2015 Quino Checkerspot Butterfly Survey Form

Surveyor: Alicia Hill **Date:** 3/13/15

Site Name: Proctor Valley – Village 14 of Otay Ranch I, J, K, L **Site Visit No:** 4

Acres Surveyed 145 **Survey Time:** 6.00 **Acres per Hour:** 6.04

Other Surveyors Present: Travis Cooper, Victor Novick, Brian Lohstroh

Field Conditions				
	Time (24 hr)	Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start	0800	62	0-1	0 %
End	1400	91	4-7	0 %
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.) chamise chaparral, non-native grassland, CSS (ARTCAL, ERIFAS, ACMGLA)

Host Plants	Obs.	Nectar Plants	Obs.
dwarf plantain (*Plantago erecta*)	X	popcorn flower (*Cryptantha/Plagiobothrys* spp.)	X
purple owl's clover (*Castilleja ~~exserta~~* densiflora)	X	goldfields (*Lasthenia* spp.)	X
snapdragon (*Antirrhinum coulterianum*)		goldenstar (*Muilla* spp.)	X
birds-beak (*Cordylanthus rigidus*)		fiddleneck (*Amsinckia menziesii* var. *intermedia*)	X
woolly plantain (*Plantago patagonica*)		onion (*Allium* spp.)	X
Chinese houses (*Collinsia* spp.)		buckwheat (*Eriogonum fasciculatum*)	X
		ground pink (*Linanthus dianthiflorus*)	X

Butterfly Species	No.	Butterfly Species	No.
Checkerspots		**Hairstreaks**	
California patch (*Chlosyne californica*)		great purple hairstreak (*Atlides halesus corcorani*)	
Gabb's checkerspot (*C. gabbii*)	1	brown elfin (*Callophrys augustinus*)	
Quino checkerspot (*Euphydryas editha quino*)		bramble (perplexing) hairstreak (*C. dumetorum affinis*)	
chalcedon checkerspot (*E. chalcedona chalcedona*)		gray hairstreak (*Strymon melinus pudica*)	
Leanira checkerspot (*Thessalia leanira wrighti*)		**Ladies/Admirals**	
Mylitta crescent (*Phyciodes mylitta*)		California sister (*Adelpha bredowii californica*)	
Blues		Lorquin's admiral (*Limenitis lorquini*)	
western pygmy-blue (*Brephidium exila*)		west coast lady (*Vanessa annabella*)	
western tailed blue (*Everes amyntula*)		red admiral (*V. atalanta rubria*)	
southern blue (*Glaucopsyche lygdamus australis*)	1	painted lady (*V. cardui*)	
Edward's blue (*Hemiargus ceraunus gyas*)		American (Virginia) lady (*V. virginiensis*)	
Acmon blue (*Icaricia acmon acmon*)		unidentified lady (*Vanessa* sp.)	12
marine blue (*Leptotes marina*)		**Swallowtails**	
unidentified blue	4	pale swallowtail (*Papilio eurymedon*)	
Whites		western tiger swallowtail (*P. rutulus*)	
Sara orangetip (*Anthocharis sara sara*)	2	anise swallowtail (*P. zelicaon*)	
desert (Felder's) orangetip (*A. cethura*)		**Miscellaneous**	
common California ringlet (*Coenonympha californica*)		monarch (*Danaus plexippus*)	
cabbage white (*Pieris rapae*)		common buckeye (*Junonia coenia grisea*)	
checkered (common) white (*Pontia protodice*)		mourning cloak (*Nymphalis antiopa*)	
spring white (*P. sisymbrii*)		**Skippers**	
unidentified white	3	funereal duskywing (*Erynnis funeralis*)	34
Metalmarks		mournful duskywing (*Erynnis tristis*)	
Behr's metalmark (*Apodemia mormo virgulti*)	40	fiery skipper (*Hylephila phyleus*)	
Wright's metalmark (*Calephelis wrighti*)		white (common) checkered-skipper (*Pyrgus albescens*)	
Sulphurs		**Other**	
orange sulphur (*Colias eurytheme*)		Comstock's fritillary	1
sleepy orange (*Eurema nicippe*)			
cloudless sulfur (*Phoebus sennae marcellina*)			
unidentified sulphur	6		
Column Subtotal	60	**Column Subtotal**	46
		Total	106

grodium sp
SIL GAL
GWT CAL
SOL PAR
Lotus sp.
DIC CAR
CAL CIL
CLA PUR
SIS BEL
DEL FAS
MIR LAE
VIO PED

2015 Quino Checkerspot Butterfly Survey Form

Surveyor: Travis Cooper **Date:** 3/13/15

Site Name: Proctor Valley – Village 14 of Otay Ranch IJK (10 ac.) L **Site Visit No:** 4

Acres Surveyed 145 **Survey Time:** 6hrs **Acres per Hour:** 6.04

Other Surveyors Present: Alicia Hill, Victor Novik, Brian Hostoh

Field Conditions				
	Time (24 hr)	Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start	0800	62°	0-1	Ø
End	1400	91°	4-7	Ø
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)
Chamise chaparral,
NNG, NG

Host Plants	Obs.	Nectar Plants	Obs.
dwarf plantain (*Plantago erecta*)	X	popcorn flower (*Cryptantha/Plagiobothrys* spp.)	X
~~purple~~ owl's clover (*Castilleja ~~exserta~~*) *densiflora*	X	goldfields (*Lasthenia* spp.)	X
snapdragon (*Antirrhinum coulterianum*)		goldenstar (*Muilla* spp.)	X
birds-beak (*Cordylanthus rigidus*)		fiddleneck (*Amsinckia menziesii* var. *intermedia*)	X
woolly plantain (*Plantago patagonica*)		onion (*Allium* spp.)	X
Chinese houses (*Collinsia* spp.)		buckwheat (*Eriogonum fasciculatum*)	X
		ground pink (*Linanthus dianthiflorus*)	X

Butterfly Species	No.	Butterfly Species	No.
Checkerspots		**Hairstreaks**	
California patch (*Chlosyne californica*)		great purple hairstreak (*Atlides halesus corcorani*)	
Gabb's checkerspot (*C. gabbii*)	1	brown elfin (*Callophrys augustinus*)	
Quino checkerspot (*Euphydryas editha quino*)		bramble (perplexing) hairstreak (*C. dumetorum affinis*)	
chalcedon checkerspot (*E. chalcedona chalcedona*)		gray hairstreak (*Strymon melinus pudica*)	
Leanira checkerspot (*Thessalia leanira wrighti*)		**Ladies/Admirals**	
Mylitta crescent (*Phyciodes mylitta*)		California sister (*Adelpha bredowii californica*)	
Blues		Lorquin's admiral (*Limenitis lorquini*)	
western pygmy-blue (*Brephidium exila*)		west coast lady (*Vanessa annabella*)	
western tailed blue (*Everes amyntula*)		red admiral (*V. atalanta rubria*)	
southern blue (*Glaucopsyche lygdamus australis*)	8	painted lady (*V. cardui*)	
Edward's blue (*Hemiargus ceraunus gyas*)		American (Virginia) lady (*V. virginiensis*)	
Acmon blue (*Icaricia acmon acmon*)	1	unidentified lady (*Vanessa* sp.)	
marine blue (*Leptotes marina*)		**Swallowtails**	
unidentified blue	6	pale swallowtail (*Papilio eurymedon*)	
Whites		western tiger swallowtail (*P. rutulus*)	
Sara orangetip (*Anthocharis sara sara*)	35	anise swallowtail (*P. zelicaon*)	
desert (Felder's) orangetip (*A. cethura*)		**Miscellaneous**	
common California ringlet (*Coenonympha californica*)		monarch (*Danaus plexippus*)	
cabbage white (*Pieris rapae*)		common buckeye (*Junonia coenia grisea*)	
checkered (common) white (*Pontia protodice*)		mourning cloak (*Nymphalis antiopa*)	
spring white (*P. sisymbrii*)		**Skippers**	
unidentified white		funereal duskywing (*Erynnis funeralis*)	36
Metalmarks		mournful duskywing (*Erynnis tristis*)	
Behr's metalmark (*Apodemia mormo virgulti*)	71	fiery skipper (*Hylephila phyleus*)	
Wright's metalmark (*Calephelis wrighti*)		white (common) checkered-skipper (*Pyrgus albescens*)	
Sulphurs		**Other**	
orange sulphur (*Colias eurytheme*)		Comstock's Fritallary	1
sleepy orange (*Eurema nicippe*)			
cloudless sulfur (*Phoebus sennae marcellina*)			
unidentified sulphur			
Column Subtotal		**Column Subtotal**	
		Total	130

2015 Quino Checkerspot Butterfly Survey Form

Surveyor: Alicia Hill **Date:** 3/12/15

Site Name: Proctor Valley – Village 14 of Otay Ranch GHM **Site Visit No:** 4

Acres Surveyed 123 **Survey Time:** 6:00 **Acres per Hour:** 6.8

Other Surveyors Present: Travis Cooper, Victor Nonick

Field Conditions				
	Time (24 hr)	**Temperature (°F)**	**Wind Speed (mph)**	**Cloud Cover**
Start	830	62°f	0-1	0%
End	1430	85°f	3-5	0%
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.) Chamise chaparral, non-native grassland, CSS (ARTCAL, ERIFAS, ACM GLA)

Host Plants	Obs.	Nectar Plants	Obs.
dwarf plantain (*Plantago erecta*)	X	popcorn flower (*Cryptantha/Plagiobothrys* spp.)	X
purple owl's clover (*Castilleja ~~exserta~~ densiflora*)	X	goldfields (*Lasthenia* spp.)	X
snapdragon (*Antirrhinum coulterianum*)		goldenstar (*Muilla* spp.)	X
birds-beak (*Cordylanthus rigidus*)		fiddleneck (*Amsinckia menziesii* var. *intermedia*)	X
woolly plantain (*Plantago patagonica*)		onion (*Allium* spp.)	X
Chinese houses (*Collinsia* spp.)		buckwheat (*Eriogonum fasciculatum*)	X
		ground pink (*Linanthus dianthiflorus*)	X

SIL CAL
ECH. CAL
MIR CAL
Mimulus spp.

MALFAS
SALMUN
ANT NUT
OXA spp.

Butterfly Species	No.	Butterfly Species	No.
Checkerspots		**Hairstreaks**	
California patch (*Chlosyne californica*)		great purple hairstreak (*Atlides halesus corcorani*)	
Gabb's checkerspot (*C. gabbii*)	1	brown elfin (*Callophrys augustinus*)	
Quino checkerspot (*Euphydryas editha quino*)		bramble (perplexing) hairstreak (*C. dumetorum affinis*)	
chalcedon checkerspot (*E. chalcedona chalcedona*)		gray hairstreak (*Strymon melinus pudica*)	
Leanira checkerspot (*Thessalia leanira wrighti*)		**Ladies/Admirals**	
Mylitta crescent (*Phyciodes mylitta*)		California sister (*Adelpha bredowii californica*)	
Blues		Lorquin's admiral (*Limenitis lorquini*)	
western pygmy-blue (*Brephidium exila*)		west coast lady (*Vanessa annabella*)	
western tailed blue (*Everes amyntula*)		red admiral (*V. atalanta rubria*)	1
southern blue (*Glaucopsyche lygdamus australis*)	2	painted lady (*V. cardui*)	4
Edward's blue (*Hemiargus ceraunus gyas*)		American (Virginia) lady (*V. virginiensis*)	
Acmon blue (*Icaricia acmon acmon*)		unidentified lady (*Vanessa* sp.)	4
marine blue (*Leptotes marina*)		**Swallowtails**	
unidentified blue	3	pale swallowtail (*Papilio eurymedon*)	
Whites		western tiger swallowtail (*P. rutulus*)	
Sara orangetip (*Anthocharis sara sara*)	5	anise swallowtail (*P. zelicaon*)	
desert (Felder's) orangetip (*A. cethura*)		**Miscellaneous**	
common California ringlet (*Coenonympha californica*)	2	monarch (*Danaus plexippus*)	
cabbage white (*Pieris rapae*)		common buckeye (*Junonia coenia grisea*)	
checkered (common) white (*Pontia protodice*)		mourning cloak (*Nymphalis antiopa*)	
spring white (*P. sisymbrii*)		**Skippers**	
unidentified white	5	funereal duskywing (*Erynnis funeralis*)	8
Metalmarks		mournful duskywing (*Erynnis tristis*)	
Behr's metalmark (*Apodemia mormo virgulti*)	82	fiery skipper (*Hylephila phyleus*)	
Wright's metalmark (*Calephelis wrighti*)		white (common) checkered-skipper (*Pyrgus albescens*)	
Sulphurs		**Other**	
orange sulphur (*Colias eurytheme*)		Striated Queen	1
sleepy orange (*Eurema nicippe*)			
cloudless sulfur (*Phoebus sennae marcellina*)			
unidentified sulphur	1		
Column Subtotal	101	**Column Subtotal**	18
		Total	119

Cnidoscolus sp.
Camissonia sp.
Gilia sp.
SOL PAR.

CALCIL
DIC CAP
SIS BRE

HELIX Environmental Planning

Otay Ranch Proctor Valley Village 14 & Preserve

Quino Checkerspot Butterfly Survey Report

May 13, 2016

Prepared for:

Jackson Pendo Development Company for GDCI Proctor Valley, LP

2245 San Diego Avenue, Suite 223

San Diego, CA 92110

Prepared by:

HELIX Environmental Planning, Inc.

7578 El Cajon Boulevard

La Mesa, CA 91942

Otay Ranch Proctor Valley Village 14 & Preserve
2016 Quino Checkerspot Butterfly Survey Report

I certify that the information in this survey report and attached exhibits fully and accurately represent our work:



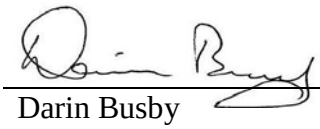
Erica Harris
TE-778195-12.2



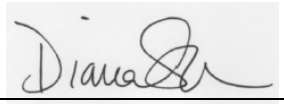
Amy Mattson
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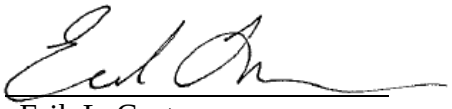
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Darin Busby
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Diana Saucedo
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Erik LaCoste
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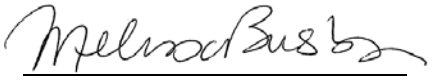
Gretchen Cummings
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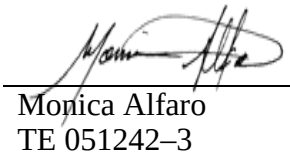
John Lovio
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Melanie Rocks
TE-082908-1



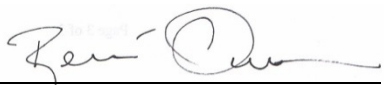
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Monica Alfaro
TE 051242–3



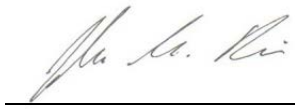
Natalie Brodie
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Renee Owens
TE-799569-5



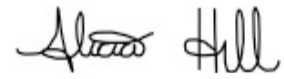
Garrett Huffman
TE-20186A-1



John Dicus
TE-839960-6



Melanie Dicus
TE-049175-4



Alicia Hill
TE-06145B-0



Travis Cooper
TE-170389-5

Chez Brungraber
TE-14231A-1

Andrew Borcher
TE-092162-2

Nicole Kimball
TE-053598-4

Brenna Ogg
TE 134338-3

Brian Lohstroh
TE-063608-5

Crysta Dickson
TE 067347-5

Brian Parker
TE-797665-9

Otay Ranch Proctor Valley Village 14 & Preserve
Quino Checkerspot Butterfly Survey Report

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	2.2 Host Plant Mapping	2
	2.3 Quino Checkerspot Butterfly Surveys	2
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B	Survey Forms and Field Notes
C	Butterfly Checklist

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Number	Title	Follows Page
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2	2016 Quino Checkerspot Butterfly Survey Area	2
3a-u	2016 Quino Checkerspot Butterfly Host Plant Locations	2

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1.0 INTRODUCTION

This report documents the results of HELIX Environmental Planning, Inc.'s (HELIX's) 2016 Quino checkerspot butterfly (*Euphydryas editha quino*; QCB) survey of the Otay Ranch Proctor Valley Village 14 and Preserve (project). HELIX performed the protocol survey (comprising five site visits) under HELIX's Threatened/Endangered Species Permit No. TE778195, with the support of a number of sub-consultants and independent consultants who are permitted to survey for the species.

The project site is located predominantly within the County of San Diego and portions of the City of Chula Vista in southwestern San Diego County, California, in an area commonly known as Proctor Valley. It is located within Sections 17, 18, 19, 20, 25, and 30 of Township 17 South, Range 1 West and 1 East of the U.S. Geological Survey (USGS) 7.5-minute Jamul Mountains quadrangle map (Figure 1). The project site and associated study area are situated along Proctor Valley Road and are southeast of San Miguel Mountain, north of the Upper Otay Reservoir and west of the Jamul Mountains. The project site also includes portions of the California Department of Fish and Wildlife (CDFW) Rancho Jamul Ecological Reserve located in Otay Ranch Village 14. Elevations range from approximately 560 to 1,320 feet above mean sea level. Vegetation communities within the study area consist primarily of chamise chaparral, coastal sage scrub, non-native grassland, and southern mixed chaparral. Eucalyptus woodland and disturbed habitat comprising unpaved roads and trails are also present.

2.0 METHODS

2.1 HABITAT ASSESSMENT

HELIX completed a site habitat assessment in accordance with the 2016 Quino Checkerspot Butterfly Survey Protocol that was developed in coordination with the U. S. Fish and Wildlife Service (USFWS), County of San Diego, and the Building Industry Association (hereafter referred to as the "2016 USFWS Survey Protocol"). The study area comprises the proposed development footprint (including limits of brush management), open space areas, and potential Proctor Valley Road realignment areas (Figure 2). A QCB habitat assessment of the study area was conducted by HELIX biologist Jasmine Bakker on February 12, 2015. An updated QCB habitat assessment was conducted by Ms. Bakker and HELIX biologists Erica Harris and Talaya Rachels on February 2, 2016. Habitat within the study area was evaluated on foot, and excluded areas were mapped on an aerial photograph in accordance with the guidance in the 2016 USFWS Survey Protocol. Several different aerial photographs, including Google Earth and Bing Maps, were used to aid in assessing canopy cover and habitat density, as well as to locate suitable openings in habitat. Based on this habitat assessment and consultation with USFWS, approximately 57 acres were considered excluded areas, which resulted in 1,600 acres of total survey area. The excluded areas represent dense patches of chamise chaparral or southern mixed chaparral, developed areas, and eucalyptus woodland. Dense patches of excluded chaparral represented closed-canopy vegetation where the branches from shrubs overlapped, leaving no open space areas and preventing physical access to the area. Areas where there were suitable openings in the vegetation at least within 100 meters of each other were included in the survey

area. The 1,600-acre QCB survey area was divided into smaller areas and distributed amongst the surveyors.

2.2 HOST PLANT MAPPING

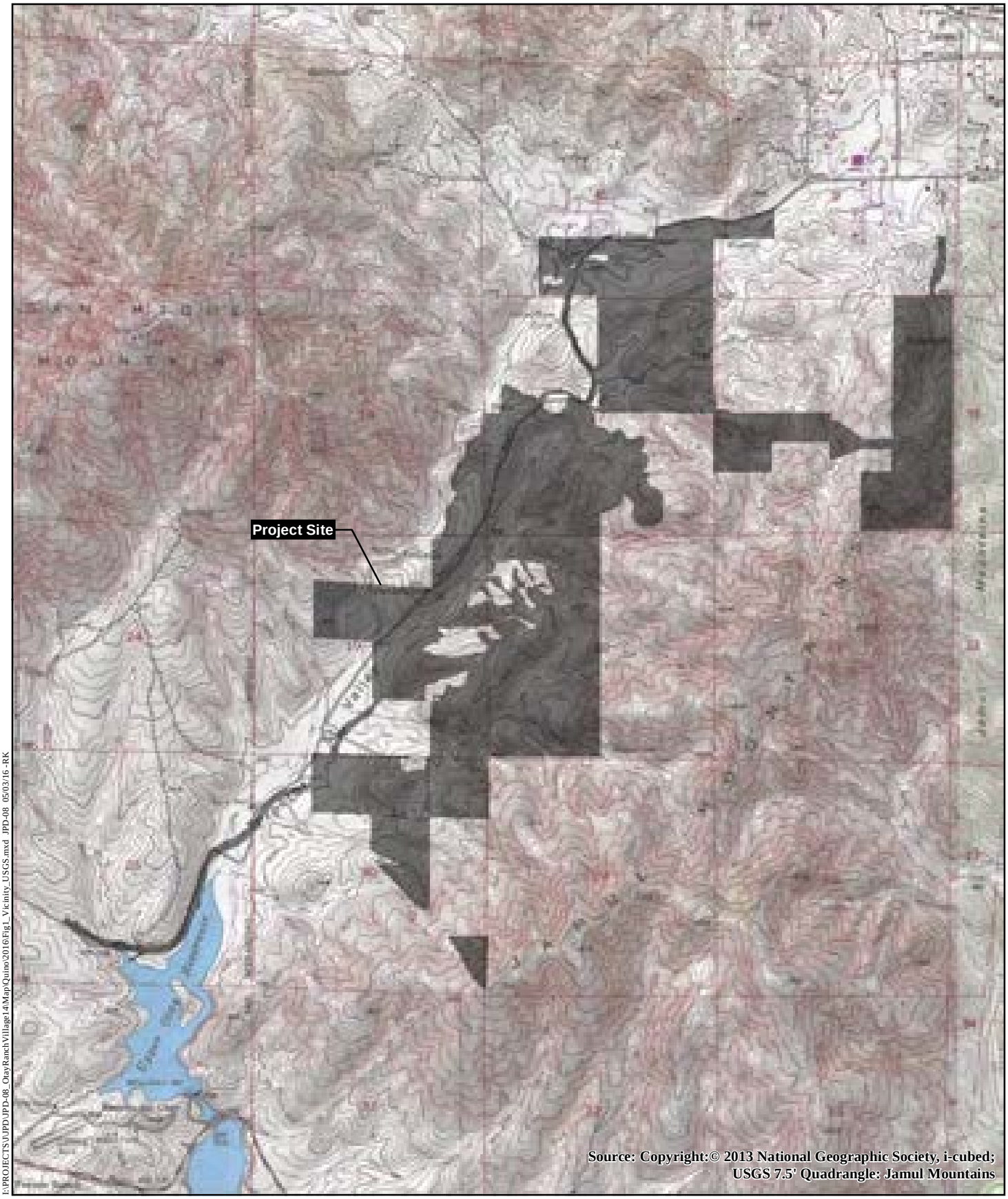
HELIX and Busby Biological Services, Inc. (Busby) biologists mapped host plants within the survey area between February 15 and March 1, 2016 prior to the initiation of protocol surveys (Figures 3a – 3u). Biologists conducted pedestrian surveys within the survey area recording the location, size, and conditions of host plants. Host plants were mapped with the aid of global positioning system (GPS) units. Patches of host plants larger than approximately 250 square feet were mapped as polygons. Patches of host plants were categorized as low density (1 – 100 plants), medium density (100 – 1,000 plants), or high density (1,000 – 10,000 plants). Host plants were also mapped incidentally when encountered during protocol surveys.

2.3 QUINO CHECKERSPOT BUTTERFLY SURVEYS

Five weekly protocol surveys were conducted in accordance with the 2016 USFWS Survey Protocol by HELIX biologists Ms. Harris, Amy Mattson and Ms. Bakker, and consultants Busby, SummitWest Environmental, Inc., Halcyon Environmental, John Dicus, Melanie Dicus, and Garrett Huffman (Appendix A). HELIX biologists Ms. Rachels, Ben Rosenbaum, Hannah Sadowski, and consultants Andy Smisek, Griffin Brungraber, and Patrick Hord participated as supervised individuals. Surveys began on February 24, 2016 and continued through March 31, 2016. Surveys began following the first observation of adult QCB in San Diego County ([County] reported by Korey Klutz [Klutz Biological Consulting] on February 22 at east Otay Mesa [Quino Biologists United 2016]). Additional sightings of QCB were reported in lower numbers throughout the County between February 25 and March 25, 2016. Surveys were discontinued after the fifth survey week, in coordination with USFWS personnel (email from Eric Porter to Rob Cameron dated April 4, 2016), based on the lack of recent QCB sightings, which indicated that the flight season along the coastal regions was completed. The last, fresh QCB sighting was reported on March 17, two weeks prior to the last survey, when a QCB was observed at San Vicente Reservoir. The last reported QCB sighting of a single worn individual occurred on March 25 in Marron Valley.

Surveys consisted of walking through appropriate habitat and identifying all butterflies observed by sight and with the aid of binoculars. Larval host plants not previously documented were mapped with the aid of GPS units when encountered during surveys, and potential nectar plant species were documented. Surveys covered between 5 and 10 acres per hour.

Identification of butterflies was based on personal knowledge, museum specimens, the San Diego Natural History Museum (SDNHM) website, and field guides by Shiraiwa (2009) and Glassberg (2001). Other nomenclature for this report is taken from Holland (1986) and Oberbauer (2008) for vegetation communities and Baldwin et al. (2012) for plants.



I:\PROJECTS\JPD\JPD-08_OtayRanchVillage14\Map\Quino2016\Fig1_Vicinity_USGS.mxd JPD-08 05/03/16 -RK

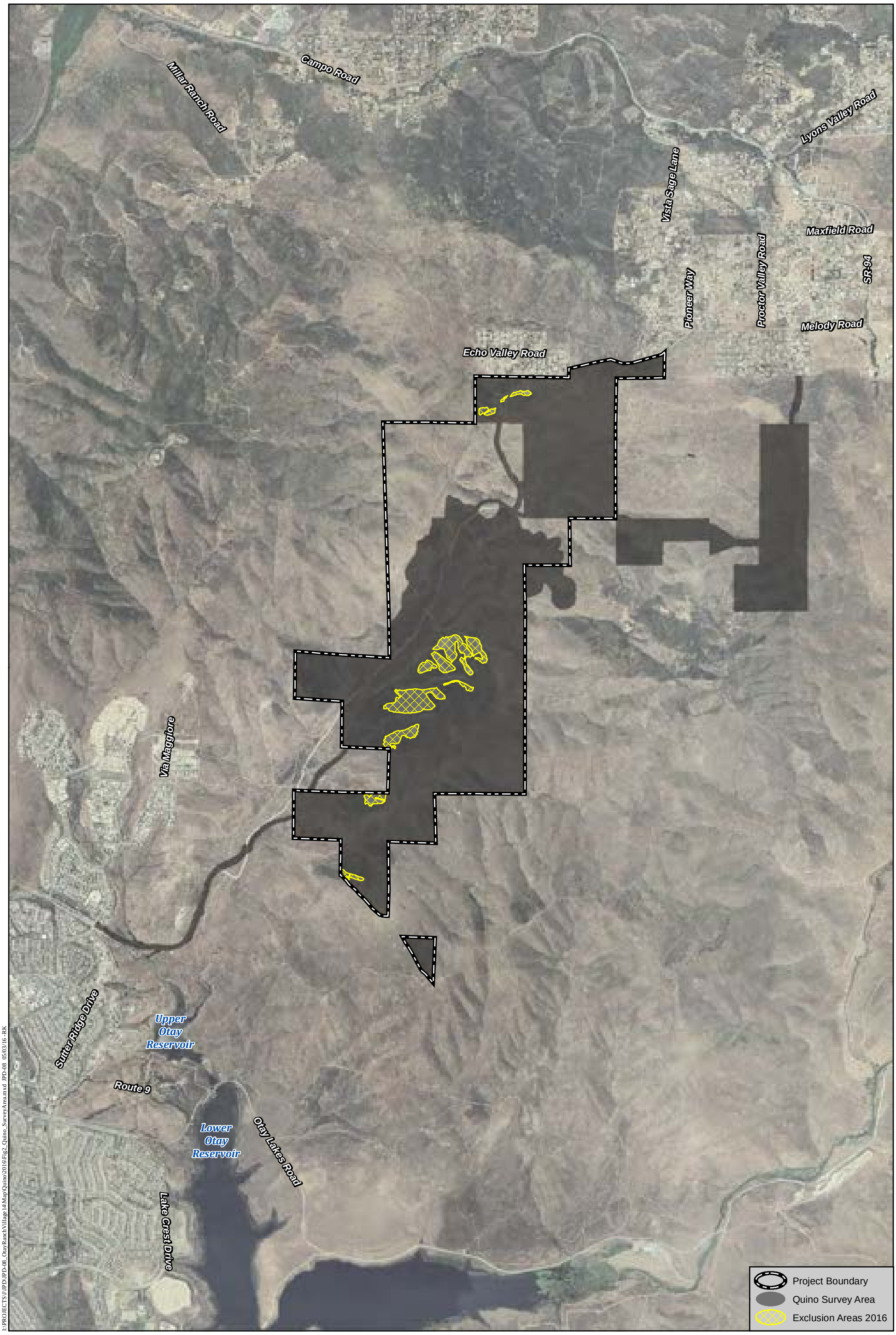
Project Vicinity Map

OTAY RANCH PROCTOR VALLEY VILLAGE 14 AND PRESERVE

HELIX Environmental Planning

N 0 3,000 Feet

Figure 1



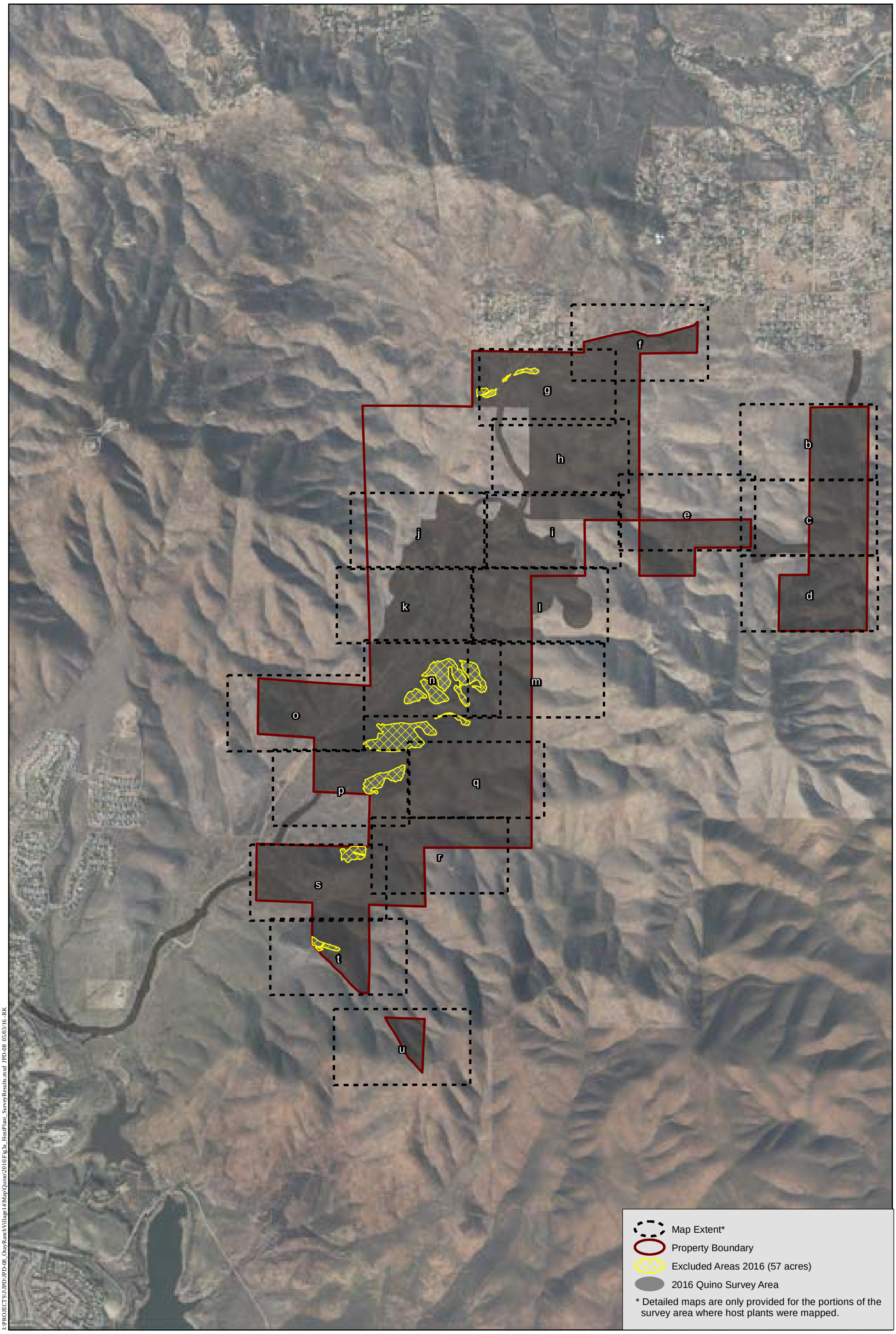
2016 Quino Checkerspot Butterfly Survey Area

OTAY RANCH PROCTOR VALLEY VILLAGE 14 AND PRESERVE

HELIX Environmental Planning

N 0 2,500 Feet

Figure 2



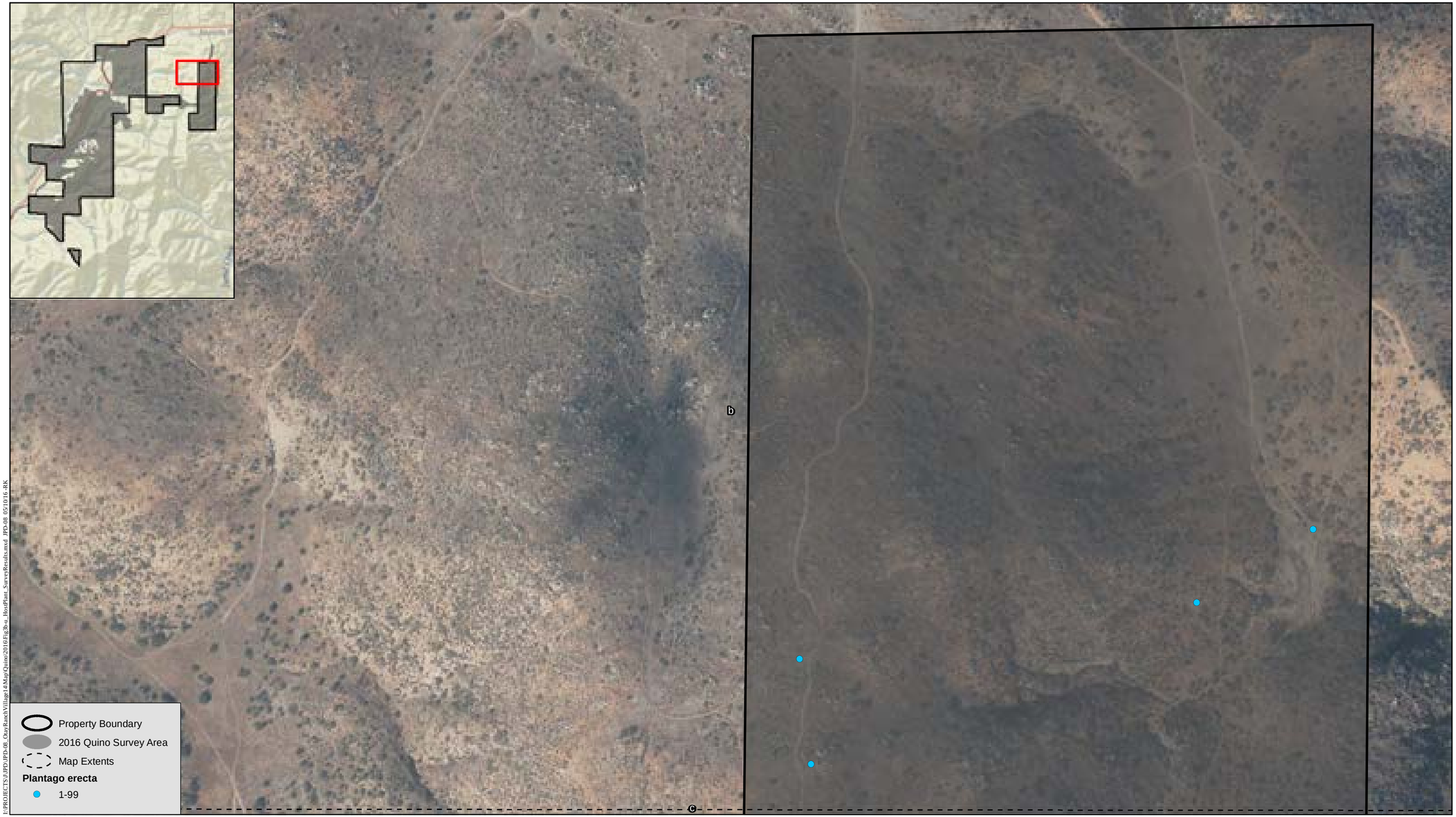
2016 Quino Checkerspot Butterfly Host Plant Key Map

OTAY RANCH PROCTOR VALLEY VILLAGE 14 AND PRESERVE

HELIX Environmental Planning

N 0 2,100 Feet

Figure 3a



2016 Quino Checkerspot Butterfly Host Plant Locations

OTAY RANCH PROCTOR VALLEY VILLAGE 14 AND PRESERVE

HELIX Environmental Planning

N

0 200 Feet

Figure 3b



E:\PROJECTS\JPD\JPD-08_OtayRanchVillage14\Map\Quino\2016\Fig3b-u_HostPlant_SurveyResults.mxd JPD-08 05/10/16 -RK

2016 Quino Checkerspot Butterfly Host Plant Locations

OTAY RANCH PROCTOR VALLEY VILLAGE 14 AND PRESERVE

HELIX Environmental Planning

N

0 200 Feet

Figure 3c



I:\PROJECTS\OJPD\JPD-08_OtayRanchVillage14Map\Quino\2016\Fig3b-d_HostPlant_SurveyResults.mxd JPD-08 05/10/16 RK

2016 Quino Checkerspot Butterfly Host Plant Locations

OTAY RANCH PROCTOR VALLEY VILLAGE 14 AND PRESERVE

HELIX Environmental Planning

N

0 200 Feet

Figure 3d



I:\PROJECTS\JPD\JPD-08_OtayRanchVillage14MapQuino2016\Fig3b-e_HostPlant_SurveyResults.mxd JPD-08 05/10/16 RK

2016 Quino Checkerspot Butterfly Host Plant Locations

OTAY RANCH PROCTOR VALLEY VILLAGE 14 AND PRESERVE

HELIX Environmental Planning

Figure 3e



I:\PROJECTS\0.IPD\IPD-08_OtayRanchVillage14\Map\Quino\2016\Fig3f-u_HostPlant_SurveyResults.mxd IPD-08 05/10/16 -RK

2016 Quino Checkerspot Butterfly Host Plant Locations

OTAY RANCH PROCTOR VALLEY VILLAGE 14 AND PRESERVE

HELIX Environmental Planning

N

0 200 Feet

Figure 3f



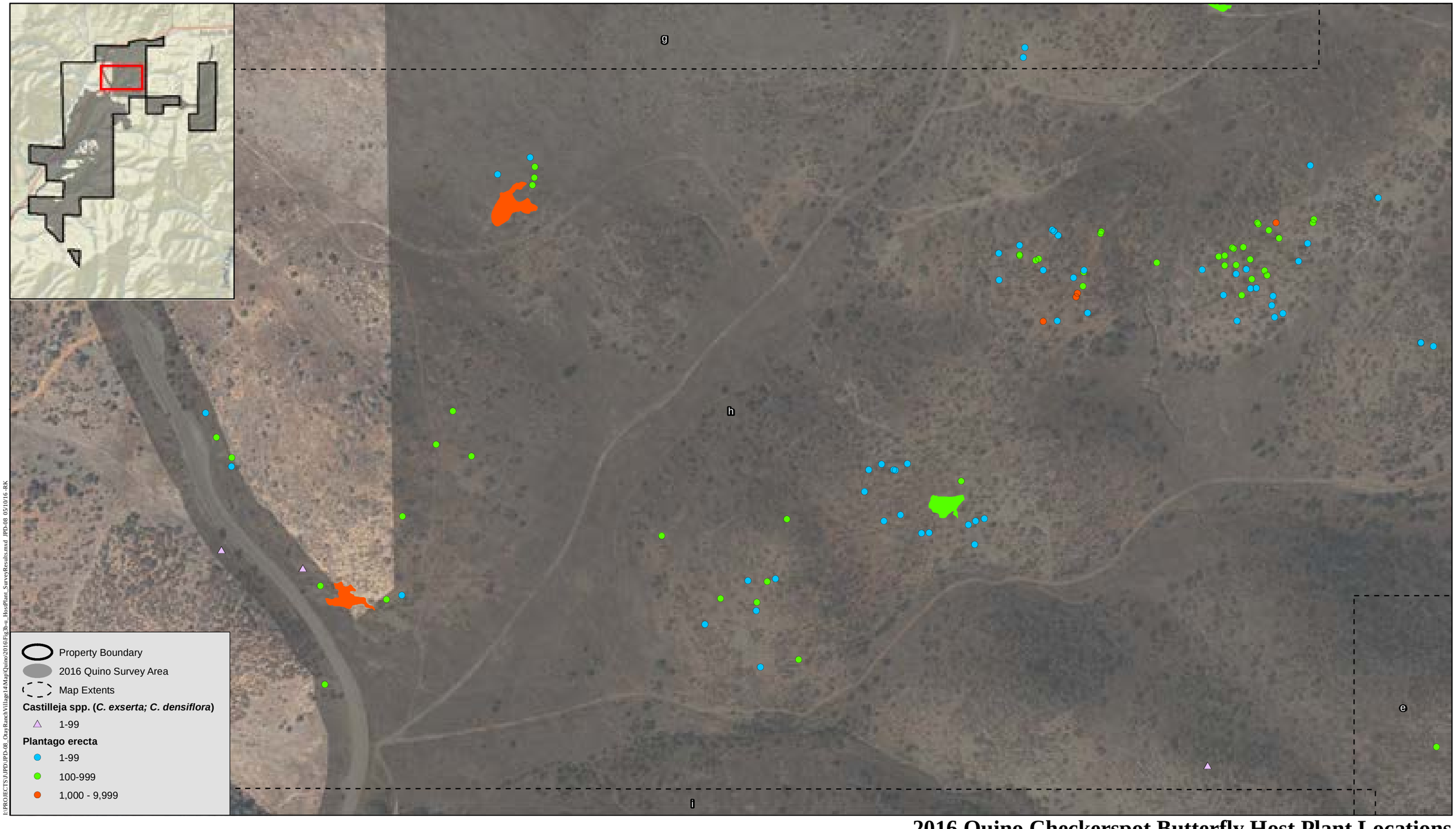
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2016 Quino Checkerspot Butterfly Host Plant Locations

OTAY RANCH PROCTOR VALLEY VILLAGE 14 AND PRESERVE

HELIX Environmental Planning

Figure 3g



2016 Quino Checkerspot Butterfly Host Plant Locations

OTAY RANCH PROCTOR VALLEY VILLAGE 14 AND PRESERVE

HELIX Environmental Planning

N

0 200 Feet

Figure 3h

h

i

j

e

Property Boundary

2016 Quino Survey Area

Map Extents

Castilleja spp. (*C. exserta; C. densiflora*)

1-99

Plantago erecta

1-99

100-999

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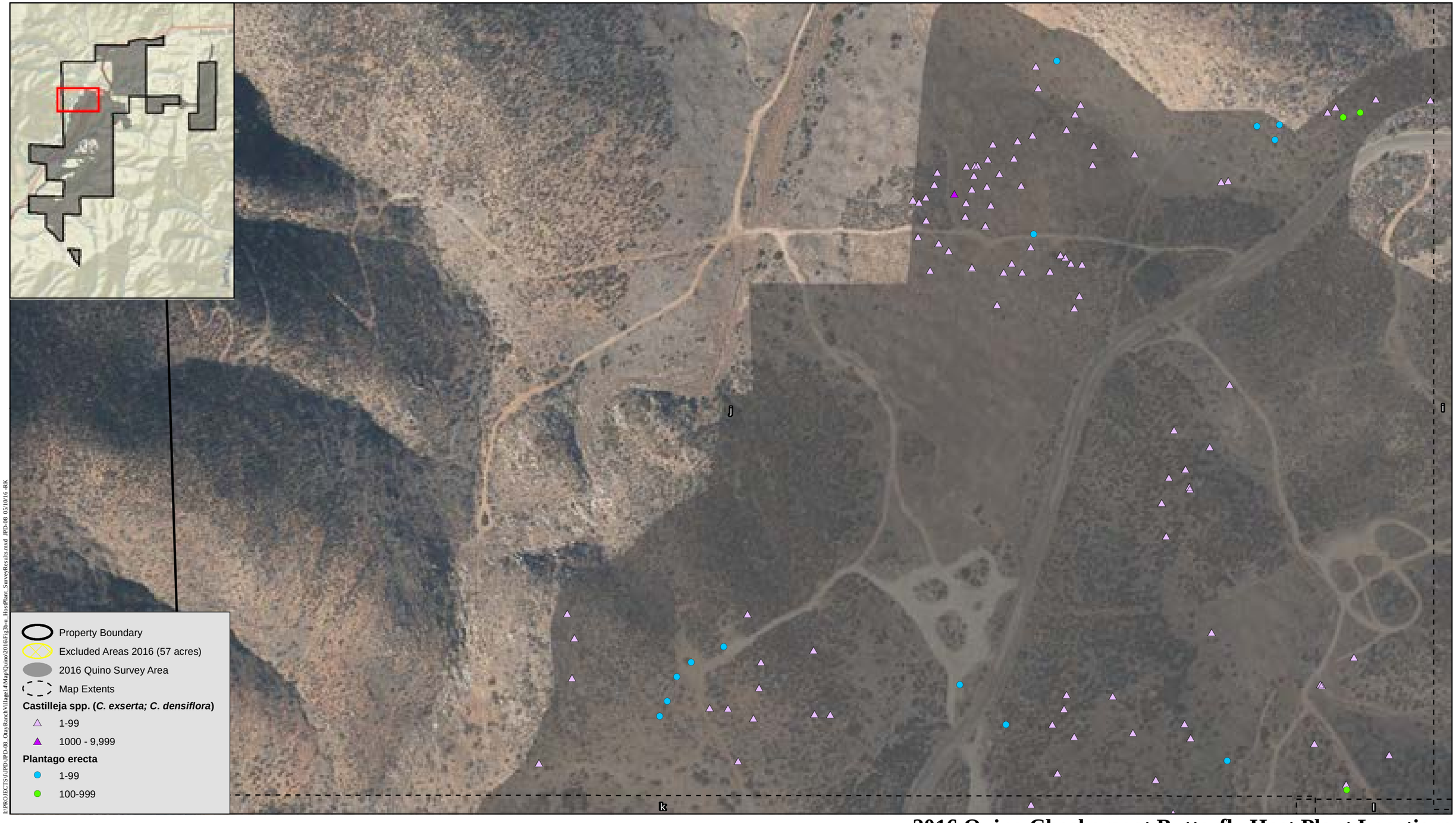
2016 Quino Checkerspot Butterfly Host Plant Locations

OTAY RANCH PROCTOR VALLEY VILLAGE 14 AND PRESERVE

HELIX Environmental Planning

0 200 Feet

Figure 3i



I:\PROJECTS\OPPD\PPD-08_OtayRanchVillage14\Map\Quino\2016Fig3b-n_HostPlant_SurveyResults.mxd JPD-08 05/10/16 -RK

2016 Quino Checkerspot Butterfly Host Plant Locations

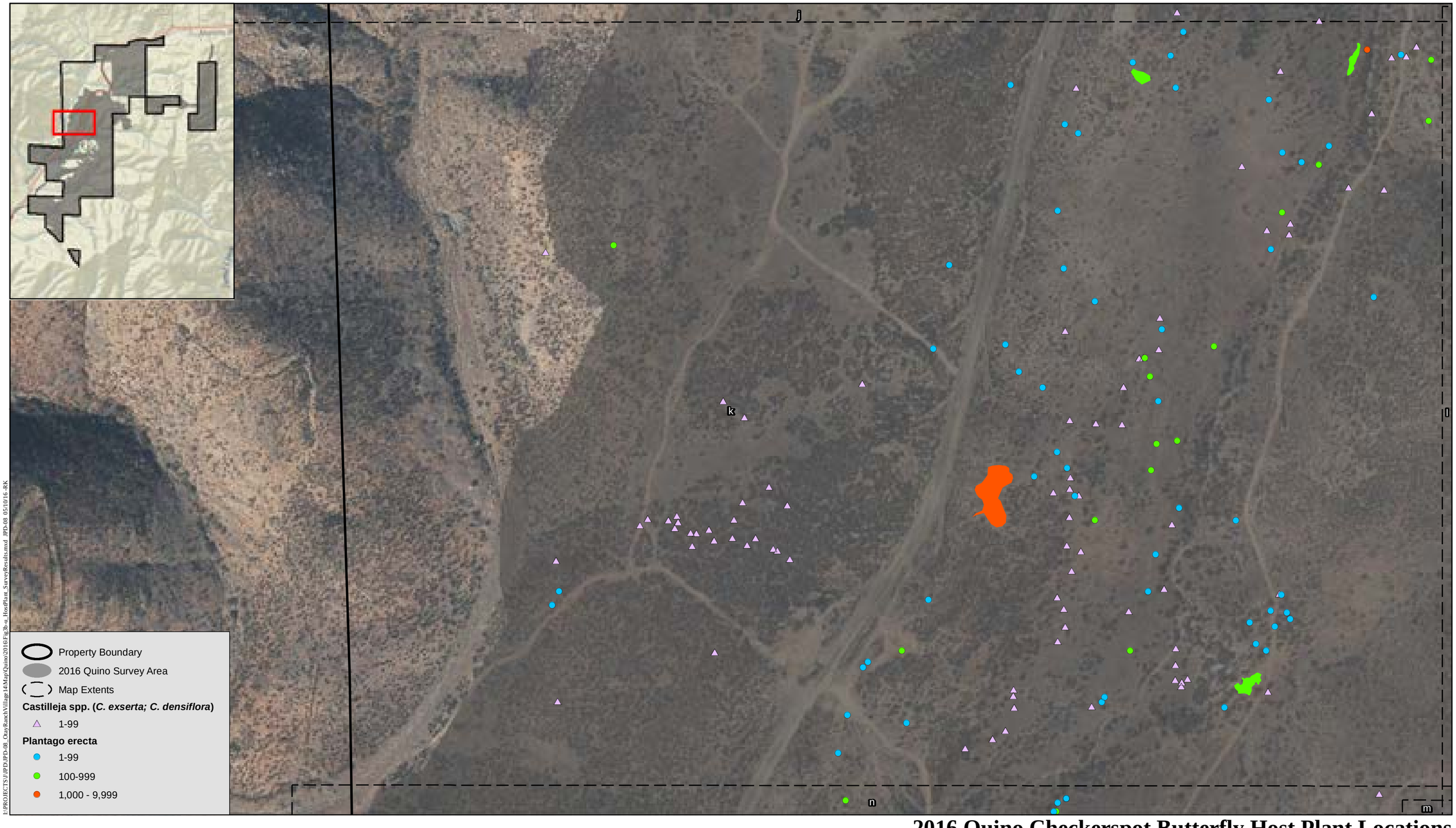
OTAY RANCH PROCTOR VALLEY VILLAGE 14 AND PRESERVE

HELIX Environmental Planning

N

0 200 Feet

Figure 3j



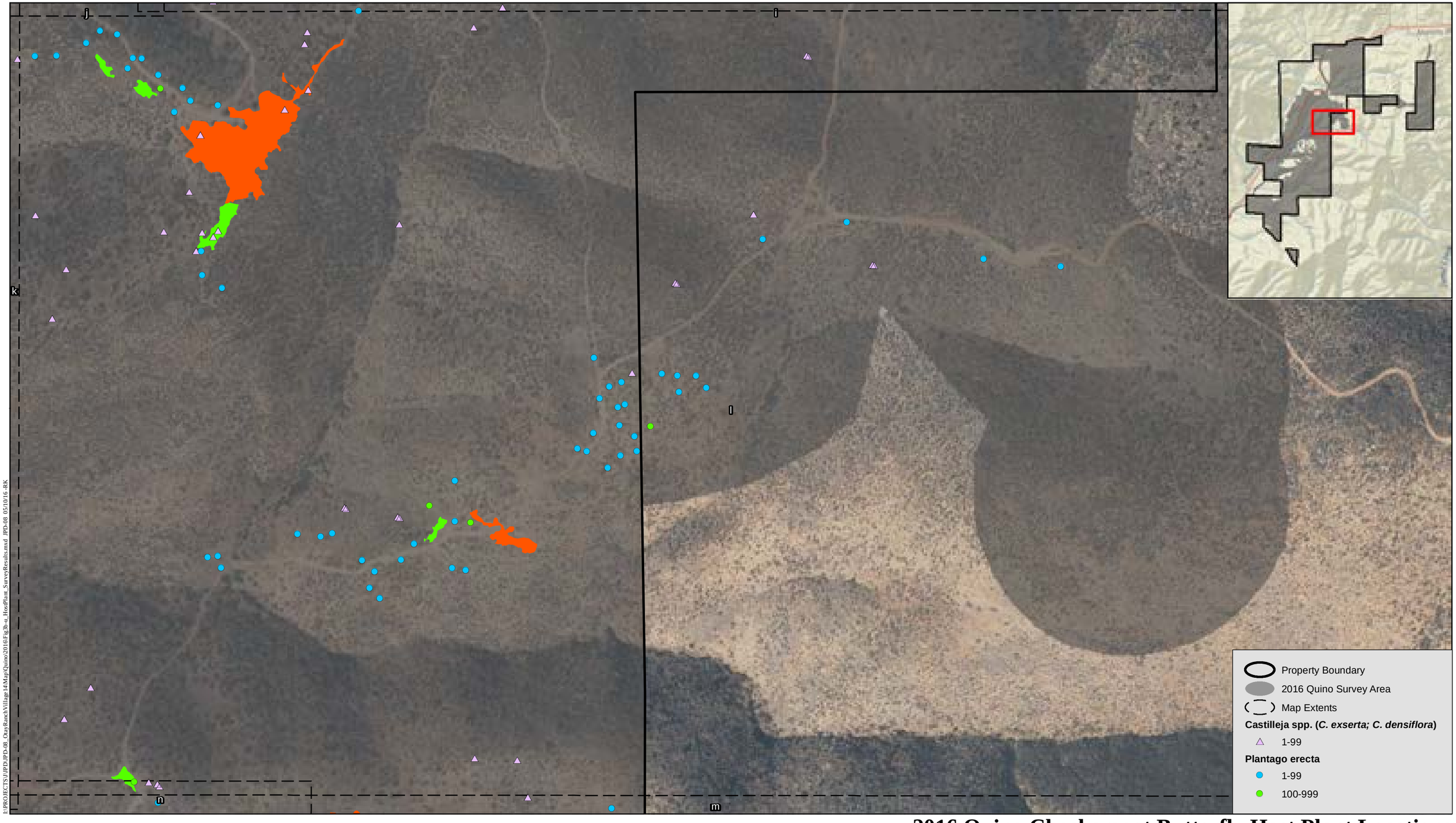
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2016 Quino Checkerspot Butterfly Host Plant Locations

OTAY RANCH PROCTOR VALLEY VILLAGE 14 AND PRESERVE

HELIX Environmental Planning

Figure 3k



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2016 Quino Checkerspot Butterfly Host Plant Locations

OTAY RANCH PROCTOR VALLEY VILLAGE 14 AND PRESERVE

HELIX Environmental Planning

N

0 200 Feet

Figure 3l



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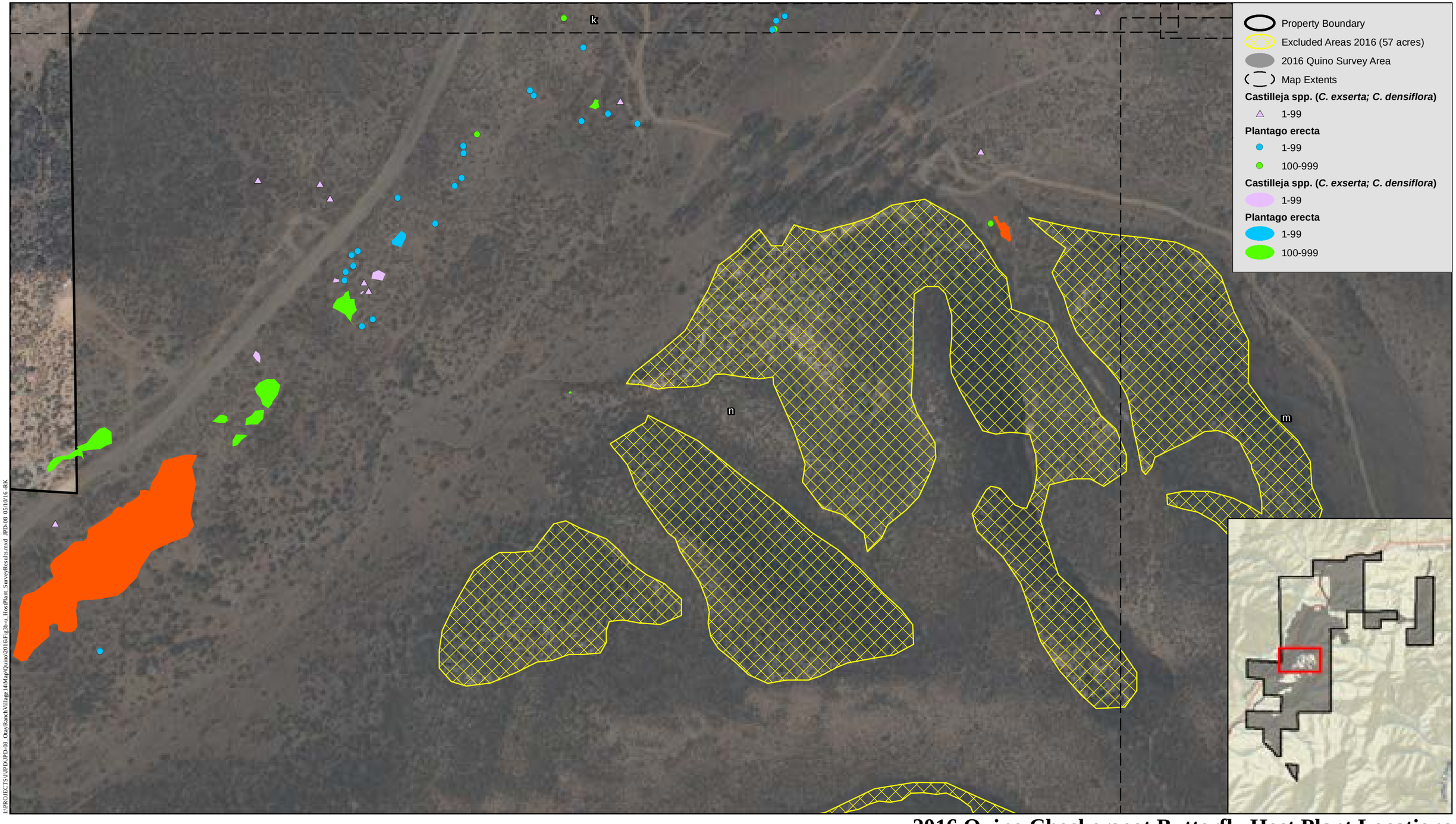
2016 Quino Checkerspot Butterfly Host Plant Locations

OTAY RANCH PROCTOR VALLEY VILLAGE 14 AND PRESERVE

HELIX Environmental Planning

0 200 Feet

Figure 3m



I:\PROJECTS\JJPD\JPD-08_OtayRanchVillage14MajorQuino\2016Fig3n-u_HostPlant_SurveyResults.mxd JPD-08 05/10/16 -RK

2016 Quino Checkerspot Butterfly Host Plant Locations

OTAY RANCH PROCTOR VALLEY VILLAGE 14 AND PRESERVE

HELIX Environmental Planning

N

0 200 Feet

Figure 3n

Property Boundary
2016 Quino Survey Area
Map Extents
Castilleja spp. (*C. exserta; C. densiflora*)
1-99
Plantago erecta
1-99
100-999
Castilleja spp. (*C. exserta; C. densiflora*)
1-99
100-999
Plantago erecta
1-99
100-999
1,000 - 9,999

I:\PROJECTS\UPD\PD-08_OtayRanchVillage14\Map\Quino\2016\Fig3o-u_HostPlant_SurveyResults.mxd JPD-08 05/10/16 -RK

2016 Quino Checkerspot Butterfly Host Plant Locations

OTAY RANCH PROCTOR VALLEY VILLAGE 14 AND PRESERVE

HELIX Environmental Planning

0 200 Feet

Figure 3o

Property Boundary
Excluded Areas 2016 (57 acres)
2016 Quino Survey Area
Map Extents

Antirrhinum coulterianum
1-99

Plantago erecta
1-99
100-999
1,000 - 9,999

o
p
q
r

I:\PROJECTS\JJPD\JPD-08_OtayRanchVillage14\MapQuino2016\Fig3b-u_HostPlant_SurveyResults.mxd JPD-08 05/10/16 -RK

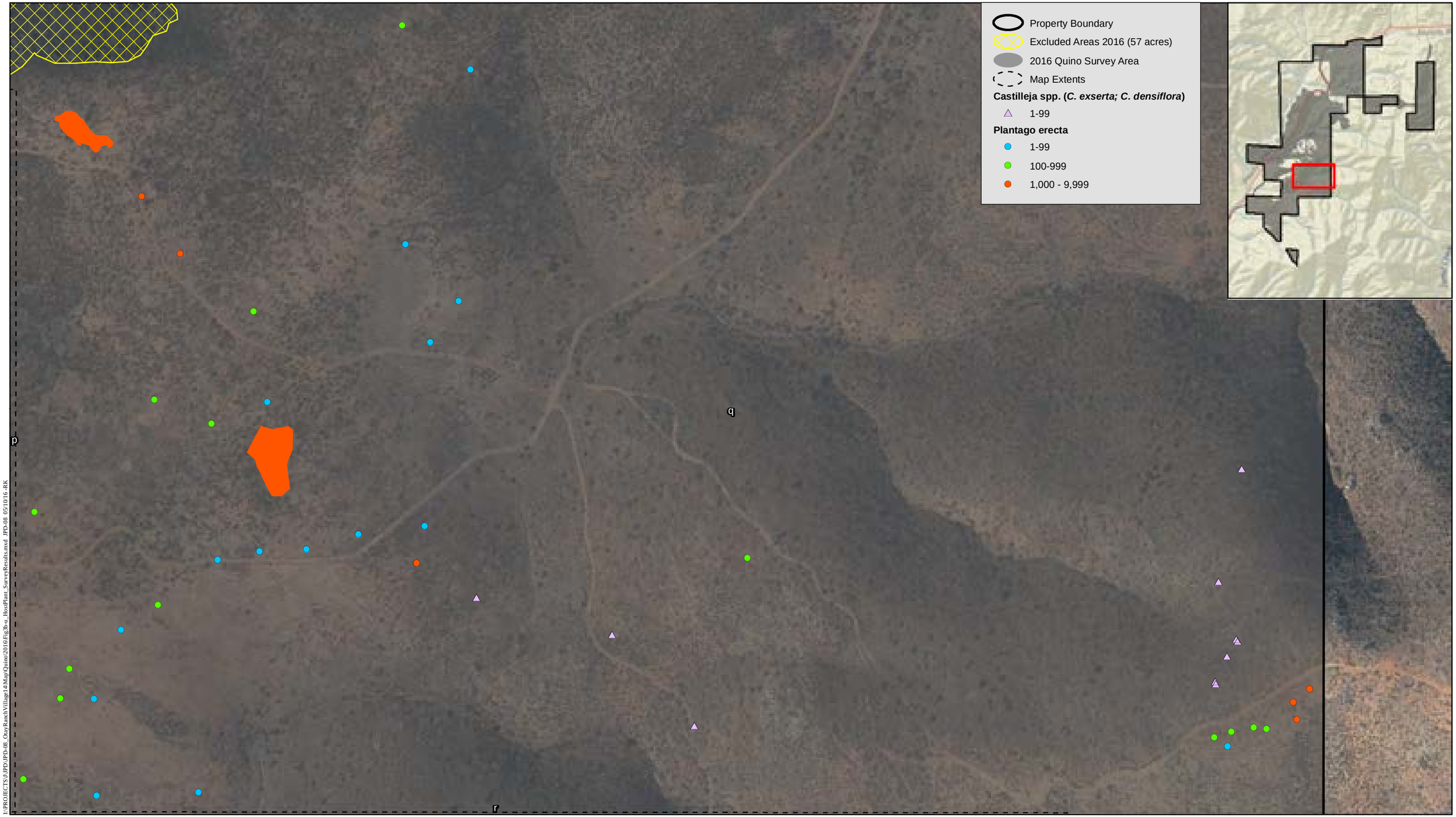
2016 Quino Checkerspot Butterfly Host Plant Locations

OTAY RANCH PROCTOR VALLEY VILLAGE 14 AND PRESERVE

HELIX Environmental Planning

0 200 Feet

Figure 3p

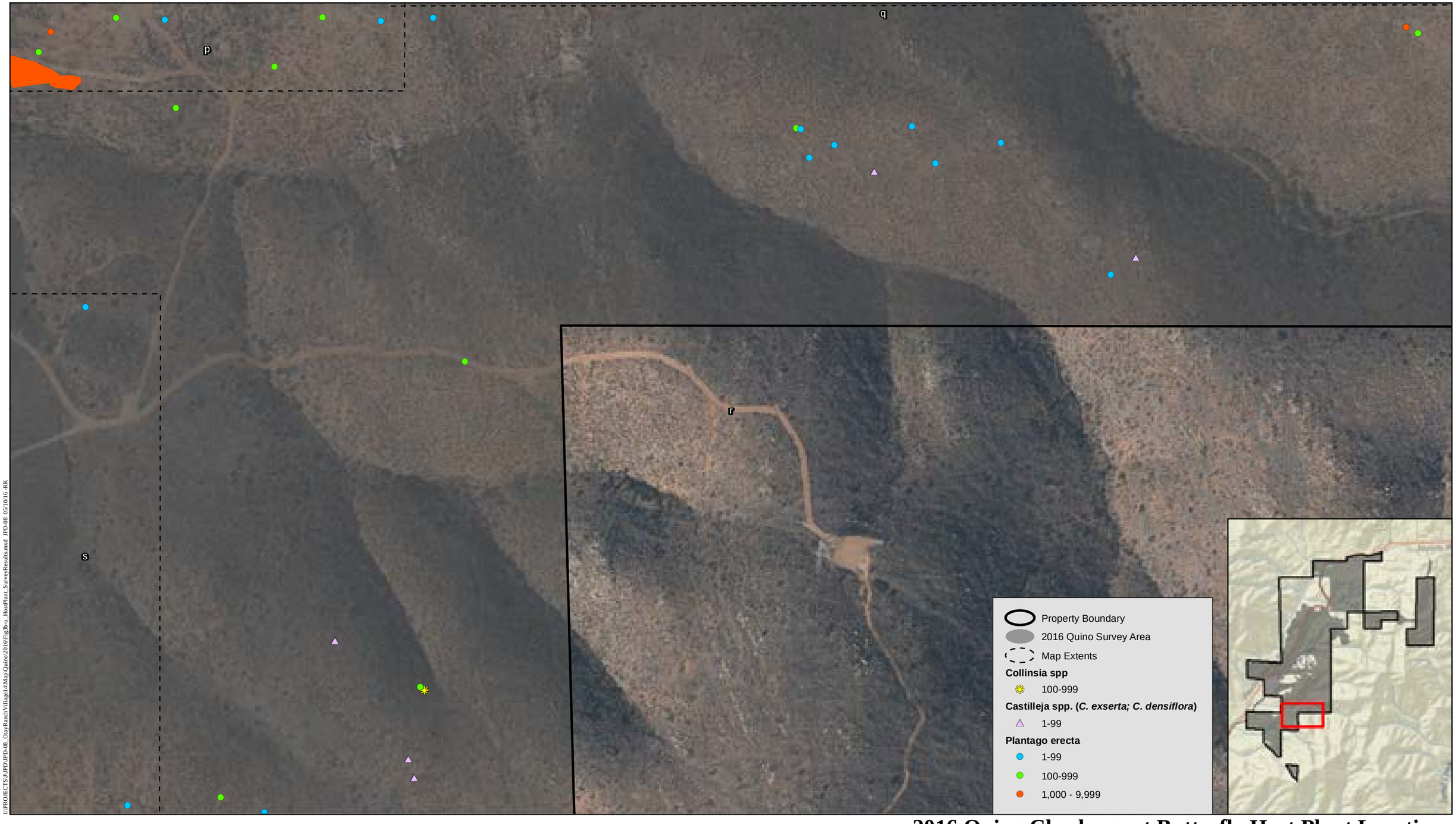


2016 Quino Checkerspot Butterfly Host Plant Locations

OTAY RANCH PROCTOR VALLEY VILLAGE 14 AND PRESERVE

HELIX Environmental Planning

Figure 3q



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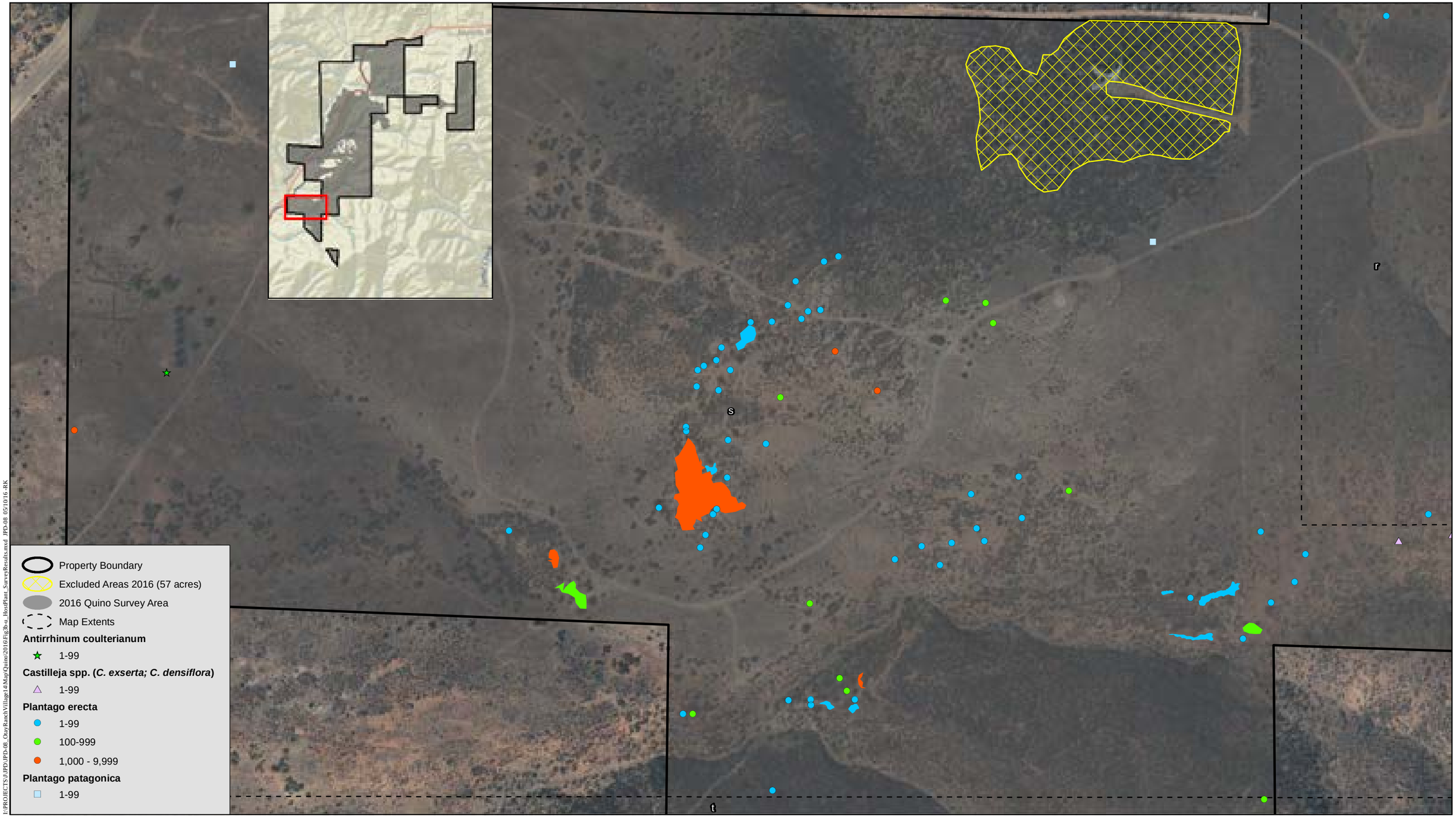
2016 Quino Checkerspot Butterfly Host Plant Locations

OTAY RANCH PROCTOR VALLEY VILLAGE 14 AND PRESERVE

HELIX Environmental Planning

0 200 Feet

Figure 3r

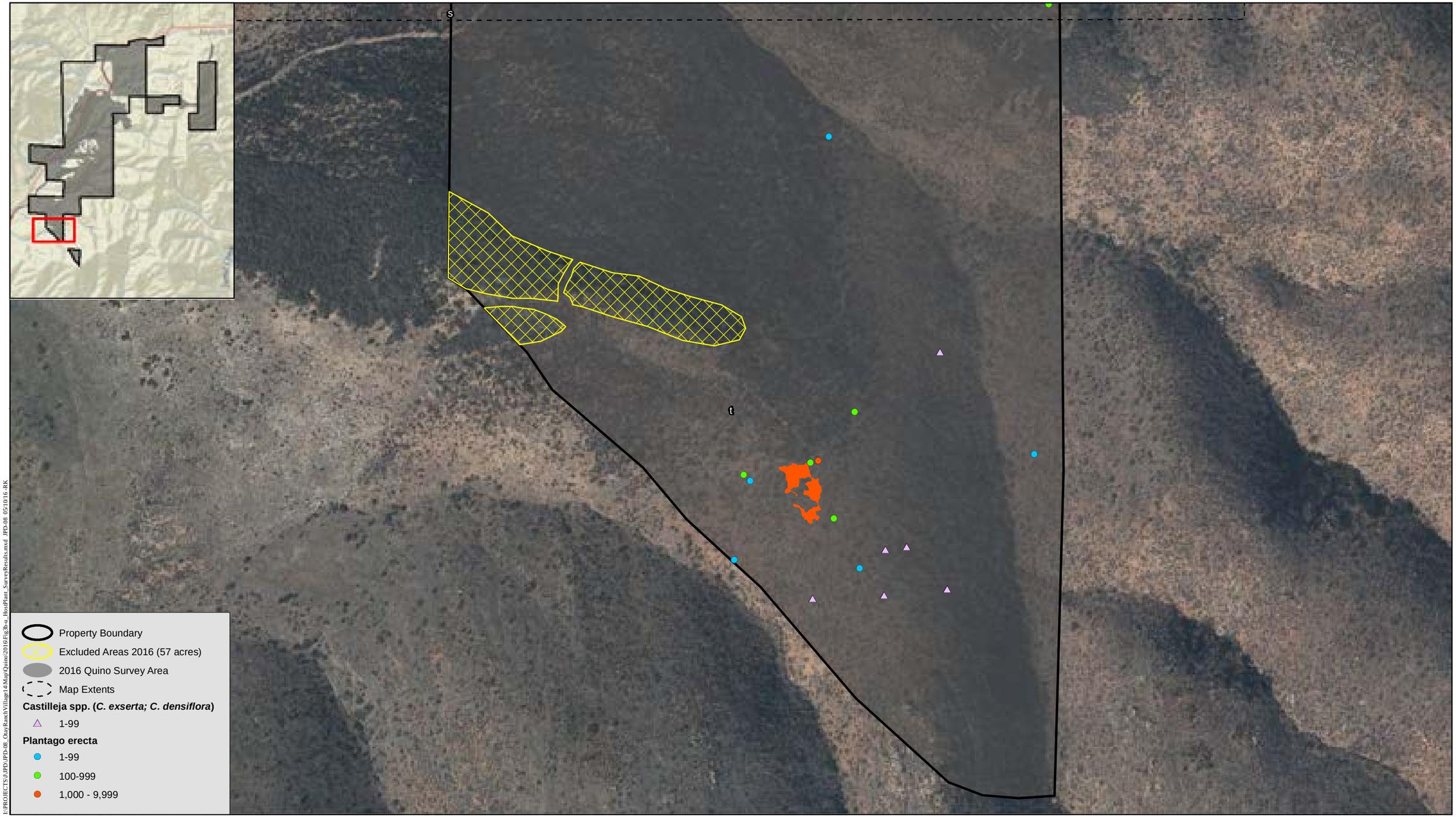


2016 Quino Checkerspot Butterfly Host Plant Locations

OTAY RANCH PROCTOR VALLEY VILLAGE 14 AND PRESERVE

HELIX Environmental Planning

Figure 3s



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2016 Quino Checkerspot Butterfly Host Plant Locations

OTAY RANCH PROCTOR VALLEY VILLAGE 14 AND PRESERVE

HELIX Environmental Planning

N

0 200 Feet

Figure 3t



I:\PROJECTS\UPD\UPD-08_OtayRanchVillage14\Map\Quino\2016\Fig3u_HostPlant_SurveyResults.mxd JPD-08 05/10/16 -RK

2016 Quino Checkerspot Butterfly Host Plant Locations

OTAY RANCH PROCTOR VALLEY VILLAGE 14 AND PRESERVE

HELIX Environmental Planning

N

0 200 Feet

Figure 3u

3.0 RESULTS

Dates, times, and weather conditions at the beginning and end of each survey are presented in Appendix A. Copies of field notes taken are provided as Appendix B. A list of total butterflies observed during the 2016 QCB surveys is included as Appendix C.

