present?	Yes ◉	No ◯	**Is the Sampled Area within a Wetland?** Yes ◉ No ◯
Wetland Hydrology Present?	Yes ◉	No ◯	

Remarks:

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Tamarix sp.*	15	Yes	FAC
2.			
3.			
4.			
Total Cover:	15 %		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Hordeum marinum ssp. gussoneanum*	15	No	FAC
2. *Juncus mexicanus*	75	Yes	FACW
3. *Erodium cicutarium*	10	No	UPL
4. *Hordeum vulgare*	20	Yes	UPL
5.			
6.			
7.			
8.			
Total Cover:	120 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 0 % % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	2	(A)
Total Number of Dominant Species Across All Strata:	3	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	66.7 %	(A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:		
OBL species		x 1 =	0	
FACW species	75	x 2 =	150	
FAC species	30	x 3 =	90	
FACU species		x 4 =	0	
UPL species	30	x 5 =	150	
Column Totals:	135 (A)		390	(B)

Prevalence Index = B/A = 2.89

Hydrophytic Vegetation Indicators:

- ☒ Dominance Test is >50%
- ☒ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ◉ No ◯

Remarks: This is based on using H. hystrix as a synonym whereas H. geniculatum is also a synonym which is listed as NI. Jepson lists H. hystrix as occurring from "dry to moist" sites.

SOIL

Sampling Point: 11

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture[3]	Remarks
0-4	10 YR 3/2	100					Sandy	
4-16	10 YR 4/2	74	10 YR 5/8	4	C	PL	Sandy loam	
4-16	10 YR 3/2	20					Silty clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☒ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[4]:

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ◉ No ◯

Remarks: Iron redox features present along small roots.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☒ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ◯	No ◉	Depth (inches):
Water Table Present?	Yes ◯	No ◉	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes ◯	No ◉	Depth (inches):

Wetland Hydrology Present? Yes ◉ No ◯

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Rough Acres Ranch City/County: Boulevard/San Diego County Sampling Date: 3/28/12

Applicant/Owner: Hamann Companies State: CA Sampling Point: 12

Investigator(s): Callie Ford and Patricia Schuyler Section, Township, Range: Live Oak Springs, 16E/17S/7

Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): none Slope (%): 0

Subregion (LRR): C - Mediterranean California Lat: 32° 41' 33N Long: 116°116' 59W Datum:

Soil Map Unit Name: Loamy Alluvial Land NWI classification: PEMC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ◉ No ◯ (If no, explain in Remarks.)

Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ◉ No ◯

Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ◉	No ◯	
Hydric Soil Present?	Yes ◉	No ◯	**Is the Sampled Area within a Wetland?** Yes ◉ No ◯
Wetland Hydrology Present?	Yes ◉	No ◯	

Remarks:

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Hordeum marinum ssp. gussoneanum*	5	No	FAC
2. *Juncus mexicanus*	75	Yes	FACW
3. *Erodium cicutarium*	10	No	UPL
4. *Hordeum vulgare*	10	No	UPL
5. *Oxalis pes-caprae*	10	No	UPL
6.			
7.			
8.			
Total Cover:	110 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 0 % % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	1	(A)
Total Number of Dominant Species Across All Strata:	1	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	100.0 %	(A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species	75	x 2 =	150
FAC species	5	x 3 =	15
FACU species		x 4 =	0
UPL species	30	x 5 =	150
Column Totals:	110 (A)		315 (B)

Prevalence Index = B/A = 2.86

Hydrophytic Vegetation Indicators:

- ☒ Dominance Test is >50%
- ☒ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ◉ No ◯

Remarks: This is based on using H. hystrix as a synonym whereas H. geniculatum is also a synonym which is listed as NI. Jepson lists H. hystrix as occurring from "dry to moist" sites.

SOIL

Sampling Point: 12

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture[3]	Remarks
0-14	10 YR 5/3	30					Sandy	
0-14	7 Y 5/1	60	10 YR 5/6	8	C	M	Sandy loam	
0-14			10 YR 5/6	2	C	PL	Sandy loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☒ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[4]:

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ◉ No ◯

Remarks: Lots of roots in soil. Sandy inclusions. Lots of redox in soil, not as much in pore lining.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☒ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ◯	No ◉	Depth (inches):
Water Table Present?	Yes ◯	No ◉	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes ◯	No ◉	Depth (inches):

Wetland Hydrology Present? Yes ◉ No ◯

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Some oxidized rhizopheres along small roots.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Rough Acres Ranch City/County: Boulevard/San Diego County Sampling Date: 3/28/12

Applicant/Owner: Hamann Companies State: CA Sampling Point: 13

Investigator(s): Callie Ford and Patricia Schuyler Section, Township, Range: Live Oak Springs, 16E/17S/7

Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): none Slope (%): 0

Subregion (LRR): C - Mediterranean California Lat: 32° 41' 33N Long: 116°116' 59W Datum:

Soil Map Unit Name: Loamy Alluvial Land NWI classification: PEMC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ◉ No ◯ (If no, explain in Remarks.)

Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ◯ No ◉

Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ◉	No ◯	
Hydric Soil Present?	Yes ◯	No ◉	**Is the Sampled Area within a Wetland?** Yes ◯ No ◉
Wetland Hydrology Present?	Yes ◯	No ◉	

Remarks: Although hydrophytic vegetation is present, the area is functionally a grassland and not a wetland. The area has negligible biological function or value as wetlands and does not support wetland dependent sensitive species. Therefore the area does not meet CDFG or County wetland criteria.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Hordeum marinum ssp. gussoneanum*	80	Yes	FAC
2. *Juncus mexicanus*	10	No	FACW
3. *Erodium cicutarium*	5	No	UPL
4.			
5.			
6.			
7.			
8.			
Total Cover:	95 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 20 % % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	1	(A)
Total Number of Dominant Species Across All Strata:	1	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	100.0 %	(A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species	10	x 2 =	20
FAC species	80	x 3 =	240
FACU species		x 4 =	0
UPL species	5	x 5 =	25
Column Totals:	95 (A)		285 (B)

Prevalence Index = B/A = 3.00

Hydrophytic Vegetation Indicators:

- ☒ Dominance Test is >50%
- ☒ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ◉ No ◯

Remarks: This is based on using H. hystrix as a synonym whereas H. geniculatum is also a synonym which is listed as NI. Jepson lists H. hystrix as occurring from "dry to moist" sites.

SOIL

Sampling Point: 13

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture[3]	Remarks
0-16	10 YR 3/1	99	5 YR 4/4	1	C	M	Sandy loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[4]:

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ○ No ◉

Remarks: No redox features except near small sand inclusions.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ○	No ◉	Depth (inches):
Water Table Present?	Yes ○	No ◉	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes ○	No ◉	Depth (inches):

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Rough Acres Ranch City/County: Boulevard/San Diego County Sampling Date: 3/28/12

Applicant/Owner: Hamann Companies State: CA Sampling Point: 14

Investigator(s): Callie Ford and Patricia Schuyler Section, Township, Range: Live Oak Springs, 16E/17S/7

Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): none Slope (%): 0

Subregion (LRR): C - Mediterranean California Lat: 32° 41' 33N Long: 116°116' 59W Datum:

Soil Map Unit Name: Loamy Alluvial Land NWI classification: PEMC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ◉ No ◯ (If no, explain in Remarks.)

Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ◉ No ◯

Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ◯	No ◉	
Hydric Soil Present?	Yes ◯	No ◉	**Is the Sampled Area within a Wetland?** Yes ◯ No ◉
Wetland Hydrology Present?	Yes ◯	No ◉	

Remarks:

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1. *Isocoma menziesii*	5		Not Listed
2.			
3.			
4.			
5.			
Total Cover:	5 %		
Herb Stratum			
1. *Bromus madritensis*	30		UPL
2. *Hordeum marinum ssp. gussoneanum*	40		FAC
3. *Erodium cicutarium*	50		UPL
4.			
5.			
6.			
7.			
8.			
Total Cover:	120 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 5 % % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species		x 2 =	0
FAC species	40	x 3 =	120
FACU species		x 4 =	0
UPL species	85	x 5 =	425
Column Totals:	125 (A)		545 (B)

Prevalence Index = B/A = 4.36

Hydrophytic Vegetation Indicators:

- ◉ Dominance Test is >50%
- ◉ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ◯ No ◉

Remarks: This is based on using H. hystrix as a synonym whereas H. geniculatum is also a synonym which is listed as NI. Jepson lists H. hystrix as occurring from "dry to moist" sites.

SOIL

Sampling Point: 14

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture[3]	Remarks
0-16	7.5 YR 3/2	100					Sandy loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[4]:

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ○ No ●

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ○	No ●	Depth (inches):
Water Table Present?	Yes ○	No ●	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes ○	No ●	Depth (inches):

Wetland Hydrology Present? Yes ○ No ●

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Rough Acres Ranch City/County: Boulevard/San Diego County Sampling Date: 3/28/12

Applicant/Owner: Hamann Companies State: CA Sampling Point: 15

Investigator(s): Callie Ford and Patricia Schuyler Section, Township, Range: Live Oak Springs, 16E/17S/7

Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): none Slope (%): 0

Subregion (LRR): C - Mediterranean California Lat: 32° 41' 33N Long: 116° 116' 59W Datum:

Soil Map Unit Name: Loamy Alluvial Land NWI classification: PEMC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ◉ No ◯ (If no, explain in Remarks.)

Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ◉ No ◯

Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ◉	No ◯	
Hydric Soil Present?	Yes ◉	No ◯	**Is the Sampled Area within a Wetland?** Yes ◉ No ◯
Wetland Hydrology Present?	Yes ◉	No ◯	

Remarks: Thick Juncus mexicanus

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Brassica sp.*			
2. *Juncus mexicanus*	100	Yes	FACW
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	100 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 0 % % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	1	(A)
Total Number of Dominant Species Across All Strata:	1	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	100.0 %	(A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species	100	x 2 =	200
FAC species		x 3 =	0
FACU species		x 4 =	0
UPL species		x 5 =	0
Column Totals:	100 (A)		200 (B)

Prevalence Index = B/A = 2.00

Hydrophytic Vegetation Indicators:

- ☒ Dominance Test is >50%
- ☒ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ◉ No ◯

Remarks:

SOIL

Sampling Point: 15

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture[3]	Remarks
0-2								plant material
2-10	10 YR 3/2	97	5 YR 4/8	3	C	PL	Sandy loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.
[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☒ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[4]:

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): 10

Hydric Soil Present? Yes ◉ No ◯

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☒ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ◯	No ◉	Depth (inches):
Water Table Present?	Yes ◯	No ◉	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes ◯	No ◉	Depth (inches):

Wetland Hydrology Present? Yes ◉ No ◯

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: 5 YR 4/8 oxidized rhizospheres

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Rough Acres Ranch City/County: Boulevard/San Diego County Sampling Date: 11/26/13

Applicant/Owner: Hamann Companies State: CA Sampling Point: 16

Investigator(s): Thomas Liddicoat Section, Township, Range: Live Oak Springs, 16E/17S/7

Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): None Slope (%):

Subregion (LRR): C - Mediterranean California Lat: Long: Datum:

Soil Map Unit Name: NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ◉ No ◯ (If no, explain in Remarks.)

Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ◉ No ◯

Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ◯	No ◉	
Hydric Soil Present?	Yes ◉	No ◯	**Is the Sampled Area within a Wetland?** Yes ◯ No ◉
Wetland Hydrology Present?	Yes ◉	No ◯	

Remarks: Pit within mapped Tamarisk Scrub. Area is a pasture for grazing cattle.
Depleted matrix found throughout floodplain both within areas supporting non-native grassland and alkali meadow; hydric soil indicator is not used to define jurisdictional wetland boundaries.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Tamarisk sp.*	15	Yes	FAC
2.			
3.			
4.			
Total Cover:	15 %		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Hordeum vulgare*	15	Yes	UPL
2. *Brassica sp.*	5	No	Not Listed
3. *Erodium cicutarium*	20	Yes	UPL
4. *Sisymbrium altissimum*	15	Yes	FACU
5.			
6.			
7.			
8.			
Total Cover:	55 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 40 % % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 25.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species		x 2 =	0
FAC species	15	x 3 =	45
FACU species	15	x 4 =	60
UPL species	40	x 5 =	200
Column Totals:	70 (A)		305 (B)

Prevalence Index = B/A = 4.36

Hydrophytic Vegetation Indicators:

- ◉ Dominance Test is >50%
- ◉ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ◯ No ◉

Remarks:

SOIL

Sampling Point: 16

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture[3]	Remarks
0-4	7.5 YR 3/2	100					Sandy Loam	living roots present
4-13	10 YR 3/1	85	5 YR 3/4	15	C	PL	Silt Loam	
13+	10 YR 4/2	100					Loamy Sandy	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☒ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[4]:

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ◉ No ○

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☒ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ○	No ◉	Depth (inches):
Water Table Present?	Yes ○	No ◉	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes ○	No ◉	Depth (inches):

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Rough Acres Ranch City/County: Boulevard/San Diego County Sampling Date: 11/26/13

Applicant/Owner: Hamann Companies State: CA Sampling Point: 17

Investigator(s): Thomas Liddicoat Section, Township, Range: Live Oak Springs, 16E/17S/7

Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): None Slope (%):

Subregion (LRR): C - Mediterranean California Lat: Long: Datum:

Soil Map Unit Name: NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ◉ No ◯ (If no, explain in Remarks.)

Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ◉ No ◯

Are Vegetation ☐ Soil ☒ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ◯	No ◉	
Hydric Soil Present?	Yes ◉	No ◯	**Is the Sampled Area within a Wetland?** Yes ◯ No ◉
Wetland Hydrology Present?	Yes ◉	No ◯	

Remarks: Pit within mapped Tamarisk Scrub. Area is a pasture for grazing cattle.
Depleted matrix found throughout floodplain both within areas supporting non-native grassland and alkali meadow; hydric soil indicator is not used to define jurisdictional wetland boundaries.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Tamarisk sp.*	50	Yes	FAC
2.			
3.			
4.			
Total Cover:	50 %		
Sapling/Shrub Stratum			
1. *Artemisia tridentata*	3	Yes	UPL
2. *unk A*	2	Yes	UPL
3.			
4.			
5.			
Total Cover:	5 %		
Herb Stratum			
1. *Hordeum vulgare*	10	No	UPL
2. *Bromus madritensis*	20	Yes	Not Listed
3. *Erodium cicutarium*	25	Yes	UPL
4. *Sisymbrium altissimum*	10	No	FACU
5. *Brassica sp.*	5	No	UPL
6.			
7.			
8.			
Total Cover:	70 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 25 % % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	1	(A)
Total Number of Dominant Species Across All Strata:	5	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	20.0 %	(A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species		x 2 =	0
FAC species	50	x 3 =	150
FACU species	10	x 4 =	40
UPL species	65	x 5 =	325
Column Totals:	125 (A)		515 (B)

Prevalence Index = B/A = 4.12

Hydrophytic Vegetation Indicators:

- ◉ Dominance Test is >50%
- ◉ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ◯ No ◉

Remarks:

SOIL

Sampling Point: 17

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture[3]	Remarks
0-4	10 YR 3/2	100					Sandy Loam	living roots present
4-13	10 YR 5/2	95	?	5	C	M	Loamy Sand	redox on coated sand grains

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☒ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[4]:

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ◉ No ○

Remarks: redox features were covered and/or coated sand grains. unable to use munsell for color.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☒ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☒ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ○	No ◉	Depth (inches):
Water Table Present?	Yes ○	No ◉	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes ○	No ◉	Depth (inches):

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: redox features were observed as horizontal thin layers along the pit wall. these layers were covered sand grains.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Rough Acres Ranch City/County: Boulevard/San Diego County Sampling Date: 11/26/13

Applicant/Owner: Hamann Companies State: CA Sampling Point: 18

Investigator(s): Thomas Liddicoat Section, Township, Range: Live Oak Springs, 16E/17S/7

Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): None Slope (%):

Subregion (LRR): C - Mediterranean California Lat: Long: Datum:

Soil Map Unit Name: NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ◉ No ◯ (If no, explain in Remarks.)

Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ◉ No ◯

Are Vegetation ☐ Soil ☒ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ◯	No ◉	
Hydric Soil Present?	Yes ◉	No ◯	**Is the Sampled Area within a Wetland?** Yes ◯ No ◉
Wetland Hydrology Present?	Yes ◯	No ◉	

Remarks: Pit within mapped Tamarisk Scrub. Area is a pasture for grazing cattle.
Depleted matrix found throughout floodplain both within areas supporting non-native grassland and alkali meadow; hydric soil indicator is not used to define jurisdictional wetland boundaries.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Tamarisk sp.*	20	Yes	FAC
2.			
3.			
4.			
Total Cover:	20 %		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Brassica sp.*	10	No	Not Listed
2. *Bromus madritensis*	20	Yes	Not Listed
3. *Erodium cicutarium*	15	Yes	UPL
4. *Sisymbrium altissimum*	20	Yes	FACU
5.			
6.			
7.			
8.			
Total Cover:	65 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 25 % % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 25.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species		x 2 =	0
FAC species	20	x 3 =	60
FACU species	20	x 4 =	80
UPL species	45	x 5 =	225
Column Totals:	85 (A)		365 (B)

Prevalence Index = B/A = 4.29

Hydrophytic Vegetation Indicators:

- ◉ Dominance Test is >50%
- ◉ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ◯ No ◉

Remarks:

SOIL

Sampling Point: 18

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture[3]	Remarks
0-4	7.5 YR 3/1	100					Silty Clay Loam	living roots present
4-8	10 YR 5/1	100					Loamy Sand	living roots present
8-13	10 YR 5/1	100					Loamy Sand	coarse sand

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☒ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[4]:

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ◉ No ◯

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ◯	No ◉	Depth (inches):
Water Table Present?	Yes ◯	No ◉	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes ◯	No ◉	Depth (inches):

Wetland Hydrology Present? Yes ◯ No ◉

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Rough Acres Ranch City/County: Boulevard/San Diego County Sampling Date: 11/26/13

Applicant/Owner: Hamann Companies State: CA Sampling Point: 19

Investigator(s): Thomas Liddicoat Section, Township, Range: Live Oak Springs, 16E/17S/7

Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): None Slope (%):

Subregion (LRR): C - Mediterranean California Lat: Long: Datum:

Soil Map Unit Name: NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation [ ] Soil [X] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes (●)	No ( )	
Hydric Soil Present?	Yes (●)	No ( )	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes ( )	No (●)	

Remarks: Pit within mapped Tamarisk Scrub. Area is a pasture for grazing cattle.
Depleted matrix found throughout floodplain both within areas supporting non-native grassland and alkali meadow; hydric soil indicator is not used to define jurisdictional wetland boundaries.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Tamarisk sp.*	60	Yes	FAC
2.			
3.			
4.			
Total Cover:	60 %		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Brassica sp.*	20	Yes	Not Listed
2. *Juncus mexicanus*	5	No	FACW
3. *Erodium cicutarium*	15	Yes	UPL
4. *Distichlis spicata*	25	Yes	FACW
5.			
6.			
7.			
8.			
Total Cover:	65 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 30 % % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	2	(A)
Total Number of Dominant Species Across All Strata:	4	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	50.0 %	(A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species	30	x 2 =	60
FAC species	60	x 3 =	180
FACU species		x 4 =	0
UPL species	35	x 5 =	175
Column Totals:	125 (A)		415 (B)

Prevalence Index = B/A = 3.32

Hydrophytic Vegetation Indicators:

- [●] Dominance Test is >50%
- [●] Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes (●) No ( )

Remarks:

SOIL

Sampling Point: 19

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture[3]	Remarks
0-14	10 YR 5/2	100					Loamy Sand	living roots present in upper 8"

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☒ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[4]:

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ◉ No ◯

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ◯	No ◉	Depth (inches):
Water Table Present?	Yes ◯	No ◉	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes ◯	No ◉	Depth (inches):

Wetland Hydrology Present? Yes ◯ No ◉

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Rough Acres Ranch City/County: Boulevard/San Diego County Sampling Date: 11/26/13

Applicant/Owner: Hamann Companies State: CA Sampling Point: 20

Investigator(s): Thomas Liddicoat Section, Township, Range: Live Oak Springs, 16E/17S/7

Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): None Slope (%):

Subregion (LRR): C - Mediterranean California Lat: Long: Datum:

Soil Map Unit Name: NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ◉ No ◯ (If no, explain in Remarks.)

Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ◉ No ◯

Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ◯	No ◉	
Hydric Soil Present?	Yes ◉	No ◯	**Is the Sampled Area within a Wetland?** Yes ◯ No ◉
Wetland Hydrology Present?	Yes ◯	No ◉	

Remarks: Pit within mapped Tamarisk Scrub. Area is a pasture for grazing cattle.
Depleted matrix found throughout floodplain both within areas supporting non-native grassland and alkali meadow; hydric soil indicator is not used to define jurisdictional wetland boundaries.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Tamarisk sp.*	50	Yes	FAC
2.			
3.			
4.			
Total Cover:	50 %		
Sapling/Shrub Stratum			
1. *Ambrosia psilostochya*	1		
2. *Artemisia tridentata*	1		
3.			
4.			
5.			
Total Cover:	2 %		
Herb Stratum			
1. *Brassica sp.*	10	No	Not Listed
2. *Juncus mexicanus*	15	No	FACW
3. *Erodium cicutarium*	40	Yes	UPL
4. *Sisymbrium altissimum*	20	Yes	FACU
5. *Bromus madritensis*	10	No	Not Listed
6.			
7.			
8.			
Total Cover:	95 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 2 % % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	1	(A)
Total Number of Dominant Species Across All Strata:	3	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	33.3 %	(A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species	15	x 2 =	30
FAC species	50	x 3 =	150
FACU species	20	x 4 =	80
UPL species	60	x 5 =	300
Column Totals:	145 (A)		560 (B)

Prevalence Index = B/A = 3.86

Hydrophytic Vegetation Indicators:

- ◉ Dominance Test is >50%
- ◉ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ◯ No ◉

Remarks:

SOIL

Sampling Point: 20

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture[3]	Remarks
0-3	7.5 YR 3/1	100					Sandy Clay Loam	living roots present
3-12	10 YR 3/2	100					Loamy Sand	few roots

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☒ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[4]:

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ◉ No ◯

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ◯	No ◉	Depth (inches):
Water Table Present?	Yes ◯	No ◉	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes ◯	No ◉	Depth (inches):

Wetland Hydrology Present? Yes ◯ No ◉

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

APPENDIX F

Special-Status Plant Species Documented in the Project Region but Not Observed on the Project Site

Appendix F
Special-Status Plant Species Documented in the Project Region but Not Observed on the Project Site

Table 1
Special-Status Plant Species Documented in the Project Region but Not Observed on the Project Site

Scientific Name Common Name	Sensitivity Code & Status (Federal/State/County/CRPR)[1]	Habitat Requirements/Life Form/Blooming Period/Elevational Range	Verified on Site (direct/ indirect evidence)	Potential to Occur on Site	Factual Basis for Determination
Acmispon [=*Lotus*] *haydonii* Pygmy lotus	None/None/List A, MSCP/1B.3	Pinyon and juniper woodland, Sonoran desert scrub; rocky/perennial herb/January–June/1,706 to 3,937 feet	No	Not Expected	This species is known to occur in the Sonoran desert (Jepson Flora Project 2012a; CDFG 2012c). The project site is not within the known geographic range of the species and would have been observed during surveys.
Astragalus insularis var. *harwoodii* Harwood's milkvetch	None/None/List B, MSCP/2.2	Desert dunes, Mojavean desert scrub; sandy or gravelly/annual herb/January–May/0 to 2,329 feet	No	Not Expected	This species is known to occur in the Sonoran desert (Jepson Flora Project 2012a; CDFG 2012c) at elevations below that of the project site. The project site is not within the known geographic or elevational range of the species.
Ayenia compacta California ayenia	None/None/List B/2.3	Mojavean desert scrub, Sonoran desert scrub; rocky/perennial herb/March–April/492 to 3,593 feet	No	Not Expected	This species is known to occur in the Sonoran desert (Jepson Flora Project 2012a; CDFG 2012c). The project site is not within the known geographic range of the species and would have been observed during surveys.

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Scientific Name Common Name	Sensitivity Code & Status (Federal/State/County/CRPR)[1]	Habitat Requirements/Life Form/Blooming Period/Elevational Range	Verified on Site (direct/ indirect evidence)	Potential to Occur on Site	Factual Basis for Determination
Berberis fremontii [=B. higginsiae] **Fremont barberry**	**None/None/List C, MSCP/3**	**Chaparral , Joshua tree "woodland", pinyon and juniper woodland; rocky/evergreen shrub/April–June/2,756 to 6,070 feet**	**No**	**Not Expected**	**Species known to occur nearby, less than 2 miles from project site (CDFG 2012c). Additionally, the project site is within the known elevational range with suitable vegetation communities present on site. However, this is a conspicuous tree that is easily detected and no *Berberis* species were observed on site during surveys (AECOM 2012b). Therefore, due to the comprehensive floristic surveys conducted on site, this species is not expected to occur.**
Brodiaea orcuttii Orcutt's brodiaea	None/None/List A, MSCP/1B.1	Closed-cone coniferous forest, chaparral, cismontane woodland, meadows and seeps, valley and foothill grassland, vernal pools; mesic, clay, sometimes serpentine/bulbiferous herb/May–July/98 to 5,551 feet	No	Not Expected	Project site within known elevational range of species and vegetation on site is suitable habitat for species. However, project site is approximately 14 miles from known occurrences (CDFG 2012c), and a comprehensive floristic survey was conducted on site during this species'

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					blooming period; therefore, this species is not expected to occur.
Bursera microphylla Little-leaf elephant tree	None/None/List B, MSCP /2.3	Sonoran desert scrub; rocky/deciduous tree/June–July/656 to 2,297 feet	No	Not Expected	This easily observable species is restricted to the Sonoran desert (Jepson Flora Project 2012a) and known to occur at elevations below that of the project site. This distinctive species would have been observed during comprehensive floristic surveys.
Calochortus dunnii Dunn's mariposa lily	None/SR/List A, MSCP/1B.2	Closed-cone coniferous forest, chaparral, valley and foothill grassland; gabbroic or metavolcanic, rocky/bulbiferous herb/April–June/607 to 6,004 feet	No	Not Expected	Project site within known elevation range of species and vegetation on site is suitable habitat for species. However, project site is approximately 14 miles from known occurrences (CDFG 2012c) and a comprehensive floristic survey was conducted on site during this species blooming period; therefore, this species is not expected to occur.
Ceanothus verrucosus Wart-stemmed ceanothus	None/None/List B/2.2	Chaparral/evergreen shrub/December–May/3.3 to 1,247 feet	No	Not Expected	Species is known to occur at elevations below that of the project site and 9 miles

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					west of the project site (CDFG 2012c). Additionally, this evergreen shrub would have been observed during comprehensive floristic surveys.
Chaenactis parishii Parish's chaenactis	None/None/List A, MSCP/1B.3	Chaparral; rocky/perennial herb /May–July/4,265 to 8,202 feet	No	No Expected	Known occurrences closest to project within the Laguna and Cuyamaca Mountains (CDFG 2012c), approximately 17 miles northwest of project site. Species known to occur at elevations above (i.e., approximately 600 feet) that of the project site. In addition, because this species was not observed on site during surveys, it is not expected to occur on site.
Chorizanthe leptotheca Peninsular spineflower	None/None/List D/4.2	Chaparral, coastal scrub, lower montane conifer forest; alluvial fan, granitic/annual herb/May–August/1,309 to 6,234 feet	No	Low	Known occurrences, from 1941, closest to project, approximately 5 to 10 miles southwest of the project site (SDNHM 2012a). Project site within the known elevation range of species, and vegetation on site is suitable habitat

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					for species. Because the project site lies within the known elevational range with suitable vegetation communities present on site, is known to occur near the project site, and this species can be difficult to detect (i.e., annual herb), the potential to occur on site is low versus not expected.
Cylindropuntia (=Opuntia) x fosbergii Pink cholla	None/None/MSCP/List 3	Sonoran desert scrub/stem succulent/March–May/279 to 2,789 feet	No	Not Expected	This easily observable species is restricted to the Sonoran desert (Jepson Flora Project 2012a) and known to occur at elevations below that of the project site. Additionally, it is a conspicuous succulent that, if present on site, would have been easily observed during rare plant surveys.
Delphinium hesperium ssp. *cuyamacae* Cuyamaca larkspur	None/SR/List A, MSCP/1B.2	Lower montane coniferous forest, meadows and seeps, vernal pools; mesic areas/perennial herb/May–July/4,003 to 5,351 feet	No	Not Expected	Within San Diego County, the southernmost known occurrence of this species is in the northern portion of the Laguna Mountains, 12 miles north of the project site, and extends north to the

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Scientific Name Common Name	Sensitivity Code & Status (Federal/State/County/CRPR)[1]	Habitat Requirements/Life Form/Blooming Period/Elevational Range	Verified on Site (direct/ indirect evidence)	Potential to Occur on Site	Factual Basis for Determination
					Cuyamaca and Palomar Mountains (CDFG 2012c). Species known to occur at elevations just above (i.e., 330 feet) that of the project site. Species not observed during comprehensive floristic surveys; therefore, not expected to occur.
Dieteria [=*Machaeranthera*] *asteroides* var. *lagunensis* Mount Laguna aster	None/SR/List B, MSCP/2.1	Cismontane woodland, lower montane coniferous forest/perennial herb/July–August/2,625 to 7,874 feet	No	Low	The majority of the known occurrences are located in the Laguna Mountains. There is one record of the species from 1948 that is located approximately 6 miles southeast of the project site; however, more field work needs to be done to verify presence of this occurrence (CDFG 2012c). Because the project site lies within the known elevational range with suitable vegetation communities present on site, is known to occur near the project site, albeit an old record, and this species can be difficult to detect (i.e., herb), the potential to occur on site is low versus not expected.

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Ericameria cuneata var. macrocephala Laguna Mountains goldenbush	None/None/List A, MSCP/1B.3	Chaparral; granitic/shrub/ September–December/3,921 to 6,070 feet	No	Not Expected	Known occurrences of species restricted within or near the Laguna Mountains (CDFG 2012c). Species known to occur at elevations just above (i.e., 250 feet) that of the project site. Easily detectable species not observed during comprehensive floristic surveys.
Eucnide rupestris Rock nettle	None/None/List B/2.2	Sonoran desert scrub/annual herb/December–April/1,640 to 1,969 feet	No	Not Expected	This species is known to occur in the Sonoran desert (Jepson Flora Project 2012a; CDFG 2012c) at elevations below that of the project site. The project site is not within the known geographic or elevational range of the species. Additionally, this species was not observed during comprehensive floristic surveys.
Galium angustifolium ssp. *jacinticum* San Jacinto Mountains bedstraw	None/None/List A/1B.3	Lower montane coniferous forest/perennial herb/June–August/4,429 to 6,890 feet	No	Low	Known occurrence approximately 2 miles east of the project site (CDFG 2012c); recorded in the Laguna Mountains, Volcan Mountain, and near Boulevard (SDNHM

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					2012a). While the species is known to occur at elevations above that of the project site and no lower montane coniferous forest is present on site, this species closely resembles the more common subspecies *Galium angustifolium* ssp. *angustifolium* which was observed on site. Therefore, the potential to occur on site is low versus not expected.
Gentiana fremontii Fremont's gentian	None/None/None/List 2.3	Meadows and seeps, upper montane coniferous forest/annual herb/June–August/7,874 to 8,858 feet	No	Not Expected	The known occurrences of this species are within the San Bernardino Mountains (Jepson Flora Project 2012a), over 100 miles away from the project, and the known elevation range is well over that of project site (i.e., approximately 4,200 feet). Not expected to occur because the project is outside of the known elevational and geographic range of the species and would have been detected during surveys if present.

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Grindelia hallii [=*G. hirsutula* var. *hallii*] San Diego gumplant	None/None/List A/1B.2	Chaparral, lower montane coniferous forest, meadows and seeps, valley and foothill grassland/perennial herb/July–October/607 to 5,725 feet	No	Not Expected	Project site within known elevation range of species and vegetation on site is suitable habitat for species. However, the closest known occurrence is approximately 12 miles from project site in the Laguna Mountains (CDFG 2012c), and the species would have been observed is present on site.
Hesperocyparis [=*Cupressus*] *forbesii* Tecate cypress	None/None/List A, MSCP/1B.1	Closed-cone coniferous forest, chaparral; clay, gabbroic or metavolcanic/evergreen tree/NA/263 to 4,921 feet	No	Not Expected	Project site within known elevation range of species, and vegetation on site is suitable habitat for species. However, the closest known occurrence is approximately 12 miles from the project site, and the species would have been observed if present on site, since this species is a conspicuous evergreen tree.
Heuchera brevistaminea **Mt. Laguna alumroot**	**None/None/List A, MSCP /1B.3**	**Broadleafed upland forest, chaparral, cismontane woodland, riparian forest; rocky/rhizomatous herb/April–July/4,495 to 6,562 feet**	**No**	**Not Expected**	**Known occurrences within the Laguna and Cuyamaca Mountains (CDFG 2012c), approximately 12 miles northwest of project site. Species known to occur**

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					at elevations above (i.e., approximately 800 feet) that of the project site. In addition, because this species was not observed on site during comprehensive floristic surveys, it is not expected to occur on site.
Hulsea californica **San Diego sunflower**	**None/None/List A, MSCP/1B.3**	**Chaparral, lower montane coniferous forest, upper montane coniferous forest; openings and burned areas/perennial herb/April–June/3,002 to 9,564**	**No**	**Low**	**Known occurrences approximately 10 miles from project site. Project site is within the known elevation range of species, and vegetation on site is suitable habitat for species. Because the project site lies within the known elevational range with suitable vegetation communities present on site, is known to occur near the project site and this species can be difficult to detect (i.e., herb), the potential to occur on site is low versus not expected.**
Hulsea mexicana Mexican hulsea	None/None/List B, MSCP/2.3	Chaparral (volcanic, often on burns or disturbed areas)/annual-perennial herb/April–	No	Not Expected	Species known to occur on Table Mountain near Jacumba. Species known

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		June/approximately 3,937 feet			to occur at elevations above (i.e., approximately 550 feet) that of the project site (CDFG 2012c). Because the project site lies outside of the known elevational range and the species was not observed during comprehensive floristic surveys, it is not expected to occur on site.
Ipomopsis tenuifolia Slender-leaved ipomopsis	None/None/List B/2.3	Chaparral, pinyon and juniper woodland, Sonoran desert scrub; gravelly or rocky/perennial herb/March–May/328 to 3,937 feet	No	Not Expected	Species known to occur less than 4 miles southeast of project (SDNHM 2012a). Project site is within the known elevation range of species, and vegetation on site is suitable habitat for species. However, species is easily detectable (i.e., has bright red showy flowers) and was not observed during comprehensive floristic surveys; therefore, not expected to occur.
Juncus acutus var. *leopoldii* Southwestern spiny rush	None/None/List D/4.2	Coastal dunes (mesic), meadows and seeps (alkaline seeps), coastal saltwater marsh/rhizomatous herb/May–June/10 to 2,953 feet	No	Not Expected	Species is known to occur less than 3 miles southeast of project (SDNHM 2012a). However, the project site is not within the known

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					elevational range of the species. Additionally, the species is easily detectable (i.e., perennial, rigid stem with stiff, sharp, sheath appendages on leaves (Jepson Flora Project 2012b) and was not observed during comprehensive floristic surveys; therefore, not expected to occur.
Lepidium virginicum var. *robinsonii* Robinson pepper-grass	None/None/List A/1B.2	Chaparral, coastal scrub/annual herb/January–July/3 to 2,904 feet	No	Not Expected	Species known to occur approximately 11 miles southwest of project site. Species known to occur at elevations below that of the project site. The project site is not within the known elevational or geographical range of the species; therefore, this species is not expected to occur.
Limnanthes gracilis ssp. *parishii* Cuyamaca meadowfoam	None/SE/List A, MSCP/1B.2	Lower montane coniferous forest, meadows and seeps, vernal pools; vernally mesic/annual herb/April–June/1,869 to 6,562 feet	No	Not Expected	Project site within known elevational range of species, and vegetation on site is suitable habitat for species. However, project site is 12 miles from known occurrence in the Laguna Mountains (CDFG 2012c).

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					Because the project site is not within the known geographic range of the species and species was not observed during comprehensive floristic surveys, it is not expected to occur on site.
Lupinus excubitus var. *medius* Mountain Springs bush lupine	None/None/List A, MSCP/1B.3	Pinyon and juniper woodland, Sonoran desert scrub/shrub/March–May/1,394 to 4,495 feet	No	Not Expected	Species known to occur nearby, less than 2 miles from project site (CDFG 2012c; SDNHM 2012a). Additionally, the project site is within the known elevational range with suitable vegetation communities present on site. However, this is a shrub that is easily detected and no *Lupinus excubitus* were observed on site during surveys (AECOM 2012b). Therefore, due to the comprehensive floristic surveys conducted on site, this species is not expected to occur.
Lycium parishii Parish's desert-thorn	None/None/List B, MSCP/2.3	Coastal scrub, Sonoran desert scrub/shrub/March–April/1,001 to 3,281 feet	No	Not Expected	Within San Diego County, this species is known to occur in the Sonoran

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					desert (Jepson Flora Project 2012a; CDFG 2012c). The project site is not within the known geographic range of the species. Additionally, this shrub is easily detected, and therefore, due to the comprehensive floristic surveys conducted on site, this species is not expected to occur.
Malperia tenuis Brown turbans	None/None/List B/2.3	Sonoran desert scrub; sandy, gravelly/annual herb/March–April/49 to 1,099 feet	No	Not Expected	This species is known to occur in the Sonoran desert (Jepson Flora Project 2012a; CDFG 2012c) at elevations below that of the project site. The project site is not within the known geographic or elevational range of the species.
Mentzelia hirsutissima Hairy stickleaf	None/None/List B/2.3	Sonoran desert scrub; rocky/annual herb/March–May/0 to 2,297 feet	No	Not Expected	This species is known to occur in the Sonoran desert (Jepson Flora Project 2012a; CDFG 2012c) at elevations below that of the project site. The project site is not within the known geographic or elevational range of the species.

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Monardella nana ssp. *leptosiphon* San Felipe monardella	None/None/List A, MSCP/1B.2	Chaparral, lower montane coniferous forest/rhizomatous herb/June–July/3,937 to 6,086 feet	No	Not Expected	The known occurrence closest to the site is near the Cuyamaca Mountains, approximately 20 miles north of the project site (CDFG 2012c). Species known to occur at elevations above (i.e., 400 feet above) that of the project site). Species is not expected to occur because it is outside of the known elevational and geographic range of the species and was not observed during floristic surveys.
Pentachaeta aurea* ssp. *aurea **Golden-rayed pentachaeta**	**None/None/List D/4.2**	**Chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest, riparian woodland, valley and foothill grassland/annual herb/March–July/262 to 6,070 feet**	**No**	**Not Expected**	**Project site within known elevational range of species, and vegetation on site is suitable habitat for species. However, project site is 17 miles from known occurrence (SDNHM 2012a). Because the project site is not within the known geographic range of the species and it was not observed during comprehensive floristic surveys, this species is not expected to occur on site.**

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Scientific Name Common Name	Sensitivity Code & Status (Federal/State/County/CRPR)[1]	Habitat Requirements/Life Form/Blooming Period/Elevational Range	Verified on Site (direct/ indirect evidence)	Potential to Occur on Site	Factual Basis for Determination
Pholistoma auritum var. arizonicum Arizona pholistoma	None/None/MSCP/List 2.3	Mojavean desert scrub/annual herb/March/902 to 2,740 feet	No	Not Expected	Species known to occur at elevations below that of the project. However, there is a known occurrence less than 4 miles southeast of the project site (CDFG 2012c). Because the project site is not within the known elevational range of the species and it was not observed during comprehensive floristic surveys, this species is not expected to occur on site.
Pilostyles thurberi Thurber's pilostyles	None/None/List D/4.3	Sonoran desert scrub/perennial herb parasitic/January/0 to 1,198 feet	No	Not Expected	This species is known to occur in the Sonoran desert (Jepson Flora Project 2012a; CDFG 2012c) at elevations below that of the project site. The project site is not within the known geographic or elevational range of the species. Additionally, this species is parasitic to *Psorothamnus* species (Baldwin et al. 2002), which does not occur on site (AECOM 2012b)
Poa atropurpurea San Bernardino bluegrass	FE/None/List A, MSCP/1B.2	Meadows and seeps; mesic/rhizomatous herb/May–	No	Not Expected	Known occurrences closest to project approximately 14

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Special-Status Plant Species Documented in the Project Region but Not Observed on the Project Site

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		July/4,492 to 8,054 feet			miles northwest of project site. Species known to occur at elevations above (i.e., approximately 960 feet) that of the project site. The project site is not within the known elevational range of the species and was not observed on site during floristic surveys; therefore, it is not expected to occur on site.
Ribes canthariforme **Moreno currant**	**None/None/List A, MSCP/1B.3**	**Chaparral, riparian scrub/deciduous shrub/February–April/1,115 to 3,937 feet**	**No**	**Not Expected**	**Project site is approximately 14 miles from known occurrences (CDFG 2012c). The project site is within the known elevational range with suitable vegetation communities present on site. However, this species is a shrub that would have been detected, and no unidentified *Ribes* species were observed on site during the comprehensive floristic surveys conducted on site; therefore, this**

