

**ARELLANO PROPERTY  
BIOLOGICAL RESOURCE REPORT**

**TPM 20756**

Prepared For:  
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*4/3/05*  
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Date

**SDC DPLU RCVD 4-7-05**  
**TPM20756**

## EXECUTIVE SUMMARY

This report details the results of biological studies conducted by Marquez & Associates Biological Consultants (Marquez & Associates) on the Hauser Creek-Arellano Property (Arellano Property). The Arellano Property consists of 17 acres of undeveloped land located south of Hauser Creek Road and west of Buckman Springs Road in the unincorporated community of Campo, County of San Diego, California. The proposed project on the Arellano Property consists of the creation of three lots with pads ranging from 7,000 to 10,000 ft<sup>2</sup>.

Existing vegetation communities on-site include coast live oak woodland, big sagebrush scrub, southern mixed chaparral, and non-native grassland. Waters of the U.S. and Waters of the State (Waters) also exist on-site.

Marquez and Associates did not detect QCB primary host plants (dwarf plantain, white snapdragon, woolly plantain, owl's clover or thread-leaved bird's beak) on-site or directly off-site during focused quino checkerspot butterfly surveys nor did the surveys detect QCB.

Marquez & Associates detected 12 bird, two mammal and one reptile species during the fifth QCB survey and the faunal inventory survey. All of the animal species detected are common and often seen in similar habitats in the vicinity. Surveys detected 53 plant species within the study area, of which 11 are non-native. All plants detected are also common and often seen in similar habitats.

This report estimates that the project will impact 6.40 acres of the Arellano Property; however, it will not produce direct impacts to Waters. The majority (3.40 acres) of the impact area consists of northern mixed chaparral. The proposed project also will impact 0.02 acre of coast live oak woodland, 1.61 acres of big sagebrush scrub and 1.39 acres of non-native grassland. Preserved within the proposed Waters BOSE on the Arellano Property are 0.66 acre of coast live oak woodland, 0.36 acres of big sagebrush scrub, 0.75 acre of non-native grassland, 3.51 acres of northern mixed chaparral and 0.01 acre of Waters. These calculations presume the project will avoid impacts to and grant a BOSE on all Waters on-site and an additional 100-foot buffer in all on-site directions of Hauser Creek and the drainage along Hauser Road.

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## INTRODUCTION AND PROJECT DESCRIPTION

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This report details the results of biological studies conducted by Marquez & Associates Biological Consultants (Marquez & Associates) on the Hauser Creek-Arellano Property (Arellano Property). The Arellano Property consists of 17.0 acres of undeveloped land located south of Hauser Creek Road and west of Buckman Springs Road in the unincorporated community of Campo, County of San Diego, California (Figures 1 and 2).

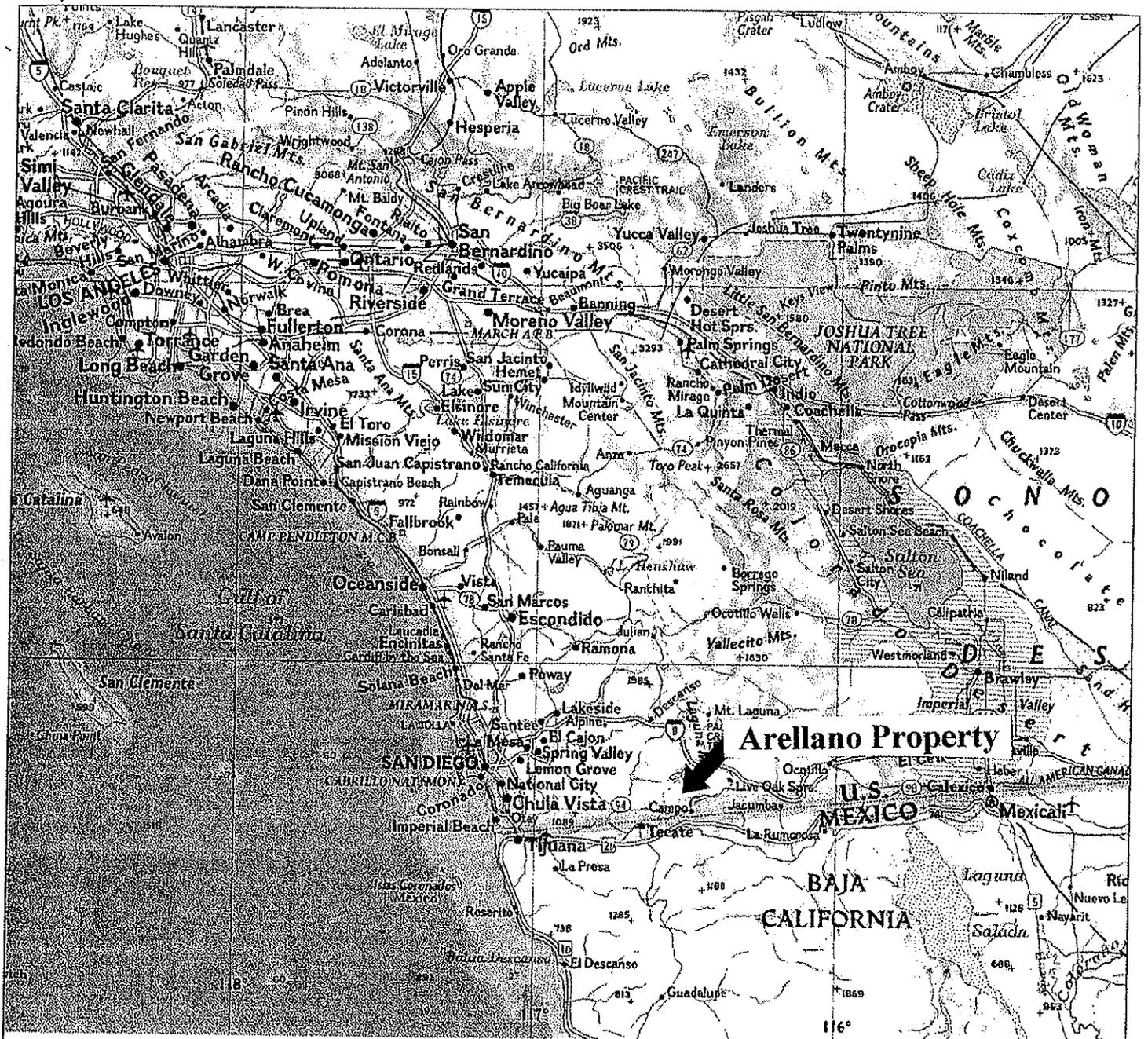
The proposed project on the Arellano Property consists of the creation of three lots with pads ranging from 7,000 to 10,000 ft<sup>2</sup>. The proposed building pads will be located on the flatter northerly portion of the property and the steeper southerly portions will remain undisturbed (Figures 3 and 4). The study area for this project encompasses the property plus a 50-foot perimeter on all sides of it.

## BIOLOGICAL REPORT METHODOLOGIES

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Marquez & Associates conducted a series of investigations for this report including the following:

- reviewing soil maps to determine soil types occurring on-site;
- reviewing regional maps to determine the site's significance in a regional prospective;
- preparing a habitat map for the site;
- conducting a general biological survey, including compilation of a list of plant and animal species detected on-site;
- conducting focused surveys for the quino checkerspot butterfly (*Euphdryas editha quino*) (QCB);
- creating a table of sensitive species that the County determined may be supported by the site (including requested local, state and federal species listings and habitats) and assessing the likelihood that they might occur on-site; and
- developing a habitat impact and mitigation analysis of the proposed project.

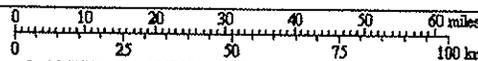


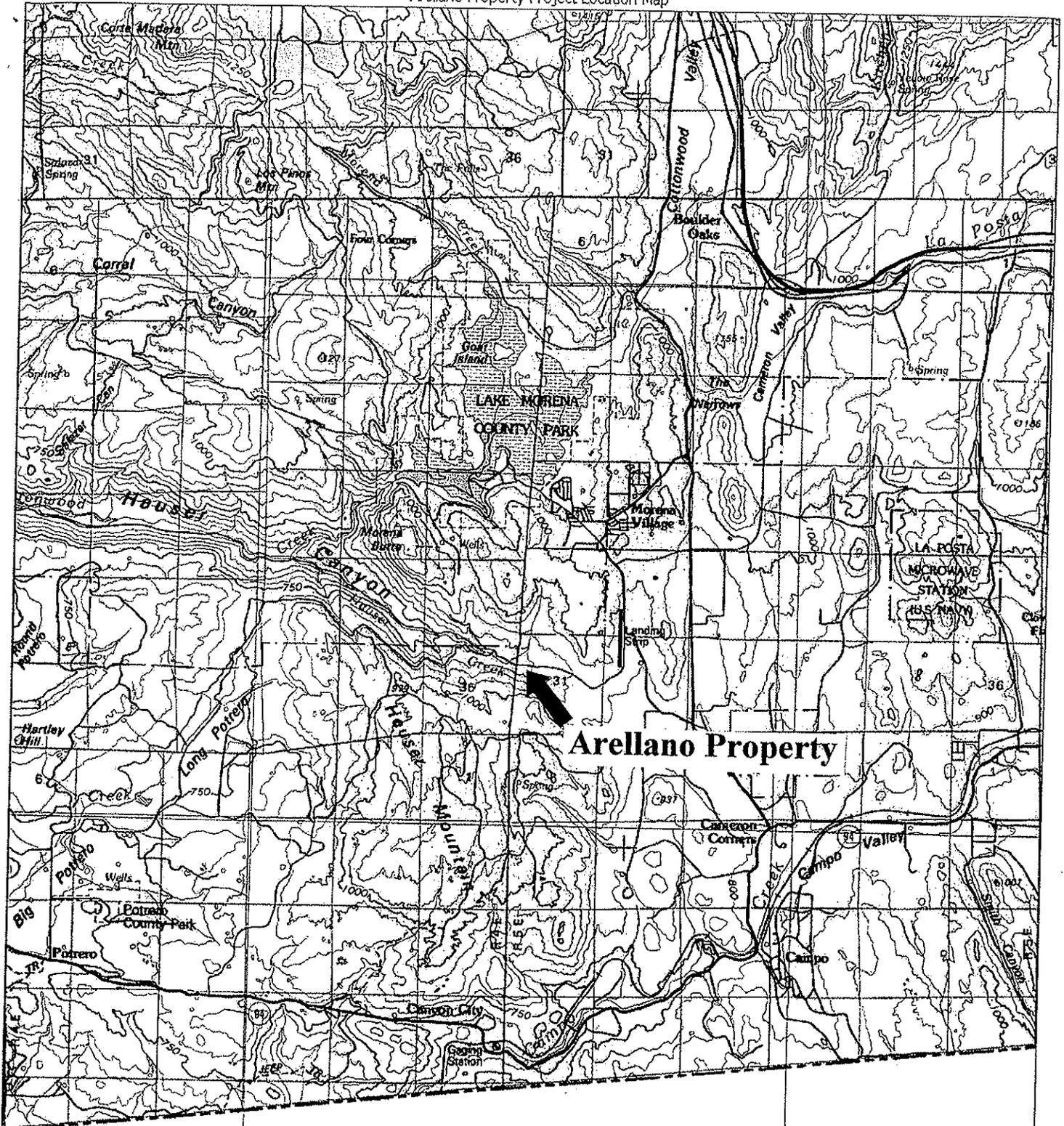
**Regional Location**

**Marquez & Associates  
Biological Consultants**

**Figure  
1**

TN 13° MN





**Arellano Property**

**Project Location**

**Marquez & Associates  
Biological Consultants**

**Figure  
2**

TN 13° MN

0 0.5 1.0 1.5 2.0 2.5 3.0 3.5 miles  
0 1 2 3 4 5 km  
Map created with TOPO!® ©2003 National Geographic (www.nationalgeographic.com/topo)

# Arellano Property Habitat Map

RECEIVED  
AUG 01 2008

DEPARTMENT OF PLANNING  
AND LAND USE

## LEGEND

- SS - Sagebrush Scrub (Big) 35210
- NNG - Non-native Grassland 42200
- CLOW - Coast Live Oak Woodland (Dense) 71162
- NMC - Northern Mixed Chaparral 37121