No QCB or QCB larvae were observed within the survey area during the 2016 protocol surveys. Surveyors observed 12,624 butterfly individuals, representing at least 54 butterfly species during the five surveys. The most common butterflies observed were Behr's metalmark (*Apodemia mormo virgulti*), funereal duskwing (*Erynnis funeralis*), white (common) checkered-skipper (*Pyrgus albescens*), Common California ringlet (*Coenonympha californica*), and Sara's orangetip (*Anthocharis sara sara*).

Five larval host plant species were observed within the survey area (Figures 3a – 3u): dwarf plantain (*Plantago erecta*), purple owl's clover (*Castilleja exserta*), snapdragon (*Antirrhinum coulterianum*), woolly plantain (*Plantago patagonica*), and Chinese houses (*Collinsia* spp.).

Dwarf plantain was the most abundant larval host plant observed and recorded within the survey area. Dwarf plantain was mapped in patches of low density (1 – 100 plants), medium density (100 – 1,000 plants), and high density (1,000 – 10,000 plants). No patches with a density larger than 10,000 individuals per 250 square feet were encountered during surveys. High density patches of dwarf plantain were mapped as polygons if they were in areas larger than approximately 250 square feet.

Dwarf plantain was prevalent throughout the survey area in scattered patches of varying densities. Clusters of dwarf plantain patches were most common in the northwestern and southern portions. Most observations of dwarf plantain were of low density and located in small patches under 250 square feet. Dwarf plantain was uncommon within the northern and northeastern portions and was concentrated along hilltops and southern-facing slopes in low to medium densities. Larger patches of dwarf plantain that were recorded as polygons were found within the northwestern and southern portions of the site. The majority of these large patches were also observed during the 2015 QCB surveys (HELIX 2015); however, patches observed in 2016 were often of smaller size and lower densities that those observed in 2015. No patches greater than 10,000 plants were recorded in 2016. Dwarf plantain was recorded in more locations and was more widely distributed throughout the survey area than in 2015 (where the survey areas overlap). The highest densities of dwarf plantain tended to be observed within the southern portion of the survey area along southern-facing slopes. All dwarf plantain plants throughout the site appeared healthy and were flowering throughout all surveys. The dwarf plantain had begun to dry up and senesce during the fifth week of surveys.

All other larval host plant species were observed in low and medium densities. Host plant species were observed widely scattered throughout the project site with owl's clover (*Castilleja* spp.), which was the second-most abundant larval host plant species. Owl's clover was most common within the northwestern portion of the site but uncommon in the northeastern portion.

More chaparral portions of the project were surveyed in 2016 than in 2015, as it was not considered excluded habitat according to the 2016 USFWS Survey Protocol. However, there were few host plant areas mapped in the chaparral areas surveyed in 2016.

Seven potential nectar sources known to be utilized by QCB were noted within the survey area: popcorn flower (*Cryptantha* and *Plagiobothrys* spp.), California buckwheat (*Eriogonum fasciculatum*), goldfields (*Lasthenia* spp.), ground pink (*Linanthus dianthiflorus*), goldenstar (*Muilla maritima*), rancher's fiddleneck (*Amsinckia intermedia*), and onion (*Allium* sp.). Other potential nectar sources were documented on survey forms and field notes. California buckwheat was a dominant species within coastal sage scrub and was observed flowering throughout the five surveys. Popcorn flower was present throughout the survey area, and onion was common within patches of grassland intermixed with the chaparral communities on the north-facing slopes. Ground pink and goldfields occurred in smaller, isolated patches, and rancher's fiddleneck occasionally occurred along the road and trails.

Dominant plant species within the coastal sage scrub were primarily California buckwheat, California sagebrush (*Artemisia californica*), San Diego sunflower (*Bahiopsis laciniata*), laurel sumac (*Malosma laurina*), and deerweed (*Acmispon glaber*). Dominant plant species within the chamise chaparral and southern mixed chaparral were primarily chamise (*Adenostoma fasciculatum*), Ramona lilac (*Ceanothus tomentosus*), and mission manzanita (*Xylococcus bicolor*). Munz's sage (*Salvia munzii*) also occurred in patches throughout the survey area.

The 2016 QCB protocol developed in conjunction with the USFWS, County of San Diego, and Building Industry Association states: "If no Quino are observed in the first 5 weeks, surveys will continue until the flight season is over or demonstrably on the decline in the reference site as determined in coordination with the surveyor and the Service." No QCB were observed in the survey area during the five weeks of surveys for the project, and HELIX coordinated with USFWS, as required by the protocol, to determine whether the flight season was over or demonstrably on the decline in the reference site. Host plant conditions at the Marron Valley reference site had demonstrably declined in late March (2016 personal communication between Shelby Howard [HELIX] and Korey Klutz [Klutz Biological Consulting]), and a worn QCB was observed at Marron Valley on March 25. No fresh QCB had been observed since March 17, which is when a QCB was observed at San Vicente Reservoir. However, no fresh Quino had been observed in the southern portion of San Diego County since March 9 (Marron Valley).

With USFWS concurrence, HELIX proposed that additional surveys for the Proctor Valley project and preserve be conducted only if a fresh QCB observation was made at the Otay Ranch Village 13 site on March 31, 2016. Otay Ranch Village 13 was selected because of its adjacency to the project site and because a number of QCB had been observed on Village 13 during the same 2016 USFWS Survey Protocol period. The areas selected for the March 31 survey on Village 13 focused on areas where QCB exhibited territorial or hilltopping behavior and excluded locations where QCB had been observed in active flight through the area. No QCB were observed on the Village 13 site on March 31, 2016 (2016a email from Anita Hayworth [Dudek] to Shelby Howard [HELIX] and Susan Wynn [USFWS] dated March 31, 2016). On April 4, USFWS confirmed that no additional QCB surveys were necessary for the Village 14

project, consistent with the 2016 USFWS Survey Protocol (email from Eric Porter [USFWS] to Rob Cameron [Jackson Pendo] dated April 4, 2016).

QCB were observed in southern San Diego County in 2016, especially during the early portion of the flight season. During the week of February 29 through March 3, Dudek documented 15 QCB at Otay Ranch Village 13 (2016b, personal communication between Barry Jones [HELIX] and Anita Hayworth [Dudek]). The locations where QCB were documented on Village 13 were less than one mile from the southern portion of the Village 14 survey area. While surveys for Village 14 commenced prior to the QCB sightings on Village 13 and were conducted on the same days when QCB were observed on Village 13, no QCB were seen on Village 14. The 2016 survey and results are considered valid because the surveys were conducted in accordance with the 2016 USFWS Survey Protocol, QCB were documented in the immediate vicinity during the same time when surveys for Village 14 were conducted, and host plant and site conditions were adequate for detecting QCB.

4.0 REFERENCES

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Appendix A

SURVEY INFORMATION

Appendix A
SURVEY INFORMATION
OTAY RANCH PROCTOR VALLEY VILLAGE 14 & PRESERVE

SURVEY 1							
DATE	**BIOLOGIST**	**ACRES**	**AC/HR**	**TIME* (start/end)**	**WEATHER CONDITIONS**		**RESULTS†**
					Start	**End**	
February 24, 2016	E. Harris^	42	10	0900/1312	0% cloud, 75˚F, wind 4-8 mph	0% cloud, 84˚F, wind 1-3 mph	No QCB Observed
February 24, 2016	G. Huffman	65	9.3	0900/1600	0% cloud, 70˚F, wind 5-10 mph	0% cloud, 78˚F, wind 3-6 mph	No QCB Observed
February 24, 2016	C. Brungraber$^{\Psi}$	58	8	0915/1630	0% cloud, 70˚F, wind 0-3 mph	0% cloud, 87˚F, wind 0-3 mph	No QCB Observed
February 24, 2016	A. Hill$^{\beta}$ T. Cooper$^{\beta}$	107	6.7	0845/1205	0% cloud, 70˚F, wind 1-5 mph	0% cloud, 88˚F, wind 0-1 mph	No QCB Observed
			8.8	1230/1605	0% cloud, 88˚F, wind 0-1 mph	0% cloud, 85˚F, wind 1-3 mph	No QCB Observed
February 25, 2016	C. Brungraber$^{\Psi}$	53	6.6	0820/1615	0% cloud, 69.1˚F, wind 0-3 mph	0% cloud, 80.6˚F, wind 3-5 mph	No QCB Observed
February 25, 2016	G. Huffman	66	8.3	0800/1600	0% cloud, 60˚F, wind 0-2 mph	0% cloud, 75˚F, wind 4-6 mph	No QCB Observed
February 25, 2016	E. Harris^	55	10	0910/1440	0% cloud, 76˚F, wind 0-3 mph	0% cloud, 86˚F, wind 1-6 mph	No QCB Observed
February 25, 2016	E. LaCoste≠	34	9.7	1200/1530	0% cloud, 87˚F, wind 1-2 mph	0% cloud, 82˚F, wind 2-5 mph	No QCB Observed
February 26, 2016	C. Dickson≠	57	9.5	0900/1500	0% cloud, 69˚F, wind 3 mph	20% cloud, 75˚F, wind 1 mph	No QCB Observed
February 26, 2016	C. Brungraber$^{\Psi}$	45	5.8	0815/1600	5% cloud, 66˚F, wind 0-3 mph	80% cloud, 81˚F, wind 0-5 mph	No QCB Observed
February 26, 2016	G. Huffman	30	5.4	0930/1315	10% cloud, 70˚F, wind 2-5 mph	20% cloud, 82˚F, wind 0-4 mph	No QCB Observed
				1345/1800	20% cloud, 82˚F, wind 0-4 mph	40% cloud, 74˚F, wind 2-5 mph	No QCB Observed
February 26, 2016	G. Cummings≠	48	9.6	0930/1430	0% cloud, 78˚F, wind 1 mph	30% cloud, 79˚F, wind 3-6 mph	No QCB Observed
February 26, 2016	E. LaCoste≠	62	9.9	0900/1515	0% cloud, 69˚F, wind 2-4 mph	0% cloud, 81˚F, wind 4-7 mph	No QCB Observed
February 27, 2016	G. Huffman	55	7.3	0830/1600	0% cloud, 60˚F, wind 0-1 mph	5% cloud, 75˚F, wind 2-3 mph	No QCB Observed

Appendix A (cont.)
SURVEY INFORMATION
OTAY RANCH PROCTOR VALLEY VILLAGE 14 & PRESERVE

^Signifies HELIX biologist

SURVEY 1 (cont.)							
DATE	**BIOLOGIST**	**ACRES**	**AC/HR**	**TIME* (start/end)**	**WEATHER CONDITIONS**		**RESULTS†**
					Start	**End**	
February 27, 2016	B. Ogg≠	47	8.8	0735/1315	0% cloud, 61˚F, wind 0-2	0% cloud, 81˚F, wind 2-6 mph	No QCB Observed
February 27, 2016	C Brungraberᴪ	58	7	0830/1645	10% cloud, 60˚F, wind 0-1 mph	0% cloud, 78˚F, wind 0-3 mph	No QCB Observed
February 27, 2016	C. Brungraberᴪ	47	5.3	0800/1650	0% cloud, 63˚F, wind 0-3 mph	0% cloud, 76˚F, wind 4-7 mph	No QCB Observed
February 27, 2016	C. Dickson≠	54	9	0800/1400	0% cloud, 62˚F, wind 1 mph	0% cloud, 86˚F, wind 2 mph	No QCB Observed
February 27, 2016	J. Dicus M. Dicus	108	7.7	0830/1530	0% cloud, 64˚F, wind 0 mph	0% cloud, 77˚F, wind 3 mph	No QCB Observed
February 28, 2016	J. Dicus M. Dicus	93	6.06	0810/1550	5% cloud, 61˚F, wind 0 mph	10% cloud, 72˚F, wind 3 mph	No QCB Observed
February 28, 2016	C. Dickson≠	55	8.8	0745/1400	0% cloud, 65˚F, wind 3 mph	0% cloud, 87˚F, wind 3 mph	No QCB Observed
February 28, 2016	N. Brodie≠ B. Ogg≠	93	7.4	0800/1415	0% cloud, 61˚F, 0-2 wind	60% cloud, 82˚F, wind 0-5 mph	No QCB Observed
February 28, 2016	C. Brungraberᴪ	46	5.5	0810/1635	10% cloud, 66˚F, wind 0-2 mph	35% cloud, 76˚F, wind 3-5 mph	No QCB Observed
February 28, 2016	B. Parker≠	51	8.5	0820/1420	0% cloud, 64˚F, wind 0-1 mph	10% cloud, 75˚F, wind 4-6 mph	No QCB Observed
February 28, 2016	G. Huffman	50	6	0800/1630	5% cloud, 60˚F, wind 0-2 mph	60 cloud, 79˚F, wind 0-3 mph	No QCB Observed
March 1, 2016	C. Brungraberᴪ	42	6	0845/1545	15% cloud, 67˚F, wind 0-3 mph	5% cloud, 87˚F, wind 0-3 mph	No QCB Observed
March 1, 2016	M. Rocks≠ M. Alfaro≠	99	7.9	0830/1445	1% cloud, 70˚F, wind 1-2 mph	5% cloud, 79˚F, wind 2-3 mph	No QCB Observed

≠Signifies Busby biologist
ᵝSignifies Halcyon biologist
ᴪSignifies SummitWest Biologist
*Supervised Individual

Appendix A (cont.)
SURVEY INFORMATION
OTAY RANCH PROCTOR VALLEY VILLAGE 14 & PRESERVE

SURVEY 2							
DATE	**BIOLOGIST**	**ACRES**	**AC/HR**	**TIME* (start/end)**	**WEATHER CONDITIONS**		**RESULTS†**
					Start	**End**	
March 2, 2016	C. Brungraber$^{\Psi}$ A. Borcher$^{\Psi}$ E. Harris^ B. Rosenbaum*	148	6.3	0830/1620	20% cloud, 67˚F, wind 0-3 mph	10% cloud, 67˚F, wind 1-3 mph	No QCB Observed
March 2, 2016	G. Huffman	65	8.1	0800/1600	20% cloud, 68˚F, wind 1-3 mph	20% cloud, 75˚F, wind 2-4 mph	No QCB Observed
March 2, 2016	M. Busby≠	65	9	0920/1630	0% cloud, 77˚F, wind 1-3 mph	0% cloud, 80˚F, wind 3-5 mph	No QCB Observed
March 3, 2016	C. Brungraber$^{\Psi}$ A. Borcher$^{\Psi}$	97	6.3	0815/1600	15% cloud, 60˚F, wind 0 mph	90% cloud, 70˚F, wind 0-3 mph	No QCB Observed
March 3, 2016	M. Busby≠ D. Busby≠ D. Saucedo≠	77	10	0900/1630	0% cloud, 65˚F, wind 0-2 mph	0% cloud, 72˚F, wind 3-7 mph	No QCB Observed
March 3, 2016	J. Lovio≠	40	11.4	0900/1230	50% cloud, 64˚F, wind 1 mph	100% cloud, 80˚F, wind 1-5 mph	No QCB Observed
March 3, 2016	D. Busby≠	5	10	1550/1630	100% cloud, 75˚F, wind 3-7 mph	100% cloud, 72˚F, wind 3-7 mph	No QCB Observed
March 4, 2016	J. Bakker^	44	9.8	1005/1435	20% cloud, 65˚F, wind 0 mph	10% cloud, 74˚F, wind 0-3 mph	No QCB Observed
March 4, 2016	J. Lovio≠	55	10	0955/1530	80% cloud, 63˚F, wind 1 mph	30% cloud, 72˚F, wind 8 mph	No QCB Observed
March 4, 2016	G. Huffman E. Harris^	65	6.1	1020/1600	15% cloud, 65˚F, wind 0-3 mph	60% cloud, 63˚F, wind 1-6 mph	No QCB Observed
March 4, 2016	C Brungraber$^{\Psi}$	10	5.1	1540/1645	30% cloud, 66˚F, wind 0-4 mph	100% cloud, 70˚F, wind 0-3 mph	No QCB Observed
March 4, 2016	G. Cummings≠	51	9.7	1015/1530	40% cloud, 65˚F, wind 6 mph	50% cloud, 71˚F, wind 3-6 mph	No QCB Observed
March 4, 2016	C. Dickson≠	60	10	0940/1545	20% cloud, 73˚F, wind 2-7 mph	50% cloud, 68˚F, wind 5-9 mph	No QCB Observed

Appendix A (cont.)
SURVEY INFORMATION
OTAY RANCH PROCTOR VALLEY VILLAGE 14 & PRESERVE

SURVEY 2 (cont.)							
DATE	**BIOLOGIST**	**ACRES**	**AC/HR**	**TIME* (start/end)**	**WEATHER CONDITIONS**		**RESULTS†**
					Start	**End**	
March 4, 2016	A. Mattson^ C. Brungraber$^{\Psi}$	97	9.7	1015/1515	5% cloud, 74˚F, wind 0 mph	3% cloud, 69˚F, wind 5-7 mph	No QCB Observed
March 5, 2016	J. Dicus M. Dicus	108	8	0915/1555	40% cloud, 60˚F, wind 2 mph	50% cloud, 60˚F, wind 2 mph	No QCB Observed
March 5, 2016	G. Huffman E. Harris	121	10	1000/1600	40% cloud, 65˚F, wind 1-5 mph	100% cloud, 68˚F, wind 2-7 mph	No QCB Observed
March 5, 2016	B. Parker≠	33	9.4	1125/1455	40% cloud, 70˚F, wind 0 mph	70% cloud, 68˚F, wind 5-8 mph	No QCB Observed
March 5, 2016	C. Dickson≠	42	8	0900/1411	90% cloud, 60˚F, wind 2 mph	95% cloud, 71˚F, wind 4 mph	No QCB Observed
March 5, 2016	D. Saucedo≠	57	9.5	0915/1330	60% cloud, 64˚F, wind 0-3 mph	90% cloud, 74˚F, wind 0-7 mph	No QCB Observed No QCB Observed
March 5, 2016	J. Dicus M. Dicus	93	8.9	1030/1545	40% cloud, 65˚F, wind 1-4 mph	50% cloud, 68˚F, wind 1-3 mph	No QCB Observed
March 5, 2016	A. Hill$^{\beta}$	63	9.7	0845/1535	70% cloud, 70˚F, wind 1-3 mph	95% cloud, 77˚F, wind 4-8 mph	No QCB Observed
March 8, 2016	C. Brungraber$^{\Psi}$ A. Borcher$^{\Psi}$ E. Harris^ B. Rosenbaum*	100	6	0900/1215	0% cloud, 60˚F, wind 0-1 mph	0% cloud, 66˚F, wind 3-5 mph	No QCB Observed
				1400/1615	0% cloud, 67˚F, wind 3-5 mph	0% cloud, 66˚F, wind 3-5 mph	

^Signifies HELIX biologist
≠Signifies Busby biologist
$^{\beta}$Signifies Halcyon biologist
$^{\Psi}$Signifies SummitWest Biologist
*Supervised Individual

Appendix A (cont.)
SURVEY INFORMATION
OTAY RANCH PROCTOR VALLEY VILLAGE 14 & PRESERVE

SURVEY 3							
DATE	**BIOLOGIST**	**ACRES**	**AC/HR**	**TIME* (start/end)**	**WEATHER CONDITIONS**		**RESULTS†**
					Start	**End**	
March 8, 2016	C. Brungraber$^{\Psi}$ A. Borcher$^{\Psi}$ E. Harris^	30	10	1230/1330	0% cloud, 64˚F, wind 3-5 mph	0% cloud, 65˚F, wind 3-5 mph	No QCB Observed
March 9, 2016	C. Brungraber$^{\Psi}$ A. Mattson^	97	9.8	0845/1505	0% cloud, 64˚F, wind 0 mph	1% cloud, 74˚F, wind 0-2 mph	No QCB Observed
March 9, 2016	A. Borcher$^{\Psi}$	60	7.5	0900/1700	0% cloud, 63˚F, wind 1-3 mph	40% cloud, 68˚F, wind 2-8 mph	No QCB Observed
March 9, 2016	E. LaCoste≠ G. Cummings≠ E. Harris^ B. Rosenbaum^	152	9.4	0915/1445	0% cloud, 64˚F, wind 0-1 mph	0% cloud, 75˚F, wind 5-7 mph	No QCB Observed
March 10, 2016	C. Dickson≠	60	9.2	0830/1450	10% cloud, 65˚F, wind 1-9 mph	10% cloud, 72˚F, wind 2-5 mph	No QCB Observed
March 10, 2016	C. Brungraber$^{\Psi}$ A. Borcher$^{\Psi}$	104	7	0830/1600	10% cloud, 63˚F, wind 0-2 mph	80% cloud, 74˚F, wind 2-4 mph	No QCB Observed
March 10, 2016	J. Lovio≠	55	8.8	0945/1555	50% cloud, 66˚F, wind 1 mph	100% cloud, 78˚F, wind 5 mph	No QCB Observed
March 10, 2016	G. Huffman	65	7.6	0800/1630	20% cloud, 64˚F, wind 0-2 mph	40% cloud, 71˚F, wind 3-6 mph	No QCB Observed
March 11, 2016	C. Brungraber$^{\Psi}$ G. Brungraber*	40	9.4	1100/1515	25% cloud, 68˚F, wind 2-7 mph	100% cloud, 70˚F, wind 7-10 mph	No QCB Observed
March 11, 2016	B. Ogg≠ B. Lohstroh≠ M. Alfaro≠ J. Lovio≠	79	7.9	1045/1317	100% cloud, 63˚F, wind 5-10 mph	20% cloud, 67˚F, wind 8-12 mph	No QCB Observed

Appendix A (cont.)
SURVEY INFORMATION
OTAY RANCH PROCTOR VALLEY VILLAGE 14 & PRESERVE

SURVEY 3 (cont.)							
DATE	**BIOLOGIST**	**ACRES**	**AC/HR**	**TIME* (start/end)**	**WEATHER CONDITIONS**		**RESULTS†**
					Start	**End**	
March 11, 2016	B. Ogg≠ B. Lohstroh≠ M. Alfaro≠	28	9.3	1415/1515	40% cloud, 65˚F, wind 3-5 mph	100% cloud, 85˚F, wind 5-10 mph	No QCB Observed
March 12, 2016	C. Dickson≠ B. Ogg≠ D. Saucedo≠	39	6.6	1130/1300	75% cloud, 71˚F, wind 0-8 mph	100% cloud, 68˚F, wind 5 mph	No QCB Observed
March 12, 2016	M. Dicus J. Dicus	10	10	1025/1055	45% cloud, 61˚F, wind 2 mph	50% cloud, 61˚F, wind 1 mph	No QCB Observed
March 12, 2016	G. Huffman	50	10	0900/1100	50% cloud, 61˚F, wind 0-3 mph	65% cloud, 62˚F, wind 4-8 mph	No QCB Observed
				1400/1700	20% cloud, 63˚F, wind 2-6 mph	10% cloud, 62˚F, wind 3-6 mph	No QCB Observed
March 13, 2016	B. Parker≠ C. Dickson≠	75	8.3	1100/1530	25% cloud, 75˚F, wind 3-5 mph	60% cloud, 67˚F, wind -10 mph	No QCB Observed
March 13, 2016	G. Huffman	59	7.3	0830/1630	40% cloud, 60˚F, wind 0-2 mph	40% cloud, 70˚F, wind 3-7 mph	No QCB Observed
				0830/1630	40% cloud, 60˚F, wind 0-2 mph	40% cloud, 70˚F, wind 3-7 mph	No QCB Observed
March 13, 2016	M. Dicus J. Dicus	100	7.4	0945/1630	30% cloud, 60˚F, wind 2 mph	35% cloud, 61˚F, wind 4 mph	No QCB Observed
March 13, 2016	G. Huffman	59	7.3	0830/1630	40% cloud, 60˚F, wind 0-2 mph	40% cloud, 70˚F, wind 3-7 mph	No QCB Observed
March 13, 2016	C. Brungraberψ G. Brungraber*	43	8.6	1130/1630	30% cloud, 63˚F, wind 0-2 mph	35% cloud, 63˚F, wind 2-5 mph	No QCB Observed
March 13, 2016	A. Hillβ T. Cooperβ	44	9.1	1420/1645	25% cloud, 71˚F, wind 1-4 mph	60% cloud, 70˚F, wind 2-6 mph	No QCB Observed
March 14, 2016	G. Huffman	30	10	0830/1130	30% cloud, 61˚F, wind 0-3 mph	100% cloud, 67˚F, wind 4-8 mph	No QCB Observed
March 14, 2016	A. Hillβ	63	10	1415/1725	95% cloud, 72˚F, wind 2-5 mph	65% cloud, 72˚F, wind 1-3 mph	No QCB Observed
March 15, 2016	C. Brungraberψ	68	8.3	0915/1730	0% cloud, 63˚F, wind 0-1 mph	0% cloud, 74˚F, wind 2-4 mph	No QCB Observed

Appendix A (cont.)
SURVEY INFORMATION
OTAY RANCH PROCTOR VALLEY VILLAGE 14 & PRESERVE

SURVEY 3 (cont.)							
DATE	**BIOLOGIST**	**ACRES**	**AC/HR**	**TIME* (start/end)**	**WEATHER CONDITIONS**		**RESULTS†**
					Start	**End**	
March 15, 2016	D. Saucedo≠	34	8.3	1100/1510	10% cloud, 82˚F, wind 0-1 mph	0% cloud, 82˚F, wind 1-5 mph	No QCB Observed
March 15, 2016	M. Dicus J. Dicus	93	6	0900/1650	5% cloud, 61˚F, wind 2 mph	0% cloud, 74˚F, wind 3 mph	No QCB Observed
March 15, 2016	G. Huffman	62	7.3	0830/1700	0% cloud, 60˚F, wind 0-3 mph	0% cloud, 74˚F, wind 2-7 mph	No QCB Observed
March 15, 2016	M. Busby≠ M. Rocks≠	60	9.5	0930/1600	0% cloud, 63˚F, wind 0-2 mph	0% cloud, 78˚F, wind 4-7 mph	No QCB Observed

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≠Signifies Busby biologist
ᵝSignifies Halcyon biologist
ᵠSignifies SummitWest Biologist
*Supervised Individual

Appendix A (cont.)
SURVEY INFORMATION
OTAY RANCH PROCTOR VALLEY VILLAGE 14 & PRESERVE

SURVEY 4							
DATE	**BIOLOGIST**	**ACRES**	**AC/HR**	**TIME* (start/ end)**	**WEATHER CONDITIONS**		**RESULTS†**
					Start	**End**	
March 16, 2016	G. Cummings≠ E. LaCoste≠ E. Harris^	166	9.62	0815/1400	0% cloud, 64˚F, wind 0-1 mph	0% cloud, 87˚F, wind 4-7 mph	No QCB Observed
March 16, 2016	C. Brungraberψ	40	6.7	0900/1500	0% cloud, 67˚F, wind 0-2 mph	0% cloud, 80˚F, wind 2-5 mph	No QCB Observed
March 16, 2016	G. Huffman	15	5	1200/1500	0% cloud, 80˚F, wind 4-8 mph	0% cloud, 78˚F, wind 4-8 mph	No QCB Observed
March 16, 2016	A. Mattson^ B. Rosenbaum*	55	10	0925/1455	0% cloud, 76˚F, wind 0-1 mph	0% cloud, 80˚F, wind 2-8 mph	No QCB Observed
March 17, 2016	A. Mattson^	42	9.8	1025/1445	0% cloud, 79˚F, wind 0-1 mph	0% cloud, 74˚F, wind 0-4 mph	No QCB Observed
March 17, 2016	C. Brungraberψ	30	8	1300/1645	0% cloud, 78˚F, wind 2-5 mph	0% cloud, 73˚F, wind 0-3 mph	No QCB Observed
March 17, 2016	A. Hillβ	44	8.8	0930/1430	0% cloud, 68˚F, wind 0-1 mph	0% cloud, 88˚F, wind 1-4 mph	No QCB Observed
March 18, 2016	C. Brungraberψ	46	8.36	1115/1645	0% cloud, 76˚F, wind 0-4 mph	0% cloud, 74˚F, wind 3-7 mph	No QCB Observed
March 18, 2016	G. Cummings≠ E. Harris	75	10	0920/1305	10% cloud, ˚63 F, wind 0-1 mph	0% cloud, 1-3˚F, wind 1-3 mph	No QCB Observed
March 18, 2016	J. Lovio≠	48	9	1055/1605	0% cloud, 70˚F, wind 0 mph	0% cloud, 85˚F, wind 5-8 mph	No QCB Observed
March 18, 2016	B. Lohstroh≠	47	8.9	0910/1430	0% cloud, 64˚F, wind 0-3 mph	0% cloud, 78˚F, wind 2-7 mph	No QCB Observed
March 18, 2016	G. Huffman	65	8	0830/1630	0% cloud, 61˚F, wind 2-4 mph	0% cloud, 68˚F, wind 4-8 mph	No QCB Observed
March 19, 2016	C. Brungraberψ	78	10	1000/1800	5% cloud, 68˚F, wind 0-3 mph	20% cloud, 65˚F, wind 0-3 mph	No QCB Observed

Appendix A (cont.)
SURVEY INFORMATION
OTAY RANCH PROCTOR VALLEY VILLAGE 14 & PRESERVE

^Signifies HELIX biologist

SURVEY 4 (cont.)							
DATE	**BIOLOGIST**	**ACRES**	**AC/HR**	**TIME* (start/ end)**	**WEATHER CONDITIONS**		**RESULTS†**
					Start	**End**	
March 20, 2016	J. Dicus^ M. Dicus^	108	7.2	0920/1650	25% cloud, 60 ˚F, wind 1-2 mph	20% cloud, 72 ˚F, wind 0-2 mph	No QCB Observed
March 20, 2016	B. Parker≠ C. Dickson≠	57	9.3	1215/1520	5% cloud, 75˚F, wind 1-3 mph	5% cloud, 75˚F, wind 4-7 mph	No QCB Observed
March 20, 2016	G. Huffman^	85.5	10	0900/1720	40% cloud, 60˚F, wind 0-1 mph	25% cloud, 72˚F, wind 0-2 mph	No QCB Observed
March 20, 2016	T. Cooperβ	63	10	1000/1620	25% cloud, 61˚F, wind 1-3 mph	5% cloud, 78˚F, wind 4-7 mph	No QCB Observed
March 20, 2016	B. Parker≠ C. Dickson ≠ A. Smisek*	34	6.8	0945/1215	5% cloud, 62˚F, wind 1-3 mph	5% cloud, 75˚F, wind 1-3 mph	No QCB Observed
March 21, 2016	J. Dicus^ M. Dicus^	93	6.6	0930/1630	10% cloud, 60 ˚F, wind 1-2 mph	15% cloud, 70 ˚F, wind 5-6 mph	No QCB Observed
March 21, 2016	M. Alfaro≠	57	9.25	0925/1536	30% cloud, 63˚F, wind 1-2 mph	50% cloud, 76˚F, wind 6-8 mph	No QCB Observed
March 21, 2016	C. Brungraberψ N. Kimballψ	93	6	0930/1715	40% cloud, 60˚F, wind 0-1 mph	45% cloud, 69˚F, wind 5-10 mph	No QCB Observed
March 22, 2016	G. Huffman^	85.5	10	0900/1730	45% cloud, 60˚F, wind 3-8 mph	15% cloud, 64˚F, wind 2-8 mph	No QCB Observed
March 23, 2016	C. Brungraberψ N. Kimballψ	58	8.9	1400/1715	0% cloud, 81˚F, wind 3-5 mph	0% cloud, 81˚F, wind 4-7 mph	No QCB Observed
March 23, 2016	G. Cummings≠	54	9.8	0920/1450	0% cloud, 62˚F, wind 3 mph	0% cloud, 77˚F, wind 2-10 mph	No QCB Observed
March 23, 2016	D. Busby≠	62	~9	1000/1645	0% cloud, 73˚F, wind 0-2 mph	0% cloud, 75˚F, wind 5-8 mph	No QCB Observed

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ψSignifies SummitWest Biologist
*Supervised Individual

Appendix A (cont.)
SURVEY INFORMATION
OTAY RANCH PROCTOR VALLEY VILLAGE 14 & PRESERVE

SURVEY 5							
DATE	**BIOLOGIST**	**ACRES**	**AC/HR**	**TIME* (start/ end)**	**WEATHER CONDITIONS**		**RESULTS†**
					Start	**End**	
March 23, 2016	D. Busby≠	82	9	1000/1645	0% cloud, 73˚F, wind 0-2 mph	0% cloud, 75˚F, wind 5-8 mph	No QCB Observed
March 23, 2016	C. Brungraberψ	50	10	0900/1400	0% cloud, 61˚F, wind 0-2 mph	0% cloud, 81˚F, wind 4-7 mph	No QCB Observed
March 24, 2016	J. Lovio≠	48	9	1000/1500	0% cloud, 76˚F, wind 2 mph	0% cloud, 83˚F, wind 5-10 mph	No QCB Observed
March 24, 2016	A. Mattson^	42	9.5	1120/1545	0 % cloud, 79˚F, wind 0-1 mph	0% cloud, 82˚F, wind 0-6 mph	No QCB Observed
March 24, 2016	G. Huffman	30	8.1	0830/1330 1400/1700	0% cloud, 63˚F, wind 0-2 mph 0% cloud, 82˚F, wind 2-4 mph	0% cloud, 81˚F, wind 2-4 mph 0% cloud, 76˚F, wind 2-6 mph	No QCB Observed
March 24, 2016	C. Brungraberψ N. Kimballψ	108	6.1	0915/1800	0% cloud, 72˚F, wind 0-2 mph	0% cloud, 79˚F, wind 0-3 mph	No QCB Observed
March 25, 2016	A. Mattson^ T. Rachels*	55	9.8	0915/1450	0% cloud, 71˚F, wind 0 mph	50% cloud, 79˚F, wind 0-3 mph	No QCB Observed
March 25, 2016	E. LaCoste≠ E. Harris^ H. Sadowski*	91	9.8	0830/1310	0 % cloud, 63˚F, wind 0-1 mph	0% cloud, 82˚F, wind 4-7 mph	No QCB Observed
March 25, 2016	G. Huffman	40	5	0830/1630	0% cloud, 66˚F, wind 1-4 mph	20% cloud, 73˚F, wind 3-8 mph	No QCB Observed
March 25, 2016	C. Brungraberψ G. Brungraber*	46	10	1330/1800	30% cloud, 76˚F, wind 2-5 mph	0% cloud, 72˚F, wind 0-3 mph	No QCB Observed
March 25, 2016	B. Parker≠	62	9.9	0915/1530	0% cloud, 63˚F, wind 3-5 mph	0% cloud, 74˚F, wind 5-8 mph	No QCB Observed
March 25, 2016	B. Lohstroh≠	57	9.2	0840/1450	0% cloud, 64˚F, wind 0-1 mph	0% cloud, 86˚F, wind 0-4 mph	No QCB Observed
March 26, 2016	R. Owens≠	42	7	0835/1425	0% cloud, 62˚F, wind 0 mph	0% cloud, 74˚F, wind 0 mph	No QCB Observed
March 26, 2016	N. Brodie≠ B. Ogg≠ A. Smisek*	55	8.9	1230/1540	0% cloud, 69˚F, wind 2-6 mph	0% cloud, 80˚F, wind 2-9 mph	No QCB Observed
March 26, 2016	N. Brodie≠ B. Ogg≠	60	10	0915/1215	0% cloud, 61˚F, wind 0-2 mph	0% cloud, 69˚F, wind 2-6 mph	No QCB Observed

Appendix A (cont.)
SURVEY INFORMATION
OTAY RANCH PROCTOR VALLEY VILLAGE 14 & PRESERVE

SURVEY 5 (cont.)							
DATE	**BIOLOGIST**	**ACRES**	**AC/HR**	**TIME* (start/ end)**	**WEATHER CONDITIONS**		**RESULTS†**
					Start	**End**	
March 27, 2016	N. Brodie≠ B. Ogg≠	51	8.5	0945/1245	5% cloud, 62˚F, wind 1-3 mph	10% cloud, 76˚F, wind 4-8 mph	No QCB Observed
March 27, 2016	R. Owens≠ Patrick Hord*	47	8.5	0810/1340	0% cloud, 61˚F, wind 0 mph	0% cloud, 73˚F, wind 3 mph	No QCB Observed
March 27, 2016	N. Brodie≠ B. Ogg≠	33	8.6	1300/1455	10% cloud, 76˚F, wind 4-8 mph	15% cloud, 78˚F, wind 2-8 mph	No QCB Observed
March 27, 2016	G. Huffman	61	7.6	0830/1630	0% cloud, 60˚F, wind 2-4 mph	0% cloud, 70˚F, wind 3-8 mph	No QCB Observed
March 27, 2016	A. Hillβ T. Cooperβ	137	10	0850/1420	0% cloud, 68˚F, wind 0-1 mph	0% cloud, 78˚F, wind 2-5 mph	No QCB Observed
March 27, 2016	M. Dicus J. Dicus	133	8.3	0845/1645	0% cloud, 63˚F, wind 1 mph	1% cloud, 72˚F, wind 5 mph	No QCB Observed
March 27, 2016	C. BrungraberΨ N. KimballΨ G. Brungraber*	72	5.8	0945/1600	0% cloud, 66˚F, wind 0-1 mph	2% cloud, 74˚F, wind 4-7 mph	No QCB Observed
March 29, 2016	C. BrungraberΨ	30	9.2	1100/1415	35% cloud, 60˚F, wind 4-9 mph	40% cloud, 63˚F, wind 4-9 mph	No QCB Observed
March 29, 2016	M. Dicus J. Dicus	68	8	1200/1615	30% cloud, 60˚F, wind 2 mph	40% cloud, 60˚F, wind 7-9 mph	No QCB Observed
March 30, 2016	G. Huffman	55	9	0830/1130	10% cloud, 60˚F, wind 2-4 mph	70% cloud, 58˚F, wind 3-8 mph	No QCB Observed
				1400/1700	50% cloud, 58˚F, wind 2-6 mph	30% cloud, 60˚F, wind 3-8 mph	
March 31, 2016	G. Huffman	65	8.1	0830/1630	0% cloud, 60˚F, wind 2-5 mph	1% cloud, 63˚F, wind 3-8 mph	No QCB Observed
March 31, 2016	C. BrungraberΨ	30	7.5	1315/1715	0% cloud, 75˚F, wind 4-7 mph	2% cloud, 67˚F, wind 4-9 mph	No QCB Observed
March 31, 2016	R. Owens≠	54	8.3	0805/1420	0% cloud, 60˚F, wind 0 mph	0% cloud, 71˚F, wind 4 mph	No QCB Observed

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Appendix B

SURVEY FORMS AND FIELD NOTES

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: [illegible] Date: 2-28-16

Site Name: JPD-09 Proctor Valley – Village 14 of Otay Ranch – PA Site Visit No: 1

Acres Surveyed: 5.5 Survey Time: 6:25 Acres per Hour: 0.8

Other Surveyors Present: [illegible]

Field Conditions				
	Time (24 hr)	Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start	0745	53	3.1	0%
End	1400	61	2.6	0%
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)

[illegible]

Host Plants	Obs.	Nectar Plants	Obs.
dwarf plantain (Plantago erecta)	1	popcorn flower (Cryptantha/Plagiobothrys spp.)	Y
purple owl's clover (Castilleja exserta)	1	goldfields (Lasthenia spp.)	1
snapdragon (Antirrhinum coulterianum)	1	goldenaster (Mulilla spp.)	1
birds beak (Cordylanthus rigidus)	1	fiddleneck (Amsinckia menziesii var. intermedia)	1
woolly plantain (Plantago patagonica)	1	onion (Allium spp.)	Y
Chinese houses (Collinsia spp.)	1	buckwheat (Eriogonum fasciculatum)	X
	11	ground pink (Linanthus dianthiflorus)	1
Host Plant Mapping Updated (circle) Yes No		New Area or Existing Area (circle) New Existing	Both
Species updated (list)			

Butterfly Species	No.	Butterfly Species	No.
Checkerspots		**Hairstreaks**	
California patch (Chlosyne californica)		great purple hairstreak (Atlides halesus corcorani)	
Gabb's checkerspot (C. gabbii)		brown elfin (Callophrys augustinus)	
Quino checkerspot (Euphydryas editha quino)		brambler (gambrawing) hairstreak (C. dumetorum affine)	
chalcedon checkerspot (E. chalcedona chalcedona)		gray hairstreak (Strymon melinus pudica)	
Leanira checkerspot (Timaseaks leanira wrighti)		**Ladies/Admirals**	
Mylitta crescent (Phyciodes mylitta)		California sister (Adelpha bredowii californica)	
Blues		Limpiri's admiral (Limenitis limpiri)	
western pygmy-blue (Brephidium exile)		west coast lady (Vanessa annabella)	
western tailed blue (Everes amyntula)		red admiral (V. atalanta rubria)	
southern blue (Glaucopsyche lygdamus australis)	4	painted lady (V. cardui)	1
Edward's blue (Hemiargus ceraunus gyas)		American (Virginia) lady (V. virginiensis)	
Acmon blue (Icaricia acmon acmon)	1	unidentified lady (Vanessa sp.)	
marine blue (Leptotes marina)		**Swallowtails**	
unidentified blue		pale swallowtail (Papilio eurymedon)	
Whites		western tiger swallowtail (P. rutulus)	
Reis orangetip (Anthocharis sara reakirti)	14	anise swallowtail (P. zelicaon)	
desert (Fender's) orangetip (A. cethura)		**Miscellaneous**	
common California orange (Cercyonis californica)		monarch (Danaus plexippus)	
cabbage white (Pieris rapae)	2	common buckeye (Junonia coenia grisea)	
checkered (common) white (Pontia protodice)		mourning cloak (Nymphalis antiopa)	
spring white (P. sisymbrii)		**Skippers**	
unidentified white		funereal duskywing (Erynnis funeralis)	5
Metalmarks		mournful duskywing (Erynnis tristis)	
Reis's metalmark (Apodemia mormo virgulti)	4	fiery skipper (Hylephila phyleus)	
Wright's metalmark (Calephelis wrighti)		white (common) checkered-skipper (Pyrgus albescens)	
Sulphurs		**Other**	
orange sulphur (Colias eurytheme)	2		
lesser orange (Eurema nicippe)			
cloudless sulfur (Phoebus sennae marcellina)			
unidentified sulphur			
Column Subtotal	29	Column Subtotal	6
		Total	35

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: Chez Brangcober

Site Name: JPD-06 Proctor Valley – Village 14 of Otay Ranch Date: 2/27/16

Acres Surveyed 47 (out) / PA) Survey Time: 8.83 hrs (8hr 50m) Site Visit No: 1

Other Surveyors Present: Acres per Hour: 5.32

	Field Conditions			
	Time (24 hr)	Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start	0800	63.1	0-3	0
End	1650	75.5	4-7	0
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)

Native bunch grass grassland (Stipa sp., Sisyrinchium sp., Nicolletia, Eschscholzia, Lupinus, Malacothamnus) open Maritime chaparral w/ Rose, Ceanothus + Rhamnus dominated Coast

Host Plants	Obs.	Nectar Plants	Obs.
dwarf plantain (*Plantago erecta*)		popcorn flower (*Cryptantha/Plagiobothrys* spp.)	Over Abby
purple owl's clover (*Castilleja exserta*)		goldfields (*Lasthenia* spp.)	Over
snapdragon (*Antirrhinum coulterianum*)	Y	goldenstar (*Muilla* spp.)	
birds-beak (*Cordylanthus rigidus*)		fiddleneck (*Amsinckia menziesii* var. *intermedia*)	Over
woolly plantain (*Plantago patagonica*)		onion (*Allium* spp.)	Over
Chinese houses (*Collinsia* spp.)		buckwheat (*Eriogonum fasciculatum*)	Y/S
		ground pink (*Linanthus dianthiflorus*)	Over
Host Plant Mapping Updated (circle) Yes No		**New Area or Existing Area** (circle) New Existing Both	
Species updated (list)			

Butterfly Species	No.	Butterfly Species	No.
Checkerspots		**Hairstreaks**	
California patch (*Chlosyne californica*)		great purple hairstreak (*Atlides halesus corcoranii*)	
Gabb's checkerspot (*C. gabbii*)		brown elfin (*Callophrys augustinus*)	
Quino checkerspot (*Euphydryas editha quino*)		bramble (gerdaxing) hairstreak (*C. dumetorum affinis*)	
chalcedon checkerspot (*E. chalcedona chalcedona*)		gray hairstreak (*Strymon melinus pudica*)	1
Leanira checkerspot (*Thessalia leanira wrighti*)		**Ladies/Admirals**	
Mylitta crescent (*Phyciodes mylitta*)		California sister (*Adelpha bredowii californica*)	
Blues		Lorquin's admiral (*Limenitis lorquini*)	
western pygmy-blue (*Brephidium exile*)		west coast lady (*Vanessa annabella*)	
western tailed blue (*Everes amyntula*)		red admiral (*V. atalanta rubria*)	
southern blue (*Glaucopsyche lygdamus australis*)	3 w/ spl 1	painted lady (*V. cardui*)	
Edward's blue (*Hemiargus ceraunus gyas*)		American (Virginia) lady (*V. virginiensis*)	1
Acmon blue (*Icaricia acmon acmon*)		unidentified lady (*Vanessa* sp.)	11
marine blue (*Leptotes marina*)	1	**Swallowtails**	
unidentified blue	111	pale swallowtail (*Papilio eurymedon*)	16
Whites		western tiger swallowtail (*P. rutulus*)	
Sara orangetip (*Anthocharis sara sara*)	0 w/ sl 1	anise swallowtail (*P. zelicaon*)	11
desert (Felder's) orangetip (*A. cethura*)		**Miscellaneous**	
common California ringlet (*Coenonympha californica*)	1 w/ sl 1	monarch (*Danaus plexippus*)	
cabbage white (*Pieris rapae*)		common buckeye (*Junonia coenia grisea*)	
checkered (common) white (*Pontia protodice*)		mourning cloak (*Nymphalis antiopa*)	
spring white (*P. sisymbrii*)		**Skippers**	
unidentified white	1 w/ 11	funereal duskywing (*Erynnis funeralis*)	1 w/ 1
Metalmarks		mournful duskywing (*Erynnis tristis*)	
Behr's metalmark (*Apodemia mormo virgulti*)	1 w/ sl 1	fiery skipper (*Hylephila phyleus*)	
Wright's metalmark (*Calephelis wrighti*)		white (common) checkered-skipper (*Pyrgus albescens*)	1
Sulphurs		**Other**	
orange sulphur (*Colias eurytheme*)			
sleepy orange (*Eurema nicippe*)			
cloudless sulfur (*Phoebus sennae marcellina*)			
unidentified sulphur			
Column Subtotal	120	Column Subtotal	13
		Total	133

2016 Ohlone Checkerspot Butterfly Survey Form

Surveyor: [illegible] Date: [illegible]

Site Name: JPCOS Preserve Valley – Village at Gay Ranch [illegible] Site Visit No: 1

Acres Surveyed: 60 Survey Time: [illegible] Survey was Where: [illegible]

Other Surveyors Present: –

Field Conditions

	Time (24 hr)	Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start	[illegible]	61	0 [illegible]	0 [illegible]
End	[illegible]	67	0 [illegible]	10 %
Start	[illegible]	75	1 [illegible]	50 %
End	[illegible]	82	0 [illegible]	60 %

Vegetation Communities Surveyed (inc. dominant spp.)

[illegible]

Host Plants	Obs.	Nectar Plants	Obs.
Dwarf plantain (Plantago erecta)	✓	purple sage (Salvia leucophylla)	✓
purple owl's clover (Castilleja exserta)		goldfields (Lasthenia spp.)	
snapdragon (Antirrhinum coulterianum)		golden star (Muilla spp.)	
white root (Chlorogalum spp.)		Indian rhubarb (Rheum californicum)	
woolly plantain (Plantago patagonica)		onion (Allium spp.)	
Chinese houses (Collinsia spp.)		owl's clover (Triphysaria)	✓
		ground pink (Linanthus dichotomus)	
Host Plant Mapping Updated (y/n): Yes	No	New Area or Existing Area (circle): New	Existing: Both

Species updated for:

Butterfly Species	No.	Butterfly Species	No.
Checkerspots		**Hairstreaks**	
California patch (Chlosyne californica)		great purple hairstreak (Atlides halesus corcoran)	
Gabb's checkerspot (C. gabbii)		brown elfin (Callophrys augustinus)	
Quino checkerspot (Euphydryas editha quino)		mitoura (gryneus) hairstreak (M. gryneus affine)	
sheridan checkerspot (E. editha sheridanii)		gray hairstreak (Strymon melinus)	1
Leanira checkerspot (Thessalia leanira)		**Ladies/Admirals**	
Mylitta crescent (Phyciodes mylitta)		California Lady (Vanessa cardui)	
Blues		Lorquin's admiral (Limenitis lorquini)	
western tailed blue (Cupido amyntula)		west coast lady (Vanessa annabella)	
western pygmy blue (Brephidium exile)		red admiral (V. atalanta)	
northern blue (Icaricia icarioides fenderi)		painted lady (V. cardui)	1
Edward's blue (Hemiargus ceraunus gyas)		American (Original) lady (V. virginiensis)	1
Acmon blue (Plebejus acmon)		unidentified lady (Vanessa sp.)	
Tailed blue (Everes amyntula)	2	**Skippers**	
unidentified blue	1	dark woodland (Pseudocopaeodes)	
Whites		western tiger swallowtail (P. rutulus)	
Sara orangetip (Anthocharis sara sara)	10	anise swallowtail (P. zelicaon)	
desert (P. sisymbri sisymbri)		**Miscellaneous**	
Lorquin's (California) orangetip (A. sara lorquini)		monarch (Danaus plexippus)	
cabbage white (Pieris rapae)		common sootywing (Pyrgus communis grindon)	
checkered / common white (Pontia protodice)		Pacuvius duskywing (Erynnis pacuvius lacustris)	
Lyside sulphur (P. lyside)		**Skippers**	
unidentified white	2	Juvenal's duskywing (Erynnis juvenalis)	2
Sulphurs		mournful duskywing (E. tristis lucilius)	
Behr's metalmark (Apodemia mormo virgulti)	2	hoary edge (Achalarus lyciades)	
Wright's metalmark (Calephelis wrighti)		unidentified skipper (Hesperiidae)	
Sulphurs		**Other**	
orange sulphur (Colias eurytheme)		[illegible]	1
dainty sulphur (Colias nastes)		[illegible]	1
coastrange sulphur (Colias occidentalis)			
undentified sulphur	1		
Column Subtotal	17	Column Subtotal	5
		Total	22

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: Chez Bourgeaubes

Site Name: JPO-06 Proctor Valley - Village 14 of Otay Ranch

Date: 3/28/16

Acres Surveyed: BB - 46 (acres)

Survey Time: 8hr 25min

Site Visit No: 1

Other Surveyors Present: /

Acres per Hour: 5.5

	Time (24 hr)	Temperature (F)	Field Conditions: Wind Speed (mph)	Cloud Cover
Start	0810	66.1	0-2	10 %
End	1635	76.3	3-5	35%
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)

Chamise chap (scrub oak, chamise) NNG (Bromus sp., Erodium sp., A. californica, A. fasciculatum) buckwheat scrub (Eriog. fasc., Allium sp., D. cephalo., Stipa sp.)

Host Plants	Obs.
dwarf plantain (*Plantago erecta*)	Obs/
purple owl's clover (*Castilleja exserta*)	
snapdragon (*Antirrhinum coulterianum*)	
birds-beak (*Cordylanthus rigidus*)	
woolly plantain (*Plantago patagonica*)	
Chinese houses (*Collinsia spp.*)	Obs
	Obs

Host Plant Mapping Updated (circle) Yes (No)

Species updated (list) Pairs of Plantago - will GPS & plant team debrief, but I don't have maps yet

Nectar Plants	Obs.
popcorn flower (*Cryptantha/Plagiobothrys spp.*)	Obs.
goldfields (*Lasthenia spp.*)	
goldenstar (*Muilla spp.*)	
fiddleneck (*Amsinckia menziesii var. intermedia*)	Obs
onion (*Allium spp.*)	Obs
buckwheat (*Eriogonum fasciculatum*)	Obs
ground pink (*Linanthus dianthiflorus*)	Obs

New Area or Existing Area (circle) New Existing Both

Butterfly Species	No.
Checkerspots	
California patch (*Chlosyne californica*)	
Gabb's checkerspot (*C. gabbii*)	
Quino checkerspot (*Euphydryas editha quino*)	
chalcedon checkerspot (*E. chalcedona chalcedona*)	
Leanira checkerspot (*Thessalia leanira wright*)	
Mylitta crescent (*Phyciodes mylitta*)	
Blues	
western pygmy-blue (*Brephidium exile*)	1
western tailed blue (*Everes amyntula*)	
southern blue (*Glaucopsyche lygdamus australis*)	
Edward's blue (*Hemiargus ceraunus gyas*)	
Acmon blue (*Icaricia acmon acmon*)	
marine blue (*Leptotes marina*)	
unidentified blue	
Whites	
Sara orangetip (*Anthocharis sara sara*)	
desert (Felder's) orangetip (*A. cethura*)	
common California ringlet (*Coenonympha californica*)	
cabbage white (*Pieris rapae*)	
checkered (common) white (*Pontia protodice*)	
spring white (*P. sisymbri*)	
unidentified white	
Metalmarks	
Behr's metalmark (*Apodemia mormo virgulti*)	
Wright's metalmark (*Calephelis wrighti*)	
Sulphurs	
orange sulphur (*Colias eurytheme*)	
sleepy orange (*Eurema nicippe*)	
cloudless sulfur (*Phoebus sennae marcellina*)	
unidentified sulphur	
Column Subtotal	75

Butterfly Species	No.
Hairstreaks	
great purple hairstreak (*Atlides halesus corcorani*)	
brown elfin (*Callophrys augustinus*)	1
brambie (perplexing) hairstreak (*C. dumetorum affinis*)	1
gray hairstreak (*Strymon melinus pudica*)	1
Ladies/Admirals	
California sister (*Adelpha bredowii californica*)	
Lorquin's admiral (*Limenitis lorquini*)	
west coast lady (*Vanessa annabella*)	
red admiral (*V. atalanta rubria*)	
painted lady (*V. cardui*)	
American (Virginia) lady (*V. virginiensis*)	
unidentified lady (*Vanessa sp.*)	1
Swallowtails	
pale swallowtail (*Papilio eurymedon*)	
western tiger swallowtail (*P. rutulus*)	
anise swallowtail (*P. zelicaon*)	
Miscellaneous	
monarch (*Danaus plexippus*)	
common buckeye (*Junonia coenia grisea*)	
mourning cloak (*Nymphalis antiopa*)	
Skippers	
funereal duskywing (*Erynnis funeralis*)	
mournful duskywing (*Erynnis tristis*)	
fiery skipper (*Hylephila phyleus*)	
white (common) checkered-skipper (*Pyrgus albescens*)	1
Other Unidentified Skipper	1
Column Subtotal	9
Total	84

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: [illegible] Date: 2nd Feb 2016

Site Name: JRMSB Proctor Valley - Village 14 at Otay Ranch Rte/Trail/Bk: [illegible]

Acres Surveyed: 30 Survey Time: 2h 30m - 3 Hours per Hour: [illegible]

Other Surveyors Present: [illegible]

Field Conditions

	Time (24 hr)	Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start	0830	67	0-2	15%
End				
Start				
End	1100	75°	Mainly 0-5	10% Max 15%

Vegetation Communities Surveyed (inc. dominant spp.)

[illegible]

Host Plants	Obs.	Nectar Plants	Obs.
Dwarf plantain (Plantago erecta)	✓	Telegraph weed (Heterotheca/Pluchea/Conyza spp.)	
purple owl's clover (Castilleja exserta)		goldfields (Lasthenia spp.)	
Wrinkled Monkeyflower (Mimulus rugosus)		goldenbush (Hazardia spp.)	
Dehesa (Hyptis emoryi)		Ashyleaf (Atriplex lentiformis)	
woolly plantain (Plantago patagonica)		onion (Allium spp.)	
Chaparral nettle (Urtica spp.)		buckwheat (Eriogonum fasciculatum)	
		ground pink (Linanthus dianthiflorus)	
Host Plant Mapping Updated (circle)	Yes (No)	New Area or Existing Area (circle)	New Existing Both

Species excluded (list)

Butterfly Species	No.	Butterfly Species	No.
Checkerspots		**Hairstreaks**	
California patch (Chlosyne californica)		great purple hairstreak (Atlides halesus corcorani)	
Gabb's checkerspot (E. gabbii)		brown elfin (Callophrys augustinus)	
Quino checkerspot (Euphydryas editha quino)		juvenile gray/brown (E. dumetorum/E. affinis)	
chalcedon checkerspot (E. chalcedona chalcedona)		gray hairstreak (Strymon melinus postalbo)	
Lorquin's admiral (Limenitis lorquini)		**Gulf Fritillaries**	
Variable checkerspot (Thessalia chalcedona)		Gulf fritillary (Agraulis vanillae)	
Blues		Lorquin's admiral (Limenitis lorquini)	
western pygmy-blue (Brephidium exile)		west coast lady (Vanessa annabella)	
western tailed-blue (Everes amyntula)		red admiral (V. atalanta rubria)	
boisduval blue (Icaricia icarioides)		painted lady (V. cardui)	
[illegible] blue (Plebejus acmon)		American (Hispanic) lady (V. virginiensis)	1
Acmon blue (Plebejus acmon blossi)		unidentified lady (Vanessa sp.)	
Ramon blue (Icaricia ramonensis)		**Skippers**	
unidentified blue	2	pale-waisted (Panoquina sylvicola)	1
Whites		western tiger swallowtail (P. rumiko)	
Sara orangetip (Anthocharis sara lanceolata)	1	anise swallowtail (P. zelicaon)	
desert (Pontia sisymbrii) orangetip (A. cethura)		**Miscellaneous**	
common California dogface (Zerene eurydice)		monarch (Danaus plexippus)	
cabbage white (Pieris rapae)		common buckeye (Junonia coenia grisea)	
checkered (Pontia protodice) white (Pontia beckerii)		Mourning cloak (Nymphalis antiopa)	
Veined white (P. occidentalis)		**Skippers**	
unidentified white	2	Funereal duskywing (Erynnis funeralis)	4
Skippers		mournful duskywing (E. tristis lucilla)	
Behr's metalmark (Apodemia mormo virgulti)	4	fiery skipper (Hylephila phyleus)	
Valley's metalmark (Lasaia/Apodemia sp.)		white (common) checkered-skipper (Pyrgus communis)	
Buckeye		Other	
orange sulphur (Colias eurytheme)			
sleepy orange (Eurema nicippe)			
southern dogface (Zerene cesonia)			
unidentified sulphur	1		
Column Subtotal	10	Column Subtotal	1
		Total	11

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: Chez Bourgeher

Site Name: JPD-08 Proctor Valley – Village 14 of Otay Ranch

Date: 3.1.16

Area Surveyed: CC

Acres Surveyed: 42

Site Visit No: 1

Other Surveyors Present:

Survey Time: 7hrs

Acres per Hour: 6

	Time (24 hr)	Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start	0945	66.7	0-3	15%
End	1545	87.1	0-3	5%
Start				
End				

Field Conditions

Vegetation Communities Surveyed (inc. dominant spp.)

Chamise chaparral (chamise, buckwheat), NNG (Bahia sp., Bromus sp., Sedum sp., blue dicks), native grassland (Stipa sp., blue dicks, Solanum sp., Stipa sp.)

Host Plants	Obs.
dwarf plantain (*Plantago erecta*)	Flwr
purple owl's clover (*Castilleja exserta*)	
snapdragon (*Antirrhinum coulterianum*)	
birds-beak (*Cordylanthus rigidus*)	
woolly plantain (*Plantago patagonica*)	
Chinese houses (*Collinsia* spp.)	
Host Plant Mapping Updated (circle) Yes (No)	
Species updated (list)	

Nectar Plants	Obs.
popcorn flower (*Cryptantha/Plagiobothrys* spp.)	Flwr
goldfields (*Lasthenia* spp.)	Flwr
goldenstar (*Muilla* spp.)	
fiddleneck (*Amsinckia menziesii* var. *intermedia*)	
onion (*Allium* spp.)	
Spickwheat (*Eriogonum fasciculatum*)	Flwr
gilliard pink (*Linanthus dianthiflorus*)	Flwr
New Area or Existing Area (circle) New Existing Both	

Butterfly Species	No.
Checkerspots	
California patch (*Chlosyne californica*)	1
Gabb's checkerspot (*C. gabbii*)	
Quino checkerspot (*Euphydryas editha quino*)	
chalcedon checkerspot (*E. chalcedona chalcedona*)	
Leanira checkerspot (*Thessalia leanira wrighti*)	
Mylitta crescent (*Phyciodes mylitta*)	
Blues	
western pygmy-blue (*Brephidium exilis*)	
western tailed blue (*Everes amyntula*)	
southern blue (*Glaucopsyche lygdamus australis*)	1
Edward's blue (*Hemiargus ceraunus gyas*)	
Acmon blue (*Icaricia acmon acmon*)	
marine blue (*Leptotes marina*)	
unidentified blue	111
Whites	
Sara orangetip (*Anthocharis sara sara*)	1
desert (Felder's) orangetip (*A. cethura*)	
common California ringlet (*Coenonympha californica*)	
cabbage white (*Pieris rapae*)	
checkered (common) white (*Pontia protodice*)	
spring white (*P. sisymbrii*)	
unidentified white	11
Metalmarks	
Behr's metalmark (*Apodemia mormo virgulti*)	1
Wright's metalmark (*Calephelis wrighti*)	
Sulphurs	
orange sulphur (*Colias eurytheme*)	1
sleepy orange (*Eurema nicippe*)	
cloudless sulfur (*Phoebus sennae marcellina*)	
unidentified sulphur	11
Column Subtotal	102

Butterfly Species	No.
Hairstreaks	
great purple hairstreak (*Atlides halesus corcorani*)	
brown elfin (*Callophrys augustinus*)	
bramble (perplexing) hairstreak (*C. dumetorum affinis*)	
gray hairstreak (*Strymon melinus pudica*)	
Ladies/Admirals	
California sister (*Adelpha bredowii californica*)	
Lorquin's admiral (*Limenitis lorquini*)	
west coast lady (*Vanessa annabella*)	
red admiral (*V. atalanta rubria*)	
painted lady (*V. cardui*)	
American (Virginia) lady (*V. virginiensis*)	
unidentified lady (*Vanessa* sp.)	11
Swallowtails	
pale swallowtail (*Papilio eurymedon*)	1
western tiger swallowtail (*P. rutulus*)	
anise swallowtail (*P. zelicaon*)	1
Miscellaneous	
monarch (*Danaus plexippus*)	
common buckeye (*Junonia coenia grisea*)	
mourning cloak (*Nymphalis antiopa*)	
Skippers	
funereal duskywing (*Erynnis funeralis*)	1111
mournful duskywing (*Erynnis tristis*)	
fiery skipper (*Hylephila phyleus*)	
white (common) checkered-skipper (*Pyrgus albescens*)	
Other	
Papilionidae	1
Column Subtotal	9
Total	111

425

Surveyor: Chez Baumgrather

2016 Quino Checkerspot Butterfly Survey Form

45 → Site Name: PD-08 Proctor Valley – Village 14 of Otay Ranch Date: 2/26/16

Acres Surveyed: DD, 2 at Mouth Survey Time: 7.75hrs Site Visit No: 1

Other Surveyors Present: ✓ Acres per Hour: 5.8

	Time (24 hr)	Temperature (F)	Wind Speed (mph)	Cloud Cover
Start	0815	66.2	0-3	5%
End	1600	81.1	0-5	80%
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)

Chamise chap (Adenost. fasciculatum), Annual grass (S. rigidum, Bromus sp., Mimulus, Lasthenia, Salsola sp.)
Salvia clevelandii Scrub w/ Eriogonum fasciculatum

Host Plants	Obs.	Nectar Plants	Obs.
dwarf plantain (*Plantago erecta*)	Quer	popcorn flower (*Cryptantha/Plagiobothrys* spp.)	Quer
purple owl's clover (*Castilleja exserta*)		goldfields (*Lasthenia* spp.)	
snapdragon (*Antirrhinum coulterianum*)		goldenstar (*Muilla* spp.)	Quer
birds-beak (*Cordylanthus rigidus*)	Quer	fiddleneck (*Amsinckia menziesii var. intermedia*)	Quer
woolly plantain (*Plantago patagonica*)		onion (*Allium* spp.)	Quer
Chinese houses (*Collinsia* spp.)		buckwheat (*Eriogonum fasciculatum*)	Quer
		ground pink (*Linanthus plantiflorus*)	Quer
Host Plant Mapping Updated (circle) Yes (No)		**New Area or Existing Area** (circle) New Existing Both	
Species updated (list) might add it next perhaps - can't sent until I see data			

Butterfly Species	No.	Butterfly Species	No.
Checkerspots		**Hairstreaks**	
California patch (*Chlosyne californica*)		great purple hairstreak (*Atlides halesus corcoran*)	
Gabb's checkerspot (*C. gabbii*)	3	brown elfin (*Callophrys augustinus*)	
Quino checkerspot (*Euphydryas editha quino*)		bramble (perplexing) hairstreak (*C. dumetorum affinis*)	
chalcedon checkerspot (*E. chalcedona chalcedona*)		gray hairstreak (*Strymon melinus pudica*)	
Leanira checkerspot (*Thessalia leanira wrighti*)		**Ladies/Admirals**	
Mylitta crescent (*Phyciodes mylitta*)		California sister (*Adelpha bredowii californica*)	
Blues		Lorquin's admiral (*Limenitis lorquini*)	
western pygmy-blue (*Brephidium exile*)	11	west coast lady (*Vanessa annabella*)	
western tailed blue (*Everes amyntula*)		red admiral (*V. atalanta rubria*)	
southern blue (*Glaucopsyche lygdamus australis*)	3	painted lady (*V. cardui*)	
Edward's blue (*Hemiargus ceraunus gyas*)		American (Virginia) lady (*V. virginiensis*)	
Acmon blue (*Icaricia acmon acmon*)	1	unidentified lady (*Vanessa* sp.)	11
marine blue (*Leptotes marina*)		**Swallowtails**	
unidentified blue	10	pale swallowtail (*Papilio eurymedon*)	11
Whites		western tiger swallowtail (*P. rutulus*)	
Sara orangetip (*Anthocharis sara sara*)	11	anise swallowtail (*P. zelicaon*)	
desert (Felder's) orangetip (*A. cethura*)	1	**Miscellaneous**	
common California ringlet (*Coenonympha californica*)	4	monarch (*Danaus plexippus*)	1
cabbage white (*Pieris rapae*)		common buckeye (*Junonia coenia grisea*)	1
checkered (common) white (*Pontia protodice*)		mourning cloak (*Nymphalis antiopa*)	
spring white (*P. sisymbrii*)		**Skippers**	
unidentified white	11	funereal duskywing (*Erynnis funeralis*)	11
Metalmarks		mournful duskywing (*Erynnis tristis*)	
Behr's metalmark (*Apodemia mormo virgulti*)	4	fiery skipper (*Hylephila phyleus*)	
Wright's metalmark (*Calephelis wrighti*)		white (common) checkered-skipper (*Pyrgus albescens*)	1
Sulphurs		**Other**	
orange sulphur (*Colias eurytheme*)	11		
sleepy orange (*Eurema nicippe*)			
cloudless sulfur (*Phoebus sennae marcellina*)			
unidentified sulphur	11		
Column Subtotal	121	Column Subtotal	0
		Total	132

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: Bruno Pavlovic Date: 2-9-16 - 2:41 PM

Site Name: 39-08 Proctor Valley - Village 14 at Otay Ranch Site Visit No.: 1

Acres Surveyed: 51 Survey Time: 6:00 Acres per Hour: 8.5

Other Surveyors Present: —

Field Conditions

	Time (24 hr)	Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start	07:20	64	0-1	0%
End	14:20	72	4-6	10%
Start				
End				

Vegetation Communities Surveyed (mc dominant spp.):

Disturbed - Ehrharta
CC - Artemisia

Survey Notes: Made first stop at Otay Mesa

Host Plants	Obs	Nectar Plants	Obs
Dudleya (Dudleya spp.)		Ceanothus (Ceanothus spp.)	
Plantago (Plantago spp.)	X	Goldfields (Lasthenia spp.)	
Orobanche (Orobanche spp.)		Goldenbush (Isocoma spp.)	
Castilleja (Castilleja spp.)		Buckwheat (Eriogonum spp.)	
Keckiella (Keckiella spp.)		Lupine (Lupinus spp.)	
Chaenactis (Chaenactis spp.)		Owl's clover (Castilleja spp.)	X
		Plantago (Plantago spp.)	X

Host Plant Mapping Updated (circle): Yes / No Nectar Areas or Flowering Areas (circle): More / Less / Same

Species Isolated To:

Butterfly Species	No.	Butterfly Species	No.
Checkerspots		**Skippers**	
California patch (Chlosyne californica)		Arizona sister (Adelpha bredowii eulalia)	
Gabb's checkerspot (C. gabbii)		Broad-winged skipper (Hesperia nevada)	2
Quino (Euphydryas editha quino)		Common checkered skipper (Pyrgus communis)	
Variable checkerspot (E. chalcedona)		Dusky-winged skipper (Erynnis funeralis)	
Western checkerspot (E. editha)		Eufala skipper (Lerodea eufala)	
Blues		**Cabbage Whites**	
Acmon blue (Plebejus acmon)		California dogface (Zerene eurydice)	
Ceraunus blue (Hemiargus ceraunus gyas)		Checkered white (Pontia protodice)	
Common blue (Icaricia lupini)		Pacific orangetip (Anthocharis sara)	
Marine blue (Leptotes marina)		Western white (Pontia occidentalis)	
Reakirt's blue (Echinargus isola)	2	**Unidentified**	
Whites		Unidentified skipper	
Common checkered white (Pontia protodice)		Unidentified white	
Desert marble (Euchloe lotta)		**Miscellaneous**	
Metalmarks		Common buckeye (Junonia coenia grisea)	
Mormon metalmark (Apodemia mormo)		Mourning cloak (Nymphalis antiopa)	
Sulphurs		**Skippers**	
Orange sulphur (Colias eurytheme)		Painted lady (Vanessa cardui)	2
Queen of Spain (Colias philodice)		Red admiral (Vanessa atalanta)	
Southern dogface (Zerene cesonia cesonia)		Western tiger swallowtail (Papilio rutulus)	
Unidentified sulphur		Other (Common Checkerspot, Skipper sp.)	
Column Subtotal	16	Column Subtotal	4
		Total	20

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: GARRETT HUFFMAN Date: 2/24/16

Site Name: JPD-06 Proctor Valley – Village 14 of Otay Ranch Site Visit No: 1 EE/P

Acres Surveyed 43 Survey Time: ~~0930 – 1430~~ 8.5 hours Acres per Hour: EE - 4 ; P - 6.5

Other Surveyors Present: NONE

	Field Conditions			
	Time (24 hr)	Temperature (°F)	Wind Speed (mph)	Cloud Cover
EE Start	0930	70	2-5	10
EE End	1315	82	0-4	20
P Start	1345	82	0-4	20
P End	~~1650~~ 1800	74	2-5	40

Vegetation Communities Surveyed (inc. dominant spp.)

CHAMISE CHAPARRAL, LOADING ZONE SCRUB, RUDERAL - ARTIFICIAL LANDSCAPING

Host Plants	Obs.
dwarf plantain (Plantago erecta)	X
purple owl's clover (Castilleja exserta)	
snapdragon (Antirrhinum coulterianum)	
bird's-beak (Cordylanthus rigidus)	
woolly plantain (Plantago patagonica)	
Chinese houses (Collinsia spp.)	
Host Plant Mapping Updated (circle) Yes	NO
Species updated (list)	

Nectar Plants	Obs.
popcorn flower (Cryptantha/Plagiobothrys spp.)	X
goldfields (Lasthenia spp.)	X
goldenstar (Muilla spp.)	
fiddleneck (Amsinckia menziesii var. intermedia)	
onion (Allium spp.)	X
buckwheat (Eriogonum fasciculatum)	X
ground pink (Linanthus dianthiflorus)	X
New Area or Existing Area (circle) New Existing Both	

Butterfly Species	No.
Checkerspots	
California patch (Chlosyne californica)	
Gabb's checkerspot (C. gabbii)	
Quino checkerspot (Euphydryas editha quino)	
chalcedon checkerspot (E. chalcedona chalcedona)	
Leanira checkerspot (Thessalia leanira wrighti)	
Mylitta crescent (Phyciodes mylitta)	
Blues	
western pygmy-blue (Brephidium exile)	
western tailed blue (Everes amyntula)	
southern blue (Glaucopsyche lygdamus australis)	5
Edward's blue (Hemiargus ceraunus gyas)	
Acmon blue (Icaricia acmon acmon)	
marine blue (Leptotes marina)	
unidentified blue	
Whites	
Sara orangetip (Anthocharis sara sara)	40
desert (Felder's) orangetip (A. cethura)	
common California ringlet (Coenonympha californica)	25
cabbage white (Pieris rapae)	
checkered (common) white (Pontia protodice)	10
spring white (P. sisymbri)	
unidentified white	
Metalmarks	
Behr's metalmark (Apodemia mormo virgulti)	20
Wright's metalmark (Calephelis wrighti)	
Sulphurs	
orange sulphur (Colias eurytheme)	
sleepy orange (Eurema nicippe)	
cloudless sulfur (Phoebus sennae marcellina)	
unidentified sulphur	
Column Subtotal	120

Butterfly Species	No.
Hairstreaks	
gray purple hairstreak (Atlides halesus corcorani)	
brown elfin (Callophrys augustinus)	
bramble (perplexing) hairstreak (C. dumetorum affinis)	1
gray hairstreak (Strymon melinus pudica)	1
Ladies/Admirals	
California sister (Adelpha bredowii californica)	
Lorquin's admiral (Limenitis lorquini)	
west coast lady (Vanessa annabella)	
red admiral (V. atalanta rubria)	
painted lady (V. cardui)	3
American (Virginia) lady (V. virginiensis)	
unidentified lady (Vanessa sp.)	
Swallowtails	
pale swallowtail (Papilio eurymedon)	
western tiger swallowtail (P. rutulus)	
anise swallowtail (P. zelicaon)	10
Miscellaneous	
monarch (Danaeus plexippus)	
common buckeye (Junonia coenia grisea)	
mourning cloak (Nymphalis antiopa)	
Skippers	
funereal duskywing (Erynnis funeralis)	3
mournful duskywing (Erynnis tristis)	
hery skipper (Hylephila phyleus)	
white (common) checkered-skipper (Pyrgus albescens)	5
Other	
Column Subtotal	~~143~~ 23

TOTAL 143

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: Erik LaCosta Date: 7/25/16

Site Name: JPD-08 Proctor Valley – Village 14 of Otay Ranch F Site Visit No: 1

Acres Surveyed 24 Survey Time: 3.5 hrs Acres per Hour: 9.7

Other Surveyors Present: None

Field Conditions				
	Time (24 hr)	Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start	1210	87	1.9 Avg 2.3 max	0
End	1510	90	3.7 Avg 5.4 max	2
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)
CSS, non-Chaparral

Host Plants	Obs.	Nectar Plants	Obs.
dwarf plantain (Plantago erecta)	12	popcorn flower (Cryptantha/Plagiobothrys spp.)	Y
purple owl's clover (Castilleja exserta)	11	goldfields (Lasthenia spp.)	14
snapdragon (Antirrhinum coulterianum)	17	goldenstar (Muilla spp.)	13
onion-weed (Cordylanthus rigidus)	13	fiddleneck (Amsinckia menziesii var. intermedia)	12
woolly plantain (Plantago patagonica)	12	onion (Allium spp.)	4
Chinese houses (Collinsia spp.)	11	buckwheat (Eriogonum fasciculatum)	4
		ground pink (Linanthus dianthiflorus)	17
Host Plant Mapping Updated (circle) Yes No		New Area or Existing Area (circle) New Existing Both	
Species updated (list)			

Butterfly Species	No.	Butterfly Species	No.
Checkerspots		Hairstreaks	
California patch (Chlosyne californica)		great purple hairstreak (Atlides halesus corcoran)	
dash's checkerspot (C. gabbii)		brown elfin (Callophrys augustinus)	
Quino checkerspot (Euphydryas editha quino)		bramble (perplexing) hairstreak (C. dumetorum affinis)	
chalcedon checkerspot (E. chalcedona chalcedona)		gray hairstreak (Strymon melinus putica)	
Lorquin's checkerspot (Thessalia lorquini wrighti)		Ladies/Admirals	
Mylitta crescent (Phyciodes mylitta)		California sister (Adelpha bredowii californica)	
Blues		Lorquin's admiral (Limenitis lorquini)	
western pygmy-blue (Brephidium exilis)		west coast lady (Vanessa annabella)	2
western tailed blue (Everes amyntula)		red admiral (V. atalanta rubria)	
southern blue (Glaucopsyche lygdamus australis)	6	painted lady (V. cardui)	4
[illegible] (Hemiargus ceraunus gyas)		American (Virginia) lady (V. virginiensis)	
Acmon blue (Icaricia acmon acmon)		unidentified lady (Vanessa sp.)	
marine blue (Leptotes marina)	1	Swallowtails	
unidentified blue		pale swallowtail (Papilio eurymedon)	2
Whites		western tiger swallowtail (P. rutulus)	
Sara orangetip (Anthocharis cara sara)	[illegible]	anise swallowtail (P. zelicaon)	
desert (Felder's) orangetip (A. cethura)		Miscellaneous	
common California ringlet (Coenonympha californica)		monarch (Danaeus plexippus)	
cabbage white (Pieris rapae)		common buckeye (Junonia coenia grisea)	
checkered (common) white (Pontia protodice)		mourning cloak (Nymphalis antiopa)	1
spring white (P. sisymbrii)		Skippers	
unidentified white		funereal duskywing (Erynnis funeralis)	1
Metalmarks		mournful duskywing (Erynnis tristis)	
Behr's metalmark (Apodemia mormo virgulti)	1	fiery skipper (Hylephila phyleus)	
Wright's metalmark (Calephelis wrighti)		white (common) checkered-skipper (Pyrgus albescens)	1
Sulphurs		Other	
orange sulphur (Colias eurytheme)	2	Pale Swallowtail Caterpillar	1
sleepy orange (Eurema nicippe)			
cloudless sulfur (Phoebis sennae marcellina)			
unidentified sulphur			
Column Subtotal	10	Column Subtotal	12
		Total	44

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: Chez Bruneau Cober

Site Name: JPO-08 Proctor Valley – Village 14 of Otay Ranch Date: 2/27/16

Acres Surveyed: FF - 5 Bosses Survey Time: 8hr 15min Site Visit No: 1

Other Surveyors Present: ✓ Acres per Hour: 7

	Time (24 hr)	Field Conditions: Temperature (F)	Wind Speed (mph)	Cloud Cover
Start	0830	60.4	0-1	10%
End	1645	77.6	0-3	0%
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)

NNG (Bromus, Avena), native lavender grassland (Stipa sp. blue dicks, Salvia sp. el. sp.), buckwheat scrub, disturbed (Erodium sp.)