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					species is not expected to occur.
Saltugilia [=*Gilia*] *caruifolia* Caraway-leaved gilia	None/None/List D/4.3	Chaparral, lower montane coniferous forest; sandy, openings/annual herb/May–August/2,756 to 7,546 feet	No	Low	Project site is approximately 4 miles from known occurrences (SDNHM 2012a). Additionally, project site is within known elevational range of species, and vegetation on site is suitable habitat for species. Because the project site lies within the known elevational range with suitable vegetation communities present on site, and the species is known to occur near the project site and can be difficult to detect (i.e., annual herb), the potential to occur on site is low versus not expected.
Scutellaria bolanderi ssp. *austromontana* Southern skullcap	None/None/List A/1B.2	Chaparral, cismontane woodland, lower montane coniferous forest; mesic/rhizomatous herb/June–August/1,394 to 6,562 feet	No	Not Expected	Project site is within known elevational range of species, and vegetation on site is suitable habitat for species. However, the project site is 12 miles from known occurrence (CDFG 2012c). Because the

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Special-Status Plant Species Documented in the Project Region but Not Observed on the Project Site

Scientific Name Common Name	Sensitivity Code & Status (Federal/State/County/CRPR)[1]	Habitat Requirements/Life Form/Blooming Period/Elevational Range	Verified on Site (direct/ indirect evidence)	Potential to Occur on Site	Factual Basis for Determination
					project site is not within the known geographic range of the species and it was not observed during comprehensive floristic surveys, this species is not expected to occur on site.
Selaginella eremophila Desert spike-moss	None/None/List B/2.2	Chaparral, Sonoran desert scrub; gravelly or rocky/rhizomatous herb/June/656 to 2,953 feet	No	Not Expected	The majority of the known occurrences are in the Sonoran desert (Jepson Flora Project 2012a; CDFG 2012c). There is one record approximately 3 miles from the project site at the Walker Canyon Ecological Reserve (SDNHM 2012a). This species occurs at elevations below that of the project site. Because the species is known to occur at elevations below that of the project site and was not observed during comprehensive floristic surveys, this species is not expected to occur.
Senecio aphanactis Rayless ragwort	None/None/List B/2.2	Chaparral, cismontane woodland, coastal scrub; sometimes alkaline/annual herb/January–April/49 to 262 feet	No	Not Expected	Known occurrence approximately 5 miles from project site; however, the majority of the occurrences are much farther west (i.e.,

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					over 30 miles) (CDFG 2012c). Because the species is known to occur at elevations below that of the project site and it was not observed during comprehensive floristic surveys, this species is not expected to occur.
Streptanthus bernardinus Laguna Mountains jewelflower	None/None/List D/4.3	Chaparral, lower montane coniferous forest/perennial herb/May–August/2,198 to 8,202 feet	No	Not Expected	Project site is within known elevational range of species, and vegetation on site is suitable habitat for species. However, project site is 14 miles from known occurrence in the Laguna Mountains (CDFG 2012c). Because the project site is not within the known geographic range of the species and it was not observed during comprehensive floristic surveys, this species is not expected to occur on site.
Streptanthus campestris **Southern jewelflower**	**None/None/List A/1B.3**	**Chaparral, lower montane coniferous forest, pinyon and juniper woodland; rocky/perennial herb/May–July/2,953 to 7,546 feet**	**No**	**Low**	**Project site is close to known occurrences (i.e., approximately 1 mile from the site) (CDFG 2012c); there is another record approximately 3 miles**

Table 1
Special-Status Plant Species Documented in the Project Region but Not Observed on the Project Site

Scientific Name Common Name	Sensitivity Code & Status (Federal/State/County/CRPR)[1]	Habitat Requirements/Life Form/Blooming Period/Elevational Range	Verified on Site (direct/ indirect evidence)	Potential to Occur on Site	Factual Basis for Determination
					from the project site at the Walker Canyon Ecological Reserve (SDNHM 2012a). Project site is within known elevational range of the species, and vegetation on site is suitable habitat for species. Because the project site lies within the known elevational range with suitable vegetation communities present on site, the species is known to occur near the project site and can be difficult to detect (i.e., herb), potential to occur on site is low versus not expected.
Symphyotrichum defoliatum *San Bernardino aster*	None/None/None/1B.2	Cismontane woodland, coastal scrub, lower montane coniferous forest, meadows and seeps, marshes and swamps, and valley and foothill grassland; vernally mesic; near ditches, streams, and springs/rhizomatous herb/July–November/7 to 6,693 feet	No	Low	Project site is close to known occurrences (i.e., less than 1 mile from the site) (CDFG 2012c); there is another record near Boulevard (SDNHM 2012a). Project site is within known elevational range of the species, and vegetation on site is suitable habitat for species. Because the project site

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					lies within the known elevational range with suitable vegetation communities present on site, the species is known to occur near the project site and can be difficult to detect (i.e., herb), potential to occur on site is low versus not expected.
Tetracoccus dioicus Parry's tetracoccus	None/None/List A/1B.2	Chaparral, coastal sage scrub/deciduous shrub/April–May/541 to 3,281 feet	No	Not Expected	Species is known to occur at elevations below that of the project site (CDFG 2012c). Additionally, this evergreen shrub would have been observed during comprehensive floristic surveys; therefore, this species is not expected to occur on site.
Thermopsis californica var. *semota* Velvety false lupine	None/None/List A/1B.2	Cismontane woodland, lower montane coniferous forest, meadows and seeps, valley and foothill grassland/rhizomatous herb/March–June/3,281 to 6,135 feet	No	Not Expected	Closest known occurrence of this species is in the Laguna Mountains, 12 miles north of the project site (CDFG 2012c). The project site is within the known elevational range with suitable vegetation communities present on site. However, while this species is an herb, it is

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Scientific Name Common Name	Sensitivity Code & Status (Federal/State/County/CRPR)[1]	Habitat Requirements/Life Form/Blooming Period/Elevational Range	Verified on Site (direct/ indirect evidence)	Potential to Occur on Site	Factual Basis for Determination
					fairly large (0.98 to 1.6 feet) and has bright, showy yellow flowers (Jepson Flora Project 2012b), making it easily detected. Additionally, no *Thermopsis* species were observed on site during surveys (AECOM 2012b). Therefore, due to the comprehensive floristic surveys conducted on site, this species is not expected to occur.
Thysanocarpus rigidus Rigid fringepod	None/None/None/List 1B.2	Pinyon and juniper woodland, dry rocky slopes/annual herb/Feb–May/1,968.5 to 7,218 feet	No	Not Expected	Closest known occurrence of this species is in the Laguna Mountains, 14 miles north of the project site (CDFG 2012c). The project site is within the known elevational range, but there is no pinyon and juniper woodland on the project site. The project site is not within the geographical range of the species and lacks suitable habitat, and it was not observed during comprehensive floristic surveys; therefore, this species is not expected to occur.

Table 1
Special-Status Plant Species Documented in the Project Region but Not Observed on the Project Site

Scientific Name Common Name	Sensitivity Code & Status (Federal/State/County/CRPR)[1]	Habitat Requirements/Life Form/Blooming Period/Elevational Range	Verified on Site (direct/ indirect evidence)	Potential to Occur on Site	Factual Basis for Determination
Xylorhiza orcuttii Orcutt's woody aster	None/None/List A, MSCP/1B.2	Sonoran desert scrub/perennial herb/March–April/0 to 1,197.5 feet	No	Not Expected	All but one known occurrence of this species is within the Sonoran desert (Jepson Flora Project 2012a; CDFG 2012c). There is one occurrence from the 1920s mapped in the Peninsular ranges on the edge of the Sonoran desert, along Banner Grade near Julian. The project site is not within the known geographic or elevational range of the species, and it would have been observed during surveys.

[1]**Legend**
FE: Federally listed as endangered
FT: Federally listed as threatened
FC: Federal Candidate
MSCP: Draft Covered Species under the ECMSCP
SE: State listed as endangered
ST: State listed as threatened
SR: State listed as rare

Bold indicates species that were identified in the County's Pre-Application Summary Letter (County 2011).

APPENDIX G

Special-Status Plant Species Observed On Site

Table 1
Special-Status Plant Species Observed On Site

Scientific Name Common Name	Sensitivity Code & Status (Federal/State/County/CRPR)[1]	Habitat Requirements/Life Form/Blooming Period/Elevational Range	Verified on Site (direct/indirect evidence)	Potential to Occur on Site	Factual Basis for Determination
Astragalus douglasii var. *perstrictus* Jacumba milk-vetch	None/None/List A, MSCP/1B.2	Chaparral, cismontane woodland, pinyon and juniper woodland, riparian scrub, valley and foothill grassland; rocky/perennial herb/April–June/2,953 to 4,495 feet	Observed	Not Applicable (N/A)	Observed on site in numerous locations within open scrub and chaparral habitats (AECOM 2012b).
Caulanthus simulans Payson's jewel-flower	None/None/List D, MSCP/4.2	Chaparral, coastal scrub; sandy and granitic/annual herb/March–May/295 to 7,218 feet	Observed	N/A	Observed in one location on site within semidesert chaparral with rock outcrops (AECOM 2012b).
Deinandra [=*Hemizonia*] *floribunda* Tecate tarplant	None/None/List A, MSCP/1B.2	Chaparral, coastal scrub/annual herb/August–October/230 to 4,003 feet	Observed	N/A	Observed on site within sandy washes and dry ponds (AECOM 2012b).
Delphinium parishii ssp. *subglobosum* Desert larkspur	None/None/List D/4.3	Chaparral, cismontane woodland, pinyon and juniper woodland, Sonoran desert scrub/perennial herb/March–June/1,969 to 5,906 feet	Observed	N/A	Observed throughout the site in chaparral and scrub habitats (AECOM 2012b).
Geraea viscida Sticky geraea	None/None/List B, MSCP/2.3	Chaparral (often disturbed)/perennial herb/May–June/1,476 to 5,577 feet	Observed	N/A	Observed on site in various open scrub and chaparral habitats (AECOM 2012b).
Lathyrus splendens Pride of California	None/None/List D, MSCP/4.3	Chaparral/perennial herb/March–June/656 to 5,003	Observed	N/A	Observed on site in several locations within chaparral habitats (AECOM 2012b).

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Special-Status Plant Species Observed On Site

Scientific Name Common Name	Sensitivity Code & Status (Federal/State/County/CRPR)[1]	Habitat Requirements/Life Form/Blooming Period/Elevational Range	Verified on Site (direct/indirect evidence)	Potential to Occur on Site	Factual Basis for Determination
Linanthus bellus **Desert beauty**	**None/None/List B, MSCP/2.3**	**Chaparral; sandy/annual herb/April–May/3,281 to 4,593 feet**	**Observed**	**N/A**	**Observed on site in gravelly granitic openings of chaparral and scrub habitats (AECOM 2012b).**
Mimulus aurantiacus* var. *aridus **Desert monkey flower**	**None/None/List D, MSCP/4.3**	**Chaparral, rocky; Sonoran desert scrub/evergreen shrub/April–July/2,461 to 3,937 feet**	**Observed**	**N/A**	**Observed on site in rocky outcrops of semidesert chaparral (AECOM 2012b).**
Quercus engelmannii Engelmann oak	None/None/List D, MSCP/4.2	Chaparral, cismontane woodland, riparian woodland, valley and foothill grassland/deciduous tree/March–June/164 to 4,265 feet	Observed	N/A	Observed in two locations on site (AECOM 2012b).

[1]**Legend**
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Bold indicates species that were identified in the County's Pre-Application Summary Letter (County 2011).

APPENDIX H

Special-Status Wildlife Species Detected or Potentially Occurring in Project Area

APPENDIX H
Special-Status Wildlife Species Detected or Potentially Occurring in Project Area

Table 1
Special-Status Wildlife Species Detected or Potentially Occurring in the Project Area

Scientific Name/ Common Name	Status (Federal/State/ County)[1]	Habitat Preferences/Requirements	Verified on Site (Direct/ Indirect Evidence)	Potential to Occur On Site	Factual Basis for Determination
Amphibians					
Ensatina eschscholtzii klauberi Large-blotched salamander	None/SSC/ Group 1, MSCP	Moist, shaded evergreen and deciduous forests; oak woodlands, under rocks, logs, debris, especially peeled off bark. Found in peninsular ranges of Southern California and eastern San Bernardino Mountains, approx. 5,003 feet (1).	No	Moderate	Some suitable habitat is present within the project area in the oak woodland habitat and rocky area; however, the site lacks large shaded areas. The project area is located within the known range (Nafis 2012). The closest CNNDB record of this species is from 1994 and is located approximately 32 miles northwest of the project area (CDFG 2012d).
Spea [=Scaphiopus] hammondi Western spadefoot	None/SSC/ Group 2, MSCP	Sandy/gravelly soils within mixed woodlands, grasslands, coastal sage scrub, chaparral, sandy washes, foothills, mountains, and other habitats. Breed in rainpools that do not have bullfrogs, fish, or crayfish. Found throughout Great Valley and foothills south of Redding, throughout South Coast Ranges in Southern California south of Transverse Mountains and west of Peninsular Mountains, 0 to 4,478 feet (1).	No	High	There is suitable habitat in the project area, and spadefoot tadpoles were observed on the nearby Tule site. The closest CNDDB record for this species is from 1990 and is located approximately 29 miles west of the project area (CDFG 2012d). This species was observed just north of the project area during surveys for the Tule Wind Project (HDR 2010).
Reptiles					
Anniella pulchra pulchra Silvery legless lizard	None/SSC/ Group 2	Loose soils (sand, loam, humus) in coastal dune, coastal sage scrub, woodlands, and riparian habitats (1).	No	High	Suitable habitat is present within the project area. The closest CNDDB record for this species is from 2005 and is located approximately 30 miles northwest of the project area (CDFG 2012d).

Table 1
Special-Status Wildlife Species Detected or Potentially Occurring in the Project Area

Scientific Name/ Common Name	Status (Federal/State/ County)[1]	Habitat Preferences/Requirements	Verified on Site (Direct/ Indirect Evidence)	Potential to Occur On Site	Factual Basis for Determination
Aspidoscelis hyperythra beldingi Belding's orange-throated whiptail	None/SSC/ Group 2, MSCP	Coastal sage scrub, chamise-redshank chaparral, mixed chaparral, valley-foothill hardwood especially in area with summer fog. Found from Santa Ana River and near Colton in San Bernardino County, west of Peninsular Ranges, south throughout Baja California, 0 to 2,001 feet (1, 2).	Observed	N/A	One occurrence recorded from the project area in semi-desert chaparral (AECOM 2012). Suitable habitat is present within the project area. Although the site does not conform to typical habitat preferences, they were observed. The two closest CNDDB records for this species are located approximately 20 miles northwest and southwest of the project area. One occurrence is from 1925 and the other does not include a recorded date (CDFG 2012d).
Aspidoscelis tigris stejnegeri Coastal whiptail	None/None/ Group 2	Hot and dry open area with sparse foliage, chaparral, woodland, riparian area. Found in coastal Southern California, west of Peninsular Ranges and south of Transverse Ranges, north to Ventura County, 0 to 6,988 feet (1, 2).	Observed	N/A	Scattered occurrences recorded within montane buckwheat scrub, granitic chamise chaparral and semi-desert chaparral (AECOM 2012). The closest CNNDB record for this species is from 1993 and is located approximately 2 miles southwest of the project area (CDFG 2012d).
Coleonyx variegatus abbotti San Diego banded gecko	None/None/ Group 1	Cismontane chaparral, coastal sage scrub, desert scrub; granite outcrops.	No	Moderate	Suitable habitat is present in the project area. The nearest CNDDB occurrence data were recorded in 1997, approximately 71 miles northwest of the project area (CDFG 2012d).
***Crotalus ruber ruber* Northern red-diamond rattlesnake**	**None/SSC/ Group 2, MSCP**	**Chaparral, oak and pine woodland, arid desert, rocky grassland habitats in rocky area and dense vegetation; rocky desert flats on desert slopes of mountains; Morongo Valley (1).**	**No**	**High**	**Suitable habitat for the northern red-diamond rattlesnake is present within the rocky outcrops observed within the semidesert chaparral habitat. Also, any area with dense vegetation provides**

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Scientific Name/ Common Name	Status (Federal/State/ County)[1]	Habitat Preferences/Requirements	Verified on Site (Direct/ Indirect Evidence)	Potential to Occur On Site	Factual Basis for Determination
					suitable habitat, including chaparral, scrub, and woodland habitats. The closest CNNDB record is from 1993 and occurs approximately13 miles northeast of the project area (CDFG 2012d).
Diadophis punctatus similis **San Diego ringneck snake**	**None/None/ Group 2**	**Moist habitats, wet meadows; rocky hillsides; open habitats such as farmland, grassland, chaparral; and mixed coniferous forests and woodlands. San Diego County, along coast and Peninsular Range, southwestern San Bernardino County (1).**	**No**	**High**	**Suitable chaparral and woodland habitat with rock outcroppings present on site. The two closest CNDDB records, from 2006 and 2008, are approximately 38 miles west and northwest of the project area (CDFG 2012d).**
Phrynosoma blainvillii **Blainville's horned lizard**	**None /SSC/ Group 2, MSCP**	**Area of sandy soil and low vegetation in valleys, foothills, and semiarid mountains. Annual grassland, chaparral, woodland, coniferous forest, sandy area, frequently near ant hills. Foothills and coastal plains from Los Angeles to northern Baja California (1, 3).**	**Observed**	**N/A**	**Scattered occurrences recorded from scrub and chaparral habitats within the project area (AECOM 2012b). This species was also observed just north of the project area during surveys for the Tule Wind Project (HDR 2010).**
Plestiodon skiltonianus interparietalis Coronado skink	None/SSC/ Group 2, MSCP	Grassland, woodlands, pine forests, chaparral, especially open sunny areas, such as clearings and edges of creeks, and rocky areas near streams with lots of vegetation; in litter, rotting logs, under flat stones. Found in coastal ranges and Sierra Nevada and foothills, 0 to 8,300 feet (1, 2).	No	High	Suitable habitat is present within the project area. The two closest CNDDB records, from 1995 and 1996, are approximately 25 miles west and northwest of the project area (CDFG 2012d).
Charina trivirgata Rosy boa	None/None/ Group 2	Rocky chaparral hillsides and canyons, scrub flats with good cover, common in riparian area but does not require permanent water. Found in extreme Southern California within Tijuana River and Otay watersheds (1, 2).	No	High	Suitable scrub habitat with rock outcroppings present on site. The species has previously been documented approximately 2 miles southwest of the

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					project area (CDFG 2012d). This species was also observed approximately 3 miles north of the project area during surveys for the Tule Wind Project (HDR 2010).
Salvadora hexalepis virgultea Coast patch-nosed snake	None/SSC/ Group 2, MSCP	Semi-arid, brushy area and chaparral in canyons, rocky hillsides, plains from northern Carrizo Plains south through coastal zone, south and west of the deserts into coastal northern Baja California, at elevations below sea level to 6,988 feet (1).	No	High	Suitable habitat is present within the project area. The closest CNDDB occurrence record, from 1996, is approximately 28 miles northwest of the project area (CDFG 2012d).
Thamnophis hammondii Two-striped garter snake	None/SSC/ Group 1, MSCP	Permanent or semipermanent bodies of water bordered by dense vegetation in rocky area, oak woodland, chaparral, brushland, coniferous forest. Found on Diablo Range, South Coast and Transverse Ranges, and Santa Catalina Island (1, 2).	No	High	Suitable habitat is present the project area. The closest CNDDB occurrence records, from 1999 and 2001, are located approximately 12 to 13 miles east and southeast of the project area (CDFG 2012d).
Birds					
Accipiter cooperii Cooper's hawk (nesting)	None/WL/ Group 1, MSCP	Dense stands of live oak, riparian deciduous, forest habitats near water. Breeds in southern Sierra Nevada foothills, New York Mountains., Owens Valley, and other local area in Southern California, 0 to 8,858 feet (2).	Observed	N/A	Two occurrences observed within the project area within semi-desert chaparral habitat and several occurrences adjacent to the project area (AECOM 2012b). This species was also observed approximately 7 miles northwest of the project area during surveys for the Tule Wind Project (HDR 2010). This species was recorded in the vicinity[2] (SDNHM 2012b).
Agelaius tricolor Tricolored blackbird	BCC/SSC/ Group 1, MSCP	Breeds in emergent wetland with tall, dense cattails or tules; willow, blackberry, tall herb thickets. Feeds in grassland and cropland habitats. Found throughout	No	High potential to forage on site; not expected to	A group was observed flying overhead south of the project area in 2011 (AECOM 2012b). Known nesting colonies are found

Table 1
Special-Status Wildlife Species Detected or Potentially Occurring in the Project Area