REFER TO FIGURE 4 FOR PROPOSED OPEN SPACE

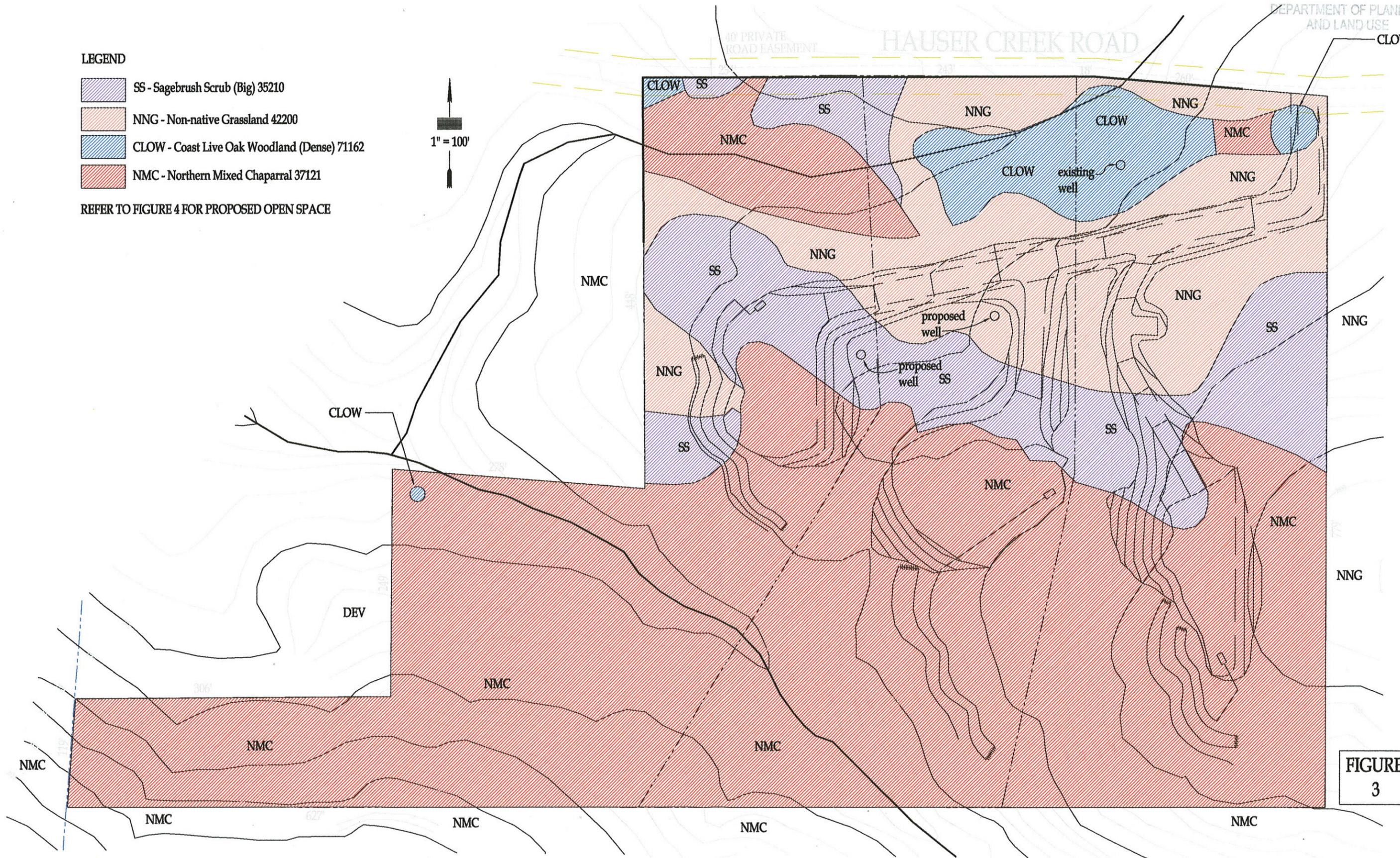
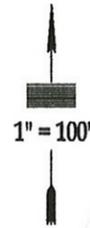


FIGURE  
3

Acreage Within  
Biological Open Space

1.04	SS - Sagebrush Scrub (Big) 35210
1.1	TR - Terrestrial Grassland 42201
0.73	CLOW - Coast Live Oak Woodland (Dense) 71162
7.89	NMC - Northern Mixed Chaparral 37110
	Proposed Biological Open Space

**TPM 20756 – Arellano 3-Lot Subdivision**

ER 03-19-011

July 24, 2008, Valerie Walsh, Staff Biologist, DPLU

	Proposed Biological Open Space Easement		Proposed Limited Building Zone Easement
	Permanent Fencing		Permanent Signs Every 100 feet

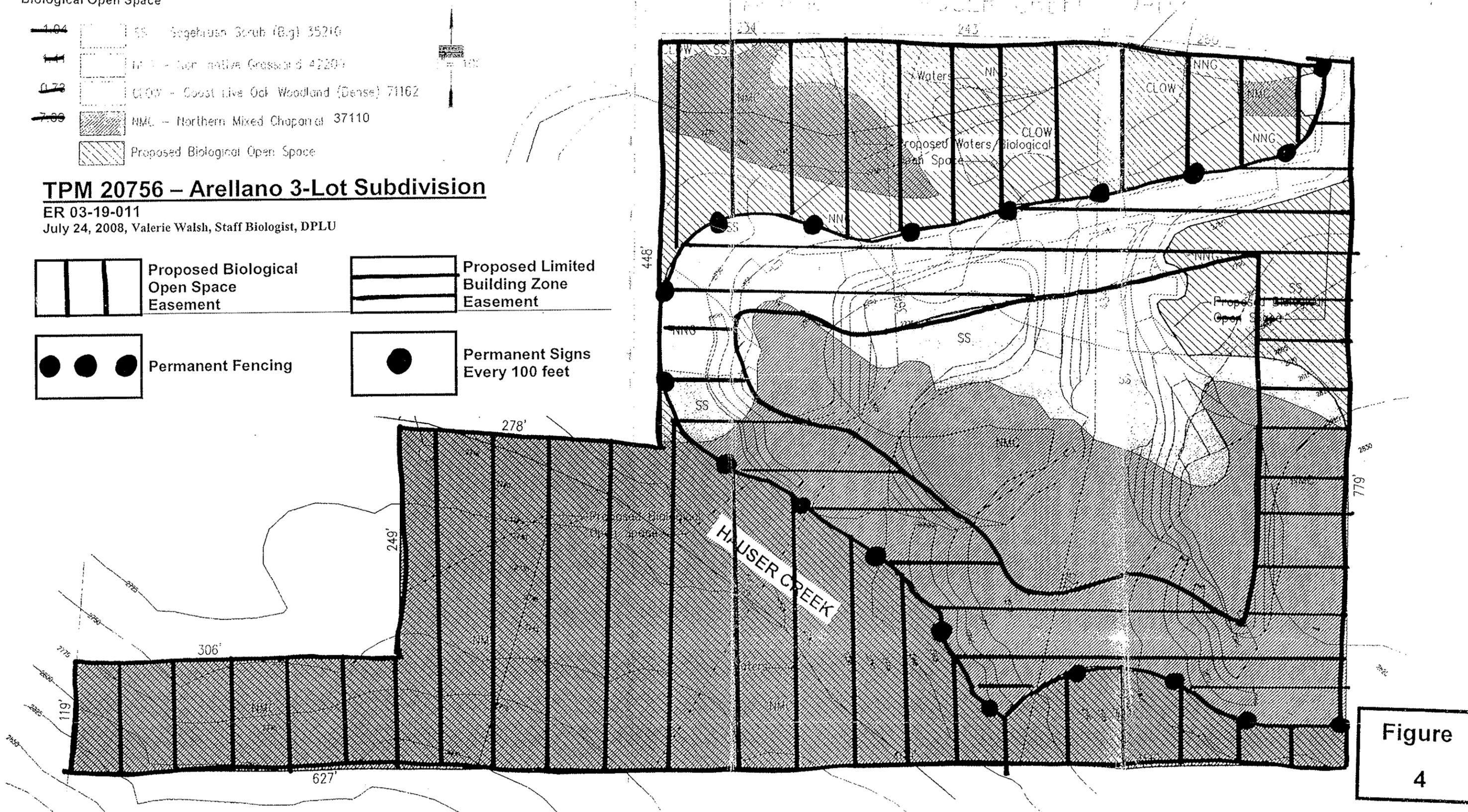


Figure  
4

### **Soils, Regional Perspective and Habitat Mapping**

Ms. Marquez relied on site visits and aerial photographs for habitat mapping and used existing maps and information to aggregate information on soils and regional information. To document the soil types designated to occur on the Arellano Property, she reviewed the map for the Morena Reservoir Quadrangle in the Soil Survey for the San Diego Area (U. S. Department of Agriculture 1973). Evaluating the site's regional setting employed the Morena Reservoir Quadrangle of the U.S. Geologic Survey 7.5 minute series topographic map (1960, photo revised 1988) and the Soil Survey for the San Diego Area (U. S. Department of Agriculture 1973).

### **Biological Survey**

Ms. Marquez conducted a site visit of the property: on July 21, 2004, between the hours of 10:15 a.m. and 12:20 p.m. to prepare a habitat map and compile a floral (plant) and faunal (animal) inventory. Mapping habitats in the field utilized a color aerial map (1 inch = 100 feet) as a base map. Marquez & Associates later transferred the habitat information to the tentative parcel map (1 inch = 100 feet) in the office (Figure 3). Mr. Jose Raul Gomez (Engineer) utilized the habitat map prepared by Marquez & Associates to create an electronic version of the map and calculate habitat acreage..

Ms. Marquez conducted the floral inventory by slowly walking through the study area and noting all plant species seen. Although Ms. Marquez identified most plants on-site, she collected some for later identification. Conducting the faunal inventory required slowly walking through the study area and noting all animal species seen. Ms. Marquez identified animal species by vocalization, detection of nests or burrows, recognition of scat and tracks and direct observation through Leica 10 X 42 power binoculars. The resulting faunal and floral (Attachment 2) lists include incidental notes of plant and animal species detected during the QCB site assessment and the last QCB survey. Photographs taken on July 21, 2004, document characteristic site conditions (Attachment 1: Photos 1 and 2).

### Quino Checkerspot Butterfly

David Waller (USFWS recovery permit # TE-025394-0 for QCB), QCB surveyor for Marquez & Associates, initiated protocol QCB surveys (USFWS 2002) of the study area on March 24, 2004. Mr. Waller conducted four surveys at least one week apart from March 24 until April 14, 2004. Viviane Marquez (USFWS recovery permit # 800390-7 for QCB), principal biologist for Marquez & Associates, conducted the fifth survey on April 23, 2004.

All surveys took place under acceptable weather conditions: no fog, rain or drizzle; no sustained winds greater than 15 mph; and no temperature less than 60° on a sunny day or less than 70° on an overcast day. Wind speeds generally were measured for one minute with a digital Kestrel 2000 pocket thermo wind meter (Kestrel 2000) for the purpose of recording the high and low during that time period. The Kestrel 2000 also recorded air temperature at waist level. Table 1 lists dates and survey conditions.

**Table 1**  
**Arellano Property QCB Survey Conditions**

Date	time	Skies / Cloud Cover	Wind Range / Average m.p.h.	Temp. ° F	Biologist(s)	QCB Results
Mar 24, 04	start: 13:15	sunny / 85 %	0.0 - 5.3/ 1.8	77.0°	David Waller	negative
	end: 14:15	sunny / 50 %	0.0 - 6.6/ 2.6	68.0°	David Waller	negative
Mar 31, 04	start: 09:05	sunny / 10 %	0.0 - 5.4/ 1.6	70.0°	David Waller	negative
	end: 10:50	sunny / 40 %	0.0 - 7.9/ 4.5	72.0°	David Waller	negative
Apr 7, 04	start: 13:50	sunny / clear	1.6 - 7.8/ 2.0	65.0°	David Waller	negative
	end: 15:50	sunny / clear	2.7 - 10.6/ 3.1	65.0°	David Waller	negative
Apr 14, 04	start: 10:10	sunny / clear	1.5 - 5.2/ 1.7	68.5°	David Waller	negative
	end: 12:00	sunny / clear	0.3 - 6.9/ 2.2	66.0°	David Waller	negative
Apr 23, 04	start: 12:40	sunny / clear	0.0- 1.9/ 0.8	79.7°	V. Marquez	negative
	end: 15:05	sunny / clear	1.0 - 6.9/ 2.8	80.4°	V. Marquez	negative

The QCB surveyors spent a minimum of one hour to a maximum of almost two-and-a-half hours focusing on butterfly identification during the weekly surveys. Mr. Waller identified butterfly species with the use of Bausch & Lomb 'Discoverer' 10 X 42 power binoculars. He regularly used a butterfly net to capture butterflies for positive identification. Ms. Marquez used Vivitar 8 X 21 power binoculars and Leica 10 X 40 power binoculars for short and long range distances, respectively. The survey work concentrated on areas containing or having the potential to contain QCB habitat components, particularly the presence of food and nectar plants and open, sparsely vegetated areas. QCB surveyors gave special attention to detecting QCB larval host plants and adult nectar plants.

Attachment 3 includes QCB survey data from the as follows.

- Attachment 3-A is a site assessment map.
- Attachment 3-B includes all butterfly species detected and the number of each species seen.
- Attachment 3-C is a list of host plants and nectar plants (if any) and flowering plants detected on-site during the QCB surveys.
- Attachment 3-D includes copies of QCB survey general data sheets.
- Attachment 3-E includes original QCB survey field notes for the Arellano Property surveys.