Host Plants	Obs.	Nectar Plants	Obs.
dwarf plantain (*Plantago erecta*)	Many	popcorn flower (*Cryptantha/Plagiobothrys* spp.)	Many
purple owl's clover (*Castilleja exserta*)		goldfields (*Lasthenia* spp.)	
snapdragon (*Antirrhinum coulterianum*)	Many	goldenstar (*Muilla* spp.)	Many
birds-beak (*Cordylanthus rigidus*)		fiddleneck (*Amsinckia menziesii* var. *intermedia*)	Many
woolly plantain (*Plantago patagonica*)	Many	onion (*Allium* spp.)	Many
Chinese houses (*Collinsia* spp.)		buckwheat (*Eriogonum fasciculatum*)	Many
		grand pink (*Linanthus dianthiflorus*)	Many
Host Plant Mapping Updated (circle) Yes (No)		**New Area or Existing Area** (circle) New Existing Both	
Species updated (list)	need to check maps!		

Butterfly Species	No.	Butterfly Species	No.
Checkerspots		**Hairstreaks**	
California patch (*Chlosyne californica*)		great purple hairstreak (*Atlides halesus corcoran*)	
Gabb's checkerspot (*C. gabbii*)		brown elfin (*Callophrys augustinus*)	
Quino checkerspot (*Euphydryas editha quino*)		bramble (perplexing) hairstreak (*C. dumetorum affinis*)	
chalcedon checkerspot (*E. chalcedona chalcedona*)		gray hairstreak (*Strymon melinus pudica*)	
Leanira checkerspot (*Thessalia leanira wrighti*)		**Ladies/Admirals**	
Mylitta crescent (*Phyciodes mylitta*)		California sister (*Adelpha bredowii californica*)	
Blues		Lorquin's admiral (*Limenitis lorquini*)	
western pygmy-blue (*Brephidium exile*)		west coast lady (*Vanessa annabella*)	
western tailed blue (*Everes amyntula*)		red admiral (*V. atalanta rubria*)	
southern blue (*Glaucopsyche lygdamus australis*)	11	painted lady (*V. cardui*)	
Edward's blue (*Hemiargus ceraunus gyas*)		American (Virginia) lady (*V. virginiensis*)	
Acmon blue (*Icaricia acmon acmon*)	11	unidentified lady (*Vanessa* sp.)	
marine blue (*Leptotes marina*)		**Swallowtails**	
unidentified blue	HS	pale swallowtail (*Papilio eurymedon*)	
Whites		western tiger swallowtail (*P. rutulus*)	
Sara orangetip (*Anthocharis sara sara*)	HHHH	anise swallowtail (*P. zelicaon*)	
desert (Felder's) orangetip (*A. cethura*)		**Miscellaneous**	
common California ringlet (*Coenonympha californica*)	HHT 5	monarch (*Danaus plexippus*)	
cabbage white (*Pieris rapae*)		common buckeye (*Junonia coenia grisea*)	
checkered (common) white (*Pontia protodice*)		mourning cloak (*Nymphalis antiopa*)	
spring white (*P. sisymbrii*)		**Skippers**	
unidentified white	III	funereal duskywing (*Erynnis funeralis*)	1
Metalmarks		mournful duskywing (*Erynnis tristis*)	
Behr's metalmark (*Apodemia mormo virgulti*)	HH IIII	fiery skipper (*Hylephila phyleus*)	
Wright's metalmark (*Calephelis wrighti*)		white (common) checkered-skipper (*Pyrgus albescens*)	11
Sulphurs		**Other**	
orange sulphur (*Colias eurytheme*)	1	Northern white skipper	1
sleepy orange (*Eurema nicippe*)			
cloudless sulfur (*Phoebus sennae marcellina*)			
unidentified sulphur	111		
Column Subtotal	51	Column Subtotal	6
		Total	57

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: Melanie Rocks Date: 3/1/2016

Site Name: JPD-08 Proctor Valley - Village 14 of Otay Ranch Site Visit No: 1

Area Surveyed: G+D Acres Surveyed: 99 Survey Time: 12.5 Acres per Hour: 7.92

Other Surveyors Present: M. Alfaro

Field Conditions				
	Time (24 hr)	Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start	0830	70	1-2	1% - Hazy
End	1445	79	2-3	5% - Hazy
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)

DCSS - Malosma laurina, Salvia spp (Salvia munzii), Artemisia, Baccharis sarothroides
Chamise Chaparral - Adenostoma fasciculatum; NNE - Bromus spp.

Host Plants	Obs.	Nectar Plants	Obs.
dwarf plantain (*Plantago erecta*)	✓	popcorn flower (*Cryptantha/Plagiobothrys* spp.)	✓
purple owl's clover (*Castilleja exserta*)		goldfields (*Lasthenia* spp.)	
snapdragon (*Antirrhinum coulterianum*)		goldenstar (*Muilla* spp.)	
birds-beak (*Cordylanthus rigidus*)		fiddleneck (*Amsinckia menziesii* var. *intermedia*)	
woolly plantain (*Plantago patagonica*)		onion (*Allium* spp.)	✓
Chinese houses (*Collinsia* spp.)		buckwheat (*Eriogonum fasciculatum*)	✓
		ground pink (*Linanthus dianthiflorus*)	
Host Plant Mapping Updated (circle) Yes No		**New Area or Existing Area** (circle) New Existing Both	
Species updated (list)			

Butterfly Species	No.	Butterfly Species	No.
Checkerspots		**Hairstreaks**	
California patch (*Chlosyne californica*)		great purple hairstreak (*Atlides halesus corcoroni*)	
Gabb's checkerspot (*C. gabbii*)		brown elfin (*Callophrys augustinus*)	
Quino checkerspot (*Euphydryas editha quino*)		bramble (perplexing) hairstreak (*C. dumetorum affinis*)	
chalcedon checkerspot (*E. chalcedona chalcedona*)		gray hairstreak (*Strymon melinus pudica*)	
Leanira checkerspot (*Thessalia leanira wrighti*)		**Ladies/Admirals**	
Mylitta crescent (*Phyciodes mylitta*)		California sister (*Adelpha bredowii californica*)	
Blues		Lorquin's admiral (*Limenitis lorquini*)	
western pygmy-blue (*Brephidium exilis*)		west coast lady (*Vanessa annabella*)	1
western tailed blue (*Everes amyntula*)		red admiral (*V. atalanta rubria*)	
southern blue (*Glaucopsyche lygdamus australis*)		painted lady (*V. cardui*)	
Edward's blue (*Hemiargus ceraunus gyas*)		American (Virginia) lady (*V. virginiensis*)	
Acmon blue (*Icaricia acmon acmon*)		unidentified lady (Vanessa sp.)	3
marine blue (*Leptotes marina*)		**Swallowtails**	
unidentified blue (I.R. lg Sp.)	1	pale swallowtail (*Papilio eurymedon*)	
Whites		western tiger swallowtail (*P. rutulus*)	
Sara orangetip (*Anthocharis sara sara*)	19	anise swallowtail (*P. zelicaon*)	2
desert (Felder's) orangetip (*A. cethura*)		**Miscellaneous**	
common California ringlet (*Coenonympha californica*)	6	monarch (*Danaus plexippus*)	
cabbage white (*Pieris rapae*)		common buckeye (*Junonia coenia grisea*)	
checkered (common) white (*Pontia protodice*)		mourning cloak (*Nymphalis antiopa*)	
spring white (*P. sisymbri*)		**Skippers**	
unidentified white		funereal duskywing (*Erynnis funeralis*)	2
Metalmarks		mournful duskywing (*Erynnis tristis*)	
Behr's metalmark (*Apodemia mormo virgulti*)	12	fiery skipper (*Hylephila phyleus*)	
Wright's metalmark (*Calephelis wrighti*)		white (common) checkered-skipper (*Pyrgus albescens*)	
Sulphurs		**Other**	
orange sulphur (*Colias eurytheme*)			
sleepy orange (*Eurema nicippe*)			
cloudless sulfur (*Phoebus sennae marcellina*)			
unidentified sulphur	8		
Column Subtotal	46	Column Subtotal	8
		Total	54

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: Erica Harris **Date:** 2/25/16

Site Name: JPD-08 Proctor Valley – Village 14 of Otay Ranch (Area H) **Site Visit No:** 1

Acres Surveyed 55 **Survey Time:** 5 hours 30 minutes **Acres per Hour:** 10

Other Surveyors Present:

Field Conditions				
	Time (24 hr)	**Temperature (˚F)**	**Wind Speed (mph)**	**Cloud Cover**
Start	0910	76	0-3	0
End	1440	86	1-6	0
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)

Host Plants	**Obs.**	**Nectar Plants**	**Obs.**
dwarf plantain (*Plantago erecta*)	X	popcorn flower (*Cryptantha/Plagiobothrys* spp.)	X
purple owl's clover (*Castilleja exserta*)		goldfields (*Lasthenia* spp.)	
snapdragon (*Antirrhinum coulterianum*)		goldenstar (*Muilla* spp.)	
birds-beak (*Cordylanthus rigidus*)		fiddleneck (*Amsinckia menziesii* var. *intermedia*)	X
woolly plantain (*Plantago patagonica*)		onion (*Allium* spp.)	X
Chinese houses (*Collinsia* spp.)		buckwheat (*Eriogonum fasciculatum*)	X
		ground pink (*Linanthus dianthiflorus*)	
Host Plant Mapping Updated (*circle*) Yes **No**		**New Area or Existing Area** (*circle*) New Existing Both	
Species updated (list)			

Butterfly Species	**No.**	**Butterfly Species**	**No.**
Checkerspots		**Hairstreaks**	
California patch (*Chlosyne californica*)		great purple hairstreak (*Atlides halesus corcorani*)	
Gabb's checkerspot (*C. gabbii*)		brown elfin (*Callophrys augustinus*)	
Quino checkerspot (*Euphydryas editha quino*)		bramble (perplexing) hairstreak (C. *dumetorum affinis*)	
chalcedon checkerspot (*E. chalcedona chalcedona*)		gray hairstreak (*Strymon melinus pudica*)	2
Leanira checkerspot (*Thessalia leanira wrighti*)		**Ladies/Admirals**	
Mylitta crescent (*Phyciodes mylitta*)		California sister (*Adelpha bredowii californica*)	
Blues		Lorquin's admiral (*Limenitis lorquini*)	
western pygmy-blue (*Brephidium exila*)	3	west coast lady (*Vanessa annabella*)	1
western tailed blue (*Everes amyntula*)		red admiral (*V. atalanta rubria*)	
southern blue (*Glaucopsyche lygdamus australis*)	4	painted lady (*V. cardui*)	
Edward's blue (*Hemiargus ceraunus gyas*)		American (Virginia) lady (*V. virginiensis*)	
Acmon blue (*Icaricia acmon acmon*)		unidentified lady (*Vanessa* sp.)	4
marine blue (*Leptotes marina*)		**Swallowtails**	
unidentified blue		pale swallowtail (*Papilio eurymedon*)	
Whites		western tiger swallowtail (*P. rutulus*)	
Sara orangetip (*Anthocharis sara sara*)	4	anise swallowtail (*P. zelicaon*)	
desert (Felder's) orangetip (*A. cethura*)		**Miscellaneous**	
common California ringlet (*Coenonympha californica*)	5	monarch (*Danaus plexippus*)	1
cabbage white (*Pieris rapae*)		common buckeye (*Junonia coenia grisea*)	2
checkered (common) white (*Pontia protodice*)		mourning cloak (*Nymphalis antiopa)*	
spring white (*P. sisymbrii*)		**Skippers**	
unidentified white	3	funereal duskywing (*Erynnis funeralis*)	6
Metalmarks		mournful duskywing (*Erynnis tristis*)	
Behr's metalmark (*Apodemia mormo virgulti*)	6	fiery skipper (*Hylephila phyleus*)	
Wright's metalmark (*Calephelis wrighti*)		white (common) checkered-skipper (*Pyrgus albescens*)	2
Sulphurs		**Other**	
orange sulphur (*Colias eurytheme*)			
sleepy orange (*Eurema nicippe*)			
cloudless sulfur (*Phoebus sennae marcellina*)			
unidentified sulphur	4		
Column Subtotal	**29**	**Column Subtotal**	**18**
		Total	**47**

JPDDS DNGAH
QUBAM (AMGAH) 2125/16
STAR 0910, 70°F, 0-3, 0%
STOP 1440, 80°F, 5-6, 0%

BALR WOOD RHA RAVR
CATH CALT LOSP WREN
CARO ANHU RCSP NOFL
RCKI BUSH LEHO MODO
HOLA OWA TRES AMCR

Side-blotched — coast horn lizard
coyote — 90 pac rattle
BTJK — fence lizard
CA gr. squirrel
Craig Hairstreak 11
monarch 1 — Buckeye 11
WESTCOAST 1 — SD. BLUE 1111
Checkspot 11 — Behr's 1111
Funereal 1111 — Sara's 1111
Pygmy 111 — Sulphur 1111
White sp. 111 — Lady 1111

Observations: Grasshoppers, spiders, ants, mint bush, datura, cholla, prickly pear, sagebrush, buckwheat, cattail, bulrush, dragonfly, damselfly, pygmy nuthatch, California quail, bushtit, red-tailed hawk, American kestrel, mourning dove, Anna's hummingbird, acorn woodpecker, white-crowned sparrow, house finch, lesser goldfinch, California ground squirrel, mule deer, coast horned lizard, side-blotched lizard, western fence lizard, western whiptail, red-eared slider, common garter snake, western rattlesnake, coyote, bobcat, raccoon, striped skunk, Virginia opossum, Botta's pocket gopher, deer mouse, cactus wren, California thrasher, northern mockingbird, loggerhead shrike, yellow-rumped warbler, Wilson's warbler, common yellowthroat, red-winged blackbird, western meadowlark, brown-headed cowbird, Bullock's oriole, house sparrow, European starling, rock pigeon, turkey vulture, red-shouldered hawk, Cooper's hawk, great horned owl, barn owl, western screech-owl, belted kingfisher, Nuttall's woodpecker, downy woodpecker, northern flicker, black phoebe, say's phoebe, ash-throated flycatcher, western kingbird, tree swallow, violet-green swallow, barn swallow, cliff swallow, bushtit, red-breasted nuthatch, house wren, ruby-crowned kinglet, western bluebird, hermit thrush, American robin, northern mockingbird, California thrasher, cedar waxwing, phainopepla, loggerhead shrike, European starling, yellow-rumped warbler, black-throated gray warbler, Townsend's warbler, hermit warbler, Wilson's warbler, common yellowthroat, yellow-breasted chat, western tanager, black-headed grosbeak, blue grosbeak, lazuli bunting, green-tailed towhee, spotted towhee, California towhee, chipping sparrow, lark sparrow, black-throated sparrow, sage sparrow, Brewer's sparrow, fox sparrow, song sparrow, lincoln's sparrow, white-crowned sparrow, golden-crowned sparrow, dark-eyed junco, red-winged blackbird, tricolored blackbird, western meadowlark, yellow-headed blackbird, Bullock's oriole, scott's oriole, brown-headed cowbird, great-tailed grackle, house finch, purple finch, cassin's finch, red crossbill, pine siskin, lesser goldfinch, lawrence's goldfinch, american goldfinch, house sparrow

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: Erica Harris **Date:** 2/24/16

Site Name: JPD-08 Proctor Valley – Village 14 of Otay Ranch (Area I) **Site Visit No:** 1

Acres Surveyed 42 **Survey Time:** 4 hours 12 minutes **Acres per Hour:** 10

Other Surveyors Present:

Field Conditions				
	Time (24 hr)	**Temperature (˚F)**	**Wind Speed (mph)**	**Cloud Cover**
Start	0900	75	4-8	0
End	1312	84	1-3	0
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)

Host Plants	**Obs.**	**Nectar Plants**	**Obs.**
dwarf plantain (*Plantago erecta*)	X	popcorn flower (*Cryptantha/Plagiobothrys* spp.)	X
purple owl's clover (*Castilleja exserta*)		goldfields (*Lasthenia* spp.)	
snapdragon (*Antirrhinum coulterianum*)		goldenstar (*Muilla* spp.)	
birds-beak (*Cordylanthus rigidus*)		fiddleneck (*Amsinckia menziesii* var. *intermedia*)	X
woolly plantain (*Plantago patagonica*)		onion (*Allium* spp.)	X
Chinese houses (*Collinsia* spp.)		buckwheat (*Eriogonum fasciculatum*)	X
		ground pink (*Linanthus dianthiflorus*)	
Host Plant Mapping Updated (*circle*) Yes **No**		**New Area or Existing Area** (*circle*) New Existing Both	
Species updated (list)			

Butterfly Species	**No.**	**Butterfly Species**	**No.**
Checkerspots		**Hairstreaks**	
California patch (*Chlosyne californica*)		great purple hairstreak (*Atlides halesus corcorani*)	
Gabb's checkerspot (*C. gabbii*)		brown elfin (*Callophrys augustinus*)	
Quino checkerspot (*Euphydryas editha quino*)		bramble (perplexing) hairstreak (C. *dumetorum affinis*)	
chalcedon checkerspot (*E. chalcedona chalcedona*)		gray hairstreak (*Strymon melinus pudica*)	
Leanira checkerspot (*Thessalia leanira wrighti*)		**Ladies/Admirals**	
Mylitta crescent (*Phyciodes mylitta*)		California sister (*Adelpha bredowii californica*)	
Blues		Lorquin's admiral (*Limenitis lorquini*)	
western pygmy-blue (*Brephidium exila*)	1	west coast lady (*Vanessa annabella*)	
western tailed blue (*Everes amyntula*)		red admiral (*V. atalanta rubria*)	1
southern blue (*Glaucopsyche lygdamus australis*)		painted lady (*V. cardui*)	
Edward's blue (*Hemiargus ceraunus gyas*)		American (Virginia) lady (*V. virginiensis*)	
Acmon blue (*Icaricia acmon acmon*)		unidentified lady (*Vanessa* sp.)	4
marine blue (*Leptotes marina*)		**Swallowtails**	
unidentified blue	1	pale swallowtail (*Papilio eurymedon*)	
Whites		western tiger swallowtail (*P. rutulus*)	
Sara orangetip (*Anthocharis sara sara*)	5	anise swallowtail (*P. zelicaon*)	2
desert (Felder's) orangetip (*A. cethura*)		**Miscellaneous**	
common California ringlet (*Coenonympha californica*)	3	monarch (*Danaus plexippus*)	1
cabbage white (*Pieris rapae*)		common buckeye (*Junonia coenia grisea*)	
checkered (common) white (*Pontia protodice*)		mourning cloak (*Nymphalis antiopa)*	
spring white (*P. sisymbrii*)		**Skippers**	
unidentified white	5	funereal duskywing (*Erynnis funeralis*)	3
Metalmarks		mournful duskywing (*Erynnis tristis*)	
Behr's metalmark (*Apodemia mormo virgulti*)	2	fiery skipper (*Hylephila phyleus*)	
Wright's metalmark (*Calephelis wrighti*)		white (common) checkered-skipper (*Pyrgus albescens*)	4
Sulphurs		**Other**	
orange sulphur (*Colias eurytheme*)			
sleepy orange (*Eurema nicippe*)			
cloudless sulfur (*Phoebus sennae marcellina*)			
unidentified sulphur	4		
Column Subtotal	**21**	**Column Subtotal**	**15**
		Total	**36**

JPDOS Erica H
QUEST1(Area I) 2/24/16
Start: 0900, 75°F, 4-8, 0%
Stop: 1312, 84°F, 1-3, 0%

YEWA	RITA	NONA	CORA
HOF1	ANDR	WASP	WOME
ANTH	HOLA	CACT	LEAD
COMM	SANS	TREES	RESP
CARRO	CAR1	MOSS	SNAI
NORD	NEWS		

Side-blocked 1.2
CA or. squirrel common

Anise II	Sulphur IIII
Gamagret III	Lady IIII
Hyspria I	Fiery D III
Spris III	Monarch III
Pahrs II	monarch 1
Red admiral 1	Blue sp. 1
Checkered Skip IIII	

Black: mea polyphemus, cecilius, Ana man, Luc set, Dc cap, no pred, on ag, cryptanthia, plant gen, Vc guinenza, Lam vest, mura [illegible] elm tig, allium, Sen sag, ag cil, Hyr ic, Isoma

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: GERRETT HUFFMAN Date: 9. 2/24/16

Site Name: JPD-08 Proctor Valley – Village 14 of Otay Ranch PARCEL N Site Visit No: 1

Acres Surveyed 105 Survey Time: 67 HOURS Acres per Hour: 89.3

Other Surveyors Present: NONE

Field Conditions				
	Time (24 hr)	Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start	0900	70	5-10	0 %
End	1600	78	3-6	0 %
Start				
End				

Vegetation Communities Surveyed (incl. dominant spp.)

CHAPARRAL, COASTAL SAGE SCRUB

Host Plants	Obs.	Nectar Plants	Obs.
desert plantain (*Plantago erecta*)	X	popcorn flower (*Cryptantha/Plagiobothrys* spp.)	X
purple owl's clover (*Castilleja exserta*)		goldfields (*Lasthenia* spp.)	X
snapdragon (*Antirrhinum coulterianum*)		goldenaster (*Mulitia* spp.)	
birds-beak (*Cordylanthus rigidus*)		fiddleneck (*Amsinckia menziesii* var. *intermedia*)	
woolly plantain (*Plantago patagonica*)		onion (*Allium* spp.)	X
Chinese houses (*Collinsia* spp.)		buckwheat (*Eriogonum fasciculatum*)	X
		ground pink (*Linanthus dianthiflorus*)	X
Host Plant Mapping Updated (circle) Yes (No)		**New Area or Existing Area** (circle) New Existing Both	
Species updated (list)			

Butterfly Species	No.	Butterfly Species	No.
Checkerspots		**Hairstreaks**	
California patch (*Chlosyne californica*)		great purple hairstreak (*Atlides halesus corcorani*)	
Gabb's checkerspot (*C. gabbii*)		brown elfin (*Callophrys augustinus*)	2
Quino checkerspot (*Euphydryas editha quino*)		bramble (perplexing) hairstreak (*C. dumetorum affinis*)	
chalcedon checkerspot (*E. chalcedona chalcedona*)		gray hairstreak (*Strymon melinus pudica*)	2
Leanira checkerspot (*Thessalia leanira wrighti*)		**Ladies/Admirals**	
Mylitta crescent (*Phyciodes mylitta*)		California sister (*Adelpha bredowii californica*)	
Blues		Lorquin's admiral (*Limenitis lorquini*)	
western pygmy-blue (*Brephidium exile*)		west coast lady (*Vanessa annabella*)	
western tailed blue (*Everes amyntula*)		red admiral (*V. atalanta rubria*)	
southern blue (*Glaucopsyche lygdamus australis*)		painted lady (*V. cardui*)	5
Edward's blue (*Hemiargus ceraunus gyas*)		American (Virginia) lady (*V. virginiensis*)	
Acmon blue (*Icaricia acmon acmon*)		unidentified lady (*Vanessa* sp.)	
marine blue (*Leptotes marina*)	2	**Swallowtails**	
unidentified blue		pale swallowtail (*Papilio eurymedon*)	
Whites		western tiger swallowtail (*P. rutulus*)	
Sara orangetip (*Anthocharis sara sara*)	31	anise swallowtail (*P. zelicaon*)	1
desert (Felder's) orangetip (*A. cethura*)		**Miscellaneous**	
common California ringlet (*Coenonympha californica*)		monarch (*Danaus plexippus*)	
cabbage white (*Pieris rapae*)		common buckeye (*Junonia coenia grisea*)	3
checkered (common) white (*Pontia protodice*)		mourning cloak (*Nymphalis antiopa*)	1
spring white (*P. sisymbri*)		**Skippers**	
unidentified white		funereal duskywing (*Erynnis funeralis*)	
Metalmarks		mournful duskywing (*Erynnis tristis*)	
Behr's metalmark (*Apodemia mormo virgulti*)	12	fiery skipper (*Hylephila phyleus*)	
Wright's metalmark (*Calephelis wrighti*)		white (common) checkered-skipper (*Pyrgus albescens*)	10
Sulphurs		**Other**	
orange sulphur (*Colias eurytheme*)	5		
sleepy orange (*Eurema nicippe*)			
cloudless sulfur (*Phoebus sennae marcellina*)			
unidentified sulphur			
Column Subtotal	50	Column Subtotal	24

TOTAL 74

ADE FAS
ERI FAS

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: Alicia Hill **Date:** 2/24/16

ACM GLA **Site Name:** JPD-08 Proctor Valley – Village 14 of Otay Ranch **Site Visit No:** 1

MEL ALB **Acres Surveyed** 63 **Survey Time:** 3.6 **Acres per Hour:** 8.75

HER INC **Other Surveyors Present:** Travis Cooper

ERO CIC

Cam sp.

LOT STR

BAH CAN

SIS BEL

LYS ARV

NUT TEX

GUT CAL

Ceanothus sp.

ESC CAL

MIM AUR

SOL PAR

MAL DEN

PEN ARI

ALL PRA

CAL CIL

CAL MAC

PHA CIC

LAT VES

SID SPA

HEL SCO

LIN DEN

MIR LAE

SIS MUN

DIC CAP

Field Conditions				
	Time (24 hr)	Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start	1230	88	0-1	0%
End	1605	85	1-3	0%
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.) chamise chaparral (ADE FAS), non-native grassland/ruderal (ERO CIC, Bromus sp, Aster)

Host Plants	Obs.	Nectar Plants	Obs.
dwarf plantain (*Plantago erecta*)	X	popcorn flower (*Cryptantha/Plagiobothrys* spp.)	X
purple owl's clover (*Castilleja exserta*)		goldfields (*Lasthenia* spp.)	X
snapdragon (*Antirrhinum coulterianum*)		goldenstar (*Muilla* spp.)	
birds-beak (*Cordylanthus rigidus*)		fiddleneck (*Amsinckia menziesii* var. *intermedia*)	X
woolly plantain (*Plantago patagonica*)		onion (*Allium* spp.)	X
Chinese houses (*Collinsia* spp.)		buckwheat (*Eriogonum fasciculatum*)	X
		ground pink (*Linanthus dianthiflorus*)	X
Host Plant Mapping Updated (*circle*) Yes (No)		**New Area or Existing Area** (*circle*) New Existing (Both)	
Species updated (list)			

Butterfly Species	No.	Butterfly Species	No.
Checkerspots		**Hairstreaks**	
California patch (*Chlosyne californica*)		great purple hairstreak (*Atlides halesus corcorani*)	
Gabb's checkerspot (*C. gabbii*)		brown elfin (*Callophrys augustinus*)	
Quino checkerspot (*Euphydryas editha quino*)		bramble (perplexing) hairstreak (*C. dumetorum affinis*)	
chalcedon checkerspot (*E. chalcedona chalcedona*)		gray hairstreak (*Strymon melinus pudica*)	
Leanira checkerspot (*Thessalia leanira wrighti*)		**Ladies/Admirals**	
Mylitta crescent (*Phyciodes mylitta*)		California sister (*Adelpha bredowii californica*)	
Blues		Lorquin's admiral (*Limenitis lorquini*)	
western pygmy-blue (*Brephidium exila*)		west coast lady (*Vanessa annabella*)	
western tailed blue (*Everes amyntula*)		red admiral (*V. atalanta rubria*)	
southern blue (*Glaucopsyche lygdamus australis*)	2	painted lady (*V. cardui*)	1
Edward's blue (*Hemiargus ceraunus gyas*)		American (Virginia) lady (*V. virginiensis*)	
Acmon blue (*Icaricia acmon acmon*)	2	unidentified lady (*Vanessa* sp.)	
marine blue (*Leptotes marina*)		**Swallowtails**	
unidentified blue	4	pale swallowtail (*Papilio eurymedon*)	
Whites		western tiger swallowtail (*P. rutulus*)	
Sara orangetip (*Anthocharis sara sara*)	39	anise swallowtail (*P. zelicaon*)	
desert (Felder's) orangetip (*A. cethura*)		**Miscellaneous**	
common California ringlet (*Coenonympha californica*)		monarch (*Danaus plexippus*)	
cabbage white (*Pieris rapae*)		common buckeye (*Junonia coenia grisea*)	
checkered (common) white (*Pontia protodice*)		mourning cloak (*Nymphalis antiopa*)	
spring white (*P. sisymbrii*)		**Skippers**	
unidentified white		funereal duskywing (*Erynnis funeralis*)	7
Metalmarks		mournful duskywing (*Erynnis tristis*)	
Behr's metalmark (*Apodemia mormo virgulti*)	22	fiery skipper (*Hylephila phyleus*)	
Wright's metalmark (*Calephelis wrighti*)		white (common) checkered-skipper (*Pyrgus albescens*)	
Sulphurs		**Other**	
orange sulphur (*Colias eurytheme*)	8		
sleepy orange (*Eurema nicippe*)			
cloudless sulfur (*Phoebus sennae marcellina*)			
unidentified sulphur			
Column Subtotal	77	**Column Subtotal**	8
		Total	85

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: Garrett Huffman Date: 2/25/16

Site Name: JPO-08 Proctor Valley - Village 14 of Otay Ranch PARCEL P Site Visit No: 1

Acres Surveyed 6.6 Survey Time: 8 Hours Acres per Hour: 8.25

Other Surveyors Present: None

Field Conditions				
	Time (24 hr)	Temperature (F)	Wind Speed (mph)	Cloud Cover
Start	0800	60	0-2	0 %
End	1600	75	4-6	0 %
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)

CHAMISE CHAPARRAL, COASTAL SAGE SCRUB

Host Plants	Obs.	Nectar Plants	Obs.
dwarf plantain (*Plantago erecta*)	X	popcorn flower (*Cryptantha/Plagiobothrys* spp.)	X
purple owl's clover (*Castilleja exserta*)		goldfields (*Lasthenia* spp.)	X
snapdragon (*Antirrhinum coulterianum*)		goldenstar (*Muilla* spp.)	
birds-beak (*Cordylanthus rigidus*)		fiddleneck (*Amsinckia menziesii* var. *intermedia*)	X
woolly plantain (*Plantago patagonica*)		onion (*Allium* spp.)	X
Chinese houses (*Collinsia* spp.)		buckwheat (*Eriogonum fasciculatum*)	X
		ground pink (*Linanthus dianthiflorus*)	X
Host Plant Mapping Updated (circle) Yes (No)		New Area or Existing Area (circle) New Existing Both	
Species updated (list)			

Butterfly Species	No.	Butterfly Species	No.
Checkerspots		**Hairstreaks**	
California patch (*Chlosyne californica*)		great purple hairstreak (*Atlides halesus corcorani*)	
Gabb's checkerspot (*C. gabbii*)	1	brown elfin (*Callophrys augustinus*)	
Quino checkerspot (*Euphydryas editha quino*)		bramble (perplexing) hairstreak (*C. dumetorum affinis*)	
chalcedon checkerspot (*E. chalcedona chalcedona*)		gray hairstreak (*Strymon melinus pudica*)	
Leanira checkerspot (*Thessalia leanira wrighti*)		**Ladies/Admirals**	
Mylitta crescent (*Phyciodes mylitta*)		California sister (*Adelpha bredowii californica*)	
Blues		Lorquin's admiral (*Limenitis lorquini*)	
western pygmy-blue (*Brephidium exile*)		west coast lady (*Vanessa annabella*)	
western tailed blue (*Everes amyntula*)		red admiral (*V. atalanta rubria*)	
southern blue (*Glaucopsyche lygdamus australis*)		painted lady (*V. cardui*)	2
Edward's blue (*Hemiargus ceraunus gyas*)		American (virginia) lady (*V. virginiensis*)	
Acmon blue (*Icaricia acmon acmon*)		unidentified lady (*Vanessa* sp.)	
marine blue (*Leptotes marina*)	7	**Swallowtails**	
unidentified blue		pale swallowtail (*Papilio eurymedon*)	
Whites		western tiger swallowtail (*P. rutulus*)	
Sara orangetip (*Anthocharis sara sara*)	40	anise swallowtail (*P. zelicaon*)	
desert (Felder's) orangetip (*A. cethura*)		**Miscellaneous**	
common California ringlet (*Coenonympha californica*)	5	monarch (*Danaus plexippus*)	
cabbage white (*Pieris rapae*)		common buckeye (*Junonia coenia grisea*)	
checkered (common) white (*Pontia protodice*)	1	mourning cloak (*Nymphalis antiopa*)	
spring white (*P. sisymbri*)		**Skippers**	
unidentified white		funereal duskywing (*Erynnis funeralis*)	2
Metalmarks		mournful duskywing (*Erynnis tristis*)	
Behr's metalmark (*Apodemia mormo virgulti*)	2	fiery skipper (*Hylephila phyleus*)	
Wright's metalmark (*Calephelis wrighti*)		white (common) checkered-skipper (*Pyrgus albescens*)	
Sulphurs		**Other**	
orange sulphur (*Colias eurytheme*)	2		
sleepy orange (*Eurema nicippe*)			
cloudless sulfur (*Phoebus sennae marcellina*)			
unidentified sulphur			
Column Subtotal	58	Column Subtotal	4

TOTAL 62

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: GARRET HUFFMAN **Date:** 02/27/16

Site Name: JPD-08 Proctor Valley – Village 14 of Otay Ranch PARCEL G **Site Visit No:** 1

Acres Surveyed 55 **Survey Time:** 7.5 **Acres per Hour:** 7.3

Other Surveyors Present: NONE

Field Conditions				
	Time (24 hr)	Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start	0830	60	0-1	0
End	1600	75	2-3	5
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)

CHAMISE CHAPARRAL, COASTAL SAGE SCRUB

Host Plants	Obs.
dwarf plantain (*Plantago erecta*)	X
purple owl's clover (*Castilleja exserta*)	
snapdragon (*Antirrhinum coulterianum*)	
birds-beak (*Cordylanthus rigidus*)	
woolly plantain (*Plantago patagonica*)	
Chinese houses (*Collinsia* spp.)	
Host Plant Mapping Updated (*circle*) Yes (No)	
Species updated (list)	

Nectar Plants	Obs.
popcorn flower (*Cryptantha/Plagiobothrys* spp.)	X
goldfields (*Lasthenia* spp.)	X
goldenstar (*Muilla* spp.)	
fiddleneck (*Amsinckia menziesii* var. *intermedia*)	X
onion (*Allium* spp.)	X
buckwheat (*Eriogonum fasciculatum*)	X
ground pink (*Linanthus dianthiflorus*)	X
New Area or Existing Area (*circle*) New Existing Both	

Butterfly Species	No.
Checkerspots	
California patch (*Chlosyne californica*)	
Gabb's checkerspot (*C. gabbii*)	
Quino checkerspot (*Euphydryas editha quino*)	
chalcedon checkerspot (*E. chalcedona chalcedona*)	
Leanira checkerspot (*Thessalia leanira wrighti*)	
Mylitta crescent (*Phyciodes mylitta*)	
Blues	
western pygmy-blue (*Brephidium exila*)	
western tailed blue (*Everes amyntula*)	
southern blue (*Glaucopsyche lygdamus australis*)	6
Edward's blue (*Hemiargus ceraunus gyas*)	
Acmon blue (*Icaricia acmon acmon*)	
marine blue (*Leptotes marina*)	7
unidentified blue	
Whites	
Sara orangetip (*Anthocharis sara sara*)	65
desert (Felder's) orangetip (*A. cethura*)	
common California ringlet (*Coenonympha californica*)	23
cabbage white (*Pieris rapae*)	
checkered (common) white (*Pontia protodice*)	1
spring white (*P. sisymbrii*)	
unidentified white	
Metalmarks	
Behr's metalmark (*Apodemia mormo virgulti*)	
Wright's metalmark (*Calephelis wrighti*)	
Sulphurs	
orange sulphur (*Colias eurytheme*)	
sleepy orange (*Eurema nicippe*)	
cloudless sulfur (*Phoebus sennae marcellina*)	
unidentified sulphur	
Column Subtotal	102

Butterfly Species	No.
Hairstreaks	
great purple hairstreak (*Atlides halesus corcorani*)	
brown elfin (*Callophrys augustinus*)	1
bramble (perplexing) hairstreak (*C. dumetorum affinis*)	
gray hairstreak (*Strymon melinus pudica*)	
Ladies/Admirals	
California sister (*Adelpha bredowii californica*)	
Lorquin's admiral (*Limenitis lorquini*)	
west coast lady (*Vanessa annabella*)	
red admiral (*V. atalanta rubria*)	
painted lady (*V. cardui*)	2
American (Virginia) lady (*V. virginiensis*)	
unidentified lady (*Vanessa* sp.)	
Swallowtails	
pale swallowtail (*Papilio eurymedon*)	
western tiger swallowtail (*P. rutulus*)	
anise swallowtail (*P. zelicaon*)	2
Miscellaneous	
monarch (*Danaus plexippus*)	
common buckeye (*Junonia coenia grisea*)	
mourning cloak (*Nymphalis antiopa*)	
Skippers	
funereal duskywing (*Erynnis funeralis*)	3
mournful duskywing (*Erynnis tristis*)	
fiery skipper (*Hylephila phyleus*)	
white (common) checkered-skipper (*Pyrgus albescens*)	1
Other	
Column Subtotal	9

TOTAL 111

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: CORRETT HUFFMAN Date: 2/20/16

Site Name: JPD-06 Proctor Valley – Village 14 of Otay Ranch PARCEL B Site Visit No: 1

Acres Surveyed 50 Survey Time: 8.5 hours Acres per Hour: 6

Other Surveyors Present: NONE

	Time (24 hr)	Field Conditions: Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start	0800	60	0 - 2	5%
End	1630	79	0 - 3	60%
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)

CHAMISE CHAPARRAL, COASTAL SAGE SCRUB

Host Plants	Obs.	Nectar Plants	Obs.
dwarf plantain (*Plantago erecta*)	X	popcorn flower (*Cryptantha/Plagiobothrys* spp.)	X
purple owl's clover (*Castilleja exserta*)	X	goldfields (*Lasthenia* spp.)	
snapdragon (*Antirrhinum coulterianum*)		goldenaster (*Muilla* spp.)	
birds-beak (*Cordylanthus rigidus*)		fiddleneck (*Amsinckia menziesii* var. *intermedia*)	
woolly plantain (*Plantago patagonica*)		onion (*Allium* spp.)	X
Chinese houses (*Collinsia* spp.)		buckwheat (*Eriogonum fasciculatum*)	X
		ground pink (*Linanthus dianthiflorus*)	X
Host Plant Mapping Updated (circle) (Yes) No		New Area or Existing Area (circle) (New) Existing Both	
Species updated (list) CASTILLEJA EXSERTA			

Butterfly Species	No.	Butterfly Species	No.
Checkerspots		**Hairstreaks**	
California patch (*Chlosyne californica*)		great purple hairstreak (*Atlides halesus corcorani*)	
Gabb's checkerspot (*C. gabbi*)		brown elfin (*Callophrys augustinus*)	
Quino checkerspot (*Euphydryas editha quino*)		bramble (perplexing) hairstreak (*C. dumetorum affinis*)	
chalcedon checkerspot (*E. chalcedona chalcedona*)		gray hairstreak (*Strymon melinus pudica*)	2
Leanira checkerspot (*Thessalia leanira wrighti*)		**Ladies/Admirals**	
Mylitta crescent (*Phyciodes mylitta*)		California sister (*Adelpha bredowii californica*)	
Blues		Lorquin's admiral (*Limenitis lorquini*)	
western pygmy-blue (*Brephidium exilis*)		west coast lady (*Vanessa annabella*)	
western tailed blue (*Everes amyntula*)		red admiral (*V. atalanta rubria*)	
southern blue (*Glaucopsyche lygdamus australis*)	6	painted lady (*V. cardui*)	1
Edward's blue (*Hemiargus ceraunus gyas*)		American (Virginia) lady (*V. virginiensis*)	
Acmon blue (*Icaricia acmon acmon*)		unidentified lady (*Vanessa* sp.)	
marine blue (*Leptotes marina*)	3	**Swallowtails**	
unidentified blue		pale swallowtail (*Papilio eurymedon*)	
Whites		western tiger swallowtail (*P. rutulus*)	1
Sara orangetip (*Anthocharis sara sara*)	33	anise swallowtail (*P. zelicaon*)	
desert (Felder's) orangetip (*A. cethura*)		**Miscellaneous**	
common California ringlet (*Coenonympha californica*)		monarch (*Danaus plexippus*)	
cabbage white (*Pieris rapae*)		common buckeye (*Junonia coenia grisea*)	3
checkered (common) white (*Pontia protodice*)	2	mourning cloak (*Nymphalis antiopa*)	
spring white (*P. sisymbri*)		**Skippers**	
unidentified white		funereal duskywing (*Erynnis funeralis*)	4
Metalmarks		mournful duskywing (*Erynnis tristis*)	
Behr's metalmark (*Apodemia mormo virgulti*)	72	fiery skipper (*Hylephila phyleus*)	
Wright's metalmark (*Calephelis wrighti*)		white (common) checkered-skipper (*Pyrgus albescens*)	
Sulphurs		**Other**	
orange sulphur (*Colias eurytheme*)	5		
sleepy orange (*Eurema nicippe*)			
cloudless sulfur (*Phoebus sennae marcellina*)			
unidentified sulphur			
Column Subtotal	111	Column Subtotal	11
	121	TOTAL	132

2016 Quino Checkerspot Butterfly Survey Form

Surveyor(s): _____ Date: _____

Site Name: JPCSA Proctor Valley - Village 11 at Otay Ranch _____ Site Visit No.: _____

Acres Surveyed: _____ Survey Time: _____ Acres per Hour: _____

Other Surveyors Present: _____

Field Conditions

	Time (24 hr)	Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start				
End				
Start				
End				

Vegetation Community/Habitat Surveyed (incl. subdivisions type): _____

_____

Host Plants	Obs.	Nectar Plants	Obs.
dwarf plantain (*Plantago erecta*)		common fiddleneck (*Amsinckia intermedia*)	
purple owl's clover (*Castilleja exserta*)		goldfields (*Lasthenia spp.*)	
snapdragon (*Antirrhinum coulterianum*)		goldenrod (*Solidago spp.*)	
dwarf coast (*Camissonia micrantha*)		Mallows (*Malvaceae, Sidalcea malviflora*)	
woolly plantain (*Plantago patagonica*)		onion/chives spp.	
Chinese houses (*Collinsia spp.*)		purple owl's clover (*Castilleja exserta*)	
		ground pink (*Linanthus dianthiflorus*)	
Host Plant Mapping (Quadrat) (circle)	Yes No	Plant Area on Existing Area (circle)	None Existing Both

Species validated by: _____

Butterfly Species	Obs.	Butterfly Species	Obs.
Cool Hairstreak		**Hairstreaks**	
California coast (*Callophrys californica*)		great purple hairstreak (*Atlides halesus corcoran*)	
Gabb's checkerspot (*C. gabbii*)		silver-spot (*Callophrys augustinus*)	
Quino checkerspot (*Euphydryas editha quino*)		Juvenile (caterpillar) hairstreak (*C. dumetorum siva*)	
chalcedon checkerspot (*E. chalcedona chalcedona*)		gray hairstreak (*Strymon melinus putius*)	
Lorquin's checkerspot (*Thessalia lorquini lorquini*)		**Lycaenid Azures**	
Mylitta crescent (*Phyciodes mylitta*)		California sister (*Adelpha bredowii californica*)	
Blues		Umber spp. (*Lasaia sp.*)	
western pygmy blue (*Brephidium exile*)		small round body (*Ancyloxypha numitor*)	
eastern tailed blue (*Cupido comyntas*)		tiny skipper (*Ancyloxypha sp.*)	
southern blue (*Glaucopsyche lygdamus australis*)		spotted body (*Euphyes*)	
Lorquin's blue (*Plebejus lorquini lorquini*)		American (*Poanes*) body (*Poanes sp.*)	
Acmon blue (*Plebejus acmon*)		unidentified body (*Hesperiidae sp.*)	
marine blue (*Leptotes marina*)		**Skippers**	
ancilla blue		pale skipper (*Polites sabuleti*)	
Whites		western dun skipper (*P. mystic*)	
Lake Elsinore (*Pontia sisymbrii elsinore*)		common sandy wash (*P. vibex*)	
desert (*P. sisymbrii simplicia*)		silver-spotted	
common California white (*Pontia protodice*)		monarch (*Danaus plexippus*)	
cabbage white (*Pieris rapae*)		northern cloudywing (*Thorybes pylades*)	
checkered white (*Pontia protodice*)		mourning cloak (*Nymphalis antiopa*)	
spring white (*P. sisymbrii*)		**Skippers**	
unidentified white		funereal duskywing (*Erynnis funeralis*)	
Sulphurs		mournful duskywing (*Erynnis tristis*)	
Behr's metalmark (*Apodemia mormo virgulti*)		sleepy orange (*Eurema nicippe*)	
Wright's metalmark (*Calephelis wrighti*)		white (common) checkered skipper (*Pyrgus albescens*)	
Sulphurs		**Other**	
orange sulphur (*Colias eurytheme*)		_____	
Behr's sulphur (*C. behrii*)		_____	
southern dogface (*Zerene cesonia*)			
undetermined sulphur			
Column Subtotal		Column Subtotal	
		Total	

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: John Dicus, Melanie Dicus **Date:** 02-27-2016

Site Name: JPD-08 Proctor Valley – Village 14 of Otay Ranch E + L **Site Visit No:** 1

Acres Surveyed 108 **Survey Time:** 7 Hours **Acres per Hour:** 7.7 each

Other Surveyors Present:

Field Conditions				
	Time (24 hr)	**Temperature (°F)**	**Wind Speed (mph)**	**Cloud Cover**
Start	0830	64	0	0
End	1530	77	3	0
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)

BCSS : Artemisia californica, Eriogonum spp, Deinandra fasciculata, Malacothamnus laxiflorus

NNG : Bromus diandrus, Avena spp, Hordeum murinum + glaucum, Erodium spp.

Host Plants	**Obs.**	**Nectar Plants**	**Obs.**
dwarf plantain (*Plantago erecta*)	X	popcorn flower (*Cryptantha/Plagiobothrys* spp.)	X
purple owl's clover (*Castilleja exserta*)		goldfields (*Lasthenia* spp.)	
snapdragon (*Antirrhinum coulterianum*)		goldenstar (*Muilla* spp.)	
birds-beak (*Cordylanthus rigidus*)		fiddleneck (*Amsinckia menziesii* var. *intermedia*)	X
woolly plantain (*Plantago patagonica*)		onion (*Allium* spp.)	X
Chinese houses (*Collinsia* spp.)		buckwheat (*Eriogonum fasciculatum*)	X
		ground pink (*Linanthus dianthiflorus*)	
Host Plant Mapping Updated (circle) Yes (No)		**New Area or Existing Area** (circle) New Existing Both	
Species updated (list)			

Butterfly Species	**No.**	**Butterfly Species**	**No.**
Checkerspots		**Hairstreaks**	
California patch (*Chlosyne californica*)		great purple hairstreak (*Atlides halesus corcorani*)	
Gabb's checkerspot (*C. gabbii*)		brown elfin (*Callophrys augustinus*)	
Quino checkerspot (*Euphydryas editha quino*)		bramble (perplexing) hairstreak (*C. dumetorum affinis*)	
chalcedon checkerspot (*E. chalcedona chalcedona*)		gray hairstreak (*Strymon melinus pudica*)	
Leanira checkerspot (*Thessalia leanira wrighti*)		**Ladies/Admirals**	
Mylitta crescent (*Phyciodes mylitta*)		California sister (*Adelpha bredowii californica*)	
Blues		Lorquin's admiral (*Limenitis lorquini*)	
western pygmy-blue (*Brephidium exilis*)		west coast lady (*Vanessa annabella*)	
western tailed blue (*Everes amyntula*)		red admiral (*V. atalanta rubria*)	4
southern blue (*Glaucopsyche lygdamus australis*)		painted lady (*V. cardui*)	10
Edward's blue (*Hemiargus ceraunus gyas*)		American (Virginia) lady (*V. virginiensis*)	1
Acmon blue (*Icaricia acmon acmon*)	3	unidentified lady (*Vanessa* sp.)	
marine blue (*Leptotes marina*)		**Swallowtails**	
unidentified blue		pale swallowtail (*Papilio eurymedon*)	1
Whites		western tiger swallowtail (*P. rutulus*)	1
Sara orangetip (*Anthocharis sara sapa*)	31	anise swallowtail (*P. zelicaon*)	
desert (Felder's) orangetip (*A. cethura*)		**Miscellaneous**	
common California ringlet (*Coenonympha californica*)	1	monarch (*Danaus plexippus*)	
cabbage white (*Pieris rapae*)	5	common buckeye (*Junonia coenia grisea*)	2
checkered (common) white (*Pontia protodice*)	4	mourning cloak (*Nymphalis antiopa*)	
spring white (*P. sisymbrii*)		**Skippers**	
unidentified white		funereal duskywing (*Erynnis funeralis*)	3
Metalmarks		mournful duskywing (*Erynnis tristis*)	
Behr's metalmark (*Apodemia mormo virgulti*)	12	fiery skipper (*Hylephila phyleus*)	
Wright's metalmark (*Calephelis wrighti*)		white (common) checkered-skipper (*Pyrgus albescens*)	9
Sulphurs		**Other**	
orange sulphur (*Colias eurytheme*)	9	COLIAS MACFARLII	1
sleepy orange (*Eurema nicippe*)		HELOPETES EACLEDUS	1
cloudless sulfur (*Phoebus sennae marcellina*)			
unidentified sulphur			
Column Subtotal	65	Column Subtotal	33
		Total	98

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: JOAN DICUS, MELANIE DICUS **Date:** 02-29-2016

Site Name: JPD-08 Proctor Valley – Village 14 of Otay Ranch **Site Visit No:** 1

Acres Surveyed 93 **Survey Time:** 7 HRS, 40 MIN **Acres per Hour:** 6.96 / EACH SUR

Other Surveyors Present:

Field Conditions				
	Time (24 hr)	Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start	0810	61	0	5%
End	1550	72	2.6	10%
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.) CHAMISE CHAP: ABUNDANT FASCICULATUM, LEUCOPHYLLUM, BLUES: ARTEMISIA CA, ERIOGONUM FASCICULATUM, MELICA CALIFORNICA, CALYCANTHUS SPP. BLUES SPP. WILDFLOWERS: BLOOMS HARDWARE, B. DIANDRUS, BLOOMS SURVEYS/LOCATIONS; NYDLEGRASS BLOOMS LAND: CHAMISE, ERIOGONUM SPP.

Host Plants	Obs.	Nectar Plants	Obs.
dwarf plantain (*Plantago erecta*)	X	popcorn flower (*Cryptantha/Plagiobothrys* spp.)	X
purple owl's clover (*Castilleja exserta*) BLOOMING	X	goldfields (*Lasthenia* spp.)	X
snapdragon (*Antirrhinum coulterianum*)		goldenstar (*Muilla* spp.)	X
birds-beak (*Cordylanthus rigidus*)		fiddleneck (*Amsinckia menziesii* var. *intermedia*)	X
woolly plantain (*Plantago patagonica*)		onion (*Allium* spp.)	X
Chinese houses (*Collinsia* spp.)		buckwheat (*Eriogonum fasciculatum*)	X
		ground pink (*Linanthus dianthiflorus*)	X
Host Plant Mapping Updated (circle) Yes (No)		**New Area or Existing Area** (circle) New Existing Both	
Species updated (list)			

Butterfly Species	No.	Butterfly Species	No.
Checkerspots		**Hairstreaks**	
California patch (*Chlosyne californica*)		great purple hairstreak (*Atlides halesus corcorani*)	
Gabb's checkerspot (*C. gabbii*)		brown elfin (*Callophrys augustinus*)	1
Quino checkerspot (*Euphydryas editha quino*)		bramble (perplexing) hairstreak (*C. dumetorum affinis*)	6
chalcedon checkerspot (*E. chalcedona chalcedona*)		gray hairstreak (*Strymon melinus pudica*)	1
Leanira checkerspot (*Thessalia leanira wrighti*)		**Ladies/Admirals**	
Mylitta crescent (*Phyciodes mylitta*)		California sister (*Adelpha bredowii californica*)	
Blues		Lorquin's admiral (*Limenitis lorquini*)	
western pygmy-blue (*Brephidium exilis*)		west coast lady (*Vanessa annabella*)	1
western tailed blue (*Everes amyntula*)		red admiral (*V. atalanta rubria*)	1
southern blue (*Glaucopsyche lygdamus australis*)	9	painted lady (*V. cardui*)	6
Edward's blue (*Hemiargus ceraunus gyas*)		American (Virginia) lady (*V. virginiensis*)	2
Acmon blue (*Icaricia acmon acmon*)	7	unidentified lady (*Vanessa* sp.)	
marine blue (*Leptotes marina*)	1	**Swallowtails**	
unidentified blue		pale swallowtail (*Papilio eurymedon*)	
Whites		western tiger swallowtail (*P. rutulus*)	
Sara orangetip (*Anthocharis sara sara*)	47	anise swallowtail (*P. zelicaon*)	
desert (Felder's) orangetip (*A. cethura*)		**Miscellaneous**	
common California ringlet (*Coenonympha californica*)	4	monarch (*Danaus plexippus*)	
cabbage white (*Pieris rapae*)	1	common buckeye (*Junonia coenia grisea*)	4
checkered (common) white (*Pontia protodice*)		mourning cloak (*Nymphalis antiopa*)	
spring white (*P. sisymbrii*)		**Skippers**	
unidentified white		funereal duskywing (*Erynnis funeralis*)	6
Metalmarks		mournful duskywing (*Erynnis tristis*)	
Behr's metalmark (*Apodemia mormo virgulti*)	42	fiery skipper (*Hylephila phyleus*)	
Wright's metalmark (*Calephelis wrighti*)		white (common) checkered-skipper (*Pyrgus albescens*)	2
Sulphurs		**Other**	
orange sulphur (*Colias eurytheme*)	10	COLIAS HAFNIENSIS	5
sleepy orange (*Eurema nicippe*)		HELOPELTIS ELECTRICUM	1
cloudless sulfur (*Phoebus sennae marcellina*)			
unidentified sulphur			
Column Subtotal	121	Column Subtotal	36
		Total	157

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: [illegible] Date: 4-28-16

Site Name: JRO-06 Proctor Valley – Village 14 of Otay Ranch + [illegible] Site Visit No: 1

Acres Surveyed: 5 Survey Time: 6 hrs Acres per Hour: 1.5

Other Surveyors Present: n/a

Field Conditions				
	Time (24 hr)	Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start	0852	59	2-6	5%
End	1400	74	1-3	20%
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)
CSS / Fuzzite / n/a

Host Plants	Obs.	Nectar Plants	Obs.
dwarf plantain (Plantago erecta)	11	popcorn flower (Cryptantha/Plagiobothrys spp.)	7
purple owl's clover (Castilleja exserta)	1	goldfields (Lasthenia spp.)	13
snapdragon (Antirrhinum australanum)	2	goldenbush (Isocoma spp.)	4
birds-beak (Cordylanthus rigidus)	13	tidytips (Layia platyglossa)	11
woolly plantain (Plantago patagonica)	83	onion (Allium spp.)	7
Chinese houses (Collinsia spp.)	13	buckwheat (Eriogonum fasciculatum)	2
	83	ground pink (Linanthus dianthiflorus)	13
Host Plant Mapping Updated (circle): Yes / No		New Area or Existing Area (circle): New / Existing / Both	
Species updated (list):			

Butterfly Species	No.	Butterfly Species	No.
Checkerspots		**Hairstreaks**	
California patch (Chlosyne californica)		great purple hairstreak (Atlides halesus corcoran)	
Gabb's checkerspot (C. gabbii)		brown elfin (Callophrys augustinus)	
Quino checkerspot (Euphydryas editha quino)		bramble (gerdineia) hairstreak (C. dumetorum affine)	
chalcedon checkerspot (E. chalcedona chalcedona)		gray hairstreak (Strymon melinus putlius)	1
Leanira checkerspot (Thessalia leanira wrighti)		**Ladies/Admirals**	
Myrtle crescent (Phyciodes myrtle)		California sister (Adelpha bredowii californica)	
Blues		Lorquin's admiral (Limenitis lorquini)	
western pygmy blue (Brephidium exile)		west coast lady (Vanessa annabella)	
western tailed blue (Everes amyntula)		red admiral (V. atalanta rubria)	
southern blue (Glaucopsyche lygdamus australis)		painted lady (V. cardui)	4
Edward's blue (Hemiargus ceraunus gyas)		American (Virginia) lady (V. virginiensis)	
Ashon blue (Icaricia acmon acmon)		unidentified lady (Vanessa sp.)	
marine blue (Leptotes marina)		**Swallowtails**	
unidentified blue	2	pale swallowtail (Papilio eurymedon)	
Whites		western tiger swallowtail (P. rutulus)	
Sara orangetip (Anthocharis sara sara)	28	anise swallowtail (P. zelicaon)	
desert (Pelder's) orangetip (A. cethura)		**Miscellaneous**	
common California tortoiseshell (Nymphalis californica)	12	monarch (Danaus plexippus)	
cabbage white (Pieris rapae)		common buckeye (Junonia coenia grisea)	
checkered (common) white (Pontia protodice)	1	mourning cloak (Nymphalis antiopa)	
spring white (P. sisymbrii)		**Skippers**	
unidentified white		Sonoran dusky-wing (Erynnis funeralis)	2
Metalmarks		mournful dusky-wing (Erynnis tristis)	
Behr's metalmark (Apodemia mormo virgulti)	20	fiery skipper (Hylephila phyleus)	
Wright's metalmark (Calephelis wrighti)		white (common) checkered-skipper (Pyrgus albescens)	1
Sulphurs		**Other**	
orange sulphur (Colias eurytheme)	10		
sleepy orange (Eurema nicippe)			
coastal sulfur (Phoebis sennae marcellina)			
Unidentified sulphur			
Column Subtotal	76	Column Subtotal	8
		Total	84

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: Gretchen Cummings Date: 2/24/16

Site Name: JPD-08 Proctor Valley – Village 14 of Otay Ranch (Area V) Site Visit No: 1

Acres Surveyed: 48 Survey Time: 5 hrs Acres per Hour: 9.6 acres/hr

Other Surveyors Present: None

Field Conditions				
	Time (24 hr)	Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start	0930	77.9	<1.3	Clear
End	1430	79.1	2.8 - 6.1	30%
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)
Chaparral (Chamise)

Host Plants None	Obs.	Nectar Plants	Obs.
dwarf plantain (*Plantago erecta*)		popcorn flower (*Cryptantha/Plagiobothrys* spp.)	X
purple owl's clover (*Castilleja exserta*)		goldfields (*Lasthenia* spp.)	
snapdragon (*Antirrhinum coulterianum*)		goldenstar (*Muilla* spp.)	
birds-beak (*Cordylanthus rigidus*)		fiddleneck (*Amsinckia menziesii* var. *intermedia*)	
woolly plantain (*Plantago patagonica*)		onion (*Allium* spp.)	X
Chinese houses (*Collinsia* spp.)		buckwheat (*Eriogonum fasciculatum*)	X
		ground pink (*Linanthus plantiflorus*)	
Host Plant Mapping Updated (circle) Yes No		New Area or Existing Area (circle) New Existing Both	
Species updated (list)			

Butterfly Species	No.	Butterfly Species	No.
Checkerspots		**Hairstreaks**	
California patch (*Chlosyne californica*)		great purple hairstreak (*Atlides halesus corcoran*)	
Gabb's checkerspot (*C. gabbii*)		brown elfin (*Callophrys augustinus*)	
Quino checkerspot (*Euphydryas editha quino*)		bramble (perplexing) hairstreak (*C. dumetorum affinis*)	
chalcedon checkerspot (*E. chalcedona chalcedona*)		gray hairstreak (*Strymon melinus pudica*)	
Leanira checkerspot (*Thessalia leanira wrighti*)		**Ladies/Admirals**	
Mylitta crescent (*Phyciodes mylitta*)		California sister (*Adelpha bredowii californica*)	
Blues		Lorquin's admiral (*Limenitis lorquini*)	
western pygmy-blue (*Brephidium exilis*)		west coast lady (*Vanessa annabella*)	
western tailed blue (*Everes amyntula*)		red admiral (*V. atalanta rubria*)	
southern blue (*Glaucopsyche lygdamus australis*)	3	painted lady (*V. cardui*)	2
Edward's blue (*Hemiargus ceraunus gyas*)	1	American (Virginia) lady (*V. virginiensis*)	
Acmon blue (*Icaricia acmon acmon*)	1	unidentified lady (*Vanessa* sp.)	
marine blue (*Leptotes marina*)		**Swallowtails**	
unidentified blue		pale swallowtail (*Papilio eurymedon*)	
Whites		western tiger swallowtail (*P. rutulus*)	
Sara orangetip (*Anthocharis sara sara*)	10	anise swallowtail (*P. zelicaon*)	
desert (Felder's) orangetip (*A. cethura*)		**Miscellaneous**	
common California migtet (*Coenonympha californica*)		monarch (*Danaus plexippus*)	
cabbage white (*Pieris rapae*)		common buckeye (*Junonia coenia grisea*)	
checkered (common) white (*Pontia protodice*)		mourning cloak (*Nymphalis antiopa*)	
spring white (*P. sisymbri*)		**Skippers**	
unidentified white	3	funereal duskywing (*Erynnis funeralis*)	
Metalmarks		mournful duskywing (*Erynnis tristis*)	
Behr's metalmark (*Apodemia mormo virgulti*)	4	fiery skipper (*Hylephila phyleus*)	
Wright's metalmark (*Calephelis wrighti*)		white (common) checkered skipper (*Pyrgus albescens*)	1
Sulphurs		**Other**	
orange sulphur (*Colias eurytheme*)			
sleepy orange (*Eurema nicippe*)			
obsidiana sulfur (*Phoebus sennae marcellina*)			
unidentified sulphur			
Column Subtotal		Column Subtotal	
		Total	31

(8 species)

ERI FAS
HER INC
ERO CIC
ACM GLA
SOL PAR
DIC CAP
SAL MUN
Cirsium sp.
MIR LAE
DOD
LOT STR
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CLA CON
MAL DEN
MIM AUR
ANT NUT
NUT TEX
SIN OLE
Ceanothus sp.
SIS IRI
ESC CAL
ALL PRA
HEL SCO

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: Alicia — **Date:** 2/24/16

Site Name: JPD-08 Proctor Valley – Village 14 of Otay Ranch — **Site Visit No:** 1

Acres Surveyed 44 — **Survey Time:** 3.3 — **Acres per Hour:** 60.7

Other Surveyors Present: Travis Cooper

Field Conditions	Time (24 hr)	Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start	845	70	1-5	0%
End	1205	87	0-1	0%
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.) Chamise chaparral (ADE, ERI FAS), non-native grassland (Bromus, Avena, ERI FAS)

Host Plants	Obs.	Nectar Plants	Obs.
dwarf plantain (*Plantago erecta*)	X	popcorn flower (*Cryptantha/Plagiobothrys* spp.)	X
purple owl's clover (*Castilleja exserta*)		goldfields (*Lasthenia* spp.)	
snapdragon (*Antirrhinum coulterianum*)		goldenstar (*Muilla* spp.)	
birds-beak (*Cordylanthus rigidus*)		fiddleneck (*Amsinckia menziesii* var. *intermedia*)	
woolly plantain (*Plantago patagonica*)		onion (*Allium* spp.)	X
Chinese houses (*Collinsia* spp.)		buckwheat (*Eriogonum fasciculatum*)	X
		ground pink (*Linanthus dianthiflorus*)	
Host Plant Mapping Updated (*circle*) Yes (No)		**New Area or Existing Area** (*circle*) New (Existing) Both	
Species updated (list)			

Butterfly Species	No.	Butterfly Species	No.
Checkerspots		**Hairstreaks**	
California patch (*Chlosyne californica*)		great purple hairstreak (*Atlides halesus corcorani*)	
Gabb's checkerspot (*C. gabbii*)		brown elfin (*Callophrys augustinus*)	
Quino checkerspot (*Euphydryas editha quino*)		bramble (perplexing) hairstreak (*C. dumetorum affinis*)	
chalcedon checkerspot (*E. chalcedona chalcedona*)		gray hairstreak (*Strymon melinus pudica*)	
Leanira checkerspot (*Thessalia leanira wrighti*)		**Ladies/Admirals**	
Mylitta crescent (*Phyciodes mylitta*)		California sister (*Adelpha bredowii californica*)	
Blues		Lorquin's admiral (*Limenitis lorquini*)	
western pygmy-blue (*Brephidium exila*)		west coast lady (*Vanessa annabella*)	
western tailed blue (*Everes amyntula*)		red admiral (*V. atalanta rubria*)	2
southern blue (*Glaucopsyche lygdamus australis*)		painted lady (*V. cardui*)	
Edward's blue (*Hemiargus ceraunus gyas*)		American (Virginia) lady (*V. virginiensis*)	
Acmon blue (*Icaricia acmon acmon*)		unidentified lady (*Vanessa* sp.)	4
marine blue (*Leptotes marina*)		**Swallowtails**	
unidentified blue	10	pale swallowtail (*Papilio eurymedon*)	
Whites		western tiger swallowtail (*P. rutulus*)	1
Sara orangetip (*Anthocharis sara sara*)	64	anise swallowtail (*P. zelicaon*)	
desert (Felder's) orangetip (*A. cethura*)		**Miscellaneous**	
common California ringlet (*Coenonympha californica*)	10	monarch (*Danaus plexippus*)	
cabbage white (*Pieris rapae*)		common buckeye (*Junonia coenia grisea*)	4
checkered (common) white (*Pontia protodice*)		mourning cloak (*Nymphalis antiopa*)	
spring white (*P. sisymbrii*)		**Skippers**	
unidentified white	4	funereal duskywing (*Erynnis funeralis*)	4
Metalmarks		mournful duskywing (*Erynnis tristis*)	
Behr's metalmark (*Apodemia mormo virgulti*)	18	fiery skipper (*Hylephila phyleus*)	
Wright's metalmark (*Calephelis wrighti*)		white (common) checkered-skipper (*Pyrgus albescens*)	2
Sulphurs		**Other**	
orange sulphur (*Colias eurytheme*)	2	Harford's sulphur	3
sleepy orange (*Eurema nicippe*)		Dainty Sulphur	2
cloudless sulfur (*Phoebus sennae marcellina*)			
unidentified sulphur			
Column Subtotal	108	**Column Subtotal**	22
		Total	130

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: C. [illegible] Date: 4-27-16

Site Name: JPD-06 Proctor Valley – Village 14 of Otay Ranch – PW Site Visit No: 1

Acres Surveyed: 5.1 Survey Time: 6 Acres per Hour: 7

Other Surveyors Present: N/A

Field Conditions				
	Time (24 hr)	Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start	0800	62.1	0.6	CL
End	1100	68.1	2.1	CL
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)
CHAPARRAL [illegible]

Host Plants	Obs.	Nectar Plants	Obs.
dwarf plantain (Plantago erecta)	17	popcorn flower (Cryptantha/Plagiobothrys spp.)	Y
purple owl's clover (Castilleja exserta)	5	goldfields (Lasthenia spp.)	3
snapdragon (Antirrhinum coulterianum)	1	goldenstar (Muilla spp.)	Y
birds-beak (Cordylanthus rigidus)	1	fiddleneck (Amsinckia menziesii var. intermedia)	1
woolly plantain (Plantago patagonica)	32	onion (Allium spp.)	Y
Chinese houses (Collinsia spp.)	52	buckwheat (Eriogonum fasciculatum)	Y
	43	ground pink (Linanthus dianthiflorus)	1
Host Plant Mapping Updated (circle) Yes (No)		New Area or Existing Area (circle) New (Existing) Both	
Species updated (list)			

Butterfly Species	No.	Butterfly Species	No.
Checkerspots		**Hairstreaks**	
California patch (Chlosyne californica)		great purple hairstreak (Atlides halesus corcorani)	
Gabb's checkerspot (C. gabbii)		brown elfin (Callophrys augustinus)	
Quino checkerspot (Euphydryas editha quino)		bramble (perplexing) hairstreak (C. dumetorum affinis)	
chalcedon checkerspot (E. chalcedona chalcedona)		gray hairstreak (Strymon melinus postica)	
Leanira checkerspot (Texola elada wrighti)		**Ladies/Admirals**	
Mylitta crescent (Phyciodes mylitta)		California sister (Adelpha bredowii californica)	
Blues		Lorquin's admiral (Limenitis lorquini)	
western pygmy blue (Brephidium exile)		west coast lady (Vanessa annabella)	
western tailed blue (Everes amyntula)		red admiral (V. atalanta rubria)	
southern blue (Glaucopsyche lygdamus australis)		painted lady (V. cardui)	1
Edward's blue (Hemiargus ceraunus gyas)		American (Virginia) lady (V. virginiensis)	
Acmon blue (Icaricia acmon acmon)		unidentified lady (Vanessa sp.)	
marine blue (Leptotes marina)		**Swallowtails**	
unidentified blue	1	pale swallowtail (Papilio eurymedon)	1
Whites		western tiger swallowtail (P. rutulus)	
Sara orangetip (Anthocharis sara sara)	15	anise swallowtail (P. zelicaon)	
desert (Fender's) orangetip (A. cethura)		**Miscellaneous**	
common California regal (Colias eurytheme)	2	monarch (Danaus plexippus)	
cabbage white (Pieris rapae)	1	common buckeye (Junonia coenia grisea)	
checkered (common) white (Pontia protodice)	2	mourning cloak (Nymphalis antiopa)	
spring white (P. sisymbrii)		**Skippers**	
unidentified white		funereal duskywing (Erynnis funeralis)	1
Metalmarks		mournful duskywing (Erynnis tristis)	
Behr's metalmark (Apodemia mormo virgulti)	3	fiery skipper (Hylephila phyleus)	
Wright's metalmark (Calephelis wrighti)		white (common) checkered-skipper (Pyrgus albescens)	
Sulphurs		**Other**	
orange sulphur (Colias eurytheme)	2		
alkali orange (Eurema mexicana)			
cloudless sulfur (Phoebis sennae marcellina)			
unidentified sulphur			
Column Subtotal	26	Column Subtotal	2
		Total	28

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: Erik LaCoste Date: 2/24/16

Site Name: PFD-08 Proctor Valley – Village 14 of Otay Ranch X Site Visit No: 1

Acres Surveyed: 102 Survey Time: 6.25 hrs Acres per Hour: 9.9

Other Surveyors Present: Habet

Field Conditions				
	Time (24 hr)	Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start	0900	69	0-6 mph 3.5 max	0
End	315	81	4.3 avg 7.0 max	0
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)

Chamise Chaparral, CSS, Native, Mix Chaparral

Host Plants	Obs.	Nectar Plants	Obs.
dwarf plantain (*Plantago erecta*)	Y	popcorn flower (*Cryptantha/Plagiobothrys* spp.)	Y
purple owl's clover (*Castilleja exserta*)	N	goldfields (*Lasthenia* spp.)	N
snapdragon (*Antirrhinum coulterianum*)	N	goldenstar (*Muilla* spp.)	N
birds-beak (*Cordylanthus rigidus*)	N	flodmanch (*Arrisiciaia menziesii* var. *intermedia*)	N
woolly plantain (*Plantago patagonica*)	N	onion (*Allium* spp.)	Y
Chinese houses (*Collinsia* spp.)	N	buckwheat (*Eriogonum fasciculatum*)	Y
		ground pink (*Linanthus dianthiflorus*)	Y
Host Plant Mapping Updated (circle): Yes No		New Area or Existing Area (circle): New Existing Both	
Species updated (list)			

Butterfly Species	No.	Butterfly Species	No.
Checkerspots		**Hairstreaks**	
California patch (*Chlosyne californica*)		great purple hairstreak (*Atlides halesus corcorani*)	
Gabb's checkerspot (*C. gabbii*)		brown elfin (*Callophrys augustinus*)	
Quino checkerspot (*Euphydryas editha quino*)		bramble (perplexing) hairstreak (*C. dumetorum affinis*)	
chalcedon checkerspot (*E. chalcedona chalcedona*)		gray hairstreak (*Strymon melinus pudica*)	1
Leanira checkerspot (*Thessalia leanira wrighti*)		**Ladies/Admirals**	
Mylitta crescent (*Phyciodes mylitta*)		California sister (*Adelpha bredowii californica*)	
Blues		Lorquin's admiral (*Limenitis lorquini*)	
western pygmy-blue (*Brephidium exile*)		west coast lady (*Vanessa annabella*)	1
western tailed blue (*Everes amyntula*)		red admiral (*V. atalanta rubria*)	
southern blue (*Glaucopsyche lygdamus australis*)	1	painted lady (*V. cardui*)	3
Edward's blue (*Hemiargus ceraunus gyas*)		American (Virginia) lady (*V. virginiensis*)	
Acmon blue (*Icaricia acmon acmon*)		unidentified lady (*Vanessa* sp.)	
marine blue (*Leptotes marina*)		**Swallowtails**	
unidentified blue		pale swallowtail (*Papilio eurymedon*)	2
Whites		western tiger swallowtail (*P. rutulus*)	
Sara orangetip (*Anthocharis sara sara*)	16	anise swallowtail (*P. zelicaon*)	
desert (Felder's) orangetip (*A. cethura*)		**Miscellaneous**	
common California ringlet (*Coenonympha californica*)	1	monarch (*Danaus plexippus*)	
cabbage white (*Pieris rapae*)		common buckeye (*Junonia coenia grisea*)	
checkered (common) white (*Pontia protodice*)	2	mourning cloak (*Nymphalis antiopa*)	
spring white (*P. sisymbri*)		**Skippers**	
unidentified white		funereal duskywing (*Erynnis funeralis*)	2
Metalmarks		mournful duskywing (*Erynnis tristis*)	
Behr's metalmark (*Apodemia mormo virgulti*)	12	fiery skipper (*Hylephila phyleus*)	
Wright's metalmark (*Calephelis wrighti*)		white (common) checkered-skipper (*Pyrgus albescens*)	
Sulphurs		**Other**	
orange sulphur (*Colias eurytheme*)	3		
sleepy orange (*Eurema nicippe*)			
cloudless sulfur (*Phoebus sennae marcellina*)			
unidentified sulphur			
Column Subtotal	29	Column Subtotal	9
		Total	48

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: Chez Bourgeaker Date: 2/24/16

Site Name: PD-08 Proctor Valley – Village 14 of Otay Ranch Site Visit No: 1

Acres Surveyed: 58 (Area Y) Survey Time: 9:15am - 4:30pm Acres per Hour: 8

Other Surveyors Present: none

7.25

Field Conditions				
	Time (24 hr)	Temperature (F)	Wind Speed (mph)	Cloud Cover
Start	0915	70.1	0-3, gusts 7mph	0
End	1630	66.6	0-3	0
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)

Annual grassland, buckwheat scrub, Venegasia scrub, Quercus chaparral

Host Plants	Obs.
dwarf plantain (*Plantago erecta*)	
purple owl's clover (*Castilleja exserta*)	
snapdragon (*Antirrhinum coulterianum*)	X Vis
birds-beak (*Cordylanthus rigidus*)	
woolly plantain (*Plantago patagonica*)	
Chinese houses (*Collinsia* spp.)	
Host Plant Mapping Updated (circle) Yes (No)	
Species updated (list)	

Nectar Plants	Obs.
popcorn flower (*Cryptantha/Plagiobothrys* spp.)	X Tho
goldfields (*Lasthenia* spp.)	
goldenstar (*Muilla* spp.)	
fiddleneck (*Amsinckia menziesii* var. *intermedia*)	
onion (*Allium* spp.)	X Glan
buckwheat (*Eriogonum fasciculatum*)	X Elon
gilia/pond pink (*Linanthus dianthiflorus*)	
New Area or Existing Area (circle) New Existing Both	

Butterfly Species	No.
Checkerspots	
California patch (*Chlosyne californica*)	
Gabb's checkerspot (*C. gabbii*)	1
Quino checkerspot (*Euphydryas editha quino*)	
chalcedon checkerspot (*E. chalcedona chalcedona*)	
Leanira checkerspot (*Thessala leanira wrighti*)	
Mylitta crescent (*Phyciodes mylitta*)	
Blues	
western pygmy-blue (*Brephidium exile*)	
western tailed blue (*Everes amyntula*)	
southern blue (*Glaucopsyche lygdamus australis*)	4
Edward's blue (*Hemiargus ceraunus gyas*)	
Acmon blue (*Icaricia acmon acmon*)	
marine blue (*Leptotes marina*)	
unidentified blue	3
Whites	
Sara orangetip (*Anthocharis sara sara*) + 1/a	3
desert (Felder's) orangetip (*A. cethura*)	11
common California ringlet (*Coenonympha californica*)	5
cabbage white (*Pieris rapae*)	
checkered (common) white (*Pontia protodice*)	
spring white (*P. sisymbrii*)	11
unidentified white	4
Metalmarks	
Behr's metalmark (*Apodemia mormo virgulti*)	2
Wright's metalmark (*Calephelis wrighti*)	
Sulphurs	
orange sulphur (*Colias eurytheme*)	
sleepy orange (*Eurema nicippe*)	
cloudless sulfur (*Phoebis sennae marcellina*)	
unidentified sulphur	1
Column Subtotal	40

Butterfly Species	No.
Hairstreaks	
gray/ purple hairstreak (*Atlides halesus corcoran*)	
brown elfin (*Callophrys augustinus*)	
bramble (perplexing) hairstreak (*C. dumetorum affinis*)	
gray hairstreak (*Strymon melinus pudica*)	
Ladies/Admirals	
California sister (*Adelpha bredowii californica*)	
Lorquin's admiral (*Limenitis lorquini*)	
west coast lady (*Vanessa annabella*)	
red admiral (*V. atalanta rubria*)	
painted lady (*V. cardui*)	111
American (Virginia) lady (*V. virginiensis*)	
unidentified lady (*Vanessa* sp.)	1
Swallowtails	
pale swallowtail (*Papilio eurymedon*)	1
western tiger swallowtail (*P. rutulus*)	
anise swallowtail (*P. zelicaon*)	1
Miscellaneous	
monarch (*Danaus plexippus*)	
common buckeye (*Junonia coenia grisea*)	
mourning cloak (*Nymphalis antiopa*)	
Skippers	
funereal duskywing (*Erynnis funeralis*)	1111 11
mournful duskywing (*Erynnis tristis*)	
fiery skipper (*Hylephila phyleus*)	
white (common) checkered-skipper (*Pyrgus albescens*)	
Other	
Column Subtotal	14
Total	104

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: Chez Bruegger

Site Name: JPD-08 Proctor Valley – Village 14 of Otay Ranch

Date: 2/25/16

53 → Acres Surveyed: E. East of road

Site Visit No: 1

Survey Time: 8 hrs

Acres per Hour: 6.625

Other Surveyors Present: ~

	Time (24 hr)	Field Conditions: Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start	0820	69.1	0-3	0
End	1615	80.6	3-5	0
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)

Chamise chap. annual grassland (Selaginella sp., Hilaria sp., Lotus sp.), Maloideae - Rhus spp. coastal buckwheat scrub, [illegible]

Host Plants	Obs.	Nectar Plants	Obs.
dwarf plantain (*Plantago erecta*)	flower	popcorn flower (*Cryptantha/Plagiobothrys* spp.)	flower
purple owl's clover (*Castilleja exserta*)		goldfields (*Lasthenia* spp.)	
snapdragon (*Antirrhinum coulterianum*)	flower	goldenstar (*Muilla* spp.)	
bird's-beak (*Cordylanthus rigidus*)		fiddleneck (*Amsinckia menziesii* var. *intermedia*)	
woolly plantain (*Plantago patagonica*)		onion (*Allium* spp.)	flower
Chinese houses (*Collinsia* spp.)		buckwheat (*Eriogonum fasciculatum*)	flower, bud
		ground pink (*Linanthus dianthiflorus*)	flower
Host Plant Mapping Updated (circle)	Yes → I don't have data yet so I mapped what I found just in case	No	**New Area or Existing Area** (circle) New Existing Both
Species updated (list)			

Butterfly Species	No.	Butterfly Species	No.
Checkerspots		**Hairstreaks**	
California patch (*Chlosyne californica*)		great purple hairstreak (*Atlides halesus corcoroni*)	
Gabb's checkerspot (*C. gabbii*)		brown elfin (*Callophrys augustinus*)	
Quino checkerspot (*Euphydryas editha quino*)		bramble (perplexing) hairstreak (*C. dumetorum affinis*)	
chalcedon checkerspot (*E. chalcedona chalcedona*)		gray hairstreak (*Strymon melinus pudica*)	
Leanira checkerspot (*Thessalia leanira wrighti*)		**Ladies/Admirals**	
Mylitta crescent (*Phyciodes mylitta*)		California sister (*Adelpha bredowii californica*)	
Blues		Lorquin's admiral (*Limenitis lorquini*)	
western pygmy-blue (*Brephidium exile*)		west coast lady (*Vanessa annabella*)	1 1
western tailed blue (*Everes amyntula*)		red admiral (*V. atalanta rubria*)	
southern blue (*Glaucopsyche lygdamus australis*)	3	painted lady (*V. cardui*)	
Edward's blue (*Hemiargus ceraunus gyas*)		American (Virginia) lady (*V. virginiensis*)	
Acmon blue (*Icaricia acmon acmon*)		unidentified lady (*Vanessa* sp.)	3
marine blue (*Leptotes marina*)	2	**Swallowtails**	
unidentified blue	16	pale swallowtail (*Papilio eurymedon*)	
Whites		western tiger swallowtail (*P. rutulus*)	
Sara orangetip (*Anthocharis sara sara*)	23	anise swallowtail (*P. zelicaon*)	1 1
desert (Felder's) orangetip (*A. cethura*)	11	**Miscellaneous**	
common California ringlet (*Coenonympha californica*)		monarch (*Danaus plexippus*)	
cabbage white (*Pieris rapae*)		common buckeye (*Junonia coenia grisea*)	
checkered (common) white (*Pontia protodice*)		mourning cloak (*Nymphalis antiopa*)	
spring white (*P. sisymbrii*)		**Skippers**	
unidentified white	5	funereal duskywing (*Erynnis funeralis*)	5
Metalmarks		mournful duskywing (*Erynnis tristis*)	2
Behr's metalmark (*Apodemia mormo virgulti*)	17	fiery skipper (*Hylephila phyleus*)	
Wright's metalmark (*Calephelis wrighti*)		white (common) checkered-skipper (*Pyrgus albescens*)	2
Sulphurs		**Other**	
orange sulphur (*Colias eurytheme*)	5		
sleepy orange (*Eurema nicippe*)			
cloudless sulfur (*Phoebus sennae marcellina*)			
unidentified sulphur	3		
Column Subtotal		Column Subtotal	14
	145	Total	159

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: John Lovio **Date:** 3-4-16

Site Name: JPD-08 Proctor Valley – Village 14 of Otay Ranch **Site Visit No:** 2

Area Surveyed Polygon A **Acres Surveyed** 55 **Survey Time:** 5.5 hours **Acres per Hour:** 10

Other Surveyors Present: none

Field Conditions				
	Time (24 hr)	**Temperature (˚F)**	**Wind Speed (mph)**	**Cloud Cover**
Start	0955	63	1, west	80% high thin haze
End	1530	72	8, west	30% high thin haze
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)
Coastal sage scrub: *Artemisia californica*, *Eriogonum fasciculatum*, *Malosma laurina*, *Salvia apiana*, *Bahiopsis laciniata*.