Scientific Name/ Common Name	Status (Federal/State/ County)[1]	Habitat Preferences/Requirements	Verified on Site (Direct/ Indirect Evidence)	Potential to Occur On Site	Factual Basis for Determination
		Central Valley and coastal area south of Sonoma County (2).		nest on site	nearby in Jacumba, Campo, and Tule Lake. Wildflower field, seep, and non-native grassland habitat on site provides suitable foraging habitat. This species was recorded in the vicinity[2] (SDNHM 2012b). No nesting habitat on site.
Aimophila ruficeps canescens Southern California rufous-crowned sparrow	None/WL/ Group 1, MSCP	Sparse mixed chaparral and coastal scrub habitats (especially coastal sage) in Southern California on slopes of Transverse and Coastal Ranges, north to Los Angeles County, and northwestern Baja California. Found on steep, rocky hillsides with grass and forb patches, and grassy slopes without shrubs, if rock outcrops are present (2, 4).	No	High	Suitable habitat is present within the project area. This species was recorded in the vicinity[2] (SDNHM 2012b).
Amphispiza belli belli Bell's sage sparrow	BCC / WL/, Group 1, MSCP	Low, dense stands of shrubs; chaparral dominated by chamise; coastal scrub dominated by sage. Coast Ranges from northern California to northwestern Baja California, western slope of Sierra Nevada (2, 4).	Observed	N/A	One occurrence recorded within big sagebrush scrub (AECOM 2012b).
***Aquila chrysaetos* Golden eagle (nesting and wintering)**	**BCC/FP, WL/ Group 1, MSCP**	**Rolling foothills, mountain area, sage-juniper flats, and desert throughout California (2).**	**No**	**High potential to forage on site; low potential to nest on site**	**Suitable foraging habitat is present within most of the project area; however, low potential for nesting due to lack of rocky cliffs and large stands of mature trees. Recorded nesting sites are located in the region, but off site. There are numerous nesting locations within 10 miles as observed during surveys for the Tule Wind Project (HDR 2010). This species was recorded in the vicinity[2] (SDNHM 2012b).**

Table 1
Special-Status Wildlife Species Detected or Potentially Occurring in the Project Area

Scientific Name/ Common Name	Status (Federal/State/ County)[1]	Habitat Preferences/Requirements	Verified on Site (Direct/ Indirect Evidence)	Potential to Occur On Site	Factual Basis for Determination
Ardea herodias Great blue heron (nesting colony)	None/None/ Group 2	Variety of habitats, but primarily shallow estuaries and fresh and saline emergent wetlands; lakes, rivers, marshes, mudflats, estuaries, saltmarsh, riparian habitats. Found throughout most of California. Few rookeries in Southern California; more numerous in Northern California (2).	Observed	Low colonial nesting potential; foraging individuals observed	This species was observed (AECOM 2012b). There are no rookeries present on site, and the site lacks suitable nesting habitat. This species is not expected to nest on site. This species was recorded in the vicinity[2] (SDNHM 2012b).
Asio otus Long-eared owl (nesting)	None/SSC/ Group 1, MSCP	Riparian, live oak thickets; other dense stands of tree. Uncommon winter visitor in Southern California deserts and Central Valley; uncommon resident throughout the rest of the state (2).	No	Moderate	Suitable habitat is present within all of the project area. May use the project area for nesting, foraging, and/or wintering. This species was recorded in the vicinity[2] (SDNHM 2012b).
Athene cunicularia Burrowing owl	BCC/SSC/ Group 1, MSCP	Open, dry grassland and desert habitats; grass, forb, and open shrub stages of pinyon-juniper and ponderosa pine habitats throughout the state, 0 to 5,249 feet (2).	No	Moderate	May nest and/or winter within the project area. No records exist for this species in the project area; however, it was observed during surveys for the Tule Wind Project (HDR 2010). Typically found at lower elevations.
Branta canadensis Canada goose	None/None/ Group 2	Lakes, fresh emergent wetlands' moist grasslands, croplands, pastures, and meadows. Winter migrant throughout Central Valley, Salton Sea, northeastern California, also along Colorado River (2).	No	Moderate potential to occur during the winter	Marginal suitable habitat is present within all of the project area. This species may inhabit the project area as stopover or during the winter. This species was recorded in the vicinity[2] (SDNHM 2012b).
***Buteo lineatus* Red-shouldered hawk**	**None/None/ Group 1**	**Riparian and woodland habitats interspersed with swamps and wetlands found along coast, southern deserts, and in Central Valley, 0 to 4,921 feet (2).**	**No**	**High**	**Suitable habitat is present within the project area. May use the project area for nesting and foraging. This species was recorded in the vicinity[2] (SDNHM 2012b).**
Buteo regalis Ferruginous	BCC/WL/ Group 1,	Open, grasslands, sagebrush flats, desert scrub, low foothills surrounding valleys, fringes of pinyon-juniper habitats. Uncommon winter resident at low elevations	No	Moderate potential to occur	Suitable habitat is present within the project area. May use the project area to forage during the winter. Project area is

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Scientific Name/ Common Name	Status (Federal/State/ County)[1]	Habitat Preferences/Requirements	Verified on Site (Direct/ Indirect Evidence)	Potential to Occur On Site	Factual Basis for Determination
hawk (wintering)	MSCP	and open grasslands of Modoc Plateau, Central Valley, Coast Ranges. Common winter resident in southwestern California (2).		during winter	outside the recorded breeding range for this species. This species was recorded in the vicinity[2] (SDNHM 2012b).
Buteo swainsoni Swainson's hawk	BCC/ST/ Group 1, MSCP	Forages in grasslands or suitable grain or alfalfa fields or livestock pastures; breeds in stands with few trees in juniper-sage flats, riparian area, and in oak savannah in Central Valley (2).	Observed	N/A	One occurrence recorded within semidesert chaparral (AECOM 2012b). Expected only as occasional, temporary visitor during migration. Species not known to nest or winter in San Diego County. This species was recorded in the vicinity[2] (SDNHM 2012b).
Carduelis lawrencei Lawrence's Goldfinch (nesting)	BCC/None/ None	Breeds in open oak or other arid woodland and chaparral, near water. Typical habitats include valley foothill hardwood, valley foothill hardwood-conifer, and in Southern California, as well as desert riparian, palm oasis, pinyon-juniper, and lower montane habitats.	No	Moderate	There is some suitable nesting habitat in oak woodland and chaparral; however, the project area lacks perennial water sources. This species was recorded in the vicinity[2] (SDNHM 2012b).
***Cathartes aura* Turkey vulture**	**None/None/ Group 1, MSCP**	**Rangeland, agriculture, grassland; uses cliffs and large trees for roosting, nesting, and resting throughout most of California during breeding season (2).**	**Observed**	**N/A**	**This species was observed (AECOM 2012b). Suitable open foraging habitat present on site. Suitable nesting habitat not available on site. This species was recorded in the vicinity[2] (SDNHM 2012b).**
Circus cyaneus Northern harrier (nesting)	None/SSC/ Group 1, MSCP	Open wetlands (nesting), pasture, old fields, dry uplands, grasslands, rangelands, coastal sage scrub. Resident of northeastern plateau and coastal area; less common resident in Central Valley. Breeds at marsh edge in shrubby vegetation in Central Valley and Sierra Nevada (0 to 5,577 feet), and northeastern California (up to 2,625 feet (2).	Observed	Low nesting potential; observed during non-nesting period	Documented southeast of the project area during 2011 surveys (AECOM 2012b). However, the species is only expected as a winter visitor in grassland habitat and the more open area of scrub and chaparral communities on site; based on lack of observations during the breeding season, this species probably is not breeding in the project area. This species was recorded in the vicinity[2] (SDNHM 2012b).

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Special-Status Wildlife Species Detected or Potentially Occurring in the Project Area

Scientific Name/ Common Name	Status (Federal/State/ County)[1]	Habitat Preferences/Requirements	Verified on Site (Direct/ Indirect Evidence)	Potential to Occur On Site	Factual Basis for Determination
Dendroica petechia brewsteri Yellow warbler	BCC/SCC/ Group 2, MSCP	Nests in lowland and foothill riparian woodlands; montane chaparral, open ponderosa pine, mixed conifer habitats up to 8202 feet; winters in a variety of habitats. Breeds from coast range in Del Norte County, east to Modoc plateau, south to Santa Barbara and Ventura Counties, and western slope of Sierra Nevada south to Kern County; also breeds in ranges in San Diego County (2).	No	Moderate	Mature riparian woodlands are not present on site. However, the species was documented southeast of the project area, south of I-8, during 2011 surveys (AECOM 2012b). Therefore, there is moderate potential for the species to move through and temporarily occupy the project area. This species was recorded in the vicinity[2] (SDNHM 2012b).
Eremophila alpestris actia California horned lark	None/WL/ Group 2, MSCP	Open habitats, grassland, rangeland, shortgrass prairie, montane meadows, coastal plains, fallow grain fields south of Humboldt County in Coast Ranges, in San Joaquin Valley, except extreme southern end (2, 4).	Observed	N/A	Scattered occurrences recorded primarily within montane buckwheat scrub with other observations in non-native grassland (AECOM 2012b). This species was also recorded in the vicinity[2] (SDNHM 2012b).
Falco columbarius Merlin (wintering)	None/WL/ Group 2	Coastlines, open grasslands, savannahs, woodlands, lakes, wetlands, montane hardwood-conifer habitats, ponderosa pine. Found throughout western half of state below 4,921 feet (1).	No	Moderate potential to occur during the winter	Suitable foraging habitat is present within the project area. However, the project area is outside the breeding range for this species (i.e., does not nest in California). This species was recorded in the vicinity[2] (SDNHM 2012b).

Table 1
Special-Status Wildlife Species Detected or Potentially Occurring in the Project Area

Scientific Name/ Common Name	Status (Federal/State/ County)[1]	Habitat Preferences/Requirements	Verified on Site (Direct/ Indirect Evidence)	Potential to Occur On Site	Factual Basis for Determination
Falco mexicanus Prairie falcon (nesting)	BCC/WL/ Group 1	Grassland, savannas, rangeland, agriculture, desert scrub, alpine meadows; nest on cliffs or bluffs. Southeastern deserts northwest through Central Valley and along inner Coast Ranges and Sierra Nevada (2).	Observed	Not expected to nest on site; High potential to forage on site	One occurrence recorded in semidesert chaparral habitat (AECOM 2012b). There is no suitable nesting habitat (i.e., cliffs or bluffs) in the project area; however, there is suitable foraging habitat. This species was recorded in the vicinity[2] (SDNHM 2012b).
Falco peregrinus anatum American peregrine falcon (nesting)	FD, BCC/SD, FP/Group 1	Nests in woodland, forest, coastal habitats along coast north of Santa Barbara and in Sierra Nevada, and other mountains of Northern California. Winters in Central Valley, and is found in other riparian area and coastal/inland wetlands (2).	No	Not expected to nest on site; Moderate potential to forage on site	Suitable foraging habitat is present within all of the project area. However, no suitable nesting cliffs are present in the project area.
Lanius ludovicianus Loggerhead shrike (nesting)	BCC/SSC/ Group 1, MSCP	Open habitats with scattered shrubs, trees, or other perches; highest density in open-canopied valley foothill hardwood, valley foothill hardwood-conifer, valley foothill riparian, pinyon-juniper, juniper, desert riparian, and Joshua tree habitats. Found in foothills and lowlands throughout California (2).	Observed	N/A	One occurrence recorded in semidesert chaparral habitat (AECOM 2012b). There is suitable nesting habitat in the project area. This species was recorded in the vicinity[2] (SDNHM 2012b).
Melanerpes lewis **Lewis' woodpecker**	**BCC/None/ Group 1**	**Open oak savannahs, broken deciduous, and coniferous habitats. Eastern slopes of Coast Ranges south to San Luis Obispo County; winters in Central Valley, Modoc Plateau, and Transverse and other ranges in Southern California. Breeds eastern slopes of Coast Ranges, Sierra Nevada, and Cascade Range (2).**	**No**	**Moderate potential to occur during migration or winter**	**Potentially suitable foraging and roosting habitats present. Breeding is not expected since this species is only found in San Diego County during migration and winter. This species was recorded in the vicinity[2] (SDNHM 2012b).**
Oreortyx pictus eremophila **Mountain quail**	**None/None/ Group 2**	**Dense montane chaparral and brushy area within coniferous forest, pinyon-juniper-yucca associations; uses shrubs, brush stands, and trees on steep slopes for cover in most major montane**	**No**	**Low to Moderate**	**Habitat typically used by this species is not present. However, mountain quail are found within the vicinity of the project area. This species was recorded**

Table 1
Special-Status Wildlife Species Detected or Potentially Occurring in the Project Area

Scientific Name/ Common Name	Status (Federal/State/ County)[1]	Habitat Preferences/Requirements	Verified on Site (Direct/ Indirect Evidence)	Potential to Occur On Site	Factual Basis for Determination
		habitats of the state (2).			**in the vicinity[2] (SDNHM 2012b) and can be locally abundant. Lack of detections during survey effort makes presence less likely.**
Parabuteo unicinctus Harris' Hawk (nesting)	None/WL/ None	River woods, mesquite, brush, and cactus deserts	No	Low potential to nest; Moderate potential to forage occasionally	This species was recorded in the vicinity[2] (SDNHM 2012b). A pair nested in McCain Valley, but has not been observed since 2002 (Unitt 2004). Other individuals are anecdotally observed in the vicinity during most recent years. There is suitable habitat in the project area.
Sialia mexicana Western bluebird	None/None/ Group 2	Open forests of deciduous, coniferous, or mixed trees; savanna, edges of riparian woodland. Common throughout California excluding higher mountains and eastern deserts (2).	No	High	Oak woodlands and non-native grassland on site provides suitable nesting and foraging habitat. This species was recorded in the vicinity[2] (SDNHM 2012b).
Tyto alba Barn owl	None/None/ Group 2	Open habitats including grassland, chaparral, riparian, and other wetlands throughout the state, 0 to 5,512 feet (2).	No	High	Suitable habitat is present within all of the project area.
Vireo vicinior Gray vireo (nesting)	BCC/SSC/ Group 1, MSCP	Summer resident in arid pinyon-juniper, juniper, and chamise-redshank chaparral habitats in mountains of Southern California, 1,969 to 6,562 feet (2).	No	Moderate	Suitable nesting habitat is present within all of the project area and it has moderate potential to nest on site. This species was recorded in the vicinity[2] (SDNHM 2012b).
Mammals					
Antrozous pallidus **Pallid bat**	**None/SSC/ Group 2, WBWG:H**	**Grasslands, shrublands, woodlands, forests; most common in open dry habitats with rocky outcrops for roosting. Found throughout low elevations of California, except for high Sierra Nevada and northwestern corner of the state south to Mendocino County (2).**	**No**	**Moderate**	**Potentially suitable foraging and roosting habitat (limited rock outcrops and oaks) present. The closest CNDDB occurrence record, from 2002, is located approximately 6.5 miles southeast of the project area (CDFG 2012d).**

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Scientific Name/ Common Name	Status (Federal/State/ County)[1]	Habitat Preferences/Requirements	Verified on Site (Direct/ Indirect Evidence)	Potential to Occur On Site	Factual Basis for Determination
Bassariscus astutus Ringtail	None/FP/ Group 2, MSCP	Mixed forests and shrublands near rocky area or riparian habitats. Forages near water and is seldom found more than .62 mile from a water source; it is widely distributed throughout California (2).	No	Moderate	Suitable habitat is present in the form of rock outcrops and trees, and water resources are present nearby. Usually not found more than 0.6 mile from permanent water (AECOM 2012). Nearest natural permanent water source approximately 0.75 mile from the eastern edge of the project area (Tule Lake), but there may be other man-made features present (e.g., cattle guzzlers). Suitable den sites present (rock outcrops and oak woodland). This species is not tracked in the CNDDB (CDFG 2011).
Chaetodipus californicus femoralis Dulzura (California) pocket mouse	None/SSC/ Group 2	Open habitat, coastal sage scrub, chaparral, oak woodland, chamise chaparral, mixed conifer habitats; disturbance specialist; 0 to 3,000 feet (7, 8).	No	High	Suitable habitat for this species exists within the oak woodland and chaparral habitats within the project area. The species has previously been documented 1 mile northwest of the project area (CDFG 2012d). However, this occurrence was recorded in 1958 (CDFG 2012d).
Chaetodipus fallax fallax Northwestern San Diego pocket mouse	None/SSC/ Group 2	Coastal sage scrub, grassland, sage scrub-grassland ecotones, sparse mixed and chamise chaparral; rocky and gravelly area with yucca overstory, 500 to 3,000 feet (3).	No	High	Suitable habitat present and within species range. The closest CNDDB occurrence record, from 2001, is located approximately 15 miles southeast of the project area (CDFG 2012d).
Chaetodipus fallax pallidus	None/SSC/ Group 2	Coastal scrub, mixed chaparral, sagebrush, desert wash, desert scrub, desert succulent shrub, pinyon-	No	Moderate	Suitable habitat is present within all of the project area. Project area is within

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Scientific Name/ Common Name	Status (Federal/State/ County)[1]	Habitat Preferences/Requirements	Verified on Site (Direct/ Indirect Evidence)	Potential to Occur On Site	Factual Basis for Determination
Pallid San Diego pocket mouse		**juniper, and annual grassland. Along southern margins of Mojave Desert, along northern slopes of San Bernardino Mountains, western edge of Colorado Desert, and south to Baja California (5).**			**potential range of both special-status subspecies C. f. fallax and C. f. pallidus, but latter is most likely to occur in the project area. The closest CNDDB records for this species, from 1938 and 2002, are located 8 to 10 miles southeast of the project area (CDFG 2012d).**
Choeronycteris mexicana Mexican long-tongued bat	None/SSC/ Group 2, WBWG: H	Desert and montane riparian, desert succulent scrub, desert scrub, and pinyon-juniper woodland. Roosts in caves, mines, and buildings. Summer resident in San Diego County (2).	No	High	Suitable foraging habitat is present within the project area. Potential roosting areas are within the mountains east of the project area. The closest CNDDB record, from 1996, is approximately 40 miles northwest of the project area (CDFG 2012d).
***Corynorhinus townsendii* Townsend's big-eared bat**	**None/SSC/ Group 2, MSCP, WBWG:H**	**Mesic habitats; gleans from brush or trees, or feeds along habitat edges. Found in all habitats but subalpine and alpine throughout California (2).**	**No**	**High**	**Suitable foraging habitat is present within the project area. Potential roosting areas are within the mountains east of the project area. There are two occurrence records, from 1998 and 2002, located approximately 11 miles northeast and northwest of the project area (CDFG 2012d).**
Euderma maculatum Spotted bat	None/SSC/ Group 2, WBWG:H	Foothills, mountains, desert regions of Southern California, including arid deserts, grasslands, and mixed conifer forests. Roosts in rock crevices and cliffs. Feeds over water and along washes (2).	No	High	Suitable foraging habitat is present within the project area. Potential roosting areas are within the mountains east of the project area. The closest occurrence data for this species, from 1955, is located approximately 57 miles northwest of the project area (CDFG 2012d).