### **Potential for Sensitive Species On-site**

Several sources were utilized to assess the likelihood of sensitive species presence on the Arellano Property. These included the many site visits to the property, the California Natural Diversity Database (CDFG 2004), the California Native Plant Society's Inventory of Rare and Endangered Plants of California (2001) and Cal Photo (<http://elib.cs.berkeley.edu/photos/>).

### **Limitations**

The survey methodology is limited to the extent that the survey did not include conducting night-time surveys, trappings mammals or reptiles or conducting surveys during other times of the year. Other animal species likely would be detected during the night through trapping and additional plants and animals likely would be detected during other times of the year.

Scientific nomenclature used in this report follows the USFWS (1999) for butterflies, Hickman (1993) for plants, Stebbins (1966) for reptiles and amphibians, Holland (1986) with modifications by Oberbauer (1996) for plant community designation and the American Ornithologists' Union (1983) for bird nomenclature.

## **RESULTS**

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### **Soils**

The Soil Survey for the San Diego Area (Soil Survey) (U. S. Department of Agriculture 1973) designates several soils on-site. The site supports steep gullied land, calpine coarse sandy loam 9 - 15% slopes eroded, tollhouse rocky coarse sandy loam 5 to 30% slopes and mottsville loamy coarse sand 9 to 15% slopes. The following is derived exclusively from the Soil Survey and not from any field testing or observations.

#### Steep gullied land

Steep gullied land “consists of strongly sloping to steep areas that are actively eroding into old alluvium or decomposed rock. It occurs as large individual gullies or as a network of many gullies” (U. S. Department of Agriculture 1973) with sparse vegetation cover. It has a high erosion hazard and rapid runoff.

#### Calpine coarse sandy loam 9 - 15 % slopes eroded

The calpine series is a “well-drained, very deep sandy loam that formed in granitic alluvium” (U. S. Department of Agriculture 1973). Calpine coarse sandy loam 9 - 15 % slopes eroded is “strongly sloping, contains rills and shows evidence of sheet erosion” (U. S. Department of Agriculture 1973). It has a moderate erosion hazard, is subject to medium runoff and is used mainly for range and wildlife habitat.

#### Tollhouse Rocky Coarse Sandy Loam 5 to 30% slopes

The tollhouse series "consists of excessively drained, shallow to very shallow coarse sandy loams that formed in material weathered from granodiorite" (U. S. Department of Agriculture 1973). Tollhouse rocky coarse sandy loam 5 to 30% has low fertility, rapid permeability, medium to rapid runoff and moderate to high erosion hazard. This soil is found in the mountains and is used mainly for recreational areas, wildlife habitat, watershed and limited range.

#### Mottsville Loamy Coarse Sand 9 to 15% slopes.

The mottsville series is an excessively drained, very deep, loamy coarse sand that occurs in valleys and alluvial fans. Mottsville loamy coarse sand 9 to 15% slopes is strongly sloping, has medium runoff, is subject to moderate erosion hazard and is used principally for range.

On-site soil characterization is beyond the scope of this report; however, the majority of the property appears to lie within the lower percentages of the designated slope ranges.

#### **Regional Setting**

Topography of the Arellano Property ranges in elevation from approximately 2,840 feet in the most southwestern corner to 2,715 at the western perimeter of the property where Hauser Creek crosses off-site to the west. The majority of the property consists of a west-facing slope, starting at a knoll (2,830 feet elevation) on the southeastern portion of the property.

The Arellano Property is situated in a valley at the northern base of Hauser Mountain. Morena Reservoir lies approximately two miles to the north. Hauser Creek, consisting of an ephemeral drainage at this location, runs northwest through the property (Figures 3 and 4). A few single family residences lie to the west of the Arellano Property and one home is situated across the street to the north; otherwise land is undeveloped for great distances in all directions.

The Cleveland National Forest boundary lies about 1,000 feet northwest of the Arellano Property, and the Hauser Wilderness Area lies north of the forest boundary (U.S. Forest Service, 2,000).

## Existing Vegetation Communities

### Overview

Existing vegetation communities (habitats) on-site include coast live oak woodland, big sagebrush scrub, northern mixed chaparral and non-native grassland (Figure 3) (Holland 1986, Oberbauer 1996). Waters of the U.S. and Waters of the State (Waters) also exist on-site.

#### Coast Live Oak Woodland (Oberbauer Code 71162)

Coast live oak (*Quercus agrifolia*) is a slow growing evergreen tree that reaches 10 to 25 meters in height. Coast live oak woodland varies widely, encompassing pure, closed canopy stands of coast live oak, mixtures with other tree and shrub species and open savannas with coast live oak clumped or widely spaced. The shrub layer in this habitat typically is poorly developed but may include northern or southern mixed chaparral or Diegan sage scrub species. The herb layer generally is continuous and dominated by non-native species in most areas of southern California; however, western poison oak (*Toxicodendron radicans*) is a common native understory species. The County of San Diego considers coast live oak woodland to be a sensitive habitat because of its high wildlife value especially for birds, and because its distribution is limited in some parts of San Diego County.

Coast live oak woodland dominated by coast live oak with non-native grassland understory lies primarily along the northern perimeter of the property adjacent to Hauser Creek Road. It comprises 0.75 acres of the Arellano Property. A driveway placed within 50 feet of the canopy of the coast live oak tree at the north-eastern portion of the property is anticipated to impact 0.02 acre of coast live oak.

#### Big Sagebrush Scrub

Big sagebrush scrub is comprised mostly of softwood shrubs from one-half to two meters tall with Great Basin sagebrush (*Artemisia tridentate*) as the dominant plant species. This habitat usually has considerable bare ground underneath and between shrubs. Most growth occurs in late spring and early summer and dormancy occurs in winter.

Big sagebrush scrub, dominated by Great Basin sagebrush, occurs on 2.65 acres of the Arellano Property. Other species on-site in this habitat include buckwheat (*Eriogonum* sp.), sand aster (*Corethrogyne filaginifolia*) and deerweed (*Lotus scoparius*). This project anticipates impacting 1.61 acres of big sagebrush scrub.

#### Northern Mixed Chaparral

Northern mixed chaparral is comprised of broad-leaved sclerophyll shrubs generally from two to four meters tall. This habitat often is quite dense and, in many cases, it may be impenetrable without brush removal. Dominant plant species in northern mixed chaparral include scrub oak (*Quercus berberidifolia*), chamise (*Adenostoma fasciculatum*), and any of several species of Manzanita (*Arctostaphylos* sp.) and lilac (*Ceanothus* sp.) Mature habitat usually has a considerable amount of leaf litter but little to no understory.

The majority of the Arellano Property (10.79 acres) consists of northern mixed chaparral. Chamise is the dominant species in this habitat on-site. However, Cupleaf lilac (*Ceanothus greggii*), scrub oak (*Quercus berberidifolia*), sugar bush (*Rhus ovata*) and our Lord's candle (*Yucca whipplei*) are present in large numbers as well. This project anticipates impacting 3.40 acres of northern mixed chaparral.

#### Non-native Grassland

Although exotic annual grasses generally dominate non-native grassland, many species of native and non-native annual forbs often are associated with it. Non-native grassland also is the habitat designation given to the assemblage of plants that tends to establish following habitat disturbance. Although the dominant species may be exotic, non-native grasslands may provide important raptor foraging habitat.

Non-native grassland occurs on much of the northern portion of the Arellano Property. Dominants of the habitat on-site include (*Bromus rubens*), horehound (*Marrubium vulgare*) and mustards (*Brassica* spp.). Many annuals were present in this habitat during the spring months

(Attachment 3-C). Non-native grassland comprises 2.80 acres on-site and 1.39 acres are anticipated to be affected by this project.

#### Waters and County Resource Protection Ordinance

Under the definitions of the Army Corps of Engineers (ACOE) and California Department of Fish and Game (CDFG), Hauser Creek and the drainage that follows Hauser Creek Road are considered Waters of the U.S. and Waters of the Stated (Waters) (Figure 3). This designation includes open, unvegetated channels as well as areas that may support non-wetland vegetation yet receive a water flow sufficient to create a distinct channel.

The Waters on-site consist of narrow, sandy channels with upland vegetation on both banks. Both drainages were dry during all survey dates. Marquez & Associates did not detect wetland indicator plants in either channel.

The County of San Diego Resource Protection Ordinance (RPO) defines wetlands as having one or more of the following three parameters.

- a. At least periodically, the land supports predominately hydrophytes (plants whose habitat is water or very wet places);
- b. The substratum is predominately undrained hydric soil; or
- c. The substratum is non-soil and is saturated with water or covered by water at some time during the growing season of each year.

The waters on the Arellano Property don not meet any of the RPO criteria for wetlands.

Impacts to Waters require permitting through federal and state agencies. No impacts to Waters are anticipated from this project. Additional information on regulation of Waters is in the section titled “Habitat Impacts and Mitigation Analysis” below.

## Animals

### Quino Checkerspot Butterfly (QCB)

#### QCB Characteristics

The QCB is on the federal list of endangered species. It has a three centimeter (one inch) wingspan and is checkered with dark brown, reddish and yellowish spots (Federal Register 1997). Defining characteristics include a medial orange band on the hind wings, an orange banded abdomen lacking white spots and forewings with rounded outer margins (Ballmer et al. 1998).

The QCB occurs at altitudes from just above sea level to 5,000 feet elevation within habitats characterized as clay soil meadows, coastal sage scrub, grasslands, chamise chaparral, red shank chaparral or semi-desert scrub (Ballmer et al. 1998). Bare or sparsely vegetated ground, often the result of foot traffic, bike trails, roads and other disturbances that compact soil, is present in all known occupied QCB habitats. Clay and cryptobiotic soil crusts (comprised of lichens, mosses, liverworts or algae) often are associated with less disturbed QCB habitats (Ballmer et al. 1998).

Females usually mate only one time and lay several egg masses of 120 to 180 eggs (totaling 400 to 800 eggs) on their primary host plants, dwarf plantain (*Plantago erecta*), white snapdragon (*Antirrhinum coulterianum*), wooly plantain (*Plantago patagonica*), owl's clover (*Castilleja exserta*) or thread-leaved bird's beak (*Cordylanthus rigidus*). After hatching, larva feed almost exclusively on dwarf plantain. Adult QCB nectar on numerous small annual plants, including:

- goldfields (*Lasthenia* sp.), cryptantha (*Cryptantha* sp.), fiddleneck (*Amsinckia intermedia*) and chia (*Salvia columbariae*) (Hawks and Ballmer 1997);
- gilia (*Gilia* sp.), ground pink (*Linanthus dianthiflorus*) and annual lotus (*Lotus* sp.) (USFWS 1999); and
- goldenbush (*Ericameria* sp.), tidy tips (*Layia* sp.) and wild onion (*Allium* sp.) (USFWS 2000).

Butterfly species often congregate on high ground, ridges, rock formations or hilltops -- a method of mate location called hilltopping. The QCB is considered a facultative hilltopper (Ballmer et al.

1998). Females frequently move to high points, ridges and hilltops where they encounter perching males (Mattoni et al. 1997).

The adult QCB flight season is highly weather dependent. Although they have been documented flying as early as October and as late as June, their flight season generally runs from February through April.

#### QCB Range and Listing Status

Once one of the most abundant butterflies in southern California, the QCB previously existed at many localities in Los Angeles, Orange, Riverside and San Diego Counties (Ballmer et al. 1998). However, 50-75% of the known range of the QCB has disappeared due to habitat destruction or degradation (Brown, 1991 in Federal Register 1997). Displacement of the primary larval host plant, dwarf plantain, by exotic grasses and filaree species (*Erodium* sp.) and the spread of exotic predators, notably sow bugs (*Porcellio laevis*) and earwigs (*Forficula auricularia*), also are factors that likely have led to the decline of the QCB.

When petitioned in 1988, the U.S. Fish and Wildlife Service (USFWS) did not list the QCB as endangered because the species had not been seen for several years and was thought to be extinct. Since being rediscovered in 1990 (Federal Register 1997), the QCB appears to have established populations only in southwestern Riverside County and southern San Diego County (Ballmer et al. 1998). Of the seven or eight populations known to exist in the United States, only three populations had more than five individuals in 1997 (Federal Register 1997). As of 2000, the only known U.S. locations were in the Murietta Hot Springs-Temecula-Anza area of Riverside County and the Otay Mountain-Jacumba area of San Diego County. Since then several sightings have been recorded in new locations including: 1) a QCB was detected and photographed in the hills north of the San Vicente Reservoir in 2001; 2) two QCB individuals were detected in Alpine in 2003 (USFWS 2003); and 3) a QCB was reported in the Campo area in 2004 (David Waller, *personal communication* April 6, 2004).

### Site Assessment and 2004 QCB Monitoring

The site assessment (Attachment 3-A) of the Arellano Property, conducted on February 27, 2004, determined that: 1) the site has large areas of northern mixed chaparral and small areas of coast live oak woodland that are closed canopy and therefore , excluded from the requirement of conducting QCB surveys (USFWS 2002b); 2) the site is located in year 2002 recommended Quino Survey Area 2 (allowing for limited live capture); and 3) the USFWS protocol recommends butterfly surveys for 8.75 acres of the study area (Attachment 3-A).