Host Plants	**Obs.**	**Nectar Plants**	**Obs.**
dwarf plantain (*Plantago erecta*)	X	popcorn flower (*Cryptantha/Plagiobothrys* spp.)	X
purple owl's clover (*Castilleja exserta*)		goldfields (*Lasthenia* spp.)	
snapdragon (*Antirrhinum coulterianum*)		goldenstar (*Muilla* spp.)	
birds-beak (*Cordylanthus rigidus*)		fiddleneck (*Amsinckia menziesii* var. *intermedia*)	
woolly plantain (*Plantago patagonica*)		onion (*Allium* spp.)	X
Chinese houses (*Collinsia* spp.)		buckwheat (*Eriogonum fasciculatum*)	X
		ground pink (*Linanthus dianthiflorus*)	
Host Plant Mapping Updated (*circle*) Yes **No**		**New Area or Existing Area** (*circle*) New **Existing** Both	
Species updated (list)			

Butterfly Species	**No.**	**Butterfly Species**	**No.**
Checkerspots		**Hairstreaks**	
California patch (*Chlosyne californica*)		great purple hairstreak (*Atlides halesus corcorani*)	
Gabb's checkerspot (*C. gabbii*)	1	brown elfin (*Callophrys augustinus*)	
Quino checkerspot (*Euphydryas editha quino*)		bramble (perplexing) hairstreak (C. *dumetorum affinis*)	
chalcedon checkerspot (*E. chalcedona chalcedona*)		gray hairstreak (*Strymon melinus pudica*)	1
Leanira checkerspot (*Thessalia leanira wrighti*)		**Ladies/Admirals**	
Mylitta crescent (*Phyciodes mylitta*)		California sister (*Adelpha bredowii californica*)	
Blues		Lorquin's admiral (*Limenitis lorquini*)	
western pygmy-blue (*Brephidium exila*)		west coast lady (*Vanessa annabella*)	3
western tailed blue (*Everes amyntula*)		red admiral (*V. atalanta rubria*)	
southern blue (*Glaucopsyche lygdamus australis*)		painted lady (*V. cardui*)	
Edward's blue (*Hemiargus ceraunus gyas*)		American (Virginia) lady (*V. virginiensis*)	
Acmon blue (*Icaricia acmon acmon*)		unidentified lady (*Vanessa* sp.)	1
marine blue (*Leptotes marina*)		**Swallowtails**	
unidentified blue	7	pale swallowtail (*Papilio eurymedon*)	1
Whites		western tiger swallowtail (*P. rutulus*)	
Sara orangetip (*Anthocharis sara sara*)	12	anise swallowtail (*P. zelicaon*)	
desert (Felder's) orangetip (*A. cethura*)		**Miscellaneous**	
common California ringlet (*Coenonympha californica*)	1	monarch (*Danaus plexippus*)	
cabbage white (*Pieris rapae*)		common buckeye (*Junonia coenia grisea*)	1
checkered (common) white (*Pontia protodice*)		mourning cloak (*Nymphalis antiopa)*	
spring white (*P. sisymbrii*)		**Skippers**	
unidentified white		funereal duskywing (*Erynnis funeralis*)	6
Metalmarks		mournful duskywing (*Erynnis tristis*)	
Behr's metalmark (*Apodemia mormo virgulti*)	8	fiery skipper (*Hylephila phyleus*)	
Wright's metalmark (*Calephelis wrighti*)		white (common) checkered-skipper (*Pyrgus albescens*)	4
Sulphurs		**Other**	
orange sulphur (*Colias eurytheme*)	1		
sleepy orange (*Eurema nicippe*)			
cloudless sulfur (*Phoebus sennae marcellina*)			
unidentified sulphur			
Column Subtotal	**30**	**Column Subtotal**	**17**
		Total	**47**

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: Chez Bourgeau

Date: 3/3/16

Site Name: JPD-08 Proctor Valley – Village 14 of Otay Ranch

Site Visit No: 2

Area Surveyed: 06, 18 Acres Surveyed: 97

Survey Time: 7.75 Acres per Hour: 12.5 (6.25 ac/hr)

Other Surveyors Present: Andrew Burdine

51+54

Field Conditions				
	Time (24 hr)	Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start	0815	60	0	15%
End	1609	70	0-3	90%
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)

Chamise chap, NNG, barrick grassland

(Chamise, buckwheat, [illegible], blue dicks, shaggy, Melic)

Host Plants	Obs.	Nectar Plants	Obs.
dwarf plantain (Plantago erecta)	flw	popcorn flower (Cryptantha/Plagiobothrys spp.)	flw
purple owl's clover (Castilleja exserta)		goldfields (Lasthenia spp.)	
snapdragon (Antirrhinum coulterianum)		goldenstar (Muilla spp.)	flw
birds-beak (Cordylanthus rigidus)		fiddleneck (Amsinckia menziesii var. intermedia)	flw
woolly plantain (Plantago patagonica)		onion (Allium spp.)	flw
Chinese houses (Collinsia spp.)		buckwheat (Eriogonum fasciculatum)	flw
		gilia/ pink (Linanthus dianthiflorus)	flw
Host Plant Mapping Updated (circle) (Yes) No		**New Area or Existing Area** (circle) New Existing Both	
Species updated (list)			

Butterfly Species	No.	Butterfly Species	No.
Checkerspots		**Hairstreaks**	
California patch (Chlosyne californica)		great purple hairstreak (Atlides halesus corcorani)	
Gabb's checkerspot (C. gabbii)	11	brown elfin (Callophrys augustinus)	
Quino checkerspot (Euphydryas editha quino)		sooty (perplexing) hairstreak (C. dumetorum affinis)	
chalcedon checkerspot (E. chalcedona chalcedona)		gray hairstreak (Strymon melinus purlica)	1
Leanira checkerspot (Thessalia leanira wright)		**Ladies/Admirals**	
Mylitta crescent (Phyciodes mylitta)		California sister (Adelpha bredowii californica)	
Blues		Lorquin's admiral (Limenitis lorquini)	
western pygmy-blue (Brephidium exile)		west coast lady (Vanessa annabella)	
western tailed blue (Everes amyntula)		red admiral (V. atalanta rubria)	
southern blue (Glaucopsyche lygdamus australis)	1	painted lady (V. cardui)	1
Edward's blue (Hemiargus ceraunus gyas)		American (Virginia) lady (V. virginiensis)	1
Acmon blue (Icaricia acmon acmon)		unidentified lady (Vanessa sp.)	
marine blue (Leptotes marina)	1	**Swallowtails**	
unidentified blue		pale swallowtail (Papilio eurymedon)	1
Whites		western tiger swallowtail (P. rutulus)	
Sara orangetip (Anthocharis sara sara)	1	anise swallowtail (P. zelicaon)	1
desert (Felder's) orangetip (A. cethura)		**Miscellaneous**	
common California ringlet (Coenonympha californica)		monarch (Danaus plexippus)	
cabbage white (Pieris rapae)		common buckeye (Junonia coenia grisea)	1
checkered (common) white (Pontia protodice)		mourning cloak (Nymphalis antiopa)	
spring white (P. sisymbrii)		**Skippers**	
unidentified white		funereal duskywing (Erynnis funeralis)	1
Metalmarks		mournful duskywing (Erynnis tristis)	
Behr's metalmark (Apodemia mormo virgulti)		fiery skipper (Hylephila phyleus)	
Wright's metalmark (Calephelis wrighti)		white (common) checkered-skipper (Pyrgus albescens)	1
Sulphurs		**Other**	
orange sulphur (Colias eurytheme)			
sleepy orange (Eurema nicippe)			
cloudless sulfur (Phoebus sennae marcellina)			
unidentified sulphur			
Column Subtotal	94	Column Subtotal	34
		Total	128

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: S. DICKERSON Date: 03/09/16

Site Name: JPSHR Proctor Valley – Village 14 of Otay Ranch – PB Site Visit No: 02

Access Surveyed: GO Survey Time: 6:45 Acres per Hour:

Other Surveyors Present: N/A

Field Conditions				
	Time (24 hr)	Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start	0840	12	2-7	30%
End	1545	14	5-7	50%
Start				
End				

Vegetation Communities Surveyed (see dominant spp.):

Host Plants	Obs.	Nectar Plants	Obs.
dwarf plantain (*Plantago erecta*)	✓	popcorn flower (*Cryptantha/Plagiobothrys* spp.)	✓
purple owl's clover (*Castilleja exserta*)		goldfields (*Lasthenia* spp.)	
snapdragon (*Antirrhinum coulterianum*)		goldenaster (*Muilla* spp.)	
bonita hook (*Conflanthus ngibal*)		fiddleneck (*Amsinckia menziesii* var. *intermedia*)	
woolly plantain (*Plantago patagonica*)		onion (*Allium* spp.)	✓
Chinese houses (*Collinsia* spp.)		butterwort (*Cryptantha flavoculatum*)	✓
		goldenbush (*Isocoma menziesii*)	
Host Plant Mapping Updated (circle):	Date:	New Area or Existing Area (circle):	New / Existing / Both
Species updated (list):			

Butterfly Species	No.	Butterfly Species	No.
Checkerspots		**Hairstreaks**	
California patch (*Chlosyne californica*)		great purple hairstreak (*Atlides halesus corcorani*)	
Gabb's checkerspot (*C. gabbii*)		brown elfin (*Callophrys augustinus*)	
Quino checkerspot (*Euphydryas editha quino*)		bramble (gossamer) hairstreak (*C. dumetorum affinis*)	
chalcedon checkerspot (*E. chalcedona chalcedona*)		gray hairstreak (*Strymon melinus pudica*)	11
Leanira checkerspot (*Thessalia leanira wrighti*)		**Ladies/Admirals**	
Mylitta crescent (*Phyciodes mylitta*)		California sister (*Adelpha bredowii californica*)	
Blues		Lorquin's admiral (*Limenitis lorquini*)	
western pygmy blue (*Brephidium exile*)		west coast lady (*Vanessa annabella*)	
western tailed blue (*Everes amyntula*)		red admiral (*V. atalanta rubria*)	
southern blue (*Glaucopsyche lygdamus australis*)	11	painted lady (*V. cardui*)	3
Edward's blue (*Hemiargus ceraunus gyas*)		American (Virginia) lady (*V. virginiensis*)	
Acmon blue (*Icaricia acmon acmon*)	1	unidentified lady (*Vanessa* sp.)	
marine blue (*Leptotes marina*)		**Swallowtails**	
unidentified blue	11	pale swallowtail (*Papilio eurymedon*)	11
Whites		western tiger swallowtail (*P. rutulus*)	
Sara orangetip (*Anthocharis sara sara*)	1 DEAD ON ARRIVAL	anise swallowtail (*P. zelicaon*)	1
desert (Felder's) orangetip (*A. cethura*)		**Miscellaneous**	
common California ringlet (*Coenonympha californica*)		monarch (*Danaus plexippus*)	
cabbage white (*Pieris rapae*)	1	common buckeye (*Junonia coenia grisea*)	
checkered (common) white (*Pontia protodice*)		mourning cloak (*Nymphalis antiopa*)	
sonora white (*P. sisymbrii*)		**Skippers**	
unidentified white		funereal duskywing (*Erynnis funeralis*)	1
Metalmarks		mournful duskywing (*Erynnis tristis*)	
Behr's metalmark (*Apodemia mormo virgulti*)	11	fiery skipper (*Hylephila phyleus*)	
Wright's metalmark (*Calephelis wrighti*)		white (common) checkered-skipper (*Pyrgus albescens*)	
Sulphurs		**Other**	
orange sulphur (*Colias eurytheme*)	11		
sleepy orange (*Eurema nicippe*)			
clouded sulfur (*Phoebis sennae marcellina*)			
unidentified sulphur			
Column Subtotal:	42	Column Subtotal:	15
		Total:	57

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: Brian Parker Date: 3-8-16

Site Name: [illegible] Site Visit No: 2

Acres Surveyed: 6 Acres Surveyed: 3.5 Survey Time: 7 Acres per hour: 6.5

Other Surveyors Present: [illegible]

Field Conditions

	Time (24 hr)	Temperature (F)	Wind Speed (mph)	Cloud Cover
Start	0845	70	0	90%
End	1545	68	1-3	70%
Start				
End				

Vegetation Communities Surveyed (% dominant spp.):

Chamise Chaparral - Adenostoma fasciculatum

PCS - Avena sp., Bromus sp., Erodium sp., Brassica nig., Vulpia sp.,

Host Plants	Obs	Nectar Plants	Obs
Dudleya lanceolata (Lanceleaf dudleya)		Acmispon glaber (Deerweed) Lotus scoparius	4
Dudleya saxosa ssp. collomiae (Rock dudleya)	X	Apiastrum angustifolium (Wild celery)	
Plantago erecta (California plantain)		Asclepias fascicularis (Narrow-leaf milkweed)	
Scutellaria tuberosa (Blue skullcap)		Baileya multiradiata (Desert marigold)	
Antirrhinum coulterianum (Coulter's snapdragon)		Castilleja exserta (Purple owl's clover)	5
Chaenactis glabriuscula (Yellow pincushion)		Cirsium occidentale (Cobwebby thistle)	2
		Cirsium vulgare (Bull thistle)	
Host Plant Mapping Updated: Yes	No	New Areas of Existing Habitat: Yes	No
Specimens Collected:			

Butterfly Species	No	Butterfly Species	No
Checkerspot		**Hairstreak**	
Euphydryas editha quino (Quino checkerspot)		Callophrys (Incisalia) augustinus (Brown elfin)	
Gabb's checkerspot (E. gabbii)		Satyrium (Fixsenia) californica (Golden hairstreak)	
Other euphydryas editha subspecies (Please specify)		Satyrium (Fixsenia) saepium (Hedgerow hairstreak)	
Unidentified checkerspot (E. editha quino/gabbii)		Satyrium (Fixsenia) sp. (Unidentified hairstreak)	2
Unidentified checkerspot (E. editha sp.)		**Unidentified**	
Blues		Unidentified butterfly (Please describe)	
Acmon blue (Plebejus acmon)		Unidentified checkerspot (Please describe)	
Boisduval blue (Icaricia icarioides)		Unidentified hairstreak (Please describe)	
Bramble hairstreak (Callophrys dumetorum)		Unidentified other (Please describe)	
Cassius blue (Leptotes cassius)		Unidentified skipper (Please describe)	4
Marine blue (Leptotes marina)		Unidentified white/sulphur (Please describe)	5
Melissa blue (Lycaeides melissa)		**Swallowtail**	
Pygmy blue (Brephidium exile)		Anise swallowtail (Papilio zelicaon)	1
Reakirt's blue (Echinargus isola)		Pale swallowtail (Papilio eurymedon)	
Western pygmy blue (Brephidium exile)		Western tiger swallowtail (Papilio rutulus)	
Whites		**Miscellaneous**	
Checkered white (Pontia protodice)	1	Monarch (Danaus plexippus)	
Common white (Pieris rapae)		Queen (Danaus gilippus)	
Sara orangetip (Anthocharis sara)		Variegated fritillary (Euptoieta claudia)	
Unidentified white/sulphur (Please describe)		**Skippers**	
Unidentified white/sulphur (P. protodice/rapae)	1	Arctic skipper (Carterocephalus palaemon)	
Metalmarks		Common sootywing (Pholisora catullus)	
Behr's metalmark (Apodemia virgulti)	2	Dun skipper (Euphyes vestris)	
Mormon metalmark (Apodemia mormo)		Hoary edge (Achalarus lyciades)	
Sulphurs		Other:	
Clouded sulphur (Colias philodice)			
Orange sulphur (Colias eurytheme)			
Unidentified sulphur (Please describe)			
Unidentified other			

Column Subtotal: 13 Column Subtotal: 10

Total: 23

5 hrs 30 min

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: Chee Brantingham Date: 3/8/16

Site Name: JPD-08 Proctor Valley – Village 14 of Otay Ranch Site Visit No: 2

Area Surveyed: CC, [redacted] FF Acres Surveyed: 100 Survey Time: [redacted] Acres per Hour: [redacted] (6 ac/pp/hr)

Other Surveyors Present: Andrew Barber, Erica Brus, Ben Beckham (in training) 18

Field Conditions				
	Time (24 hr)	Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start	0900	60	0-1	0
End	[redacted] 1215	69	3-5	0
Start	1400	67	3-5	0
End	1615	66	3-5	0

Vegetation Communities Surveyed (inc. dominant spp.)
Disturbed chaparral (chamise), buckwheat scrub, NNG, native bunch grassland (blue dicks, Stipa sp., Eschscholzia sp.)

Host Plants	Obs.	Nectar Plants	Obs.
dwarf plantain (*Plantago erecta*)	flwr	popcorn flower (*Cryptantha/Plagiobothrys* spp.)	flwr
purple owl's clover (*Castilleja exserta*)	4	goldfields (*Lasthenia* spp.)	
snapdragon (*Antirrhinum coulterianum*)		goldenstar (*Muilla* spp.)	
birds-beak (*Cordylanthus rigidus*)		fiddleneck (*Amsinckia menziesii* var. *intermedia*)	
woolly plantain (*Plantago patagonica*)		onion (*Allium* spp.)	flwr
Chinese houses (*Collinsia* spp.)		buckwheat (*Eriogonum fasciculatum*)	flwr
		bright pink (*Linanthus dianthiflorus*)	flwr
Host Plant Mapping Updated (circle): Yes / No		New Area or Existing Area (circle): New / Existing / Both	
Species updated (list): P. erecta			

Butterfly Species	No.	Butterfly Species	No.
Checkerspots		**Hairstreaks**	
California patch (*Chlosyne californica*)		great purple hairstreak (*Atlides halesus corcorani*)	
Gabb's checkerspot (*C. gabbii*)		brown elfin (*Callophrys augustinus*)	
Quino checkerspot (*Euphydryas editha quino*)		bramble (perplexing) hairstreak (*C. dumetorum affinis*)	
chalcedon checkerspot (*E. chalcedona chalcedona*)		gray hairstreak (*Strymon melinus pudica*)	1
Leanira checkerspot (*Thessalia leanira wrighti*)		**Ladies/Admirals**	
Mylitta crescent (*Phyciodes mylitta*)		California sister (*Adelpha bredowii californica*)	
Blues		Lorquin's admiral (*Limenitis lorquini*)	
western pygmy-blue (*Brephidium exile*)		west coast lady (*Vanessa annabella*)	
western tailed blue (*Everes amyntula*)		red admiral (*V. atalanta rubria*)	
southern blue (*Glaucopsyche lygdamus australis*)	1	painted lady (*V. cardui*)	
Edward's blue (*Hemiargus ceraunus gyas*)		American (Virginia) lady (*V. virginiensis*)	1
Acmon blue (*Icaricia acmon acmon*)		unidentified lady (*Vanessa* sp.)	11
marine blue (*Leptotes marina*)		**Swallowtails**	
unidentified blue	1	pale swallowtail (*Papilio eurymedon*)	
Whites		western tiger swallowtail (*P. rutulus*)	
Sara orangetip (*Anthocharis sara sara*)	111 11	anise swallowtail (*P. zelicaon*)	
desert (Felder's) orangetip (*A. cethura*)		**Miscellaneous**	
common California ringlet (*Coenonympha californica*)	1111 111 11	monarch (*Danaus plexippus*)	
cabbage white (*Pieris rapae*)		common buckeye (*Junonia coenia grisea*)	
checkered (common) white (*Pontia protodice*)		mourning cloak (*Nymphalis antiopa*)	
spring white (*P. sisymbrii*)		**Skippers**	
unidentified white		funereal duskywing (*Erynnis funeralis*)	1111 11
Metalmarks		mournful duskywing (*Erynnis tristis*)	1111
Behr's metalmark (*Apodemia mormo virgulti*)	111 11 VC1	fiery skipper (*Hylephila phyleus*)	
Wright's metalmark (*Calephelis wrighti*)		white (common) checkered-skipper (*Pyrgus albescens*)	1111
Sulphurs		**Other**	
orange sulphur (*Colias eurytheme*)			
sleepy orange (*Eurema nicippe*)			
cloudless sulfur (*Phoebis sennae marcellina*)			
unidentified sulphur			
Column Subtotal	42	Column Subtotal	21
		Total	63

03/08/16

JPD-08

Lab #2

Ben R. Brian H. Andrew B. Wes B.

Start: 1700

Temp: 66°F

Wind: 1-5

Sky: Clear

Start: 1615

Temp: 66°F

Wind: 2-5 mph

Sky: Clear

Flowering Plants

Monocots, Dicots, Grass, Alliums, Bulbs, Lilies, Irises, Lobelia, Bluebells, Asters, Daisy, Hybrid Lavender, Lemon Balm, Mint, Peppermint, Spearmint, Basil, Thyme, Rosemary, Sage, Oregano, Parsley, Cilantro, Dill, Fennel, Chives, Garlic, Onion, Leek, Shallot, Scallion, Tarragon, Lemongrass, Ginger, Turmeric, Galangal, Cardamom, Vanilla, Saffron, Sumac, Allspice, Juniper, Caraway, Celery Seed, Coriander, Cumin, Fenugreek, Mustard, Nutmeg, Mace, Poppy Seed, Sesame Seed, Star Anise, Wasabi, Horseradish, Capers, Olive, Pine Nut, Pistachio, Almond, Cashew, Hazelnut, Macadamia, Pecan, Walnut, Brazil Nut, Chestnut, Coconut, Peanut, Pumpkin Seed, Sunflower Seed, Flax Seed, Chia Seed, Quinoa, Amaranth, Buckwheat, Millet, Sorghum, Teff, Wheat, Barley, Oats, Rye, Corn, Rice, Potato, Sweet Potato, Yam, Taro, Cassava, Arrowroot, Jicama, Yucca, Plantain, Breadfruit, Jackfruit, Durian, Rambutan, Lychee, Longan, Mangosteen, Dragon Fruit, Star Fruit, Kiwi, Passion Fruit, Guava, Papaya, Mango, Pineapple, Banana, Coconut, Date, Fig, Pomegranate, Persimmon, Quince, Loquat, Medlar, Jujube, Kumquat, Calamondin, Yuzu, Sudachi, Kabosu, Ponzu, Tangerine, Clementine, Satsuma, Mandarin, Orange, Grapefruit, Pomelo, Lime, Lemon, Citron, Bergamot, Blood Orange, Navel Orange, Valencia Orange, Seville Orange, Bitter Orange, Sweet Orange, Sour Orange, Trifoliate Orange, Kaffir Lime, Key Lime, Persian Lime, Tahiti Lime, Meyer Lemon, Eureka Lemon, Lisbon Lemon, Verna Lemon, Villafranca Lemon, Femminello Lemon, Interdonato Lemon, Primofiori Lemon, Sfusato Lemon, Amalfi Lemon, Sorrento Lemon, Capri Lemon, Ischia Lemon, Procida Lemon, Ischia Lemon, Procida Lemon, Capri Lemon, Sorrento Lemon, Amalfi Lemon, Sfusato Lemon, Primofiori Lemon, Interdonato Lemon, Femminello Lemon, Villafranca Lemon, Verna Lemon, Eureka Lemon, Lisbon Lemon, Meyer Lemon, Tahiti Lime, Persian Lime, Key Lime, Kaffir Lime, Grapefruit, Pomelo, Lime, Lemon, Citron, Bergamot, Blood Orange, Navel Orange, Valencia Orange, Seville Orange, Bitter Orange, Sweet Orange, Sour Orange, Trifoliate Orange, Tangerine, Clementine, Satsuma, Mandarin, Orange, Yuzu, Sudachi, Kabosu, Ponzu, Kumquat, Calamondin, Jujube, Medlar, Loquat, Quince, Persimmon, Pomegranate, Fig, Date, Coconut, Banana, Pineapple, Mango, Papaya, Guava, Passion Fruit, Kiwi, Star Fruit, Dragon Fruit, Mangosteen, Longan, Lychee, Rambutan, Durian, Jackfruit, Breadfruit, Plantain, Yucca, Jicama, Arrowroot, Cassava, Taro, Yam, Sweet Potato, Potato, Rice, Corn, Rye, Oats, Barley, Wheat, Spelt, Kamut, Einkorn, Emmer, Farro, Triticale

JPD DS QUESTGOD ENCAH
QCBTT2(CC/TT) 3/8/1LO
STCTT.0100,L00T,0-1,07.
STOP.1515,L00T,2-5,07.
BIDS: CHEZ B; ANDREW B;
BEN R (supervised)

BUST	WANT	LOGO	SPTO
ATTK	ONTO	CANT	CTION
HOF1	TRTS	WASP	CATH
MOOO	WATCH	TRTS	BUSH
NOFL	WISH	WAWA	ROWR
COMM	SNOW	ROSP	NOFL
BUOO	CAK1		

CA major ||| Buckeye 1
Peter's |||| Sullivan 1
Sara's ||| Gray hair 1
SD: Blue 111

Dawn: radium, dimgaf, 5'10", Dic carpenters, adelus, kashmere, Beth RC, Angelina, mic key, mancur, gallium, malibu, LGT VOLT, Hedere, Solomon, thirty, India, Guzman, Sisco, Brock, au mac, Calgpi, asdonuke, encon, MOped

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: C. Rachel Date: 05/05/16

Site Name: (PQ1QR Proctor Valley - Village 14 of Otay Ranch CP Site Visit No: 2

Acres Surveyed: 42 Survey Time: 5:15 Acres per Hour: 8

Other Surveyors Present: N/A

Field Conditions				
	Time (24 hr)	Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start	0700	66°	1-3	90%
End	1411	71°	3-9	95%
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)

SCSH/NMS/CSS

Host Plants	Obs.	Nectar Plants	Obs.
desert plantain (Plantago ovata)	✓	plume flower (Cryptantha/Plagiobothrys spp.)	7
purple owl's clover (Castilleja exserta)		goldfields (Lasthenia spp.)	
snapdragon (Antirrhinum cf.multiflorum)		gilia (Ipomopsis spp.)	
birds-beak (Cordylanthus rigidus)		tidytips (Layia/Lasthenia)	
woolly plantain (Plantago patagonica)		onion (Allium spp.)	✓
Chinese houses (Collinsia spp.)		buckwheat (Eriogonum fasciculatum)	✓
		ground pink (Linanthus dianthiflorus)	
Host Plant Mapping Updated (circle) Yes	No	New Area or Existing Area (circle) New	Existing Both
Species updated (list)			

Butterfly Species	No.	Butterfly Species	No.
Checkerspots		**Hairstreaks**	
California patch (Chlosyne californica)		gray/purple hairstreak (Atlides halesus corcorani)	
Gabb's checkerspot (C. gabbii)	11	Nelson's elfin (Callophrys augustinus)	
Quino checkerspot (Euphydryas editha quino)		bramble (sandalwood) hairstreak (C. dumetorum affinis)	
chalcedon checkerspot (E. chalcedona chalcedona)		gray hairstreak (Strymon melinus cautica)	
Leanira checkerspot (Thessalia leanira wrighti)		**Ladies/Admirals**	
Mylitta crescent (Phyciodes mylitta)		California sister (Adelpha bredowii californica)	
Blues		Lorquin's admiral (Limenitis lorquini)	
western pygmy blue (Brephidium exile)		west coast lady (Vanessa annabella)	
western tailed blue (Everes amyntula)		red admiral (V. atalanta rubria)	
southern blue (Glaucopsyche lygdamus australis)	1	painted lady (V. cardui)	1
Edward's blue (Hemiargus ceraunus gyas)		American (Virginia) lady (V. virginiensis)	1
Acmon blue (Icaricia acmon acmon)	1	unidentified lady (Vanessa sp.)	
marine blue (Leptotes marina)	1	**Swallowtails**	
unidentified blue		pale swallowtail (Papilio eurymedon)	
Whites		western tiger swallowtail (P. rutulus)	
Sara orangetip (Anthocharis sara sara)	1	anise swallowtail (P. zelicaon)	
desert (Pastern) orangetip (A. cethura)		**Miscellaneous**	
common California ringlet (Coenonympha californica)	1	monarch (Danaus plexippus)	
cabbage white (Pieris rapae)		common buckeye (Junonia coenia grisea)	
checkered (common) white (Pontia protodice)		mourning cloak (Nymphalis antiopa)	
spring white (P. sisymbrii)		**Skippers**	
unidentified white		funereal duskywing (Erynnis funeralis)	11
Metalmarks		mournful duskywing (Erynnis tristis)	
Behr's metalmark (Apodemia mormo virgulti)	1	fiery skipper (Hylephila phyleus)	
Wright's metalmark (Calephelis wrighti)		white (common) checkered-skipper (Pyrgus albescens)	1
Sulphurs		**Other**	
orange sulphur (Colias eurytheme)	1		
alkali orange (Colias meadii)			
clouded sulfur (Phoebis sennae marcellina)			
unidentified sulphur			
Column Subtotal	43	Column Subtotal	5
		Total	48

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: Gretchen Cummings Date: 3/4/16

Site Name: PD-08 Proctor Valley – Village 14 of Otay Ranch, E Site Visit No: 2

Acres Surveyed 31 Survey Time: 1015 - 1530 (5.25hr) Acres per Hour: 9.7

Other Surveyors Present: None

Field Conditions				
	Time (24 hr)	Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start	1015	64.7°F	<6.1	40%
End	1530	70.7°F	3.0-5.8 w/gusts to 15.1	50%
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)

Chaparral (Adenostoma fasciculatum, Xylococcus bicolor)
Sage Scrub (Viguiera laciniata, Artemisia californica)

Host Plants	Obs.	Nectar Plants	Obs.
dwarf plantain (*Plantago erecta*)	X	popcorn flower (*Cryptantha/Plagiobothrys* spp.)	X
purple owl's clover (*Castilleja exserta*)	X	goldfields (*Lasthenia* spp.)	
snapdragon (*Antirrhinum coulterianum*)		goldenstar (*Muilla* spp.)	
birds-beak (*Cordylanthus rigidus*)		fiddleneck (*Amsinckia menziesii* var. *intermedia*)	
woolly plantain (*Plantago patagonica*)		onion (*Allium* spp.)	X
Chinese houses (*Collinsia* spp.)		buckwheat (*Eriogonum fasciculatum*)	X
		ground pink (*Linanthus dianthiflorus*)	
Host Plant Mapping Updated (circle) Yes No		**New Area or Existing Area** (circle) New Existing Both	
Species updated (list)			

Butterfly Species	No.	Butterfly Species	No.
Checkerspots		**Hairstreaks**	
California patch (*Chlosyne californica*)		great purple hairstreak (*Atlides halesus corcoran*)	
Gabb's checkerspot (*C. gabbii*)		brown elfin (*Callophrys augustinus*)	
Quino checkerspot (*Euphydryas editha quino*)		Sonoran (perplexing) hairstreak (*C. dumetorum affinis*)	2
chalcedon checkerspot (*E. chalcedona chalcedona*)		gray hairstreak (*Strymon melinus pudica*)	
Leanira checkerspot (*Texola elada wright*)		**Ladies/Admirals**	
Mylitta crescent (*Phyciodes mylitta*)		California sister (*Adelpha bredowii californica*)	
Blues		Lorquin's admiral (*Limenitis lorquini*)	
western pygmy-blue (*Brephidium exilis*)		west coast lady (*Vanessa annabella*)	5
western tailed blue (*Cupido amyntula*)		red admiral (*V. atalanta rubria*)	1
southern blue (*Glaucopsyche lygdamus australis*)	1	painted lady (*V. cardui*)	
Edward's blue (*Hemiargus ceraunus gyas*)		American (Virginia) lady (*V. virginiensis*)	
Acmon blue (*Icaricia acmon acmon*)	1	unidentified lady (*Vanessa* sp.)	
marine blue (*Leptotes marina*)		**Swallowtails**	
unidentified blue		pale swallowtail (*Papilio eurymedon*)	1
Whites		western tiger swallowtail (*P. rutulus*)	
Sara orangetip (*Anthocharis sara sara*)	22	anise swallowtail (*P. zelicaon*)	1
desert (Felder's) orangetip (*A. cethura*)	3	**Miscellaneous**	
common California ringlet (*Coenonympha california*)		monarch (*Danaus plexippus*)	
cabbage white (*Pieris rapae*)		common buckeye (*Junonia coenia grisea*)	
checkered (common) white (*Pontia protodice*)		mourning cloak (*Nymphalis antiopa*)	
spring white (*P. sisymbrii*)		**Skippers**	
unidentified white	2	funereal duskywing (*Erynnis funeralis*)	
Metalmarks		mournful duskywing (*Erynnis tristis*)	2
Behr's metalmark (*Apodemia mormo virgulti*)	4	fiery skipper (*Hylephila phyleus*)	
Wright's metalmark (*Calephelis wrighti*)		white (common) checkered-skipper (*Pyrgus albescens*)	
Sulphurs		**Other**	
orange sulphur (*Colias eurytheme*)	4	Erynnis pacuvius	1
sleepy orange (*Eurema nicippe*)			
clouded sulfur (*Phoebis sennae marcellina*)			
unidentified sulphur	1		
Column Subtotal	38	Column Subtotal	13
		Total	51

(15 species)

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: Garrett Huffman Date: 3/4/16

Site Name: JPD-08 Proctor Valley – Village 14 of Otay Ranch PARCEL 6 & 8 Site Visit No: 2

Acres Surveyed: 65 Survey Time: 5.3 hours Acres per Hour: 10 6.1

Other Surveyors Present: Eric Harris

Field Conditions	Time (24 hr)	Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start	1020	65	0-3	15%
End	1600	63	1-6	60%
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)

CHAMISE CHAPARRAL ; COASTAL SAGE SCRUB, NON-NATIVE GRASSLAND

Host Plants	Obs.
dwarf plantain (*Plantago erecta*)	X
purple owl's clover (*Castilleja exserta*)	X
snapdragon (*Antirrhinum coulterianum*)	
lance-beak (*Cordylanthus rigidus*)	
woolly plantain (*Plantago patagonica*)	
Chinese houses (*Collinsia spp.*)	
Host Plant Mapping Updated (circle) Yes (No)	
Species updated (list)	

Nectar Plants	Obs.
popcorn flower (*Cryptantha/Plagiobothrys spp.*)	X
goldfields (*Lasthenia spp.*)	X
goldenstar (*Muilla spp.*)	
fiddleneck (*Amsinckia menziesii var. intermedia*)	
onion (*Allium spp.*)	X
buckwheat (*Eriogonum fasciculatum*)	X
ground pink (*Linanthus dianthiflorus*)	X
New Area or Existing Area (circle) New Existing Both	

Butterfly Species	No.
Checkerspots	
California patch (*Chlosyne californica*)	1
Gabb's checkerspot (*C. gabbii*)	1
Quino checkerspot (*Euphydryas editha quino*)	
chalcedon checkerspot (*E. chalcedona chalcedona*)	
Leanira checkerspot (*Thessalia leanira wrighti*)	
Mylitta crescent (*Phyciodes mylitta*)	
Blues	
western pygmy-blue (*Brephidium exile*)	
western tailed blue (*Everes amyntula*)	
southern blue (*Glaucopsyche lygdamus australis*)	1
Edward's blue (*Hemiargus ceraunus gyas*)	
Acmon blue (*Icaricia acmon acmon*)	
marine blue (*Leptotes marina*)	
unidentified blue	
Whites	
Sara orangetip (*Anthocharis sara sara*)	23
desert (Felder's) orangetip (*A. cethura*)	
common California ringlet (*Coenonympha californica*)	8
cabbage white (*Pieris rapae*)	1
checkered (common) white (*Pontia protodice*)	
spring white (*P. sisymbrii*)	
unidentified white	
Metalmarks	
Behr's metalmark (*Apodemia mormo virgulti*)	16
Wright's metalmark (*Calephelis wrighti*)	
Sulphurs	
orange sulphur (*Colias eurytheme*)	7
sleepy orange (*Eurema nicippe*)	
cloudless sulfur (*Phoebus sennae marcellina*)	
unidentified sulphur	
Column Subtotal	69

Butterfly Species	No.
Hairstreaks	
great purple hairstreak (*Atlides halesus corcorani*)	
brown elfin (*Callophrys augustinus*)	
bramble (gerdinei) hairstreak (*C. dumetorum affinis*)	1
gray hairstreak (*Strymon melinus postica*)	7
Ladies/Admirals	
California sister (*Adelpha bredowii californica*)	
Lorquin's admiral (*Limenitis lorquini*)	
west coast lady (*Vanessa annabella*)	
red admiral (*V. atalanta rubria*)	
painted lady (*V. cardui*)	2
American (Virginia) lady (*V. virginiensis*)	4
unidentified lady (*Vanessa sp.*)	
Swallowtails	
pale swallowtail (*Papilio eurymedon*)	
western tiger swallowtail (*P. rutulus*)	
anise swallowtail (*P. zelicaon*)	1
Miscellaneous	
monarch (*Danaus plexippus*)	
common buckeye (*Junonia coenia grisea*)	4
mourning cloak (*Nymphalis antiopa*)	
Skippers	
funereal duskywing (*Erynnis funeralis*)	3
mournful duskywing (*Erynnis tristis*)	
fiery skipper (*Hylephila phyleus*)	
white (common) checkered-skipper (*Pyrgus albescens*)	3
Other	
Column Subtotal	19

TOTAL 78

JPO'08 Erica H
QUBTR2(EE/R) 3/4/10
Sign: 1020, 68°F, 0-3, 10%.
Sup: 1000, 68°F, 1-6, 100%.

KTHA WASP CORA WREN
RESP RAVE ANNE NORD
GOLT BUSH BOERS GRAND
SPIO ANTHU COHUA YRUA
NOEL,

SD. PAC. RATTLE COMMERCIAL
SIDE-BLOTCH BNR
COAST HORN 1:2 COYOTE

AMERICAN II LADY WHS III
AM. GOLDFINCH III SONG WHS I
SD. BIRDS I SULPHUR WHS
BONY S WHS III WHITE SP. II
FUNERAL II GRAY HAIR I

Flower: DC cap, acm, gla, allium, wood
en tus, minaur, cas att, cas den, linda,
escal bahia, cryptantha, solanum,
pra lu, cal hrac cal dil, primdev,
cal spa, lea tom, pla ere, sal mun,
Hir inc, ade tus, gu. tenuiza

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: Devin Bixby **Date:** 3/31/16

Site Name: JPD-09 Proctor Valley – Village 14 of Otay Ranch **Site Visit No:** 2

Area Surveyed F **Acres Surveyed** 34 **Survey Time:** 3.5 hr **Acres per Hour:** ~10

Other Surveyors Present: N/A / Entire polygon completed

Field Conditions				
	Time (24 hr)	Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start	0830	63	0-2	light haze
End	1200	79	2-7	moderate haze
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)
Chamise chaparral, coastal sage scrub

Host Plants	Obs.	Nectar Plants	Obs.
dwarf plantain (*Plantago erecta*)		popcorn flower (*Cryptantha/Plagiobothrys* spp.)	✓
purple owl's clover (*Castilleja exserta*)		goldfields (*Lasthenia* spp.)	✓
snapdragon (*Antirrhinum coulterianum*)		goldenstar (*Muilla* spp.)	
birds-beak (*Cordylanthus rigidus*)		fiddleneck (*Amsinckia menziesii* var. *intermedia*)	
woolly plantain (*Plantago patagonica*)		onion (*Allium* spp.)	✓
Chinese houses (*Collinsia* spp.)		buckwheat (*Eriogonum fasciculatum*)	✓
No host plants observed		ground pink (*Linanthus dianthiflorus*)	✓
Host Plant Mapping Updated (circle) Yes (No)		**New Area or Existing Area** (circle) New (Existing) Both	
Species updated (list)			

Butterfly Species	No.	Butterfly Species	No.
Checkerspots		**Hairstreaks**	
California patch (*Chlosyne californica*)		great purple hairstreak (*Atlides halesus corcorani*)	
Gabb's checkerspot (*C. gabbii*)	8	brown elfin (*Callophrys augustinus*)	
Quino checkerspot (*Euphydryas editha quino*)		bramble (pepperwing) hairstreak (*C. dumetorum affinis*)	
chalcedon checkerspot (*E. chalcedona chalcedona*)		gray hairstreak (*Strymon melinus pudica*)	4
Leanira checkerspot (*Thessalia leanira wrighti*)		**Ladies/Admirals**	
Mylitta crescent (*Phyciodes mylitta*)		California sister (*Adelpha bredowii californica*)	
Blues		Lorquin's admiral (*Limenitis lorquini*)	
western pygmy-blue (*Brephidium exilis*)		west coast lady (*Vanessa annabella*)	2
western tailed blue (*Everes amyntula*)		red admiral (*V. atalanta rubria*)	
southern blue (*Glaucopsyche lygdamus australis*)	6	painted lady (*V. cardui*)	3
Edward's blue (*Hemiargus ceraunus gyas*)		American (Virginia) lady (*V. virginiensis*)	
Acmon blue (*Icaricia acmon acmon*)		unidentified lady (*Vanessa* sp.)	8
marine blue (*Leptotes marina*)	1	**Swallowtails**	
unidentified blue		pale swallowtail (*Papilio eurymedon*)	2
Whites		western tiger swallowtail (*P. rutulus*)	
Sara orangetip (*Anthocharis sara sara*)	30	anise swallowtail (*P. zelicaon*)	
desert (Felder's) orangetip (*A. cethura*)		**Miscellaneous**	
common California ringlet (*Coenonympha californica*)	3	monarch (*Danaus plexippus*)	
cabbage white (*Pieris rapae*)		common buckeye (*Junonia coenia grisea*)	
checkered (common) white (*Pontia protodice*)		mourning cloak (*Nymphalis antiopa*)	
spring white (*P. sisymbrii*)	2	**Skippers**	
unidentified white	6	funereal duskywing (*Erynnis funeralis*)	5
Metalmarks		mournful duskywing (*Erynnis tristis*)	
Behr's metalmark (*Apodemia mormo virgulti*)	10	fiery skipper (*Hylephila phyleus*)	
Wright's metalmark (*Calephelis wrighti*)		white (common) checkered-skipper (*Pyrgus albescens*)	2
Sulphurs		**Other**	
orange sulphur (*Colias eurytheme*)		Unidentified moth	12
sleepy orange (*Eurema nicippe*)			
cloudless sulfur (*Phoebus sennae marcellina*)			
unidentified sulphur	8		
Columns Subtotal	73	Columns Subtotal	38
		Total	111

* orange-throated whiptail (UTM -32.69183, -116.89295)

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: Chez Brengraber Date: 3/4/16

Site Name: JPO-08 Proctor Valley – Village 14 of Otay Ranch Site Visit No: 2

Area Surveyed: FF parcel Acres Surveyed: 10 Survey Time: 4hr 5min Acres per Hour: 5.1

Other Surveyors Present: /

Field Conditions				
	Time (24 hr)	Temperature (F)	Wind Speed (mph)	Cloud Cover
Start	1540	66.2	0-4mph	30%
End	1645	70.1	0-3 gust 7mph	10-0%
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)

NNG (Bromus sp.), CSS (Art cal, Eriog fas.), native bunch grassland (Stipa sp. Nassella sp. Deschampsia sp. Festuca sp.)

Host Plants	Obs.	Nectar Plants	Obs.
dwarf plantain (*Plantago erecta*)		popcorn flower (*Cryptantha/Plagiobothrys* spp.)	Flow
purple owl's clover (*Castilleja exserta*)		goldfields (*Lasthenia* spp.)	
snapdragon (*Antirrhinum coulterianum*)		goldenstar (*Muilla* spp.)	Flwr
birds-beak (*Cordylanthus rigidus*)		fiddleneck (*Amsinckia menziesii* var. *intermedia*)	
woolly plantain (*Plantago patagonica*)		onion (*Allium* spp.)	
Chinese houses (*Collinsia* spp.)		buckwheat (*Eriogonum fasciculatum*)	Flwr
		ground pink (*Linanthus dianthiflorus*)	
Host Plant Mapping Updated (circle) Yes (No)		**New Area or Existing Area** (circle) New Existing Both	
Species updated (list)			

Butterfly Species	No.	Butterfly Species	No.
Checkerspots		**Hairstreaks**	
California patch (*Chlosyne californica*)		great purple hairstreak (*Atlides halesus corcoran*)	
Gabb's checkerspot (*C. gabbii*)		brown elfin (*Callophrys augustinus*)	
Quino checkerspot (*Euphydryas editha quino*)		bramble (perplexing) hairstreak (*C. dumetorum affinis*)	
chalcedon checkerspot (*E. chalcedona chalcedona*)		gray hairstreak (*Strymon melinus pudica*)	
Leanira checkerspot (*Thessalia leanira wright*)		**Ladies/Admirals**	
Mylitta crescent (*Phyciodes mylitta*)		California sister (*Adelpha bredowii californica*)	
Blues		Lorquin's admiral (*Limenitis lorquini*)	
western pygmy-blue (*Brephidium exile*)		west coast lady (*Vanessa annabella*)	
western tailed blue (*Everes amyntula*)		red admiral (*V. atalanta rubria*)	
southern blue (*Glaucopsyche lygdamus australis*)		painted lady (*V. cardui*)	
Edward's blue (*Hemiargus ceraunus gyas*)		American (Virginia) lady (*V. virginiensis*)	
Acmon blue (*Icaricia acmon acmon*)		unidentified lady (*Vanessa* sp.)	
marine blue (*Leptotes marina*)		**Swallowtails**	
unidentified blue	1	pale swallowtail (*Papilio eurymedon*)	
Whites		western tiger swallowtail (*P. rutulus*)	
Sara orangetip (*Anthocharis sara sara*)	1	anise swallowtail (*P. zelicaon*)	
desert (Felder's) orangetip (*A. cethura*)		**Miscellaneous**	
common California ringlet (*Coenonympha californica*)		monarch (*Danaus plexippus*)	
cabbage white (*Pieris rapae*)		common buckeye (*Junonia coenia grisea*)	
checkered (common) white (*Pontia protodice*)		mourning cloak (*Nymphalis antiopa*)	
spring white (*P. sisymbrii*)		**Skippers**	
unidentified white		funereal duskywing (*Erynnis funeralis*)	1
Metalmarks		mournful duskywing (*Erynnis tristis*)	
Behr's metalmark (*Apodemia mormo virgulti*)		fiery skipper (*Hylephila phyleus*)	
Wright's metalmark (*Calephelis wrighti*)		white (common) checkered-skipper (*Pyrgus albescens*)	
Sulphurs		**Other**	
orange sulphur (*Colias eurytheme*)			
sleepy orange (*Eurema nicippe*)			
cloudless sulfur (*Phoebus sennae marcellina*)			
unidentified sulphur	1		
Column Subtotal	2	Column Subtotal	1
		Total	3

2016 Quino Checkerspot Butterfly Survey Form

Survey: Diana Saucedo **Date:** 5 March 2016

Site Name: JPD-08 Proctor Valley – Village 14 of Otay Ranch **Site Visit No:** 2

Area Surveyed G **Acres Surveyed** 57 **Survey Time:** 6.0 **Acres per Hour:** 9.5

Other Surveyors Present: None.

Field Conditions				
	Time (24 hr)	**Temperature (˚F)**	**Wind Speed (mph)**	**Cloud Cover**
Start	0915	64	0-3	60 %
End	1115	74	0-3	50%
Start	1330	83	0-5	25%
End	1515	74	0-5, gust 7	90%

Vegetation Communities Surveyed (inc. dominant spp.)
Sage scrub, *E. fasciculatum*, *A. californica*, *Viguera;* chamise chaparral; *A. fasciculatum*, *C. tomentosus*; NNG, *E. cicutarium*

Host Plants	**Obs.**	**Nectar Plants**	**Obs.**
dwarf plantain (*Plantago erecta*)		popcorn flower (*Cryptantha/Plagiobothrys* spp.)	x
purple owl's clover (*Castilleja exserta*)		goldfields (*Lasthenia* spp.)	
snapdragon (*Antirrhinum coulterianum*)		goldenstar (*Muilla* spp.)	x
birds-beak (*Cordylanthus rigidus*)		fiddleneck (*Amsinckia menziesii* var. *intermedia*)	
woolly plantain (*Plantago patagonica*)		onion (*Allium* spp.)	x
Chinese houses (*Collinsia* spp.)		buckwheat (*Eriogonum fasciculatum*)	x
		ground pink (*Linanthus dianthiflorus*)	
Host Plant Mapping Updated (*circle*) Yes **No**		**New Area or Existing Area** (*circle*) New **Existing** Both	
Species updated (list)			

Butterfly Species	**No.**	**Butterfly Species**	**No.**
Checkerspots		**Hairstreaks**	
California patch (*Chlosyne californica*)		great purple hairstreak (*Atlides halesus corcorani*)	
Gabb's checkerspot (*C. gabbii*)	1	brown elfin (*Callophrys augustinus*)	
Quino checkerspot (*Euphydryas editha quino*)		bramble (perplexing) hairstreak (C. *dumetorum affinis*)	
chalcedon checkerspot (*E. chalcedona chalcedona*)		gray hairstreak (*Strymon melinus pudica*)	1
Leanira checkerspot (*Thessalia leanira wrighti*)		**Ladies/Admirals**	
Mylitta crescent (*Phyciodes mylitta*)		California sister (*Adelpha bredowii californica*)	
Blues		Lorquin's admiral (*Limenitis lorquini*)	
western pygmy-blue (*Brephidium exila*)		west coast lady (*Vanessa annabella*)	
western tailed blue (*Everes amyntula*)		red admiral (*V. atalanta rubria*)	
southern blue (*Glaucopsyche lygdamus australis*)	8	painted lady (*V. cardui*)	
Edward's blue (*Hemiargus ceraunus gyas*)		American (Virginia) lady (*V. virginiensis*)	
Acmon blue (*Icaricia acmon acmon*)		unidentified lady (*Vanessa* sp.)	
marine blue (*Leptotes marina*)	2	**Swallowtails**	
unidentified blue		pale swallowtail (*Papilio eurymedon*)	
Whites		western tiger swallowtail (*P. rutulus*)	
Sara orangetip (*Anthocharis sara sara*)	15	anise swallowtail (*P. zelicaon*)	
desert (Felder's) orangetip (*A. cethura*)		**Miscellaneous**	
common California ringlet (*Coenonympha californica*)	10	monarch (*Danaus plexippus*)	
cabbage white (*Pieris rapae*)		common buckeye (*Junonia coenia grisea*)	1
checkered (common) white (*Pontia protodice*)	2	mourning cloak (*Nymphalis antiopa)*	
spring white (*P. sisymbrii*)		**Skippers**	
unidentified white		funereal duskywing (*Erynnis funeralis*)	15
Metalmarks		mournful duskywing (*Erynnis tristis*)	
Behr's metalmark (*Apodemia mormo virgulti*)	4	fiery skipper (*Hylephila phyleus*)	
Wright's metalmark (*Calephelis wrighti*)		white (common) checkered-skipper (*Pyrgus albescens*)	8
Sulphurs		**Other**	
orange sulphur (*Colias eurytheme*)			
sleepy orange (*Eurema nicippe*)			
cloudless sulfur (*Phoebus sennae marcellina*)			
unidentified sulphur	4		
Column Subtotal	**46**	**Column Subtotal**	**25**
		Total	**71**

2016 Quino Checkerspot Butterfly Survey Form

Surveyor(s): Date:

Site Name: Site/Visit No.:

Acres Surveyed: Acres Surveyed: Survey Time: Acres per Hour:

Other Surveyors Present:

Field Conditions

	Time (24 hr)	Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start				
End				
Start				
End				

Vegetation Communities Surveyed (incl. dominant spp.):

Host Plants	Obs.

Host Plant Mapping Updated: Yes

Specimens collected:

Nectar Plants	Obs.
New Areas of Primary Host:	

Butterfly Species	No.
Checkerspots	
Blues	
Whites	
Metalmarks	
Swallowtails	
Common Subtotal:	

Butterfly Species	No.
Hairstreaks	
Lycaenid/Admirals	
Sulphurs	
Skippers	
Other	
Common Subtotal:	
Total:	

JPD08 Aug 3/4/16 OB2 H&I

Eq bet - Eri lan
Bon - Cal mac
Sil gal Acer gla
Sen elk Cas sep.
Eq mac Mit lan
Eq cic - Cryptantha.
Hyp gla PE
Astragalus phacelia/sp
Mel ind Acmi spp sp.
Dic cap.
Gut sar
Ess cal.
Solanum dulcamara
- Artemisia sp.
Vio pet
Senecio
Cas cil
Sis bel
Mai mar
Bah lac T
Sal mem
Ona cal

Much of lower elevation areas dominated by NDG.
Even hilltops @ lower elev. fewer nectaring resources of PE

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: JOHN DICUS, MELANIE DICUS **Date:** 03-05-2016

Site Name: JPD-08 Proctor Valley – Village 14 of Otay Ranch **Site Visit No:** 2

Area Surveyed J, M **Acres Surveyed** 93 **Survey Time:** 5.25 HRS. **Acres per Hour:** 17.9/EACH SD

Other Surveyors Present:

Field Conditions				
	Time (24 hr)	Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start	1030	65	1-4	40%
End	1545	68	1-3	50%
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.) CSS/CHAP: ADENOSTOMA FASCICULATUM, ERIODICTYON SPP. DIEGAN: AGERATINA SP., E. FASCICULATUM, M. LAUCANA, CROTON SETIGERUS, BACCHARIS SP., ERIODICTYON SP. MAFIC VERNAL: BROMUS SPP., BRASSICA NIGRA, B. RAPA, NEMACAULIS DENUDATA, GILIA CAPITATA, BROMUS SPP., ERODIUM CICUTARIUM

Host Plants	Obs.	Nectar Plants	Obs.
dwarf plantain (*Plantago erecta*)	X	popcorn flower (*Cryptantha/Plagiobothrys* spp.)	X
purple owl's clover (*Castilleja exserta*) NO CASTILLEJA	X	goldfields (*Lasthenia* spp.)	X
snapdragon (*Antirrhinum coulterianum*)		goldenstar (*Muilla* spp.)	X
birds-beak (*Cordylanthus rigidus*)		fiddleneck (*Amsinckia menziesii* var. *intermedia*)	X
woolly plantain (*Plantago patagonica*)		onion (*Allium* spp.)	X
Chinese houses (*Collinsia* spp.)		buckwheat (*Eriogonum fasciculatum*)	X
		ground pink (*Linanthus dianthiflorus*)	X
Host Plant Mapping Updated (circle) (Yes) No		**New Area or Existing Area** (circle) (New) Existing Both	
Species updated (list) PLANTAGO ERECTA, CASTILLEJA EXSERTA			

Butterfly Species	No.	Butterfly Species	No.
Checkerspots		**Hairstreaks**	
California patch (*Chlosyne californica*)		great purple hairstreak (*Atlides halesus corcorani*)	
Gabb's checkerspot (*C. gabbii*)		brown elfin (*Callophrys augustinus*)	
Quino checkerspot (*Euphydryas editha quino*)		bramble (perplexing) hairstreak (*C. dumetorum affinis*)	
chalcedon checkerspot (*E. chalcedona chalcedona*)		gray hairstreak (*Strymon melinus pudica*)	
Leanira checkerspot (*Thessalia leanira wrighti*)		**Ladies/Admirals**	
Mylitta crescent (*Phyciodes mylitta*)		California sister (*Adelpha bredowii californica*)	
Blues		Lorquin's admiral (*Limenitis lorquini*)	
western pygmy-blue (*Brephidium exilis*)		west coast lady (*Vanessa annabella*)	1
western tailed blue (*Everes amyntula*)	1	red admiral (*V. atalanta rubria*)	3
southern blue (*Glaucopsyche lygdamus australis*)	13	painted lady (*V. cardui*)	3
Edward's blue (*Hemiargus ceraunus gyas*)		American (Virginia) lady (*V. virginiensis*)	1
Acmon blue (*Icaricia acmon acmon*)		unidentified lady (*Vanessa* sp.)	
marine blue (*Leptotes marina*)	1	**Swallowtails**	
unidentified blue		pale swallowtail (*Papilio eurymedon*)	
Whites		western tiger swallowtail (*P. rutulus*)	
Sara orangetip (*Anthocharis sara sara*)	38	anise swallowtail (*P. zelicaon*)	3
desert (Felder's) orangetip (*A. cethura*)		**Miscellaneous**	
common California ringlet (*Coenonympha californica*)	8	monarch (*Danaus plexippus*)	
cabbage white (*Pieris rapae*)		common buckeye (*Junonia coenia grisea*)	2
checkered (common) white (*Pontia protodice*)	4	mourning cloak (*Nymphalis antiopa*)	
spring white (*P. sisymbrii*)		**Skippers**	
unidentified white		funereal duskywing (*Erynnis funeralis*)	21
Metalmarks		mournful duskywing (*Erynnis tristis*)	
Behr's metalmark (*Apodemia mormo virgulti*)	50	fiery skipper (*Hylephila phyleus*)	
Wright's metalmark (*Calephelis wrighti*)		white (common) checkered-skipper (*Pyrgus albescens*)	
Sulphurs		**Other**	
orange sulphur (*Colias eurytheme*)	17	HELIOPETES ERICETORUM	1
sleepy orange (*Eurema nicippe*)	1		
cloudless sulfur (*Phoebus sennae marcellina*)			
unidentified sulphur			
Column Subtotal	133	Column Subtotal	35
		Total	168

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: MELANIE BICKS **Date:** 03-04-2016

Site Name: JPD-08 Proctor Valley – Village 14 of Otay Ranch **Site Visit No:** 2

Area Surveyed K, L **Acres Surveyed** 108 **Survey Time:** 6 HRS, 40 MIN **Acres per Hour:** ~18 ACRES/HR

Other Surveyors Present:

Field Conditions				
	Time (24 hr)	Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start	0915	60	1.9	40%
End	1555	63	1.6	50%
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)
DESS: ARTEMISIA CA, ERIOGONUM SPP, E. FASCICULATUM, M. LAVENDULA
NNLS: S. BIGELOVII, ATRIPLEX SP. HORDEUM MURINUM, H. MARINUM, ERODIUM SP.