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Scientific Name/ Common Name	Status (Federal/State/ County)[1]	Habitat Preferences/Requirements	Verified on Site (Direct/ Indirect Evidence)	Potential to Occur On Site	Factual Basis for Determination
Eumops perotis californicus Greater western mastiff bat	**None/SSC/ Group 2, MSCP, WBWG:H**	**Roosts in small colonies in cracks and small holes, seeming to prefer man-made structures. All subalpine and alpine habitats; 50 to 10,000 feet (3).**	**No**	**High**	**Suitable foraging habitat is present within the project area. Potential roosting areas are within the mountains east of the project area. There are three known occurrences records, from 1962, 2002, and 2003, within approximately 11 miles of the project area (CDFG 2012d). These occurrences are northeast and northwest of the project area (CDFG 2012d).**
Lasiurus blossevillii Western red bat	None/SSC/ Group 2, WBWG:H	Prefers edges with trees for roosting and open areas for foraging. Roosts in woodlands and forests. Forages over grasslands, shrublands, woodlands, forests, and croplands. Found south of Shasta County to Mexican border, and west of the Sierra Nevada/Cascade Crest. In winter, occupies coastal regions and lowlands south of San Francisco Bay (2).	No	High	Suitable foraging habitat is present within the project area. Potential roosting areas are within the mountains east of the project area. There are three known occurrences records, from 1962, 2002, and 2003, within approximately 11 miles of the project area (CDFG 2012d). These occurrences are northeast and northwest of the project area (CDFG 2012d).
Lasiurus cinereus Hoary bat	None/None/ WBWG: M	Prefers open habitats or habitat mosaics with access to trees for cover and open area or habitat edges for feeding.	No	High	Suitable foraging habitat is present within the project area. Potential roosting areas are located within the mountains east of the project area. The closest CNDDB occurrence, from 1998, is located approximately 11 miles northeast of the project area (CDFG 2012d).
Lepus californicus bennettii San Diego	**None/SSC/ Group 2, MSCP**	**Arid habitats with open ground; grasslands, coastal sage scrub, agriculture, disturbed area, and rangelands in Southern California (2, 4).**	**Observed**	**N/A**	**Numerous observations of this species were recorded within the project area, primarily within scrub and chaparral habitats (AECOM 2012b).**

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Scientific Name/ Common Name	Status (Federal/State/ County)[1]	Habitat Preferences/Requirements	Verified on Site (Direct/ Indirect Evidence)	Potential to Occur On Site	Factual Basis for Determination
black-tailed jackrabbit					
Macrotus californicus California leaf-nosed bat	None/SSC/ Group 2, WBWG:H	Desert riparian, desert wash, desert scrub, desert succulent shrub, alkali desert scrub, and palm oasis. Found from Riverside, Imperial, San Diego, and San Bernardino Counties, south to Mexican border; fairly common along parts of Colorado River, elevation approximately 1,969 feet (2).	No	High	Suitable foraging and roosting habitat is present within the project area. The closest CNDDB occurrence, from 1998, is located approximately 11 miles northeast of the project area (CDFG 2012d).
Neotoma lepida intermedia San Diego desert woodrat	None/SSC/ Group 2	Joshua tree, pinyon-juniper, mixed and chamise-redshank chaparral, sagebrush, and most desert habitats. Found south of San Luis Obispo County to San Diego County and San Bernardino and Riverside Counties, 0 to 8,530 feet (2, 4).	No	High	Presence of Neotoma sp. was observed within the project area in the form of woodrat middens. Suitable habitat for this species is present within scrub and chaparral habitats. The species has previously been documented at two locations approximately 2 miles north of the project area (CDFG 2012d).
***Nyctinomops femorosaccus* Pocketed free-tailed bat**	**None/SSC/ Group 2, WBWG:M**	**Rocky desert area with high cliffs or rock outcrops. Pinyon-juniper woodlands, desert scrub, desert succulent shrub, desert riparian, desert wash, alkali desert scrub, Joshua tree, palm oasis in Riverside, San Diego, and Imperial Counties (2).**	**No**	**Moderate**	**Suitable foraging and roosting habitat is present within the project area. The closest CNDDB occurrence, from 2003, is located approximately 10 miles northwest of the project area (CDFG 2012d).**
Nyctinomops macrotis Big free-tailed bat	None/SSC/ WBWG:MH, Group 2	Rugged, rocky canyons in Riverside, Los Angeles, and San Diego Counties, but scattered records across California to Oakland (2, 5).	No	High	Suitable foraging habitat is present within the project area. Potential roosting areas within the mountains east of the project area. The closest CNDDB occurrence, from 2002, is located approximately 15 miles northwest of the project area (CDFG 2012d).

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Odocoileus hemionus Mule deer	None/None/ Group 2	Coastal sage scrub, chaparral, riparian, woodlands, forest; often browses in open area adjacent to cover throughout California, except deserts and intensely farmed area (2).	Observed	N/A	Mule deer tracks were observed in the northeastern portion of the project area, along an access road in semi-desert chaparral habitat (AECOM 2012b). Suitable habitat occurs throughout the site.
Onychomys torridus ramona Southern grasshopper mouse	None/SSC/ Group 2, MSCP	Alkali desert scrub and other desert scrub habitats, sparse coastal scrub, especially with friable soils for digging in Mojave Desert and southern Central Valley (2).	No	Moderate	Suitable habitat for this species exists within non-native grassland, wildflower fields, scrub, and open chaparral habitats. The species has previously been documented less than 1 mile northwest of the project area; however, this occurrence is from 1958 (CDFG 2012d).
Puma [=Felis] concolor Mountain lion	None/None/ Group 2	Coastal sage scrub, chaparral, riparian, woodlands, forest; rests in rocky area, and on cliffs and ledges that provide cover. Most abundant in riparian area and brushy stages of most habitats throughout California except deserts (2).	No	High	Mountain lion scat was observed <1 mile southeast of the project area, south of I-8, during 2011 surveys (AECOM 2012b). Suitable habitat present on site.
Taxidea taxus American badger	None/SSC/ Group 2, MSCP	Dry, open, treeless area; grasslands and coastal sage scrub, especially with friable soils, throughout California (2).	No	Moderate	Potentially suitable habitat present. The closest CNDDB occurrence data for this species, from 1969, is located approximately 20 miles northeast of the project area (CDFG 2012d).

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Scientific Name/ Common Name	Status (Federal/State/ County)[1]	Habitat Preferences/Requirements	Verified on Site (Direct/ Indirect Evidence)	Potential to Occur On Site	Factual Basis for Determination
Invertebrates					
Danaus plexippus **Monarch butterfly (wintering sites)**	**None/None/ Group 2**	**Overwinters in eucalyptus groves from San Francisco south to northern Baja California (4).**	**Observed**	**Low potential for wintering sites, but high potential for individuals**	**Documented during 2011 focused Quino surveys, east of McCain Valley Road in scrub and chaparral habitats (AECOM 2012b). No suitable wintering groves of trees though.**

[1] **Status Designations:**

Federal

BCC	U.S. Fish and Wildlife Service: Birds of Conservation Concern
FC	Candidate for federal listing as threatened or endangered
(FD)	Federally delisted; monitored for five years
FE	Federally listed Endangered
FT	Federally listed as Threatened
WBWG:	H Western Bat Working Group: High Priority
WBWG:	LM Western Bat Working Group: Low-Medium Priority
WBWG:	M Western Bat Working Group: Medium Priority
WBWG:	MH Western Bat Working Group: Medium-High Priority

State Designations:

SSC	California Special Concern Species
FP	California Department of Fish and Game Fully Protected Species
WL	California Department of Fish and Game Watch List Species
SE	State listed as Endangered
ST	State listed as Threatened

County Designations:

MSCP	Draft East County MSCP covered species

References

Nafis 2012
Zeiner et al. 1988, 1990a–b
SDNHM 2012c
NatureServe 2012
CDFG 2012d

Notes:

[2]Vicinity refers to the Live Oak Springs, Campo, Tierra del Sol, Jacumba, Mount Laguna, Sweeny Pass, Cameron Corners, and Sombrero Peak USGS 7.5 minute quadrangles.

Bold indicates species that were identified in the County's Pre-Application Summary Letter (County 2011).

APPENDIX I

Special-Status Wildlife Species Not Expected or Rarely Occurring in the Project Area

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Special-Status Wildlife Species Not Expected or Rarely Occurring in the Project Area

Table 1
Special-Status Wildlife Species Not Expected or Rarely Occurring in the Project Area

Scientific Name/ Common Name	Status (Federal/State/ County)[1]	Habitat Preferences/Requirements	Verified on Site (Direct/ Indirect Evidence)	Potential to Occur On Site	Factual Basis for Determination
Amphibians					
Anaxyrus [=Bufo microscaphus] californicus Arroyo toad	FE/SSC/ Group 1, MSCP	Washes, arroyos, sandy riverbanks, and riparian area with willows, sycamores, oaks, cottonwoods. Requires exposed sandy streamsides with stable terraces to burrow with scattered vegetation and calm pools with sandy/gravel bottoms for breeding. Found west of desert in coastal area from upper Salinas River in San Luis Obispo County to northwestern Baja California, sea level to 2,653 feet (1).	No	Very low	Not observed during surveys. Arroyo toads are not known from this area and have not been documented in the Live Oak Springs quadrangle (CDFG 2012a). The project area lacks suitable habitat for this species. In addition, focused arroyo toad surveys on the nearby Tule site were negative. The closest USFWS occurrence is approximately 12 miles south of the project area (USFWS 2012b). The closest CNDDB location is approximately 11 miles northwest of the project area (CDFG 2012d).
Taricha torosa torosa Coast Range newt (Monterey Co. south only)	None/SSC/ Group 2, MSCP	Valley-foothill hardwood, valley-foothill hardwood-conifer, coastal scrub, mixed chaparral, annual grassland, mixed conifer; in Southern California inhabits drier chaparral, oak woodland, and grasslands. Found along Coast Ranges south of Monterey County to northern San Diego County, Peninsular Ranges south to Boulder Creek, Sierra Nevada foothills, Shasta Reservoir, Central Valley floor, 0 to 6,006 feet (1, 2).	No	Low	Although suitable habitat is present within the project area, its known range is west of the project area (Nafis 2012). The closest CNDDB record for this species is from 2001 and is located approximately 27 miles northwest of the project area (CDFG 2012d).
Reptiles					
Coleonyx switaki *Barefoot gecko*	None/ST/ Group 2, MSCP	Arid rocky area at the heads of canyons with large boulders and rock outcrops, sparse vegetation. Found on arid desert slopes of eastern side of Peninsular Ranges near Borrego Springs, south to Baja California. Isolated population found in Coyote Mountains of Imperial County. Elevations 0 to 2,297 feet (1, 2).	No.	Very Low	The project lacks suitable habitat and is outside of known elevation range. Not observed during surveys; no CNDDB records within Live Oak Springs quadrangle (CDFG 2012a). The closest record for this species is located approximately 11 miles east of the

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Scientific Name/ Common Name	Status (Federal/State/ County)[1]	Habitat Preferences/Requirements	Verified on Site (Direct/ Indirect Evidence)	Potential to Occur On Site	Factual Basis for Determination
					project area and was recorded in 1976 (CDFG 2012d).
Lampropeltis zonata pulchra (San Diego population) San Diego mountain kingsnake	FSS/SSC/ Group 2, MSCP	Valley-foothill hardwood, hardwood-conifer, mixed and montane chaparral, valley-foothill riparian, coniferous forests, wet meadows in central San Diego County Peninsular Ranges: Laguna, Palomar, Volcan, and Hot Springs Mountains, Santa Ana Mountains, and in Hollywood Hills and Santa Monica Mountains, 0 to 6,499 feet (1).	No	Low	While there is some suitable habitat in the denser chaparral and woodlands, this species is typically found at higher elevations, where denser and moister woodland and forests occur. This species is not recorded in the Live Oak Springs quadrangle (CDFG 2012a). The closest CNNDB record, from 1982, is located approximately 13 miles northwest of the project area (CDFG 2012d).
Phrynosoma mcallii Flat-tailed horned lizard	BLMS/SSC/ Group 1, MSCP	Fine sand and sparse vegetation in desert washes and desert flats. It is probably most abundant in area of creosote bush and is found in desert scrub, wash, succulent shrub, and alkali scrub habitats. Common in area with high density of harvester ants and fine windblown sand; rarely occurs on dunes. Found in central Riverside, eastern San Diego and Imperial Counties, 0 to 590 feet (1, 2).	No	Very Low	This species is found in desert habitats and the project area is outside of this species' elevation range. The closest CNDDB occurrence record, from 1912, is located approximately 6 miles northeast of the project area (CDFG 2012d).
***Sceloporus graciosus vanderburgianis* Southern sagebrush lizard**	**None/None/ Group 2**	**Montane chaparral, manzanita, ceanothus; open pine and Douglas fir forests in mountains; found in area with scattered low bushes, abundant sun. Transverse and Peninsular Ranges of Southern California, Sierra San Pedro Mártir of northern Baja California, 4,498 to 9,599 feet (1).**	**No**	**Very Low**	**Species typically found at higher elevations (4,500 to 9,600 feet).**
Thamnophis sirtalis ssp. South Coast garter snake	None/SSC/ Group 2	Streams, creeks, pools, streams with rocky beds, ponds, lakes, vernal pools. Coastal plain from Ventura to San Diego Counties, 0 to 2,789 feet (2).	No	Low	Marginal suitable habitat is present; however, this subspecies is not known to occur in the region. The closest CNDDB occurrence record, from 2001, is located approximately 45 miles northwest of the project area (CDFG 2012d).

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Birds					
Accipiter striatus **Sharp-shinned hawk (nesting)**	**None/WL/ Group 1**	**Nests in coniferous forests, ponderosa pine, black oak, riparian deciduous, mixed conifer, Jeffrey pine; winters in lowland woodlands and other habitats. Common migrant and winter resident throughout California. Probably breeds south in Coast Ranges and at scattered locations in Transverse and Peninsular Ranges (2).**	**No**	**Very low potential to nest; High potential to occur during the winter**	**Potentially suitable foraging habitat present. Species does not breed in San Diego County; considered an uncommon winter visitor. This species was recorded in the vicinity[2] (SDNHM 2012b).**
Ammodramus savannarum Grasshopper sparrow	None/SSC/ Group 1, MSCP	Dry, dense grasslands, especially with a variety of grasses and tall forbs, scattered shrubs for singing perches. Summer resident and breeder in foothills and lowlands west of Cascade–Sierra Nevada Crest from Mendocino and Trinity Counties south to San Diego County. In Southern California, occurs on hillsides and mesas in coastal area, breeds up to 4,921 feet (2).	No	Low	The breeding and winter records for grasshopper sparrow are concentrated along the coastal ranges. Winter records are very rare in eastern San Diego County (Unitt 2004). Although there is suitable grassland habitat within the project area, it is unlikely to occur. This species was recorded in the vicinity[2] (SDNHM 2012b).
Anas strepera Gadwall	None/None/ Group 2	Interior valleys, wetlands, ponds, and streams. Feeds and rests in freshwater lacustrine and emergent habitats, and to a lesser extent, estuarine and saline emergent habitats, and nests in nearby herbaceous and cropland habitats. Common in Central Valley and less common in Coast Range foothills of Central and Southern California. Locally common in Imperial Valley and along Colorado River, October to March. Breeds on northeastern plateau and east of Sierra Nevada (2).	No	Low	No potential to nest. Lack of suitable habitat within the project area. This species was recorded in the vicinity[2] (SDNHM 2012b).
Asio flammeus Short-eared owl (nesting)	None/SSC/ Group 2	Open area with few trees, such as grasslands, prairies, dunes, meadows, irrigated lands, and saline and fresh emergent wetlands. Breeds in coastal area	No	Low	Although some suitable habitat is present within all of the project area, the project area is outside of the typical winter range for this

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Scientific Name/ Common Name	Status (Federal/State/ County)[1]	Habitat Preferences/Requirements	Verified on Site (Direct/ Indirect Evidence)	Potential to Occur On Site	Factual Basis for Determination
		in Del Norte and Humboldt Counties, San Francisco Bay Delta, northeastern Modoc plateau, east side of Sierra from Lake Tahoe south to Inyo County, and San Joaquin Valley. Uncommon winter migrant in Southern California, and widespread during winter in Central Valley and coastline (2).			species, where it occurs near the coastline (Zeiner et al. 1990a), and it was not recorded in the vicinity[2] (SDNHM 2012b).
Aythya americana Redhead	None/SSC/ Group 2	Lacustrine waters, foothills and coastal lowlands, and along the coast and Colorado River. Nests in fresh emergent wetland bordering open water. Found south of Modoc County to Mono County, Central Valley, Monterey County south to Ventura County; breeds in Central Valley, eastern Kern County, coastal Southern California, and Salton Sea (2).	No	Not expected	This species was recorded in the vicinity[2] (SDNHM 2012b); however, the project area lacks suitable nesting and open water required by this species.
Butorides virescens Green heron	None/None/ Group 2	Nests and roosts in valley foothill and desert riparian habitats; feeds in fresh emergent wetland, lacustrine, slow-moving riverine habitats. Resident in foothills and lowlands throughout California; common August to March in southern coastal ranges, in summer along Colorado River, and found all year at Salton Sea (2).	No	Not expected	Lack of suitable freshwater habitat. May use the marginal habitat within portions of the project area as stopover or during the winter. This species was recorded in the vicinity[2] (SDNHM 2012b).
Chaetura vauxi Vaux's Swift (nesting)	None/SSC/ None	Breeds in Northern California in redwood and Douglas fir habitats; prefers hollow tree cavities for nest sites. Migrant throughout state, and irregular winter resident in Southern California (2).	No	Low potential to winter	This species does not nest in Southern California, but it was recorded in the vicinity[2] (SDNHM 2012b) and has low potential to use the site during migration or winter.
Elanus leucurus White-tailed kite (nesting)	None/FP/ Group 1, MSCP	Open grasslands, savanna-like habitats, agriculture, wetlands, oak woodlands, riparian, herbaceous and open stages of most habitats in cismontane California, near agricultural area. Found in coastal and valley lowlands of California (2).	No	Low	Project location is generally too high and nesting habitat marginal. This species was recorded in the vicinity[2] (SDNHM 2012b).

Table 1
Special-Status Wildlife Species Not Expected or Rarely Occurring in the Project Area

Scientific Name/ Common Name	Status (Federal/State/ County)[1]	Habitat Preferences/Requirements	Verified on Site (Direct/ Indirect Evidence)	Potential to Occur On Site	Factual Basis for Determination
Empidonax traillii Willow Flycatcher	BCC/SE/ None	Inhabits extensive thickets of low, dense willows on edge of wet meadows, ponds, or backwaters; 2,000 to 8,000 feet in elevation.	No	Not expected	This species was recorded in the vicinity[2] (SDNHM 2012b); however, there is no suitable habitat in the project area and this species is not expected to occur.
Falco peregrinus anatum American peregrine falcon (nesting)	FD, BCC/SD, FP/Group 1	Nests in woodland, forest, coastal habitats along coast north of Santa Barbara and in Sierra Nevada, and other mountains of Northern California. Winters in Central Valley and is found in other riparian area and coastal/inland wetlands (2).	No	Not expected to nest on site; Moderate potential to forage on site	Suitable foraging habitat is present within all of the project area. However, no suitable nesting cliffs are present in the project area.
Haliaeetus leucocephalus Bald Eagle (nesting and wintering)	FD, BCC/SE, FP/Group 1	Large bodies of water and flowing rivers with abundant fish, with adjacent snags or other perches; breeds in Northern California and is found during winter at few locations throughout Southern California (2).	No	Not expected	There are very few winter records for this species in the vicinity (Unitt 2004), and there are no lakes in the project area. This species is not expected to occur. This species was recorded in the vicinity[2] (SDNHM 2012b).
Larus californicus California gull (nesting colony)	None/WL/ Group 2	Along the coast: sandy beaches, mudflats, rocky intertidal and pelagic area of marine and estuarine habitats, fresh and saline emergent wetlands. Inland: lacustrine, riverine, and cropland habitats; landfill dumps; and open lawns in cities. Nests in alkali and freshwater lacustrine habitats; adults roost along shorelines, landfills, pastures, and on islands. Nest along northeastern plateau region and at Mono Lake (2).	No	Not expected	There are no bodies of water or landfills to host this species on site. A migrant could pass over the site, but it is unlikely that it would stop.

Table 1
Special-Status Wildlife Species Not Expected or Rarely Occurring in the Project Area

Scientific Name/ Common Name	Status (Federal/State/ County)[1]	Habitat Preferences/Requirements	Verified on Site (Direct/ Indirect Evidence)	Potential to Occur On Site	Factual Basis for Determination
Numenius americanus Long-billed Curlew (non-breeding)	BCC/WL/ Group 2	Nests in upland shortgrass prairies and wet meadows in northeast California; winters in coastal estuaries, open grasslands and croplands along California coast, and in Central and Imperial Valleys (2).	No	Not expected	This species was recorded in the vicinity[2] (SDNHM 2012b); however, there are very few winter records (Unitt 2004), and this species is more commonly found along the coast.
Pandion haliaetus Osprey	None/WL/ Group 1	Large waters (lakes, reservoirs, rivers) supporting fish; usually near forest habitats (primarily ponderosa pine through mixed conifer), but widely observed along the coast. Breeds from Cascade Ranges south to Lake Tahoe and along the northwest coast. Uncommon breeder along southern Colorado River. Uncommon along coast of Southern California (2).	No	Not expected	This species was recorded in the vicinity[2] (SDNHM 2012b); however, it is not expected to occur in the project area due to lack of suitable foraging and nesting habitat.
Phalacrocorax auritus Double-crested Cormorant	None/None/ Group 2	Lakes, rivers, reservoirs, estuaries, ocean; nests in tall trees, rock ledges on cliffs, rugged slopes. Resident along coast and inland waters. Common August to May at Salton Sea and Colorado River reservoirs; also found south of San Luis Obispo County and Central Valley (2).	No	Not expected	This species was recorded in the vicinity[2] (SDNHM 2012b); however, there is no suitable habitat in the project area.
Piranga rubra Summer tanager (nesting)	None/SSC/ Group 2	Nests in desert riparian woodland dominated by cottonwoods and willows; winter habitats include parks and residential area. Found along lower Colorado River and locally in Southern California deserts (2).	No	Very low	Lack of suitable habitat within the project area and outside of the recorded breeding range for this species. This species was recorded in the vicinity[2] (SDNHM 2012b).
Plegadis chihi White-faced ibis	None/WL/ Group 1	Nests in marsh; winter foraging in shallow lacustrine waters, muddy ground of wet meadows, marshes, ponds, lakes, rivers, flooded fields, and estuaries. Uncommon summer resident in areas of Southern California (esp. Salton Sea area); rare visitor to Central Valley (2).	No	Not expected; no nesting habitat	This species was recorded in the vicinity[2] (SDNHM 2012b).