The USFWS regularly monitors several known QCB locations in San Diego and Riverside County (USFWS 2004). The QCB reference site nearest to the Arellano Property is the Marron Valley site. Located at an elevation of 2000 feet east of Otay Mountain, near the border with Mexico, the Marron Valley site is approximately 12 miles southwest of the Arellano Property. The Jacumba reference site is located 20 miles southeast of the Arellano Property at an elevation of 3,000 to 3,300 ft. The Arellano Property lies at approximately 2,750 feet in elevation, a little higher than the Marron Valley monitoring site and a little lower in elevation than the Jacumba monitoring site.

The USFWS observed seven QCBs at the Marron Valley reference site on March 4, 2004, and four QCB at the Jacumba reference site on March 31, 2004, thus starting the QCB survey season in the Arellano Property vicinity. Subsequently, the USFWS regularly detected QCB at the Marron Valley site from March 4 to April 22,2004. Monitoring detected a high of 18 QCB on March 12 and March 18 and 15 QCB on April 8, 2004. The Jacumba site subsequently had sightings of nine QCB on April 12 and three on April 19, 2004.

### QCB Survey Results Summary

Mr. Waller and Ms. Marquez did not detect QCB primary host plants (dwarf plantain, white snapdragon, wooly plantain, owl's clover or thread-leaved bird's beak) on-site or directly off-site during the survey period (Attachment 3-C). Confirmed QCB nectar plants detected on-site were cryptantha (*Cryptantha* sp.), fiddleneck (*Amsinckia intermedia*), goldfields (*Lasthenia* sp.) and chia (*Salvia columbariae*).

Based on the flight season of the Marron Valley and Jacumba populations and on a QCB sighting by Mr. David Waller in a nearby location in Campo, conducting QCB surveys between March 24 and April 23 was an ideal time interval for maximum probability of detecting QCB if present.

Numbers of butterflies seen each survey date varied from 24 seen on the first survey date to 73 seen on the last survey date (Attachment 3-D). The most common species were Gabb's Checkerspot (*Charidryas gabbii*), Sara Orangetip (*Anthocaris sara*) and Funeral Duskywing (*Erynnis funeralis*). Gabb's Checkerspots were particularly abundant on-site and seen in numbers as high as 36 on the last survey date. Numbers of butterflies detected and shown in Attachment 3-B are expected to reasonably represent the number of individual butterflies on-site during the survey period.

All butterfly species detected during the survey are common and expected to be seen in similar habitats. None of the surveys detected QCB. Marquez & Associates considers the likelihood of the QCB regularly utilizing this site to be low due to the absence of host plants on-site. In addition, without adequate larval host plants on-site, the Arellano Property is not expected to sustain QCB populations in the future.

#### Animal Species Occurrence On-site

Marquez & Associates detected 12 bird, two mammal and one reptile species during the fifth QCB survey and the faunal inventory survey. The bird species are American crow (*Corvus brachyrhynchos*), scrub jay (*Aphelocoma coerulescens*), acorn woodpecker (*Melanerpes formicivorus*), bewicks wren (*Thryomanes bewickii*), Coopers hawk (*Accipiter cooperi*), California towhee (*Pipilo crissalis*), bushtit (*Psaltiriparus minimus*), hooded oriole (*Icterus cucullatus*), wrentit (*Chamaea fasciata*), red-tailed hawk (*Buteo jamaicensis*), black phoebe (*Sayornis nigricans*) and California quail (*Callipepla californica*). The mammal species are the Audubon cottontail rabbit (*Sylvilagus audubonii*) and the coyote (*Canis latrans*). The only reptile species detected is the western fence lizard (*Sceloporus occidentalis*). All of these animal species were detected in low numbers, except for the California quail whose numbers on-site reached over 100. All of the animal species detected are common and often seen in similar habitats in the vicinity.

### Potential for Use as Wildlife Corridor

Due to the topography on and adjacent to the Arellano Property and the open creek bottom of Hauser Creek, the Arellano Property has a moderate potential to be utilized on occasion as a local or regional wildlife corridor. Due to the steep slope to the south of the property it is likely that animal species would travel in or along Hauser Creek for the east to the west length of the property. Because the southwest portion of the property and all of Hauser Creek with a 100-foot buffer is proposed to be preserved in biological open space, this project is not anticipated to adversely affect wildlife movement.

### Plant Species Occurrence On-site

Surveys detected 53 plant species (Attachment 2) within the study area, of which 11 are non-native. All plants detected are common and often seen in similar habitats.

## **HABITAT IMPACTS AND MITIGATION ANALYSIS**

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### **Applicable Regulations**

#### Waters

Several local, federal and state agencies regulate impacts to Waters: the ACOE; the CDFG; the Regional Water Quality Control Board (RWQCB); and the local regulating jurisdiction. For a project to avoid affecting Waters generally requires preserving the Waters and a biological buffer (permanently undeveloped land) between the high water mark and development. The appropriate buffer width generally is determined on a case-by-case basis, ranging from a minimum of 25 feet for less sensitive habitats (*i.e.*, areas that do not support sensitive species, are not part of a wildlife corridor and lack regional significance) to 200 feet for highly sensitive wetland areas.

These drainages are small in size and do not support wetland habitat on the Arellano Property; however,

they have experienced relatively little past disturbance or human influence. Taken as a whole, the drainages on-site are considered to be of low to moderate quality. The County has requested a 100-foot buffer along both waterways and it has been provided in all on-site directions possible.

The usual mechanism for preserving the Waters and the biological buffer is placing the land within a biological open space easement (BOSE). The BOSE preserves biological resources by prohibiting all of the following uses and activities on any land subject to it: grading; excavation; placement of soil, sand, rock, gravel, or other material; clearing vegetation; construction; erection or placement of any building or structure; vehicular activities; trash dumping; or use for any purpose other than open space (County of San Diego 2001). It is anticipated that the Waters and a 100-foot biological buffer in all on-site directions will be placed in a BOSE. This easement will preclude brushing, thinning or otherwise affecting the vegetation in any way.

### Habitat Impacts and Mitigation Analysis

#### On-site Impacts

Table 1 shows habitats impacted and mitigation required for the proposed project on the Arellano Property as well as habitat preserved in biological open space as calculated by Jose Gomez (Project Engineer).

Table 2  
Arellano Property Habitat Acreages (Acres)

Habitat or Land Use	Habitat On-site	Habitat Impacted	Mitigation Ratio	Mitigation Needed	Habitat Preserved in Waters Open Space (Mitigation Neutral)	Remaining Habitat On-site – used as Mitigation (not included in waters open space)	Off-site Mitigation Needed
Coast Live Oak Woodland	0.75	0.02	3:1	0.06	0.66	0.07	0
Big Sagebrush Scrub	2.65	1.61	2:1	3.22	0.36	0.68	2.54
Non-native Grassland	2.80	1.39	0.5:1	0.70	0.75	0.66	0.04
Northern Mixed Chaparral	10.79	3.40	0.5:1	1.70	3.51	3.88	0
Waters	0.01	0	NA	0	0.01	NA	NA
<b>Total</b>	17.00	6.40	NA	4.91	5.29	5.31	2.58

This report estimates that the project will impact 6.40 acres of the Arellano Property; however, it will not produce direct impacts to Waters. The majority 3.40 acres of the impact area consists of northern mixed chaparral. The proposed project also will impact 0.02 acre of coast live oak woodland, 1.61 acres of big sagebrush scrub and 1.39 acres of non-native grassland. Preserved within the proposed Waters BOSE on the Arellano Property are 0.66 acre of coast live oak woodland, 0.36 acres of sagebrush scrub, 0.75 acre of non-native grassland, 3.51 acres of northern mixed chaparral and 0.01 acre of Waters. These calculations presume the project will avoid impacts to and grant a BOSE on all Waters on-site and an additional 100-foot buffer on all on-site directions of Hauser Creek and the drainage along Hauser Road.

As previously stated, because the southwest portion of the property and all of Hauser Creek with a 100-foot buffer is proposed to be preserved in biological open space this project is not anticipated to adversely affect wildlife movement. In addition, considerable open space is also proposed in the northern portion of the property. Therefore, no additional mitigation is considered necessary to address potential wildlife movement.

#### Off-site Road Improvements and Cumulative Impacts

The Department of Public Works and the Fire Department have determined that off-site road improvements will not be required (David Arellano, project applicant *personal communications* and letter from the Fire Protection District, dated November 5, 2004).

Only one other project is known to be in progress within the project vicinity. The known project is a five-lot subdivision (creating approximately 10-acre lots) near the junction of Lake Moreno Road and Hauser Creek Road (Jose Gomez, engineer, *personal communications* April 1, 2005). Therefore, cumulative biological impacts of past, current and future known projects when associated with this project are not anticipated to be significant.

If you have any questions regarding the surveys conducted or this report please contact Viviane Marquez at (760) 633-3066.

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**ATTACHMENT 1**  
**Photographs - Arellano Property**



Photo 1. The southeastern portion of the Arellano Property with non-native grassland in the foreground, big sagebrush scrub in the center and northern mixed chaparral in the background. Photo taken facing southeast.



Photo 2. The Northern mixed chaparral on the southern portion of the Arellano Property. Photo taken facing south.

**ATTACHMENT 2**  
**Floral Checklist - Arellano Property**

**Attachment 2  
Arellano Property  
Plant Species Detected**

<b>Scientific Family Name - Common Family Name</b>	<b>Plant Community **</b>
<u>Scientific Name</u>	
Common Name	

**CLASS  
ANGIOSPERMS (DICOTS)**

**Anacardiaceae - Sumac or Cashew family**

<u>Rhus ovata</u>	CSS, SMC, CC
Sugar bush	
<u>Toxicodendron diversilobum</u>	CSS, CLOW, CLORF
Western poison oak	

**Asteraceae - Sunflower family**

<u>Artemisia tridentata</u>	BSS
Big Basin sagebrush	
<u>Artemisia dracunculus</u>	CC, CSS, SWS
Tarragon	
* <u>Centaurea melitensis</u>	D
Tocalote	
<u>Corethrogyne filaginifolia</u>	CSS, SMC, CC
Cudweed aster	
<u>Ericameria pinifolius</u>	BSS, SMC
Pine goldenbush	
<u>Eriophyllum confertiflorum</u>	CSS, SMC, CC
Golden yarrow	
<u>Gutierrezia californica</u>	CSS, SMC, CC
Broom matchweed	
<u>Hazardia squarrosa</u> var. <u>grindeloides</u>	CSS, SMC, CC
Saw-toothed goldenbush	
<u>Heterotheca grandiflora</u>	CSS, SMC, CC, D
Telegraph weed	
<u>Lasthenia sp.</u>	G, NNG, CSS, MC, CC
Goldfields	

**Boraginaceae - Borage family**

<u>Amsinkia intermedia</u>	CSS
Fiddleneck	
<u>Cryptantha sp.</u>	CSS
Popcorn flower, Nievitas	

**Arellano Property  
Plant Species Detected (cont'd)**

<b>Scientific Family Name - Common Family Name</b>	<b>Plant Community **</b>
<u>Scientific Name</u>	
Common Name	
 <b>Brassicaceae - Mustard family</b>	
* <u>Brassica nigra</u>	D
Black mustard	
* <u>Hirschfeldia incana</u>	D
Perennial mustard	
<u>Lepidium sp</u>	G, NNG, CSS, SMC, CC
Peppergrass sp.	
* <u>Sisymbrium sp.</u>	D, All
Mustard	
 <b>Cactaceae - Cactus family</b>	
<u>Opuntia sp</u>	CSS, DES
Prickly-pear	
 <b>Caprifoliaceae - Honeysuckle family</b>	
<u>Lonicera subspicata</u>	CSS, SMC
Honeysuckle	
<u>Sambucus mexicana</u>	CSS, SMC
Mexican elderberry	
 <b>Convolvulaceae - Morning-glory family</b>	
<u>Cuscuta californica</u>	CSS, CC
Dodder, Witch's hair	
 <b>Cucurbitaceae - Gourd family</b>	
<u>Marah macrocarpus</u>	CSS, SMC
Wild cucumber	
 <b>Ericaceae - Heath family</b>	
<u>Arctostaphylos glauca</u>	SMC, CC
Bigberry manzanita	

**Arellano Property  
Plant Species Detected (cont'd)**

<b>Scientific Family Name - Common Family Name</b>	<b>Plant Community **</b>
<u>Scientific Name</u>	
Common Name	

**Fabaceae - Pea family**

<u>Lotus scoparius</u> Deerweed	CSS, NNG, NG, SMC
<u>Lupinus sp.</u> Lupine	CSS, NNG, NG, SMC
<u>Pickeringia montana</u> Chaparral pea	CSS, SMC, CC

**Fagaceae - Beech or Oak family**

<u>Quercus agrifolia</u> Coast live oak	CLOW, CLORF
<u>Quercus berberidifolia</u> Scrub oak	CSS, SMC, CC