Host Plants	Obs.	Nectar Plants	Obs.
dwarf plantain (*Plantago erecta*)	X	popcorn flower (*Cryptantha/Plagiobothrys* spp.)	X
purple owl's clover (*Castilleja exserta*)		goldfields (*Lasthenia* spp.)	
snapdragon (*Antirrhinum coulterianum*)		goldenstar (*Muilla* spp.)	
birds-beak (*Cordylanthus rigidus*)		fiddleneck (*Amsinckia menziesii* var. *intermedia*)	X
woolly plantain (*Plantago patagonica*)		onion (*Allium* spp.)	
Chinese houses (*Collinsia* spp.)		buckwheat (*Eriogonum fasciculatum*)	X
		ground pink (*Linanthus dianthiflorus*)	
Host Plant Mapping Updated (circle) (Yes) No		**New Area or Existing Area** (circle) (New) Existing Both	
Species updated (list) PLANTAGO ERECTA			

Butterfly Species	No.	Butterfly Species	No.
Checkerspots		**Hairstreaks**	
California patch (*Chlosyne californica*)		great purple hairstreak (*Atlides halesus corcorani*)	
Gabb's checkerspot (*C. gabbii*)		brown elfin (*Callophrys augustinus*)	1
Quino checkerspot (*Euphydryas editha quino*)		bramble (perplexing) hairstreak (*C. dumetorum affinis*)	2
chalcedon checkerspot (*E. chalcedona chalcedona*)		gray hairstreak (*Strymon melinus pudica*)	1
Leanira checkerspot (*Thessalia leanira wrighti*)		**Ladies/Admirals**	
Mylitta crescent (*Phyciodes mylitta*)		California sister (*Adelpha bredowii californica*)	
Blues		Lorquin's admiral (*Limenitis lorquini*)	
western pygmy-blue (*Brephidium exilis*)	1	west coast lady (*Vanessa annabella*)	1
western tailed blue (*Everes amyntula*)		red admiral (*V. atalanta rubria*)	6
southern blue (*Glaucopsyche lygdamus australis*)	2	painted lady (*V. cardui*)	5
Edward's blue (*Hemiargus ceraunus gyas*)		American (Virginia) lady (*V. virginiensis*)	
Acmon blue (*Icaricia acmon acmon*)	6	unidentified lady (*Vanessa* sp.)	
marine blue (*Leptotes marina*)	2	**Swallowtails**	
unidentified blue		pale swallowtail (*Papilio eurymedon*)	1
Whites		western tiger swallowtail (*P. rutulus*)	1
Sara orangetip (*Anthocharis sara sara*)	21	anise swallowtail (*P. zelicaon*)	
desert (Felder's) orangetip (*A. cethura*)		**Miscellaneous**	
common California ringlet (*Coenonympha californica*)	4	monarch (*Danaus plexippus*)	
cabbage white (*Pieris rapae*)	1	common buckeye (*Junonia coenia grisea*)	2
checkered (common) white (*Pontia protodice*)	5	mourning cloak (*Nymphalis antiopa*)	
spring white (*P. sisymbrii*)		**Skippers**	
unidentified white		funereal duskywing (*Erynnis funeralis*)	15
Metalmarks		mournful duskywing (*Erynnis tristis*)	
Behr's metalmark (*Apodemia mormo virgulti*)	25	fiery skipper (*Hylephila phyleus*)	1
Wright's metalmark (*Calephelis wrighti*)		white (common) checkered-skipper (*Pyrgus albescens*)	4
Sulphurs		**Other**	
orange sulphur (*Colias eurytheme*)	4	COLIAS HARFORDII	1
sleepy orange (*Eurema nicippe*)		HELICTES MELISSA	3
cloudless sulfur (*Phoebus sennae marcellina*)			
unidentified sulphur			
Column Subtotal	78	Column Subtotal	44
		Total	122

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: Garrett Hueburn **Date:** 3/2/16

Site Name: JPD-08 Proctor Valley – Village 14 of Otay Ranch PARCEL N **Site Visit No:** 2

Acres Surveyed 68 **Survey Time:** 8 **Acres per Hour:** 8.13

Other Surveyors Present: NONE

Field Conditions	Time (24 hr)	Temperature (F)	Wind Speed (mph)	Cloud Cover
Start	0800	68	1-3	20
End	1630	75	2-4	20
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)

CHAMISE CHAPARRAL

NON-NATIVE GRASSLAND

Host Plants	Obs.	Nectar Plants	Obs.
desert plantain (*Plantago erecta*)	X	popcorn flower (*Cryptantha/Plagiobothrys* spp.)	X
purple owl's clover (*Castilleja exserta*)	X	goldfields (*Lasthenia* spp.)	X
snapdragon (*Antirrhinum coulterianum*)		goldenaster (*Mulfia* spp.)	
birds-beak (*Cordylanthus rigidus*)		fiddleneck (*Amsinckia menziesii* var. *intermedia*)	
woolly plantain (*Plantago patagonica*)		onion (*Allium* spp.)	X
Chinese houses (*Collinsia* spp.)		buckwheat (*Eriogonum fasciculatum*)	X
		ground pink (*Linanthus dianthiflorus*)	X
Host Plant Mapping Updated (circle) (Yes) No		**New Area or Existing Area** (circle) (New) Existing	Both*
Species updated (list) CASTILLEJA EXSERTA			

Butterfly Species	No.	Butterfly Species	No.
Checkerspots		**Hairstreaks**	
California patch (*Chlosyne californica*)		great purple hairstreak (*Atlides halesus corcorani*)	
Gabb's checkerspot (*C. gabbii*)		brown elfin (*Callophrys augustinus*)	
Quino checkerspot (*Euphydryas editha quino*)		bramble (perplexing) hairstreak (*C. dumetorum affinis*)	
chalcedon checkerspot (*E. chalcedona chalcedona*)		gray hairstreak (*Strymon melinus pudica*)	
Leanira checkerspot (*Thessalia leanira wrighti*)		**Ladies/Admirals**	
Mylitta crescent (*Phyciodes mylitta*)		California sister (*Adelpha bredowii californica*)	
Blues		Lorquin's admiral (*Limenitis lorquini*)	
western pygmy-blue (*Brephidium exile*)		west coast lady (*Vanessa annabella*)	
western tailed blue (*Everes amyntula*)		red admiral (*V. atalanta rubria*)	
southern blue (*Glaucopsyche lygdamus australis*)	2	painted lady (*V. cardui*)	1
Edward's blue (*Hemiargus ceraunus gyas*)		American (Virginia) lady (*V. virginiensis*)	
Acmon blue (*Icaricia acmon acmon*)		unidentified lady (*Vanessa* sp.)	
marine blue (*Leptotes marina*)		**Swallowtails**	
unidentified blue		pale swallowtail (*Papilio eurymedon*)	
Whites		western tiger swallowtail (*P. rutulus*)	
Sara orangetip (*Anthocharis sara sara*)	22	anise swallowtail (*P. zelicaon*)	
desert (Felder's) orangetip (*A. cethura*)		**Miscellaneous**	
common California ringlet (*Coenonympha californica*)	1	monarch (*Danaus plexippus*)	
cabbage white (*Pieris rapae*)		common buckeye (*Junonia coenia grisea*)	12
checkered (common) white (*Pontia protodice*)	3	mourning cloak (*Nymphalis antiopa*)	
spring white (*P. sisymbrii*)		**Skippers**	
unidentified white		funereal duskywing (*Erynnis funeralis*)	1
Metalmarks		mournful duskywing (*Erynnis tristis*)	
Behr's metalmark (*Apodemia mormo virgulti*)	33	fiery skipper (*Hylephila phyleus*)	
Wright's metalmark (*Calephelis wrighti*)		white (common) checkered-skipper (*Pyrgus albescens*)	7
Sulphurs		**Other**	
orange sulphur (*Colias eurytheme*)	7	DAINTY SULPHUR (*Nathalis iole*)	1
sleepy orange (*Eurema nicippe*)			
cloudless sulfur (*Phoebus sennae marcellina*)			
unidentified sulphur			
Column Subtotal	68	**Column Subtotal**	16

TOTAL - 84

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: Alicia Hill **Date:** 3/5/16

Site Name: JPD-08 Proctor Valley – Village 14 of Otay Ranch **Site Visit No:** 2

Acres Surveyed 63 **Survey Time:** 6.5 **Acres per Hour:** 9.7

Other Surveyors Present: —

Field Conditions				
	Time (24 hr)	**Temperature (°F)**	**Wind Speed (mph)**	**Cloud Cover**
Start	8:45	70	1-3	70
End	15:35	77	4-8	95
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.) chamise chaparral (ADE FAS, ERI FAS), non-native grassland (Avena sp, Brassica sp), Diegan coastal sage scrub (ART CAL, ERI FAS)

ACM GLA
BAH LAC
Cryptantha sp.
SIL GAL
DIC CAP
HER INC
ADE FAS
MIR LAS
ALI PRA
SAL PAR
ESC CAL
MIM AUR
CEA TOM

Host Plants	**Obs.**	**Nectar Plants**	**Obs.**
dwarf plantain (*Plantago erecta*)	X	popcorn flower (*Cryptantha/Plagiobothrys* spp.)	X
purple owl's clover (*Castilleja ~~exserta~~* densiflora)	X	goldfields (*Lasthenia* spp.)	X
snapdragon (*Antirrhinum coulterianum*)		goldenstar (*Muilla* spp.)	
birds-beak (*Cordylanthus rigidus*)		fiddleneck (*Amsinckia menziesii* var. *intermedia*)	X
woolly plantain (*Plantago patagonica*)		onion (*Allium* spp.)	X
Chinese houses (*Collinsia* spp.)		buckwheat (*Eriogonum fasciculatum*)	X
		ground pink (*Linanthus dianthiflorus*)	X
Host Plant Mapping Updated (*circle*) (Yes) No		**New Area or Existing Area** (*circle*) New (Existing) Both	
Species updated (list)			

Butterfly Species	**No.**	**Butterfly Species**	**No.**
Checkerspots		**Hairstreaks**	
California patch (*Chlosyne californica*)		great purple hairstreak (*Atlides halesus ~~corcorani~~*)	
Gabb's checkerspot (*C. gabbii*)	1	brown elfin (*Callophrys augustinus*)	
Quino checkerspot (*Euphydryas editha quino*)		bramble (perplexing) hairstreak (*C. dumetorum ~~affinis~~*)	
chalcedon checkerspot (*E. chalcedona chalcedona*)		gray hairstreak (*Strymon melinus pudica*)	2
Leanira checkerspot (*Thessalia leanira wrighti*)		**Ladies/Admirals**	
Mylitta crescent (*Phyciodes mylitta*)		California sister (*Adelpha bredowii californica*)	
Blues		Lorquin's admiral (*Limenitis lorquini*)	
western pygmy-blue (*Brephidium exila*)		west coast lady (*Vanessa annabella*)	
western tailed blue (*Everes amyntula*)		red admiral (*V. atalanta rubria*)	
southern blue (*Glaucopsyche lygdamus australis*)	7	painted lady (*V. cardui*)	
Edward's blue (*Hemiargus ceraunus gyas*)		American (Virginia) lady (*V. virginiensis*)	2
Acmon blue (*Icaricia acmon acmon*)		unidentified lady (*Vanessa* sp.)	3
marine blue (*Leptotes marina*)		**Swallowtails**	
unidentified blue	5	pale swallowtail (*Papilio eurymedon*)	
Whites		western tiger swallowtail (*P. rutulus*)	
Sara orangetip (*Anthocharis sara sara*)		anise swallowtail (*P. zelicaon*)	
desert (Felder's) orangetip (*A. cethura*)		**Miscellaneous**	
common California ringlet (*Coenonympha californica*)		monarch (*Danaus plexippus*)	
cabbage white (*Pieris rapae*)		common buckeye (*Junonia coenia grisea*)	3
checkered (common) white (*Pontia protodice*)	8	mourning cloak (*Nymphalis antiopa*)	
spring white (*P. sisymbrii*)		**Skippers**	
unidentified white	10	funereal duskywing (*Erynnis funeralis*)	7
Metalmarks		mournful duskywing (*Erynnis tristis*)	
Behr's metalmark (*Apodemia mormo virgulti*)		fiery skipper (*Hylephila phyleus*)	
Wright's metalmark (*Calephelis wrighti*)	57	white (common) checkered-skipper (*Pyrgus albescens*)	6
Sulphurs		**Other**	
orange sulphur (*Colias eurytheme*)		CA Ringlet	12
sleepy orange (*Eurema nicippe*)		Afranius duskywing	2
cloudless sulfur (*Phoebus sennae marcellina*)		Dainty sulphur	3
unidentified sulphur	7		
Column Subtotal	95	**Column Subtotal**	40
		Total	135

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: GARRETT HUFFMAN **Date:** 3/5/16

Site Name: JPD-08 Proctor Valley – Village 14 of Otay Ranch P+Q **Site Visit No:** 2

Acres Surveyed 121 **Survey Time:** 6-5 HOURS **Acres per Hour:** 10

Other Surveyors Present: ERICA HARRIS

Field Conditions				
	Time (24 hr)	Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start	1000	65°	1-5	40%
End	1500	68°	2-7	100%
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)

CHAMISE CHAPARRAL; COASTAL SAGE SCRUB; NON-NATIVE GRASSLAND

Host Plants	Obs.	Nectar Plants	Obs.
dwarf plantain (*Plantago erecta*)	X	popcorn flower (*Cryptantha/Plagiobothrys* spp.)	X
purple owl's clover (*Castilleja ~~exserta~~*) sp.	X	goldfields (*Lasthenia* spp.)	X
snapdragon (*Antirrhinum coulterianum*)		goldenstar (*Muilla* spp.)	
birds-beak (*Cordylanthus rigidus*)		fiddleneck (*Amsinckia menziesii* var. *intermedia*)	X
woolly plantain (*Plantago patagonica*)		onion (*Allium* spp.)	X
Chinese houses (*Collinsia* spp.)		buckwheat (*Eriogonum fasciculatum*)	X
		ground pink (*Linanthus dianthiflorus*)	X
Host Plant Mapping Updated (*circle*) (Yes) No		**New Area or Existing Area** (*circle*) (New) Existing Both	
Species updated (list) CASTILLEJA			

Butterfly Species	No.	Butterfly Species	No.
Checkerspots		**Hairstreaks**	
California patch (*Chlosyne californica*)		great purple hairstreak (*Atlides halesus corcorani*)	
Gabb's checkerspot (*C. gabbii*)		brown elfin (*Callophrys augustinus*)	
Quino checkerspot (*Euphydryas editha quino*)		bramble (perplexing) hairstreak (*C. dumetorum affinis*)	
chalcedon checkerspot (*E. chalcedona chalcedona*)		gray hairstreak (*Strymon melinus pudica*)	1
Leanira checkerspot (*Thessalia leanira wrighti*)		**Ladies/Admirals**	
Mylitta crescent (*Phyciodes mylitta*)		California sister (*Adelpha bredowii californica*)	
Blues		Lorquin's admiral (*Limenitis lorquini*)	
western pygmy-blue (*Brephidium exila*)		west coast lady (*Vanessa annabella*)	
western tailed blue (*Everes amyntula*)		red admiral (*V. atalanta rubria*)	
southern blue (*Glaucopsyche lygdamus australis*)	2	painted lady (*V. cardui*)	
Edward's blue (*Hemiargus ceraunus gyas*)		American (Virginia) lady (*V. virginiensis*)	1
Acmon blue (*Icaricia acmon acmon*)		unidentified lady (*Vanessa* sp.)	
marine blue (*Leptotes marina*)		**Swallowtails**	
unidentified blue		pale swallowtail (*Papilio eurymedon*)	
Whites		western tiger swallowtail (*P. rutulus*)	1
Sara orangetip (*Anthocharis sara sara*)	21	anise swallowtail (*P. zelicaon*)	1
desert (Felder's) orangetip (*A. cethura*)		**Miscellaneous**	
common California ringlet (*Coenonympha californica*)	4	monarch (*Danaus plexippus*)	
cabbage white (*Pieris rapae*)		common buckeye (*Junonia coenia grisea*)	
checkered (common) white (*Pontia protodice*)	3	mourning cloak (*Nymphalis antiopa*)	
spring white (*P. sisymbrii*)		**Skippers**	
unidentified white		funereal duskywing (*Erynnis funeralis*)	4
Metalmarks		mournful duskywing (*Erynnis tristis*)	
Behr's metalmark (*Apodemia mormo virgulti*)	9	fiery skipper (*Hylephila phyleus*)	
Wright's metalmark (*Calephelis wrighti*)		white (common) checkered-skipper (*Pyrgus albescens*)	3
Sulphurs		**Other**	
orange sulphur (*Colias eurytheme*)	1	BERNADINO BLUE (EUPHILOTES BERNADINO)	1
sleepy orange (*Eurema nicippe*)			
cloudless sulfur (*Phoebus sennae marcellina*)			
unidentified sulphur			
Column Subtotal	40	**Column Subtotal**	12
		TOTAL	52

JPDDS — Corrected Draft
QUB #2 (P/O) — 8/15/11
STAN: 1000, LOST, 14, 40%
SIDP: 1000, LOST, 2-7, 100%

WORD ANTH ARCH YEWA
FAUT RESP HOFF WASP
NOTL SPID ROUR HOLA
AWA NORD NOVA BUSH
TRES CATH COHU
GOGA ARKE WRTN
GREN BEAR WISH

BTUR — side-blocked
CONDITIONED — COAST FORM 112.
COYOTE (SC)

BETH'S HIT 2nd 1 — ARISE 11
REPROXIS 1 — GEOMETRY 11
TIGER P — LADY 1
SOCKS HIT 2nd 11 — FRIEND 1
CHECK STRIP 11

FLOWER — common, quercus, picnic, government, [illegible] mug & pan, [illegible] en [illegible] ed, [illegible] aluminum, [illegible] [illegible] [illegible]

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: Melissa Busby **Date:** 3/3/16

Site Name: JPD-06 Proctor Valley – Village 14 of Otay Ranch **Site Visit No:** 2

Area Surveyed S, W, X **Acres Surveyed** approx 72 **Survey Time:** 7.25 **Acres per Hour:** approx 10

Other Surveyors Present: Darin Busby, Diana Saucedo

Field Conditions				
	Time (24 hr)	Temperature (F)	Wind Speed (mph)	Cloud Cover
Start	0900	65	0-2	0% (haze)
End	1615	72	3-7	0% (haze)
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)
CSS, NNG, CC, CHAP, EW, BG, DIST

Host Plants	Obs.	Nectar Plants	Obs.
dwarf plantain (*Plantago erecta*)	✓	popcorn flower (*Cryptantha/Plagiobothrys* spp.)	✓
purple owl's clover (*Castilleja exserta*)		goldfields (*Lasthenia* spp.)	✓
snapdragon (*Antirrhinum coulterianum*)		goldenstar (*Muilla* spp.)	
birds-beak (*Cordylanthus rigidus*)		fiddleneck (*Amsinckia menziesii* var. *intermedia*)	
woolly plantain (*Plantago patagonica*)		onion (*Allium* spp.)	✓
Chinese houses (*Collinsia* spp.)		buckwheat (*Eriogonum fasciculatum*)	✓
		ground pink (*Linanthus dianthiflorus*)	✓
Host Plant Mapping Updated (circle) Yes (No)		**New Area or Existing Area** (circle) New (Existing) Both	
Species updated (list)			

Butterfly Species	No.	Butterfly Species	No.
Checkerspots		**Hairstreaks**	
California patch (*Chlosyne californica*)		great purple hairstreak (*Atlides halesus corcorani*)	
Gabb's checkerspot (*E. gabbii*)	1	brown elfin (*Callophrys augustinus*)	
Quino checkerspot (*Euphydryas editha quino*)		bramble (perplexing) hairstreak (*C. dumetorum affinis*)	2
chalcedon checkerspot (*E. chalcedona chalcedona*)		gray hairstreak (*Strymon melinus pudica*)	
Leanira checkerspot (*Thessalia leanira wrighti*)		**Ladies/Admirals**	
Mylitta crescent (*Phyciodes mylitta*)		California sister (*Adelpha bredowii californica*)	
Blues		Lorquin's admiral (*Limenitis lorquini*)	
western pygmy-blue (*Brephidium exile*)		west coast lady (*Vanessa annabella*)	3
western tailed blue (*Everes amyntula*)		red admiral (*V. atalanta rubria*)	
southern blue (*Glaucopsyche lygdamus australis*)	4	painted lady (*V. cardui*)	
Edward's blue (*Hemiargus ceraunus gyas*)		American (Virginia) lady (*V. virginiensis*)	9
Acmon blue (*Icaricia acmon acmon*)		unidentified lady (*Vanessa* sp.)	4
marine blue (*Leptotes marina*)	5	**Swallowtails**	
unidentified blue		pale swallowtail (*Papilio eurymedon*)	
Whites		western tiger swallowtail (*P. rutulus*)	
Sara orangetip (*Anthocharis sara sara*)	22	anise swallowtail (*P. zelicaon*)	
desert (Felder's) orangetip (*A. cethura*)		**Miscellaneous**	
common California ringlet (*Coenonympha californica*)	13	monarch (*Danaus plexippus*)	
cabbage white (*Pieris rapae*)		common buckeye (*Junonia coenia grisea*)	
checkered (common) white (*Pontia protodice*)		mourning cloak (*Nymphalis antiopa*)	
spring white (*P. sisymbrii*)		**Skippers**	
unidentified white		funereal duskywing (*Erynnis funeralis*)	8
Metalmarks		mournful duskywing (*Erynnis tristis*)	
Behr's metalmark (*Apodemia mormo virgulti*)	28	fiery skipper (*Hylephila phyleus*)	
Wright's metalmark (*Calephelis wrighti*)		white (common) checkered-skipper (*Pyrgus albescens*)	
Sulphurs		**Other**	
orange sulphur (*Colias eurytheme*)		Duskywing sp.	4
sleepy orange (*Eurema nicippe*)			
cloudless sulfur (*Phoebus sennae marcellina*)			
unidentified sulphur	8		
Column Subtotal	81	Column Subtotal	30
		Total	111

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: Melissa Busby **Date:** 3/2/16

Site Name: SPD-08 Proctor Valley – Village 14 of Otay Ranch **Site Visit No:** #2

Area Surveyed T-mix X **Acres Surveyed** approx 65 **Survey Time:** 7.16 hrs **Acres per Hour:** approx 9

Other Surveyors Present: none

Field Conditions				
	Time (24 hr)	Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start	0920	77	1-3	0% (light haze)
End	1630	80	3-5	0% (light haze)
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)
CSS, NN6, CC, CHAP, BG, DIST

Host Plants	Obs.	Nectar Plants	Obs.
dwarf plantain (*Plantago erecta*)	✓	popcorn flower (*Cryptantha/Plagiobothrys* spp.)	✓
purple owl's clover (*Castilleja exserta*)		goldfields (*Lasthenia* spp.)	
snapdragon (*Antirrhinum coulterianum*)		goldenstar (*Muilla* spp.)	
birds-beak (*Cordylanthus rigidus*)		fiddleneck (*Amsinckia menziesii* var. *intermedia*)	
woolly plantain (*Plantago patagonica*)		onion (*Allium* spp.)	✓
Chinese houses (*Collinsia* spp.)		buckwheat (*Eriogonum fasciculatum*)	✓
		ground pink (*Linanthus dianthiflorus*)	
Host Plant Mapping Updated (circle) Yes (No)		**New Area or Existing Area** (circle) New (Existing) Both	
Species updated (list)			

Butterfly Species	No.	Butterfly Species	No.
Checkerspots		**Hairstreaks**	
California patch (*Chlosyne californica*)		great purple hairstreak (*Atlides halesus corcoran*)	
Gabb's checkerspot (*C. gabbii*)	2	brown elfin (*Callophrys augustinus*)	
Quino checkerspot (*Euphydryas editha quino*)		bramble (perplexing) hairstreak (*C. dumetorum affinis*)	
chalcedon checkerspot (*E. chalcedona chalcedona*)		gray hairstreak (*Strymon melinus pudica*)	
Leanira checkerspot (*Thessalia leanira wrighti*)		**Ladies/ Admirals**	
Mylitta crescent (*Phyciodes mylitta*)		California sister (*Adelpha bredowii californica*)	
Blues		Lorquin's admiral (*Limenitis lorquini*)	
western pygmy-blue (*Brephidium exilis*)		west coast lady (*Vanessa annabella*)	1
western tailed blue (*Everes amyntula*)		red admiral (*V. atalanta rubria*)	
southern blue (*Glaucopsyche lygdamus australis*)	4	painted lady (*V. cardui*)	
Edward's blue (*Hemiargus ceraunus gyas*)		American (Virginia) lady (*V. virginiensis*)	3
Acmon blue (*Icaricia acmon acmon*)		unidentified lady (*Vanessa* sp.)	
marine blue (*Leptotes marina*)	7	**Swallowtails**	
unidentified blue		pale swallowtail (*Papilio eurymedon*)	2
Whites		western tiger swallowtail (*P. rutulus*)	
Sara orangetip (*Anthocharis sara sara*)	4	anise swallowtail (*P. zelicaon*)	1
desert (Felder's) orangetip (*A. cethura*)		**Miscellaneous**	
common California ringlet (*Coenonympha californica*)		monarch (*Danaus plexippus*)	
cabbage white (*Pieris rapae*)		common buckeye (*Junonia coenia grisea*)	
checkered (common) white (*Pontia protodice*)		mourning cloak (*Nymphalis antiopa*)	
spring white (*P. sisymbrii*)		**Skippers**	
unidentified white		funereal duskywing (*Erynnis funeralis*)	3
Metalmarks		mournful duskywing (*Erynnis tristis*)	
Behr's metalmark (*Apodemia mormo virgulti*)	22	fiery skipper (*Hylephila phyleus*)	
Wright's metalmark (*Calephelis wrighti*)		white (common) checkered-skipper (*Pyrgus albescens*)	12
Sulphurs		**Other**	
orange sulphur (*Colias eurytheme*)		cabbage white	1
sleepy orange (*Eurema nicippe*)		Harford's sulphur	4
cloudless sulfur (*Phoebis sennae marcellina*)			
unidentified sulphur			
Columns Subtotal	45	**Columns Subtotal**	27
		Total	76

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: Dana Bayley **Date:** 3/3/16

Site Name: JPO-06 Proctor Valley – Village 14 of Otay Ranch **Site Visit No:** 2

Area Surveyed 4 **Acres Surveyed** ~5 **Survey Time:** 40 min **Acres per Hour:** ~8

Other Surveyors Present: John Lovio surveyed the rest of this polygon earlier today. Entire Polygon complete

Field Conditions				
	Time (24 hr)	Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start	1550	75	3-7	moderate haze
End	1630	72	3-7	moderate haze
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)
Chamise chaparral

Host Plants	Obs.	Nectar Plants	Obs.
dwarf plantain (*Plantago erecta*)		popcorn flower (*Cryptantha/Plagiobothrys* spp.)	✓
purple owl's clover (*Castilleja exserta*)		goldfields (*Lasthenia* spp.)	
snapdragon (*Antirrhinum coulterianum*)		goldenstar (*Muilla* spp.)	
birds-beak (*Cordylanthus rigidus*)		fiddleneck (*Amsinckia menziesii* var. *intermedia*)	
woolly plantain (*Plantago patagonica*)		onion (*Allium* spp.)	✓
Chinese houses (*Collinsia* spp.)		buckwheat (*Eriogonum fasciculatum*)	
No host plants observed		ground pink (*Linanthus dianthiflorus*)	
Host Plant Mapping Updated (circle) Yes (No)		**New Area or Existing Area** (circle) New (Existing) Both	
Species updated (list)			

Butterfly Species	No.	Butterfly Species	No.
Checkerspots		**Hairstreaks**	
California patch (*Chlosyne californica*)		great purple hairstreak (*Atlides halesus corcorani*)	
Gabb's checkerspot (*C. gabbii*)		brown elfin (*Callophrys augustinus*)	
Quino checkerspot (*Euphydryas editha quino*)		bramble (perplexing) hairstreak (*C. dumetorum affinis*)	
chalcedon checkerspot (*E. chalcedona chalcedona*)		gray hairstreak (*Strymon melinus pudica*)	1
Leanira checkerspot (*Thessalia leanira wrighti*)		**Ladies/Admirals**	
Mylitta crescent (*Phyciodes mylitta*)		California sister (*Adelpha bredowii californica*)	
Blues		Lorquin's admiral (*Limenitis lorquini*)	
western pygmy-blue (*Brephidium exile*)		west coast lady (*Vanessa annabella*)	1
western tailed blue (*Everes amyntula*)		red admiral (*V. atalanta rubria*)	1
southern blue (*Glaucopsyche lygdamus australis*)		painted lady (*V. cardui*)	
Edward's blue (*Hemiargus ceraunus gyas*)		American (Virginia) lady (*V. virginiensis*)	1
Acmon blue (*Icaricia acmon acmon*)		unidentified lady (*Vanessa* sp.)	
marine blue (*Leptotes marina*)		**Swallowtails**	
unidentified blue		pale swallowtail (*Papilio eurymedon*)	
Whites		western tiger swallowtail (*P. rutulus*)	
Sara orangetip (*Anthocharis sara sara*)	4	anise swallowtail (*P. zelicaon*)	
desert (Felder's) orangetip (*A. cethura*)		**Miscellaneous**	
common California ringlet (*Coenonympha californica*)	4	monarch (*Danaus plexippus*)	
cabbage white (*Pieris rapae*)		common buckeye (*Junonia coenia grisea*)	
checkered (common) white (*Pontia protodice*)		mourning cloak (*Nymphalis antiopa*)	
spring white (*P. sisymbrii*)		**Skippers**	
unidentified white		funereal duskywing (*Erynnis funeralis*)	2
Metalmarks		mournful duskywing (*Erynnis tristis*)	
Behr's metalmark (*Apodemia mormo virgulti*)	2	fiery skipper (*Hylephila phyleus*)	
Wright's metalmark (*Calephelis wrighti*)		white (common) checkered-skipper (*Pyrgus albescens*)	
Sulphurs		**Other**	
orange sulphur (*Colias eurytheme*)			
sleepy orange (*Eurema nicippe*)			
cloudless sulfur (*Phoebis sennae marcellina*)			
unidentified sulphur			
Column Subtotal	10	**Column Subtotal**	5
		Total	15

* Blainville's horned lizard (UTM: 32.67993, -116.90615)

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: John Lovio Date: 3-3-16

Site Name: JPD-08 Proctor Valley – Village 14 of Otay Ranch Site Visit No: 2

Area Surveyed Polygon 4 Acres Surveyed about 40 Survey Time: 3.5 hours Acres per Hour: 11.4

Other Surveyors Present:

Field Conditions				
	Time (24 hr)	Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start	0900	64	1 mph, W	50% high haze
End	1230	80	1-5 mph	100% high haze
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)
Chaparral: Adenostoma fasciculatum > Quercus berb., Ceanothus tomentosus > Heteromeles arbutifolia, Salvia mellifera

Host Plants	Obs.	Nectar Plants	Obs.
dwarf plantain (*Plantago erecta*)	X	popcorn flower (*Cryptantha/Plagiobothrys spp.*)	X
purple owl's clover (*Castilleja exserta*)		goldfields (*Lasthenia spp.*)	
snapdragon (*Antirrhinum coulterianum*)		goldenstar (*Muilla spp.*)	
birds-beak (*Cordylanthus rigidus*)		fiddleneck (*Amsinckia menziesii var. intermedia*)	
woolly plantain (*Plantago patagonica*)		onion (*Allium spp.*)	X
Chinese houses (*Collinsia spp.*)		buckwheat (*Eriogonum fasciculatum*)	X
		ground pink (*Linanthus dianthiflorus*)	
Host Plant Mapping Updated (circle) Yes (No)		**New Area or Existing Area** (circle) New Existing Both	
Species updated (list)			

Butterfly Species	No.	Butterfly Species	No.
Checkerspots		**Hairstreaks**	
California patch (*Chlosyne californica*)		great purple hairstreak (*Atlides halesus corcorani*)	
Gabb's checkerspot (*C. gabbii*)		brown elfin (*Callophrys augustinus*)	
Quino checkerspot (*Euphydryas editha quino*)		bramble (perplexing) hairstreak (*C. dumetorum affinis*)	
chalcedon checkerspot (*E. chalcedona chalcedona*)		gray hairstreak (*Strymon melinus pudica*)	
Leanira checkerspot (*Thessalia leanira wrighti*)		**Ladies/Admirals**	
Mylitta crescent (*Phyciodes mylitta*)		California sister (*Adelpha bredowii californica*)	
Blues		Lorquin's admiral (*Limenitis lorquini*)	
western pygmy-blue (*Brephidium exilis*)		west coast lady (*Vanessa annabella*)	
western tailed blue (*Everes amyntula*)		red admiral (*V. atalanta rubria*)	
southern blue (*Glaucopsyche lygdamus australis*)		painted lady (*V. cardui*)	
Edward's blue (*Hemiargus ceraunus gyas*)		American (Virginia) lady (*V. virginiensis*)	
Acmon blue (*Icaricia acmon acmon*)		unidentified lady (*Vanessa sp.*)	
marine blue (*Leptotes marina*)		**Swallowtails**	
unidentified blue	1	pale swallowtail (*Papilio eurymedon*)	
Whites		western tiger swallowtail (*P. rutulus*)	
Sara orangetip (*Anthocharis sara sara*)	20	anise swallowtail (*P. zelicaon*)	
desert (Felder's) orangetip (*A. cethura*)		**Miscellaneous**	
common California ringlet (*Coenonympha californica*)		monarch (*Danaus plexippus*)	
cabbage white (*Pieris rapae*)		common buckeye (*Junonia coenia grisea*)	
checkered (common) white (*Pontia protodice*)		mourning cloak (*Nymphalis antiopa*)	
spring white (*P. sisymbrii*)		**Skippers**	
unidentified white		funereal duskywing (*Erynnis funeralis*)	1
Metalmarks		mournful duskywing (*Erynnis tristis*)	
Behr's metalmark (*Apodemia mormo virgulti*)	2	fiery skipper (*Hylephila phyleus*)	
Wright's metalmark (*Calephelis wrighti*)		white (common) checkered-skipper (*Pyrgus albescens*)	5
Sulphurs		Other: Coenonympha tullia	2
orange sulphur (*Colias eurytheme*)			
~~sleepy orange (*Abaeis nicippe*)~~ Unthelic Isle	1		
cloudless sulfur (*Phoebis sennae marcellina*)			
unidentified sulphur	1		
Column Subtotal	25	Column Subtotal	8
		Total	33

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: Jasmine Bakker **Date:** 3/4/2016

Site Name: JPD-08 Proctor Valley – Village 14 of Otay Ranch (Area V) **Site Visit No:** 2

Acres Surveyed 44 **Survey Time:** 4 hours 30 minutes **Acres per Hour:** 9.8

Other Surveyors Present:

Field Conditions				
	Time (24 hr)	**Temperature (˚F)**	**Wind Speed (mph)**	**Cloud Cover**
Start	1005	65	0	20% haze
End	1435	74	0-3	10% haze
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)
Chamise & Southern Mixed Chaparral (dominated by Ade fas) and Non-native grassland (dominated by Bromus)

Host Plants	**Obs.**	**Nectar Plants**	**Obs.**
dwarf plantain (*Plantago erecta*)	X	popcorn flower (*Cryptantha/Plagiobothrys* spp.)	X
purple owl's clover (*Castilleja exserta*)		goldfields (*Lasthenia* spp.)	
snapdragon (*Antirrhinum coulterianum*)		goldenstar (*Muilla* spp.)	
birds-beak (*Cordylanthus rigidus*)		fiddleneck (*Amsinckia menziesii* var. *intermedia*)	X
woolly plantain (*Plantago patagonica*)		onion (*Allium* spp.)	X
Chinese houses (*Collinsia* spp.)		buckwheat (*Eriogonum fasciculatum*)	X
		ground pink (*Linanthus dianthiflorus*)	X
Host Plant Mapping Updated (*circle*) Yes **No**		**New Area or Existing Area** (*circle*) New Existing Both	
Species updated (list) *A few patches of 10Pe and 100Pe mapped along western perimeter*			

Butterfly Species	**No.**	**Butterfly Species**	**No.**
Checkerspots		**Hairstreaks**	
California patch (*Chlosyne californica*)		great purple hairstreak (*Atlides halesus corcorani*)	
Gabb's checkerspot (*C. gabbii*)		brown elfin (*Callophrys augustinus*)	
Quino checkerspot (*Euphydryas editha quino*)		bramble (perplexing) hairstreak (C. *dumetorum affinis*)	
chalcedon checkerspot (*E. chalcedona chalcedona*)		gray hairstreak (*Strymon melinus pudica*)	
Leanira checkerspot (*Thessalia leanira wrighti*)		**Ladies/Admirals**	
Mylitta crescent (*Phyciodes mylitta*)		California sister (*Adelpha bredowii californica*)	
Blues		Lorquin's admiral (*Limenitis lorquini*)	
western pygmy-blue (*Brephidium exila*)		west coast lady (*Vanessa annabella*)	2
western tailed blue (*Everes amyntula*)		red admiral (*V. atalanta rubria*)	
southern blue (*Glaucopsyche lygdamus australis*)	3	painted lady (*V. cardui*)	
Edward's blue (*Hemiargus ceraunus gyas*)		American (Virginia) lady (*V. virginiensis*)	
Acmon blue (*Icaricia acmon acmon*)	1	unidentified lady (*Vanessa* sp.)	1
marine blue (*Leptotes marina*)		**Swallowtails**	
unidentified blue		pale swallowtail (*Papilio eurymedon*)	
Whites		western tiger swallowtail (*P. rutulus*)	
Sara orangetip (*Anthocharis sara sara*)	50	anise swallowtail (*P. zelicaon*)	
desert (Felder's) orangetip (*A. cethura*)		**Miscellaneous**	
common California ringlet (*Coenonympha californica*)	2	monarch (*Danaus plexippus*)	
cabbage white (*Pieris rapae*)		common buckeye (*Junonia coenia grisea*)	3
checkered (common) white (*Pontia protodice*)		mourning cloak (*Nymphalis antiopa)*	
spring white (*P. sisymbrii*)		**Skippers**	
unidentified white		funereal duskywing (*Erynnis funeralis*)	7
Metalmarks		mournful duskywing (*Erynnis tristis*)	
Behr's metalmark (*Apodemia mormo virgulti*)	16	fiery skipper (*Hylephila phyleus*)	
Wright's metalmark (*Calephelis wrighti*)		white (common) checkered-skipper (*Pyrgus albescens*)	11
Sulphurs		**Other**	
orange sulphur (*Colias eurytheme*)		Arizona Powdered Skipper	2
sleepy orange (*Eurema nicippe*)			
cloudless sulfur (*Phoebus sennae marcellina*)			
unidentified sulphur	7		
Column Subtotal	**79**	**Column Subtotal**	**26**
		Total	**105**

JPD-08 Rocky Valley 4 Mar 2016
Village 14 QCB Survey #Σ checkV (4min) JB

START: 1005, 65°, 0mph wind, 20% cc-bare
STOP: 1435, 74°, 0-3 mph, 10% cc

Butterflies

Sonora Skipper ||||-|||-|||-|

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: Davia Bushy **Date:** 3/8/16

Site Name: JPD-08 Proctor Valley – Village 14 of Otay Ranch **Site Visit No:** 2

Area Surveyed W, X **Acres Surveyed** ~35 **Survey Time:** 3.5 **Acres per Hour:** ~10

Other Surveyors Present: Melissa Busby, Diana Sviedo / Entire polygon completed

Field Conditions				
	Time (24 hr)	Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start	1220	80	3-7	moderate haze
End	1550	75	3-7	moderate haze
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)
Chamise chaparral; coastal sage scrub, grassland

Host Plants	Obs.	Nectar Plants	Obs.
dwarf plantain (*Plantago erecta*)	✓	popcorn flower (*Cryptantha/Plagiobothrys* spp.)	✓
purple owl's clover (*Castilleja exserta*)		goldfields (*Lasthenia* spp.)	✓
snapdragon (*Antirrhinum coulterianum*)		goldenstar (*Muilla* spp.)	
birds-beak (*Cordylanthus rigidus*)		fiddleneck (*Amsinckia menziesii* var. *intermedia*)	
woolly plantain (*Plantago patagonica*)		onion (*Allium* spp.)	✓
Chinese houses (*Collinsia* spp.)		buckwheat (*Eriogonum fasciculatum*)	✓
		ground pink (*Linanthus dianthiflorus*)	✓
Host Plant Mapping Updated (circle) Yes (No)		**New Area or Existing Area** (circle) New (Existing) Both	
Species updated (list)			

Butterfly Species	No.	Butterfly Species	No.
Checkerspots		**Hairstreaks**	
California patch (*Chlosyne californica*)		great purple hairstreak (*Atlides halesus corcoranii*)	
Gabb's checkerspot (*C. gabbii*)		brown elfin (*Callophrys augustinus*)	
Quino checkerspot (*Euphydryas editha quino*)		bramble (perplexing) hairstreak (*C. dumetorum affinis*)	
chalcedon checkerspot (*E. chalcedona chalcedona*)		gray hairstreak (*Strymon melinus jaritae*)	2
Leanira checkerspot (*Thessalia leanira wrighti*)		**Ladies/Admirals**	
Mylitta crescent (*Phyciodes mylitta*)		California sister (*Adelpha bredowii californica*)	
Blues		Lorquin's admiral (*Limenitis lorquini*)	
western pygmy-blue (*Brephidium exile*)		west coast lady (*Vanessa annabella*)	6
western tailed blue (*Everes amyntula*)		red admiral (*V. atalanta rubria*)	
southern blue (*Glaucopsyche lygdamus australis*)	2	painted lady (*V. cardui*)	4
Edward's blue (*Hemiargus ceraunus gyas*)		American (Virginia) lady (*V. virginiensis*)	
Acmon blue (*Icaricia acmon acmon*)		unidentified lady (*Vanessa* sp.)	
marine blue (*Leptotes marina*)		**Swallowtails**	
unidentified blue		pale swallowtail (*Papilio eurymedon*)	
Whites		western tiger swallowtail (*P. rutulus*)	
Sara orangetip (*Anthocharis sara sara*)	23	anise swallowtail (*P. zelicaon*)	
desert (Felder's) orangetip (*A. cethura*)		**Miscellaneous**	
common California ringlet (*Coenonympha californica*)		monarch (*Danaus plexippus*)	
cabbage white (*Pieris rapae*)		common buckeye (*Junonia coenia grisea*)	
checkered (common) white (*Pontia protodice*)		mourning cloak (*Nymphalis antiopa*)	
spring white (*P. sisymbrii*)	2	**Skippers**	
unidentified white	2	funereal duskywing (*Erynnis funeralis*)	4
Metalmarks		mournful duskywing (*Erynnis tristis*)	
Behr's metalmark (*Apodemia mormo virgulti*)	10	fiery skipper (*Hylephila phyleus*)	
Wright's metalmark (*Calephelis wrighti*)		white (common) checkered-skipper (*Pyrgus albescens*)	1
Sulphurs		**Other**	
orange sulphur (*Colias eurytheme*)		whitelined sphinx moth	5
sleepy orange (*Eurema nicippe*)			
cloudless sulfur (*Phoebis sennae marcellina*)			
unidentified sulphur	5		
Column Subtotal	44	Column Subtotal	22
		Total	66

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: Dez Bumgarner Date: 3/2/16

Site Name: JPO-08 Proctor Valley – Village 14 of Otay Ranch Site Visit No: 2

Area Surveyed: Y, Z, DD Acres Surveyed: 148 Survey Time: 7hr 50min Acres per Hour: 18.89 (63 acres/hr)

Other Surveyors Present: Erica Fonts, Andrew Barker, Ben Rathbaun (in training)

Field Conditions				
	Time (24 hr)	Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start	0830	67	0-3	20%
End	1620	67	1-3	10%
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)

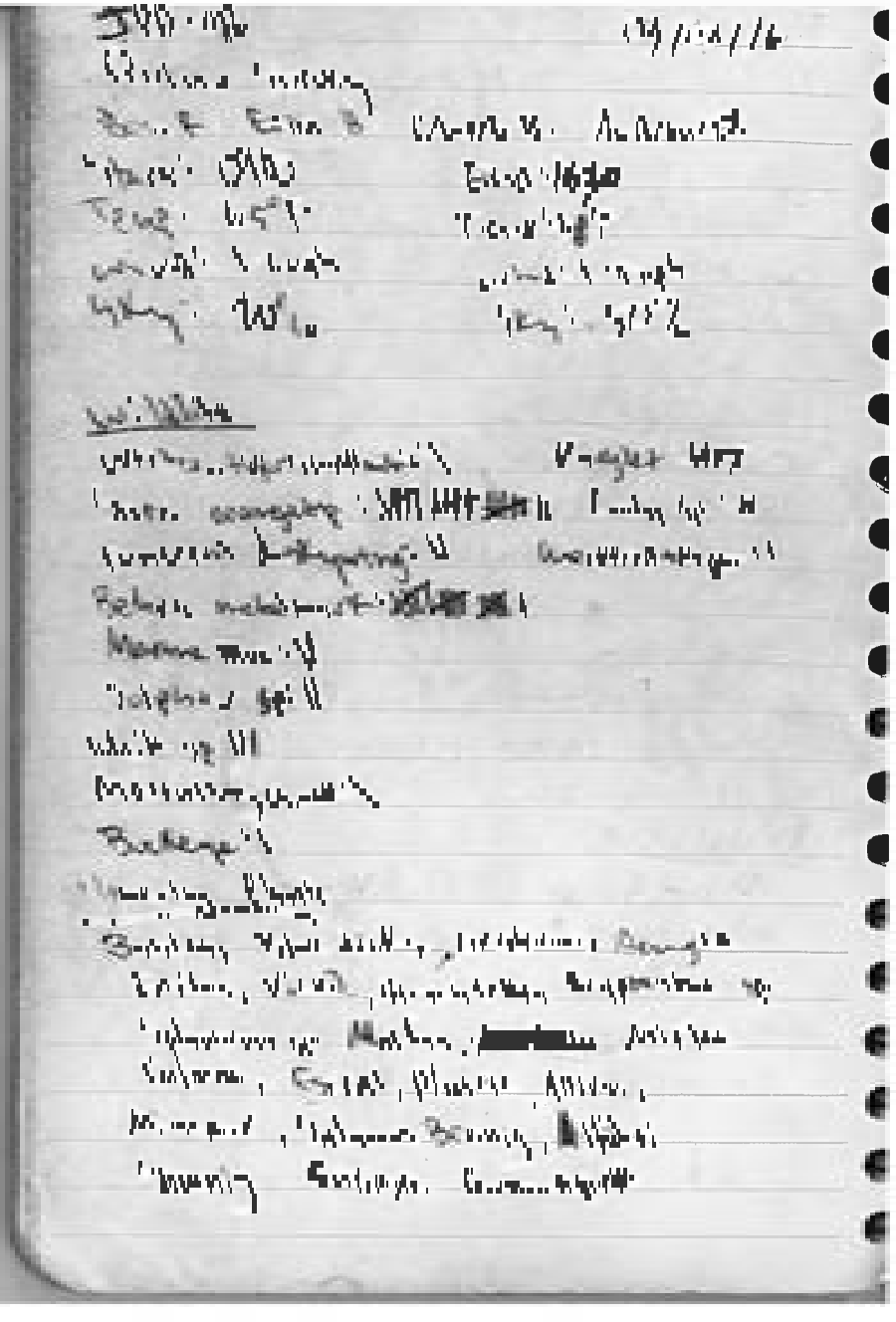
Chamise chap (chamise, quercus berb., Malosma), NNG, native bunch grass (Stipa sp., Eriogonum fas., blue dicks, Gnaphalium sp.)

Host Plants	Obs.
dwarf plantain (*Plantago erecta*)	flwr
purple owl's clover (*Castilleja exserta*)	flwr
snapdragon (*Antirrhinum coulterianum*)	
birds-beak (*Cordylanthus rigidus*)	
woolly plantain (*Plantago patagonica*)	
Chinese houses (*Collinsia spp.*)	
Host Plant Mapping Updated (circle) Yes No	
Species updated (list)	

Nectar Plants	Obs.
popcorn flower (*Cryptantha/Plagiobothrys spp.*)	flwr
goldfields (*Lasthenia spp.*)	flwr
goldenstar (*Muilla spp.*)	
fiddleneck (*Amsinckia menziesii var. intermedia*)	flwr
onion (*Allium spp.*)	flwr
buckwheat (*Eriogonum fasciculatum*)	flwr
ground pink (*Linanthus dianthiflorus*)	flwr
New Area or Existing Area (circle) New Existing Both	

Butterfly Species	No.
Checkerspots	
California patch (*Chlosyne californica*)	
Gabb's checkerspot (*C. gabbii*)	IIII
Quino checkerspot (*Euphydryas editha quino*)	
chalcedon checkerspot (*E. chalcedona chalcedona*)	
Lejanira checkerspot (*Thessalia lejanira wrighti*)	
Mylitta crescent (*Phycoodes mylitta*)	
Blues	
western pygmy blue (*Brephidium exile*)	
western tailed blue (*Everes amyntula*)	
southern blue (*Glaucopsyche lygdamus australis*)	
Edward's blue (*Hemiargus ceraunus gyas*)	
Acmon blue (*Icaricia acmon acmon*)	
marine blue (*Leptotes marina*)	
unidentified blue	
Whites	
Sara orangetip (*Anthocharis sara sara*)	III
desert (Felder's) orangetip (*A. cethura*)	
common California ringlet (*Coenonympha californica*)	
cabbage white (*Pieris rapae*)	
checkered (common) white (*Pontia protodice*)	
spring white (*P. sisymbrii*)	1
unidentified white	1
Metalmarks	
Behr's metalmark (*Apodemia mormo virgulti*)	
Wright's metalmark (*Calephelis wrighti*)	
Sulphurs	
orange sulphur (*Colias eurytheme*)	
sleepy orange (*Eurema nicippe*)	
cloudless sulfur (*Phoebus sennae marcellina*)	
unidentified sulphur	
Column Subtotal	94

Butterfly Species	No.
Hairstreaks	
great purple hairstreak (*Atlides halesus corcorani*)	
brown elfin (*Callophrys augustinus*)	
bramble (pepperwing) hairstreak (*C. dumetorum affinis*)	1
gray hairstreak (*Strymon melinus pudica*)	
Ladies/Admirals	
California sister (*Adelpha bredowii californica*)	
Lorquin's admiral (*Limenitis lorquini*)	
west coast lady (*Vanessa annabella*)	
red admiral (*V. atalanta rubria*)	
painted lady (*V. cardui*)	1
American (Virginia) lady (*V. virginiensis*)	
unidentified lady (*Vanessa sp.*)	1
Swallowtails	
pale swallowtail (*Papilio eurymedon*)	11
western tiger swallowtail (*P. rutulus*)	
anise swallowtail (*P. zelicaon*)	
Miscellaneous	
monarch (*Danaus plexippus*)	
common buckeye (*Junonia coenia grisea*)	
mourning cloak (*Nymphalis antiopa*)	
Skippers	
funereal duskywing (*Erynnis funeralis*)	1
mournful duskywing (*Erynnis tristis*)	11
fiery skipper (*Hylephila phyleus*)	
white (common) checkered-skipper (*Pyrgus albescens*)	1
Other	
Column Subtotal	11
Total	105



VAD'OS ERICA H
QUEBEC(Y, Z, DD) 8/2/16
SGAP: 840, 60FF, 1-3, 20%
SGP: 1080, 60FF, 1-3, 10%
BIDS: ONE2 B, ANDREW B.
BEN E (supervised)

RAVE	BUSH	NOMO	ANCE
RGSP	GATH	WREN	WASP
GALT	WOME	KATA	COHN
YRUA	BUSH	LEED	HOFT
NOFL	TREE	BGKN	

COYOTE	BOR
COTTONTAIL	SIDE-BLOTCH
BLUE SP III	PAINTED II
SULPHUR III	RED ADMIRAL I
BEAR S ~~III~~ ~~III~~ ~~III~~	LADY SP. II
CARPET ~~III~~ ~~III~~ ~~III~~ ~~III~~ ~~III~~	CREEK SP I
SQUIRREL ~~III~~ ~~III~~ ~~III~~ II	MARINE I
RUNNER III	WHITE SP. I

FLOWER: BALSAM, DICOT GRASS, MOSS, PINE, BLEV, BRUNESPIKE, MEADOWSWEET, PLANTAIN, SPHAGNUM, SPRUCE, TEA, VETCH, WILLOW, WOOD SORREL, CRANBERRY, FERN, GOLDENROD, HAWKWEED, HEATHER, LABRADOR TEA, MOUNTAIN ASH, SAXIFRAGE, ALPINE, SEDGE, BISTORT, CLUBMOSS, LICHEN, ARCTIC, SEDGE, LUPINE

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: John Lovio **Date:** 3-10-16

Site Name: JPD-08 Proctor Valley – Village 14 of Otay Ranch **Site Visit No:** 3

Area Surveyed Polygon A **Acres Surveyed** 55 **Survey Time:** 6.25 hours **Acres per Hour:** 8.8

Other Surveyors Present: none

Field Conditions				
	Time (24 hr)	**Temperature (˚F)**	**Wind Speed (mph)**	**Cloud Cover**
Start	0945	66	1, southwest	50% high thin haze
End	1555	High 78 to 70	5, southwest	100% clouds
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)
Coastal sage scrub: *Artemisia californica*, *Eriogonum fasciculatum*, *Malosma laurina*, *Salvia apiana*, *Bahiopsis laciniata*.

Host Plants	**Obs.**	**Nectar Plants**	**Obs.**
dwarf plantain (*Plantago erecta*)	X	popcorn flower (*Cryptantha/Plagiobothrys* spp.)	X
purple owl's clover (*Castilleja exserta*)	Very few	goldfields (*Lasthenia* spp.)	
snapdragon (*Antirrhinum coulterianum*)		goldenstar (*Muilla* spp.)	
birds-beak (*Cordylanthus rigidus*)		fiddleneck (*Amsinckia menziesii* var. *intermedia*)	
woolly plantain (*Plantago patagonica*)		onion (*Allium* spp.)	X
Chinese houses (*Collinsia* spp.)		buckwheat (*Eriogonum fasciculatum*)	X
		ground pink (*Linanthus dianthiflorus*)	
Host Plant Mapping Updated (*circle*) Yes **No**		**New Area or Existing Area** (*circle*) New **Existing** Both	
Species updated (list)			

Butterfly Species	**No.**	**Butterfly Species**	**No.**
Checkerspots		**Hairstreaks**	
California patch (*Chlosyne californica*)		great purple hairstreak (*Atlides halesus corcorani*)	
Gabb's checkerspot (*C. gabbii*)		brown elfin (*Callophrys augustinus*)	
Quino checkerspot (*Euphydryas editha quino*)		bramble (perplexing) hairstreak (C. *dumetorum affinis*)	
chalcedon checkerspot (*E. chalcedona chalcedona*)		gray hairstreak (*Strymon melinus pudica*)	1
Leanira checkerspot (*Thessalia leanira wrighti*)		**Ladies/Admirals**	
Mylitta crescent (*Phyciodes mylitta*)		California sister (*Adelpha bredowii californica*)	
Blues		Lorquin's admiral (*Limenitis lorquini*)	
western pygmy-blue (*Brephidium exila*)		west coast lady (*Vanessa annabella*)	
western tailed blue (*Everes amyntula*)		red admiral (*V. atalanta rubria*)	
southern blue (*Glaucopsyche lygdamus australis*)	3	painted lady (*V. cardui*)	
Edward's blue (*Hemiargus ceraunus gyas*)		American (Virginia) lady (*V. virginiensis*)	2
Acmon blue (*Icaricia acmon acmon*)	3	unidentified lady (*Vanessa* sp.)	
marine blue (*Leptotes marina*)	2	**Swallowtails**	
unidentified blue	1	pale swallowtail (*Papilio eurymedon*)	1
Whites		western tiger swallowtail (*P. rutulus*)	
Sara orangetip (*Anthocharis sara sara*)	17	anise swallowtail (*P. zelicaon*)	
desert (Felder's) orangetip (*A. cethura*)		**Miscellaneous**	
common California ringlet (*Coenonympha californica*)	2	monarch (*Danaus plexippus*)	
cabbage white (*Pieris rapae*)		common buckeye (*Junonia coenia grisea*)	
checkered (common) white (*Pontia protodice*)		mourning cloak (*Nymphalis antiopa)*	
spring white (*P. sisymbrii*)		**Skippers**	
unidentified white	2	funereal duskywing (*Erynnis funeralis*)	1
Metalmarks		mournful duskywing (*Erynnis tristis*)	
Behr's metalmark (*Apodemia mormo virgulti*)	12	fiery skipper (*Hylephila phyleus*)	
Wright's metalmark (*Calephelis wrighti*)		white (common) checkered-skipper (*Pyrgus albescens*)	
Sulphurs		**Other**	
orange sulphur (*Colias eurytheme*)	1	Unidentified *Erynnis*	6
sleepy orange (*Eurema nicippe*)			
cloudless sulfur (*Phoebus sennae marcellina*)			
unidentified sulphur	4		
Column Subtotal	**47**	**Column Subtotal**	**11**
		Total	**58**

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: Chez Bumgarner Date: 3/11/16

Site Name: JPD-58 Proctor Valley – Village 14 of Otay Ranch Site Visit No: 3

Area Surveyed: AA (Actual) Acres Surveyed: 40 Survey Time: 4hr 15min Acres per Hour: 9.4

Other Surveyors Present: Caitlin Bumgarner (supervised)

Field Conditions

	Time (24 hr)	Temperature (F)	Wind Speed (mph)	Cloud Cover
Start	1100	68	3-7	25%
End	1515	70	7-10	100%
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)

Coastal sage scrub, NNG, branchgrassland (Malacothamnus, Artemisia, Isocoma, Baccharis, Salvia, Bloomeria, Stipa sp., Avena sp.)

Host Plants	Obs.	Nectar Plants	Obs.
dwarf plantain (*Plantago erecta*)	FLWR	popcorn flower (*Cryptantha/Plagiobothrys* spp.)	FLWR
purple owl's clover (*Castilleja exserta*)	FLWR	goldfields (*Lasthenia* spp.)	FLWR
snapdragon (*Antirrhinum coulterianum*)		goldenstar (*Muilla* spp.)	
birds-beak (*Cordylanthus rigidus*)		fiddleneck (*Amsinckia menziesii* var. *intermedia*)	
woolly plantain (*Plantago patagonica*)		onion (*Allium* spp.)	FLWR
Chinese houses (*Collinsia* spp.)		buckwheat (*Eriogonum fasciculatum*)	FLWR
		ground pink (*Linanthus dianthiflorus*)	FLWR
Host Plant Mapping Updated (circle) Yes No		**New Area or Existing Area** (circle) New Existing Both	
Species updated (list) Plantago, Castilleja			

Butterfly Species	No.	Butterfly Species	No.
Checkerspots		**Hairstreaks**	
California patch (*Chlosyne californica*)		great purple hairstreak (*Atlides halesus corcoroni*)	
Gabb's checkerspot (*C. gabbii*)		brown elfin (*Callophrys augustinus*)	
Quino checkerspot (*Euphydryas editha quino*)		bramble (perplexing) hairstreak (*C. dumetorum affinis*)	
chalcedon checkerspot (*E. chalcedona chalcedona*)		gray hairstreak (*Strymon melinus pudica*)	
Leanira checkerspot (*Thessalia leanira wrighti*)		**Ladies/Admirals**	
Mylitta crescent (*Phyciodes mylitta*)		California sister (*Adelpha bredowii californica*)	
Blues		Lorquin's admiral (*Limenitis lorquini*)	
western pygmy-blue (*Brephidium exilis*)		west coast lady (*Vanessa annabella*)	
western tailed blue (*Everes amyntula*)		red admiral (*V. atalanta rubria*)	
southern blue (*Glaucopsyche lygdamus australis*)	I	painted lady (*V. cardui*)	
Edward's blue (*Hemiargus ceraunus gyas*)		American (Virginia) lady (*V. virginiensis*)	
Acmon blue (*Icaricia acmon acmon*)		unidentified lady (*Vanessa* sp.)	II
marine blue (*Leptotes marina*)		**Swallowtails**	
unidentified blue		pale swallowtail (*Papilio eurymedon*)	
Whites		western tiger swallowtail (*P. rutulus*)	
Sara orangetip (*Anthocharis sara sara*)	IIII	anise swallowtail (*P. zelicaon*)	
desert (Felder's) orangetip (*A. cethura*)		**Miscellaneous**	
common California ringlet (*Coenonympha californica*)	IIII IIII	monarch (*Danaus plexippus*)	
cabbage white (*Pieris rapae*)		common buckeye (*Junonia coenia grisea*)	
checkered (common) white (*Pontia protodice*)		mourning cloak (*Nymphalis antiopa*)	
spring white (*P. sisymbrii*)		**Skippers**	
unidentified white	III	funereal duskywing (*Erynnis funeralis*)	III
Metalmarks		mournful duskywing (*Erynnis tristis*)	
Behr's metalmark (*Apodemia mormo virgulti*)	IIII IIII	fiery skipper (*Hylephila phyleus*)	
Wright's metalmark (*Calephelis wrighti*)		white (common) checkered-skipper (*Pyrgus albescens*)	IIII III
Sulphurs		**Other**	
orange sulphur (*Colias eurytheme*)	I		
sleepy orange (*Eurema nicippe*)			
cloudless sulfur (*Phoebus sennae marcellina*)			
unidentified sulphur	III		
Column Subtotal	55	Column Subtotal	19
		Total	409

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: Crysta Dickson **Date:** 3/10/2016

Site Name: JPD-08 Proctor Valley – Village 14 of Otay Ranch **Site Visit No:** 3

Area Surveyed B **Acres Surveyed** 60 **Survey Time:** 6.5 **Acres per Hour:** 9.2

Other Surveyors Present:

Field Conditions				
	Time (24 hr)	**Temperature (˚F)**	**Wind Speed (mph)**	**Cloud Cover**
Start	0830	65	1-9	10
End	1450	71.6	2-5	80
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)

Host Plants	**Obs.**	**Nectar Plants**	**Obs.**
dwarf plantain (*Plantago erecta*)	Y	popcorn flower (*Cryptantha/Plagiobothrys* spp.)	Y
purple owl's clover (*Castilleja exserta*)		goldfields (*Lasthenia* spp.)	
snapdragon (*Antirrhinum coulterianum*)		goldenstar (*Muilla* spp.)	
birds-beak (*Cordylanthus rigidus*)		fiddleneck (*Amsinckia menziesii* var. *intermedia*)	
woolly plantain (*Plantago patagonica*)		onion (*Allium* spp.)	Y
Chinese houses (*Collinsia* spp.)		buckwheat (*Eriogonum fasciculatum*)	
		ground pink (*Linanthus dianthiflorus*)	
Host Plant Mapping Updated (*circle*) Yes	No	**New Area or Existing Area** (*circle*) New	Existing Both
Species updated (list)			

Butterfly Species	**No.**	**Butterfly Species**	**No.**
Checkerspots		**Hairstreaks**	
California patch (*Chlosyne californica*)		great purple hairstreak (*Atlides halesus corcorani*)	
Gabb's checkerspot (*C. gabbii*)		brown elfin (*Callophrys augustinus*)	
Quino checkerspot (*Euphydryas editha quino*)		bramble (perplexing) hairstreak (C. *dumetorum affinis*)	
chalcedon checkerspot (*E. chalcedona chalcedona*)		gray hairstreak (*Strymon melinus pudica*)	
Leanira checkerspot (*Thessalia leanira wrighti*)		**Ladies/Admirals**	
Mylitta crescent (*Phyciodes mylitta*)		California sister (*Adelpha bredowii californica*)	
Blues		Lorquin's admiral (*Limenitis lorquini*)	
western pygmy-blue (*Brephidium exila*)		west coast lady (*Vanessa annabella*)	
western tailed blue (*Everes amyntula*)		red admiral (*V. atalanta rubria*)	1
southern blue (*Glaucopsyche lygdamus australis*)	1	painted lady (*V. cardui*)	1
Edward's blue (*Hemiargus ceraunus gyas*)		American (Virginia) lady (*V. virginiensis*)	
Acmon blue (*Icaricia acmon acmon*)	3	unidentified lady (*Vanessa* sp.)	
marine blue (*Leptotes marina*)		**Swallowtails**	
unidentified blue		pale swallowtail (*Papilio eurymedon*)	
Whites		western tiger swallowtail (*P. rutulus*)	
Sara orangetip (*Anthocharis sara sara*)	12	anise swallowtail (*P. zelicaon*)	
desert (Felder's) orangetip (*A. cethura*)		**Miscellaneous**	
common California ringlet (*Coenonympha californica*)		monarch (*Danaus plexippus*)	
cabbage white (*Pieris rapae*)		common buckeye (*Junonia coenia grisea*)	
checkered (common) white (*Pontia protodice*)		mourning cloak (*Nymphalis antiopa)*	
spring white (*P. sisymbrii*)		**Skippers**	
unidentified white		funereal duskywing (*Erynnis funeralis*)	10
Metalmarks		mournful duskywing (*Erynnis tristis*)	
Behr's metalmark (*Apodemia mormo virgulti*)	17	fiery skipper (*Hylephila phyleus*)	
Wright's metalmark (*Calephelis wrighti*)		white (common) checkered-skipper (*Pyrgus albescens*)	1
Sulphurs		**Other**	
orange sulphur (*Colias eurytheme*)	3		
sleepy orange (*Eurema nicippe*)			
cloudless sulfur (*Phoebus sennae marcellina*)			
unidentified sulphur			
Column Subtotal	**36**	**Column Subtotal**	**13**
		Total	**49**

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: Chez Bourgeaker **Date:** 3/10/16

Site Name: JPD-06 Proctor Valley – Village 14 of Otay Ranch **Site Visit No:** 3

Area Surveyed Y, BB **Acres Surveyed** 104 **Survey Time:** 7hr 30min **Acres per Hour:** 13.8 (7hr 30min)

Other Surveyors Present: Andrew Boucher

Field Conditions	Time (24 hr)	Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start	0830	63	0-2	10%
End	1600	74	2-4	80%
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)

CSS, chaparral, native bunch grass

Baccharis sp. grassland, Malacothamnus fasciculatus, chamise, Yucca sp., Eriodictyon sp.)

Host Plants	Obs.	Nectar Plants	Obs.
dwarf plantain (Plantago erecta)	Yes	popcorn flower (Cryptantha/Plagiobothrys spp.)	
purple owl's clover (Castilleja exserta)		goldfields (Lasthenia spp.)	
snapdragon (Antirrhinum coulterianum)		goldenstar (Muilla spp.)	
birds-beak (Corylanthus rigidus)		fiddleneck (Amsinckia menziesii var. intermedia)	
woolly plantain (Plantago patagonica)		onion (Allium spp.)	
Chinese houses (Collinsia spp.)		buckwheat (Eriogonum fasciculatum)	
		goldenbush (Linanthus dianthiflorus)	
Host Plant Mapping Updated (circle) Yes No		**New Area or Existing Area** (circle) New Existing Both	
Species updated (list)			

Butterfly Species	No.	Butterfly Species	No.
Checkerspots		**Hairstreaks**	
California patch (Chlosyne californica)		great purple hairstreak (Atlides halesus corcorani)	
Gabb's checkerspot (C. gabbii)	HF	brown elfin (Callophrys augustinus)	
Quino checkerspot (Euphydryas editha quino)		brantole (perplexing) hairstreak (C. dumetorum affinis)	
chalcedon checkerspot (E. chalcedona chalcedona)		gray hairstreak (Strymon melinus pudica)	
Leanira checkerspot (Thessalia leanira wrighti)		**Ladies/Admirals**	
Mylitta crescent (Phyciodes mylitta)		California sister (Adelpha bredowii californica)	
Blues		Lorquin's admiral (Limenitis lorquini)	
western pygmy-blue (Brephidium exile)		west coast lady (Vanessa annabella)	
western tailed blue (Everes amyntula)		red admiral (V. atalanta rubria)	
southern blue (Glaucopsyche lygdamus australis)	1	painted lady (V. cardui)	HF 11
Edward's blue (Hemiargus ceraunus gyas)		American (Virginia) lady (V. virginiensis)	
Acmon blue (Icaricia acmon acmon)		unidentified lady (Vanessa sp.)	HF 11
marine blue (Leptotes marina)	1	**Swallowtails**	
unidentified blue	1	pale swallowtail (Papilio eurymedon)	
Whites		western tiger swallowtail (P. rutulus)	
Sara orangetip (Anthocharis sara sara)	40 HF 30F 11	anise swallowtail (P. zelicaon)	
desert (Felder's) orangetip (A. cethura)		**Miscellaneous**	
common California ringlet (Coenonympha californica)	3HF 3M 1L	monarch (Danaus plexippus)	1
cabbage white (Pieris rapae)		common buckeye (Junonia coenia grisea)	1HF
checkered (common) white (Pontia protodice)		mourning cloak (Nymphalis antiopa)	1
spring white (P. sisymbrii)		**Skippers**	
unidentified white	1HF 1M	funereal duskywing (Erynnis funeralis)	HF 11
Metalmarks		mournful duskywing (Erynnis tristis)	11
Behr's metalmark (Apodemia mormo virgulti)	1 HF, 1M, 1F	fiery skipper (Hylephila phyleus)	
Wright's metalmark (Calephelis wrighti)		white (common) checkered-skipper (Pyrgus albescens)	11
Sulphurs		**Other**	
orange sulphur (Colias eurytheme)	1		
sleepy orange (Eurema nicippe)			
cloudless sulfur (Phoebus sennae marcellina)			
unidentified sulphur	1M		
Column Subtotal	95	Column Subtotal	37
		Total	132

27 HF

127

HF 3 M 1 F 1 L 1 M 1 HF 1 M 1 HF 1 M 1 HF

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: Blythe Pannell Date: 3-13-2016

Site Name: PP-08 Proctor Valley – Village 14 of Otay Ranch Site Visit No: 3

Area Surveyed: C Acres Surveyed: 16.5 Survey Time: 2 Acres per Hour: 8.25

Other Surveyors Present: Crystal Dreson

Field Conditions				
	Time (24 hr)	Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start	1100	75	3-5	25%
End	1300	72	4-6	10%
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)
CSS, CC, SPIC

Host Plants	Obs.	Nectar Plants	Obs.
dwarf plantain (*Plantago erecta*)		popcorn flower (*Cryptantha/Plagiobothrys* spp.)	✓
purple owl's clover (*Castilleja exserta*)	✓	goldfields (*Lasthenia* spp.)	
snapdragon (*Antirrhinum coulterianum*)		goldenaster (*Mulla* spp.)	
bird's beak (*Cordylanthus rigidus*)		fiddleneck (*Amsinckia menziesii* var. *intermedia*)	
woolly plantain (*Plantago patagonica*)		onion (*Allium* spp.)	✓
Chinese houses (*Collinsia* spp.)		buckwheat (*Eriogonum fasciculatum*)	✓
		ground pink (*Linanthus dianthiflorus*)	
Host Plant Mapping Updated (circle) yes no		New Area or Existing Area (circle) New Existing Both	
Species updated (list)			

Butterfly Species	No.	Butterfly Species	No.
Checkerspots		**Hairstreaks**	
California patch (*Chlosyne californica*)		great purple hairstreak (*Atlides halesus corcorani*)	
Gabb's checkerspot (*C. gabbii*)		brown elfin (*Callophrys augustinus*)	
Quino checkerspot (*Euphydryas editha quino*)		dramble [gerplesing] hairstreak (*C. dumetorum affinis*)	
malcolm checkerspot (*E. chalcedona chalcedona*)		gray hairstreak (*Strymon melinus putnita*)	
Leanira checkerspot (*Thessalia leanira wright*)		**Ladies/Admirals**	
Mylitta crescent (*Phyciodes mylitta*)		California sister (*Adelpha bredowii californica*)	
Blues		Lorquin's admiral (*Limenitis lorquini*)	
western pygmy-blue (*Brephidium exile*)		west coast lady (*Vanessa annabella*)	
western tailed blue (*Everes amyntula*)		red admiral (*V. atalanta rubria*)	
southern blue (*Glaucopsyche lygdamus australis*)		painted lady (*V. cardui*)	
Edward's blue (*Hemiargus ceraunus gyas*)		American (Virginia) lady (*V. virginiensis*)	
Acmon blue (*Icaricia acmon acmon*)		unidentified lady (*Vanessa* sp.)	1
marine blue (*Leptotes marina*)		**Swallowtails**	
unidentified blue	1	pale swallowtail (*Papilio eurymedon*)	1
Whites		western tiger swallowtail (*P. rutulus*)	
Sara orangetip (*Anthocharis sara sara*)	5	anise swallowtail (*P. zelicaon*)	
desert (Felder's) orangetip (*A. cethura*)		**Miscellaneous**	
common California sleigh (*Coenonympha californica*)		monarch (*Danaus plexippus*)	
cabbage white (*Pieris rapae*)		common buckeye (*Junonia coenia grisea*)	
checkered (common) white (*Pontia protodice*)		mourning cloak (*Nymphalis antiopa*)	
spring white (*P. sisymbrii*)		**Skippers**	
unidentified white	2	funereal duskywing (*Erynnis funeralis*)	
Metalmarks		mournful duskywing (*Erynnis tristis*)	
Behr's metalmark (*Apodemia mormo virgulti*)	10	fiery skipper (*Hylephila phyleus*)	
Wright's metalmark (*Calephelis wrighti*)		white (common) checkered-skipper (*Pyrgus albescens*)	
Sulphurs		**Other**	
orange sulphur (*Colias eurytheme*)			
sleepy orange (*Eurema nicippe*)			
cloudless sulfur (*Phoebus sennae marcellina*)			
unidentified sulphur			
Pictures Submitted	18	Pictures Submitted	20

Total Colonies 2 Hand: 20

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: CDICKSON Date: 03/13/16

Site Name: 290-08 Proctor Valley – Village 14 of Otay Ranch Site Visit No: 2

Acres Surveyed: ~16.5 Survey Times: [illegible] Acres per Hour: [illegible] 8.25

Other Surveyors Present: B. PARKER

Field Conditions	Time (24 hr)	Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start	1100	74 gmd/74 air	4-6	25%
End	1300		4-6	10%
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)

NNG/CSS/CCH

Host Plants	Obs.	Nectar Plants	Obs.
dwarf plantain (Plantago erecta)	✓	popcorn flower (Cryptantha/Plagiobothrys spp.)	✓
purple owl's clover (Castilleja exserta)	✓	goldfields (Lasthenia spp.)	
snapdragon (Antirrhinum coulterianum)		goldenaster (Muilla spp.)	
bella-book (Confusellus rigidus)		fiddleneck (Amsinckia menziesii var. intermedia)	
woolly plantain (Plantago patagonica)		onion (Allium spp.)	✓
Chinese houses (Collinsia spp.)		bur-sage/wheat (Ericameria fasciculatum)	✓
		goldenrod pine (Lasthenia chrysostoma)	
Host Plant Mapping Updated (circle) Yes / No		New Area or Existing Area (circle) New / Existing / Both	
Species updated (list)			

Butterfly Species	No.	Butterfly Species	No.
Checkerspots		Hairstreaks	
California patch (Chlosyne californica)		great purple hairstreak (Atlides halesus corcorani)	
Gabb's checkerspot (C. gabbii)	1	hedgerow (Callophrys augustinus)	
Quino checkerspot (Euphydryas editha quino)		brushed (perplexing) hairstreak (C. dumetorum affinis)	
chalcedon checkerspot (E. chalcedona chalcedona)		gray hairstreak (Strymon melinus postica)	
Lorquin checkerspot (Tentaxius lorquini wrighti)		Ladies/Admirals	
Mylitta crescent (Phyciodes mylitta)		California sister (Adelpha bredowii californica)	
Blues		Lorquin's admiral (Limenitis lorquini)	
western pygmy blue (Brephidium exile)		west coast lady (Vanessa annabella)	
western tailed blue (Everes amyntula)		red admiral (V. atalanta rubria)	
southern blue (Glaucopsyche lygdamus australis)	1	painted lady (V. cardui)	
Edward's blue (Hemiargus ceraunus gyas)		American (Virginia) lady (V. virginiensis)	
Acmon blue (Icaricia acmon acmon)		west. painted lady (Vanessa sp.)	
marine blue (Leptotes marina)		Swallowtails	
unidentified blue		pale swallowtail (Papilio eurymedon)	
Whites		anise or tiger swallowtail (P. rutulus)	
Sara orangetip (Anthocharis sara sara)	UNPOLLINATED	western swallowtail (P. zelicaon)	
desert (Pieris sisymbrii ch. cethura)		Miscellaneous	
common California migrant (Colias/eurytheme)		monarch (Danaus plexippus)	
cabbage white (Pieris rapae)	1	common buckeye (Junonia coenia protei)	
checkered (common) white (Pontia protodice)		mourning cloak (Nymphalis antiopa)	
spring white (P. sisymbrii)	1	Skippers	
unidentified white		funereal duskywing (Erynnis funeralis)	
Metalmarks		mournful duskywing (Erynnis tristis)	
Behr's metalmark (Apodemia mormo virgulti)		fiery skipper (Hylephila phyleus)	
Wright's metalmark (Calephelis wrighti)		white (common) checkered skipper (Pyrgus albescens)	
Sulphurs		Other	
orange sulphur (Colias eurytheme)	1		
dogface (Zerene cesonia)			
cloudless sulfur (Phoebis sennae marcellina)			
unidentified sulphur			
Column Subtotal	29	Column Subtotal	4
		Total	33

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: Chez Brengraber

Site Name: JPO-08 Proctor Valley – Village 14 of Otay Ranch

Date: 3/15/16

Site Visit No: 3

Area Surveyed: CC, PF

Acres Surveyed: 68

Survey Time: 8hr 15min

Acres per Hour: 8.24

Other Surveyors Present: /

Field Conditions	Time (24 hr)	Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start	0915	63.4	0-1	0
End	1730	73.5	2-4	0
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)

VNG, native grassland, CSS, chaparral

Buddleja, Eriodictyon, Avena, Stipa sp., Nassella, buckwheat, Malacothrix, Ericameria cooperi

Host Plants	Obs.
dwarf plantain (*Plantago erecta*)	
purple owl's clover (*Castilleja exserta*)	
snapdragon (*Antirrhinum coulterianum*)	
birds-beak (*Cordylanthus rigidus*)	
woolly plantain (*Plantago patagonica*)	
Chinese houses (*Collinsia* spp.)	
Host Plant Mapping Updated (circle) Yes (No)	
Species updated (list)	

Nectar Plants	Obs.
popcorn flower (*Cryptantha/Plagiobothrys* spp.)	
goldfields (*Lasthenia* spp.)	
goldenstar (*Muilla* spp.)	
fiddleneck (*Amsinckia menziesii* var. *intermedia*)	
clover (*Allium* spp.)	
buckwheat (*Eriogonum fasciculatum*)	
ground pink (*Linanthus dianthiflorus*)	
New Area or Existing Area (circle) New Existing Both	

Butterfly Species	No.
Checkerspots	
California patch (*Chlosyne californica*)	
Gabb's checkerspot (*C. gabbii*)	
Quino checkerspot (*Euphydryas editha quino*)	
rhalcedon checkerspot (*E. chalcedona chalcedona*)	
Leanira checkerspot (*Thessalia leanira wrighti*)	
Mylitta crescent (*Phyciodes mylitta*)	
Blues	
western pygmy-blue (*Brephidium exile*)	
western tailed blue (*Everes amyntula*)	
southern blue (*Glaucopsyche lygdamus australis*)	
Edward's blue (*Hemiargus ceraunus gyas*)	
Acmon blue (*Icaricia acmon acmon*)	
marine blue (*Leptotes marina*)	
unidentified blue	
Whites	10
Sara orangetip (*Anthocharis sara sara*)	
desert (Felder's) orangetip (*A. cethura*)	
common California ringlet (*Coenonympha california*)	
cabbage white (*Pieris rapae*)	
checkered (common) white (*Pontia protodice*)	
spring white (*P. sisymbrii*)	
unidentified white	
Metalmarks	
Behr's metalmark (*Apodemia mormo virgulti*)	
Wright's metalmark (*Calephelis wrighti*)	
Sulphurs	
orange sulphur (*Colias eurytheme*)	1
sleepy orange (*Eurema nicippe*)	
cloudless sulfur (*Phoebus sennae marcellina*)	
unidentified sulphur	
Column Subtotal	62 ---

Butterfly Species	No.
Hairstreaks	
great purple hairstreak (*Atlides halesus corcorani*)	
brown elfin (*Callophrys augustinus*)	
Sonoran (perplexing) hairstreak (*C. dumetorum affinis*)	
gray hairstreak (*Strymon melinus putnita*)	
Ladies/Admirals	
California sister (*Adelpha bredowii californica*)	
Lorquin's admiral (*Limenitis lorquini*)	
west coast lady (*Vanessa annabella*)	
red admiral (*V. atalanta rubria*)	
painted lady (*V. cardui*)	
American (Virginia) lady (*V. virginiensis*)	
unidentified lady (*Vanessa* sp.)	
Swallowtails	
pale swallowtail (*Papilio eurymedon*)	
western tiger swallowtail (*P. rutulus*)	
anise swallowtail (*P. zelicaon*)	
Miscellaneous	
monarch (*Danaus plexippus*)	
common buckeye (*Junonia coenia grisea*)	
mourning cloak (*Nymphalis antiopa*)	
Skippers	
funereal duskywing (*Erynnis funeralis*)	
mournful duskywing (*Erynnis tristis*)	
fiery skipper (*Hylephila phyleus*)	
white (common) checkered-skipper (*Pyrgus albescens*)	
Other	
Unknown Tiger	1
Column Subtotal	29
Total	91 ---

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2016 Quino Checkerspot Butterfly Survey Form

Surveyor: BRIAN PRESCOTT Date: 3-13-2016

Site Name: JPP-06 Proctor Valley - Village 14 of Otay Ranch Site Visit No: 3

Area Surveyed: D Acres Surveyed: 31 Survey Time: 2.5 Acres per Hour: 8-4

Other Surveyors Present: CRYSTAL DIETRICH

Field Conditions				
	Time (24 hr)	Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start	1300	72	4-6	10%
End	1530	67	8-10	60%
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)

Host Plants	Obs.
desert plantain (*Plantago ovata*)	
purple owl's clover (*Castilleja exserta*)	
pincushion (*Andreminum coulterianum*)	
onion-lawn (*Castylanthus rigidus*)	
woolly plantain (*Plantago patagonica*)	
Chinese houses (*Collinsia spp.*)	
Host Plant Mapping Updated (circle) Yes NO	
Species updated (list)	

Nectar Plants	Obs.
popcorn flower (*Cryptantha/Plagiobothrys spp.*)	X
goldfields (*Lasthenia spp.*)	
gilia/starr (*Mulla spp.*)	
tidytips (*Amsinckia menziesii var. intermedia*)	
onion (*Allium spp.*)	
buckwheat (*Eriogonum fasciculatum*)	X
ground pink (*Linanthus dianthiflorus*)	X
New Area or Existing Area (circle) New Existing Both	

Butterfly Species	No.
Checkerspots	
California patch (*Chlosyne californica*)	
Gabb's checkerspot (*C. gabbii*)	1
Quino checkerspot (*Euphydryas editha quino*)	
chalcedon checkerspot (*E. chalcedona chalcedona*)	
Leanira checkerspot (*Thessalia leanira wrighti*)	
Mylitta crescent (*Phyciodes mylitta*)	
Blues	
western pygmy-blue (*Brephidium exile*)	
western tailed blue (*Everes amyntula*)	
southern blue (*Glaucopsyche lygdamus australis*)	7
Edward's blue (*Hemiargus ceraunus gyas*)	
Acmon blue (*Icaricia acmon acmon*)	
marine blue (*Leptotes marina*)	
unidentified blue	
Whites	
Sara orangetip (*Anthocharis sara sara*)	2
desert (Fiske's) orangetip (*A. cethura*)	
common California orange (*Coenonympha californica*)	1
cabbage white (*Pieris rapae*)	
checkered (common) white (*Pontia protodice*)	
spring white (*P. sisymbrii*)	
unidentified white	
Metalmarks	
Behr's metalmark (*Apodemia mormo virgulti*)	2
Wright's metalmark (*Calephelis wrighti*)	
Sulphurs	
orange sulphur (*Colias eurytheme*)	
dainty orange (*Eurema nicippe*)	
cloudless sulfur (*Phoebus sennae marcellina*)	
unidentified sulphur	
Subtotal	16

Butterfly Species	No.
Hairstreaks	
great purple hairstreak (*Atlides halesus corcorani*)	
brown elfin (*Callophrys augustinus*)	
lotis blue (*pseudolotis*) hairstreak (*C. dumetorum affine*)	
gray hairstreak (*Strymon melinus postici*)	
Ladies/Admirals	
California sister (*Adelpha bredowii californica*)	
Lorquin's admiral (*Limenitis lorquini*)	
west coast lady (*Vanessa annabella*)	
red admiral (*V. atalanta rubria*)	
painted lady (*V. cardui*)	
American (Virginia) lady (*V. virginiensis*)	1
unidentified lady (*Vanessa sp.*)	
Swallowtails	
pale swallowtail (*Papilio eurymedon*)	
western tiger swallowtail (*P. rutulus*)	
anise swallowtail (*P. zelicaon*)	
Miscellaneous	
monarch (*Danaus plexippus*)	
common buckeye (*Junonia coenia grisea*)	
mourning cloak (*Nymphalis antiopa*)	
Skippers	
funereal duskywing (*Erynnis funeralis*)	3
mournful duskywing (*Erynnis tristis*)	
fiery skipper (*Hylephila phyleus*)	
white (common) checkered skipper (*Pyrgus albescens*)	
Other	
Subtotal	7

Total Columns 1-4 GRAND: 30

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: DICKSON Date: 03/13/16

Site Name: PD-08 Proctor Valley – Village 14 of Otay Ranch PD Site Visit No:

Acres Surveyed: 21 Survey Time: 2.5 Acres per Hour: 8.4

Other Surveyors Present: B. PARKER

Field Conditions				
	Time (24 hr)	Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start	1300	72 gnd	4-6	10%
End	1530	61 gnd	8-10	60%
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)