Table 1
Special-Status Wildlife Species Not Expected or Rarely Occurring in the Project Area

Scientific Name/ Common Name	Status (Federal/State/ County)[1]	Habitat Preferences/Requirements	Verified on Site (Direct/ Indirect Evidence)	Potential to Occur On Site	Factual Basis for Determination
Progne subis Purple martin (nesting)	None/SSC/ Group 1, MSCP	Nests in tall sycamores, pines, oak woodlands, and coniferous forest; forages over riparian, forest, and woodland. Found throughout the state in wooded, low-elevation habitats. Rare and local breeder in the south in mountain ranges and along the coast (2).	No	Not expected	Habitat typical for supporting this species is not present on site. Individuals could be detected during migration, but there is low potential for that. This species was recorded in the vicinity[2] (SDNHM 2012b).
Pyrocephalus rubinus Vermilion flycatcher (nesting)	None/SSC/ Group 1, MSCP	Nesters inhabit cottonwood, willow, mesquite, and other vegetation in desert riparian habitat adjacent to irrigated fields, irrigation ditches, pastures, and other open, mesic areas in isolated patches. Found along Colorado River, especially near Blythe, Riverside County (2).	No	Low	There is limited riparian habitat in the project area and no confirmed breeding in the area (Unitt 2004). This species was recorded in the vicinity[2] (SDNHM 2012b).
Selasphorus sasin Allen's hummingbird (nesting)	BCC/None/ None	Breeds most commonly in coastal scrub, valley foothill hardwood, and valley foothill riparian habitats, but also common in closed-cone pine-cypress, urban, and redwood habitats. Occurs in a variety of woodland and scrub habitats as a migrant.	No	Low nesting potential; High potential to occur during migration	Potential to occur during migration. Not known to breed in project area. This species was recorded in the vicinity[2] (SDNHM 2012b).
Strix occidentalis occidentalis California spotted owl		Dense, old-growth, multi-layered mixed conifer, redwood and Douglas-fir habitats in northern California; oak and oak-conifer habitats in southern California; 0 to 7,546 feet (2).		Not expected	No suitable habitat and this species is recorded nesting at higher elevations (Unitt 2004).This species was recorded in the vicinity[2] (SDNHM 2012b).
Toxostoma lecontei Le Conte's thrasher	BCC/SSC/ Group 2, MSCP	Open desert wash, creosote scrub, alkali desert scrub, desert succulent scrub.	No	Not expected	No suitable habitat. Occurs in desert habitats at lower elevations. This species was recorded in the vicinity[2] (SDNHM 2012b).
Vireo bellii pusillus Least Bell's vireo	FE, WLBCC/ SE/ Group 1, MSCP	Willows and low, dense valley foothill riparian habitat and lower portions of canyons; along western edge of deserts in desert riparian habitat, 0 to 1,969 feet.	No	Not expected	USFWS occurrence data approximately 8 miles north of project area (USFWS 2012b). The full species (V. bellii) was recorded in the vicinity[2]

Table 1
Special-Status Wildlife Species Not Expected or Rarely Occurring in the Project Area

Scientific Name/ Common Name	Status (Federal/State/ County)[1]	Habitat Preferences/Requirements	Verified on Site (Direct/ Indirect Evidence)	Potential to Occur On Site	Factual Basis for Determination
(nesting)		Found in San Benito and Monterey Counties, and coastal Southern California from Santa Barbara County south (2).			(SDNHM 2012b), but the project area lacks suitable habitat for this species, and it is not expected to occur.
Xanthocephalus xanthocephalus Yellow-headed blackbird (nesting)	None/ SSC/ MSCP	Nests in freshwater emergent wetlands with dense vegetation and deep water; often along the borders of lakes or ponds.	No	Very Low	This species was not observed during surveys, and the project area probably doesn't flood enough to support nesting habitat. This species was recorded in the vicinity[2] (SDNHM 2012b). Observed nesting at Tule Lake in 2000 (Unitt 2004).
Mammals					
Lasiurus xanthinus Western yellow bat	None/SSC/ WBWG: H	Desert and montane riparian, desert succulent scrub, desert scrub, and pinyon-juniper woodland.	No.	Not expected	This species is found in desert habitats, and the project area does not support suitable habitat. The closest CNDDB occurrence, from 1998, is located approximately 11 miles northeast of the project area (CDFG 2012d).
***Myotis ciliolabrum* Small-footed myotis**	**None/None/ Group 2, WBWG:M**	**Deserts, chaparral, riparian zones, western coniferous forest; most common above pinyon-juniper forest. Roost in caves, old mines, abandoned buildings (3).**	**No**	**Low**	**Potentially suitable foraging and habitat present, though site is lower than typical. The closest CNDDB occurrence, from 2003, is located approximately 11 miles northwest of the project area (CDFG 2012d).**
***Myotis evotis* Long-eared myotis**	**None/None/ Group 2, WBWG:M**	**Roosts in buildings, crevices, under bark, and snags. Caves are used as night roosts. Feeds along habitat edges, in open habitats, and over water. Occurs primarily along entire coast and in Sierra Nevada, Cascades, Great Basin, and 0 to 8,858 feet (2).**	**No**	**Low**	**Potentially suitable foraging and roosting habitat present, although not typical range. The closest CNDDB occurrence, from 2003, is located approximately 11 miles northwest of the project area (CDFG 2012d).**

Table 1
Special-Status Wildlife Species Not Expected or Rarely Occurring in the Project Area

Scientific Name/ Common Name	Status (Federal/State/ County)[1]	Habitat Preferences/Requirements	Verified on Site (Direct/ Indirect Evidence)	Potential to Occur On Site	Factual Basis for Determination
Myotis thysanodes Fringed myotis	None/None/ Group 2, WBWG:H	Pinyon-juniper, valley foothill hardwood, hardwood-conifer habitats. Roosts in caves, mines, buildings, or crevices. Forges over open habitats, early successional stages, streams, lakes, and ponds. Found throughout California except Central Valley and Colorado and Mojave Deserts (2).	No	Low	Potentially suitable foraging habitat present, although not typical habitat. There are two known occurrences, from 2002 and 2003, located approximately 15 miles northwest of the project area (CDFG 2012d).
Myotis volans Long-legged myotis	None/None/ Group 2, WBWG:H	Occupies woodland and forest habitats over 3,937 feet. Feeds over open water and over open habitats such as chaparral and coastal scrub, using denser woodlands and forests for cover and reproduction. Roosts in rock crevices, buildings, under tree bark, in snags, mines, caves. Found in coastal ranges, Cascade/Sierra Nevada ranges, Great Basin, and ranges in Mojave Desert (2).	No	Not expected	Suitable habitat is not present, and the project area is below the elevation range for this species. The closest CNDDB occurrence, from 1998, is located approximately 11 miles northeast of the project area (CDFG 2012d).
Myotis yumanensis Yuma myotis	None/None/, Group 2, WBWG:LM	Closely tied to open water, which is used for foraging; open forests and woodlands are optimal habitat throughout California, 0 to 10,827 feet (2).	No	Low	Potentially suitable foraging habitat present, but no open water. The closest CNDDB occurrence, from 2003, is located approximately 11 miles northwest of the project area (CDFG 2012d).
Ovis canadensis nelsoni Peninsular bighorn sheep	FE/ST, FP/ Group 1, MSCP	Alpine dwarf-shrub, low sage, sagebrush, bitterbrush, pinyon-juniper, palm oasis, desert riparian, desert succulent shrub, desert scrub, subalpine conifer, perennial grassland, montane chaparral, and montane riparian from San Jacinto and Santa Rosa Ranges south to Mexico (2).	No.	Not expected	There are no suitable western-ranging open rocky mountain areas within or adjacent to the project area to support these species. The project area is located approximately 1.5 mile west of federal critical habitat for this species, and the closest CNDDB occurrence data is approximately 67 miles northeast (USFWS 2012, CDFG 2012d).

Table 1
Special-Status Wildlife Species Not Expected or Rarely Occurring in the Project Area

Scientific Name/ Common Name	Status (Federal/State/ County)[1]	Habitat Preferences/Requirements	Verified on Site (Direct/ Indirect Evidence)	Potential to Occur On Site	Factual Basis for Determination
Perognathus longimembris internationalis Jacumba pocket mouse	None/SSC/ Group 2, MSCP	Desert riparian, desert scrub, desert wash, coastal scrub, and sagebrush in San Diego and Riverside Counties (2, 5).	No	Low	Suitable habitat is present within all of the project area. The closest CNDDB occurrence record is from 1993 and is located approximately 32 miles northwest of the project area (CDFG 2012d). Probably south of their range.
Invertebrates					
Branchinecta sandiegonensis San Diego fairy shrimp	FE/None/ Group 1	Small, shallow vernal pools, occasionally ditches and road ruts.	No	Low	Some potential to occur due to presence of ponded water. However, the area is east of their known range, and the soils do not support typical natural vernal pool topography or botanical species. The nearest USFWS and CNDDB occurrence is approximately 30 miles southwest of the project area (USFWS 2012b; CDFG 2012d).
***Euphydryas editha quino* Quino checkerspot butterfly**	**FE/None/ Group 1, MSCP**	**Sparsely vegetated hilltops, ridgelines, occasionally rocky outcrops; host plant Plantago erecta and nectar plants must be present, San Diego and Riverside Counties (4).**	**No**	**Low**	**Although two potential Quino host plant species (dark-tip bird's beak [*Cordylanthus rigidus*] and southern Chinese houses [*Collinsia concolor*]) were found in the project area, Quino was not detected during 2011 protocol-level focused surveys (AECOM 2012c). The nearest USFWS occurrence is located approximately 2.5 miles southwest of the project area (USFWS 2012b). This species was also observed approximately 6 miles north of the project area during surveys for the Tule Wind Project (HDR 2010).**
Lycaena hermes Hermes copper butterfly	None/None/ Group 1, MSCP	Coastal sage scrub, southern mixed chaparral supporting at least 5% cover of host plant Rhamnus crocea. Adults visit Eriogonum fasciculatum and Helianthus gracilentus. On well-drained hillsides and	No	Very low	Low potential based on location, and Rhamnus crocea was not documented on site. The two closest CNDDB occurrences for this species, from 2004 and 2008, are located approximately 21

Table 1
Special-Status Wildlife Species Not Expected or Rarely Occurring in the Project Area

Scientific Name/ Common Name	Status (Federal/State/ County)[1]	Habitat Preferences/Requirements	Verified on Site (Direct/ Indirect Evidence)	Potential to Occur On Site	Factual Basis for Determination
		canyon bottoms, coastal San Diego Co. south to Santo Tomas, Baja California (4).			miles northwest of the project area (CDFG 2012d).
Papilio multicaudata Two-tailed swallowtail	None/None/ Group 1	Semi-arid canyon land, mid-level mountains, canyon bottoms; groves, parks, roadsides (4).	No	Low	Suitable habitat is present within all of the project area. However, this species was not detected during 2011 butterfly surveys (AECOM 2012c).
Streptocephalus woottoni Riverside fairy shrimp	FE/None/ Group 1	Deep, long-lived vernal pools, vernal pool-like seasonal ponds, stock ponds; warm water pools that have low to moderate dissolved solids.	No	Low potential	Marginal suitable habitat in the form of occasional standing water pools, although these are atypical and no vernal pool formations occur. Site is outside of known range for species. The nearest USFWS and CNDDB occurrence is located approximately 38 miles southwest of the project area (USFWS 2012b and CDFG 2012d).

[1] **Status Designations:**

Federal

BCC	U.S. Fish and Wildlife Service: Birds of Conservation Concern
FC	Candidate for federal listing as threatened or endangered
(FD)	Federally delisted; monitored for 5 years
FE	Federally listed Endangered
FT	Federally listed as Threatened
WBWG:	H Western Bat Working Group: High Priority
WBWG:	LM Western Bat Working Group: Low-Medium Priority
WBWG:	M Western Bat Working Group: Medium Priority
WBWG:	MH Western Bat Working Group: Medium-High Priority

State Designations:

SSC	California Special Concern Species
FP	California Department of Fish and Game Fully Protected Species
WL	California Department of Fish and Game Watch List Species
SE	State listed as Endangered
ST	State listed as Threatened

County Designations:

MSCP	Draft East County MSCP covered species

References

Nafis 2012
Zeiner et al. 1988, 1990–a-b
SDNHM 2012c
NatureServe 2012
CDFG 2012d.

Notes:

[2]Vicinity refers to the Live Oak Springs, Campo, Tierra del Sol, Jacumba, Mount Laguna, Sweeny Pass, Cameron Corners, and Sombrero Peak USGS 7.5 minute quadrangles.

Bold species indicate species that were identified in the County's Pre-Application Summary Letter (County 2011)

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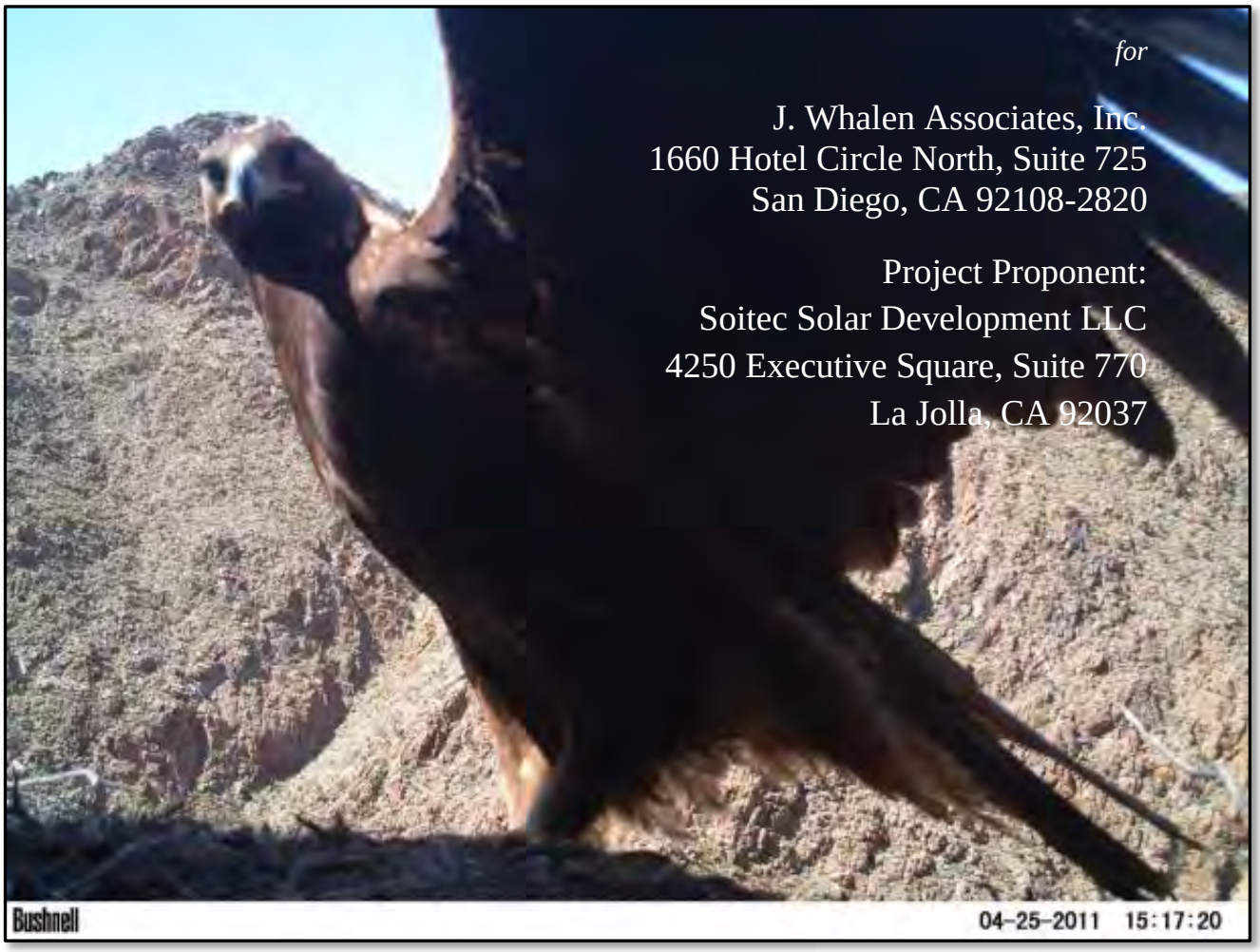
APPENDIX J

Golden Eagles and the Rugged LLC, LanEast LLC, LanWest LLC, and Tierra del Sol Solar Farm LLC Projects in San Diego County, California

Final Report

Golden Eagles and the Rugged LLC, LanEast LLC, LanWest LLC and Tierra del Sol Solar Farm LLC Projects in San Diego County, California



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April 11, 2013

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CONFIDENTIALITY STATEMENT

The Wildlife Research Institute, Inc. (WRI) cares deeply about the fate of the population of golden eagles in San Diego County. That is why this report is marked "Confidential." Documentation of the reported territories is part of the WRI research database on golden eagles that includes data for the longest studied golden eagle population in the Western Hemisphere.

Golden eagles are a top predator and survive today only by nesting in remote, inaccessible places where they are subject to minimal human disturbance. Currently, new green energy projects are being proposed for areas that were formerly considered remote and inaccessible by most people. New roads that facilitate frequent access will further challenge the eagles in the future. Golden eagles often have to flee from humans if they are to survive; they are most sensitive to the presence of humans around their nest sites. The presence of humans within 400 meters (quarter mile) of a nesting pair imposes significant impacts on several aspects of golden eagle nesting behavior, and a distance of 800 meters (half mile) may still be insufficient to safeguard some nests from disturbance (Steidl *et al.* 1993). Golden eagles exhibit greater sensitivity to pedestrian stimuli compared to other raptors by flushing when pedestrian stimuli are at farther distances than the trigger distances of other raptors (Holmes *et al.* 1993). Therefore, releasing the enclosed information to the public or to persons who might use the information to visit the nests for climbing, photography or curiosity could cause the nest to fail during breeding season.

Human disturbance is one of the main factors negatively affecting golden eagles. WRI offers this report with detailed information about golden eagles and their nest sites for the sole purpose of protecting existing or potential breeding pairs from human-derived encroachment and development in and near these golden eagle territories. We hope and trust that the agencies and developers that use and share this information will be sensitive to the confidential nature of the following data and work toward the common goal of protecting golden eagles near Rugged LLC, LanEast LLC, LanWest LLC and Tierra del Sol Solar Farm LLC Project Areas and elsewhere.

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GOLDEN EAGLE INFORMATION

Generally, habitat changes in Southern California have been dramatic over time due to extensive urbanization (Bittner and Oakley 1998). The clear and compelling evidence is that man has caused a 55% reduction in the San Diego County golden eagle population since the 1800s, as the population has dropped from 104 breeding pairs in the late 1800s to 47 breeding pairs in 2011 (Bittner *et al.* 2011). A reduction of over 41% has been documented in this population over the last 61 years and the rate has increased 3-fold in the last 15 years from 0.5% per year to 1.5% per year (Bittner *et al.* 2011). Golden eagles' behaviors and their ability to survive and produce young, factors that contribute to the overall success of the species itself, are being directly affected. Habitat losses are increasing throughout the Western United States, and associated pressures on golden eagle populations are expected to increase if human activity and development continue to increase (Good *et al.* 2007).

In general, tolerance of human activity is not being adopted by the eagles, and the effects of the incompatibility are distinct. There is an inverse correlation between land development and golden eagle productivity, one that is not isolated to San Diego County or California (WRI unpub. data). Clear spatial overlaps were identified between new forests and abandoned golden eagle territories in Scotland (Whitfield *et al.* 2007). Prey abundance is one of the primary factors supporting the reproductive success of raptors, and available foraging habitat is one of the contributing factors that encourage overall health of golden eagles (Newton 1979, Krebs *et al.* 2001). The golden eagle is a meaningful umbrella species and their success, or lack thereof, reflects the health of many other species that occupy the same territories but are often harder to monitor. When we lose golden eagles, the reason is often that we are degrading the habitat to such a great extent that we are also affecting hundreds of other species.