**Geraniaceae - Geranium family**

* <u>Erodium sp.</u> Filaree	CSS, SMC, CC
* <u>Erodium cicutarium</u> Red-stemmed filaree	CSS, SMC, CC

**Hydrophyllaceae - Waterleaf family**

<u>Nemophila menziesii</u> Baby Blue Eyes	CSS, NNG, NG
<u>Pholistoma sp.</u> Fiesta flower	CSS, NNG, NG
<u>Phacelia sp.</u> Phacelia	CSS, SMC, CCF
<u>Phacelia parryi</u> Parry's phacelia	CSS, SMC, CC

**Lamiaceae - Mint family**

* <u>Marrubium vulgare</u> Horehound	CSS, SMC, CC, D
<u>Salvia apiana</u> White sage	CSS, SMC, CC
<u>Salvia columbariae</u> Chia	CSS, SMC, CC
<u>Trichostema parishii</u> Blue curls	CSS, SMC

**Arellano Property  
Plant Species Detected (cont'd)**

<b>Scientific Family Name - Common Family Name</b>	<b>Plant Community **</b>
<u>Scientific Name</u> Common Name	
<b>Paeoniaceae - Peony Family</b>	
<u>Paeonia californica</u> California peony	CSS, NNG, NG
<b>Polygonaceae - Buckwheat family</b>	
<u>Eriogonum sp.</u> Buckwheat	CSS, SMC, CC
<b>Portulacaceae - Purslane Family</b>	
<u>Claytonia perfoliata</u> Miner's lettuce	CSS, SWS, CLORF
<b>Ranunculaceae - Buttercup family</b>	
<u>Clematis lasiantha</u> Virgin's bower	CSS, SMC, CC
<b>Rhamnaceae - Buckthorn family</b>	
<u>Ceanothus greggii</u> Cupleaf lilac	BSS, SMC, CC
<b>Rosaceae - Rose family</b>	
<u>Adenostoma fasciculatum</u> Chamise	SMC, CC
<u>Cercocarpus betuloides</u> Interior Mountain mahogany	SMC, CC
<b>Scrophulariaceae - Figwort family</b>	
<u>Cordylanthus rigidus</u> Bird's beak	CSS, SMC, CC
<b>Solanaceae - Nightshade family</b>	
* <u>Nicotiana glauca</u> Tree tobacco	D

**Arellano Property  
Plant Species Detected (cont'd)**

<b>Scientific Family Name - Common Family Name</b>	<b>Plant Community **</b>
<u>Scientific Name</u>	
Common Name	

**ANGIOSPERMS (MONOCOTS)**

**Agavaceae - Agave family**

<u>Yucca whipplei</u>	CSS, SMC, CC
Our Lord's candle	

**Alliaceae - Onion family**

<u>Dichelostemma capitatum</u>	CSS, SMC, NNG, NG, CC
Blue dicks	

**Poaceae - Grass family**

*	<u>Bromus diandrus</u>	D, All
	Ripgut brome	
*	<u>Bromus madritensis ssp. rubens</u>	D, All
	Red brome, Foxtail chess	
*	<u>Bromus sp.</u>	D, All
	Brome	

! Sensitive Species

\* Denotes non-native taxa

\*\* Plant Community (ies) Where the Plant is Most Commonly Detected

All = all habitats  
 BSS = big sagebrush scrub  
 CC = chamise chaparral  
 CLORF = coast live oak riparian forest  
 CSS = coastal sage scrub  
 D = disturbed  
 DES = desert  
 FWM = freshwater marsh  
 FWS = freshwater seep  
 MSS = maritime succulent scrub  
 NNG = non-native grassland  
 SMC = southern mixed chaparral  
 SS = sage scrub  
 SWS = southern willow scrub  
 VNG = valley needlegrass grassland

**ATTACHMENT 3**

**Quino Checkerspot Butterfly Attachments A to E - Arellano Property**

3623



### Attachment 3-A

### Site Assessment Map and Host Plant Location Map

### Arellano Hauser Creek Property

Viviane Marquez QCB Permit # 800390-7 &

David B. Waller QCB Permit # 025394-0

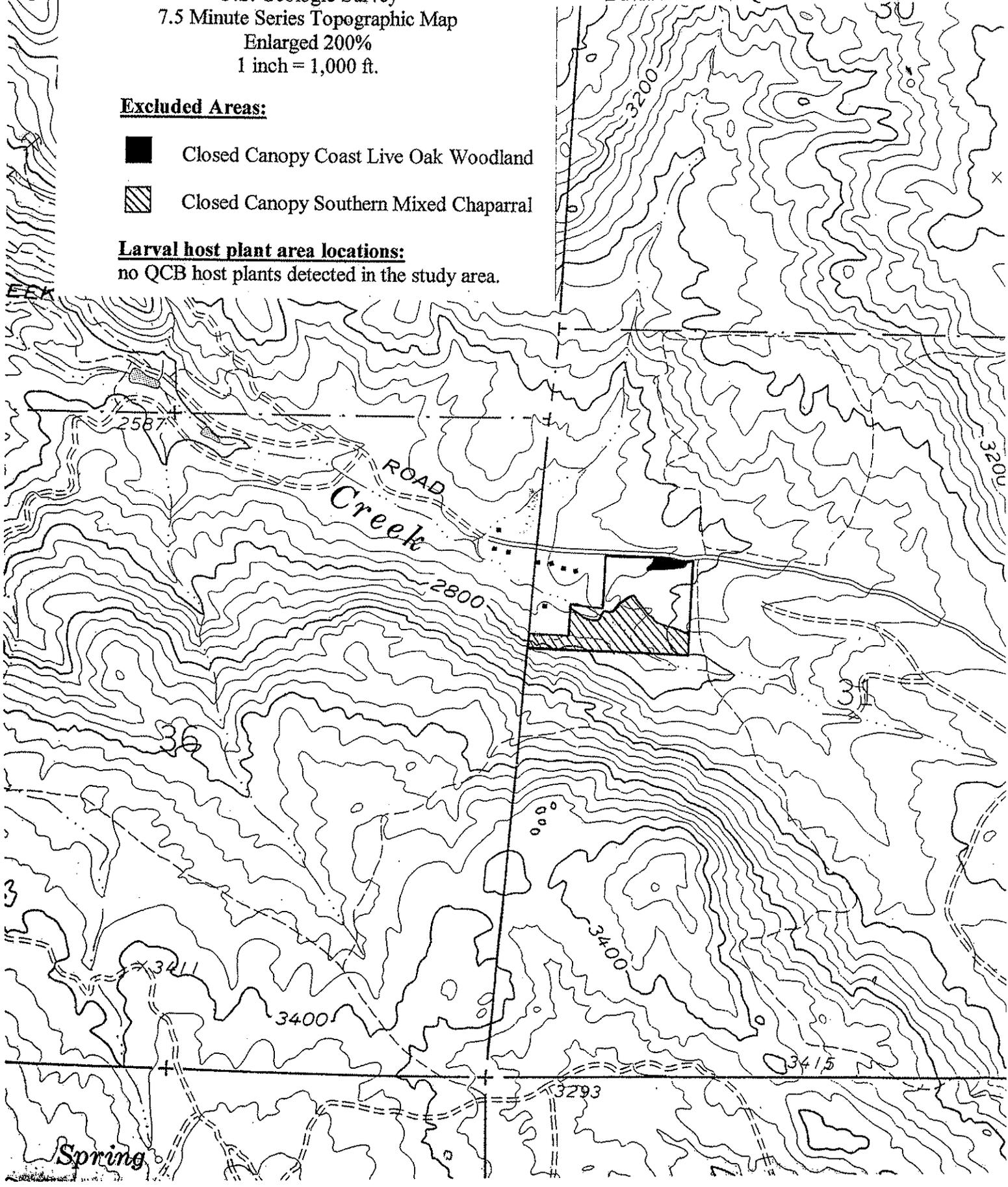
Morena Reservoir Quadrangle  
San Diego County - California  
U.S. Geologic Survey  
7.5 Minute Series Topographic Map  
Enlarged 200%  
1 inch = 1,000 ft.

#### Excluded Areas:

-  Closed Canopy Coast Live Oak Woodland
-  Closed Canopy Southern Mixed Chaparral

#### Larval host plant area locations:

no QCB host plants detected in the study area.



**ATTACHMENT 3-B**  
**Arellano Hauser Creek Property**  
**Butterfly Species Detected**

<b>Family</b>	Mar 24, 2004	Mar 31, 2004	Apr 7, 2004	Apr 14, 2004	Apr 23, 2004
<b>Common Name</b>					
<b>Scientific name</b>					
<b>Swallowtails</b>					
Pale Swallowtail <i>Papilio eurymedon</i>					
Anise Swallowtail <i>Papilio zelicaeon</i>					
Western Tiger Swallowtail <i>Papilio rutulus</i>		1			2
<b>Whites and Orangetips</b>					
Sara Orangetip <i>Anthocharis sara</i>	10	6	5	2	2
Felder's Orangetip <i>Anthocharis cethura</i>		3			
Cabbage White <i>Artogeia rapae</i>					
White sp.	1	1			1
Sleepy Orange <i>Eurema nicippe</i>					
Common White <i>Pontia protodice</i>					1
California Dogface <i>Zerene eurydice</i>					
Alfalfa Butterfly <i>Colias eurytheme</i>					
Harford's Sulfur <i>Colias harfordi</i>		5			1
<b>Satyrids</b>					
California Ringlet <i>Coenonympha californica</i>					
<b>Milkweed Butterflies</b>					
Monarch <i>Danaus Plexippus</i>					
Queen <i>Danaus gilippus</i>					
<b>Brush Footed Butterflies</b>					
Henne's Checkerspot <i>Euphydryas chalcedona hennei</i>					
Chalcedon Checkerspot <i>Euphydryas chalcedona chalcedona</i>					

**Arellano Hauser Creek Property  
Butterfly Species Detected (cont'd)**

<b>Family</b>	Mar	Mar	Apr	Apr	Apr
Common Name	24,	31,	7,	14,	23,
<i>Scientific name</i>	2004	2004	2004	2004	2004
<b>Brush Footed Butterflies (cont'd)</b>					
Quino Checkerspot <i>Euphydryas editha quino</i>					
Gabb's Checkerspot <i>Charidryas gabbii</i>		5	10	20	36
Leaniras Checkerspot <i>Thessalia leanira wrighti</i>					
Mylitta Crescent <i>Phyciodes mylitta</i>					
Painted Lady <i>Vanessa cardui</i>					
West Coast Lady <i>Vanessa annabella</i>					4
Virginia Lady <i>Vanessa virginiensis</i>					
Lady sp. <i>Vanessa sp.</i>			6		10
Red Admiral <i>Vanessa atalanta</i>					
California Buckeye <i>Junonia coenia</i>			1	1	2
Mourning Cloak <i>Nymphalis antiopa</i>		1			
California Tortoiseshell <i>Nymphalis californica</i>					
California Sister <i>Adelpha bredowii californica</i>					3
Satyr Anglewing <i>Polygonia satyrus</i>					
Lorquin's Admiral <i>Basilarchia lorquini</i>					
<b>Blues</b>					
Western-tailed Blue <i>Everes amyntula</i>					
Southern Blue <i>Glaucopsyche lygdamus australis</i>		1	1	2	4
Echo Blue <i>Celastrina ladon acho</i>					

**Arellano Hauser Creek Property  
Butterfly Species Detected (cont'd)**

<b>Family</b>	Mar 24, 2004	Mar 31, 2004	Apr 7, 2004	Apr 14, 2004	Apr 23, 2004
<b>Common Name</b>					
<i>Scientific name</i>					
<b>Blues (cont'd)</b>					
Sonoran Blue					
<i>Philotes sonorensis</i>					
Marine Blue					
<i>Leptotes marina</i>					
Acmon Blue		3	1	4	
<i>Icaricia acmon</i>					
Pygmy Blue					
<i>Brephidium exilis</i>					
Blue sp.					3
<b>Hairstreaks</b>					
Gray Hairstreak					
<i>Strymon melinus</i>					
Brown Elfin			1		
<i>Incisalia augustinus</i>					
Perplexing Hairstreak					
<i>Callophrys perplexa = dumetorum</i>					
Great Purple Hairstreak					
<i>Atlides halesus</i>					
<b>Metalmarks</b>					
Behr's Metalmark		2		3	1
<i>Apodemia mormo virgulti</i>					
Wright's Metalmark					
<i>Calephelis wrightii</i>					
<b>Skippers</b>					
Fiery Skipper					
<i>Hylephila phyleus</i>					
Funeral Duskywing	13	11	11	6	3
<i>Erynnis funeralis</i>					
Checkered Skipper				1	
<i>Pyrgus sp.</i>					
Unidentified Skipper					