CCH / CSS / NNG

Host Plants	Obs.	Nectar Plants	Obs.
desert plantain (*Plantago erecta*)		popcorn flower (*Cryptantha/Plagiobothrys* spp.)	✓
purple owl's clover (*Castilleja exserta*)	✓	goldfields (*Lasthenia* spp.)	
snapdragon (*Antirrhinum coulterianum*)		goldenrod (*Mulilla* spp.)	
birds-beak (*Cordylanthus rigidus*)		tidytips (*Amsinckia menziesii* var. *intermedia*)	
woolly plantain (*Plantago patagonica*)		onion (*Allium* spp.)	✓
Chinese houses (*Collinsia* spp.)		buckwheat (*Eriogonum fasciculatum*)	✓
		golden yarrow (*Eriophyllum confertiflorum*)	✓
Host Plant Mapping Updated (circle) Yes	No	New Area or Existing Area (circle) New	Existing Both
Species updated (list)			

Butterfly Species	No.	Butterfly Species	No.
Checkerspots		**Hairstreaks**	
California patch (*Chlosyne californica*)		gray hairstreak (*Atlides halesus corcoran*)	
Gabb's checkerspot (*E. gabbii*)	11	bramble hairstreak (*Callophrys augustinus*)	
Quino checkerspot (*Euphydryas editha quino*)		brown elfin (perplexing) hairstreak (*C. dumetorum affinis*)	
chalcedon checkerspot (*E. chalcedona chalcedona*)		gray hairstreak (*Strymon melinus putica*)	
Leanira checkerspot (*Thessalia leanira wrighti*)		**Ladies/Admirals**	
Mylitta crescent (*Phyciodes mylitta*)		California sister (*Adelpha bredowii californica*)	
Blues		Lorquin's admiral (*Limenitis lorquini*)	
western pygmy blue (*Brephidium exilis*)		west coast lady (*Vanessa annabella*)	
western tailed blue (*Everes amyntula*)		red admiral (*V. atalanta rubria*)	
southern blue (*Glaucopsyche lygdamus australis*)	11	painted lady (*V. cardui*)	
Edward's blue (*Hemiargus ceraunus gyas*)		American (Virginia) lady (*V. virginiensis*)	11
Acmon blue (*Icaricia acmon acmon*)	1	unidentified lady (*Vanessa* sp.)	
marine blue (*Leptotes marina*)		**Swallowtails**	
unidentified blue		pale swallowtail (*Papilio eurymedon*)	
Whites		western tiger swallowtail (*P. rutulus*)	
Sara orangetip (*Anthocharis sara sara*)		anise swallowtail (*P. zelicaon*)	
desert (Felder's) orangetip (*A. cethura*)		**Miscellaneous**	
common California migtail (*Coenonympha californica*)		mourning cloak (*Nymphalis antiopa*)	
cabbage white (*Pieris rapae*)		common buckeye (*Junonia coenia grisea*)	
checkered (common) white (*Pontia protodice*)		monarch (*Danaus plexippus*)	
spring white (*P. sisymbrii*)		**Skippers**	
unidentified white		funereal duskywing (*Erynnis funeralis*)	1
Metalmarks		mournful duskywing (*Erynnis tristis*)	
Behr's metalmark (*Apodemia mormo virgulti*)	111	fiery skipper (*Hylephila phyleus*)	
Wright's metalmark (*Calephelis wrighti*)		white (common) checkered-skipper (*Pyrgus albescens*)	
Sulphurs		Other	
orange sulphur (*Colias eurytheme*)	1		
dainty orange (*Eurema nicippe*)			
cloudless sulfur (*Phoebis sennae marcellina*)			
unidentified sulphur			
Column Subtotal	24	Column Subtotal	3
		Total	27

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: A. Borkhetar Date: 3/8/16

Site Name: JPD-08 Proctor Valley – Village 14 of Otay Ranch Site Visit No: 3

Area Surveyed: DD Acres Surveyed: 30 Survey Time: 1hr Acres per Hour: 10ac/hr/pp

Other Surveyors Present: CHEE, E. Hawkins

Field Conditions

	Time (24 hr)	Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start	1230	64°	3-5	0
End	1330	65°	3-5	0
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)

CSS

Host Plants	Obs.	Nectar Plants	Obs.
dwarf plantain (*Plantago erecta*)	X	popcorn flower (*Cryptantha/Plagiobothrys* spp.)	X
purple owl's clover (*Castilleja exserta*)	X	goldfields (*Lasthenia* spp.)	
snapdragon (*Antirrhinum coulterianum*)		goldenstar (*Muilla* spp.)	X
birds-beak (*Cordylanthus rigidus*)		fiddleneck (*Amsinckia menziesii* var. *intermedia*)	
woolly plantain (*Plantago patagonica*)		onion (*Allium* spp.)	X
Chinese houses (*Collinsia* spp.)		buckwheat (*Eriogonum fasciculatum*)	X
		ground pink (*Linanthus dianthiflorus*)	
Host Plant Mapping Updated (circle) Yes		New Area or Existing Area (circle) New Existing Both	
Species updated (list)			

Butterfly Species	No.	Butterfly Species	No.
Checkerspots		**Hairstreaks**	
California patch (*Chlosyne californica*)		great purple hairstreak (*Atlides halesus corcorani*)	
Gabb's checkerspot (*C. gabbii*)		brown elfin (*Callophrys augustinus*)	
Quino checkerspot (*Euphydryas editha quino*)		bramble (perplexing) hairstreak (*C. dumetorum affinis*)	
chalcedon checkerspot (*E. chalcedona chalcedona*)		gray hairstreak (*Strymon melinus judica*)	1
Leanira checkerspot (*Thessalia leanira wrighti*)		**Ladies/Admirals**	
Mylitta crescent (*Phyciodes mylitta*)		California sister (*Adelpha bredowii californica*)	
Blues		Lorquin's admiral (*Limenitis lorquini*)	
western pygmy-blue (*Brephidium exilis*)		west coast lady (*Vanessa annabella*)	
western tailed blue (*Everes amyntula*)		red admiral (*V. atalanta rubria*)	
southern blue (*Glaucopsyche lygdamus australis*)	1	painted lady (*V. cardui*)	
Edward's blue (*Hemiargus ceraunus gyas*)		American (Virginia) lady (*V. virginiensis*)	
Acmon blue (*Icaricia acmon acmon*)		unidentified lady (*Vanessa* sp.)	1
marine blue (*Leptotes marina*)		**Swallowtails**	
unidentified blue		pale swallowtail (*Papilio eurymedon*)	
Whites		western tiger swallowtail (*P. rutulus*)	
Sara orangetip (*Anthocharis sara sara*)	4	anise swallowtail (*P. zelicaon*)	
desert (Felder's) orangetip (*A. cethura*)		**Miscellaneous**	
common California orgiet (*Coenonympha californica*)	111	monarch (*Danaus plexippus*)	
cabbage white (*Pieris rapae*)		common buckeye (*Junonia coenia grisea*)	
checkered (common) white (*Pontia protodice*)		mourning cloak (*Nymphalis antiopa*)	
spring white (*P. sisymbrii*)		**Skippers**	
unidentified white		funereal duskywing (*Erynnis funeralis*)	11
Metalmarks		mournful duskywing (*Erynnis tristis*)	
Behr's metalmark (*Apodemia mormo virgulti*)	4	fiery skipper (*Hylephila phyleus*)	
Wright's metalmark (*Calephelis wrighti*)		white (common) checkered-skipper (*Pyrgus albescens*)	
Sulphurs		**Other**	
orange sulphur (*Colias eurytheme*)			
sleepy orange (*Eurema nicippe*)			
cloudless sulfur (*Phoebus sennae marcellina*)			
unidentified sulphur			
Column Subtotal	15	Column Subtotal	4
		Total	19

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: Brenna Ogg **Date:** 11 March 2016

Site Name: JPD-08 Proctor Valley – Village 14 of Otay Ranch **Site Visit No:** 3

Area Surveyed E **Acres Surveyed** 51 acres **Survey Time:** 2.5 hrs **Acres per Hour:** 5.1

Other Surveyors Present: Brian Lohstroh, Monica Alfaro, John Lovio

Field Conditions				
	Time (24 hr)	**Temperature (°F)**	**Wind Speed (mph)**	**Cloud Cover**
Start	10:45	63 air, 70 at ground	5-10	100%
End	13:17	67 at ground	8-12, gusts to 15	20%
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)
CS Scrub: (*B. laciniata, M. laurina, S. munzii*); **Chaparral:** (*A. fasciculatum, M. laurina, R. crocea, C. tomentosus, X. bicolor, S. apiana, M. aurantiacus, K. ambrosioides*)

Host Plants	**Obs.**	**Nectar Plants**	**Obs.**
dwarf plantain (*Plantago erecta*)	x	popcorn flower (*Cryptantha/Plagiobothrys spp.*)	X
purple owl's clover (*Castilleja exserta*)		goldfields (*Lasthenia spp.*)	
snapdragon (*Antirrhinum coulterianum*)	poss. basal rosette obs.	goldenstar (*Muilla spp.*)	X
bird's-beak (*Cordylanthus rigidus*)		fiddleneck (*Amsinckia menziesii var. intermedia*)	
woolly plantain (*Plantago patagonica*)		onion (*Allium spp.*)	X
Chinese houses (*Collinsia spp.*)		buckwheat (*Eriogonum fasciculatum*)	X
		ground pink (*Linanthus dianthiflorus*)	
Host Plant Mapping Updated (circle) Yes No		**New Area or Existing Area** (circle) New Existing Both	
Species updated (list)			

Butterfly Species	**No.**	**Butterfly Species**	**No.**
Checkerspots		**Hairstreaks**	
California patch (*Chlosyne californica*)		great purple hairstreak (*Atlides halesus corcorani*)	
Gabb's checkerspot (*C. gabbii*)	1	brown elfin (*Callophrys augustinus*)	
Quino checkerspot (*Euphydryas editha quino*)		bramble (gerdineia) hairstreak (*C. dumetorum affinis*)	
chalcedon checkerspot (*E. chalcedona chalcedona*)		gray hairstreak (*Strymon melinus pudica*)	
Leanira checkerspot (*Thessalia leanira wrighti*)		**Ladies/Admirals**	
Mylitta crescent (*Phyciodes mylitta*)		California sister (*Adelpha bredowii californica*)	
Blues		Lorquin's admiral (*Limenitis lorquini*)	
western pygmy-blue (*Brephidium exile*)		west coast lady (*Vanessa annabella*)	
western tailed blue (*Everes amyntula*)		red admiral (*V. atalanta rubria*)	
southern blue (*Glaucopsyche lygdamus australis*)	4	painted lady (*V. cardui*)	
Edward's blue (*Hemiargus ceraunus gyas*)		American (Virginia) lady (*V. virginiensis*)	5
Acmon blue (*Icaricia acmon acmon*)		unidentified lady (*Vanessa sp.*)	3
marine blue (*Leptotes marina*)		**Swallowtails**	
Spring azure (*Celastrina ladon echo*)		pale swallowtail (*Papilio eurymedon*)	2
Whites		western tiger swallowtail (*P. rutulus*)	
Sara orangetip (*Anthocharis sara sara*)	30	anise swallowtail (*P. zelicaon*)	
desert (Felder's) orangetip (*A. cethura*)		**Miscellaneous**	
common California nymph (*Coenonympha californica*)		monarch (*Danaus plexippus*)	
cabbage white (*Pieris rapae*)		common buckeye (*Junonia coenia grisea*)	
checkered (common) white (*Pontia protodice*)	1	mourning cloak (*Nymphalis antiopa*)	
spring white (*P. sisymbrii*)		**Skippers**	
unidentified white		funereal duskywing (*Erynnis funeralis*)	10
Metalmarks		mournful duskywing (*Erynnis tristis*)	
Behr's metalmark (*Apodemia mormo virgulti*)	9	fiery skipper (*Hylephila phyleus*)	
Wright's metalmark (*Calephelis wrighti*)		white (common) checkered-skipper (*Pyrgus albescens*)	
Sulphurs		**Other**	
orange sulphur (*Colias eurytheme*)		Lupine blue (*Plebejus lupinus*)	
sleepy orange (*Eurema nicippe*)		*Erynnis* sp.	1
cloudless sulfur (*Phoebus sennae marcellina*)			

TOTAL - 45

TOTAL - 21
GRAND - 66

2016 Quino Checkerspot Butterfly Survey Form

Survey: Diana Saucedo **Date:** 15 March 2016

Site Name: JPD-08 Proctor Valley – Village 14 of Otay Ranch **Site Visit No:** 3

Area Surveyed F **Acres Surveyed** 34 **Survey Time:** 4.20 **Acres per Hour:** 8.3

Other Surveyors Present: None.

Field Conditions				
	Time (24 hr)	**Temperature (˚F)**	**Wind Speed (mph)**	**Cloud Cover**
Start	1100	82	0-1	10%
End	1510	82	1-5, gust 7	0%
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)
Sage scrub, *E. fasciculatum*, *A. californica*, *Viguera;* chamise chaparral; *A. fasciculatum*, *C. tomentosus*; NNG, *E. cicutarium*

Host Plants	**Obs.**	**Nectar Plants**	**Obs.**
dwarf plantain (*Plantago erecta*)		popcorn flower (*Cryptantha/Plagiobothrys* spp.)	x
purple owl's clover (*Castilleja exserta*)		goldfields (*Lasthenia* spp.)	
snapdragon (*Antirrhinum coulterianum*)		goldenstar (*Muilla* spp.)	
birds-beak (*Cordylanthus rigidus*)		fiddleneck (*Amsinckia menziesii* var. *intermedia*)	
woolly plantain (*Plantago patagonica*)		onion (*Allium* spp.)	x
Chinese houses (*Collinsia* spp.)		buckwheat (*Eriogonum fasciculatum*)	x
		ground pink (*Linanthus dianthiflorus*)	
Host Plant Mapping Updated (*circle*) Yes **No**		**New Area or Existing Area** (*circle*) New Existing Both	
Species updated (list)			

Butterfly Species	**No.**	**Butterfly Species**	**No.**
Checkerspots		**Hairstreaks**	
California patch (*Chlosyne californica*)		great purple hairstreak (*Atlides halesus corcorani*)	
Gabb's checkerspot (*C. gabbii*)	7	brown elfin (*Callophrys augustinus*)	
Quino checkerspot (*Euphydryas editha quino*)		bramble (perplexing) hairstreak (C. *dumetorum affinis*)	
chalcedon checkerspot (*E. chalcedona chalcedona*)		gray hairstreak (*Strymon melinus pudica*)	
Leanira checkerspot (*Thessalia leanira wrighti*)		**Ladies/Admirals**	
Mylitta crescent (*Phyciodes mylitta*)		California sister (*Adelpha bredowii californica*)	
Blues		Lorquin's admiral (*Limenitis lorquini*)	
western pygmy-blue (*Brephidium exila*)		west coast lady (*Vanessa annabella*)	
western tailed blue (*Everes amyntula*)		red admiral (*V. atalanta rubria*)	
southern blue (*Glaucopsyche lygdamus australis*)	10	painted lady (*V. cardui*)	
Edward's blue (*Hemiargus ceraunus gyas*)		American (Virginia) lady (*V. virginiensis*)	3
Acmon blue (*Icaricia acmon acmon*)		unidentified lady (*Vanessa* sp.)	
marine blue (*Leptotes marina*)		**Swallowtails**	
unidentified blue		pale swallowtail (*Papilio eurymedon*)	
Whites		western tiger swallowtail (*P. rutulus*)	
Sara orangetip (*Anthocharis sara sara*)	20	anise swallowtail (*P. zelicaon*)	
desert (Felder's) orangetip (*A. cethura*)		**Miscellaneous**	
common California ringlet (*Coenonympha californica*)	12	monarch (*Danaus plexippus*)	
cabbage white (*Pieris rapae*)		common buckeye (*Junonia coenia grisea*)	1
checkered (common) white (*Pontia protodice*)		mourning cloak (*Nymphalis antiopa)*	
spring white (*P. sisymbrii*)	5	**Skippers**	
unidentified white		funereal duskywing (*Erynnis funeralis*)	12
Metalmarks		mournful duskywing (*Erynnis tristis*)	
Behr's metalmark (*Apodemia mormo virgulti*)	40	fiery skipper (*Hylephila phyleus*)	
Wright's metalmark (*Calephelis wrighti*)		white (common) checkered-skipper (*Pyrgus albescens*)	7
Sulphurs		**Other**	
orange sulphur (*Colias eurytheme*)	10		
sleepy orange (*Eurema nicippe*)			
cloudless sulfur (*Phoebus sennae marcellina*)			
unidentified sulphur			
Column Subtotal	**104**	**Column Subtotal**	**23**
		Total	**127**

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: Brenna Ogg **Date:** 11 March 2016

Site Name: JPD-08 Proctor Valley – Village 14 of Otay Ranch **Site Visit No:**

Area Surveyed G (SW portion) **Acres Surveyed** ~28 acres **Survey Time:** 1 hr **Acres per Hour:** 9.3

Other Surveyors Present: Brian Lohstroh, Monica Alfaro

Field Conditions				
	Time (24 hr)	**Temperature (˚F)**	**Wind Speed (mph)**	**Cloud Cover**
Start	14:15	65 air, 72 at ground	3-5	40%
End	15:15	85 air, 70 at ground	5-10	100%
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)
Sage scrub (*E. fasciculatum*, *A. californica*, *M. laurina*); chaparral (*A. fasciculatum*, *M. laurina, R. crocea*); NNG (*E. cicutarium, B.*
madritensis); NG (*S. pulchra*)

Host Plants	**Obs.**	**Nectar Plants**	**Obs.**
dwarf plantain (*Plantago erecta*)	x	popcorn flower (*Cryptantha/Plagiobothrys* spp.)	X
purple owl's clover (*Castilleja exserta*)		goldfields (*Lasthenia* spp.)	
snapdragon (*Antirrhinum coulterianum*)		goldenstar (*Muilla* spp.)	X
birds-beak (*Cordylanthus rigidus*)		fiddleneck (*Amsinckia menziesii* var. *intermedia*)	
woolly plantain (*Plantago patagonica*)		onion (*Allium* spp.)	X
Chinese houses (*Collinsia* spp.)		buckwheat (*Eriogonum fasciculatum*)	X
		ground pink (*Linanthus dianthiflorus*)	
Host Plant Mapping Updated (*circle*) Yes **No**		**New Area or Existing Area** (*circle*) New **Existing** Both	
Species updated (list)			

Butterfly Species	**No.**	**Butterfly Species**	**No.**
Checkerspots		**Hairstreaks**	
California patch (*Chlosyne californica*)		great purple hairstreak (*Atlides halesus corcorani*)	
Gabb's checkerspot (*C. gabbii*)		brown elfin (*Callophrys augustinus*)	
Quino checkerspot (*Euphydryas editha quino*)		bramble (perplexing) hairstreak (C. *dumetorum affinis*)	
chalcedon checkerspot (*E. chalcedona chalcedona*)		gray hairstreak (*Strymon melinus pudica*)	
Leanira checkerspot (*Thessalia leanira wrighti*)		**Ladies/Admirals**	
Mylitta crescent (*Phyciodes mylitta*)		California sister (*Adelpha bredowii californica*)	
Blues		Lorquin's admiral (*Limenitis lorquini*)	
western pygmy-blue (*Brephidium exila*)		west coast lady (*Vanessa annabella*)	
western tailed blue (*Everes amyntula*)		red admiral (*V. atalanta rubria*)	
southern blue (*Glaucopsyche lygdamus australis*)		painted lady (*V. cardui*)	
Edward's blue (*Hemiargus ceraunus gyas*)		American (Virginia) lady (*V. virginiensis*)	
Acmon blue (*Icaricia acmon acmon*)		unidentified lady (*Vanessa* sp.)	1
marine blue (*Leptotes marina*)		**Swallowtails**	
Spring azure (*Celastrina ladon echo*)		pale swallowtail (*Papilio eurymedon*)	
Whites		western tiger swallowtail (*P. rutulus*)	
Sara orangetip (*Anthocharis sara sara*)		anise swallowtail (*P. zelicaon*)	
desert (Felder's) orangetip (*A. cethura*)		**Miscellaneous**	
common California ringlet (*Coenonympha californica*)		monarch (*Danaus plexippus*)	
cabbage white (*Pieris rapae*)		common buckeye (*Junonia coenia grisea*)	
checkered (common) white (*Pontia protodice*)		mourning cloak (*Nymphalis antiopa)*	
spring white (*P. sisymbrii*)		**Skippers**	
unidentified white		funereal duskywing (*Erynnis funeralis*)	2
Metalmarks		mournful duskywing (*Erynnis tristis*)	
Behr's metalmark (*Apodemia mormo virgulti*)		fiery skipper (*Hylephila phyleus*)	
Wright's metalmark (*Calephelis wrighti*)		white (common) checkered-skipper (*Pyrgus albescens*)	3
Sulphurs		**Other**	
orange sulphur (*Colias eurytheme*)	1	Lupine blue (*Plebejus lupines*)	
sleepy orange (*Eurema nicippe*)		*Erynnis* sp.	
cloudless sulfur (*Phoebus sennae marcellina*)			
unidentified sulphur			
Column Subtotal	**1**	**Column Subtotal**	**6**
		Total	**7**

Surveyor: L. DICKSON Date: 03/12/16

Site Name: JPD-08 Proctor Valley – Village 14 of Otay Ranch FEI Site Visit No:

Acres Surveyed: ~10 Survey Time: 1.5 Acres per Hour: 6.6

Other Surveyors Present: CGG / SAUCEDO

Field Conditions				
	Time (24 hr)	Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start	1130	70 bgrd / 63 air	0-8	95%
End	1300	68 grnd / 62 air	5	100%
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.):

PN6 / CGS

Host Plants	Obs.	Nectar Plants	Obs.
dwarf plantain (Plantago erecta)	✓	popcorn flower (Cryptantha/Plagiobothrys spp.)	✓
purple owl's clover (Castilleja exserta)		goldfields (Lasthenia spp.)	
snapdragon (Antirrhinum coulterianum)		gilia/navior (Mulla spp.)	
birds-beak (Cordylanthus rigidus)		tidytips (Amsinckia menziesii var. intermedia)	
woolly plantain (Plantago patagonica)		onion (Allium spp.)	✓
Chinese Houses (Collinsia spp.)		buckwheat (Eriogonum fasciculatum)	✓
		ground pink (Linanthus dianthiflorus)	
Host Plant Mapping Updated (circle) Yes	No	New Area or Existing Area (circle) New	Existing Both
Species updated (list)			

Butterfly Species	No.	Butterfly Species	No.
Checkerspots		**Hairstreaks**	
California patch (Chlosyne californica)		gray (purple) hairstreak (Atlides halesus corcoran)	
Gabb's checkerspot (C. gabbii)		bramble elfin (Callophrys augustinus)	
Quino checkerspot (Euphydryas editha quino)		brownie (perplexing) hairstreak (C. dumetorum affinis)	
chalcedon checkerspot (E. chalcedona chalcedona)		gray hairstreak (Strymon melinus pudicus)	
Lorquin's checkerspot (Thessalia lorquini lorquini)		**Ladies/Admirals**	
Mylitta crescent (Phyciodes mylitta)		Califorma satyr (Adelpha bredowii californica)	
Blues		Lorquin's admiral (Limenitis lorquini)	
western pygmy-blue (Brephidium exilis)		west coast lady (Vanessa annabella)	
western tailed blue (Everes amyntula)		red admiral (V. atalanta rubria)	
southern blue (Glaucopsyche lygdamus australis)		painted lady (V. cardui)	
Edward's blue (Hemiargus ceraunus gyas)		American (Virginia) lady (V. virginiensis)	
Acmon blue (Icaricia acmon acmon)		unidentified lady (Vanessa sp.)	
marine blue (Leptotes marina)		**Swallowtails**	
unidentified blue		pale swallowtail (Papilio eurymedon)	
Whites		western tiger swallowtail (P. rutulus)	
Sara orangetip (Anthocharis sara sara)		anise swallowtail (P. zelicaon)	
desert (Felder's) orangetip (A. cethura)		**Miscellaneous**	
common California migtet (Copiopsyche californica)		monarch (Danaus plexippus)	
cabbage white (Pieris rapae)		common buckeye (Junonia coenia grisea)	
checkered (common) white (Pontia protodice)		mourning cloak (Nymphalis antiopa)	
spring white (P. sisymbrii)		**Skippers**	
unidentified white		funereal duskywing (Erynnis funeralis)	
Metalmarks		mallow duskywing (Erynnis tristis)	
Behr's metalmark (Apodemia mormo virgulti)		fiery skipper (Hylephila phyleus)	
Wright's metalmark (Calephelis wrighti)		white (common) checkered-skipper (Pyrgus albescens)	
Sulphurs		Other	
orange sulphur (Colias eurytheme)			
sleepy orange (Eurema nicippe)			
cloudless sulfur (Phoebis sennae marcellina)			
unidentified sulphur			
Column Subtotal		Column Subtotal	0
		Total	1

2016 Quino Checkerspot Butterfly Survey Form

Survey: Diana Saucedo, Brenna Ogg, Crysta Dickson **Date:** 12 March 2016

Site Name: JPD-08 Proctor Valley – Village 14 of Otay Ranch **Site Visit No:**

Area Surveyed G (NE portion) **Acres Surveyed** ~29 acres **Survey Time:** 1.5 hours **Acres per Hour:** 6.4

Other Surveyors Present:

Field Conditions				
	Time (24 hr)	**Temperature (˚F)**	**Wind Speed (mph)**	**Cloud Cover**
Start	11:30	63 air, 70 at ground	0-8	95%
End	13:00	62 air, 68 at ground	0-5	98%
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)
Sage scrub (*E. fasciculatum*, *A. californica*, *B. laciniata, M. laurina*); chamise chaparral (*A. fasciculatum*, *C. tomentosus, R. crocea*); NNG (*E. cicutarium, B. madritensis*)

Host Plants	**Obs.**	**Nectar Plants**	**Obs.**
dwarf plantain (*Plantago erecta*)		popcorn flower (*Cryptantha/Plagiobothrys* spp.)	x
purple owl's clover (*Castilleja exserta*)		goldfields (*Lasthenia* spp.)	
snapdragon (*Antirrhinum coulterianum*)		goldenstar (*Muilla* spp.)	x
birds-beak (*Cordylanthus rigidus*)		fiddleneck (*Amsinckia menziesii* var. *intermedia*)	
woolly plantain (*Plantago patagonica*)		onion (*Allium* spp.)	x
Chinese houses (*Collinsia* spp.)		buckwheat (*Eriogonum fasciculatum*)	x
		ground pink (*Linanthus dianthiflorus*)	
Host Plant Mapping Updated (*circle*) Yes **No**		**New Area or Existing Area** (*circle*) New **Existing** Both	
Species updated (list)			

Butterfly Species	**No.**	**Butterfly Species**	**No.**
Checkerspots		**Hairstreaks**	
California patch (*Chlosyne californica*)		great purple hairstreak (*Atlides halesus corcorani*)	
Gabb's checkerspot (*C. gabbii*)		brown elfin (*Callophrys augustinus*)	
Quino checkerspot (*Euphydryas editha quino*)		bramble (perplexing) hairstreak (C. *dumetorum affinis*)	
chalcedon checkerspot (*E. chalcedona chalcedona*)		gray hairstreak (*Strymon melinus pudica*)	
Leanira checkerspot (*Thessalia leanira wrighti*)		**Ladies/Admirals**	
Mylitta crescent (*Phyciodes mylitta*)		California sister (*Adelpha bredowii californica*)	
Blues		Lorquin's admiral (*Limenitis lorquini*)	
western pygmy-blue (*Brephidium exila*)		west coast lady (*Vanessa annabella*)	
western tailed blue (*Everes amyntula*)		red admiral (*V. atalanta rubria*)	
southern blue (*Glaucopsyche lygdamus australis*)		painted lady (*V. cardui*)	
Edward's blue (*Hemiargus ceraunus gyas*)		American (Virginia) lady (*V. virginiensis*)	
Acmon blue (*Icaricia acmon acmon*)	1	unidentified lady (*Vanessa* sp.)	
marine blue (*Leptotes marina*)		**Swallowtails**	
Spring azure (*Celastrina ladon echo*)	1	pale swallowtail (*Papilio eurymedon*)	
Whites		western tiger swallowtail (*P. rutulus*)	
Sara orangetip (*Anthocharis sara sara*)		anise swallowtail (*P. zelicaon*)	
desert (Felder's) orangetip (*A. cethura*)		**Miscellaneous**	
common California ringlet (*Coenonympha californica*)	2	monarch (*Danaus plexippus*)	
cabbage white (*Pieris rapae*)		common buckeye (*Junonia coenia grisea*)	
checkered (common) white (*Pontia protodice*)		mourning cloak (*Nymphalis antiopa)*	
spring white (*P. sisymbrii*)		**Skippers**	
unidentified white		funereal duskywing (*Erynnis funeralis*)	1
Metalmarks		mournful duskywing (*Erynnis tristis*)	
Behr's metalmark (*Apodemia mormo virgulti*)		fiery skipper (*Hylephila phyleus*)	
Wright's metalmark (*Calephelis wrighti*)		white (common) checkered-skipper (*Pyrgus albescens*)	
Sulphurs		**Other**	
orange sulphur (*Colias eurytheme*)		*Erynnis* sp.	1
sleepy orange (*Eurema nicippe*)			
cloudless sulfur (*Phoebus sennae marcellina*)			
unidentified sulphur			
Column Subtotal	**4**	**Column Subtotal**	**2**
		Total	**6**

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: Amy Watkins, Chez Bremgrahe **Date:** 3/19/16

Site Name: JPD-08 Proctor Valley – Village 14 of Otay Ranch **Site Visit No:** 3

Area Surveyed H.I **Acres Surveyed** 97 **Survey Time:** 9:55 **Acres per Hour:** 9.8

Other Surveyors Present:

Field Conditions				
	Time (24 hr)	Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start	0645	64	0	0 %
End	1505	74	0-2	1 %
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)

NNG, ES, SMC, CC (Deinandra, mesalina, Salvia apiana, Encelia cinerea)

Host Plants	Obs.	Nectar Plants	Obs.
dwarf plantain (*Plantago erecta*)	✓	popcorn flower (*Cryptantha/Plagiobothrys* spp.)	✓
purple owl's clover (*Castilleja exserta*)		goldfields (*Lasthenia* spp.)	
snapdragon (*Antirrhinum coutterianum*)		goldenstar (*Muilla* spp.)	✓
birdi-beak (*Condylanthus rigidus*)		fiddleneck (*Amsinckia menziesii* var. *intermedia*)	
woolly plantain (*Plantago patagonica*)		onion (*Allium* spp.)	✓
Chinese houses (*Collinsia* spp.)		buckwheat (*Eriogonum fasciculatum*)	✓
		ground pink (*Linanthus dianthiflorus*)	
Host Plant Mapping Updated (circle) Yes No		**New Area or Existing Area** (circle) New Existing Both	
Species updated (list)			

Butterfly Species	No.	Butterfly Species	No.
Checkerspots		**Hairstreaks**	
California patch (*Chlosyne californica*)		great purple hairstreak (*Atlides halesus corcorani*)	
Gabb's checkerspot (*C. gabbii*)		brown elfin (*Callophrys augustinus*)	
Quino checkerspot (*Euphydryas editha quino*)		bramble (perplexing) hairstreak (*C. dumetorum affinis*)	
chalcedon checkerspot (*E. chalcedona chalcedona*)		gray hairstreak (*Strymon melinus pudica*)	7
Leanira checkerspot (*Thessalia leanira wrighti*)		**Ladies/Admirals**	
Mylitta crescent (*Phyciodes mylitta*)		California sister (*Adelpha bredowii californica*)	
Blues		Lorquin's admiral (*Limenitis lorquini*)	
western pygmy-blue (*Brephidium exilis*)		west coast lady (*Vanessa annabella*)	
western tailed blue (*Everes amyntula*)		red admiral (*V. atalanta rubria*)	
southern blue (*Glaucopsyche lygdamus australis*)		painted lady (*V. cardui*)	
Edward's blue (*Hemiargus ceraunus gyas*)		American (Virginia) lady (*V. virginiensis*)	
Acmon blue (*Icaricia acmon acmon*)		unidentified lady (*Vanessa* sp.)	8
marine blue (*Leptotes marina*)		**Swallowtails**	
unidentified blue	2	pale swallowtail (*Papilio eurymedon*)	
Whites		western tiger swallowtail (*P. rutulus*)	
Sara orangetip (*Anthocharis sara sara*)	10	anise swallowtail (*P. zelicaon*)	
desert (Felder's) orangetip (*A. cethura*)		**Miscellaneous**	
common California ringlet (*Coenonympha californica*)	1	monarch (*Danaus plexippus*)	
cabbage white (*Pieris rapae*)		common buckeye (*Junonia coenia grisea*)	1
checkered (common) white (*Pontia protodice*)	1	mourning cloak (*Nymphalis antiopa*)	
spring white (*P. sisymbri*)		**Skippers**	
unidentified white	6	funereal duskywing (*Erynnis funeralis*)	5
Metalmarks		mournful duskywing (*Erynnis tristis*)	1
Behr's metalmark (*Apodemia mormo virgulti*)	29	fiery skipper (*Hylephila phyleus*)	1
Wright's metalmark (*Calephelis wrighti*)		white (common) checkered-skipper (*Pyrgus albescens*)	
Sulphurs		**Other**	
orange sulphur (*Colias eurytheme*)	2	Johnson skipper	1
sleepy orange (*Eurema nicippe*)			
cloudless sulfur (*Phoebus sennae marcellina*)			
unidentified sulphur	6		
Column Subtotal	57	Column Subtotal	24
		Total	81

3/9/16 JP008 Arcadia, I Amy M

flowering

Ferula botteri
Smilax

Stipa pulcherrima

Silene

Bromus

Muscicle
Eriogonum

Agoseris glauca

Dicentra

Cryptantha

Mirabilis

Balsamorhiza

Agoseris

Gutierrezia

Collomia

Orthocarpus

Phacelia

Eschscholzia

Pseudognaphalium

Silene antirrhina

Antennaria

Ladeling mucronata

Allium textile

Heterotheca

Hedysarum

Eriogonum

Viola pedunculata

Trifolium

Lupinus bicolor

Calochortus

Senecio

Sidalcea

Sidalcea neomexicana

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: MELANIE DICUS, JOHN DICUS **Date:** 03-15-2016

Site Name: JPD-08 Proctor Valley – Village 14 of Otay Ranch **Site Visit No:** 3

Area Surveyed J, M **Acres Surveyed** 93 **Survey Time:** 7HRS, 50 MIN **Acres per Hour:** ~6/HR

Other Surveyors Present: —

Field Conditions				
	Time (24 hr)	Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start	0800	61	2.1	5%
End	1650	74	3	0
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.) CHAMISE CHAPARRAL; ANNUAL/FORB: ERIODICTYON, PHACELIA, STEPHANOMERIA SPP. MEADOWS (GRASSLAND): STIPA PULCHRA, ELYMUS SPP., BROMUS SPP. DEEP: ELYMUS SPP., ARTEMISIA CA, ERFA, MALOSMA LAURINA, BROMUS SPP.

Host Plants	Obs.	Nectar Plants	Obs.
dwarf plantain (*Plantago erecta*)	X	popcorn flower (*Cryptantha/Plagiobothrys* spp.)	X
purple owl's clover (*Castilleja exserta*)/DICHELOSTEMMA	X	goldfields (*Lasthenia* spp.)	X
snapdragon (*Antirrhinum coulterianum*)		goldenstar (*Muilla* spp.)	X
birds-beak (*Cordylanthus rigidus*)		fiddleneck (*Amsinckia menziesii* var. *intermedia*)	X
woolly plantain (*Plantago patagonica*)		onion (*Allium* spp.)	X
Chinese houses (*Collinsia* spp.)		buckwheat (*Eriogonum fasciculatum*)	X
		ground pink (*Linanthus dianthiflorus*)	
Host Plant Mapping Updated (circle) (Yes) No		**New Area or Existing Area** (circle) (New) Existing Both	
Species updated (list) PLANTAGO ERECTA, CASTILLEJA EXSERTA; CLARKIA PURPUREA JUST STARTED FLOWERING			

Butterfly Species	No.	Butterfly Species	No.
Checkerspots		**Hairstreaks**	
California patch (*Chlosyne californica*)		great purple hairstreak (*Atlides halesus corcorani*)	
Gabb's checkerspot (*C. gabbii*)		brown elfin (*Callophrys augustinus*)	
Quino checkerspot (*Euphydryas editha quino*)		bramble (perplexing) hairstreak (*C. dumetorum affinis*)	2
chalcedon checkerspot (*E. chalcedona chalcedona*)		gray hairstreak (*Strymon melinus pudica*)	1
Leanira checkerspot (*Thessalia leanira wrighti*)		**Ladies/Admirals**	
Mylitta crescent (*Phyciodes mylitta*)		California sister (*Adelpha bredowii californica*)	
Blues		Lorquin's admiral (*Limenitis lorquini*)	
western pygmy-blue (*Brephidium exilis*)	2	west coast lady (*Vanessa annabella*)	
western tailed blue (*Everes amyntula*)	1	red admiral (*V. atalanta rubria*)	1
southern blue (*Glaucopsyche lygdamus australis*)	3	painted lady (*V. cardui*)	6
Edward's blue (*Hemiargus ceraunus gyas*)		American (Virginia) lady (*V. virginiensis*)	3
Acmon blue (*Icaricia acmon acmon*)	2	unidentified lady (*Vanessa* sp.)	
marine blue (*Leptotes marina*)		**Swallowtails**	
unidentified blue		pale swallowtail (*Papilio eurymedon*)	1
Whites		western tiger swallowtail (*P. rutulus*)	
Sara orangetip (*Anthocharis sara sara*)	71	anise swallowtail (*P. zelicaon*)	
desert (Felder's) orangetip (*A. cethura*)		**Miscellaneous**	
common California ringlet (*Coenonympha californica*)	14	monarch (*Danaus plexippus*)	
cabbage white (*Pieris rapae*)		common buckeye (*Junonia coenia grisea*)	4
checkered (common) white (*Pontia protodice*)	9	mourning cloak (*Nymphalis antiopa*)	
spring white (*P. sisymbrii*)		**Skippers**	
unidentified white		funereal duskywing (*Erynnis funeralis*)	22
Metalmarks		mournful duskywing (*Erynnis tristis*)	
Behr's metalmark (*Apodemia mormo virgulti*)	94	fiery skipper (*Hylephila phyleus*)	2
Wright's metalmark (*Calephelis wrighti*)		white (common) checkered-skipper (*Pyrgus albescens*)	12
Sulphurs		**Other** LADYBUG EUCALA	3
orange sulphur (*Colias eurytheme*)	33	COLIAS HARFORDII	3
sleepy orange (*Eurema nicippe*)	1	ATHALIS CALIFORNICA	1
cloudless sulfur (*Phoebus sennae marcellina*)		HEMIPTERA ERICHSONII	2
unidentified sulphur		NEZARA VIRIDULA	1
Column Subtotal	230	Column Subtotal	64
		Total	294

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: JOHN BICKS, MELANIE BICKS **Date:** 03-12-2016

Site Name: JPD-08 Proctor Valley – Village 14 of Otay Ranch **Site Visit No:** 3

Area Surveyed K **Acres Surveyed** ~8-10 **Survey Time:** 30 MIN **Acres per Hour:** 8 TO

Other Surveyors Present: —

Field Conditions				
	Time (24 hr)	Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start	1025	61	1.5	45%
End	1055	61	1.2	50%
Start	SURVEY CANCELLED DUE TO CLOUD COVER			
End				

Vegetation Communities Surveyed (inc. dominant spp.)

DCSS: ERODIUM SPP, ARTEMISIA CA, ERIOGONUM FASCICULATUM, MALOSMA LAURINA

Host Plants	Obs.	Nectar Plants	Obs.
dwarf plantain (*Plantago erecta*)		popcorn flower (*Cryptantha/Plagiobothrys* spp.)	
purple owl's clover (*Castilleja exserta*)		goldfields (*Lasthenia* spp.)	X
snapdragon (*Antirrhinum coulterianum*)		goldenstar (*Muilla* spp.)	
birds-beak (*Cordylanthus rigidus*)		fiddleneck (*Amsinckia menziesii* var. *intermedia*)	
woolly plantain (*Plantago patagonica*)		onion (*Allium* spp.)	
Chinese houses (*Collinsia* spp.)		buckwheat (*Eriogonum fasciculatum*)	X
		ground pink (*Linanthus dianthiflorus*)	
Host Plant Mapping Updated (circle) Yes (No)		**New Area or Existing Area** (circle) New Existing Both	
Species updated (list)			

Butterfly Species	No.	Butterfly Species	No.
Checkerspots		**Hairstreaks**	
California patch (*Chlosyne californica*)		great purple hairstreak (*Atlides halesus corcorani*)	
Gabb's checkerspot (*C. gabbii*)		brown elfin (*Callophrys augustinus*)	
Quino checkerspot (*Euphydryas editha quino*)		bramble (perplexing) hairstreak (*C. dumetorum affinis*)	
chalcedon checkerspot (*E. chalcedona chalcedona*)		gray hairstreak (*Strymon melinus pudica*)	
Leanira checkerspot (*Thessalia leanira wrighti*)		**Ladies/Admirals**	
Mylitta crescent (*Phyciodes mylitta*)		California sister (*Adelpha bredowii californica*)	
Blues		Lorquin's admiral (*Limenitis lorquini*)	
western pygmy-blue (*Brephidium exilis*)		west coast lady (*Vanessa annabella*)	
western tailed blue (*Everes amyntula*)		red admiral (*V. atalanta rubria*)	1
southern blue (*Glaucopsyche lygdamus australis*)		painted lady (*V. cardui*)	
Edward's blue (*Hemiargus ceraunus gyas*)		American (Virginia) lady (*V. virginiensis*)	
Acmon blue (*Icaricia acmon acmon*)		unidentified lady (*Vanessa* sp.)	
marine blue (*Leptotes marina*)		**Swallowtails**	
unidentified blue		pale swallowtail (*Papilio eurymedon*)	
Whites		western tiger swallowtail (*P. rutulus*)	
Sara orangetip (*Anthocharis sara sara*)	4	anise swallowtail (*P. zelicaon*)	
desert (Felder's) orangetip (*A. cethura*)		**Miscellaneous**	
common California ringlet (*Coenonympha californica*)		monarch (*Danaus plexippus*)	
cabbage white (*Pieris rapae*)		common buckeye (*Junonia coenia grisea*)	
checkered (common) white (*Pontia protodice*)		mourning cloak (*Nymphalis antiopa*)	
spring white (*P. sisymbrii*)		**Skippers**	
unidentified white		funereal duskywing (*Erynnis funeralis*)	
Metalmarks	3	mournful duskywing (*Erynnis tristis*)	
Behr's metalmark (*Apodemia mormo virgulti*)		fiery skipper (*Hylephila phyleus*)	
Wright's metalmark (*Calephelis wrighti*)		white (common) checkered-skipper (*Pyrgus albescens*)	1
Sulphurs		**Other**	
orange sulphur (*Colias eurytheme*)			
sleepy orange (*Eurema nicippe*)			
cloudless sulfur (*Phoebus sennae marcellina*)			
unidentified sulphur			
Column Subtotal	7	Column Subtotal	1
		Total	9

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: MELANIE DICUS, JOHN DICUS **Date:** 03-13-2016

Site Name: JPD-08 Proctor Valley – Village 14 of Otay Ranch **Site Visit No:** 3

Area Surveyed K, L **Acres Surveyed** 100 **Survey Time:** 6.75 HRS **Acres per Hour:** 7.4/HR 5.0

Other Surveyors Present:

Field Conditions				
	Time (24 hr)	Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start	0745	60	1.6	30%
End	1630	61	3.8	35%
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.) EUCALYPTUS WOODLAND

BESS = A. CALIFORNICA, ARTEMISIA SPP, ERIOGONUM FASCICULATUM, M. LAWRENCII

VLW: ARUNDO DONAX, PLATANUS SPP, NERIUM SPP, AGAVE FARVA

Host Plants	Obs.	Nectar Plants	Obs.
dwarf plantain (*Plantago erecta*)	X	popcorn flower (*Cryptantha/Plagiobothrys* spp.)	X
purple owl's clover (*Castilleja exserta*)		goldfields (*Lasthenia* spp.)	X
snapdragon (*Antirrhinum coulterianum*)		goldenstar (*Muilla* spp.)	X
birds-beak (*Cordylanthus rigidus*)		fiddleneck (*Amsinckia menziesii* var. *intermedia*)	X
woolly plantain (*Plantago patagonica*)		onion (*Allium* spp.)	X
Chinese houses (*Collinsia* spp.)		buckwheat (*Eriogonum fasciculatum*)	X
		ground pink (*Linanthus dianthiflorus*)	
Host Plant Mapping Updated (circle)	(Yes) No	**New Area or Existing Area** (circle)	(New) Existing Both
Species updated (list)	ADDED CALLA, MISTAKE STATED BUT REMAINS		

Butterfly Species	No.	Butterfly Species	No.
Checkerspots		**Hairstreaks**	
California patch (*Chlosyne californica*)		great purple hairstreak (*Atlides halesus corcorani*)	
Gabb's checkerspot (*C. gabbii*)		brown elfin (*Callophrys augustinus*)	
Quino checkerspot (*Euphydryas editha quino*)		bramble (perplexing) hairstreak (*C. dumetorum affinis*)	
chalcedon checkerspot (*E. chalcedona chalcedona*)		gray hairstreak (*Strymon melinus pudica*)	1
Leanira checkerspot (*Thessalia leanira wrighti*)		**Ladies/Admirals**	
Mylitta crescent (*Phyciodes mylitta*)		California sister (*Adelpha bredowii californica*)	
Blues		Lorquin's admiral (*Limenitis lorquini*)	
western pygmy-blue (*Brephidium exilis*)	2	west coast lady (*Vanessa annabella*)	
western tailed blue (*Everes amyntula*)		red admiral (*V. atalanta rubria*)	2
southern blue (*Glaucopsyche lygdamus australis*)		painted lady (*V. cardui*)	6
Edward's blue (*Hemiargus ceraunus gyas*)		American (Virginia) lady (*V. virginiensis*)	2
Acmon blue (*Icaricia acmon acmon*)	1	unidentified lady (*Vanessa* sp.)	
marine blue (*Leptotes marina*)		**Swallowtails**	
unidentified blue		pale swallowtail (*Papilio eurymedon*)	
Whites		western tiger swallowtail (*P. rutulus*)	
Sara orangetip (*Anthocharis sara sara*)	34	anise swallowtail (*P. zelicaon*)	
desert (Felder's) orangetip (*A. cethura*)		**Miscellaneous**	
common California ringlet (*Coenonympha californica*)	1	monarch (*Danaus plexippus*)	
cabbage white (*Pieris rapae*)	1	common buckeye (*Junonia coenia grisea*)	3
checkered (common) white (*Pontia protodice*)		mourning cloak (*Nymphalis antiopa*)	
spring white (*P. sisymbrii*)		**Skippers**	
unidentified white		funereal duskywing (*Erynnis funeralis*)	6
Metalmarks		mournful duskywing (*Erynnis tristis*)	
Behr's metalmark (*Apodemia mormo virgulti*)	22	fiery skipper (*Hylephila phyleus*)	2
Wright's metalmark (*Calephelis wrighti*)		white (common) checkered-skipper (*Pyrgus albescens*)	13
Sulphurs		**Other**	
orange sulphur (*Colias eurytheme*)	10	PAPILIO ZELICAON	1
sleepy orange (*Eurema nicippe*)		COLIAS PHILODICE	4
cloudless sulfur (*Phoebus sennae marcellina*)			
unidentified sulphur			
Column Subtotal	71	Column Subtotal	39
		Total	110

Surveyor: GARRETT HUFFMAN

2016 Quino Checkerspot Butterfly Survey Form

Site Name: PD-08 Proctor Valley – Village 14 of Otay Ranch RANCHO N **Date:** 3/10/16

Acres Surveyed 65 **Survey Time:** 8.5 Hours **Site Visit No:** 3

Other Surveyors Present: NONE **Acres per Hour:** 7.6

	Time (24 hr)	Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start	0800	64	0-2	20
End	1630	71	3-6	40
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)

CHAMISE CHAPARRAL, COASTAL SAGE SCRUB, NON-NATIVE GRASSLAND

Host Plants	Obs.
dwart plantain (*Plantago erecta*)	X
purple owl's clover (*Castilleja exserta*)	X
snapdragon (*Antirrhinum (coulterianum)*)	
birds-beak (*Condylanthus rigidus*)	
woolly plantain (*Plantago patagonica*)	
Chinese houses (*Collinsia spp.*)	

Host Plant Mapping Updated (circle) Yes No

Species updated (list) CASTILLEJA SP.

Nectar Plants	Obs.
popcorn flower (*Cryptantha/Plagiobothrys spp.*)	X
goldfields (*Lasthenia spp.*)	X
goldenstar (*Muilla spp.*)	X
fiddleneck (*Amsinckia menziesii var. intermedia*)	
onion (*Allium spp.*)	X
buckwheat (*Eriogonum fasciculatum*)	X
ground pink (*Linanthus dianthiflorus*)	X

New Area or Existing Area (circle) New Existing Both

Butterfly Species	No.
Checkerspots	
California patch (*Chlosyne californica*)	
Gabb's checkerspot (*C. gabbii*)	3
Quino checkerspot (*Euphydryas editha quino*)	
chalcedon checkerspot (*E. chalcedona chalcedona*)	
Leanira checkerspot (*Thessalia leanira wright*)	
Mylitta crescent (*Phyciodes mylitta*)	
Blues	
western pygmy-blue (*Brephidium exilis*)	1
western tailed blue (*Everes amyntula*)	
southern blue (*Glaucopsyche lygdamus australis*)	
Edward's blue (*Hemiargus ceraunus gyas*)	
Acmon blue (*Icaricia acmon acmon*)	
marine blue (*Leptotes marina*)	
unidentified blue	
Whites	
Sara orangetip (*Anthocharis sara sara*)	25
desert (Felder's) orangetip (*A. cethura*)	
common California ringlet (*Coenonympha californica*)	1
cabbage white (*Pieris rapae*)	1
checkered (common) white (*Pontia protodice*)	7
spring white (*P. sisymbri*)	
unidentified white	
Metalmarks	
Behr's metalmark (*Apodemia mormo virgulti*)	28
Wright's metalmark (*Calephelis wrighti*)	
Sulphurs	
orange sulphur (*Colias eurytheme*)	10
sleepy orange (*Eurema nicippe*)	
cloudless sulfur (*Phoebus sennae marcellina*)	
unidentified sulphur	
Column Subtotal	76

Butterfly Species	No.
Hairstreaks	
great purple hairstreak (*Atlides halesus corcoran*)	
brown elfin (*Callophrys augustinus*)	
bramble (perplexing) hairstreak (*C. dumetorum affinis*)	
gray hairstreak (*Strymon melinus pudica*)	
Ladies/Admirals	
California sister (*Adelpha bredowii californica*)	
Lorquin's admiral (*Limenitis lorquini*)	
west coast lady (*Vanessa annabella*)	1
red admiral (*V. atalanta rubria*)	
painted lady (*V. cardui*)	5
American (Virginia) lady (*V. virginensis*)	
unidentified lady (*Vanessa sp.*)	
Swallowtails	
pale swallowtail (*Papilio eurymedon*)	
western tiger swallowtail (*P. rutulus*)	
anise swallowtail (*P. zelicaon*)	
Miscellaneous	
monarch (*Danaus plexippus*)	
common buckeye (*Junonia coenia grisea*)	3
mourning cloak (*Nymphalis antiopa*)	
Skippers	
funereal duskywing (*Erynnis funeralis*)	2
mournful duskywing (*Erynnis tristis*)	
fiery skipper (*Hylephila phyleus*)	
white (common) checkered-skipper (*Pyrgus albescens*)	
Other	
Column Subtotal	11

TOTAL = 87

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: Alicia Hill **Date:** 3/14/16

Site Name: JPD-08 Proctor Valley – Village 14 of Otay Ranch (Polygon D) **Site Visit No:** #3

Acres Surveyed 63 **Survey Time:** 3.15 (x2 people) **Acres per Hour:** 10 acres/hr

Other Surveyors Present: Travis Cooper

Field Conditions				
	Time (24 hr)	**Temperature (°F)**	**Wind Speed (mph)**	**Cloud Cover**
Start	14:15	72	2-5	95%
End	17:25	72	1-3	65%
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.) chamise chaparral (ADE TAS, ERI FAS), native grassland (Nasella sp., Avena sp)

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Host Plants	**Obs.**	**Nectar Plants**	**Obs.**
dwarf plantain (*Plantago erecta*)	X	popcorn flower (*Cryptantha/Plagiobothrys* spp.)	X
purple owl's clover (*Castilleja ~~exserta~~ densiflora*)	Y	goldfields (*Lasthenia* spp.)	X
snapdragon (*Antirrhinum coulterianum*)		goldenstar (*Muilla* spp.)	
birds-beak (*Cordylanthus rigidus*)		fiddleneck (*Amsinckia menziesii* var. *intermedia*)	X
woolly plantain (*Plantago patagonica*)		onion (*Allium* spp.)	X
Chinese houses (*Collinsia* spp.)		buckwheat (*Eriogonum fasciculatum*)	X
		ground pink (*Linanthus dianthiflorus*)	X
Host Plant Mapping Updated (*circle*) (Yes) No		**New Area or Existing Area** (*circle*) (New) Existing Both	
Species updated (list)			

Butterfly Species	**No.**	**Butterfly Species**	**No.**
Checkerspots		**Hairstreaks**	
California patch (*Chlosyne californica*)		great purple hairstreak (*Atlides halesus corcorani*)	
Gabb's checkerspot (*C. gabbii*)		brown elfin (*Callophrys augustinus*)	
Quino checkerspot (*Euphydryas editha quino*)		bramble (perplexing) hairstreak (*C. dumetorum affinis*)	
chalcedon checkerspot (*E. chalcedona chalcedona*)		gray hairstreak (*Strymon melinus pudica*)	
Leanira checkerspot (*Thessalia leanira wrighti*)		**Ladies/Admirals**	
Mylitta crescent (*Phyciodes mylitta*)		California sister (*Adelpha bredowii californica*)	
Blues		Lorquin's admiral (*Limenitis lorquini*)	
western pygmy-blue (*Brephidium exila*)		west coast lady (*Vanessa annabella*)	
western tailed blue (*Everes amyntula*)		red admiral (*V. atalanta rubria*)	
southern blue (*Glaucopsyche lygdamus australis*)		painted lady (*V. cardui*)	
Edward's blue (*Hemiargus ceraunus gyas*)		American (Virginia) lady (*V. virginiensis*)	
Acmon blue (*Icaricia acmon acmon*)		unidentified lady (*Vanessa* sp.)	1
marine blue (*Leptotes marina*)		**Swallowtails**	
unidentified blue		pale swallowtail (*Papilio eurymedon*)	
Whites		western tiger swallowtail (*P. rutulus*)	
Sara orangetip (*Anthocharis sara sara*)	13	anise swallowtail (*P. zelicaon*)	
desert (Felder's) orangetip (*A. cethura*)		**Miscellaneous**	
common California ringlet (*Coenonympha californica*)		monarch (*Danaus plexippus*)	
cabbage white (*Pieris rapae*)		common buckeye (*Junonia coenia grisea*)	
checkered (common) white (*Pontia protodice*)	1	mourning cloak (*Nymphalis antiopa*)	
spring white (*P. sisymbrii*)		**Skippers**	
unidentified white		funereal duskywing (*Erynnis funeralis*)	
Metalmarks		mournful duskywing (*Erynnis tristis*)	
Behr's metalmark (*Apodemia mormo virgulti*)	19	fiery skipper (*Hylephila phyleus*)	
Wright's metalmark (*Calephelis wrighti*)		white (common) checkered-skipper (*Pyrgus albescens*)	2
Sulphurs		**Other**	
orange sulphur (*Colias eurytheme*)	1		
sleepy orange (*Eurema nicippe*)			
cloudless sulfur (*Phoebus sennae marcellina*)			
unidentified sulphur			
Column Subtotal	34	**Column Subtotal**	3
		Total	37

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: CARLETT HUFFMAN **Date:** 3/12/16

Site Name: JPD-08 Proctor Valley – Village 14 of Otay Ranch PARCEL **Site Visit No:** 3

Acres Surveyed [illegible] **Survey Time:** 8 HOURS **Acres per Hour:** 7.33

Other Surveyors Present: NONE

Field Conditions

	Time (24 hr)	Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start	0830	60	0-2	40
End	1630	70	3-7	40
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)

CHAMISE CHAPARRAL, COASTAL SCRUB, NON-NATIVE GRASSLAND

Host Plants	Obs.
dwarf plantain (*Plantago erecta*)	X
purple owl's clover (*Castilleja exserta*)	X
snapdragon (*Antirrhinum coulterianum*)	
birds-beak (*Cordylanthus rigidus*)	
woolly plantain (*Plantago patagonica*)	
Chinese houses (*Collinsia* spp.)	

Nectar Plants	Obs.
popcorn flower (*Cryptantha/Pagiobothrys* spp.)	X
goldfields (*Lasthenia* spp.)	X
goldenaster (*Muilla* spp.)	X
fiddleneck (*Amsinckia menziesii* var. *intermedia*)	X
onion (*Allium* spp.)	X
buckwheat (*Eriogonum fasciculatum*)	X
ground pink (*Linanthus dianthiflorus*)	X

Host Plant Mapping Updated (circle) Yes No **New Area or Existing Area** (circle) New Existing Both

Species updated (list) CASTILLEJA SP.

Butterfly Species	No.
Checkerspots	
California patch (*Chlosyne californica*)	
Gabb's checkerspot (*C. gabbii*)	
Quino checkerspot (*Euphydryas editha quino*)	
chalcedon checkerspot (*E. chalcedona chalcedona*)	
Leanira checkerspot (*Thessalia leanira wrighti*)	
Mylitta crescent (*Phyciodes mylitta*)	
Blues	
western pygmy-blue (*Brephidium exile*)	
western tailed blue (*Everes amyntula*)	
southern blue (*Glaucopsyche lygdamus australis*)	2
Edward's blue (*Hemiargus ceraunus gyas*)	
Acmon blue (*Icaricia acmon acmon*)	1
marine blue (*Leptotes marina*)	1
unidentified blue	
Whites	
Sara orangetip (*Anthocharis sara sara*)	17
desert (Felder's) orangetip (*A. cethura*)	
common California ringlet (*Coenonympha californica*)	2
cabbage white (*Pieris rapae*)	
checkered (common) white (*Pontia protodice*)	4
spring white (*P. sisymbri*)	
unidentified white	
Metalmarks	
Behr's metalmark (*Apodemia mormo virgulti*)	2
Wright's metalmark (*Calephelis wrighti*)	
Sulphurs	
orange sulphur (*Colias eurytheme*)	
sleepy orange (*Eurema nicippe*)	
cloudless sulfur (*Phoebus sennae marcellina*)	
unidentified sulphur	
Column Subtotal	29

Butterfly Species	No.
Hairstreaks	
great purple hairstreak (*Atlides halesus corcoran*)	
brown elfin (*Callophrys augustinus*)	
bramble (perplexing) hairstreak (*C. dumetorum affinis*)	
gray hairstreak (*Strymon melinus pudica*)	
Ladies/Admirals	
California sister (*Adelpha bredowii californica*)	
Lorquin's admiral (*Limenitis lorquini*)	
west coast lady (*Vanessa annabella*)	
red admiral (*V. atalanta rubria*)	1
painted lady (*V. cardui*)	
American (Virginia) lady (*V. virginiensis*)	1
unidentified lady (*Vanessa* sp.)	
Swallowtails	
pale swallowtail (*Papilio eurymedon*)	
western tiger swallowtail (*P. rutulus*)	2
anise swallowtail (*P. zelicaon*)	
Miscellaneous	
monarch (*Danaus plexippus*)	
common buckeye (*Junonia coenia grisea*)	
mourning cloak (*Nymphalis antiopa*)	
Skippers	
funereal duskywing (*Erynnis funeralis*)	3
mournful duskywing (*Erynnis tristis*)	
fiery skipper (*Hylephila phyleus*)	
white (common) checkered-skipper (*Pyrgus albescens*)	2
Other	
Column Subtotal	9

TOTAL / 38

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: GARRETT HUFFMAN Date: 3/15/16

Site Name: JPD-08 Proctor Valley – Village 14 of Otay Ranch PARCEL 9/P Site Visit No: 3

Acres Surveyed [redacted] Survey Time: 8.5 HOURS Acres per Hour: 7.33

Other Surveyors Present: NONE

Field Conditions				
	Time (24 hr)	Temperature (F)	Wind Speed (mph)	Cloud Cover
Start	0830	60	0-3	0
End	1700	74	2-7	0
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)

CHAMISE CHAPARRAL, COASTAL SAGE SCRUB, NON-NATIVE GRASSLAND

Host Plants	Obs.
dwarf plantain (*Plantago erecta*)	X
purple owl's clover (*Castilleja exserta*)	X
snapdragon (*Antirrhinum coulterianum*)	
birds-beak (*Cordylanthus rigidus*)	
woolly plantain (*Plantago patagonica*)	
Chinese houses (*Collinsia* spp.)	
Host Plant Mapping Updated (circle) (Yes) No	

Nectar Plants	Obs.
popcorn flower (*Cryptantha/Plagiobothrys* spp.)	X
goldfields (*Lasthenia* spp.)	X
goldenstar (*Muilla* spp.)	
fiddleneck (*Amsinckia menziesii* var. *intermedia*)	X
onion (*Allium* spp.)	X
buckwheat (*Eriogonum fasciculatum*)	X
ground pink (*Linanthus dianthiflorus*)	X
New Area or Existing Area (circle) (New) Existing Both	

Species updated (list) CASTILLEJA SP.

Butterfly Species	No.
Checkerspots	
California patch (*Chlosyne californica*)	
Gabb's checkerspot (*C. gabbii*)	60
Quino checkerspot (*Euphydryas editha quino*)	
chalcedon checkerspot (*E. chalcedona chalcedona*)	
Leanira checkerspot (*Thessalia leanira wrighti*)	
Mylitta crescent (*Phyciodes mylitta*)	
Blues	
western pygmy-blue (*Brephidium exile*)	
western tailed blue (*Everes amyntula*)	
southern blue (*Glaucopsyche lygdamus australis*)	4
Edward's blue (*Hemiargus ceraunus gyas*)	
Acmon blue (*Icaricia acmon acmon*)	1
marine blue (*Leptotes marina*)	
unidentified blue	
Whites	
Sara orangetip (*Anthocharis sara sara*)	43
desert (Felder's) orangetip (*A. cethura*)	
common California ringlet (*Coenonympha californica*)	5
cabbage white (*Pieris rapae*)	
checkered (common) white (*Pontia protodice*)	5
spring white (*P. sisymbrii*)	
unidentified white	
Metalmarks	
Behr's metalmark (*Apodemia mormo virgulti*)	8
Wright's metalmark (*Calephelis wrighti*)	
Sulphurs	
orange sulphur (*Colias eurytheme*)	5
sleepy orange (*Eurema nicippe*)	
cloudless sulfur (*Phoebus sennae marcellina*)	
unidentified sulphur	
Column Subtotal	81

Butterfly Species	No.
Hairstreaks	
great purple hairstreak (*Atlides halesus corcoran*)	
brown elfin (*Callophrys augustinus*)	
bramble (pepperwing) hairstreak (*C. dumetorum affinis*)	
gray hairstreak (*Strymon melinus pudica*)	1
Ladies/Admirals	
California sister (*Adelpha bredowii californica*)	
Lorquin's admiral (*Limenitis lorquini*)	
west coast lady (*Vanessa annabella*)	1
red admiral (*V. atalanta rubria*)	1
painted lady (*V. cardui*)	2
American (Virginia) lady (*V. virginiensis*)	1
unidentified lady (*Vanessa* sp.)	
Swallowtails	
pale swallowtail (*Papilio eurymedon*)	
western tiger swallowtail (*P. rutulus*)	1
anise swallowtail (*P. zelicaon*)	
Miscellaneous	
monarch (*Danaus plexippus*)	
common buckeye (*Junonia coenia grisea*)	
mourning cloak (*Nymphalis antiopa*)	
Skippers	
funereal duskywing (*Erynnis funeralis*)	5
mournful duskywing (*Erynnis tristis*)	
fiery skipper (*Hylephila phyleus*)	
white (common) checkered-skipper (*Pyrgus albescens*)	2
Other	
Column Subtotal	14

TOTAL 95

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: CARREN HUFFMAN **Date:** 3/14/16

Site Name: JPD-08 Proctor Valley – Village 14 of Otay Ranch FOCUS R **Site Visit No:** 3

Acres Surveyed 27.30 **Survey Time:** 3 HOURS **Acres per Hour:** 9.10

Other Surveyors Present: NONE

Field Conditions				
	Time (24 hr)	Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start	0830	61	0 - 3	30 %
End	1130	67	4 - 8	100 % (SPRINKLING)
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)

CHAMISE CHAPARRAL, COASTAL SAGE SCRUB, NON-NATIVE GRASSLAND

Host Plants	Obs.	Nectar Plants	Obs.
dwarf plantain (*Plantago erecta*)	X	popcorn flower (*Cryptantha/Plagiobothrys* spp.)	X
purple owl's clover (*Castilleja exserta*)	X	goldfields (*Lasthenia* spp.)	X
snapdragon (*Antirrhinum coulterianum*)		goldenstar (*Muilla* spp.)	
birds-beak (*Cordylanthus rigidus*)		fiddleneck (*Amsinckia menziesii* var. *intermedia*)	
woolly plantain (*Plantago patagonica*)		onion (*Allium* spp.)	X
Chinese houses (*Collinsia* spp.)		buckwheat (*Eriogonum fasciculatum*)	X
		ground pink (*Linanthus dianthiflorus*)	
Host Plant Mapping Updated (circle) (Yes) No		**New Area or Existing Area** (circle) (New) Existing Both	
Species updated (list) CASTILLEJA SP.			

Butterfly Species	No.	Butterfly Species	No.
Checkerspots		**Hairstreaks**	
California patch (*Chlosyne californica*)		great purple hairstreak (*Atlides halesus corcorani*)	
Gabb's checkerspot (*C. gabbii*)		brown elfin (*Callophrys augustinus*)	
Quino checkerspot (*Euphydryas editha quino*)		bramble (perplexing) hairstreak (*C. dumetorum affinis*)	
chalcedon checkerspot (*E. chalcedona chalcedona*)		gray hairstreak (*Strymon melinus pudica*)	
Leanira checkerspot (*Thessalia leanira wrighti*)		**Ladies/Admirals**	
Mylitta crescent (*Phyciodes mylitta*)		California sister (*Adelpha bredowii californica*)	
Blues		Lorquin's admiral (*Limenitis lorquini*)	
western pygmy-blue (*Brephidium exilis*)		west coast lady (*Vanessa annabella*)	
western tailed blue (*Everes amyntula*)		red admiral (*V. atalanta rubria*)	
southern blue (*Glaucopsyche lygdamus australis*)		painted lady (*V. cardui*)	
Edward's blue (*Hemiargus ceraunus gyas*)		American (Virginia) lady (*V. virginiensis*)	
Acmon blue (*Icaricia acmon acmon*)		unidentified lady (*Vanessa* sp.)	
marine blue (*Leptotes marina*)		**Swallowtails**	
unidentified blue		pale swallowtail (*Papilio eurymedon*)	
Whites		western tiger swallowtail (*P. rutulus*)	
Sara orangetip (*Anthocharis sara sara*)	2	anise swallowtail (*P. zelicaon*)	
desert (Felder's) orangetip (*A. cethura*)		**Miscellaneous**	
common California ringlet (*Coenonympha californica*)		monarch (*Danaus plexippus*)	
cabbage white (*Pieris rapae*)		common buckeye (*Junonia coenia grisea*)	
checkered (common) white (*Pontia protodice*)		mourning cloak (*Nymphalis antiopa*)	
spring white (*P. sisymbrii*)		**Skippers**	
unidentified white		funereal duskywing (*Erynnis funeralis*)	
Metalmarks		mournful duskywing (*Erynnis tristis*)	
Behr's metalmark (*Apodemia mormo virgulti*)		fiery skipper (*Hylephila phyleus*)	
Wright's metalmark (*Calephelis wrighti*)		white (common) checkered-skipper (*Pyrgus albescens*)	
Sulphurs		**Other**	
orange sulphur (*Colias eurytheme*)			
sleepy orange (*Eurema nicippe*)			
cloudless sulfur (*Phoebus sennae marcellina*)			
unidentified sulphur			
Column Subtotal	2	Column Subtotal	2

TOTAL 2

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: CARRIE HUFFMAN **Date:** 3/12/16

Site Name: JPD-08 Proctor Valley - Village 14 of Otay Ranch PARCEL E4 - R **Site Visit No:** 3

Acres Surveyed 52 **Survey Time:** 5 **Acres per Hour:** 10

Other Surveyors Present: NONE

Field Conditions	Time (24 hr)	Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start	0900	61	0 - 3	50 %
End	1130	62	4 - 5	65 +/-
Start	1400	63	2 - 6	20 +/-
End	1700	62	3 - 6	10 %

Vegetation Communities Surveyed (inc. dominant spp.)

CHAMISE CHAPARRAL; COASTAL SAGE SCRUB; NON-NATIVE GRASSLAND

Host Plants	Obs.
dwarf plantain (*Plantago erecta*)	Y
purple owl's clover (*Castilleja exserta*)	Y
snapdragon (*Antirrhinum coulterianum*)	
birds-beak (*Cordylanthus rigidus*)	
woolly plantain (*Plantago patagonica*)	
Chinese houses (*Collinsia* spp.)	

Nectar Plants	Obs.
popcorn flower (*Cryptantha/Plagiobothrys* spp.)	Y
goldfields (*Lasthenia* spp.)	
goldenstar (*Muilla* spp.)	
hadeneck (*Amsinckia menziesii* var. *intermedia*)	
onion (*Allium* spp.)	Y
buckwheat (*Eriogonum fasciculatum*)	Y
ground pink (*Linanthus dianthiflorus*)	Y

Host Plant Mapping Updated (circle) Yes No

New Area or Existing Area (circle) New Existing Both

Species updated (list) CASTILLEJA E.

Butterfly Species	No.
Checkerspots	
California patch (*Chlosyne californica*)	
Gabb's checkerspot (*C. gabbii*)	
Quino checkerspot (*Euphydryas editha quino*)	
chalcedon checkerspot (*E. chalcedona chalcedona*)	
Leanira checkerspot (*Thessalia leanira wrighti*)	
Mylitta crescent (*Phyciodes mylitta*)	
Blues	
western pygmy-blue (*Brephidium exile*)	
western tailed blue (*Everes amyntula*)	
southern blue (*Glaucopsyche lygdamus australis*)	
Edward's blue (*Hemiargus ceraunus gyas*)	
Acmon blue (*Icaricia acmon acmon*)	
marine blue (*Leptotes marina*)	
unidentified blue	
Whites	
Sara orangetip (*Anthocharis sara sara*)	21
desert (Felder's) orangetip (*A. cethura*)	
common California ringlet (*Coenonympha californica*)	3
cabbage white (*Pieris rapae*)	
checkered (common) white (*Pontia protodice*)	
spring white (*P. sisymbrii*)	
unidentified white	
Metalmarks	
Behr's metalmark (*Apodemia mormo virgulti*)	27
Wright's metalmark (*Calephelis wrighti*)	
Sulphurs	
orange sulphur (*Colias eurytheme*)	
sleepy orange (*Eurema nicippe*)	
cloudless sulfur (*Phoebus sennae marcellina*)	
unidentified sulphur	
Column Subtotal	51

Butterfly Species	No.
Hairstreaks	
great purple hairstreak (*Atlides halesus corcoran*)	
brown elfin (*Callophrys augustinus*)	
bramble (perplexing) hairstreak (*C. dumetorum affinis*)	
gray hairstreak (*Strymon melinus pudica*)	
Ladies/Admirals	
California sister (*Adelpha bredowii californica*)	
Lorquin's admiral (*Limenitis lorquini*)	
west coast lady (*Vanessa annabella*)	
red admiral (*V. atalanta rubria*)	
painted lady (*V. cardui*)	1
American (Virginia) lady (*V. virginiensis*)	
unidentified lady (*Vanessa* sp.)	
Swallowtails	
pale swallowtail (*Papilio eurymedon*)	
western tiger swallowtail (*P. rutulus*)	
anise swallowtail (*P. zelicaon*)	
Miscellaneous	
monarch (*Danaus plexippus*)	
common buckeye (*Junonia coenia grisea*)	
mourning cloak (*Nymphalis antiopa*)	
Skippers	
funereal duskywing (*Erynnis funeralis*)	
mournful duskywing (*Erynnis tristis*)	
fiery skipper (*Hylephila phyleus*)	
white (common) checkered-skipper (*Pyrgus albescens*)	
Other	
Column Subtotal	1

TOTAL 52

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: Erik Ladale, **Date:** 3/19/16

Site Name: JPD-08 Proctor Valley – Village 14 of Otay Ranch **Site Visit No:** 3

Area Surveyed 5, 7, 12 **Acres Surveyed** 152 **Survey Time:** 16.5 hrs **Acres per Hour:** 9.4

Other Surveyors Present: Erica Harris, Cathleen Cummins, Ben R.

Field Conditions				
	Time (24 hr)	Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start	9:15	63.5	0-1	2
End	2:45	75	5-7	0
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)

Host Plants	Obs.	Nectar Plants	Obs.
dwarf plantain (*Plantago erecta*)	Y	popcorn flower (*Cryptantha/Plagiobothrys* spp.)	Y
purple owl's clover (*Castilleja exserta*)	Y	goldfields (*Lasthenia* spp.)	Y
snapdragon (*Antirrhinum coulterianum*)	NJ	goldenstar (*Muilla* spp.)	NJ
birds-beak (*Cordylanthus rigidus*)	NJ	fiddleneck (*Amsinckia menziesii* var. *intermedia*)	NJ
woolly plantain (*Plantago patagonica*)	NJ	onion (*Allium* spp.)	Y
Chinese houses (*Collinsia* spp.)	NJ	buckwheat (*Eriogonum fasciculatum*)	Y
		ground pink (*Linanthus dianthiflorus*)	Y
Host Plant Mapping Updated (circle) Yes No		**New Area or Existing Area** (circle) New Existing Both	
Species updated (list)			

Butterfly Species	No.	Butterfly Species	No.
Checkerspots		**Hairstreaks**	
California patch (*Chlosyne californica*)		great purple hairstreak (*Atlides halesus corcorani*)	
Gabb's checkerspot (*C. gabbii*)	17	brown elfin (*Callophrys augustinus*)	
Quino checkerspot (*Euphydryas editha quino*)		bramble (perplexing) hairstreak (*C. dumetorum affinis*)	
chalcedon checkerspot (*E. chalcedona chalcedona*)		gray hairstreak (*Strymon melinus pudica*)	
Leanira checkerspot (*Thessalia leanira wrighti*)		**Ladies/Admirals**	
Mylitta crescent (*Phyciodes mylitta*)		California sister (*Adelpha bredowii californica*)	
Blues		Lorquin's admiral (*Limenitis lorquini*)	
western pygmy-blue (*Brephidium exile*)		west coast lady (*Vanessa annabella*)	
western tailed blue (*Everes amyntula*)		red admiral (*V. atalanta rubria*)	
southern blue (*Glaucopsyche lygdamus australis*)	4	painted lady (*V. cardui*)	5
Edward's blue (*Hemiargus ceraunus gyas*)		American (Virginia) lady (*V. virginiensis*)	1
Acmon blue (*Icaricia acmon acmon*)		unidentified lady (*Vanessa* sp.)	1
marine blue (*Leptotes marina*)		**Swallowtails**	
unidentified blue	2	pale swallowtail (*Papilio eurymedon*)	1
Whites		western tiger swallowtail (*P. rutulus*)	1
Sara orangetip (*Anthocharis sara sara*)	43	anise swallowtail (*P. zelicaon*)	
desert (Felder's) orangetip (*A. cethura*)	2	**Miscellaneous**	
common California ringlet (*Coenonympha californica*)	24	monarch (*Danaus plexippus*)	
cabbage white (*Pieris rapae*)		common buckeye (*Junonia coenia grisea*)	1
checkered (common) white (*Pontia protodice*)	2	mourning cloak (*Nymphalis antiopa*)	
spring white (*P. sisymbrii*)	3	**Skippers**	
unidentified white	17	funereal duskywing (*Erynnis funeralis*)	15
Metalmarks		mournful duskywing (*Erynnis tristis*)	
Behr's metalmark (*Apodemia mormo virgulti*)	41	fiery skipper (*Hylephila phyleus*)	
Wright's metalmark (*Calephelis wrighti*)		white (common) checkered-skipper (*Pyrgus albescens*)	17
Sulphurs		**Other** Erynnis w/ white	1
orange sulphur (*Colias eurytheme*)	8	Erynnis w/ white	1
sleepy orange (*Eurema nicippe*)		Erynnis w/ white	1
cloudless sulfur (*Phoebus sennae marcellina*)			
unidentified sulphur	3		
Column Subtotal	165	Column Subtotal	37
		Total	202

JPDTDS ENGATH
QCBTB (ST/U) 8/9/16
SIGN: 0915, 68°F, 60-83.0%
SIDP 1445, 75°F, 60-7.5%
BIDS: GNATCATCHER (), TANAGER (), BUNTING ()

OAK TI	CACTUS	SPTO	ANNA'S
MOCK	GNATC	NOPO	TREE
AMER	BUSH	WCSP	RTHA
GAMB	NOPA	RCSP	ROCK
WREN	WEST	BCSP	CACT
NOPA	WREN	YRWA	BROWN

SCRUB-BROWHED COMMENCED

Tiger 1	SO. RIVER II
Blackeye I	Gnatch's III
Neck Strip III	American I
Sulphur IIII	Lacky III
Spurs III	Cactus Gnat IIII
Bahr's IIII	White Sp IIII
Sara's IIII II	

Bower Raere, Cryptanita, Cas doncae
Hermit, Dicaeum, Mannikin, Erodium,
Acrylic, Serin, Gnatcatcher, Cactus, Acrylic, Lussac, Common
Gnatcatcher, Escape, Nacre, Mint, Water,
Bunting, Teeth, Heat, Lasthenia, Indian
Corn, Allium, Arctic

Bird Survey #3

Beaver, Eriam, [illegible], Gadsden C.