WRI research of golden eagles via satellite telemetry indicates the constraining effects human encroachment is having on golden eagles in their territories. Golden eagle flight paths tracked by satellite are distributed to areas void of human disturbance, areas that are becoming less and less available with increases in development. Territories that are becoming formally listed as extirpated are most commonly due to human impact within territorial or foraging boundaries. There is the possibility that gradual and strategically-timed introduction of human activity may potentially desensitize wildlife, namely golden eagles, conditioning them to tolerate disturbance (WRI unpublished data). However, ensuring that lands used by golden eagles for foraging and nesting remain unaltered is the most effective way to avoid extirpation. This report is an attempt to recognize the significance of historical and current golden eagle activity in and around the Rugged LLC, LanEast LLC, LanWest LLC and Tierra del Sol Solar Farm LLC Project Areas.

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EXECUTIVE SUMMARY

WRI documented an extirpated golden eagle territory, referred to by WRI as the [redacted] golden eagle territory, [redacted] the project footprint. All other golden eagle territories in this report lie outside of or partially overlap the [redacted] buffer recommended by San Diego County for nest site disturbance on the [redacted] of the project footprint.

[redacted] golden eagle territory has been monitored consistently by WRI since 1990. Historical records at [redacted] date back to 1920. Photos were taken of the [redacted] golden eagles in 1920 by John Colton. Prior to his death, John Colton communicated details and data about this territory to John Oakley and Dave Bittner. Numerous other biologists and the Bureau of Land Management (BLM), who manage the land on which the eagles nest, have also recognized the longevity of the [redacted] territory. In the 1990s, WRI reported to the BLM that shooting at the [redacted] by target shooters was killing nesting golden eagles. The BLM shut off the [redacted] to shooting in 1995 and began closer monitoring. This stopped the [redacted]. However, [redacted] activity has increased over the past 15 years and the Department of Homeland Security now has a great deal of activity on [redacted] that may now be a contributing factor in the failed attempts of this pair to nest and raise young. Although the pair continues to be seen on territory, production of young at [redacted] has been negligible since 1997.

The golden eagle territory in [redacted] (historically known as [redacted]) is a well-established territory also with a long history of activity. Golden eagles were seen in [redacted] by WRI volunteers in 1990 and the first nest site documented by WRI volunteer, Randy West, was occupied by a single young golden eagle chick in 1994. Data for [redacted] are limited due to [redacted] of the core nesting area, which is [redacted]. However, most nests found by WRI since the initial documentation of the [redacted] have revealed the likelihood of a long history of activity and occupancy far beyond the scope of the oldest available recorded data. Recently, golden eagles in [redacted] produced chicks in 2011 and 2012, and WRI has documented nesting activity within this territory recently via remote, motion-activated nest cameras.

[redacted] golden eagle territory is [redacted] of the project. This pair has been sporadically productive over the years of observation. Human disturbance and nest cliff instability have been factors documented by WRI. In at least two separate years, mortality of young eagles while still in the nest has been an issue impacting this pair's productivity.

Additionally, WRI research identified a pair of breeding golden eagles, [redacted]. This pair may

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forage near or within the proposed project area for Tierra del Sol Solar Farm LLC. [redacted].

The cumulative project area is identified by WRI as a potential golden eagle flyway. Straight trajectory paths between GPS points collected via satellite telemetry estimate flight paths of golden eagles that fledged from other territories in San Diego County that are not adjacent to the cumulative project footprint. Six individual golden eagles' estimated flight paths were documented via satellite telemetry over the cumulative project footprint from 2007-2012; [redacted] flight paths were estimated over the Rugged LLC project area, [redacted] over the LanEast LLC project area, [redacted] over the LanWest LLC project area and [redacted] over the Tierra del Sol Solar Farm LLC project area. Flight paths of [redacted] golden eagles were estimated via satellite telemetry to have traversed over multiple project areas and [redacted] golden eagles were documented flying within the Rugged LLC [redacted] zone as well as just outside of the project area by WRI ground observers.

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BACKGROUND

In 1987, a group of eight biologists gathered at the home of Dan Brimm to discuss the obvious decline of the golden eagle population in San Diego County. Tom Scott and John Oakley were among those eight. In subsequent years, efforts turned to fully documenting the entire San Diego population after an initial survey of old golden eagle nest sites to determine if they were extirpated or active. The Golden Eagle Project, co-directed by Dave Bittner and John Oakley, funded mainly by Dave Bittner and maintained purely by volunteer efforts, became active in this undertaking in 1988 and subsequently, in 1992, assumed full responsibility for the project. As many as 50 volunteers and biologists each year have helped observe, document and band nesting pairs of golden eagles in San Diego and neighboring counties. In 1996, the Wildlife Research Institute, Inc. became incorporated as a self-funded, non-profit research institute and further expanded the Golden Eagle Project's study of the San Diego golden eagle population.

WRI has spent a great deal of effort training volunteers and new biologists extensively because identifying golden eagles is not an innate or common skill. Training is accomplished by taking each individual into the field with one or more of our experienced Golden Eagle Biologists numerous times during their first year. Most new WRI biologists also undergo an intensive 4-week training regimen during golden eagle migration in Montana. All WRI volunteers sign a non-disclosure agreement that binds them to not reveal any of the information they obtain from our work. This is to protect the information and prevent disturbance of golden eagle nest sites.

WRI has gained copious insight about behavioral adaptations exhibited by golden eagles. WRI Senior Biologist and Executive Director, Dave Bittner, has over 48 years of research experience with golden eagles and WRI staff have been studying San Diego's golden eagle population including [redacted] for over 24 years. Thousands of hours of ground and aerial surveys have allowed WRI to anticipate certain circumstances from which outcomes can be extrapolated. Furthermore, interpretation of data collected using satellite and VHF transmitter technology has provided WRI with information on the flight and nesting behavior of golden eagles of all ages; data that can be compared to the terrain, weather patterns and areas of development. Data from satellite transmitters have demonstrated a broad picture of flight patterns adopted by golden eagles that can be generalized at least across the local population.

WRI's research of San Diego County's golden eagles has incorporated present-day analysis of data collected historically and more recently. Data from field observations and historical egg collections (Dixon 1937*)* help estimate productivity (ability to produce young) and activity within each territory. Data from James Dixon's 41-year study in the early 1900s and Tom Scott's analysis in the early 1980s (Scott 1985) have allowed WRI biologists to accurately determine the decline in the breeding golden eagle population of Northwestern San Diego County. These data were subsequently compiled with research performed by WRI for the most comprehensive dataset available for golden eagles in San Diego County.

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Objectives of This Report

1. To provide information necessary for understanding significant historical and current golden eagle activity near Rugged LLC, LanEast LLC, LanWest LLC and Tierra del Sol Solar Farm LLC Project Areas.
2. To provide a statement of facts that can be used to identify impacts and mitigation strategies to better manage golden eagle activity near Rugged LLC, LanEast LLC, LanWest LLC and Tierra del Sol Solar Farm LLC Project Areas.
3. Identify any constraints on the project due to golden eagle use within the buffered landscape.

Objectives of WRI's Long-Term Study of Golden Eagles

1. To document past and present golden eagle nests and their territories.
2. To provide documentation on the primary foraging areas that may be critical to the success of future golden eagle pairs.
3. To monitor, over successive years, the use of nesting territories, cliffs, trees, etc., that may be central to territories and their success.
4. To monitor and document the pairs of golden eagles, their life history, and other data that may help evaluate the future success, or lack thereof, of the species in San Diego County and environs.
5. To track, with bands and telemetry, as many golden eagles as possible to determine movements, migration, pair exchanges and feeding areas for each pair.
6. To provide baseline data for city, county, state, federal and private land planners to help evaluate the merit of construction permitting in certain areas.
7. To provide statements of facts that will assist in mitigating land development that might destroy nesting territories in the future.
8. To document the level of adaptation of golden eagles to human encroachment so that eagles can be saved before the entire population, or a significant portion, of golden eagles in San Diego County become extirpated.
9. To determine by regular documentation the fledging success of golden eagles over time and the varying weather conditions that affect that success.
10. To determine golden eagle nesting history by documenting chronological information over extended time periods.
11. To determine the effects of major fires on the golden eagle; both short and long term.

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METHODS

Historical Data

Historical information for [redacted] territories comes from a compilation of museum records made by oologists who collected and traded eggs dating back to the late 1800s. Historical data was also collected from the Western Museum of Vertebrate Zoology, Los Angeles, California and university researchers and educators with an interest in eagles. WRI also interviewed some of the few remaining egg collectors (now deceased) and their young assistants who did the climbing into the nests. Most of the personal interviews were about nests and eggs collected from 1895 to the 1940s. John Oakley, Professor Emeritus, met and spoke with J. B. Dixon, a well-known egg collector, who collected golden eagle eggs from 1895 to 1936, and also spoke with and befriended several of the young assistants. Dave Bittner and John Oakley also met with Ray Quigley, who donated many of his records to WRI upon his death. John Oakley started studying golden eagles in San Diego County in the 1930s and has been associated with WRI's golden eagle research efforts since 1988. Contributors on record from private collections pertaining to the territories in question include early egg collectors and researchers like Randy West (volunteer and falconer), Tom Scott (professor and eagle researcher in the late 1970s and early 1980s), John Oakley (professor and eagle researcher from the 1930s thru 2012), Ray Quigley and many others. WRI has an established team of Golden Eagle Biologists and volunteer observers that has been active since 1988; WRI's ongoing golden eagle studies have been added to the above-mentioned historical records to assemble the most comprehensive database of golden eagle data in San Diego County, California.

Ground Surveys

Ground observations highlight behaviors otherwise missed during the short duration of an aerial survey of a single nest. Ground surveys provided an opportunity to make observations in a territory for long durations to gain information about the feeding areas and habits of golden eagles. Data from these types of surveys allowed WRI to infer what types of activities could disrupt incubation and/or disturb the adults. WRI observers spent approximately 4 hours in each territory on each visit. Observers visited a core nest area once a week until they could confirm incubation and, later, hatching and fledging. All flight paths of the eagles observed were documented and transcribed onto a map.

Field surveys were conducted from December through May of each year of study. Ground observers used at least 8x42-zoom binoculars and 20x60-zoom scopes to make observations. WRI's protocol disallows making ground observations that require approaching a golden eagle nest any closer than half a mile during incubation or the first 4 weeks after hatching. All eagle bandings are scheduled when the eagles are at least 5 weeks and before 8 weeks of age.

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Data

The following data are specifically collected and are on file at WRI. Hand-drawn maps documenting flight paths, nests and perched eagles accompany datasets pertaining to golden eagle observations:

- Species and quantity observed
- Number of nests/alternative nests observed
- Condition of each nest, if possible, and whether or not it was active
- Nest aspect and elevation
- Approximate nest GPS coordinates and azimuth from observation point
- Nest substrate (cliff, transmission tower, etc.)
- Age class of golden eagles and other species observed, if determinable
- Behavior of species observed.

<u>Aerial Surveys</u>

WRI began using helicopters to supplement ground surveys in 1996 to determine the productivity of golden eagles in California. Using helicopters allowed nest site areas to be checked efficiently and allowed our biologists a unique vantage point from which new nests may be located that would most likely be missed from a ground position. Furthermore, due to the unobstructed downward view into the nests, we could document the age and number of young that facilitated the scheduling of subsequent banding and helped document nesting success. Twenty to thirty territories can be surveyed in a day from a helicopter, whereas a comparable survey via ground would take a month or more and could produce less exact nesting and productivity data.

Our methods have been adopted by the US Fish and Wildlife Service (USFWS) and integrated into the USFWS Interim Golden Eagle Guidance for surveying golden eagle territories (Pagel *et al.* 2010). WRI utilizes aerial survey opportunities via helicopter and pays out-of-pocket to add onto contracted routes in an effort to obtain information via aerial surveys on territories that exist but are not part of a specific project outline. Hughes 500 helicopters are used for these surveys because they are safe, small, stable and very maneuverable. Their stability allows a close approach (to within 20 to 30 meters of the cliff side) thereby making counts of young or eggs possible using stabilizing binoculars and high resolution, digital cameras equipped with long-focal-length, optically-stabilized lenses. These photos allow us to maintain an efficient 10- to 20-second hover period at each nest and to subsequently evaluate the details, such as nest contents, age of young and any other information, more carefully once we return to headquarters.

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WRI data support golden eagles' indifference to helicopters. Most eagles will stand or sit in the nest undeterred from their usual behavior of preening or feeding. In over 700 golden eagle nests we have checked with a helicopter, we have flushed only one adult eagle off young and never off eggs. However, the eagle that flushed with a 4-week old chick in its nest may not have flown as a result of the helicopter, but may have coincidentally been ready to depart as we approached. We have actually observed adult eagles flying under the hovering helicopter and landing on their nest to deliver food or sticks to the nest while we documented activity and took pictures of the young. Similar results with helicopters have been documented at over 500 nest visits by other golden eagle researchers such as Carol McIntyre of Alaska, Mike Kochert of Idaho and in a recent focused study (Grubb *et al.* 2010, Kochert *et al.* 2007, McIntyre 2006). While monitoring golden eagles during the construction of a power line in 2011, WRI documented 24 helicopter flights within 30 minutes immediately above a golden eagle that was perched within 300 feet of its nest. The eagle only took brief glances in the direction of the helicopters as they first appeared in its field of vision then immediately resumed looking about its territory. In contrast, a person on foot within 400 meters (quarter mile) of a nesting pair imposes significant impacts on several aspects of golden eagle nesting behavior, and a distance of 800 meters (half mile) may still be insufficient to safeguard some nests from disturbance by pedestrians (Steidl *et al.* 1993).

According to the USFWS guidance (Pagel *et al*. 2010), all nest sites within a breeding territory are deemed occupied while raptors are demonstrating pair bonding activities and developing affinity to a given area. A golden eagle territory may be determined to be "active" (or more specifically "occupied") for the current breeding season if either of the following observations is made: (1) one or both of a golden eagle pair is explicitly observed demonstrating pair bonding activity, such as nest building or courtship behavior (deemed active with confirmed occupancy) or (2) if *evidence* of pair bonding activities is observed, such as observing a decorated nest, (deemed active with implied occupancy). A golden eagle territory is determined to be inactive if occupancy or breeding cannot be confirmed. This occurs if no pair bonding or evidence of nest building is observed for the current breeding season during the surveys. Territories that are inactive may subsequently become active again; golden eagles sometimes take a year or two hiatus from breeding and may continue to occupy the territory even in the absence of breeding.

Based on experience, WRI protocol requires that five years pass from the last recorded breeding and/or sighting of the bonded pair or single adult eagle on the territory in order to make the determination that the territory is "extirpated." Two examples depict why we wait at least five years: first, the [redacted] golden eagle pair in San Diego, California, which hadn't successfully raised a single young in 11 years (1997 to 2008) due to constant human disturbance by climbers and hikers during breeding season, remained on territory and in 2008 began to breed again. This may have been a result of fires opening up additional foraging habitat which supported reproduction, but coincided more directly with climbing and hiking restrictions in the area. In this case, the [redacted] pair had to rely on a change in habitat and a change in

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human behavior to compensate for imposed human disturbance. Second, the [redacted] golden eagle territory, also in San Diego County, was listed as extirpated in 2005 and became active in 2007 when the [redacted] pair subsumed the [redacted] nest and foraging area. This shift to [redacted] was a result of continuous disturbance by illegal immigrants within the core nesting territory at [redacted] and the loss of a breeding bird due to electrocution. The net result was a reactivation of one territory and the loss of another.

Aerial survey routes were recorded and reported using a GPS system. During the surveys, significant incidental wildlife are recorded and reported including other sensitive species (i.e., peregrine falcons, prairie falcons, bighorn sheep). Golden eagle nests and their associated territories were documented. The activity status of all golden eagle nests were defined during the survey, if possible, and/or confirmed later upon review of photographs. Even in the absence of incubating females, observations of nest decoration such as fresh yucca or leafy green branches, as well as new nest sticks built into and above old nest material helped assess activity at the nest site for the current breeding season.

We surveyed previously documented core nesting areas and looked for new and/or alternate nest sites by concentrating on any area with suitable golden eagle nesting habitat. Nesting substrate included cliffs with geological features such as flat ledges or shallow cavities/caves that could allow for safe nest construction and that were high enough to provide protection from ground-dwelling predators. Cliffs were approached by helicopter systematically from the front and surveys were flown at speeds of approximately 20 to 30 knots; hovering near a specific nest site was periodically required to collect specific nest details or take photographs but usually did not exceed 10 to 20 seconds. Golden eagle nests can also be found with trees as the substrate. Tree-nesting golden eagles were harder to find because a good view of the substrate was often blocked by foliage. Therefore tree nesting areas were surveyed with a greater amount of helicopter time and supplemental ground surveys to determine the core nesting area. Helicopter surveys early in the nesting season would sometimes identify activity areas by direct observation of the adults sitting on dead trees or other open perch sites. This perch behavior is part of establishing and selecting a suitable nesting site; further detailed examination of the area generally revealed the actual nest.

Survey

Aerial surveys have been conducted in various years for [redacted] golden eagle territories. The most recent initial Phase 1 occupancy surveys in [redacted] golden eagle territories were conducted on February 22, 2012, with follow up Phase 2 productivity surveys conducted on April 24, 2012. [redacted] was surveyed in 2010 by air and 2012 via ground. Surveys were conducted for the target species, golden eagle, and other raptor species. We used a Hughes-500 helicopter for the aerial surveys that provided seating for 3 Wildlife Biologists (including at least 2 Golden Eagle Biologists) and the pilot. Observer 1 (front right seat) was a Golden Eagle

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Biologist who served as the primary observer for the right side of the helicopter as well as the navigator for the survey, observer 2 (back left seat) was a Golden Eagle Biologist who served as the primary observer for the left side of the helicopter and observer 3 (back right seat) was the primary note taker and secondary observer for the right side of the helicopter. The pilot used by WRI for these surveys also had extensive experience flying mountainous habitat for golden eagles and other cliff-dwelling raptors; the pilot was not responsible for survey observations.

GPS

Nest site and other location-specific data were determined and documented using hand-held GPS units (Garmin Map60GSx). A sequential number was assigned to each observation that corresponded to the GPS waypoint. Waypoints were recorded using the UTM grid in the NAD 83 Datum. GPS were also used to track our survey routes. Handwritten notes were taken on field forms that documented species, detailed observations and corresponding GPS waypoints.

Photography

Photographs were taken with Nikon equipment with GPS units attached so that latitude and longitude could be automatically recorded on each digital picture. Two high-resolution cameras were used; one for recording wide-angle shots (18-200mm optically-stabilized zoom lens) and another for recording close-ups (200-400mm optically-stabilized zoom lens). The 400mm zoom lens plus the ability to enlarge the digital photographs allowed accurate and detailed records to be captured with minimal disturbance to wildlife. This was also important because it allowed for thorough review and confirmation of our observations later in an environment that was more stable than the cockpit of a helicopter.

Data

We photographed all active golden eagle nests, some other raptor nests, representations of numerous inactive golden eagle nest sites and significant other wildlife species observed. The following data were also specifically collected and are on file at WRI:

- Species and quantity observed
- Number of nests/alternative nests observed
- Condition of each nest and whether or not it was active
- Nest aspect and elevation
- Nest GPS coordinates represented by a corresponding waypoint number
- Nest substrate (cliff, transmission tower, etc.)
- Age class of golden eagles and other species observed, if determinable
- Behavior of species observed.

It should be noted that red-tailed hawks in particular, as well as other raptors such as prairie falcons, sometimes utilize golden eagle nests for their own nesting. During surveys, these nests

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were attributed to the current occupant (i.e., hawk or falcon), however the original nest builder (i.e., golden eagle) is recorded in the "Notes" section of the transect data sheet. These old golden eagle nests, when viewed along with more current nests, often help define the history and core nesting area/territory of a particular pair of eagles and were therefore included in the total count of golden eagle nests for the surveys.

Satellite Telemetry

WRI has affixed 22 satellite transmitters to golden eagles since 2007 in Southern California (model type: PTT-100, 70 gram unit from Microwave Telemetry, Inc.). The units were all attached via Teflon© ribbon harness backpack mount prepared and applied by WRI biologists. Marking/ telemetry was applied to nestlings in the nest via bio-climbing, whereas trapping of hatch-year, sub-adults and adults was via bow nets baited with live (vest-protected) pigeons or carcasses.

Return data were analyzed regularly and prepared via Google Earth Pro and ArcGIS and provided a spatial display of general flight paths by connecting GPS data points. Data were also analyzed for behavioral analysis. The data fields provided the location, and the time and date of a golden eagle at a given location, which could then be compared to topographical terrain maps, other golden eagle flight paths and behaviors, as well as development project sites in order to achieve all objectives.

GPS location data were the only explicit data recorded via satellite telemetry, whereas the flight paths displayed on the maps that follow were generalized as a straight trajectory represented by a straight line between two successive GPS points.