**ATTACHMENT 3 - C**  
**Arellano Hauser Creek Property**  
**Host Plants, Nectar Plants and Flowering Plants Detected**

Scientific Name	Common Name	Presence
<b>Host Plants:</b>		
<i>Antirrhinum coulterianum</i>	White Snapdragon	
<i>Castilleja exserta</i>	Owl's clover	
<i>Cordylanthus rigidus</i>	Dark-tip bird's beak	
<i>Plantago erecta</i>	Dot-seed plantain	
<i>Plantago patagonica</i>	wooly plantain	
<b>Cryptogammic Crusts:</b>		
<b>Nectar Plants*:</b>		
<i>Amsinckia intermedia</i>	Fiddleneck	X
<i>Cryptantha</i> sp.	Cryptantha	X
<i>Ericameria</i> sp.	Goldenbush	
<i>Gilia</i> sp.	Gilia	
<i>Lasthenia</i> sp.	Goldfields	X
<i>Layia</i> sp.	Tidy tips	
<i>Linanthus dianthiflorus</i>	Ground pink	
<i>Lotus</i> sp.	Annual lotus	
<i>Salvia columbariae</i>	Chia	X
<b>Other Blooming Plants:</b>		
<i>Brassica geniculata</i>	Short-pod Mustard	X
<i>Brassica nigra</i>	Wild mustard	X
<i>Claytonia perfoliata</i>	Miners Lettuce	X
<i>Clematis ligusticifolia</i>	Virgin's Bower	X
<i>Dichelostemma pulchellum</i>	Wild hyacinth	X
<i>Eriogonum</i> sp.	Buckwheat	X
<i>Erodium</i> sp.	Erodium sp.	X
<i>Lotus scoparius</i>	Deerweed	X
<i>Lupinus</i> sp.	Lupine	X
<i>Marah macrocarpus</i>	Wild Cucumber	X
<i>Marrubium vulgare</i>	Horehound	X
<i>Nemophila menziesii</i>	Baby Blue Eyes	X
<i>Nicotiana glauca</i>	Tree Tobacco	X
<i>Phacelia parryi</i>	Parish's Phacelia	X
<i>Pholistima auritum</i>	Fiesta Flower	X

**Arellano Hauser Creek Property**  
**Host Plants, Nectar Plants and Flowering Plants Detected (cont'd)**

<i>Pickeringia montana</i>	Chaparral Pea	X
<i>Quercus berberidifolia</i>	Scrub Oak	X
<i>Sambucus mexicana</i>	Mexican Elderberry	X
<i>Sisymbrium sp.</i>	Mustard	X
<i>Trichostemma parishii</i>	Mountain Blue Curfs	X

\* Hawks and Ballmer, 1997

DAVID B. WALLER & ASSOCIATE

• Attachment 3-D | QCB Survey General Data Sheets

QUINO CHECKERSPOT SURVEY FORM

HAUSER CREEK PROPERTY

Surveyor David B. Waller Date 3/24/04 Site Visit Number 1  
 Survey Partner(s) 0 Site Location \_\_\_\_\_  
 Total Acres: ~17 Portion Surveyed: ~11 Elevation: Max ~2800 Min ~2725

Time (24 hr)	% Cloud	Sky	Wind (aver/max)	Temp (F)
Start 13:15		clear patchy overcast drizzle shower		
13:15	85	clear patchy overcast drizzle shower	1.8 mph / 5.3 mph	77°
14:15	50	clear patchy overcast drizzle shower	2.6 mph / 6.1 mph	68°
		clear patchy overcast drizzle shower		
		clear patchy overcast drizzle shower		
		clear patchy overcast drizzle shower		
Stop 14:15		clear patchy overcast drizzle shower		

Habitat onsite: open soils, hilltops, ridges, rock outcrops, soil crusts, clay soils, old roads, *Plantago*, *Castilleja*, nectar sources.

Butterfly Species	Count (Total)	Full Stopping	Butterfly Species	Count (Total)	Full Stopping
<b>Nymphalidae (Brush Footed Butterflies)</b>			<b>Lycaenidae (Blues)</b>		
<i>Euphydras editha quino</i> (Quino Checkerspot)			<i>Brephidium exilis</i> (Pygmy Blue)		
<i>Adelpha bredowii</i> (California Sister)			<i>Celastrina ladon echo</i> (Echo Blue)		
<i>Basilarchia lorquini</i> (Lorquin's Admiral)			<i>Everes amyntula</i> (Western Tailed Blue)		
<i>Charidryas gabpii</i> (Gabb's Checkerspot)			<i>Glaucopsyche lygdamus</i> (Southern Blue)		
<i>Euphydras chalcedona</i> (Chalcedon Checkerspot)			<i>Hemiargus ceraunus</i> (Edward's Blue)		
<i>Junonia coenia</i> (Buckeye)			<i>Icarcia acmon</i> (Acmon Blue)		
<i>Nymphalis antiopa</i> (Mourning Cloak)			<i>Leptotes marina</i> (Marine Blue)		
<i>Nymphalis californica</i> (California Tortoiseshell)			<i>Philotes sonorensis</i> (Sonoran Blue)		
<i>Phycoides mylitta</i> (Mylitta Crescent)			<i>Plebejus melissa</i> (Melissa Blue)		
<i>Polygonia satyrus</i> (Satyr Anglewing)			<b>Papilionidae (Swallowtails)</b>		
<i>Speyeria callippe</i> (Callippe Fritillary)			<i>Papilio eurymedon</i> (Pale Swallowtail)		
<i>Thessalia leanira wrighti</i> (Leanira Checkerspot)			<i>Papilio rutulus</i> (Western Tiger Swallowtail)		
<i>Vanessa annabella</i> (West Coast Lady)			<i>Papilio zelicaon</i> (Anise Swallowtail)		
<i>Vanessa atalanta</i> (Red Admiral)			<b>Pieridae (Whites and Orangetips)</b>		
<i>Vanessa cardui</i> (Painted Lady)			<i>Anthocharis cethura</i> (Felder's Orangetip)		
<i>Vanessa virginiensis</i> (Virginia Lady)			<i>Anthocharis lanceolata</i> (Grinnell's Marble)		
<b>Danaidae (Milkweed Butterflies)</b>			<i>Anthocharis sara</i> (Sara Orangetip)	11	10
<i>Danaus gilippus</i> (Queen)			<i>Artogeia rapae</i> (Cabbage White)		
<i>Danaus plexippus</i> (Monarch)			<i>Colias eurytheme</i> (Alfalfa Butterfly)		
<b>Hesperiidae</b>			<i>Colias harfordii</i> (Harford's Sulfur)		
<i>Erynnis funeralis</i> (Funeral Dusky-wing)	13	-	<i>Euchloe hyantis lotta</i> (Southern Marble)		
<i>Heliopterus ericetorum</i> (Great White Skipper)			<i>Eurema nicippe</i> (Sleepy Orange)		
<i>Hylephila phyleus</i> (Fiery Skipper)			<i>Pontia protodice</i> (Common White)		
<i>Pyrgus albescens</i> (Checkered Skipper)			<i>Zerene eurydice</i> (California Dogface)		
<b>Lycaenidae (Hairstreaks)</b>			<b>Riodinidae (Metalmarks)</b>		
<i>Atlides halesus</i> (Great Purple Hairstreak)			<i>Apodemia mormo</i> (Behr's Metalmark)		
<i>Callophrys perplexa = dumetorum</i> (Perplexing Hairstreak)			<i>Calephelis wrighti</i> (Wright's Metalmark)		
<i>Incisalia augustinus</i> (Brown Elfin)			<b>Satyridae (Satyrids)</b>		
<i>Mitoura thornei</i> (Thorne's Hairstreak)			<i>Coenonympha californica</i> (California Ringlet)		
<i>Strymon melinus</i> (Gray Hairstreak)					
<b>OTHERS:</b>			<b>OTHERS:</b>		
1 white sp.	1	-			

# DAVID B. WALLER & ASSOCIATES

5677 OBERLIN DRIVE, SUITE 214, SAN DIEGO, CA 92121

## QUINO CHECKERSPOT SURVEY FORM

## HAUSER CREEK PROPERTY

Surveyor David B. Waller Date 3/31/04 Site Visit Number 2  
 Survey Partner(s) 0 Site Location \_\_\_\_\_  
 Total Acres: ~17 Portion Surveyed: ~11 Elevation: Max 2800 Min 2705

Time (24 hr)	% Cloud	Sky	Wind (aver/max)	Temp (F)
Start 9:05		clear patchy overcast drizzle shower		
9:05	10	clear <u>patchy</u> overcast drizzle shower	1.6mph/5.4mph	70°
10:05	25	clear <u>patchy</u> overcast drizzle shower	4.5mph/7.9mph	72°
		clear patchy overcast drizzle shower		
		clear patchy overcast drizzle shower		
10:50	40	clear <u>patchy</u> overcast drizzle shower	2.4mph/5.6mph	70°
Stop 10:50		clear patchy overcast drizzle shower		

Habitat onsite: open soils, hilltops, ridges, rock outcrops, soil crusts, clay soils, old roads, *Plantago*, *Castilleja*, nectar sources.

Butterfly Species	Count (total)	Hill Topping	Butterfly Species	Count (total)	Hill Topping
<b>Nymphalidae (Brush Footed Butterflies)</b>			<b>Lycaenidae (Blues)</b>		
<i>Euphydras editha quino</i> (Quino Checkerspot)			<i>Brephidium exilis</i> (Pygmy Blue)		
<i>Adelpha bredowii</i> (California Sister)			<i>Celastrina ladon echo</i> (Echo Blue)		
<i>Basilarchia lorquini</i> (Lorquin's Admiral)			<i>Everes amyntula</i> (Western Tailed Blue)		
<i>Charidryas gabbii</i> (Gabb's Checkerspot) <del>    </del>	5	-	<i>Glaucopteryx lygdamus</i> (Southern Blue)	1	-
<i>Euphydras chalcedona</i> (Chalcedon Checkerspot)			<i>Hemiargus ceraunus</i> (Edward's Blue)		
<i>Junonia coenia</i> (Buckeye)			<i>Icarcia acmon</i> (Acmon Blue)	3	-
<i>Nymphalis antiopa</i> (Mourning Cloak)	1	-	<i>Leptotes marina</i> (Marine Blue)		
<i>Nymphalis californica</i> (California Tortoiseshell)			<i>Philotes sonorensis</i> (Sonoran Blue)		
<i>Phycoides mylitta</i> (Mylitta Crescent)			<i>Plebejus melissa</i> (Melissa Blue)		
<i>Polygonia satyrus</i> (Satyr Anglewing)			<b>Papilionidae (Swallowtails)</b>		
<i>Speyeria callippe</i> (Callippe Fritillary)			<i>Papilio eurymedon</i> (Pale Swallowtail)		
<i>Thessalia leanira wrighti</i> (Leanira Checkerspot)			<i>Papilio rutulus</i> (Western Tiger Swallowtail)	1	-
<i>Vanessa annabella</i> (West Coast Lady)			<i>Papilio zelicaon</i> (Anise Swallowtail)		
<i>Vanessa atalanta</i> (Red Admiral)			<b>Pieridae (Whites and Orangetips)</b>		
<i>Vanessa cardui</i> (Painted Lady)			<i>Anthocharis cethura</i> (Felder's Orangetip)	3	-
<i>Vanessa virginiensis</i> (Virginia Lady)			<i>Anthocharis lanceolata</i> (Grinnell's Marble)		
<b>Danaidae (Milkweed Butterflies)</b>			<i>Anthocharis sara</i> (Sara Orangetip) <del>    </del>	6	-
<i>Danaus gilippus</i> (Queen)			<i>Artogeia rapae</i> (Cabbage White)		
<i>Danaus plexippus</i> (Monarch)			<i>Colias eurytheme</i> (Alfalfa Butterfly)		
<b>Hesperiidae</b>			<i>Colias harfordii</i> (Harford's Sulfur) <del>    </del>	5	-
<i>Erynnis funeralis</i> (Funeral Dusky-wing) <del>     </del>	1	-	<i>Euchloe hyantis lotta</i> (Southern Marble)		
<i>Heliopterus ericetorum</i> (Great White Skipper)			<i>Eurema nicippe</i> (Sleepy Orange)		
<i>Hylephila phyleus</i> (Fiery Skipper)			<i>Pontia protodice</i> (Common White)		
<i>Pyrgus albescens</i> (Checkered Skipper)			<i>Zerene eurydice</i> (California Dogface)		
<b>Lycaenidae (Hairstreaks)</b>			<b>Riodinidae (Metalmarks)</b>		
<i>Allides halesus</i> (Great Purple Hairstreak)			<i>Apodemia mormo</i> (Behr's Metalmark)	2	-
<i>Callophrys perplexa = dumetorum</i> (Perplexing Hairstreak)			<i>Calephelis wrighti</i> (Wright's Metalmark)		
<i>Incisalia augustinus</i> (Brown Elf)			<b>Satyridae (Satyrids)</b>		
<i>Mitoura thornei</i> (Thorne's Hairstreak)			<i>Coenonympha californica</i> (California Ringlet)		
<i>Strymon melinus</i> (Gray Hairstreak)					
<b>OTHERS:</b>			<b>OTHERS:</b>		
<i>White sp.</i>	1	-			

# DAVID B. WALLER & ASSOCIATES

3677 OBERLIN DRIVE, SUITE 214, SAN DIEGO, CA 92121

## QUINO CHECKERSPOT SURVEY FORM

HAUSER CREEK PROPERTY

Surveyor David B. Waller Date 4/7/07 Site Visit Number 3  
 Survey Partner(s) Ø Site Location \_\_\_\_\_  
 Total Acres: ~17 Portion Surveyed: ~11 Elevation: Max ~2800 Min ~2725

Time (24 hr)	% Cloud	Sky					Wind (aver/max)			Temp (F)
		clear	patchy	overcast	drizzle	shower	Low mph	Average mph	high mph	
Start 1350										
1350	0	clear	patchy	overcast	drizzle	shower	1.6	2.0	7.6	65°
1450	0	clear	patchy	overcast	drizzle	shower	1.8	2.6	6.7	71°
1550	0	clear	patchy	overcast	drizzle	shower	2.7	3.1	10.6	65°
		clear	patchy	overcast	drizzle	shower				
		clear	patchy	overcast	drizzle	shower				
Stop 1550		clear	patchy	overcast	drizzle	shower				

Habitat onsite: open soils, hilltops, ridges, rock outcrops, soil crusts, clay soils, old roads, *Plantago*, *Castilleja*, nectar sources.