Temp 63.5°F	Temp 75°F
[illegible]	[illegible]
Sky: Clear	Sky: 5%

Wildlife

[illegible]

Flowering Plants

[illegible]

Rite in the Rain

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: Alex Baumgarten Date: 3/13/16

Site Name: JPO-08 Proctor Valley – Village 14 of Otay Ranch Site Visit No: 3

Area Surveyed: AA CC partial Acres Surveyed: 43 Survey Time: 5hrs 0min Acres per Hour: 8.6

Other Surveyors Present: Caitlin Baumgarten (supervised)

Field Conditions				
	Time (24 hr)	Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start	1130	63.2	0-2	30%
End	1630	62.8	2-5	35%
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)

Chamise chaparral (chamise, Malosma), native bunchgrassland (stipa sp., blue dicks, dot cal, buckwheat, Eriodictyon sp.)

Host Plants	Obs.
dwarf plantain (Plantago erecta)	FLWR
purple owl's clover (Castilleja exserta)	
snapdragon (Antirrhinum coulterianum)	
birds-beak (Cordylanthus rigidus)	
woolly plantain (Plantago patagonica)	
Chinese houses (Collinsia spp.)	
Host Plant Mapping Updated (circle) (Yes) No	
Species updated (list): P. erecta	

Nectar Plants	Obs.
popcorn flower (Cryptantha/Plagiobothrys spp.)	FLWR
goldfields (Lasthenia spp.)	FLWR
goldenstar (Muilla spp.)	
fiddleneck (Amsinckia menziesii var. intermedia)	
onion (Allium spp.)	FLWR
buckwheat (Eriogonum fasciculatum)	FLWR
ground pink (Linanthus dianthiflorus)	FLWR
New Area or Existing Area (circle) New Existing Both	

Butterfly Species	No.
Checkerspots	
California patch (Chlosyne californica)	
Gabb's checkerspot (C. gabbii)	1
Quino checkerspot (Euphydryas editha quino)	
chalcedon checkerspot (E. chalcedona chalcedona)	
Leanira checkerspot (Thessalia leanira wrighti)	
Mylitta crescent (Phyciodes mylitta)	
Blues	
western pygmy-blue (Brephidium exile)	
western tailed blue (Everes amyntula)	
southern blue (Glaucopsyche lygdamus australis)	1
Edward's blue (Hemiargus ceraunus gyas)	
Acmon blue (Icaricia acmon acmon)	
marine blue (Leptotes marina)	
unidentified blue	1
Whites	
Sara orangetip (Anthocharis sara sara)	11
desert (Felder's) orangetip (A. cethura)	
common California ringlet (Coenonympha californica)	11
cabbage white (Pieris rapae)	
checkered (common) white (Pontia protodice)	
spring white (P. sisymbri)	
unidentified white	1
Metalmarks	
Behr's metalmark (Apodemia mormo virgulti)	1
Wright's metalmark (Calephelis wrighti)	
Sulphurs	
orange sulphur (Colias eurytheme)	4
sleepy orange (Eurema nicippe)	
cloudless sulfur (Phoebus sennae marcellina)	
unidentified sulphur	1
Column Subtotal	53

Butterfly Species	No.
Hairstreaks	
great purple hairstreak (Atlides halesus corcorani)	
brown elfin (Callophrys augustinus)	
bramble (perplexing) hairstreak (C. dumetorum affinis)	
gray hairstreak (Strymon melinus pudica)	1
Ladies/Admirals	
California sister (Adelpha bredowii californica)	
Lorquin's admiral (Limenitis lorquini)	
west coast lady (Vanessa annabella)	1
red admiral (V. atalanta rubria)	
painted lady (V. cardui)	
American (Virginia) lady (V. virginiensis)	1
unidentified lady (Vanessa sp.)	1
Swallowtails	
pale swallowtail (Papilio eurymedon)	
western tiger swallowtail (P. rutulus)	
anise swallowtail (P. zelicaon)	
Miscellaneous	
monarch (Danaus plexippus)	
common buckeye (Junonia coenia grisea)	1
mourning cloak (Nymphalis antiopa)	
Skippers	
funereal duskywing (Erynnis funeralis)	11
mournful duskywing (Erynnis tristis)	1
fiery skipper (Hylephila phyleus)	
white (common) checkered-skipper (Pyrgus albescens)	111111
Other	
Column Subtotal	23
Total	76

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: Alicia Hill **Date:** 3/13/16

Site Name: JPD-08 Proctor Valley – Village 14 of Otay Ranch **Site Visit No:** 3

Acres Surveyed 44 **Survey Time:** 2.42 (x2 ~~persons~~) **Acres per Hour:** 9.1 /pp

Other Surveyors Present: Travis Cooper

Field Conditions				
	Time (24 hr)	**Temperature (°F)**	**Wind Speed (mph)**	**Cloud Cover**
Start	1420	71	1-4	25
End	1645	70	2-6	60
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.) chamise (ADZ FAS, ERI FAS), Diegan CSS (ART CAL, ERI FAS, ACM GLA), native grassland

Host Plants	**Obs.**	**Nectar Plants**	**Obs.**
dwarf plantain (*Plantago erecta*)	X	popcorn flower (*Cryptantha/Plagiobothrys* spp.)	X
purple owl's clover (*Castilleja exserta*)	X	goldfields (*Lasthenia* spp.)	X
snapdragon (*Antirrhinum coulterianum*)		goldenstar (*Muilla* spp.)	X
birds-beak (*Cordylanthus rigidus*)		fiddleneck (*Amsinckia menziesii* var. *intermedia*)	X
woolly plantain (*Plantago patagonica*)		onion (*Allium* spp.)	X
Chinese houses (*Collinsia* spp.)		buckwheat (*Eriogonum fasciculatum*)	X
		ground pink (*Linanthus dianthiflorus*)	X
Host Plant Mapping Updated (*circle*) Yes (No)		**New Area or Existing Area** (*circle*) New (Existing)	Both
Species updated (list)			

Butterfly Species	**No.**	**Butterfly Species**	**No.**
Checkerspots		**Hairstreaks**	
California patch (*Chlosyne californica*)		great purple hairstreak (*Atlides halesus corcorani*)	
Gabb's checkerspot (*C. gabbii*)		brown elfin (*Callophrys augustinus*)	
Quino checkerspot (*Euphydryas editha quino*)		bramble (perplexing) hairstreak (*C. dumetorum affinis*)	
chalcedon checkerspot (*E. chalcedona chalcedona*)		gray hairstreak (*Strymon melinus pudica*)	
Leanira checkerspot (*Thessalia leanira wrighti*)		**Ladies/Admirals**	
Mylitta crescent (*Phyciodes mylitta*)		California sister (*Adelpha bredowii californica*)	
Blues		Lorquin's admiral (*Limenitis lorquini*)	
western pygmy-blue (*Brephidium exila*)		west coast lady (*Vanessa annabella*)	
western tailed blue (*Everes amyntula*)		red admiral (*V. atalanta rubria*)	
southern blue (*Glaucopsyche lygdamus australis*)		painted lady (*V. cardui*)	
Edward's blue (*Hemiargus ceraunus gyas*)		American (Virginia) lady (*V. virginiensis*)	
Acmon blue (*Icaricia acmon acmon*)	2	unidentified lady (*Vanessa* sp.)	
marine blue (*Leptotes marina*)		**Swallowtails**	
unidentified blue		pale swallowtail (*Papilio eurymedon*)	
Whites		western tiger swallowtail (*P. rutulus*)	
Sara orangetip (*Anthocharis sara sara*)	13	anise swallowtail (*P. zelicaon*)	
desert (Felder's) orangetip (*A. cethura*)		**Miscellaneous**	
common California ringlet (*Coenonympha californica*)		monarch (*Danaus plexippus*)	
cabbage white (*Pieris rapae*)		common buckeye (*Junonia coenia grisea*)	
checkered (common) white (*Pontia protodice*)		mourning cloak (*Nymphalis antiopa*)	
spring white (*P. sisymbrii*)		**Skippers**	
unidentified white		funereal duskywing (*Erynnis funeralis*)	2
Metalmarks		mournful duskywing (*Erynnis tristis*)	
Behr's metalmark (*Apodemia mormo virgulti*)	9	fiery skipper (*Hylephila phyleus*)	
Wright's metalmark (*Calephelis wrighti*)		white (common) checkered-skipper (*Pyrgus albescens*)	4
Sulphurs		**Other**	
orange sulphur (*Colias eurytheme*)		CA Ringlet	2
sleepy orange (*Eurema nicippe*)			
cloudless sulfur (*Phoebus sennae marcellina*)			
unidentified sulphur			
Column Subtotal	24	**Column Subtotal**	8
		Total	32

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: MELISSA BUSBY **Date:** 3/15/16

Site Name: JPD-08 Proctor Valley – Village 14 of Otay Ranch **Site Visit No:**

Area Surveyed W, X **Acres Surveyed** ±60 **Survey Time:** 6.5 **Acres per Hour:** ~9.25

Other Surveyors Present: MELANIE ZUCKS

Field Conditions				
	Time (24 hr)	Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start	0930	63	0-2	0
End	1600	78	4-7	0
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)

Host Plants	Obs.	Nectar Plants	Obs.
dwarf plantain (*Plantago erecta*)	✓	popcorn flower (*Cryptantha/Plagiobothrys* spp.)	✓
purple owl's clover (*Castilleja exserta*)		goldfields (*Lasthenia* spp.)	✓
snapdragon (*Antirrhinum coulterianum*)		goldenstar (*Muilla* spp.)	
birds-beak (*Cordylanthus rigidus*)		fiddleneck (*Amsinckia menziesii* var. *intermedia*)	
woolly plantain (*Plantago patagonica*)		onion (*Allium* spp.)	✓
Chinese houses (*Collinsia* spp.)		buckwheat (*Eriogonum fasciculatum*)	✓
		ground pink (*Linanthus dianthiflorus*)	✓
Host Plant Mapping Updated (circle) Yes (No)		**New Area or Existing Area** (circle) New (Existing) Both	
Species updated (list)			

Butterfly Species	No.	Butterfly Species	No.
Checkerspots		**Hairstreaks**	
California patch (*Chlosyne californica*)		great purple hairstreak (*Atlides halesus corcoran*)	
Gabb's checkerspot (*C. gabbii*)		brown elfin (*Callophrys augustinus*)	
Quino checkerspot (*Euphydryas editha quino*)		bramble (perplexing) hairstreak (*C. dumetorum affinis*)	
chalcedon checkerspot (*E. chalcedona chalcedona*)		gray hairstreak (*Strymon melinus pudica*)	
Leanira checkerspot (*Thessalia leanira wrighti*)		**Ladies/Admirals**	
Mylitta crescent (*Phyciodes mylitta*)		California sister (*Adelpha bredowii californica*)	
Blues		Lorquin's admiral (*Limenitis lorquini*)	
western pygmy-blue (*Brephidium exilis*)		west coast lady (*Vanessa annabella*)	
western tailed blue (*Everes amyntula*)		red admiral (*V. atalanta rubria*)	
southern blue (*Glaucopsyche lygdamus australis*)		painted lady (*V. cardui*)	
Edward's blue (*Hemiargus ceraunus gyas*)		American (Virginia) lady (*V. virginiensis*)	12
Acmon blue (*Icaricia acmon acmon*)		unidentified lady (*Vanessa* sp.)	3
marine blue (*Leptotes marina*)	7	**Swallowtails**	
unidentified blue		pale swallowtail (*Papilio eurymedon*)	
Whites		western tiger swallowtail (*P. rutulus*)	
Sara orangetip (*Anthocharis sara sara*)	11	anise swallowtail (*P. zelicaon*)	
desert (Felder's) orangetip (*A. cethura*)		**Miscellaneous**	
common California ringlet (*Coenonympha californica*)		monarch (*Danaus plexippus*)	
cabbage white (*Pieris rapae*)		common buckeye (*Junonia coenia grisea*)	
checkered (common) white (*Pontia protodice*)	3	mourning cloak (*Nymphalis antiopa*)	
spring white (*P. sisymbrii*)	8	**Skippers**	
unidentified white	3	funereal duskywing (*Erynnis funeralis*)	2
Metalmarks		mournful duskywing (*Erynnis tristis*)	
Behr's metalmark (*Apodemia mormo virgulti*)	24	fiery skipper (*Hylephila phyleus*)	
Wright's metalmark (*Calephelis wrighti*)		white (common) checkered-skipper (*Pyrgus albescens*)	5
Sulphurs		**Other**	
orange sulphur (*Colias eurytheme*)			
sleepy orange (*Eurema nicippe*)			
cloudless sulfur (*Phoebus sennae marcellina*)			
unidentified sulphur	3		
Column Subtotal	53	**Column Subtotal**	31
		Total	84

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: Melanie Rocks **Date:** 3/15/2016

Site Name: JPD-08 Proctor Valley – Village 14 of Otay Ranch **Site Visit No:** #3

Area Surveyed W + X **Acres Surveyed** 116 **Survey Time:** 13 **Acres per Hour:** 8.92

Other Surveyors Present: M. Busby

Field Conditions				
	Time (24 hr)	Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start	0930	63	0-2	Clear (0-12)
End	1600	78	4-7	Clear (0-12)
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)

DCSS (Malosma laurina, Baccharis sarothroides, etc.)

Chamise Chaparral (Adenostoma fasc.)

Host Plants	Obs.	Nectar Plants	Obs.
dwarf plantain (*Plantago erecta*)	✓	popcorn flower (*Cryptantha/Plagiobothrys* spp.)	✓
purple owl's clover (*Castilleja exserta*)		goldfields (*Lasthenia* spp.)	✓
snapdragon (*Antirrhinum coulterianum*)		goldenstar (*Muilla* spp.)	
birds-beak (*Cordylanthus rigidus*)		fiddleneck (*Amsinckia menziesii* var. *intermedia*)	
woolly plantain (*Plantago patagonica*)		onion (*Allium* spp.)	
Chinese houses (*Collinsia* spp.)		buckwheat (*Eriogonum fasciculatum*)	✓
		ground pink (*Linanthus dianthiflorus*)	✓
Host Plant Mapping Updated (circle) Yes (No)		**New Area or Existing Area** (circle) New Existing Both	
Species updated (list)			

Butterfly Species	No.	Butterfly Species	No.
Checkerspots		**Hairstreaks**	
California patch (*Chlosyne californica*)		great purple hairstreak (*Atlides halesus corcoran*)	
Gabb's checkerspot (*C. gabbii*)		brown elfin (*Callophrys augustinus*)	
Quino checkerspot (*Euphydryas editha quino*)		bramble (perplexing) hairstreak (*C. dumetorum affinis*)	
chalcedon checkerspot (*E. chalcedona chalcedona*)		gray hairstreak (*Strymon melinus pudica*)	
Leanira checkerspot (*Thessalia leanira wrighti*)		**Ladies/Admirals**	
Mylitta crescent (*Phyciodes mylitta*)		California sister (*Adelpha bredowii californica*)	
Blues		Lorquin's admiral (*Limenitis lorquini*)	
western pygmy-blue (*Brephidium exile*)		west coast lady (*Vanessa annabella*)	
western tailed blue (*Everes amyntula*)		red admiral (*V. atalanta rubria*)	
southern blue (*Glaucopsyche lygdamus australis*)		painted lady (*V. cardui*)	
Edward's blue (*Hemiargus ceraunus gyas*)		American (Virginia) lady (*V. virginiensis*) |	1
Acmon blue (*Icaricia acmon acmon*)		unidentified lady (*Vanessa* sp.) ||	3
marine blue (*Leptotes marina*) |	1	**Swallowtails**	
unidentified blue |	1	pale swallowtail (*Papilio eurymedon*)	
Whites		western tiger swallowtail (*P. rutulus*)	
Sara orangetip (*Anthocharis sara sara*)	19	anise swallowtail (*P. zelicaon*)	
desert (Felder's) orangetip (*A. cethura*)		**Miscellaneous**	
common California ringlet (*Coenonympha californica*)		monarch (*Danaus plexippus*)	
cabbage white (*Pieris rapae*)		common buckeye (*Junonia coenia grisea*)	
checkered (common) white (*Pontia protodice*) ||	2	mourning cloak (*Nymphalis antiopa*)	
spring white (*P. sisymbrii*) |	1	**Skippers**	
unidentified white	15	funereal duskywing (*Erynnis funeralis*) ||	3
Metalmarks		mournful duskywing (*Erynnis tristis*)	
Behr's metalmark (*Apodemia mormo virgulti*)	18	fiery skipper (*Hylephila phyleus*)	
Wright's metalmark (*Calephelis wrighti*)		white (common) checkered-skipper (*Pyrgus albescens*)	
Sulphurs		**Other**	
orange sulphur (*Colias eurytheme*)			
sleepy orange (*Eurema nicippe*)			
cloudless sulfur (*Phoebus sennae marcellina*)			
unidentified sulphur |||	4		
Column Subtotal	61	**Column Subtotal**	7
		Total	68

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: ABORCHER **Date:** 3/9/16

Site Name: JPD-08 Proctor Valley – Village 14 of Otay Ranch **Site Visit No:** 3

Area Surveyed: Z **Acres Surveyed:** 60 **Survey Time:** 8hrs **Acres per Hour:** 7.5ac/hr

Other Surveyors Present: —

Field Conditions	Time (24 hr)	Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start	0900	63°	1-3mph	0
End	1700	68°	2-8mph	40
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)

CSS (Eriog, Rhus, Lac, Ant sc.)

Host Plants	Obs.
dwarf plantain (*Plantago erecta*)	4
purple owl's clover (*Castilleja exserta*)	4
snapdragon (*Antirrhinum coulterianum*)	
birds-beak (*Cordylanthus rigidus*)	
woolly plantain (*Plantago patagonica*)	
Chinese houses (*Collinsia spp.*)	
Host Plant Mapping Updated (circle) Yes (No)	
Species updated (list)	

Nectar Plants	Obs.
popcorn flower (*Cryptantha/Plagiobothrys spp.*)	4
goldfields (*Lasthenia spp.*)	3
goldenstar (*Muilla spp.*)	
Saddleback (*Amsinckia menziesii var. intermedia*)	
onion (*Allium spp.*)	
buckwheat (*Eriogonum fasciculatum*)	3
ground pink (*Linanthus dianthiflorus*)	2
New Area or Existing Area (circle) New (Existing) Both	

Butterfly Species	No.
Checkerspots	
California patch (*Chlosyne californica*)	
Gabb's checkerspot (*C. gabbii*)	IIII I
Quino checkerspot (*Euphydryas editha quino*)	
chalcedon checkerspot (*E. chalcedona chalcedona*)	
Leanira checkerspot (*Thessalia leanira wrighti*)	
Mylitta crescent (*Phyciodes mylitta*)	
Blues	
western pygmy-blue (*Brephidium exile*)	
western tailed blue (*Everes amyntula*)	
southern blue (*Glaucopsyche lygdamus australis*)	
Edward's blue (*Hemiargus ceraunus gyas*)	IIII
Acmon blue (*Icaricia acmon acmon*)	
marine blue (*Leptotes marina*)	I
unidentified blue	III
Whites	
Sara orangetip (*Anthocharis sara sara*)	IIII IIII I
desert (Felder's) orangetip (*A. cethura*)	IIII IIII
common California ringlet (*Coenonympha california*)	IIII IIII IIII
cabbage white (*Pieris rapae*)	
checkered (common) white (*Pontia protodice*)	
spring white (*P. sisymbrii*)	
unidentified white	
Metalmarks	
Behr's metalmark (*Apodemia mormo virgulti*)	IIII IIII III
Wright's metalmark (*Calephelis wrighti*)	
Sulphurs	
orange sulphur (*Colias eurytheme*)	
sleepy orange (*Eurema nicippe*)	
cloudless sulfur (*Phoebus sennae marcellina*)	
unidentified sulphur	IIII III
Column Subtotal	86

Butterfly Species	No.
Hairstreaks	
great purple hairstreak (*Atlides halesus corcorani*)	
brown elfin (*Callophrys augustinus*)	
bramble (perplexing) hairstreak (*C. dumetorum affinis*)	
gray hairstreak (*Strymon melinus pudica*)	
Ladies/Admirals	
California sister (*Adelpha bredowii californica*)	I
Lorquin's admiral (*Limenitis lorquini*)	
west coast lady (*Vanessa annabella*)	
red admiral (*V. atalanta rubria*)	I
painted lady (*V. cardui*)	III
American (Virginia) lady (*V. virginiensis*)	
unidentified lady (*Vanessa sp.*)	III
Swallowtails	
pale swallowtail (*Papilio eurymedon*)	
western tiger swallowtail (*P. rutulus*)	
anise swallowtail (*P. zelicaon*)	
Miscellaneous	
monarch (*Danaus plexippus*)	
common buckeye (*Junonia coenia grisea*)	IIII
mourning cloak (*Nymphalis antiopa*)	
Skippers	
funereal duskywing (*Erynnis funeralis*)	IIII IIII II
mournful duskywing (*Erynnis tristis*)	
fiery skipper (*Hylephila phyleus*)	
white (common) checkered-skipper (*Pyrgus albescens*)	IIII II
Other	
Column Subtotal	35
Total	121

Area _ A, B, E

2015 Quino Checkerspot Butterfly Survey Form

Surveyor: Gretchen Cassinos, Beth LaCoste, Erica Harris Date: 3/16/15

Site Name: PD-68 Proctor Valley – Village 14 of Otay Ranch Site Visit No: 4

Acres Surveyed 166 Survey Time: 5.75 Acres per Hour: 9.62

Other Surveyors Present: [redacted], [redacted]

Field Conditions				
	Time (24 hr)	Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start	0815	64	0-1	0
End	1403	87	4-7	0
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)

Host Plants	Obs.	Nectar Plants	Obs.
dwarf plantain (Plantago erecta)	Y	popcorn flower (Cryptantha/Plagiobothrys spp.)	Y
purple owl's clover (Castilleja exserta)	Y	goldfields (Lasthenia spp.)	Y
sneezeweed (Helenium puberulum)	Y	goldenaster (Muilla spp.)	Y
birds-beak (Cordylanthus rigidus)	Y	fiddleneck (Amsinckia menziesii var. intermedia)	Y
woolly plantain (Plantago patagonica)	Y	onion (Allium spp.)	Y
Chinese houses (Collinsia spp.)	Y	buckwheat (Eriogonum fasciculatum)	Y
		ground pink (Linanthus dianthiflorus)	Y
Host Plant Mapping Updated (circle) Yes No		New Area or Existing Area (circle) New Existing Both	
Species updated (list)			

Butterfly Species	No.	Butterfly Species	No.
Checkerspots		Hairstreaks	
California patch (Chlosyne californica)		great purple hairstreak (Atlides halesus corcorani)	
Gabb's checkerspot (C. gabbii)	24	brown elfin (Callophrys augustinus)	
Quino checkerspot (Euphydryas editha quino)		bramble (pepleskog) hairstreak (C. dumetorum affinis)	3
chalcedon checkerspot (E. chalcedona chalcedona)		gray hairstreak (Strymon melinus postica)	24
Leanira checkerspot (Thessalia leanira wrighti)		Fritillaries/Admirals	
Myrtle's peacock (Phyciodes myrtle)		California sister (Adelpha bredowii californica)	
Blues		Lorquin's admiral (Limenitis lorquini)	
western pygmy-blue (Brephidium exile)		west coast lady (Vanessa annabella)	12
western tailed blue (Cupido amyntula)		red admiral (V. atalanta rubria)	
southern blue (Glaucopsyche lygdamus australis)	16	painted lady (V. cardui)	1
Edward's blue (Hemiargus ceraunus gyas)		American (Virginia) lady (V. virginiensis)	1
Acmon blue (Icaricia acmon acmon)	2	unidentified lady (Vanessa sp.)	4
marine blue (Leptotes marina)		Swallowtails	
unidentified blue	1	pale swallowtail (Papilio eurymedon)	3
Whites		western tiger swallowtail (P. rutulus)	
Sara orangetip (Anthocharis sara sara)	16	anise swallowtail (P. zelicaon)	1
desert (Felder's) orangetip (A. cethura)	1	Miscellaneous	
common California orange (Colias/Zerene eurydice)	7	mosaics (Dansaea plexippus)	
cabbage white (Pieris rapae)		common buckeye (Junonia coenia grisea)	
checkered (common) white (Pontia protodice)	1	mourning cloak (Nymphalis antiopa)	
spring white (P. sisymbrii)	1	Skippers	
unidentified white	2	funereal duskywing (Erynnis funeralis)	16
Metalmarks		mournful duskywing (Erynnis tristis)	
Behr's metalmark (Apodemia mormo virgulti)	26	fiery skipper (Hylephila phyleus)	
Wright's metalmark (Calephelis wrighti)		white (common) checkered-skipper (Pyrgus albescens)	
Sulphurs		Other	
orange sulphur (Colias eurytheme)	3	Emigrant Grounds	2
sleepy orange (Eurema nicippe)		Striated Queen	1
dogface sulfur (Zerene cesonia marcellina)			
unidentified sulphur	3		
Column Subtotal	125	Column Subtotal	37
		TOTAL	162

JPDDS Enc4th
QCBTTA(A/B/E) 3/11C/11C
SIORT QC15,64TF,0 -1,0%
SIOP 1400,87TF,2-5,01%
BOS. Enk by Gretchen G.

BUSH TUNA

BOWK	WOME	HOLA	NOVA
SPID	WOSP	ANTAR	LEHO
FINA	ANAN	CORA	RESP
WREN	NOFL	MOOD	POUR
SNPH	NOMO	CALT	HOT1
WEST	CATH	CROW	LASP
BEION	LABO	ANVE	YKUA

Bale 1

Robbe 1	Lady III
Spring 1	Gray Hair 1
West coast 1	Funeral III
Sara's IIII III	A Nr Set IIII
Berry's III	White 1
Sulphur III	Queen 1

Flower Enchum arias, Acer Sig
Bunk bal, Cal mac, Selaq, mir aur, Sterna
wild peregrinenz, Dic cp, Cyprinidae
esc cal, mir loen, Thr re, Accipitridae
Hed cae, Pre cal, Allium, Solanum, Viola
Sc. hel, Skull cap, Cut rub, Gal mup
Enchum, Ave dis, Ca cal, Art Gra, Drama
Mammalia, Cal SOP pim dev, Cal cri Sciuridae

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: Chez Snodgrass | Date: 3/21/16

Site Name: JPD-08 Proctor Valley – Village 14 of Otay Ranch | Site Visit No: 4

Area Surveyed: APA, CC | Acres Surveyed: 93 | Survey Time: 7hr 45min | Acres per Hour: [illegible]

Other Surveyors Present: Nicole Kirkwall

	Field Conditions			
	Time (24 hr)	Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start	0930	60	0-1	40% (clearing 5+)
End	1715	69	5-10	90% (hazy)
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)

CSS, native grassland, disturbed clay
(Artemisia, buckwheat, thistle, Malacca, Salsola, grass, clarkia, Eriogonum)

Host Plants	Obs.
dwarf plantain (*Plantago erecta*)	Slow
purple owl's clover (*Castilleja exserta*)	Slow
snapdragon (*Antirrhinum coulterianum*)	
birds-beak (*Cordylanthus rigidus*)	
woolly plantain (*Plantago patagonica*)	
Chinese houses (*Collinsia* spp.)	Slow

Nectar Plants	Obs.
popcorn flower (*Cryptantha/Plagiobothrys* spp.)	Slow
goldfields (*Lasthenia* spp.)	Slow
gilia/navarretia (*Mulla* spp.)	
buckwheat (*Eriogonum fasciculatum*)	Slow
onion (*Allium* spp.)	Slow
buckwheat (*Eriogonum fasciculatum*)	Slow
ground pink (*Linanthus parviflorus*)	Slow

Host Plant Mapping Updated (circle): (Yes) No | **New Area or Existing Area** (circle): New Existing Both

Species updated (list): Castilleja, collinsia → it's in a polygon in a circle 30+ 20' x circle

Butterfly Species	No.
Checkerspots	
California patch (*Chlosyne californica*)	
Gabb's checkerspot (*C. gabbii*)	1
Quino checkerspot (*Euphydryas editha quino*)	
chalcedon checkerspot (*E. chalcedona chalcedona*)	
Leanira checkerspot (*Thessalia leanira wrighti*)	
Mylitta crescent (*Phyciodes mylitta*)	
Blues	
western pygmy-blue (*Brephidium exile*)	
western tailed blue (*Everes amyntula*)	
southern blue (*Glaucopsyche lygdamus australis*)	
Edward's blue (*Hemiargus ceraunus gyas*)	
Acmon blue (*Icaricia acmon acmon*)	
marine blue (*Leptotes marina*)	204
unidentified blue	1
Whites	
Sara orangetip (*Anthocharis sara sara*)	250 since 4
desert (Felder's) orangetip (*A. cethura*)	
common California ringlet (*Coenonympha californica*)	30
cabbage white (*Pieris rapae*)	
checkered (common) white (*Pontia protodice*)	
spring white (*P. sisymbrii*)	
unidentified white	81
Metalmarks	
Behr's metalmark (*Apodemia mormo virgulti*)	50 since 4
Wright's metalmark (*Calephelis wrighti*)	
Sulphurs	
orange sulphur (*Colias eurytheme*)	
sleepy orange (*Eurema nicippe*)	
cloudless sulfur (*Phoebis sennae marcellina*)	
unidentified sulphur	11
Column Subtotal	361

Butterfly Species	No.
Hairstreaks	
gray hairstreak (*Strymon melinus putlita*)	10
Ladies/Admirals	
unidentified lady (*Vanessa* sp.)	1
Swallowtails	
Miscellaneous	
common buckeye (*Junonia coenia grisea*)	10
mourning cloak (*Nymphalis antiopa*)	
Skippers	
funereal duskywing (*Erynnis funeralis*)	30 since 4
mournful duskywing (*Erynnis tristis*)	
fiery skipper (*Hylephila phyleus*)	
white (common) checkered-skipper (*Pyrgus albescens*)	30 since 4
Other	
Unidentified butterfly	1
Column Subtotal	50
Total	361

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: Chez Brueggeber Date: 3/19/16

Site Name: JPD-08 Proctor Valley – Village 14 of Otay Ranch Site Visit No: 4

Area Surveyed: NE Acres Surveyed: 46 Survey Time: 5.5 hrs Acres per Hour: 8.36

Other Surveyors Present: /

Field Conditions	Time (24 hr)	Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start	1115	76.1	0-4	0%
End	1645	74.4	3-7	0%
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)

NNG, Diplacus chap, CSS

Avena sp., Brassica sp., Erodium, Chaenac, Malacoma, Eriogonum, Ast. cal.)

Host Plants	Obs.
dwarf plantain (*Plantago erecta*)	Abun
purple owl's clover (*Castilleja exserta*)	
snapdragon (*Antirrhinum coulterianum*)	
birds-beak (*Cordylanthus rigidus*)	
woolly plantain (*Plantago patagonica*)	
Chinese houses (*Collinsia spp.*)	

Nectar Plants	Obs.
popcorn flower (*Cryptantha/Plagiobothrys spp.*)	Abun
goldfields (*Lasthenia spp.*)	
goldenstar (*Muilla spp.*)	Abun
fiddleneck (*Amsinckia menziesii var. intermedia*)	Abun
onion (*Allium spp.*)	Abun
buckwheat (*Eriogonum fasciculatum*)	Few
ground pink (*Linanthus dianthiflorus*)	Abun

Host Plant Mapping Updated (circle): Yes / No

New Area or Existing Area (circle): New / Existing / Both

Species updated (list): P. erecta

Butterfly Species	No.
Checkerspots	
California patch (*Chlosyne californica*)	
Gabb's checkerspot (*C. gabbii*)	
Quino checkerspot (*Euphydryas editha quino*)	
chalcedon checkerspot (*E. chalcedona chalcedonia*)	
Leanira checkerspot (*Thessalia leanira wrighti*)	
Mylitta crescent (*Phyciodes mylitta*)	
Blues	
western pygmy-blue (*Brephidium exile*)	
western tailed blue (*Everes amyntula*)	
southern blue (*Glaucopsyche lygdamus australis*)	
Edward's blue (*Hemiargus ceraunus gyas*)	
Acmon blue (*Icaricia acmon acmon*)	
marine blue (*Leptotes marina*)	
unidentified blue	
Whites	
Sara orangetip (*Anthocharis sara sara*)	72
desert (Felder's) orangetip (*A. cethura*)	
common California ringlet (*Coenonympha californica*)	31
cabbage white (*Pieris rapae*)	
checkered (common) white (*Pontia protodice*)	
spring white (*P. sisymbrii*)	
unidentified white	119
Metalmarks	
Behr's metalmark (*Apodemia mormo virgulti*)	150 ✓
Wright's metalmark (*Calephelis wrighti*)	
Sulphurs	
orange sulphur (*Colias eurytheme*)	
sleepy orange (*Eurema nicippe*)	
cloudless sulfur (*Phoebis sennae marcellina*)	
unidentified sulphur	1
Column Subtotal	55

Butterfly Species	No.
Hairstreaks	
great purple hairstreak (*Atlides halesus corcoran*)	
brown elfin (*Callophrys augustinus*)	
bramble (perplexing) hairstreak (*C. dumetorum affinis*)	
gray hairstreak (*Strymon melinus pudica*)	
Ladies/Admirals	
California sister (*Adelpha bredowii californica*)	
Lorquin's admiral (*Limenitis lorquini*)	
west coast lady (*Vanessa annabella*)	
red admiral (*V. atalanta rubria*)	
painted lady (*V. cardui*)	
American (Virginia) lady (*V. virginiensis*)	1
unidentified lady (*Vanessa sp.*)	1
Swallowtails	
pale swallowtail (*Papilio eurymedon*)	
western tiger swallowtail (*P. rutulus*)	
anise swallowtail (*P. zelicaon*)	
Miscellaneous	
monarch (*Danaus plexippus*)	
common buckeye (*Junonia coenia grisea*)	WC 1
mourning cloak (*Nymphalis antiopa*)	
Skippers	
funereal duskywing (*Erynnis funeralis*)	12
mournful duskywing (*Erynnis tristis*)	
fiery skipper (*Hylephila phyleus*)	
white (common) checkered-skipper (*Pyrgus albescens*)	1
Other	
Column Subtotal	15
Total	45

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: Gretchen Cummings + Erica Harris **Date:** 3/18/16

Site Name: JPD-08 Proctor Valley – Village 14 of Otay Ranch **Site Visit No:** 4

Area Surveyed C+D **Acres Surveyed** 75 **Survey Time:** 0920 – 1305 (3 hrs 45 min) **Acres per Hour:** 10

Other Surveyors Present: none

Field Conditions				
	Time (24 hr)	Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start	0920	63°F	0 – 1 mph	10%
End	1305	79°F	1 – 3 mph	clear
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)
Chaparral (Chamise)

Host Plants	Obs.	Nectar Plants	Obs.
dwarf plantain (*Plantago erecta*)	X	popcorn flower (*Cryptantha/Plagiobothrys* spp.)	X
purple owl's clover (*Castilleja exserta*)	X	goldfields (*Lasthenia* spp.)	
snapdragon (*Antirrhinum coulterianum*)		goldenstar (*Muilla* spp.)	
birds-beak (*Cordylanthus rigidus*)		fiddleneck (*Amsinckia menziesii* var. *intermedia*)	
woolly plantain (*Plantago patagonica*)		onion (*Allium* spp.)	X
Chinese houses (*Collinsia* spp.)		buckwheat (*Eriogonum fasciculatum*)	X
		ground pink (*Linanthus dianthiflorus*)	
Host Plant Mapping Updated (circle) (Yes) No		**New Area or Existing Area** (circle) New Existing (Both)	
Species updated (list) Castilleja exserta			

Butterfly Species	No.	Butterfly Species	No.
Checkerspots		**Hairstreaks**	
California patch (*Chlosyne californica*)		great purple hairstreak (*Atlides halesus corcorani*)	
Gabb's checkerspot (*C. gabbii*)	4	brown elfin (*Callophrys augustinus*)	
Quino checkerspot (*Euphydryas editha quino*)		bramble (perplexing) hairstreak (*C. dumetorum affinis*)	1
chalcedon checkerspot (*E. chalcedona chalcedona*)		gray hairstreak (*Strymon melinus pudica*)	
Leanira checkerspot (*Thessalia leanira wrighti*)		**Ladies/Admirals**	
Mylitta crescent (*Phyciodes mylitta*)		California sister (*Adelpha bredowii californica*)	
Blues		Lorquin's admiral (*Limenitis lorquini*)	
western pygmy-blue (*Brephidium exilis*)		west coast lady (*Vanessa annabella*)	1
western tailed blue (*Everes amyntula*)		red admiral (*V. atalanta rubria*)	
southern blue (*Glaucopsyche lygdamus australis*)	7	painted lady (*V. cardui*)	1
Edward's blue (*Hemiargus ceraunus gyas*)		American (Virginia) lady (*V. virginiensis*)	2
Acmon blue (*Icaricia acmon acmon*)		unidentified lady (*Vanessa* sp.)	1
marine blue (*Leptotes marina*)	2	**Swallowtails**	
unidentified blue		pale swallowtail (*Papilio eurymedon*)	1
Whites		western tiger swallowtail (*P. rutulus*)	
Sara orangetip (*Anthocharis sara sara*)	75	anise swallowtail (*P. zelicaon*)	
desert (Felder's) orangetip (*A. cethura*)		**Miscellaneous**	
common California ringlet (*Coenonympha californica*)	9	monarch (*Danaus plexippus*)	
cabbage white (*Pieris rapae*)		common buckeye (*Junonia coenia grisea*)	
checkered (common) white (*Pontia protodice*)		mourning cloak (*Nymphalis antiopa*)	
spring white (*P. sisymbri*)	3	**Skippers**	
unidentified white	1	funereal duskywing (*Erynnis funeralis*)	13
Metalmarks		mournful duskywing (*Erynnis tristis*)	
Behr's metalmark (*Apodemia mormo virgulti*)	27	fiery skipper (*Hylephila phyleus*)	
Wright's metalmark (*Calephelis wrighti*)		white (common) checkered-skipper (*Pyrgus albescens*)	4
Sulphurs		**Other**	
orange sulphur (*Colias eurytheme*)			
sleepy orange (*Eurema nicippe*)			
cloudless sulfur (*Phoebus sennae marcellina*)			
unidentified sulphur	1		
Column Subtotal	149	Column Subtotal	24
(8 species)		Total	153

(17 species)

JPDDS — Erika H
QCBTF4(C/D) — 8/18/16
START: 920, 68°F, 0-1.10%
STOP: 1205, 74°F, 1-3.09%

GRSP	HOLA	WHITE	NOVA
CATH	SPID	KESP	WREN
YELO	BUSH	CAUT	YRWA
SPTH	ALWD	COHU	NOFL
BUSH	CANS	WOOD	WEST
BGEIN	LARG	MYOT	CORA
LEAO	SWAMPSPARROWS	ROMP	BEMF

Sparrow III	Sulphur 1
Flycatcher III	Virginia 1
Hawk's III	Merline II
Orchard Skip II	SP. Blue III 1
Cam Flycatcher III	Behr's III
Ladies sp. 1	Sara's III
Peregrine 1	

Flower: alfalfa, erechum, common dandelion, salmon, orange hawk, Hieracium, Scabiosum, yellow, Daisy, Scarlet, Hieracium, mullein, Pink, Orchard, Hedge, wild pea, Scabious, Sweet Pea, no real, Orange, primrose, Red, Fescue, Daisy, Scabious, Scarlet

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: Cruz Bermudez

Site Name: JPD-08 Proctor Valley – Village 14 of Otay Ranch

Date: 3/17/16

Site Visit No: 4

Area Surveyed: DD

Acres Surveyed: 30

Survey Time: 3hr 45min

Acres per Hour: 8

Other Surveyors Present: /

	Field Conditions			
	Time (24 hr)	Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start	1300	78.2	2-5	0%
End	1645	73.4	0-3	0%
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)

CSS, native grassland, chaparral

Laurel, Buckwheat, Mallow, Eriogonum, Artemisia, Encelia sp.

Host Plants	Obs.	Nectar Plants	Obs.
dwarf plantain (*Plantago erecta*)	Plan	popcorn flower (*Cryptantha/Plagiobothrys* spp.)	Flow
purple owl's clover (*Castilleja exserta*)	Flow	goldfields (*Lasthenia* spp.)	Flow
snapdragon (*Antirrhinum coulterianum*)		goldenstar (*Muilla* spp.)	Flow
birds-beak (*Cordylanthus rigidus*)		fiddleneck (*Amsinckia menziesii* var. *intermedia*)	Flow
woolly plantain (*Plantago patagonica*)		onion (*Allium* spp.)	Flow
Chinese houses (*Collinsia* spp.)		buckwheat (*Eriogonum fasciculatum*)	Flow
		ground pink (*Linanthus dianthiflorus*)	Flow
Host Plant Mapping Updated (circle) Yes No		**New Area or Existing Area** (circle) New Existing Both	
Species updated (list) Castilleja			

Butterfly Species	No.	Butterfly Species	No.
Checkerspots		**Hairstreaks**	
California patch (*Chlosyne californica*)		great purple hairstreak (*Atlides halesus corcoroni*)	
Gabb's checkerspot (*C. gabbii*)	12	brown elfin (*Callophrys augustinus*)	
Quino checkerspot (*Euphydryas editha quino*)		brambling (perplexing) hairstreak (*C. dumetorum affinis*)	
chalcedon checkerspot (*E. chalcedona chalcedona*)		gray hairstreak (*Strymon melinus putlica*)	
Leanira checkerspot (*Thessalia leanira wrighti*)		**Ladies/Admirals**	
Mylitta crescent (*Phyciodes mylitta*)		California sister (*Adelpha bredowii californica*)	
Blues		Lorquin's admiral (*Limenitis lorquini*)	
western pygmy-blue (*Brephidium exile*)		west coast lady (*Vanessa annabella*)	
western tailed blue (*Everes amyntula*)		red admiral (*V. atalanta rubria*)	
southern blue (*Glaucopsyche lygdamus australis*)	1	painted lady (*V. cardui*)	
Edward's blue (*Hemiargus ceraunus gyas*)		American (Virginia) lady (*V. virginiensis*)	
Acmon blue (*Icaricia acmon acmon*)		unidentified lady (*Vanessa* sp.)	11
marine blue (*Leptotes marina*)	1	**Swallowtails**	
unidentified blue	1	pale swallowtail (*Papilio eurymedon*)	
Whites		western tiger swallowtail (*P. rutulus*)	
Sara orangetip (*Anthocharis sara sara*)	WHITE	anise swallowtail (*P. zelicaon*)	
desert (Felder's) orangetip (*A. cethura*)		**Miscellaneous**	
common California ringlet (*Coenonympha californica*)	4	monarch (*Danaus plexippus*)	
cabbage white (*Pieris rapae*)		common buckeye (*Junonia coenia grisea*)	
checkered (common) white (*Pontia protodice*)		mourning cloak (*Nymphalis antiopa*)	
spring white (*P. sisymbrii*)		**Skippers**	
unidentified white	1	funereal duskywing (*Erynnis funeralis*)	10
Metalmarks		mournful duskywing (*Erynnis tristis*)	
Behr's metalmark (*Apodemia mormo virgulti*)		fiery skipper (*Hylephila phyleus*)	
Wright's metalmark (*Calephelis wrighti*)		white (common) checkered-skipper (*Pyrgus albescens*)	2
Sulphurs		**Other**	
orange sulphur (*Colias eurytheme*)			
sleepy orange (*Eurema nicippe*)			
cloudless sulfur (*Phoebus sennae marcellina*)			
unidentified sulphur	1		
Column Subtotal		Column Subtotal	14
		Total	

Surveyor: Garrett Huffman

2016 Quino Checkerspot Butterfly Survey Form

Site Name: PD-06 Proctor Valley - Village 14 of Otay Ranch PARCEL EE

Date: 3/16/16

Acres Surveyed: 15

Site Visit No: 4

Other Surveyors Present: None

Survey Time: 3 HOURS

Acres per Hour: 5

	Time (24 hr)	Field Conditions		
		Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start	1200	80	4-8	0
End	1900	78	4-8	0
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)

COASTAL SAGE SCRUB, NON-NATIVE GRASSLAND

Host Plants	Obs.
dwarf plantain (*Plantago erecta*)	
purple owl's clover (*Castilleja exserta*)	
snapdragon (*Antirrhinum coulterianum*)	
birds-beak (*Cordylanthus rigidus*)	
woolly plantain (*Plantago patagonica*)	
Chinese houses (*Collinsia* spp.)	
Host Plant Mapping Updated (circle) Yes (No)	
Species updated (list)	

Nectar Plants	Obs.
popcorn flower (*Cryptantha/Plagiobothrys* spp.)	X
goldfields (*Lasthenia* spp.)	X
goldenstar (*Muilla* spp.)	
fiddleneck (*Amsinckia menziesii* var. *intermedia*)	
onion (*Allium* spp.)	X
buckwheat (*Eriogonum fasciculatum*)	X
ground pink (*Linanthus dianthiflorus*)	X
New Area or Existing Area (circle) New Existing Both	

Butterfly Species	No.
Checkerspots	
California patch (*Chlosyne californica*)	1
Gabb's checkerspot (*C. gabbii*)	1
Quino checkerspot (*Euphydryas editha quino*)	
chalcedon checkerspot (*E. chalcedona chalcedona*)	
Leanira checkerspot (*Thessalia leanira wrighti*)	
Mylitta crescent (*Phyciodes mylitta*)	
Blues	
western pygmy-blue (*Brephidium exilis*)	
western tailed blue (*Everes amyntula*)	
southern blue (*Glaucopsyche lygdamus australis*)	2
Edward's blue (*Hemiargus ceraunus gyas*)	
Acmon blue (*Icaricia acmon acmon*)	
marine blue (*Leptotes marina*)	1
unidentified blue	
Whites	
Sara orangetip (*Anthocharis sara sara*)	25
desert (Felder's) orangetip (*A. cethura*)	
common California ringlet (*Coenonympha californica*)	20
cabbage white (*Pieris rapae*)	
checkered (common) white (*Pontia protodice*)	4
spring white (*P. sisymbri*)	
unidentified white	
Metalmarks	
Behr's metalmark (*Apodemia mormo virgulti*)	8
Wright's metalmark (*Calephelis wrighti*)	
Sulphurs	
orange sulphur (*Colias eurytheme*)	1
sleepy orange (*Eurema nicippe*)	
cloudless sulfur (*Phoebus sennae marcellina*)	
unidentified sulphur	
Column Subtotal	67

Butterfly Species	No.
Hairstreaks	
great purple hairstreak (*Atlides halesus corcoran*)	
brown elfin (*Callophrys augustinus*)	
bramble (perplexing) hairstreak (*C. dumetorum affinis*)	2
gray hairstreak (*Strymon melinus pudica*)	
Ladies/Admirals	
California sister (*Adelpha bredowii californica*)	
Lorquin's admiral (*Limenitis lorquini*)	
west coast lady (*Vanessa annabella*)	
red admiral (*V. atalanta rubria*)	
painted lady (*V. cardui*)	
American (Virginia) lady (*V. virginiensis*)	
unidentified lady (*Vanessa* sp.)	
Swallowtails	
pale swallowtail (*Papilio eurymedon*)	2
western tiger swallowtail (*P. rutulus*)	5
anise swallowtail (*P. zelicaon*)	2
Miscellaneous	
monarch (*Danaus plexippus*)	
common buckeye (*Junonia coenia grisea*)	
mourning cloak (*Nymphalis antiopa*)	
Skippers	
funereal duskywing (*Erynnis funeralis*)	5
mournful duskywing (*Erynnis tristis*)	
fiery skipper (*Hylephila phyleus*)	
white (common) checkered-skipper (*Pyrgus albescens*)	
Other	
Column Subtotal	16

67 + 16 = 83 → 79

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: Brian Foster, Cassie Dickson **Date:** 3/29/16

Site Name: JPD-05 Proctor Valley – Village 14 of Otay Ranch **Site Visit No:** 4

Area Surveyed F **Acres Surveyed** 54 **Survey Time:** 5 **Acres per Hour:** 6.8

Other Surveyors Present: Andy Swiers (supervisor)

Field Conditions				
	Time (24 hr)	Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start	0945	62	1-3	5%
End	1215	75	1-3	5%
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)

Host Plants	Obs.	Nectar Plants	Obs.
dwarf plantain (*Plantago erecta*)		popcorn flower (*Cryptantha/Plagiobothrys* spp.)	X
purple owl's clover (*Castilleja exserta*)	X	goldfields (*Lasthenia* spp.)	
snapdragon (*Antirrhinum coulterianum*)		goldenstar (*Muilla* spp.)	
birds-beak (*Cordylanthus rigidus*)		fiddleneck (*Amsinckia menziesii* var. *intermedia*)	
woolly plantain (*Plantago patagonica*)		onion (*Allium* spp.)	X
Chinese houses (*Collinsia* spp.)		buckwheat (*Eriogonum fasciculatum*)	X
		ground pink (*Linanthus dianthiflorus*)	
Host Plant Mapping Updated (circle) Yes No		**New Area or Existing Area** (circle) New Existing Both	
Species updated (list)			

Butterfly Species	No.	Butterfly Species	No.
Checkerspots		**Hairstreaks**	
California patch (*Chlosyne californica*)		great purple hairstreak (*Atlides halesus corcorani*)	
Gabb's checkerspot (*C. gabbii*)	4	brown elfin (*Callophrys augustinus*)	
Quino checkerspot (*Euphydryas editha quino*)		bramble (perplexing) hairstreak (*C. dumetorum affinis*)	
chalcedon checkerspot (*E. chalcedona chalcedona*)		gray hairstreak (*Strymon melinus pudica*)	
Leanira checkerspot (*Thessalia leanira wrighti*)		**Ladies/Admirals**	
Mylitta crescent (*Phyciodes mylitta*)		California sister (*Adelpha bredowii californica*)	
Blues		Lorquin's admiral (*Limenitis lorquini*)	
western pygmy-blue (*Brephidium exilis*)		west coast lady (*Vanessa annabella*)	
western tailed blue (*Everes amyntula*)		red admiral (*V. atalanta rubria*)	
southern blue (*Glaucopsyche lygdamus australis*)	5	painted lady (*V. cardui*)	1
Edward's blue (*Hemiargus ceraunus gyas*)		American (Virginia) lady (*V. virginiensis*)	1
Acmon blue (*Icaricia acmon acmon*)		unidentified lady (*Vanessa* sp.)	
marine blue (*Leptotes marina*)	3	**Swallowtails**	
unidentified blue		pale swallowtail (*Papilio eurymedon*)	
Whites		western tiger swallowtail (*P. rutulus*)	
Sara orangetip (*Anthocharis sara sara*)	36	anise swallowtail (*P. zelicaon*)	
desert (Felder's) orangetip (*A. cethura*)		**Miscellaneous**	
common California ringlet (*Coenonympha californica*)	6	monarch (*Danaus plexippus*)	
cabbage white (*Pieris rapae*)	1	common buckeye (*Junonia coenia grisea*)	
checkered (common) white (*Pontia protodice*)		mourning cloak (*Nymphalis antiopa*)	
spring white (*P. sisymbrii*)		**Skippers**	
unidentified white		funereal duskywing (*Erynnis funeralis*)	6
Metalmarks		mournful duskywing (*Erynnis tristis*)	
Behr's metalmark (*Apodemia mormo virgulti*)	2	fiery skipper (*Hylephila phyleus*)	1
Wright's metalmark (*Calephelis wrighti*)		white (common) checkered-skipper (*Pyrgus albescens*)	1
Sulphurs		**Other**	
orange sulphur (*Colias eurytheme*)			
sleepy orange (*Eurema nicippe*)			
cloudless sulfur (*Phoebus sennae marcellina*)			
unidentified sulphur	1		
Column Subtotal	56	Column Subtotal	10
		Total	66

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: Chez Baumgraber

Site Name: JPD-08 Proctor Valley – Village 14 of Otay Ranch — Date: 3/23/16

Area Surveyed: FF — Acres Surveyed: 68 — Site Visit No: 4

Other Surveyors Present: Nicole Kimball — Survey Time: 3hr 15min — Acres per Hour: 17.5 (8.9 ac/hr/p)

Field Conditions				
	Time (24 hr)	Temperature (F)	Wind Speed (mph)	Cloud Cover
Start	1400	81	3-5	0%
End	1715	81	4-7	0%
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)

Host Plants	Obs.
dwarf plantain (*Plantago erecta*)	
purple owl's clover (*Castilleja exserta*)	
snapdragon (*Antirrhinum coulterianum*)	
birds-beak (*Cordylanthus rigidus*)	
woolly plantain (*Plantago patagonica*)	
Chinese houses (*Collinsia* spp.)	
Host Plant Mapping Updated (circle) Yes No	
Species updated (list)	

Nectar Plants	Obs.
popcorn flower (*Cryptantha/Plagiobothrys* spp.)	flwr
goldfields (*Lasthenia* spp.)	
goldenstar (*Muilla* spp.)	flwr
fiddleneck (*Amsinckia menziesii* var. *intermedia*)	
onion (*Allium* spp.)	
buckwheat (*Eriogonum fasciculatum*)	
ground pink (*Linanthus dianthiflorus*)	flwr
New Area or Existing Area (circle) New Existing Both	

Butterfly Species	No.
Checkerspots	
California patch (*Chlosyne californica*)	
Gabb's checkerspot (*C. gabbii*)	
Quino checkerspot (*Euphydryas editha quino*)	
chalcedon checkerspot (*E. chalcedona (chalcedona)*)	
Leanira checkerspot (*Thessalia leanira wrighti*)	
Mylitta crescent (*Phyciodes mylitta*)	
Blues	
western pygmy-blue (*Brephidium exilis*)	
western tailed blue (*Everes amyntula*)	
southern blue (*Glaucopsyche lygdamus australis*)	
Edward's blue (*Hemiargus ceraunus gyas*)	
Acmon blue (*Icaricia acmon acmon*)	
marine blue (*Leptotes marina*)	
unidentified blue	
Whites	III
Sara orangetip (*Anthocharis sara sara*)	
desert (Felder's) orangetip (*A. cethura*)	IIII
common California ringlet (*Coenonympha californica*)	
cabbage white (*Pieris rapae*)	
checkered (common) white (*Pontia protodice*)	
spring white (*P. sisymbrii*)	
unidentified white	1
Metalmarks	
Behr's metalmark (*Apodemia mormo virgulti*)	
Wright's metalmark (*Calephelis wrighti*)	IIII
Sulphurs	
orange sulphur (*Colias eurytheme*)	
sleepy orange (*Eurema nicippe*)	
cloudless sulfur (*Phoebus sennae marcellina*)	
unidentified sulphur	
Column Subtotal	14

Butterfly Species	No.
Hairstreaks	
gray/ purple hairstreak (*Atlides halesus corcorani*)	
brown elfin (*Callophrys augustinus*)	
bramble (perplexing) hairstreak (*C. dumetorum affinis*)	
gray hairstreak (*Strymon melinus pudica*)	
Ladies/Admirals	
California sister (*Adelpha bredowii californica*)	
Lorquin's admiral (*Limenitis lorquini*)	
west coast lady (*Vanessa annabella*)	
red admiral (*V. atalanta rubria*)	
painted lady (*V. cardui*)	
American (Virginia) lady (*V. virginiensis*)	
unidentified lady (*Vanessa* sp.)	
Swallowtails	
pale swallowtail (*Papilio eurymedon*)	
western tiger swallowtail (*P. rutulus*)	
anise swallowtail (*P. zelicaon*)	
Miscellaneous	
monarch (*Danaus plexippus*)	
common buckeye (*Junonia coenia grisea*)	
mourning cloak (*Nymphalis antiopa*)	
Skippers	
funereal duskywing (*Erynnis funeralis*)	IIII
mournful duskywing (*Erynnis tristis*)	
fiery skipper (*Hylephila phyleus*)	
white (common) checkered-skipper (*Pyrgus albescens*)	WF II
Other	
Fiery Skipper	1
Column Subtotal	13
Total	26

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: Brian Parker, Crista Dicello Date: 3/20/16

Site Name: JPD-08 Proctor Valley – Village 14 of Otay Ranch Site Visit No: 4

Area Surveyed 69 Acres Surveyed 57 Survey Time: 6.1 Acres per Hour: 9.3

Other Surveyors Present: Andy Smith (Contractor)

Field Conditions				
	Time (24 hr)	Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start	1215	75	1-3	5%
End	1520	75	4-7	5-10%
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)

Host Plants	Obs.	Nectar Plants	Obs.
dwarf plantain (*Plantago erecta*)	X	popcorn flower (*Cryptantha/Plagiobothrys* spp.)	X
purple owl's clover (*Castilleja exserta*)	X	goldfields (*Lasthenia* spp.)	X
snapdragon (*Antirrhinum coulterianum*)		goldenstar (*Muilla* spp.)	X
birds-beak (*Cordylanthus rigidus*)		fiddleneck (*Amsinckia menziesii* var. *intermedia*)	
woolly plantain (*Plantago patagonica*)		onion (*Allium* spp.)	X
Chinese houses (*Collinsia* spp.)		buckwheat (*Eriogonum fasciculatum*)	X
		ground pink (*Linanthus dianthiflorus*)	
Host Plant Mapping Updated (circle) Yes No		New Area or Existing Area (circle) New Existing Both	
Species updated (list)			

Butterfly Species	No.	Butterfly Species	No.
Checkerspots		**Hairstreaks**	
California patch (*Chlosyne californica*)		great purple hairstreak (*Atlides halesus corcorani*)	
Gabb's checkerspot (*C. gabbii*)	3	brown elfin (*Callophrys augustinus*)	
Quino checkerspot (*Euphydryas editha quino*)		bramble (perplexing) hairstreak (*C. dumetorum affinis*)	
chalcedon checkerspot (*E. chalcedona chalcedona*)		gray hairstreak (*Strymon melinus pudica*)	
Leanira checkerspot (*Thessalia leanira wrighti*)		**Ladies/Admirals**	
Mylitta crescent (*Phyciodes mylitta*)		California sister (*Adelpha bredowii californica*)	
Blues		Lorquin's admiral (*Limenitis lorquini*)	
western pygmy-blue (*Brephidium exile*)		west coast lady (*Vanessa annabella*)	
western tailed blue (*Everes amyntula*)		red admiral (*V. atalanta rubria*)	
southern blue (*Glaucopsyche lygdamus australis*)	1	painted lady (*V. cardui*)	
Edward's blue (*Hemiargus ceraunus gyas*)		American (Virginia) lady (*V. virginiensis*)	
Acmon blue (*Icaricia acmon acmon*)		unidentified lady (*Vanessa* sp.)	
marine blue (*Leptotes marina*)	1	**Swallowtails**	
unidentified blue		pale swallowtail (*Papilio eurymedon*)	
Whites		western tiger swallowtail (*P. rutulus*)	
Sara orangetip (*Anthocharis sara sara*)	38	anise swallowtail (*P. zelicaon*)	
desert (Felder's) orangetip (*A. cethura*)		**Miscellaneous**	
common California ringlet (*Coenonympha californica*)	14	monarch (*Danaus plexippus*)	
cabbage white (*Pieris rapae*)	2	common buckeye (*Junonia coenia grisea*)	
checkered (common) white (*Pontia protodice*)		mourning cloak (*Nymphalis antiopa*)	
spring white (*P. sisymbrii*)		**Skippers**	
unidentified white		funereal duskywing (*Erynnis funeralis*)	7
Metalmarks		mournful duskywing (*Erynnis tristis*)	
Behr's metalmark (*Apodemia mormo virgulti*)	20	fiery skipper (*Hylephila phyleus*)	
Wright's metalmark (*Calephelis wrighti*)		white (common) checkered-skipper (*Pyrgus albescens*)	8
Sulphurs		**Other**	
orange sulphur (*Colias eurytheme*)	3		
sleepy orange (*Eurema nicippe*)			
cloudless sulfur (*Phoebus sennae marcellina*)			
unidentified sulphur	1		
Column Subtotal	83	Column Subtotal	15
		Total	98

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: Amy Watkins **Date:** 3-16-16

Site Name: JPD-08 Proctor Valley – Village 14 of Otay Ranch **Site Visit No:** 4

Area Surveyed H **Acres Surveyed** 55 **Survey Time:** 5.5 **Acres per Hour:** 10

Other Surveyors Present: Ben Reichmann (supervised intern)

Field Conditions				
	Time (24 hr)	Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start	9:25	74	0-1	0%
End	14:55	80	2-8	0%
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)
CSS, GHC, NNG

Host Plants	Obs.	Nectar Plants	Obs.
dwarf plantain (*Plantago erecta*)	✓	popcorn flower (*Cryptantha/Plagiobothrys* spp.)	✓
purple owl's clover (*Castilleja exserta*)		goldfields (*Lasthenia* spp.)	
snapdragon (*Antirrhinum coulterianum*)		goldenaster (*Mulilla* spp.)	✓
birds-beak (*Cordylanthus rigidus*)		fiddleneck (*Amsinckia menziesii* var. *intermedia*)	
woolly plantain (*Plantago patagonica*)		onion (*Allium* spp.)	✓
Chinese houses (*Collinsia* spp.)		buckwheat (*Eriogonum fasciculatum*)	✓
		ground pink (*Linanthus dianthiflorus*)	
Host Plant Mapping Updated (circle) Yes No		**New Area or Existing Area** (circle) New Existing Both	
Species updated (list)			

Butterfly Species	No.	Butterfly Species	No.
Checkerspots		**Hairstreaks**	
California patch (*Chlosyne californica*)		great purple hairstreak (*Atlides halesus corcoran*)	
Gabb's checkerspot (*C. gabbii*)		brown elfin (*Callophrys augustinus*)	
Quino checkerspot (*Euphydryas editha quino*)		bramble (perplexing) hairstreak (*C. dumetorum affinis*)	
chalcedon checkerspot (*E. chalcedona chalcedona*)		gray hairstreak (*Strymon melinus pudica*)	
Leanira checkerspot (*Thessalia leanira wrighti*)		**Ladies/Admirals**	
Mylitta crescent (*Phyciodes mylitta*)		California sister (*Adelpha bredowii californica*)	
Blues		Lorquin's admiral (*Limenitis lorquini*)	
western pygmy-blue (*Brephidium exile*)		west coast lady (*Vanessa annabella*)	
western tailed blue (*Everes amyntula*)		red admiral (*V. atalanta rubria*)	
southern blue (*Glaucopsyche lygdamus australis*)		painted lady (*V. cardui*)	1
Edward's blue (*Hemiargus ceraunus gyas*)		American (Virginia) lady (*V. virginiensis*)	
Acmon blue (*Icaricia acmon acmon*)		unidentified lady (*Vanessa* sp.)	III
marine blue (*Leptotes marina*)		**Swallowtails**	
unidentified blue	1	pale swallowtail (*Papilio eurymedon*)	
Whites		western tiger swallowtail (*P. rutulus*)	
Sara orangetip (*Anthocharis sara sara*)	III	anise swallowtail (*P. zelicaon*)	
desert (Felder's) orangetip (*A. cethura*)		**Miscellaneous**	
common California ringlet (*Coenonympha californica*)		monarch (*Danaus plexippus*)	
cabbage white (*Pieris rapae*)		common buckeye (*Junonia coenia grisea*)	
checkered (common) white (*Pontia protodice*)		mourning cloak (*Nymphalis antiopa*)	
spring white (*P. sisymbrii*)		**Skippers**	
unidentified white		funereal duskywing (*Erynnis funeralis*)	III
Metalmarks		mournful duskywing (*Erynnis tristis*)	
Behr's metalmark (*Apodemia mormo virgulti*)	III	fiery skipper (*Hylephila phyleus*)	
Wright's metalmark (*Calephelis wrighti*)		white (common) checkered-skipper (*Pyrgus albescens*)	
Sulphurs		**Other**	
orange sulphur (*Colias eurytheme*)	1	checkered white	1
sleepy orange (*Eurema nicippe*)			
cloudless sulfur (*Phoebus sennae marcellina*)			
unidentified sulphur			
Column Subtotal	48	Column Subtotal	13
		Total	61

Aiello JPD-08 QCB4 Any M Acath

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- Cryptotheca sp
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Cal sac
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- Solenian de pede
Halisarca
Gastrosp.
Lup bic
Sod api
Ova cal
Phacelia minor
Sycon
Vio pol
- Aplysina sp.
Neal fus
- Mycale
Mim aur
Pla ere
Sid mex
Apt mut
Cor aff
Eri con

2016 Quino Checkerspot Butterfly Survey Form

Surveyor(s) _____ Date _____

Site Name _____ Site Visit No. _____

Area Surveyed _____ Acres Surveyed _____ Survey Time _____ Hours per Hour _____

Other Surveyors Present _____

Field Conditions

	Time (24 hr)	Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start				
End				
Start				
End				

Vegetation Communities Surveyed (incl. dominant spp.)

_____

Host Quality	Obs
_____	
_____	
_____	
_____	
_____	
_____	

Host Plants	Obs
_____	
_____	
_____	
_____	
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_____	

Host Plant Mapping Updated? _____

Species Updated? _____

New Areas or Existing Area _____

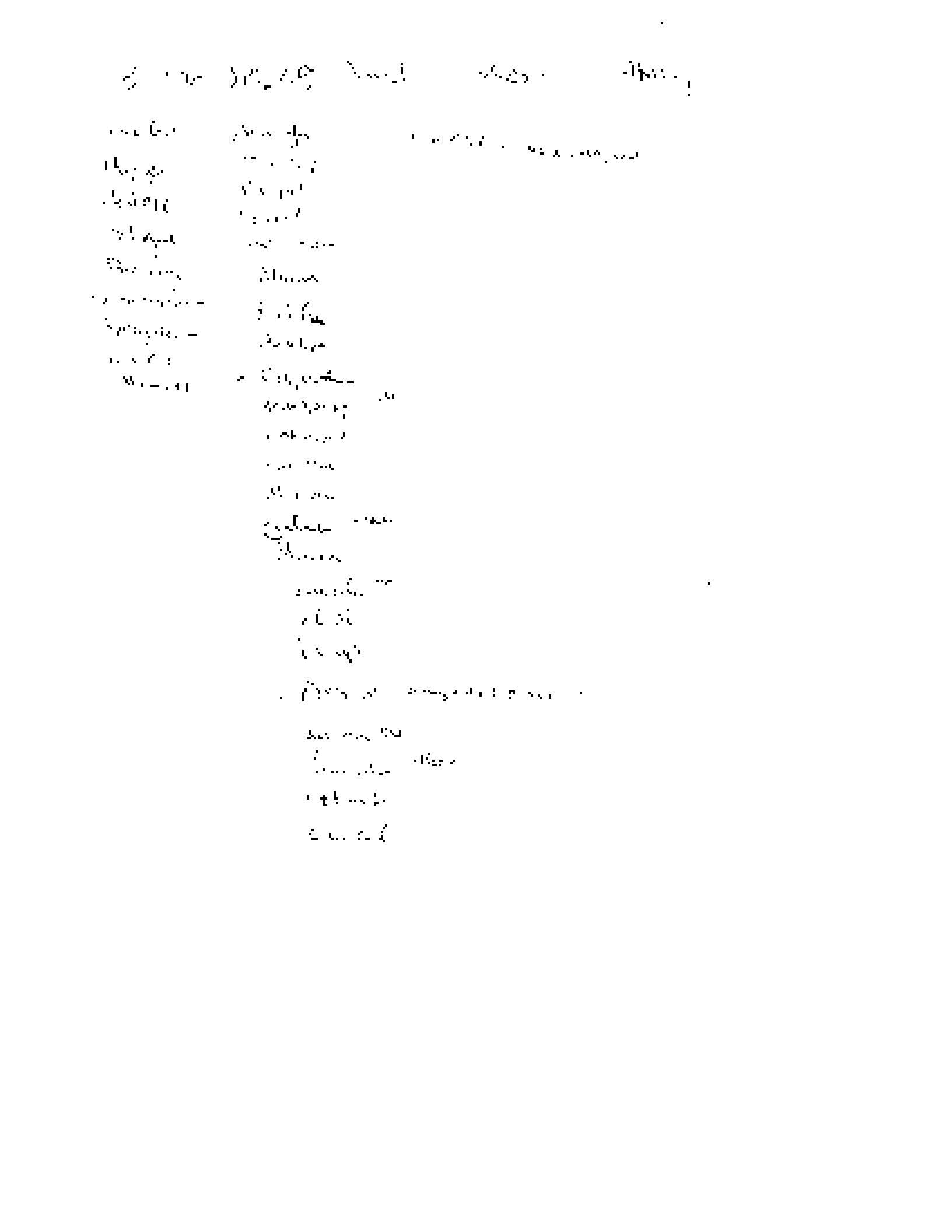
Butterfly Species	No.
Checkerspots	
_____	
_____	
_____	
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_____	
Blues	
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Whites	
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Hairstreaks	
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Sulphurs	
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Butterfly Species	No.
Hairstreaks	
_____	
_____	
_____	
_____	
Copper Butterflies	
_____	
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_____	
Swallowtails	
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_____	
Monarch/Queen	
_____	
_____	
_____	
Skippers	
_____	
_____	
_____	
_____	
Other	
_____	

Column Subtotal _____

Column Subtotal _____

Total _____



2016 Quino Checkerspot Butterfly Survey Form

Surveyor: GARRETT HUFFMAN Date: 3/18/16

Site Name: JPD-08 Proctor Valley – Village 14 of Otay Ranch – PARCEL N Site Visit No: 4

Acres Surveyed 65 Survey Time: 6 HOURS Acres per Hour: 8

Other Surveyors Present: NONE

Field Conditions

	Time (24 hr)	Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start	0830	61	2-4	0
End	1630	68	4-8	0
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)

CHAMISE CHAPARRAL, COASTAL SAGE SCRUB, NON-NATIVE GRASSLAND

Host Plants	Obs.	Nectar Plants	Obs.
dwarf plantain (*Plantago erecta*)	X	popcorn flower (*Cryptantha/Plagiobothrys* spp.)	
purple owl's clover (*Castilleja exserta*)	X	goldfields (*Lasthenia* spp.)	
snapdragon (*Antirrhinum coulterianum*)		goldenstar (*Muilla* spp.)	
birds-beak (*Cordylanthus rigidus*)		fiddleneck (*Amsinckia menziesii* var. *intermedia*)	
woolly plantain (*Plantago patagonica*)		onion (*Allium* spp.)	
Chinese houses (*Collinsia* spp.)		buckwheat (*Eriogonum fasciculatum*)	
		ground pink (*Linanthus dianthiflorus*)	
Host Plant Mapping Updated (circle)	Yes No	New Area or Existing Area (circle)	New Existing Both
Species updated (list)	CHAMISE SS		

Butterfly Species	No.	Butterfly Species	No.
Checkerspots		**Hairstreaks**	
California patch (*Chlosyne californica*)		great purple hairstreak (*Atlides halesus corcoran*)	
Gabb's checkerspot (*C. gabbii*)		brown elfin (*Callophrys augustinus*)	
Quino checkerspot (*Euphydryas editha quino*)		bramble (perplexing) hairstreak (*C. dumetorum affinis*)	
chalcedon checkerspot (*E. chalcedona chalcedona*)		gray hairstreak (*Strymon melinus pudica*)	
Leanira checkerspot (*Thessalia leanira wrighti*)		**Ladies/Admirals**	
Mylitta crescent (*Phyciodes mylitta*)		California sister (*Adelpha bredowii californica*)	
Blues		Lorquin's admiral (*Limenitis lorquini*)	
western pygmy-blue (*Brephidium exilis*)	1	west coast lady (*Vanessa annabella*)	2
western tailed blue (*Everes amyntula*)		red admiral (*V. atalanta rubria*)	1
southern blue (*Glaucopsyche lygdamus australis*)		painted lady (*V. cardui*)	1
Edward's blue (*Hemiargus ceraunus gyas*)		American (Virginia) lady (*V. virginiensis*)	1
Acmon blue (*Icaricia acmon acmon*)		unidentified lady (*Vanessa* sp.)	
marine blue (*Leptotes marina*)		**Swallowtails**	
unidentified blue		pale swallowtail (*Papilio eurymedon*)	
Whites		western tiger swallowtail (*P. rutulus*)	1
Sara orangetip (*Anthocharis sara sara*)	78	anise swallowtail (*P. zelicaon*)	
desert (Felder's) orangetip (*A. cethura*)		**Miscellaneous**	
common California ringlet (*Coenonympha californica*)	1	monarch (*Danaus plexippus*)	
cabbage white (*Pieris rapae*)	1	common buckeye (*Junonia coenia grisea*)	8
checkered (common) white (*Pontia protodice*)	5	mourning cloak (*Nymphalis antiopa*)	
spring white (*P. sisymbrii*)		**Skippers**	
unidentified white		funereal duskywing (*Erynnis funeralis*)	5
Metalmarks		mournful duskywing (*Erynnis tristis*)	
Behr's metalmark (*Apodemia mormo virgulti*)	44	fiery skipper (*Hylephila phyleus*)	2
Wright's metalmark (*Calephelis wrighti*)		white (common) checkered-skipper (*Pyrgus albescens*)	
Sulphurs		**Other**	
orange sulphur (*Colias eurytheme*)	8		
sleepy orange (*Eurema nicippe*)			
cloudless sulfur (*Phoebus sennae marcellina*)			
unidentified sulphur			
Column Subtotal	132	Column Subtotal	21

TOTAL 153

2016 Quino Checkerspot Butterfly Survey Form

Surveyor Travis Cooper **Date:** 3/20/16

Site Name: JPD-08 Proctor Valley – Village 14 of Otay Ranch **Site Visit No:** 4

Area Surveyed O **Acres Surveyed** 63 **Survey Time:** 6.3 **Acres per Hour:** 10

Other Surveyors Present:

Field Conditions				
	Time (24 hr)	**Temperature (˚F)**	**Wind Speed (mph)**	**Cloud Cover**
Start	1000	61	1-3	25%
End	1620	78	4-7	5%
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)	chaparral (ADE FAS, ERI FAS, MAL LAU, ACM GLA)
non-native grassland, annual grassland	

Host Plants	**Obs.**	**Nectar Plants**	**Obs.**
dwarf plantain (*Plantago erecta*)	X	popcorn flower (*Cryptantha/Plagiobothrys* spp.)	X
purple owl's clover (*Castilleja ~~exserta~~*) densiflora	X	goldfields (*Lasthenia* spp.)	X
snapdragon (*Antirrhinum coulterianum*)		goldenstar (*Muilla* spp.)	
birds-beak (*Cordylanthus rigidus*)		fiddleneck (*Amsinckia menziesii* var. *intermedia*)	X
woolly plantain (*Plantago patagonica*)		onion (*Allium* spp.)	X
Chinese houses (*Collinsia* spp.)		buckwheat (*Eriogonum fasciculatum*)	X
		ground pink (*Linanthus dianthiflorus*)	X
Host Plant Mapping Updated (*circle*) Yes (No)		**New Area or Existing Area** (*circle*) (New) Existing Both	
Species updated (list)			

Butterfly Species	**No.**	**Butterfly Species**	**No.**
Checkerspots		**Hairstreaks**	
California patch (*Chlosyne californica*)		great purple hairstreak (*Atlides halesus corcorani*)	
Gabb's checkerspot (*C. gabbii*)		brown elfin (*Callophrys augustinus*)	
Quino checkerspot (*Euphydryas editha quino*)		bramble (perplexing) hairstreak (C. *dumetorum affinis*)	
chalcedon checkerspot (*E. chalcedona chalcedona*)		gray hairstreak (*Strymon melinus pudica*)	
Leanira checkerspot (*Thessalia leanira wrighti*)		**Ladies/Admirals**	
Mylitta crescent (*Phyciodes mylitta*)		California sister (*Adelpha bredowii californica*)	
Blues		Lorquin's admiral (*Limenitis lorquini*)	
western pygmy-blue (*Brephidium exila*)		west coast lady (*Vanessa annabella*)	
western tailed blue (*Everes amyntula*)		red admiral (*V. atalanta rubria*)	
southern blue (*Glaucopsyche lygdamus australis*)		painted lady (*V. cardui*)	
Edward's blue (*Hemiargus ceraunus gyas*)		American (Virginia) lady (*V. virginiensis*)	
Acmon blue (*Icaricia acmon acmon*)		unidentified lady (*Vanessa* sp.)	2
marine blue (*Leptotes marina*)		**Swallowtails**	
unidentified blue		pale swallowtail (*Papilio eurymedon*)	
Whites		western tiger swallowtail (*P. rutulus*)	
Sara orangetip (*Anthocharis sara sara*)	36	anise swallowtail (*P. zelicaon*)	
desert (Felder's) orangetip (*A. cethura*)		**Miscellaneous**	
common California ringlet (*Coenonympha californica*)		monarch (*Danaus plexippus*)	
cabbage white (*Pieris rapae*)		common buckeye (*Junonia coenia grisea*)	13
checkered (common) white (*Pontia protodice*)	18	mourning cloak (*Nymphalis antiopa)*	
spring white (*P. sisymbrii*)		**Skippers**	
unidentified white		funereal duskywing (*Erynnis funeralis*)	4
Metalmarks		mournful duskywing (*Erynnis tristis*)	
Behr's metalmark (*Apodemia mormo virgulti*)	23	fiery skipper (*Hylephila phyleus*)	
Wright's metalmark (*Calephelis wrighti*)		white (common) checkered-skipper (*Pyrgus albescens*)	2
Sulphurs		**Other**	
orange sulphur (*Colias eurytheme*)	8	Harford's Sulfer	3
sleepy orange (*Eurema nicippe*)			
cloudless sulfur (*Phoebus sennae marcellina*)			
unidentified sulphur			
Column Subtotal	85	**Column Subtotal**	24
		Total	109

BAHLAC, MALDEN, HEDCRE, ESCCAL, ADEFAS, ACMGLA, ACMGLA, DICCAP, SISBEL, SOLPAR, SALMUN, SISORI, SIDSPA, BRANIG, SILGAL

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: Garret Huffman Date: 3/22/16

Site Name: JPD-08 Proctor Valley – Village 14 of Otay Ranch Site Visit No: 4

Area Surveyed P/Q Acres Surveyed 85.5 Survey Time: 8.5 Acres per Hour: 10

Other Surveyors Present: NONE

Field Conditions				
	Time (24 hr)	Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start	0980	60	3-8	45
End	1730	64	2-6	15
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)

Chamise chaparral, Coastal sage scrub, non native grassland

Host Plants	Obs.	Nectar Plants	Obs.
dwarf plantain (*Plantago erecta*)	X	popcorn flower (*Cryptantha/Plagiobothrys* spp.)	✓
purple owl's clover (*Castilleja exserta*)		goldfields (*Lasthenia* spp.)	✓
snapdragon (*Antirrhinum coulterianum*)		goldenstar (*Muilla* spp.)	
birds-beak (*Cordylanthus rigidus*)		fiddleneck (*Amsinckia menziesii* var. *intermedia*)	✓
woolly plantain (*Plantago patagonica*)		onion (*Allium* spp.)	✓
Chinese houses (*Collinsia* spp.)		buckwheat (*Eriogonum fasciculatum*)	✓
		ground pink (*Linanthus dianthiflorus*)	✓
Host Plant Mapping Updated (circle) Yes No		New Area or Existing Area (circle) New Existing Both	
Species updated (list) CASTILLEJA SP.			