Data

- GPS coordinates
- Date
- Time
- Altitude
- Speed
- Course

Nest Cameras

Golden eagle nests at [redacted] were affixed with motion-triggered remote field cameras (Bushnell Trophy Camera Camo, Model # 119446) by WRI biologists in 2012. Cameras were placed near the nests in the summer or fall, prior to nesting, and the cards

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were retrieved after fledging. Photographs were reviewed and behaviors and activity were analyzed by WRI biologists upon retrieval of the memory cards.

Data

- Photograph
- Date
- Time
- Temperature
- Photograph number

Constraints

Data were limited for some years when no observations were recorded. Funding resources and/or limited personnel yielded missed opportunities for data collection by WRI. Historical data were a compilation of personal collections, museum records and personal communications and were often not researched systematically on an annual basis.

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RESULTS

Although site-specific studies have not been conducted for any projects in the cumulative project area of Rugged LLC, LanEast LLC, LanWest LLC and Tierra del Sol Solar Farm LLC Project Areas, WRI has conducted aerial and ground surveys in neighboring areas since 1988 and aerial surveys since 1996 (Figure 2). WRI's Senior Golden Eagle Biologists have used this accumulated data to create a best estimate of the breeding territories of golden eagles in the area surrounding Rugged LLC, LanEast LLC, LanWest LLC and Tierra del Sol Solar Farm LLC Project Areas. The 4,000-foot buffer for nest site disturbance recommended by San Diego County was used as the criteria for determining potential impacts. The cumulative footprint of all project areas is located in an historical golden eagle territory that is currently extirpated and no current breeding or adult eagles are using this extirpated territory. WRI biologists have confirmed recent golden eagle breeding activity in [redacted] territories surrounding the cumulative project footprint, [redacted] (Figure 1).

Figure 1. Estimated Golden Eagle Territory Outlines* near the Rugged LLC, LanEast LLC, LanWest LLC and Tierra del Sol Solar Farm LLC Project Areas

WRI biologists observed 2 golden eagles flying between the [redacted] of Rugged LLC Project Area and its [redacted] on April 5, 2011, from 13:31 to 13:42 PST. On the same day from 13:47 to 13:56 PST, 1 golden eagle was observed flying from the [redacted] (Figure 3). Although some assumptions can be made, neither physical markings nor tracking equipment were observed distinguishing the identity of the golden eagles, therefore it cannot be confirmed that they were the same individual golden eagles seen on both occasions.

[redacted] golden eagles from territories within San Diego County have transmitted GPS points near the project areas as documented via WRI satellite telemetry (Figure 4). The exact flight paths between each bird's GPS locations are unknown; however the short time duration between points and the altitude recordings (averaging 1000 meters above ground level [AGL]) suggest trajectories roughly consistent with that displayed in Figure 4. One of these 6 eagles still returns active data and continues to be tracked by WRI's ongoing satellite telemetry research team on a regular basis.

[redacted]

[redacted] Golden Eagle Territory

WRI collected data pertaining to the nesting golden eagles on [redacted] per personal communications with Randy West, a falconer and WRI volunteer since 1988 and a lifetime resident of Boulevard, CA. Randy West is the only living biologist that remembers active breeding golden eagles in the [redacted] territory. He toured the territory with Dave Bittner in 1992 and identified locations of his observations of golden eagles and their nests. One nest, above [redacted] still exists but is active with breeding red-tailed hawks.

[redacted] Golden Eagle Territory

WRI collected data pertaining to the nesting golden eagles on [redacted] from 1990 to 2012 via ground and/or aerial surveys (Table 2).

Figure 6. [redacted] Golden Eagle Productivity as a Function of Number of Young Produced Each Year (1990-2012).

* Data included only for confirmed numbers of young; gaps in data represent years for which number of young was unconfirmed.

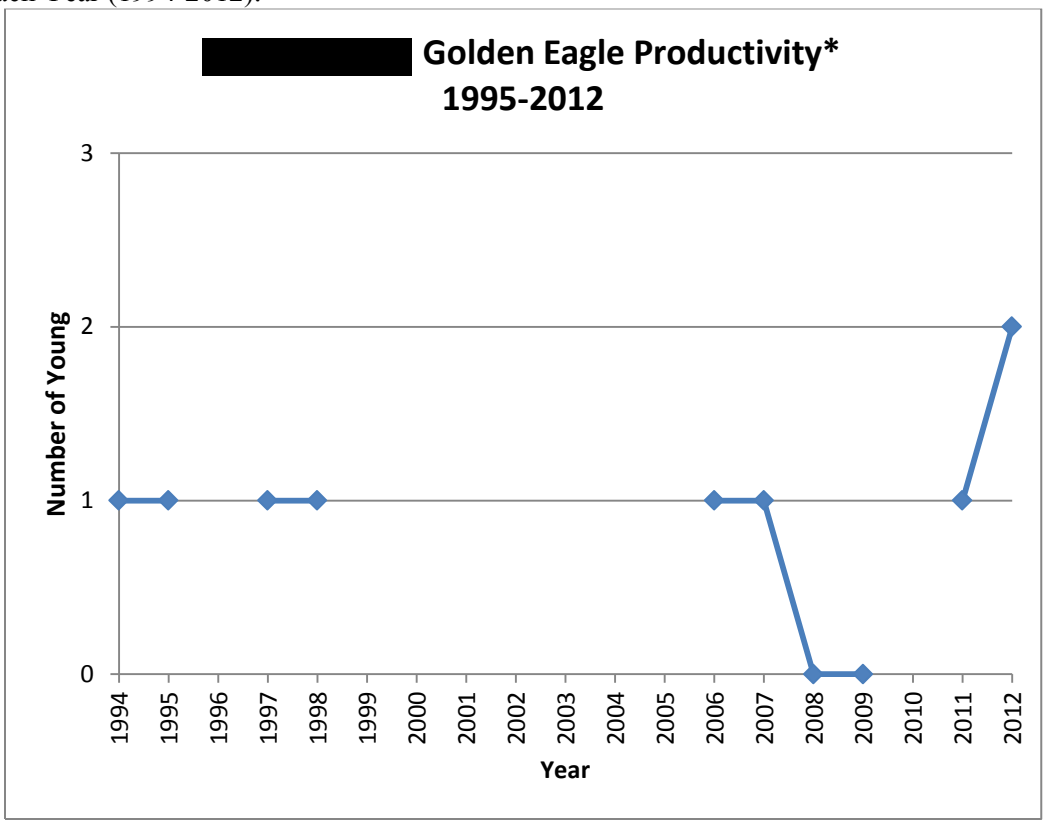
Table 3. Frequency of Confirmed Number of Golden Eagle Young Produced at [redacted] Golden Eagle Territory (1990-2012).

Number of Young in a Year	Frequency of Number of Young
0	11
1	7
2	2
Total	**20**

[redacted] Golden Eagle Territory

WRI collected data pertaining to the nesting golden eagles in [redacted] from 1994 to 2012 via ground and/or aerial surveys (Table 4).

Figure 8. [redacted] Golden Eagle Productivity as a Function of Number of Young Produced Each Year (1994-2012).



* Data included only for confirmed numbers of young; gaps in data represent years for which number of young was unconfirmed.

Table 5. Frequency of Confirmed Number of Golden Eagle Young Produced at [redacted] Golden Eagle Territory (1994-2012).

Number of Young in a Year	Frequency of Number of Young
0	2
1	4
2	1
Total	**7**

[redacted] Golden Eagle Territory

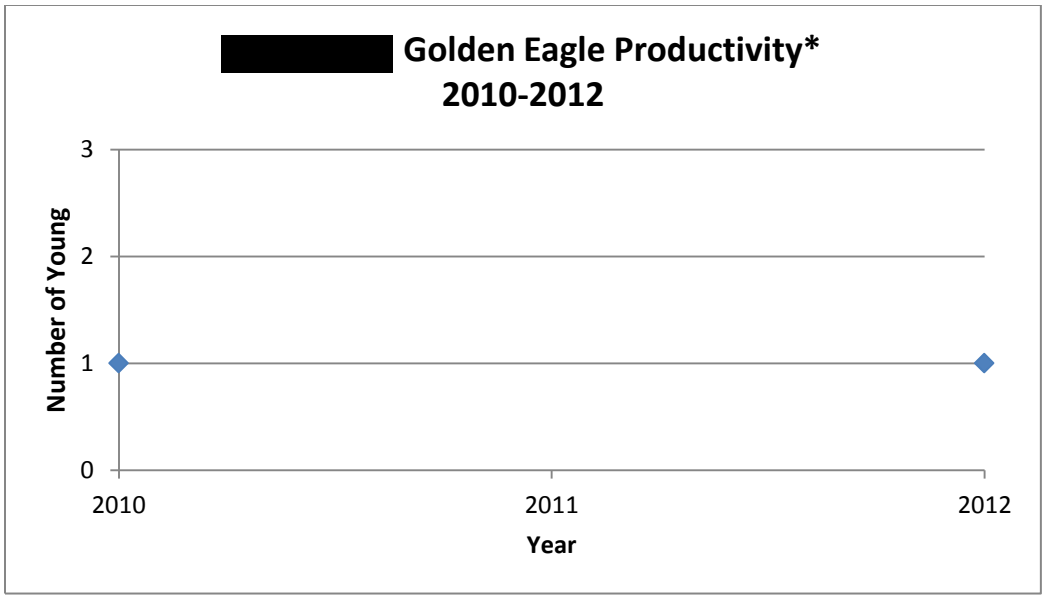
WRI collected data pertaining to the nesting golden eagles in [redacted] from 2010 to 2012 via aerial surveys (Table 6).

[redacted]

[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	
[redacted]	[redacted]	[redacted]

ND=No data.

Figure 10. [redacted] Golden Eagle Productivity as a Function of Number of Young Produced Each Year (2010-2012).



* Data included only for confirmed numbers of young; gaps in data represent years for which number of young was unconfirmed.

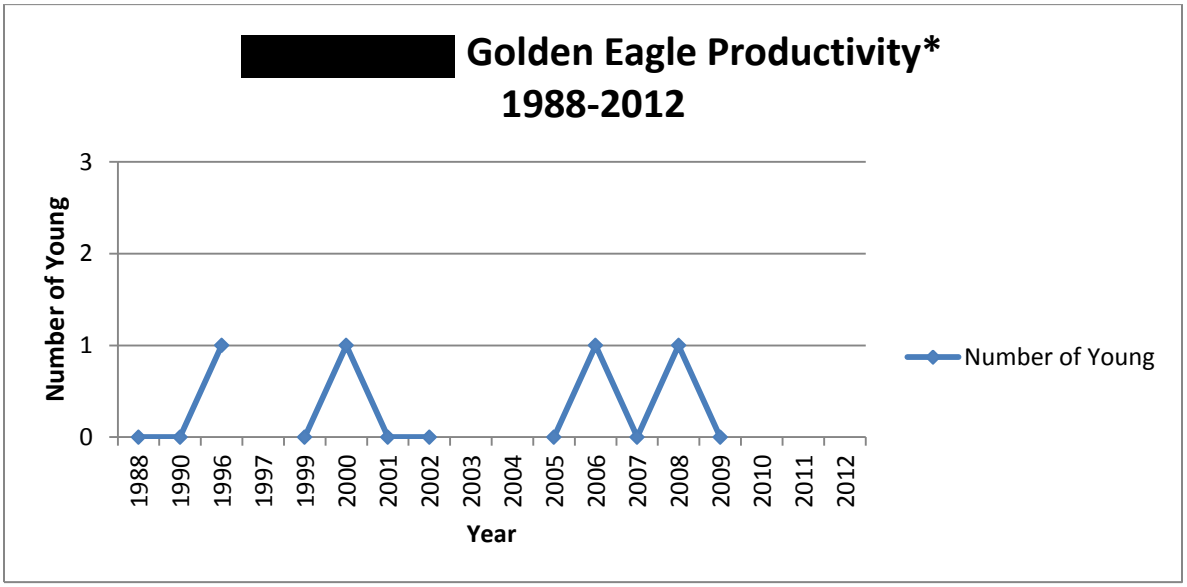
Table 7. Frequency of Confirmed Number of Golden Eagle Young Produced at [redacted] Golden Eagle Territory (2010-2012).

Number of Young in a Year	Frequency of Number of Young
1	2
Total	**2**

[redacted] Golden Eagle Territory

WRI collected data pertaining to the nesting golden eagles in [redacted] from 1988 to 2012 via ground and/or aerial surveys (Table 8).

Figure 11. [redacted] Golden Eagle Productivity as a Function of Number of Young Produced Each Year (1988-2012).



* Data included only for confirmed numbers of young; gaps in data represent years for which number of young was unconfirmed.

Table 9. Frequency of Confirmed Number of Golden Eagle Young Produced at [redacted] Golden Eagle Territory (1988-2012).

Number of Young in a Year	Frequency of Number of Young
0	7
1	4
Total	**11**

DISCUSSION

Based on historical data and the results of WRI research in Southern California over the past 25 years, several golden eagle pairs have changed territory usage as human activity and development encroached on their established territories. Golden eagles are more likely than other grassland raptors to flush from their nests due to human disturbance (Holmes *et al.* 1993). After a single instance of disturbance by humans, golden eagles will return to their nests after people leave the area, but their return might be in vain if the weather is cool or rainy because the eggs will have been chilled or the young will have died from exposure or predation, often by ravens or red-tailed hawks. Given the incredible investment of time and energy that is required to successfully produce even one young, disturbance is a serious impact on the eagle population.

Nature also plays a role in impacting golden eagle populations. The [redacted] pair raised young almost every year from 1990 to 1996 (Table 2). The [redacted] pair raised young almost every year from 1994 to 1998 (Table 4). However, reproduction has been much lower for both territories since the ongoing drought that started in 1998. This is consistent with all other desert-associated golden eagle breeding pairs. Along the desert margins and within the desert habitat of San Diego County, territories have been established by [redacted] of golden eagles. Since 1998, only one or two of these [redacted] have successfully fledged young each year. This likely coincides with low jackrabbit populations, a dietary component that desert-nesting eagles depend upon for feeding young; golden eagle reproduction was documented as being limited by black-tailed jackrabbit scarcity during a 23-year study (Kochert *et al.* 2007).

The cumulative project area is located in a potential golden eagle flyway zone, especially for golden eagles in territories established in [redacted]. Years of research shows that eagles move great distances in a very short period of time (Bittner *et al.* 2011). Results from WRI's satellite telemetry research documented [redacted] individual golden eagles flying near all project areas with estimated flight paths within every project's 4,000-ft buffer zone (Figure 4). For example, golden eagles tracked via satellite telemetry with GPS locations on either side of Tierra del Sol Solar Farm LLC with altitudes recorded 1000 meters AGL indicate the golden eagles were in transit when in that area. Golden eagles equipped with telemetry are a small sample size of the local population; many other unmarked golden eagles could have traversed the area near or within project areas. Therefore we cannot say with certainty that eagles do not use the area around or within the project footprint although there are other nearby open areas in addition to those apportioned for Rugged LLC, LanEast LLC, LanWest LLC or Tierra del Sol Solar Farm LLC that are suitable for golden eagle foraging activity. For example, WRI has been observing adult and juvenile golden eagles foraging in the open valley and oak grassland savannah areas around [redacted], California, for many years. In their current states, the project areas would not be conducive to good eagle foraging, however one fire would open it up and create a suitable golden eagle foraging habitat from 2 years to at least up to 8 years post fire. Work involving road access construction for solar panel placement might also open up hunting territory. These are

unknowns but need to be considered when evaluating the overall potential impacts to golden eagles.

Over the past three years, WRI has had biologists studying golden eagles in the area just north of the proposed solar projects. During these studies, several non-resident hatch-year golden eagles have been observed flying north from Mexico. Although the natal origin of each of those birds has not been confirmed, WRI has records of more than [redacted] pairs of golden eagles in northern Baja California Norte, Mexico, and these transient eagles may be from breeding territories immediately south of the border.

Rugged LLC, LanEast LLC and LanWest Project Areas

Golden eagles at [redacted] use land apportioned in the Rugged LLC and LanEast LLC Project Areas as part of their territories; these territorial boundary data are based on ground observations and 25 years of monitoring (Figure 1). The Rugged LLC, LanEast LLC and LanWest LLC project footprints are located at the [redacted] golden eagle territories; therefore usage at the project site is expected to be less than that in their core nesting areas. However, eagles will fly several miles to acquire food or water; Tule Lake, located just east of the project footprint is an area that the [redacted] golden eagles frequent to drink, bathe or hunt for waterfowl based on visual observations by WRI Senior Golden Eagle Biologist Dave Bittner and Randy West, BLM Biologist (pers. comm.).Golden eagles in the [redacted] territories have not been equipped with satellite transmitter backpacks but a VHF transmitter was placed on one young golden eagle from the [redacted] pair in 2007. This bird flew to Altamont Pass near Livermore, California, and was killed by collision with a wind turbine blade in the Altamont Wind Resource Center. During his first 6 months of life, he frequented the McCain Valley site on a number of occasions and always returned to [redacted] to roost.

Tierra del Sol Solar Farm LLC Project Area

Although the core nesting area has been documented, the complete boundary of the [redacted] golden eagle foraging territory is currently unknown. Based on best available information, an approximation is provided in Figure 1 from criteria that are documented in WRI's database of golden eagle information. WRI recommends that territory analyses be undertaken to determine the current status and activity within [redacted] golden eagle territory. Options for territory analysis include marking via satellite telemetry or ground surveys during an entire breeding season to determine the territory size and shape.

[redacted] Golden Eagle Territory

An extirpated golden eagle territory, "[redacted] the Rugged LLC, LanEast LLC, LanWest LLC and Tierra del Sol Solar Farm LLC project footprints (Figure 1). This void allows for subsumation of this territory by other golden eagles.

However, this territory has been considered extirpated since the 1980s. No resident golden eagles have been seen breeding in this territory for over 40 years. However, subsumation of habitat and extension of territories by neighboring golden eagles has been documented when a territory has become extirpated. Therefore, it would be possible for neighboring adult eagles to occasionally be seen in the old [redacted] territory.

[redacted] Golden Eagle Territory

The [redacted] pair of golden eagles has a long history of occupancy. The nest site was known and documented as early as 1920, although annual data only became available when WRI resumed observations at a later date. WRI began banding and monitoring the annual nesting and reproduction of this pair starting in 1990. Due to vehicle access to the area from [redacted], disturbance of the nesting pair has been occurring since monitoring began at the site in 1990. WRI worked with BLM during the 1990s in an effort to stop target shooting activities that occurred near the nesting cliffs. During this period, [redacted] with signs that designated the area as a no shooting zone. Also at this time a young banded golden eagle was documented by WRI to have been shot in the nest prior to fledging.

[redacted]

[redacted] Golden Eagle Territory

[redacted] golden eagle territory has been monitored consistently by WRI from 1990 to 2012. [redacted]

[redacted]. Through empirical nest evidence, WRI senior biologists established that this territory has likely existed throughout at least the last century. The same pair of golden eagles was found to be nesting in a second canyon within the [redacted]. This second nesting canyon is part of the core nesting area and has obviously been active for many years prior to being discovered by our biologists. [redacted] have been identified and some show signs of usage over multiple years.

During ground surveys conducted by WRI in 2011, this pair of golden eagles has been documented foraging and flying out of [redacted] near the area that is now the proposed Rugged LLC, LanEast LLC, LanWest LLC and Tierra del Sol Solar Farm LLC Project Sites (Figure 3). WRI is also monitoring this territory via motion-activated nest cameras installed in active and inactive nests, data that are currently in process of review (Photo 7 and Photo 8).

[redacted] Golden Eagle Territory

In 2010, WRI located the core nesting area in a golden eagle territory [redacted] with an active breeding pair of golden eagles who have successfully produced young in 2010 and 2012. Nest productivity was not checked by WRI in 2011. This pair of eagles has likely been established for some time prior to its discovery by WRI in 2010 due to [redacted]. WRI Senior Golden Eagle Biologists deduce that the primary hunting portion of the [redacted] territory of these golden eagles is east of their core nesting area. [redacted]. The core nest area is within [redacted] of the project. The hunting area has not been specifically confirmed so the use of the area by golden eagles near or within the Rugged LLC, LanEast LLC, LanWest LLC and Tierra del Sol Solar Farm LLC project footprints is not well defined by WRI Biologists. The exact territory boundary of this pair of golden eagles is currently unknown but WRI has provided our best estimate based on field observations (Figure 1).

[redacted] Golden Eagle Territory

WRI worked with the [redacted] to identify and define this golden eagle territory. WRI had identified the only known nest of the pair by 1990. Another nest site exists although the exact location has not been identified. Young golden eagles

have been seen on territory in years when the known nest site was not used. This type of observation suggests productivity and rearing of young is occurring at an unknown nest site. The territory covers [redacted] limiting access to thoroughly search all locations within the territory for the active nest site.

[redacted].

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