Butterfly Species	Count (total)	Still stopping	Butterfly Species	Count (total)	Still stopping
<b>Nymphalidae (Brush Footed Butterflies)</b>			<b>Lycaenidae (Blues)</b>		
<i>Euphydryas editha quino</i> (Quino Checkerspot)			<i>Brephidium exilis</i> (Pygmy Blue)		
<i>Adelpha brazdowii</i> (California Sister)			<i>Celastrina ladon echo</i> (Echo Blue)		
<i>Basilarchia lorquini</i> (Lorquin's Admiral)			<i>Everes amyntula</i> (Western Tailed Blue)		
<i>Charidryas gabbii</i> (Gabb's Checkerspot) <del>THH</del>	10	-	<i>Glaucopsyche lygdamus</i> (Southern Blue)	1	-
<i>Euphydryas chalcedona</i> (Chalcedon Checkerspot)			<i>Hemiarctus ceraunus</i> (Edward's Blue)		
<i>Junonia coenia</i> (Buckeye)	1	-	<i>Icarcia acmon</i> (Acmon Blue)	1	-
<i>Nymphalis antiopa</i> (Mourning Cloak)			<i>Leptotes marina</i> (Marine Blue)		
<i>Nymphalis californica</i> (California Tortoiseshell)			<i>Philotes sonorensis</i> (Sonoran Blue)		
<i>Phycoides mylitta</i> (Mylitta Crescent)			<i>Plebejus melissa</i> (Melissa Blue)		
<i>Polygonia satyrus</i> (Satyr Anglewing)			<b>Papilionidae (Swallowtails)</b>		
<i>Speyeria callippe</i> (Callippe Fritillary)			<i>Papilio eurymedon</i> (Pale Swallowtail)		
<i>Thessalia leanira wrighti</i> (Leanira Checkerspot)			<i>Papilio rutulus</i> (Western Tiger Swallowtail)		
<i>Vanessa annabella</i> (West Coast Lady)			<i>Papilio zelicaon</i> (Anise Swallowtail)		
<i>Vanessa atalanta</i> (Red Admiral)			<b>Pieridae (Whites and Orangetips)</b>		
<i>Vanessa cardui</i> (Painted Lady)			<i>Anthocharis cethura</i> (Felder's Orangetip)		
<i>Vanessa virginiensis</i> (Virginia Lady)			<i>Anthocharis lanceolata</i> (Grinnell's Marble)		
<b>Danaidae (Milkweed Butterflies)</b>			<i>Anthocharis sara</i> (Sara Orangetip) <del>THH</del>	5	-
<i>Danaus gilippus</i> (Queen)			<i>Ariogeia rapae</i> (Cabbage White)		
<i>Danaus plexippus</i> (Monarch)			<i>Colias eurytheme</i> (Alfalfa Butterfly)		
<b>Hesperiidae</b>			<i>Colias harfordii</i> (Harford's Sulfur)		
<i>Erynnis funeralis</i> (Funeral Dusky-wing) <del>THH THH I</del>	11	-	<i>Euchloe hyantis lotta</i> (Southern Marble)		
<i>Heliopetes ericetorum</i> (Great White Skipper)			<i>Eurema nicippe</i> (Sleepy Orange)		
<i>Hylephila phyleus</i> (Fiery Skipper)			<i>Pontia protodice</i> (Common White)		
<i>Pyrgus albescens</i> (Checkered Skipper)			<i>Zerene eurydice</i> (California Dogface)		
<b>Lycaenidae (Hairstreaks)</b>			<b>Riodinidae (Metalmarks)</b>		
<i>Atilides halesus</i> (Great Purple Hairstreak)			<i>Apodemia mormo</i> (Behr's Metalmark)		
<i>Callophrys perplexa = dumetorum</i> (Perplexing Hairstreak)			<i>Calephelis wrighti</i> (Wright's Metalmark)		
<i>Incisalia augustinus</i> (Brown Elf)	1	-	<b>Satyridae (Satyrids)</b>		
<i>Mitoura thornei</i> (Thome's Hairstreak)			<i>Coenonympha californica</i> (California Ringlet)		
<i>Strymon melinus</i> (Gray Hairstreak)					
<b>OTHERS:</b>			<b>OTHERS:</b>		
LADY SP. <del>THH I</del>	6	-			

# DAVID B. WALLER & ASSOCIATES

5677 OBERLIN DRIVE, SUITE 214, SAN DIEGO, CA 92121

## QUINO CHECKERSPOT SURVEY FORM

HAUSER CREEK PROPERTY

Surveyor David B. Waller Date 4/14/04 Site Visit Number 4  
 Survey Partner(s) 0 Site Location \_\_\_\_\_  
 Total Acres: ~17 Portion Surveyed: ~11 Elevation: Max 2800 Min 2725

Time (24 hr)	% Cloud	Sky	Wind (aver/max)	Temp (F)
Start 10:10		clear patchy overcast drizzle shower	Low Ave Max	
10:10	0	clear patchy overcast drizzle shower	1.5 mph 1.7 mph 5.2 mph	68.5
11:10	0	clear patchy overcast drizzle shower	0.3 mph 1.9 mph 9.2 mph	70
12:00	0	clear patchy overcast drizzle shower	0.3 mph 2.2 mph 6.9 mph	66
		clear patchy overcast drizzle shower		
		clear patchy overcast drizzle shower		
Stop 12:00		clear patchy overcast drizzle shower		

Habitat onsite: open soils, hilltops, ridges, rock outcrops, soil crusts, clay soils, old roads, *Plantago*, *Castilleja*, nectar sources.

Butterfly Species	Count (Total)	Hilltopping	Butterfly Species	Count (Total)	Hilltopping
<b>Nymphalidae (Brush Footed Butterflies)</b>			<b>Lycaenidae (Blues)</b>		
<i>Euphydryas editha quino</i> (Quino Checkerspot)			<i>Brephidium exilis</i> (Pygmy Blue)		
<i>Adelpha bredowii</i> (California Sister)			<i>Celastrina ladon echo</i> (Echo Blue)		
<i>Basilarchia lorquini</i> (Lorquin's Admiral)			<i>Everes amyntula</i> (Western Tailed Blue)		
<i>Charidryas gabbii</i> (Gabb's Checkerspot) <del>     </del>	20	-	<i>Glaucopsyche lygdamus</i> (Southern Blue)	2	-
<i>Euphydryas chalcedona</i> (Chalcedon Checkerspot)			<i>Hemiarctus ceraunus</i> (Edward's Blue)		
<i>Junonia coenia</i> (Buckeye)			<i>Icarcia acmon</i> (Acmon Blue)	4	-
<i>Nymphalis antiopa</i> (Mourning Cloak)			<i>Leptotes marina</i> (Marine Blue)		
<i>Nymphalis californica</i> (California Tortoiseshell)			<i>Phlotes sonorensis</i> (Sonoran Blue)		
<i>Phycoides mylitta</i> (Mylitta Crescent)			<i>Plebejus melissa</i> (Melissa Blue)		
<i>Polygonia satyrus</i> (Satyr Anglewing)			<b>Papilionidae (Swallowtails)</b>		
<i>Speyeria callippe</i> (Callippe Fritillary)			<i>Papilio eurymedon</i> (Pale Swallowtail)		
<i>Thessalia leanira wrighti</i> (Leanira Checkerspot)			<i>Papilio rutulus</i> (Western Tiger Swallowtail)		
<i>Vanessa annabella</i> (West Coast Lady)			<i>Papilio zelicaon</i> (Anise Swallowtail)		
<i>Vanessa atalanta</i> (Red Admiral)			<b>Pieridae (Whites and Orangetips)</b>		
<i>Vanessa cardui</i> (Painted Lady)			<i>Anthocharis cethura</i> (Felder's Orangetip)		
<i>Vanessa virginiensis</i> (Virginia Lady)			<i>Anthocharis lanceolata</i> (Grinnell's Marble)		
<b>Danaidae (Milkweed Butterflies)</b>			<i>Anthocharis sara</i> (Sara Orangetip)	2	-
<i>Danaus gilippus</i> (Queen)			<i>Artogeia rapae</i> (Cabbage White)		
<i>Danaus plexippus</i> (Monarch)			<i>Colias eurytheme</i> (Alfalfa Butterfly)		
<b>Hesperiidae</b>			<i>Colias harfordii</i> (Harford's Sulfur)		
<i>Erynnis funeralis</i> (Funeral Dusky-wing)	6	-	<i>Euchloe hyantis lotta</i> (Southern Marble)		
<i>Heliopetes ericetorum</i> (Great White Skipper)			<i>Eurema nicippe</i> (Sleepy Orange)		
<i>Hylephila phyleus</i> (Fiery Skipper)			<i>Pontia protodice</i> (Common White)		
<i>Pyrgus albescens</i> (Checkered Skipper)			<i>Zerene eurydice</i> (California Dogface)		
<b>Lycaenidae (Hairstreaks)</b>			<b>Riodinidae (Metalmarks)</b>		
<i>Ailides halesus</i> (Great Purple Hairstreak)			<i>Apodemia mormo</i> (Behr's Metalmark)	3	-
<i>Callophrys perplexa = dumetorum</i> (Perplexing Hairstreak)			<i>Calephelis wrighti</i> (Wright's Metalmark)		
<i>Incisalia augustinus</i> (Brown Elfin)			<b>Satyridae (Satyrids)</b>		
<i>Mitoura thornei</i> (Thorne's Hairstreak)			<i>Coenonympha californica</i> (California Ringlet)		
<i>Strymon melinus</i> (Gray Hairstreak)					
<b>OTHERS:</b>			<b>OTHERS:</b>		

# Quino Checkerspot General Form

Surveyor Viviane Marquez Date April 23, 04 Site Visit Number 5  
 Survey Partner(s) - Site Location Hanser Creek  
 Total Acres: 17 Portion Surveyed: entire Elevation: Max 2800 Min 2695

Time (24 hr)	% Clouds	Sk	Wind (ave./max)	Temp (F)
Start 12:40		(clear) patchy overcast drizzle shower	0-1.9/0.8avg	79.7°
		clear patchy overcast drizzle shower		
		clear patchy overcast drizzle shower		
		clear patchy overcast drizzle shower		
		clear patchy overcast drizzle shower		
Stop 15:05		(clear) patchy overcast drizzle shower	1.0-6.9/2.8avg	80.4

Habitat onsite: open soils, hilltops, ridges, rock outcrops, soil crusts, clay soils, old roads, *Plantago*, *Castilleja*, nectar sources.

Butterfly Species	Count (Total)	Hill-opping	Butterfly Species	Count (Total)	Hill-opping
<b>Nymphalidae (Brush Footed Butterflies)</b>			<b>Lycaenidae (Blues)</b>		
<i>Euphydras editha quino</i> (Quino Checkerspot)			<i>Brephidium exilis</i> (Pygmy Blue)		
<i>Adelpha bredowii</i> (California Sister)	3		<i>Celastrina ladon echo</i> (Echo Blue)		
<i>Basilarchia lorquini</i> (Lorquin's Admiral)			<i>Everes amyntula</i> (Western Tailed Blue)		
<i>Charidryas gabbii</i> (Gabb's Checkerspot)	36		<i>Glaucopsyche lygdamus</i> (Southern Blue)	4	
<i>Euphydras chalcedona</i> (Chalcedon Checkerspot)			<i>Hemiargus ceraunus</i> (Edward's Blue)		
<i>Junonia coenia</i> (Buckeye)	2		<i>Icarcia acmon</i> (Acmon Blue)		
<i>Nymphalis antiopa</i> (Mourning Cloak)			<i>Leptotes marina</i> (Marine Blue)		
<i>Nymphalis californica</i> (California Tortoiseshell)			<i>Philotes sonorensis</i> (Sonoran Blue)		
<i>Phycoides mylitta</i> (Mylitta Crescent)			<i>Plebejus melissa</i> (Melissa Blue)		
<i>Polygonia satyrus</i> (Satyr Anglewing)			<b>Papilionidae (Swallowtails)</b>		
<i>Speyeria callippe</i> (Callippe Fritillary)			<i>Papilio eurymedon</i> (Pale Swallowtail)		
<i>Thessalia leanira wrighti</i> (Leanira Checkerspot)			<i>Papilio rutulus</i> (Western Tiger Swallowtail)	3	
<i>Vanessa annabella</i> (West Coast Lady)	4		<i>Papilio zelicaon</i> (Anise Swallowtail)		
<i>Vanessa atalanta</i> (Red Admiral)			<b>Pieridae (Whites and Orangetips)</b>		
<i>Vanessa cardui</i> (Painted Lady)			<i>Anthocharis cethura</i> (Felder's Orangetip)		
<i>Vanessa virginiensis</i> (Virginia Lady)			<i>Anthocharis lanceolata</i> (Grinnell's Marble)		
<b>Danaidae (Milkweed Butterflies)</b>			<i>Anthocharis sara</i> (Sara Orangetip)	2	
<i>Danaus gilippus</i> (Queen)			<i>Artogeia rapae</i> (Cabbage White)		
<i>Danaus plexippus</i> (Monarch)			<i>Colias eurytheme</i> (Alfalfa Butterfly)		
<b>Hesperiidae</b>			<i>Colias harfordii</i> (Harford's Sulfur)	1	
<i>Erynnis funeralis</i> (Funeral Dusky-wing)	3		<i>Euchloe hyantis lotta</i> (Southern Marble)		
<i>Heliopetes ericetorum</i> (Great White Skipper)			<i>Eurema nicippe</i> (Sleepy Orange)		
<i>Hylephila phyleus</i> (Fiery Skipper)			<i>Pontia protodice</i> (Common White)	1	
<i>Pyrgus albescens</i> (Checkered Skipper)			<i>Zerene eurydice</i> (California Dogface)		
<b>Lycaenidae (Hairstreaks)</b>			<b>Riodinidae (Metalmarks)</b>		
<i>Atides halesus</i> (Great Purple Hairstreak)			<i>Apodemia mormo</i> (Behr's Metalmark)	1	
<i>Callophrys perplexa = dumetorum</i> (Perplexing Hairstreak)			<i>Calephelis wrighti</i> (Wright's Metalmark)		
<i>Incisalia augustinus</i> (Brown Elf)			<b>Satyridae (Satyrids)</b>		
<i>Mitoura thornei</i> (Thome's Hairstreak)			<i>Coenonympha californica</i> (California Ringlet)		
<i>Strymon melinus</i> (Gray Hairstreak)					
<b>OTHERS:</b> <i>Lady sp.</i>	10		<b>OTHERS:</b> <i>white sp</i>	1	
			<i>Blue sp</i>	3	

Attachment 3-E | - Original QCB Survey Field Notes

Hauser Creek Property 3/21/04

Time to Site from <sup>PO</sup> 1 off 1

Morena Village : 0:40 minutes

Time : 1:15pm

Temp: <sup>START</sup> 77°

Cloud Cover: 85°

Wind: 5.3 mi mph / 1.8 mph air

~~111 111 111~~ Funeral Duckyaung  
~~111 111~~ Sarah's Orange top  
1 white sp

Time <sup>NO</sup> 2:15pm

Temp: 68°

Cloud Cover: 50°

Wind 6.6 mph mat / 2.6 mph air

Left Property : 2:35pm

Time Returned: 4:05

Miles: 80405

Hausser Creek 1 of 2 3/31/04

Time leaving work/home: 7:35 am

Mileage: 080573

Time to Hausser Creek: 9:05 am

Mileage: 080652

Temp: 70°

Cloud cover: 10%

Wind speed: 5.4 mph max / 1.6 min

Fiddleneck

~~1~~ Sarah's orange tip 11 Behr's Metalmark

1/1 common Blue 1 Southern Blue

1 Mourning cloak 1 White sp.

1/1 Felder's orange tip

~~1~~ Gabb's checker spot

~~1~~ ~~1~~ ~~1~~ Hummer Dusky wing

1 Tiger Swallowtail

~~1~~ ~~1~~ ~~1~~ Hartford Sulphur

Time 10:05

Wind speed 7.9 max mph / 4.5 ave mph

Temp: 72°

Cloud cover 25%

2 of 2  
Houser Creek 3/31/04

Time ended survey: 10:50am

Temp: 70°

Wind: 5.6 mph max / 2.4 mph ave

Cloud cover: 40%

Took 4 photos of Gabs.



19242

4/7/04

Time end survey: 3:50

Temp: 65<sup>00</sup>

Cloud cover: Clear

Wind speed: 10.6 mph way 3.1 mph  
2.9 mph min

Time returned to Encoders 5:30 pm  
Mileage: 00177



Hansen Creek 4/14/04

Time: 12:00 noon and sunny

Temp: 66°

Cloud Cover: Clear

Wind speed: 6.9 max mph 2.2 mph avg

0.3 mm rain

T

Arrellano Property 4/23/04  
Hansen Creek

QCB # 5 10<sup>30</sup> 33mi

0-1.9 0.8avg 12<sup>35</sup> 125miles

100% deer 79.7°

12<sup>40</sup> start survey

\* western tiger swallow tail (11)

\* white sp. 1

\* funeral dusky wing (11)

plants  
flowers listed were

flowering during this survey

brassica napa

brassica townsendii

Cryptantha

erodium cicutarium

litus scoparius

amsonia intermedia

\* California aster (11)



P3

4/23/04

Hansen Creek

goldfields

*Lupinus* sp.

*manubrium vulgare*

*nicotiana glauca*

chia sp.

\* Harfords sulfur 1

*Sambucus mexicana*

*erigonum*

\* Behr metalmark 1

\* common white 1

1.0-6.9 2.8avg

PO<sup>4</sup> 100% clear

endsurvey 3:05

5<sup>15</sup>

208ms

*nemophila menziesii*

**ATTACHMENT 4**  
**Likelihood of Sensitive Species Occurrence On-site**  
**- Arellano Property**

Attachment 4  
 Arellano Property  
 Likelihood of sensitivity species occurrence on-site

COMMON NAME	SCIENTIFIC NAME	STATUS	HABITAT	LIKELIHOOD ON-SITE
<b>ANIMALS</b>				
<b>Birds</b>				
Bell's Sage Sparrow	<i>Amphispiza belli</i>	FSC/CSC	chaparral, sage scrub	low
Black-shouldered Kite	<i>Elanus caeruleus</i>	MNBM/C	nests in riparian woodlands that border grasslands and open fields or shrublands	low
Coopers Hawk	<i>Accipiter cooperi</i>	SSC	breeds in oak woodlands, forages in may habitats	moderate
Golden Eagle	<i>Aquila chrysaetos</i>	SSC	nests on cliff ledges or in trees, forages in grassland and open chaparral or scrub	low
Red-shouldered Hawk	<i>Buteo lineatus</i>	None	woodlands	moderate
Sharp-shinned Hawk	<i>Accipiter striatus</i>	SSC	woodlands, parks, anywhere with a few trees	low
Turkey Vulture	<i>Cathartes aura</i>	Considered Sensitive by County	open fields, shrublands and grasslands-seen flying overhead	low
Western Bluebird	<i>Sialia mexicana</i>	None	woodlands adjoining meadows or grasslands	moderate
<b>Reptiles</b>				
Coast Patch-nosed Snake	<i>Salvadora hexalepis virgulata</i>	FSC/SSC	sage scrub, chaparral	extremely low
Coastal Rosy Boa	<i>Lichanura trivirgata</i>	FSC	sage scrub, chaparral	low

COMMON NAME	SCIENTIFIC NAME	STATUS	HABITAT	LIKELIHOOD ON-SITE
<b>Mammals (cont'd)</b>				
San Diego Black-tailed Jackrabbit	<i>Lepus californicus</i>	harvest species	grassland, open sage scrub	low
San Diego Desert Woodrat	<i>Neotoma lepida intermedia</i>	SSC/FSC	rock outcrops adjacent to shrublands	low
Small-footed Myotis	<i>Myotis ciliolabrum</i>	FSC	woodland association	moderate
Southern Mule Deer	<i>Odocoileus hemionus</i>	harvest species	multiple habitats	moderate
Southern Grasshopper Mouse	<i>Onychomys torridus ramona</i>	SSC/FSC	grasslands	extremely low
Spotted Bat	<i>Euderma maculatum</i>	SSC	vagrant, arid and semi arid western U.S.	extremely low
Townsend's Western Big-eared Bat	<i>Corynorhinus townsendii</i>	SSC/FSC	mine obligate roosting, forages in many habitats	low
Western Red Bat	<i>Lasiurus blossevillii</i>	None	oak/riparian association	low
Yuma Myotis	<i>Myotis yumanensis sociabilis</i>	SSC/FSC	Multiple roosting and foraging habitats	low
<b>PLANTS</b>				
Jacumba Milkvetch	<i>Astragalus douglasii perstrictus</i>	CNPS List 1B	chaparral, cismontane woodlands, valley and foothill grassland, 900-1370 m	low
Fremont barberry	<i>Berberis fremontii</i>	CNPS List 3	chaparral, Joshua tree woodland, pinyon and juniper woodland, rocky, 840-1850 m	low
Payson's jewelflower	<i>Caulanthus simulans</i>	CNPS List 4	chaparral, coastal scrub/sandy, granitic 90-2200 m	low

COMMON NAME	SCIENTIFIC NAME	STATUS	HABITAT	LIKELIHOOD ON-SITE
<b>Reptiles (cont'd)</b>				
Coastal Western Whiptail	<i>Cnemidophorus tigris multiscutatus</i>	FSC	sage scrub, chaparral	low
San Diego Horned Lizard	<i>Phrynosoma coronatum bleivillei</i>	FSC/SSC	sage scrub, chaparral	low
San Diego Ringneck Snake	<i>Diadophis punctatus similis</i>	None	sage scrub, chaparral	low
<b>Mammals</b>				
American Badger	<i>Taxidea texus</i>	None	open shrubland	low
Big Free-tailed Bat	<i>Tadarida macrotis</i>	SSC	roosts in high vertical cliffs, forages in many habitats	low
Fringed Myotis	<i>Myotis thysanodes</i>	FSC	chaparral and mixed forests, multiple habitat roosting sp.	low
Greater Western Mastiff Bat	<i>Eumops perotis ssp. californicus</i>	SSC/FSC	roosts in high vertical cliffs, forages in many habitats	low
Long-eared Myotis	<i>Myotis evotis</i>	FSC	usually above 650m. multiple habitat roosting sp.	low
Long-legged Myotis	<i>Myotis volans</i>	FSC	mixed woodland	low
Mountain Lion	<i>Felis concolor</i>	none	multiple habitats	moderate
Pallid Bat	<i>Antrozous pallidus</i>	SSC	lowland areas in grasslands shrublands, woodlands	low
Pocketed Free-tailed Bat	<i>Nyctinomops femorosacca</i>	SSC	roosts in high vertical cliffs, forages in many habitats	low
Ringtail	<i>Bassariscus astutus octavus</i>		rock outcrops near brush and chaparral	extremely low

COMMON NAME	SCIENTIFIC NAME	STATUS	HABITAT	LIKELIHOOD ON-SITE
PLANTS (cont'd)				
Sticky Gerea	<i>Gerea viscida</i>	CNPS List 2	chaparral, 450-1700 m	low
Pride of California	<i>Lathyrus splendens</i>	CNPS List 4	chaparral, 200-1525 m	low
Desert Beauty	<i>Linanthus bellus</i>	CNPS List 2	chaparral, 1000-1400 m	low
Morena current	<i>Ribes canthariforme</i>	CNPS List 1B	chaparral 340-1200 m	low
Southern jewelflower	<i>Streptanthus campestris</i>	CNPS List 1B	chaparral, lower montane coniferous forest, pinyon and juniper woodland/rocky, 900-2300 m	low
Tecate tarplant	<i>Deinandra floribunda</i>	CNPS List 1B	chaparral, coastal scrub 70-1220 m	low

\*FE = Federal Endangered  
 FT = Federal Threatened  
 PE = Proposed Endangered  
 PT = Proposed Threatened  
 FSC= Federal Special Concern Species  
 MNBMC = U.S. Fish & Wildlife Service: Migratory Nongame Birds of Management Concern  
 CNPS List 1 B = California Native Plant Society (CNPS) lists species as rare, threatened or endangered in CA and elsewhere; eligible for listing and requires mandatory CEQA consideration  
 CNPS List 2 = CNPS lists species as rare, threatened or endangered in CA but more common elsewhere; eligible for listing and requires mandatory CEQA consideration

SE = State Endangered  
 ST = State Threatened  
 SR = State Rare  
 CSC= State Special Concern Species  
 CEQA = CEQA consideration recommended