Butterfly Species	No.	Butterfly Species	No.
Checkerspots		**Hairstreaks**	
California patch (*Chlosyne californica*)		great purple hairstreak (*Atlides halesus corcorani*)	
Gabb's checkerspot (*C. gabbii*)		brown elfin (*Callophrys augustinus*)	
Quino checkerspot (*Euphydryas editha quino*)		bramble (perplexing) hairstreak (*C. dumetorum affinis*)	
chalcedon checkerspot (*E. chalcedona chalcedona*)		gray hairstreak (*Strymon melinus pudica*)	
Leanira checkerspot (*Thessalia leanira wrighti*)		**Ladies/Admirals**	
Mylitta crescent (*Phyciodes mylitta*)		California sister (*Adelpha bredowii californica*)	
Blues		Lorquin's admiral (*Limenitis lorquini*)	
western pygmy-blue (*Brephidium exile*)		west coast lady (*Vanessa annabella*)	2
western tailed blue (*Everes amyntula*)		red admiral (*V. atalanta rubria*)	
southern blue (*Glaucopsyche lygdamus australis*)		painted lady (*V. cardui*)	1/2
Edward's blue (*Hemiargus ceraunus gyas*)		American (Virginia) lady (*V. virginiensis*)	1
Acmon blue (*Icaricia acmon acmon*)		unidentified lady (*Vanessa* sp.)	
marine blue (*Leptotes marina*)	2	**Swallowtails**	
unidentified blue		pale swallowtail (*Papilio eurymedon*)	2
Whites		western tiger swallowtail (*P. rutulus*)	
Sara orangetip (*Anthocharis sara sara*)	51	anise swallowtail (*P. zelicaon*)	1
desert (Felder's) orangetip (*A. cethura*)		**Miscellaneous**	
common California ringlet (*Coenonympha californica*)	1	monarch (*Danaus plexippus*)	
cabbage white (*Pieris rapae*)		common buckeye (*Junonia coenia grisea*)	
checkered (common) white (*Pontia protodice*)	4	mourning cloak (*Nymphalis antiopa*)	
spring white (*P. sisymbrii*)		**Skippers**	
unidentified white		funereal duskywing (*Erynnis funeralis*)	5
Metalmarks		mournful duskywing (*Erynnis tristis*)	
Behr's metalmark (*Apodemia mormo virgulti*)	3	fiery skipper (*Hylephila phyleus*)	
Wright's metalmark (*Calephelis wrighti*)		white (common) checkered-skipper (*Pyrgus albescens*)	
Sulphurs		**Other**	
orange sulphur (*Colias eurytheme*)			
sleepy orange (*Eurema nicippe*)			
cloudless sulfur (*Phoebus sennae marcellina*)			
unidentified sulphur			
Column Subtotal	61	Column Subtotal	14
		TOTAL	75

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: Garrett Huffman Date: 3/20/16

Site Name: JPO-08 Proctor Valley – Village 14 of Otay Ranch Site Visit No: 4

Area Surveyed: R | P Acres Surveyed: 85.5 Survey Time: 8.5 Acres per Hour: 10

Other Surveyors Present: NONE

Field Conditions				
	Time (24 hr)	Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start	0900	60	~~40~~ 0-1	40
End	~~1650~~ 1720	72	0-2	25
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)

CHAMISE CHAPARRAL, COASTAL SAGE SCRUB, NON NATIVE GRASSLAND

Host Plants	Obs.	Nectar Plants	Obs.
dwarf plantain (*Plantago erecta*)	X	popcorn flower (*Cryptantha/Plagiobothrys* spp.)	X
purple owl's clover (*Castilleja exserta*)	X	goldfields (*Lasthenia* spp.)	X
snapdragon (*Antirrhinum coulterianum*)		goldenstar (*Muilla* spp.)	
birds-beak (*Cordylanthus rigidus*)		fiddleneck (*Amsinckia menziesii* var. *intermedia*)	
woolly plantain (*Plantago patagonica*)		onion (*Allium* spp.)	X
Chinese houses (*Collinsia* spp.)		buckwheat (*Eriogonum fasciculatum*)	X
		ground pink (*Linanthus dianthiflorus*)	
Host Plant Mapping Updated (circle) (Yes) No		New Area or Existing Area (circle) (New) Existing Both	
Species updated (list) CASTILLEJA SP.			

Butterfly Species	No.	Butterfly Species	No.
Checkerspots		**Hairstreaks**	
California patch (*Chlosyne californica*)		great purple hairstreak (*Atlides halesus corcoran*)	
Gabb's checkerspot (*E. gabbii*)	1	brown elfin (*Callophrys augustinus*)	
Quino checkerspot (*Euphydryas editha quino*)		bramble (perplexing) hairstreak (*C. dumetorum affinis*)	
chalcedon checkerspot (*E. chalcedona chalcedona*)		gray hairstreak (*Strymon melinus pudica*)	
Leanira checkerspot (*Thessalia leanira wrighti*)		**Ladies/Admirals**	
Mylitta crescent (*Phyciodes mylitta*)		California sister (*Adelpha bredowii californica*)	
Blues		Lorquin's admiral (*Limenitis lorquini*)	
western pygmy-blue (*Brephidium exilis*)		west coast lady (*Vanessa annabella*)	1
western tailed blue (*Everes amyntula*)		red admiral (*V. atalanta rubria*)	
southern blue (*Glaucopsyche lygdamus australis*)		painted lady (*V. cardui*)	1
Edward's blue (*Hemiargus ceraunus gyas*)		American (Virginia) lady (*V. virginiensis*)	1
Acmon blue (*Icaricia acmon acmon*)		unidentified lady (*Vanessa* sp.)	
marine blue (*Leptotes marina*)	3	**Swallowtails**	
unidentified blue		pale swallowtail (*Papilio eurymedon*)	
Whites		western tiger swallowtail (*P. rutulus*)	1
Sara orangetip (*Anthocharis sara sara*)	105	anise swallowtail (*P. zelicaon*)	
desert (Felder's) orangetip (*A. cethura*)		**Miscellaneous**	
common California ringlet (*Coenonympha californica*)	4	monarch (*Danaus plexippus*)	
cabbage white (*Pieris rapae*)		common buckeye (*Junonia coenia grisea*)	5
checkered (common) white (*Pontia protodice*)	6	mourning cloak (*Nymphalis antiopa*)	
spring white (*P. sisymbri*)		**Skippers**	
unidentified white		funereal duskywing (*Erynnis funeralis*)	5
Metalmarks		mournful duskywing (*Erynnis tristis*)	
Behr's metalmark (*Apodemia mormo virgulti*)	55	fiery skipper (*Hylephila phyleus*)	
Wright's metalmark (*Calephelis wrighti*)		white (common) checkered-skipper (*Pyrgus albescens*)	2
Sulphurs		**Other**	
orange sulphur (*Colias eurytheme*)			
sleepy orange (*Eurema nicippe*)			
cloudless sulfur (*Phoebus sennae marcellina*)			
unidentified sulphur			
Column Subtotal	174	Column Subtotal	14

TOTAL 190

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: John Dicus, Melanie Dicus **Date:** 03-21-2016

Site Name: JPO-08 Proctor Valley – Village 14 of Otay Ranch **Site Visit No:** 4

Area Surveyed J, A **Acres Surveyed** 93 **Survey Time:** 7HRS **Acres per Hour:** 6.6/each

Other Surveyors Present: —

Field Conditions				
	Time (24 hr)	Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start	0920	60	1-2	10%
End	1630	70	5-6	15%
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)

Annual/forb, Coastal Sage Chaparral, Sage Dominant spp. as Previous weeks
Disturbed ESS, Herbaceous Grassland

Host Plants	Obs.	Nectar Plants	Obs.
dwarf plantain (*Plantago erecta*)	X	popcorn flower (*Cryptantha/Plagiobothrys* spp.)	X
purple owl's clover (*Castilleja exserta*) / *Auriculata*	X	goldfields (*Lasthenia* spp.)	
snapdragon (*Antirrhinum coulterianum*)		goldenstar (*Muilla* spp.)	X
birds-beak (*Cordylanthus rigidus*)		fiddleneck (*Amsinckia menziesii* var. *intermedia*)	X
woolly plantain (*Plantago patagonica*)		onion (*Allium* spp.)	X
Chinese houses (*Collinsia* spp.)		buckwheat (*Eriogonum fasciculatum*)	X
		ground pink (*Linanthus dianthiflorus*)	
Host Plant Mapping Updated (circle) (Yes) No		**New Area or Existing Area** (circle) (New) Existing Both	
Species updated (list) C. *Auriculata*; Annuals due to Breakdown, just started to Flower.			

Butterfly Species	No.	Butterfly Species	No.
Checkerspots		**Hairstreaks**	
California patch (*Chlosyne californica*)		great purple hairstreak (*Atlides halesus corcorani*)	
Gabb's checkerspot (*C. gabbii*)		brown elfin (*Callophrys augustinus*)	
Quino checkerspot (*Euphydryas editha quino*)		bramble (perplexing) hairstreak (*C. dumetorum affinis*)	
chalcedon checkerspot (*E. chalcedona chalcedona*)		gray hairstreak (*Strymon melinus pudica*)	
Leanira checkerspot (*Thessalia leanira wrighti*)		**Ladies/Admirals**	
Mylitta crescent (*Phyciodes mylitta*)		California sister (*Adelpha bredowii californica*)	
Blues		Lorquin's admiral (*Limenitis lorquini*)	
western pygmy-blue (*Brephidium exilis*)	1	west coast lady (*Vanessa annabella*)	
western tailed blue (*Everes amyntula*)		red admiral (*V. atalanta rubria*)	
southern blue (*Glaucopsyche lygdamus australis*)	1	painted lady (*V. cardui*)	
Edward's blue (*Hemiargus ceraunus gyas*)		American (Virginia) lady (*V. virginiensis*)	6
Acmon blue (*Icaricia acmon acmon*)		unidentified lady (*Vanessa* sp.)	
marine blue (*Leptotes marina*)	1	**Swallowtails**	
unidentified blue		pale swallowtail (*Papilio eurymedon*)	
Whites		western tiger swallowtail (*P. rutulus*)	
Sara orangetip (*Anthocharis sara sara*)	103	anise swallowtail (*P. zelicaon*)	
desert (Felder's) orangetip (*A. cethura*)		**Miscellaneous**	
common California ringlet (*Coenonympha californica*)	2	monarch (*Danaus plexippus*)	
cabbage white (*Pieris rapae*)		common buckeye (*Junonia coenia grisea*)	5
checkered (common) white (*Pontia protodice*)	11	mourning cloak (*Nymphalis antiopa*)	
spring white (*P. sisymbrii*)		**Skippers**	
unidentified white		funereal duskywing (*Erynnis funeralis*)	25
Metalmarks		mournful duskywing (*Erynnis tristis*)	
Behr's metalmark (*Apodemia mormo virgulti*)	63	fiery skipper (*Hylephila phyleus*)	1
Wright's metalmark (*Calephelis wrighti*)		white (common) checkered-skipper (*Pyrgus albescens*)	4
Sulphurs		**Other**	
orange sulphur (*Colias eurytheme*)	6	Colias harfordii	3
sleepy orange (*Eurema nicippe*)		Ceraunus Blue	2
cloudless sulfur (*Phoebus sennae marcellina*)			
unidentified sulphur			
Column Subtotal	188	Column Subtotal	46
		Total	234

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: MELANIE BLUS, JOHN BLUS **Date:** 03-20-2016

Site Name: JPO-08 Proctor Valley – Village 14 of Otay Ranch **Site Visit No:** 4

Area Surveyed K, L **Acres Surveyed** 108 **Survey Time:** 7.5 HOURS **Acres per Hour:** 7.2 / ACRES

Other Surveyors Present: —

Field Conditions				
	Time (24 hr)	Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start	0920	60	0-1	25%
End	1650	72	0-2	20%
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)
DISTURBED COASTAL SAGE SCRUB > BAHIA SP. SAME AS PREVIOUS VISITS
NON-NATIVE GRASSLAND

Host Plants	Obs.	Nectar Plants	Obs.
dwarf plantain (*Plantago erecta*)	X	popcorn flower (*Cryptantha/Plagiobothrys* spp.)	X
purple owl's clover (*Castilleja exserta*)		goldfields (*Lasthenia* spp.)	X
snapdragon (*Antirrhinum coulterianum*)		goldenstar (*Muilla* spp.)	X
birds-beak (*Cordylanthus rigidus*)		fiddleneck (*Amsinckia menziesii* var. *intermedia*)	X
wooly plantain (*Plantago patagonica*)		onion (*Allium* spp.)	
Chinese houses (*Collinsia* spp.)		buckwheat (*Eriogonum fasciculatum*)	X
		ground pink (*Linanthus dianthiflorus*)	
Host Plant Mapping Updated (circle) Yes (No)		**New Area or Existing Area** (circle) New / Existing / Both	
Species updated (list)			

Butterfly Species	No.	Butterfly Species	No.
Checkerspots		**Hairstreaks**	
California patch (*Chlosyne californica*)		great purple hairstreak (*Atlides halesus corcorani*)	
Gabb's checkerspot (*C. gabbii*)		brown elfin (*Callophrys augustinus*)	
Quino checkerspot (*Euphydryas editha quino*)		bramble (perplexing) hairstreak (*C. dumetorum affinis*)	
chalcedon checkerspot (*E. chalcedona chalcedona*)		gray hairstreak (*Strymon melinus pudica*)	
Leanira checkerspot (*Thessalia leanira wrighti*)		**Ladies/Admirals**	
Mylitta crescent (*Phyciodes mylitta*)		California sister (*Adelpha bredowii californica*)	
Blues		Lorquin's admiral (*Limenitis lorquini*)	
western pygmy-blue (*Brephidium exilis*)	1	west coast lady (*Vanessa annabella*)	
western tailed blue (*Everes amyntula*)		red admiral (*V. atalanta rubria*)	1
southern blue (*Glaucopsyche lygdamus australis*)		painted lady (*V. cardui*)	
Edward's blue (*Hemiargus ceraunus gyas*)		American (Virginia) lady (*V. virginiensis*)	2
Acmon blue (*Icaricia acmon acmon*)	3	unidentified lady (*Vanessa* sp.)	
marine blue (*Leptotes marina*)		**Swallowtails**	
unidentified blue		pale swallowtail (*Papilio eurymedon*)	
Whites		western tiger swallowtail (*P. rutulus*)	
Sara orangetip (*Anthocharis sara sara*)	92	anise swallowtail (*P. zelicaon*)	
desert (Felder's) orangetip (*A. cethura*)		**Miscellaneous**	
common California ringlet (*Coenonympha californica*)		monarch (*Danaus plexippus*)	
cabbage white (*Pieris rapae*)		common buckeye (*Junonia coenia grisea*)	11
checkered (common) white (*Pontia protodice*)	9	mourning cloak (*Nymphalis antiopa*)	
spring white (*P. sisymbrii*)		**Skippers**	
unidentified white		funereal duskywing (*Erynnis funeralis*)	10
Metalmarks		mournful duskywing (*Erynnis tristis*)	
Behr's metalmark (*Apodemia mormo virgulti*)	32	fiery skipper (*Hylephila phyleus*)	3
Wright's metalmark (*Calephelis wrighti*)		white (common) checkered-skipper (*Pyrgus albescens*)	24
Sulphurs		**Other**	
orange sulphur (*Colias eurytheme*)	11	COLIAS HARFORDII	6
sleepy orange (*Eurema nicippe*)		HELIOPETES EPICHLORA	2
cloudless sulfur (*Phoebus sennae marcellina*)		PAPILIO CRESPHONTES	1
unidentified sulphur		LIBYTHEA CURALA	5
Column Subtotal	148	Column Subtotal	75
		Total	223

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: Brian Lohstroh **Date:** 18 March 2016

Site Name: JPD-08 Proctor Valley – Village 14 of Otay Ranch **Site Visit No:** 4

Area Surveyed 8 **Acres Surveyed** 47 acres **Survey Time:** 5.3 hrs **Acres per Hour:** 8.9

Other Surveyors Present:

Field Conditions				
	Time (24 hr)	Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start	09:10	64 air, 67 at ground	0-3	Clear
End	14:30	78	2-7	Clear
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)
scrub (*B. laciniata, M. laurina*); chaparral (*A. fasciculatum, M. laurina, R. crassa, C. tomentosa*);
NNG (*Avena* spp, *Bromus* spp.)

Host Plants	Obs.	Nectar Plants	Obs.
dwarf plantain (*Plantago erecta*)	X	popcorn flower (*Cryptantha/Plagiobothrys* spp.)	X
purple owl's clover (*Castilleja exserta*)	X	goldfields (*Lasthenia* spp.)	X
snapdragon (*Antirrhinum coulterianum*)		goldenstar (*Muilla* spp.)	
birds-beak (*Cordylanthus rigidus*)		fiddleneck (*Amsinckia menziesii* var. *intermedia*)	
woolly plantain (*Plantago patagonica*)		onion (*Allium* spp.)	X
Chinese houses (*Collinsia* spp.)		buckwheat (*Eriogonum fasciculatum*)	X
		ground pink (*Linanthus dianthiflorus*)	X
Host Plant Mapping Updated (circle) Yes	No	**New Area or Existing Area** (circle) New	Existing Both
Species updated (list)			

Butterfly Species	No.	Butterfly Species	No.
Checkerspots		**Hairstreaks**	
California patch (*Chlosyne californica*)		great purple hairstreak (*Atlides halesus corcorani*)	
Gabb's checkerspot (*C. gabbii*)	4	brown elfin (*Callophrys augustinus*)	
Quino checkerspot (*Euphydryas editha quino*)		bramble (perplexing) hairstreak (*C. dumetorum affinis*)	
chalcedon checkerspot (*E. chalcedona chalcedona*)		gray hairstreak (*Strymon melinus pudica*)	
Leanira checkerspot (*Thessalia leanira wrighti*)		**Ladies/Admirals**	
Mylitta crescent (*Phyciodes mylitta*)		California sister (*Adelpha bredowii californica*)	
Blues		Lorquin's admiral (*Limenitis lorquini*)	
western pygmy blue (*Brephidium exile*)		west coast lady (*Vanessa annabella*)	1
western tailed blue (*Everes amyntula*)		red admiral (*V. atalanta rubria*)	
southern blue (*Glaucopsyche lygdamus australis*)	2	painted lady (*V. cardui*)	2
Edward's blue (*Hemiargus ceraunus gyas*)		American (Virginia) lady (*V. virginiensis*)	3
Acmon blue (*Icaricia acmon acmon*)		unidentified lady (*Vanessa* sp.)	1
marine blue (*Leptotes marina*)	2	**Swallowtails**	
Spring azure (*Celastrina ladon echo*)		pale swallowtail (*Papilio eurymedon*)	
Whites		western tiger swallowtail (*P. rutulus*)	
Sara orangetip (*Anthocharis sara sara*)	23	anise swallowtail (*P. zelicaon*)	
desert (Felder's) orangetip (*A. cethura*)		**Miscellaneous**	
common California ringlet (*Coenonympha californica*)	5	monarch (*Danaus plexippus*)	
cabbage white (*Pieris rapae*)		common buckeye (*Junonia coenia grisea*)	1
checkered (common) white (*Pontia protodice*)	4	mourning cloak (*Nymphalis antiopa*)	
spring white (*P. sisymbrii*)		**Skippers**	
unidentified white		funereal duskywing (*Erynnis funeralis*)	7
Metalmarks		mournful duskywing (*Erynnis tristis*)	
Behr's metalmark (*Apodemia mormo virgulti*)	23	fiery skipper (*Hylephila phyleus*)	
Wright's metalmark (*Calephelis wrighti*)		white (common) checkered-skipper (*Pyrgus albescens*)	2
Sulphurs		**Other**	
orange sulphur (*Colias eurytheme*)	2	Lupine blue (*Plebejus lupinus*)	
sleepy orange (*Eurema nicippe*)		*Erynnis* sp.	
cloudless sulfur (*Phoebus sennae marcellina*)			
dainty sulphur (*Nathalis iole*)	1		
Column Subtotal	66	Column Subtotal	17
		Total	83

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: Monica Alfaro Date: 3/21/16

Site Name: JPD-08 Proctor Valley – Village 14 of Otay Ranch Site Visit No: 4

Area Surveyed: I Acres Surveyed: 57 Survey Time: 6 hr 10 min Acres per Hour: 9.25

Other Surveyors Present: 0

Field Conditions

	Time (24 hr)	Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start	9:25	63 air 66 ground	1-2	30 %
End	3:36	76 air 84 ground	6-8	hazy 50 %
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)

AING, CSS, RD

Host Plants	Obs.	Nectar Plants	Obs.
dwarf plantain (*Plantago erecta*)		groom flower (*Cryptantha/Plagiobothrys* spp.)	✓
purple owl's clover (*Castilleja exserta*)		goldfields (*Lasthenia* spp.)	
snapdragon (*Antirrhinum coulterianum*)		goldenstar (*Muilla* spp.)	
birds-beak (*Cordylanthus rigidus*)		fiddleneck (*Amsinckia menziesii* var. *intermedia*)	
woolly plantain (*Plantago patagonica*)		onion (*Allium* spp.)	
Chinese houses (*Collinsia* spp.)		buckwheat (*Eriogonum fasciculatum*)	✓
		ground pink (*Linanthus dianthiflorus*)	
Host Plant Mapping Updated (circle) Yes	(No)	New Area or Existing Area (circle) New Existing Both	
Species updated (list)			

Butterfly Species	No.	Butterfly Species	No.
Checkerspots		**Hairstreaks**	
California patch (*Chlosyne californica*)		great purple hairstreak (*Atlides halesus corcorani*)	
Gabb's checkerspot (*E. gabbii*)		brown elfin (*Callophrys augustinus*)	
Quino checkerspot (*Euphydryas editha quino*)		bramble (perplexing) hairstreak (*C. dumetorum affinis*)	
chalcedon checkerspot (*E. chalcedona chalcedona*)		gray hairstreak (*Strymon melinus jenilla*)	
Leanira checkerspot (*Thessalia leanira wrighti*)		**Ladies/Admirals**	
Mylitta crescent (*Phyciodes mylitta*)		California sister (*Adelpha bredowii californica*)	
Blues		Lorquin's admiral (*Limenitis lorquini*)	
western pygmy blue (*Brephidium exilis*)		west coast lady (*Vanessa annabella*)	
western tailed blue (*Everes amyntula*)		red admiral (*V. atalanta rubria*)	
southern blue (*Glaucopsyche lygdamus australis*)		painted lady (*V. cardui*)	1+3
Edward's blue (*Hemiargus ceraunus gyas*)		American (Virginia) lady (*V. virginiensis*)	
Acmon blue (*Icaricia acmon acmon*)		unidentified lady (*Vanessa* sp.)	
marine blue (*Leptotes marina*)	1+3	**Swallowtails**	
unidentified blue		pale tiger swallowtail (*Papilio eurymedon*)	
Whites		western tiger swallowtail (*P. rutulus*)	
Sara orangetip (*Anthocharis sara sara*)		anise swallowtail (*P. zelicaon*)	
desert (Felder's) orangetip (*A. cethura*)		**Miscellaneous**	
common California ringlet (*Coenonympha californica*)	1+4+3	monarch (*Danaus plexippus*)	
cabbage white (*Pieris rapae*)		common buckeye (*Junonia coenia grisea*)	
checkered (common) white (*Pontia protodice*)		mourning cloak (*Nymphalis antiopa*)	
spring white (*P. sisymbri*)		**Skippers**	
unidentified white		funereal duskywing (*Erynnis funeralis*)	2+10
Metalmarks		mournful duskywing (*Erynnis mahis*)	
Behr's metalmark (*Apodemia mormo virgulti*)	1+3+5	fiery skipper (*Hylephila phyleus*)	
Wright's metalmark (*Calephelis wrighti*)		white (common) checkered-skipper (*Pyrgus albescens*)	1+6
Sulphurs		**Other**	
orange sulphur (*Colias eurytheme*)			
sleepy orange (*Eurema nicippe*)			
coastal sulfur (*Phoebus agarithe marcellina*)			
unidentified sulphur			
Columns Subtotal	56	Column Subtotal	33
		Total	89

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: John Lovio **Date:** 3-18-16

Site Name: JPD-08 Proctor Valley – Village 14 of Otay Ranch **Site Visit No:**

Area Surveyed Polygon U **Acres Surveyed** 48 **Survey Time:** 5.2 hours **Acres per Hour:** 9

Other Surveyors Present: None

Field Conditions				
	Time (24 hr)	**Temperature (˚F)**	**Wind Speed (mph)**	**Cloud Cover**
Start	10:55	70	0	0
End	16:05	85	5-8, SW	0
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)
Chaparral: *Adenostema fasciculatum*, *Ceanothus tomentosus*, *Quercus berberidifolia*, *Xylococcus bicolor* > *Heteromeles arbutifolia*, *Mimulus aurantiacus*, *Rhus integrifolia*, *Malsoma laurina*, *Salvia munzii*, *Yucca schidigera*

Host Plants	**Obs.**	**Nectar Plants**	**Obs.**
dwarf plantain (*Plantago erecta*)		popcorn flower (*Cryptantha/Plagiobothrys* spp.)	X
purple owl's clover (*Castilleja exserta*)		goldfields (*Lasthenia* spp.)	
snapdragon (*Antirrhinum coulterianum*)		goldenstar (*Muilla* spp.)	
birds-beak (*Cordylanthus rigidus*)		fiddleneck (*Amsinckia menziesii* var. *intermedia*)	
woolly plantain (*Plantago patagonica*)		onion (*Allium* spp.)	X
Chinese houses (*Collinsia* spp.)		buckwheat (*Eriogonum fasciculatum*)	
		ground pink (*Linanthus dianthiflorus*)	
Host Plant Mapping Updated (*circle*) Yes No		**New Area or Existing Area** (*circle*) New Existing Both	
Species updated (list)			

Butterfly Species	**No.**	**Butterfly Species**	**No.**
Checkerspots		**Hairstreaks**	
California patch (*Chlosyne californica*)		great purple hairstreak (*Atlides halesus corcorani*)	
Gabb's checkerspot (*C. gabbii*)		brown elfin (*Callophrys augustinus*)	
Quino checkerspot (*Euphydryas editha quino*)		bramble (perplexing) hairstreak (C. *dumetorum affinis*)	
chalcedon checkerspot (*E. chalcedona chalcedona*)		gray hairstreak (*Strymon melinus pudica*)	
Leanira checkerspot (*Thessalia leanira wrighti*)		**Ladies/Admirals**	
Mylitta crescent (*Phyciodes mylitta*)		California sister (*Adelpha bredowii californica*)	
Blues		Lorquin's admiral (*Limenitis lorquini*)	
western pygmy-blue (*Brephidium exila*)		west coast lady (*Vanessa annabella*)	1
western tailed blue (*Everes amyntula*)		red admiral (*V. atalanta rubria*)	
southern blue (*Glaucopsyche lygdamus australis*)		painted lady (*V. cardui*)	
Edward's blue (*Hemiargus ceraunus gyas*)		American (Virginia) lady (*V. virginiensis*)	2
Acmon blue (*Icaricia acmon acmon*)		unidentified lady (*Vanessa* sp.)	2
marine blue (*Leptotes marina*)	1	**Swallowtails**	
Spring azure (*Celastrina ladon echo*)		pale swallowtail (*Papilio eurymedon*)	1
Whites		western tiger swallowtail (*P. rutulus*)	
Sara orangetip (*Anthocharis sara sara*)	21	anise swallowtail (*P. zelicaon*)	
desert (Felder's) orangetip (*A. cethura*)		**Miscellaneous**	
common California ringlet (*Coenonympha californica*)		monarch (*Danaus plexippus*)	
cabbage white (*Pieris rapae*)		common buckeye (*Junonia coenia grisea*)	
checkered (common) white (*Pontia protodice*)	3	mourning cloak (*Nymphalis antiopa)*	
spring white (*P. sisymbrii*)		**Skippers**	
unidentified white		funereal duskywing (*Erynnis funeralis*)	
Metalmarks		mournful duskywing (*Erynnis tristis*)	
Behr's metalmark (*Apodemia mormo virgulti*)	4	fiery skipper (*Hylephila phyleus*)	
Wright's metalmark (*Calephelis wrighti*)		white (common) checkered-skipper (*Pyrgus albescens*)	
Sulphurs		**Other**	
orange sulphur (*Colias eurytheme*)		Lupine blue (*Plebejus lupines*)	
sleepy orange (*Eurema nicippe*)		*Erynnis* sp.	
cloudless sulfur (*Phoebus sennae marcellina*)			
unidentified sulphur	2		
Column Subtotal	**31**	**Column Subtotal**	**6**
		Total	**37**

2016 Quino Checkerspot Butterfly Survey Form

Surveyor Alicia Hill **Date:** 3/17/16

Site Name: JPD-08 Proctor Valley – Village 14 of Otay Ranch **Site Visit No:** 4

Area Surveyed V **Acres Surveyed** 44 **Survey Time:** 5.0 **Acres per Hour:** 8.8

Other Surveyors Present: –

Field Conditions				
	Time (24 hr)	**Temperature (˚F)**	**Wind Speed (mph)**	**Cloud Cover**
Start	0930	68	0-1	0%
End	1430	88	1-4	0%
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.) chamise chaparral (ADE FAS, ERI FAS, ACM GLA)
non-native grassland (Avena sp)

Host Plants	**Obs.**	**Nectar Plants**	**Obs.**
dwarf plantain (*Plantago erecta*)	X	popcorn flower (*Cryptantha/Plagiobothrys* spp.)	x
purple owl's clover (*Castilleja* densiflora	X	goldfields (*Lasthenia* spp.)	x
snapdragon (*Antirrhinum coulterianum*)		goldenstar (*Muilla* spp.)	
birds-beak (*Cordylanthus rigidus*)		fiddleneck (*Amsinckia menziesii* var. *intermedia*)	x
woolly plantain (*Plantago patagonica*)		onion (*Allium* spp.)	x
Chinese houses (*Collinsia* spp.)		buckwheat (*Eriogonum fasciculatum*)	x
		ground pink (*Linanthus dianthiflorus*)	x
Host Plant Mapping Updated (*circle*) Yes (No)		**New Area or Existing Area** (*circle*) New (Existing) Both	
Species updated (list)			

Butterfly Species	**No.**	**Butterfly Species**	**No.**
Checkerspots		**Hairstreaks**	
California patch (*Chlosyne californica*)		great purple hairstreak (*Atlides halesus corcorani*)	
Gabb's checkerspot (*C. gabbii*)		brown elfin (*Callophrys augustinus*)	
Quino checkerspot (*Euphydryas editha quino*)		bramble (perplexing) hairstreak (C. *dumetorum affinis*)	
chalcedon checkerspot (*E. chalcedona chalcedona*)		gray hairstreak (*Strymon melinus pudica*)	
Leanira checkerspot (*Thessalia leanira wrighti*)		**Ladies/Admirals**	
Mylitta crescent (*Phyciodes mylitta*)		California sister (*Adelpha bredowii californica*)	
Blues		Lorquin's admiral (*Limenitis lorquini*)	
western pygmy-blue (*Brephidium exila*)		west coast lady (*Vanessa annabella*)	
western tailed blue (*Everes amyntula*)		red admiral (*V. atalanta rubria*)	
southern blue (*Glaucopsyche lygdamus australis*)	4	painted lady (*V. cardui*)	
Edward's blue (*Hemiargus ceraunus gyas*)		American (Virginia) lady (*V. virginiensis*)	2
Acmon blue (*Icaricia acmon acmon*)	1	unidentified lady (*Vanessa* sp.)	5
marine blue (*Leptotes marina*)		**Swallowtails**	
unidentified blue		pale swallowtail (*Papilio eurymedon*)	
Whites		western tiger swallowtail (*P. rutulus*)	
Sara orangetip (*Anthocharis sara sara*)	120	anise swallowtail (*P. zelicaon*)	
desert (Felder's) orangetip (*A. cethura*)		**Miscellaneous**	
common California ringlet (*Coenonympha californica*)	5	monarch (*Danaus plexippus*)	
cabbage white (*Pieris rapae*)		common buckeye (*Junonia coenia grisea*)	6
checkered (common) white (*Pontia protodice*)	4	mourning cloak (*Nymphalis antiopa)*	
spring white (*P. sisymbrii*)		**Skippers**	
unidentified white		funereal duskywing (*Erynnis funeralis*)	3
Metalmarks		mournful duskywing (*Erynnis tristis*)	
Behr's metalmark (*Apodemia mormo virgulti*)	58	fiery skipper (*Hylephila phyleus*)	
Wright's metalmark (*Calephelis wrighti*)		white (common) checkered-skipper (*Pyrgus albescens*)	9
Sulphurs		**Other**	
orange sulphur (*Colias eurytheme*)	3	Duskywing sp.	1
sleepy orange (*Eurema nicippe*)			
cloudless sulfur (*Phoebus sennae marcellina*)			
unidentified sulphur	7		
Column Subtotal	202	**Column Subtotal**	26
		Total	228

DIC CAP;VIO PED ; Crypt.;ERO CIC;HER INC; Plagio.;MAL DEN;CAM BIS;LUP BIC;NUT TEX;MIR LAE;SOL PAR;SIS ORI;SAL MUN;SID SPA;BRA NIG;MIM AUR;ERO BOT;ADE FAS;SAN BIP;CEA TOM;SIL GAL;CLA PUR;BAH LAN;CAL MAC;COT COR

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: Gretchen Cummings Date: 3/23/16

Site Name: JPD-08 Proctor Valley – Village 14 of Otay Ranch Site Visit No: 4

Area Surveyed W Acres Surveyed 54 Survey Time: 0920-1450 5hrs 30 min Acres per Hour: 9.82

Other Surveyors Present: none

Field Conditions				
	Time (24 hr)	Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start	0920	61.7°F	< 3.1 mph	none 0%
End	1450	77.1°F	2.2-6.1 mph w/gusts to 10.4	none 0%
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)

Sage Scrub (Salvia munzii + Eriogonum fasciculatum)

Chaparral (Chamise + Scrub Oak), Non-Native Grassland (Erodium spp. + Avena sp.)

Host Plants	Obs.	Nectar Plants	Obs.
dwarf plantain (*Plantago erecta*)	X	popcorn flower (*Cryptantha/Plagiobothrys* spp.)	X
purple owl's clover (*Castilleja exserta*)	X	goldfields (*Lasthenia* spp.)	X
snapdragon (*Antirrhinum coulterianum*)		goldenstar (*Muilla* spp.)	
birds-beak (*Cordylanthus rigidus*)		fiddleneck (*Amsinckia menziesii* var. *intermedia*)	
woolly plantain (*Plantago patagonica*)		onion (*Allium* spp.)	X
Chinese houses (*Collinsia* spp.)		buckwheat (*Eriogonum fasciculatum*)	X
		ground pink (*Linanthus dianthiflorus*)	X
Host Plant Mapping Updated (circle) Yes No		**New Area or Existing Area** (circle) New Existing Both	
Species updated (list)			

Butterfly Species	No.	Butterfly Species	No.
Checkerspots		**Hairstreaks**	
California patch (*Chlosyne californica*)		great purple hairstreak (*Atlides halesus corcorani*)	
Gabb's checkerspot (*C. gabbii*)		brown elfin (*Callophrys augustinus*)	
Quino checkerspot (*Euphydryas editha quino*)		bramble (perplexing) hairstreak (*C. dumetorum affinis*)	
chalcedon checkerspot (*E. chalcedona chalcedona*)		gray hairstreak (*Strymon melinus pudica*)	2
Leanira checkerspot (*Thessalia leanira wrighti*)		**Ladies/Admirals**	
Mylitta crescent (*Phyciodes mylitta*)		California sister (*Adelpha bredowii californica*)	
Blues		Lorquin's admiral (*Limenitis lorquini*)	
western pygmy-blue (*Brephidium exilis*)		west coast lady (*Vanessa annabella*)	
western tailed blue (*Everes amyntula*)		red admiral (*V. atalanta rubria*)	
southern blue (*Glaucopsyche lygdamus australis*)		painted lady (*V. cardui*)	
Edward's blue (*Hemiargus ceraunus gyas*)		American (Virginia) lady (*V. virginiensis*)	1
Acmon blue (*Icaricia acmon acmon*)		unidentified lady (*Vanessa* sp.)	6
marine blue (*Leptotes marina*)	3	**Swallowtails**	
unidentified blue		pale swallowtail (*Papilio eurymedon*)	
Whites		western tiger swallowtail (*P. rutulus*)	
Sara orangetip (*Anthocharis sara sara*)	18	anise swallowtail (*P. zelicaon*)	
desert (Felder's) orangetip (*A. cethura*)		**Miscellaneous**	
common California ringlet (*Coenonympha californica*)	1	monarch (*Danaus plexippus*)	
cabbage white (*Pieris rapae*)		common buckeye (*Junonia coenia grisea*)	3
checkered (common) white (*Pontia protodice*)		mourning cloak (*Nymphalis antiopa*)	
spring white (*P. sisymbri*)		**Skippers**	
unidentified white	2	funereal duskywing (*Erynnis funeralis*)	4
Metalmarks		mournful duskywing (*Erynnis tristis*)	
Behr's metalmark (*Apodemia mormo virgulti*)	45	fiery skipper (*Hylephila phyleus*)	
Wright's metalmark (*Calephelis wrighti*)		white (common) checkered-skipper (*Pyrgus albescens*)	1
Sulphurs		**Other**	
orange sulphur (*Colias eurytheme*)	2		
sleepy orange (*Eurema nicippe*)			
cloudless sulfur (*Phoebus sennae marcellina*)			
unidentified sulphur	2		
Column Subtotal	73	Column Subtotal	17
	(7 species)	Total	90

(6 species)
(13 species total)

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: D. Bucky **Date:** 3/23/16

Site Name: JPD-08 Proctor Valley – Village 14 of Otay Ranch **Site Visit No:** 4

Area Surveyed X **Acres Surveyed** 62 acres **Survey Time:** 6.75 hr. **Acres per Hour:** ~9

Other Surveyors Present:

Field Conditions				
	Time (24 hr)	Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start	1000	73	0-2	0%
End	1645	75	5-8	0%
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)
chaparral, central Sage Scrub, disturbed, mixed native grassland
ACE FAS, ERE FAS, MAL LAV, CEA TOM, ART CAL, BAH LAC

Host Plants	Obs.	Nectar Plants	Obs.
dwarf plantain (*Plantago erecta*)	X	popcorn flower (*Cryptantha/Plagiobothrys* spp.)	X
purple owl's clover (*Castilleja exserta*)		goldfields (*Lasthenia* spp.)	X
snapdragon (*Antirrhinum coulterianum*)		goldenstar (*Muilla* spp.)	
birds-beak (*Condylanthus rigidus*)		fiddleneck (*Amsinckia menziesii* var. *intermedia*)	
woolly plantain (*Plantago patagonica*)		onion (*Allium* spp.)	
Chinese houses (*Collinsia* spp.)		buckwheat (*Eriogonum fasciculatum*)	X
		ground pink (*Linanthus dianthiflorus*)	X
Host Plant Mapping Updated (circle) Yes (No)		**New Area or Existing Area** (circle) New Existing Both	
Species updated (list) HEL SP., M.R. CAL, JAL ELE, YAL LAE, ACM GLA, BAT FIM, HEL SP.			

Butterfly Species	No.	Butterfly Species	No.
Checkerspots		**Hairstreaks**	
California patch (*Chlosyne californica*)		great purple hairstreak (*Atlides halesus corcorani*)	
Gabb's checkerspot (*C. gabbii*)	3	brown elfin (*Callophrys augustinus*)	
Quino checkerspot (*Euphydryas editha quino*)		bramble (perplexing) hairstreak (*C. dumetorum affinis*)	
chalcedon checkerspot (*E. chalcedona chalcedona*)		gray hairstreak (*Strymon melinus pudica*)	
Leanira checkerspot (*Thessalia leanira wrighti*)		**Ladies'/Admirals**	
Mylitta crescent (*Phyciodes mylitta*)		California sister (*Adelpha bredowii californica*)	
Blues		Lorquin's admiral (*Limenitis lorquini*)	
western pygmy-blue (*Brephidium exile*)		west coast lady (*Vanessa annabella*)	
western tailed blue (*Everes amyntula*)		red admiral (*V. atalanta rubria*)	
southern blue (*Glaucopsyche lygdamus australis*)		painted lady (*V. cardui*)	
Edward's blue (*Hemiargus ceraunus gyas*)	2	American (Virginia) lady (*V. virginiensis*)	5
Acmon blue (*Icaricia acmon acmon*)		unidentified lady (*Vanessa* sp.)	10
marine blue (*Leptotes marina*)		**Swallowtails**	
unidentified blue		pale swallowtail (*Papilio eurymedon*)	
Whites		western tiger swallowtail (*P. rutulus*)	
Sara orangetip (*Anthocharis sara sara*)	19	anise swallowtail (*P. zelicaon*)	
desert (Felder's) orangetip (*A. cethura*)		**Miscellaneous**	
common California ringlet (*Coenonympha californica*)		monarch (*Danaus plexippus*)	
cabbage white (*Pieris rapae*)		common buckeye (*Junonia coenia grisea*)	
checkered (common) white (*Pontia protodice*)	14	mourning cloak (*Nymphalis antiopa*)	
spring white (*P. sisymbrii*)		**Skippers**	
unidentified white		funereal duskywing (*Erynnis funeralis*)	9
Metalmarks		mournful duskywing (*Erynnis tristis*)	
Behr's metalmark (*Apodemia mormo virgulti*)	20	fiery skipper (*Hylephila phyleus*)	
Wright's metalmark (*Calephelis wrighti*)		white (common) checkered-skipper (*Pyrgus albescens*)	
Sulphurs		**Other**	
orange sulphur (*Colias eurytheme*)	6		
sleepy orange (*Eurema nicippe*)			
cloudless sulfur (*Phoebus sennae marcellina*)			
unidentified sulphur			
Column Subtotal	64	Column Subtotal	24
		Total	88

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: Chez Brungraber Date: 3/19/16

Site Name: JPD-08 Proctor Valley – Village 14 of Otay Ranch Site Visit No: 4

Area Surveyed: Y, Z (partial) Acres Surveyed: 78 Survey Time: 8hrs Acres per Hour: 10

Other Surveyors Present: Caitlin Brungraber (supervised)

73

Field Conditions	Time (24 hr)	Temperature (F)	Wind Speed (mph)	Cloud Cover
Start	1000	61 F	0-3	5%
End	1800	65 F	0-3	20%
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)

Native bunch grassland, CSS, chamise chaparral
(Stipa sp., Art cal, Eriogonum, Salvia apiana, chamise, Malacothamnus)

Host Plants	Obs.
dwarf plantain (*Plantago erecta*)	FLWR
purple owl's clover (*Castilleja exserta*)	FLWR
snapdragon (*Antirrhinum coulterianum*)	
birds-beak (*Cordylanthus rigidus*)	
woolly plantain (*Plantago patagonica*)	
Chinese houses (*Collinsia* spp.)	FLWR

Host Plant Mapping Updated (circle): (Yes) No

Species updated (list): Castilleja, Calandrinia

Nectar Plants	Obs.
popcorn flower (*Cryptantha/Plagiobothrys* spp.)	FLWR
goldfields (*Lasthenia* spp.)	
goldenstar (*Muilla* spp.)	
fiddleneck (*Amsinckia menziesii* var. *intermedia*)	FLWR
onion (*Allium* spp.)	FLWR
buckwheat (*Eriogonum fasciculatum*)	FLWR
ground pink (*Linanthus dianthiflorus*)	

New Area or Existing Area (circle): New Existing Both

Butterfly Species	No.
Checkerspots	
California patch (*Chlosyne californica*)	
Gabb's checkerspot (*C. gabbii*)	
Quino checkerspot (*Euphydryas editha quino*)	
chalcedon checkerspot (*E. chalcedona chalcedona*)	
Leanira checkerspot (*Thessalia leanira wrighti*)	
Mylitta crescent (*Phyciodes mylitta*)	
Blues	
western pygmy-blue (*Brephidium exilis*)	
western tailed blue (*Everes amyntula*)	
southern blue (*Glaucopsyche lygdamus australis*)	
Edward's blue (*Hemiargus ceraunus gyas*)	
Acmon blue (*Icaricia acmon acmon*)	
marine blue (*Leptotes marina*)	
unidentified blue	
Whites	
Sara orangetip (*Anthocharis sara sara*)	IIII IIII IIII IIII
desert (Felder's) orangetip (*A. cethura*)	
common California ringlet (*Coenonympha californica*)	IIII IIII
cabbage white (*Pieris rapae*)	
checkered (common) white (*Pontia protodice*)	
spring white (*P. sisymbrii*)	IIII
unidentified white	
Metalmarks	
Behr's metalmark (*Apodemia mormo virgulti*)	IIII IIII IIII
Wright's metalmark (*Calephelis wrighti*)	
Sulphurs	
orange sulphur (*Colias eurytheme*)	
sleepy orange (*Eurema nicippe*)	
cloudless sulfur (*Phoebus sennae marcellina*)	
unidentified sulphur	I
Column Subtotal	141

Butterfly Species	No.
Hairstreaks	
great purple hairstreak (*Atlides halesus corcoran*)	
brown elfin (*Callophrys augustinus*)	
bramble (perplexing) hairstreak (*C. dumetorum affinis*)	
gray hairstreak (*Strymon melinus pudica*)	
Ladies/Admirals	
California sister (*Adelpha bredowii californica*)	
Lorquin's admiral (*Limenitis lorquini*)	
west coast lady (*Vanessa annabella*)	
red admiral (*V. atalanta rubria*)	
painted lady (*V. cardui*)	I
American (Virginia) lady (*V. virginiensis*)	IIII
unidentified lady (*Vanessa* sp.)	
Swallowtails	
pale swallowtail (*Papilio eurymedon*)	
western tiger swallowtail (*P. rutulus*)	
anise swallowtail (*P. zelicaon*)	
Miscellaneous	
monarch (*Danaus plexippus*)	
common buckeye (*Junonia coenia grisea*)	
mourning cloak (*Nymphalis antiopa*)	
Skippers	
funereal duskywing (*Erynnis funeralis*)	IIII
mournful duskywing (*Erynnis tristis*)	II
fiery skipper (*Hylephila phyleus*)	
white (common) checkered-skipper (*Pyrgus albescens*)	IIII
Other	
Column Subtotal	18
Total	159

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: Chris Bumgarner Date: 3/16/16

Site Name: JPID-08 Proctor Valley – Village 14 of Otay Ranch Site Visit No: 4

Acres Surveyed: 2 sections Acres Surveyed: 40 Survey Time: 6 hrs Acres per Hour: 6.67

Other Surveyors Present: /

Field Conditions				
	Time (24 hr)	Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start	0950	67.1	0-2	0
End	1500	79.9	2-5	0
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)

CSS, chaparral, native annual grassland, buckwheat scrub
(Chamise, Salvia mellifera, Malacothamnus, Eriogonum, Baccharis, Selaginella, Stipa, Nassella)

Host Plants	Obs.	Nectar Plants	Obs.
dwarf plantain (*Plantago erecta*)	Pres	popcorn flower (*Cryptantha/Plagiobothrys* spp.)	Pres
purple owl's clover (*Castilleja exserta*)	Pres	goldfields (*Lasthenia* spp.)	
snapdragon (*Antirrhinum coulterianum*)		goldenstar (*Muilla* spp.)	
birds-beak (*Cordylanthus rigidus*)		fiddleneck (*Amsinckia menziesii* var. *intermedia*)	
woolly plantain (*Plantago patagonica*)		onion (*Allium* spp.)	Pres
Chinese houses (*Collinsia* spp.)		buckwheat (*Eriogonum fasciculatum*)	Pres
		ground pink (*Linanthus dianthiflorus*)	
Host Plant Mapping Updated (circle) Yes No		**New Area or Existing Area** (circle) New Existing Both	
Species updated (list) Castilleja sp.			

Butterfly Species	No.	Butterfly Species	No.
Checkerspots		**Hairstreaks**	
California patch (*Chlosyne californica*)		great purple hairstreak (*Atlides halesus corcoran*)	
Gabb's checkerspot (*C. gabbii*)		brown elfin (*Callophrys augustinus*)	
Quino checkerspot (*Euphydryas editha quino*)		bramble (perplexing) hairstreak (*C. dumetorum affinis*)	
chalcedon checkerspot (*E. chalcedona chalcedona*)		gray hairstreak (*Strymon melinus pudica*)	
Leanira checkerspot (*Thessalia leanira wrighti*)		**Ladies/Admirals**	
Mylitta crescent (*Phyciodes mylitta*)		California sister (*Adelpha bredowii californica*)	
Blues		Lorquin's admiral (*Limenitis lorquini*)	
western pygmy-blue (*Brephidium exile*)		west coast lady (*Vanessa annabella*)	
western tailed blue (*Everes amyntula*)		red admiral (*V. atalanta rubria*)	
southern blue (*Glaucopsyche lygdamus australis*)		painted lady (*V. cardui*)	
Edward's blue (*Hemiargus ceraunus gyas*)		American (Virginia) lady (*V. virginiensis*)	
Acmon blue (*Icaricia acmon acmon*)		unidentified lady (Vanessa sp.)	1
marine blue (*Leptotes marina*)	1	**Swallowtails**	
unidentified blue	1	pale swallowtail (*Papilio eurymedon*)	
Whites		western tiger swallowtail (*P. rutulus*)	
Sara orangetip (*Anthocharis sara sara*) ♂	1	anise swallowtail (*P. zelicaon*)	
desert (Felder's) orangetip (*A. cethura*)		**Miscellaneous**	
common California ringlet (*Coenonympha californica*)	1	monarch (*Danaus plexippus*)	
cabbage white (*Pieris rapae*)		common buckeye (*Junonia coenia grisea*)	1
checkered (common) white (*Pontia protodice*)		mourning cloak (*Nymphalis antiopa*)	
spring white (*P. sisymbrii*)		**Skippers**	
unidentified white	1	funereal duskywing (*Erynnis funeralis*)	1
Metalmarks		mournful duskywing (*Erynnis tristis*)	
Behr's metalmark (*Apodemia mormo virgulti*)		fiery skipper (*Hylephila phyleus*)	
Wright's metalmark (*Calephelis wrighti*)		white (common) checkered-skipper (*Pyrgus albescens*)	1
Sulphurs		**Other**	
orange sulphur (*Colias eurytheme*)	1		
sleepy orange (*Eurema nicippe*)			
cloudless sulfur (*Phoebus sennae marcellina*)			
unidentified sulphur	1		
Column Subtotal	11	Column Subtotal	15
		Total	125

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: _____ Date: _____

Site Name: Jaylon Preserve Valley Village Trail Ray Ranch Site Visit No: _____

Active Surveyor: _____ Starting Time: _____ Acres per Hour: _____

Other Surveyors Present: _____

Field Conditions

	Time (24 hr)	Temperature (T)	Wind Speed (mph)	Cloud Cover
Start				
End				
Start				
End				

Vegetation Communities Surveyed (inc. dominant taxa):

_____

Host Plants	Obs	Nectar Plants	Obs
Desert plantain (Plantago ovata)		popcorn flower (Cryptantha/Plagiobothrys spp.)	
purple owl's clover (Castilleja exserta)		goldfields (Lasthenia spp.)	
snapdragon (Antirrhinum subsimplex)		gilia/globe (Aliastrum spp.)	
Snow-flower (Stylocline gnaphaloides)		*Calandrinia (Amaranthus retroflexus var. intermedia)	
woolly plantain (Plantago patagonica)		chia (Salvia spp.)	
Chinese Houses (Collinsia spp.)		horehound (Ballota nigra subsp.alba)	
		ground pink (Nemophila parviflora)	

Have Plant Mapping Updated (circle): (Yes) Inc

Have Area on Existing Area surveyed: New Previous Both

Species updated (inc. [illegible]):

Butterfly Species	Obs	Butterfly Species	Obs
Checkerspots		Hairstreaks	
California patch (Chlosyne californica)		gray purple hairstreak (Atlides halesus corcoracis)	
[illegible] (Anthocharis cethura cethura)		[illegible] (Callophrys [illegible])	
Dunn checkerspot (Euphydryas editha quino)		common gray/piercing hairstreak (C. dumetorum affinis)	
Mustard's checkerspot (Euphydryas editha mustardae)		gray hairstreak (Strymon melinus [illegible])	
Lorquin's (Pyrisitia lisa) / Pima white (Pyrisitia pima)		[illegible]/desert pit	
Mylitta crescent (Phyciodes mylitta)		California sister (Adelpha bredowii californica)	
Blues		common alfalfa (Colias philodice)	
western pygmy blue (Brephidium exile)		west coast lady (Vanessa annabella)	
western tailed blue (Cupido amyntula)		red admiral (V. atalanta rubria)	
boisduval's blue (Icaricia icarioides boisduvali)		painted lady (V. cardui)	
[illegible] (Icaricia [illegible] [illegible])		American (Vanessa) lady (V. virginiensis)	
Acmon blue (Icaricia acmon acmon)		unidentified lady (Vanessa sp.)	
marine blue (Leptotes marina)		Swallowtails	
Lucia/reakirt blue		pale swallowtail (Papilio eurymedon)	
Whites		western tiger swallowtail (P. rutulus)	
Cabbage (Pieris rapae) / Becker white (Pontia beckerii)		anise swallowtail (P. zelicaon)	
Sara's (Pontia sisymbrii) / Checkered (P. protodice)		Miscellaneous	
common California white (Pontia occidentalis sulfurea)		monarch (Danaus plexippus)	
[illegible] white (Pieris rapae)		common buckeye (Junonia coenia grisea)	
checkered/common white (Pontia protodice)		mourning cloak (Nymphalis antiopa)	
spring white (P. sisymbrii)		Skippers	
unidentified white		funereal duskywing (Erynnis funeralis)	
Sulphurs		mournful duskywing (Erynnis tristis)	
Sara's (Colias [illegible]) / [illegible] (Colias [illegible])		fiery skipper (Hylephila phyleus)	
[illegible] (Colias [illegible])		other common skipper (Hylephila, Ochlodes)	
Sulphurs		Other	
orange sulphur (Colias eurytheme)			
[illegible] (Colias [illegible])			
[illegible] sulphur (Phoebis [illegible])			
unidentified sulphur			
Column Subtotal		Column Subtotal	
		Total	

[illegible]

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: Chez Bourgeois Date: 3/27/16

Site Name: JPD-08 Proctor Valley – Village 14 of Otay Ranch Site Visit No: 5

Area Surveyed: AA, (cont.) Acres Surveyed: 72 Survey Time: 6.25 hour Acres per Hour: 5.8

Other Surveyors Present: Nicole Kimball, Griffin Bourgeois (supervised)

Field Conditions				
	Time (24 hr)	Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start	0945	65.8	0-1	0%
End	1600	79.0	4-7	2%
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)

Host Plants	Obs.	Nectar Plants	Obs.
dwarf plantain (*Plantago erecta*)	FLWR	popcorn flower (*Cryptantha/Plagiobothrys* spp.)	FLWR
purple owl's clover (*Castilleja exserta*)	FLWR	goldfields (*Lasthenia* spp.)	FLWR
snapdragon (*Antirrhinum coulterianum*)		goldenstar (*Muilla* spp.)	FLWR
birds-beak (*Cordylanthus rigidus*)		fiddleneck (*Amsinckia menziesii* var. *intermedia*)	
woolly plantain (*Plantago patagonica*)		onion (*Allium* spp.)	FLWR
Chinese houses (*Collinsia* spp.)		buckwheat (*Eriogonum fasciculatum*)	FLWR
		ground pink (*Linanthus dianthiflorus*)	FLWR
Host Plant Mapping Updated (circle) (Yes) No		New Area or Existing Area (circle) New Existing Both	
Species updated (list) *Castilleja* e.			

Butterfly Species	No.	Butterfly Species	No.
Checkerspots		**Hairstreaks**	
California patch (*Chlosyne californica*)		great purple hairstreak (*Atlides halesus corcoroni*)	
Gabb's checkerspot (*C. gabbii*)	II	brown elfin (*Callophrys augustinus*)	
Quino checkerspot (*Euphydryas editha quino*)		bramble (perplexing) hairstreak (*C. dumetorum affinis*)	
chalcedon checkerspot (*E. chalcedona chalcedona*)		gray hairstreak (*Strymon melinus pudica*)	
Leanira checkerspot (*Thessala leanira wrighti*)		**Ladies/Admirals**	
Mylitta crescent (*Phyciodes mylitta*)		California sister (*Adelpha bredowii californica*)	
Blues		Lorquin's admiral (*Limenitis lorquini*)	
western pygmy-blue (*Brephidium exilis*)		west coast lady (*Vanessa annabella*)	I
western tailed blue (*Everes amyntula*)		red admiral (*V. atalanta rubria*)	
southern blue (*Glaucopsyche lygdamus australis*)		painted lady (*V. cardui*)	IIII
Edward's blue (*Hemiargus ceraunus gyas*)		American (Virginia) lady (*V. virginiensis*)	
Acmon blue (*Icaricia acmon acmon*)		unidentified lady (*Vanessa* sp.)	III
marine blue (*Leptotes marina*)	I	**Swallowtails**	
unidentified blue	III	pale swallowtail (*Papilio eurymedon*)	I
Whites		western tiger swallowtail (*P. rutulus*)	
Sara orangetip (*Anthocharis sara sara*)	IIIIIIII	anise swallowtail (*P. zelicaon*)	
desert (Felder's) orangetip (*A. cethura*)		**Miscellaneous**	
common California ringlet (*Coenonympha californica*)	IIIII	monarch (*Danaus plexippus*)	
cabbage white (*Pieris rapae*)		common buckeye (*Junonia coenia grisea*)	I
checkered (common) white (*Pontia protodice*)	I	mourning cloak (*Nymphalis antiopa*)	
spring white (*P. sisymbrii*)		**Skippers**	
unidentified white	II	funereal duskywing (*Erynnis funeralis*)	IIIII
Metalmarks		mournful duskywing (*Erynnis tristis*)	
Behr's metalmark (*Apodemia mormo virgulti*)	IIIIIIIII	fiery skipper (*Hylephila phyleus*)	
Wright's metalmark (*Calephelis wrighti*)		white (common) checkered-skipper (*Pyrgus albescens*)	IIIIIIIIIIII
Sulphurs		**Other**	
orange sulphur (*Colias eurytheme*)		Northern checkered-skipper	II
sleepy orange (*Eurema nicippe*)		unidentified skipper	I
cloudless sulfur (*Phoebis sennae marcellina*)		Common Ringlet	I
unidentified sulphur	III	Funereal Duskywing	I
Column Subtotal	260	Column Subtotal	59
		Total	319

+30+20+50 +30 150 +50 80

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: [illegible] Date: [illegible]

Site Name: JPROA Proctor Valley - Village 4 / City Ranch Site Visit No.: 1

Acres Surveyed: 20.1 Survey Time: 1:00 Acres per Hour: 20.1

Other Surveyors Present: Ashley [illegible]

Field Conditions

	Time (24 hr)	Temperature (F)	Wind Speed (mph)	Cloud Cover
Start	9:15	61	3-4	0%
End	11:15	67	7-8	0%
Start				
End				

Vegetation Conditions (surveyor's discretion appropriate)

[illegible]

Host Plants	Obs.	Nectar Plants	Obs.
Desert plantain (Plantago erecta)	1	Goldfields (Lasthenia spp.)	
purple owl's clover (Castilleja exserta)	1	goldfields (Lasthenia spp.)	
snapdragon (Antirrhinum coulterianum)		goldenrod (Solidago spp.)	
birdbeak (Cordylanthus rigidus)		fiddleneck (Amsinckia menziesii var. intermedia)	
woolly plantain (Plantago patagonica)		onion (Allium spp.)	
Chinese Houses (Collinsia spp.)		nuttallanthus (Chaenorhinum glareosum)	
		ground pink (Linanthus dianthiflorus)	
Host Plant Mapping Updated in area: Yes / No		Mean Area of Existing Area (acres): Host: 3 nectar: Both:	

Species sampled (list): [illegible]

Butterfly Species	No.	Butterfly Species	No.
Checkerspots		**Hairstreaks**	
California patch (Chlosyne californica)		gray hairstreak (Strymon melinus)	
Gabb's checkerspot (C. gabbii)		brown elfin (Callophrys augustinus)	
Quino Checkerspot (C. [illegible])		hairstreak (genus)	
chalcedon checkerspot (C. chalcedona chalcedona)		gray hairstreak (Strymon melinus pudica)	
Lorquin's checkerspot (Thessalia lorquini lorquini)		**Ladies/Admirals**	
Mylitta crescent (Phyciodes mylitta)		[illegible]	
Blues		Lorquin's admiral (Limenitis lorquini)	
western pygmy blue (Brephidium exilis)		west coast lady (Vanessa [illegible])	
reakirt's blue (Hemiargus isola)		red admiral (V. atalanta rubria)	
southern blue (Glaucopsyche lygdamus australis)		painted lady (V. cardui)	
Edward's blue (Hemiargus [illegible])		American (Vogel's) lady (V. virginiensis)	
Acmon blue (Icaricia acmon acmon)		[illegible] lady (Vanessa sp.)	
Marine blue (Leptotes marina)		**Swallowtails**	
[illegible] blue		pale swallowtail (Papilio eurymedon)	
Whites		western tiger swallowtail (P. rutulus)	
Cloudless sulphur (Phoebis sennae marcellina)		anise swallowtail (P. zelicaon)	
Sleepy orange (Eurema nicippe)		**Miscellaneous**	
Sulphurs			
common California sulphur (Colias eurytheme)		monarch (Danaus plexippus)	
cabbage white (Pieris rapae)		common buckeye (Junonia coenia grisea)	
checkered white (Pontia protodice)		painted lady (Vanessa cardui)	
[illegible] (P. sisymbrii)		**Skippers**	
unidentified white		funereal duskywing (Erynnis funeralis)	
Miscellaneous		mournful duskywing (Erynnis tristis)	
Behr's metalmark (Apodemia mormo virgulti)		fiery skipper (Hylephila phyleus)	
Wright's metalmark (Calephelis wrighti)		white-[illegible] (Heliopetes [illegible])	
Swallowtails		**Other**	
orange sulphur (Colias eurytheme)			
sleepy orange (Eurema nicippe)			
checkered swallowtail (Papilio cresphontes)			
unidentified swallowtail			
Column Subtotal		Column Subtotal	
		Total	

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: Chez Bruggeker Date: 3/25/15

Site Name: JPD-08 Proctor Valley – Village 14 of Otay Ranch Site Visit No: 5

Area Surveyed: BB Acres Surveyed: 40 Survey Time: 4.5 hrs Acres per Hour: 10

Other Surveyors Present: Griffin Bruggeker (supervised)

Field Conditions				
	Time (24 hr)	Temperature (F)	Wind Speed (mph)	Cloud Cover
Start	1330	76	2-5	30%
End	1800	72	0-3	0%
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)

Host Plants	Obs.	Nectar Plants	Obs.
dwarf plantain (*Plantago erecta*)	FLWR	popcorn flower (*Cryptantha/Plagiobothrya* spp.)	FLWR
purple owl's clover (*Castilleja exserta*)		goldfields (*Lasthenia* spp.)	
snapdragon (*Antirrhinum coulterianum*)		goldenstar (*Muilla* spp.)	
birds-beak (*Cordylanthus rigidus*)		fiddleneck (*Amsinckia menziesii* var. *intermedia*)	
woolly plantain (*Plantago patagonica*)		onion (*Allium* spp.)	
Chinese houses (*Collinsia* spp.)		buckwheat (*Eriogonum fasciculatum*)	FLWR
		ground pink (*Linanthus dianthiflorus*)	FLWR
Host Plant Mapping Updated (circle) Yes No		**New Area or Existing Area** (circle) New Existing Both	
Species updated (list)			

Butterfly Species	No.	Butterfly Species	No.
Checkerspots		**Hairstreaks**	
California patch (*Chlosyne californica*)		great purple hairstreak (*Atlides halesus corcoran*)	
Gabb's checkerspot (*C. gabbii*)		brown elfin (*Callophrys augustinus*)	
Quino checkerspot (*Euphydryas editha quino*)		bramble (perplexing) hairstreak (*C. dumetorum affinis*)	
chalcedon checkerspot (*E. chalcedona chalcedona*)		gray hairstreak (*Strymon melinus pudica*)	
Leanira checkerspot (*Thessalia leanira wrighti*)		**Ladies/Admirals**	
Mylitta crescent (*Phyciodes mylitta*)		California sister (*Adelpha bredowii californica*)	
Blues		Lorquin's admiral (*Limenitis lorquini*)	
western pygmy-blue (*Brephidium exile*)		west coast lady (*Vanessa annabella*)	
western tailed blue (*Everes amyntula*)		red admiral (*V. atalanta rubria*)	
southern blue (*Glaucopsyche lygdamus australis*)		painted lady (*V. cardui*)	
Edward's blue (*Hemiargus ceraunus gyas*)		American (Virginia) lady (*V. virginiensis*)	
Acmon blue (*Icaricia acmon acmon*)		unidentified lady (*Vanessa* sp.)	II
marine blue (*Leptotes marina*)		**Swallowtails**	
unidentified blue		pale swallowtail (*Papilio eurymedon*)	
Whites		western tiger swallowtail (*P. rutulus*)	
Sara orangetip (*Anthocharis sara sara*)	NIL	anise swallowtail (*P. zelicaon*)	
desert (Felder's) orangetip (*A. cethura*)		**Miscellaneous**	
common California ringlet (*Coenonympha californica*)		monarch (*Danaus plexippus*)	
cabbage white (*Pieris rapae*)		common buckeye (*Junonia coenia grisea*)	III
checkered (common) white (*Pontia protodice*)		mourning cloak (*Nymphalis antiopa*)	
spring white (*P. sisymbrii*)		**Skippers**	
unidentified white	4	funereal duskywing (*Erynnis funeralis*)	1
Metalmarks		mournful duskywing (*Erynnis tristis*)	
Behr's metalmark (*Apodemia mormo virgulti*)	NIL	fiery skipper (*Hylephila phyleus*)	
Wright's metalmark (*Calephelis wrighti*)		white (common) checkered-skipper (*Pyrgus albescens*)	1
Sulphurs		**Other**	
orange sulphur (*Colias eurytheme*)		Common Buckeye	1
sleepy orange (*Eurema nicippe*)		Unidentified Skipper	II
cloudless sulfur (*Phoebus sennae marcellina*)			
unidentified sulphur	1		
Column Subtotal	34	Column Subtotal	11
		Total	45

2015 Delhi Checkerspot Butterfly Survey Form

Surveyor: _____ Date: _____

Site Name: Antioch Preserve Valley _____ Acreage in Lot/Bay Parcel: _____ Site Visit No.: _____

Access Restricted: _____ Survey Time: _____ Acres per Hour: _____

Other Surveyors Present: _____

Field Conditions

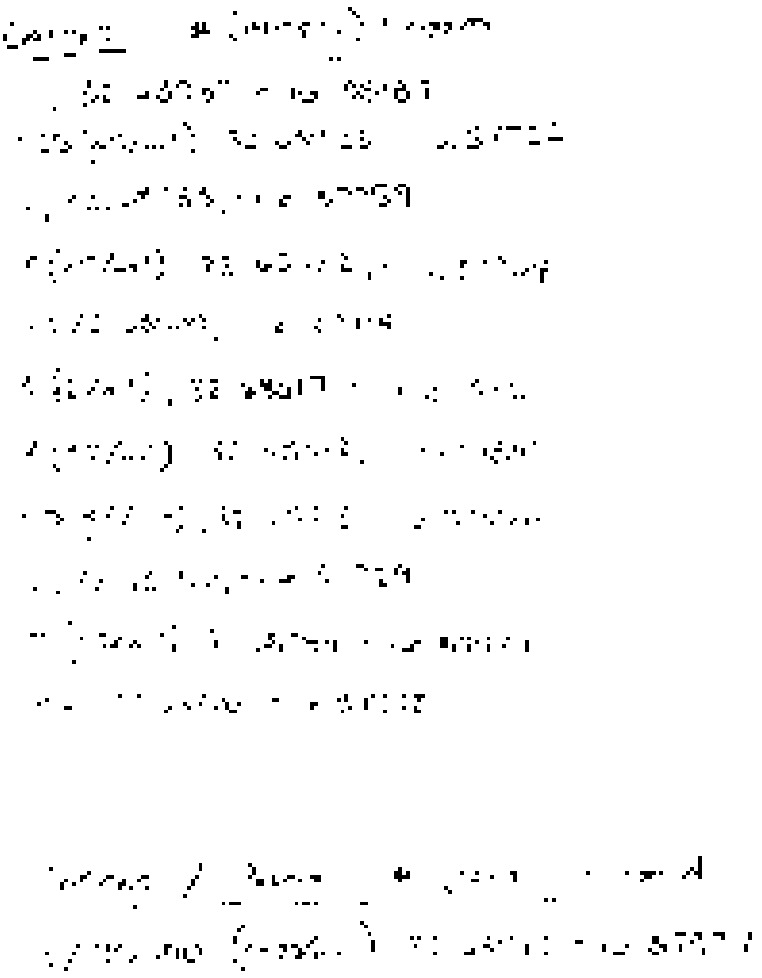
	Time (24 hr)	Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start				
End				
Start				
End				

Vegetation Conservation Surveyed (VC #s/Habitat type): _____

Host Plants	Obs.	Nectar Plants	Obs.
dwarf plantain (Plantago erecta)		coreopsis flower (Coreopsis/Leptosyne spp.)	
purple owl's clover (Castilleja densiflora)		goldfields (Lasthenia spp.)	
linanthastrum (Linanthastrum nuttallianum)		goldenrod (Solidago spp.)	
Indian paint brush (Castilleja rubicundula)		hayfields (Alfalfa, Sweet clover, Vetch, Yellow star thistle)	
woolly plantain (Plantago patagonica)		showy (Allium spp.)	
Other Nectar (Lupinus spp.)		sunflowers (Helianthus spp.)	
		ground pink (Linanthastrum dichotomum)	
Host Plant Mapping Updated (Yes/No)		Nectar Areas on Walking Area (yes/no)	

Species Updated (No): _____

Butterfly Species	Obs.	Butterfly Species	Obs.
Ghost Butterfly		Whites/Yellows	
California patch (Chlosyne californica)		great purple hairstreak (Atlides halesus corcoran)	
Gabb's checkerspot (C. gabbii)		orange sulfur (Colias eurytheme)	
Juvenile checkerspot (C. ephydryas edithe quino)		Juvenile (Lepidoptera) Hairstreak (C. Quino/Lupine edithe)	
chalcedon checkerspot (C. chalcedona chalcedona)		gray hairstreak (Strymon melinus sulcius)	
Juvenile Hairstreak (Thecla/Satyrium spp.)		Juvenile Hairstreak	
Mylitta (Euphydryas chalcedona)		California sister (Adelpha bredowii californica)	
Blues		Painted & Admirals (Limenitis/Vanessa)	
western tailed blue (Everes amyntula)		Juvenile Admiral (Vanessa spp.)	
western tailed blue (Everes amyntula)		red admiral (V. atalanta rubria)	
southern blue (Glaucopsyche lygdamus australis)		painted lady (V. cardui)	
Juvenile Blue (Plebejinae/Glaucopsyche)		American (Vanessa) lady (V. virginiensis)	
Juvenile blue (Lycaenidae)		unidentified lady (Vanessa sp.)	
unidentified blue		Swallowtails	
Whites		pale swallowtail (Papilio eurymedon)	
Cabbage white (Pieris rapae)		western tiger swallowtail (P. rutulus)	
Checkered (common) white (Pontia protodice)		anise swallowtail (P. zelicaon)	
spring white (P. sisymbrii)		Skippers	
unidentified white		Juvenile (Hesperiidae)	
Metalmarks		Juvenile Skipper (Erynnis/Pyrgus)	
Juvenile metalmark (Apodemia/Emesis/Lasaia)		Sandy skipper (Hesperia pryhna)	
Whirlabout metalmark (Calephelis wrighti)		whirlabout (Anthocaris) Pale tailed skipper (Polygonus salsacuta)	
Sulphurs		Other	
Orange sulphur (Colias eurytheme)			
western sulphur (Colias occidentalis)			
California sulphur (Phoebis agarithe maxima)			
unidentified sulphur			
Column Subtotal:		Column Subtotal:	
		Total:	



2016 Quino Checkerspot Butterfly Survey Form

Surveyor: Chez Bumgardner Date: 3/31/16

Site Name: JPD-08 Proctor Valley – Village 14 of Otay Ranch Site Visit No: 5

Area Surveyed: Clay, Ffa Acres Surveyed: 30 Survey Time: 4h Acres per Hour: 7.5

Other Surveyors Present: /

Field Conditions				
	Time (24 hr)	Temperature (F)	Wind Speed (mph)	Cloud Cover
Start	1315	74.9	4-7	0
End	1715	66.0	4-9	2%
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)

Host Plants	Obs.	Nectar Plants	Obs.
dwarf plantain (*Plantago erecta*) not in bloom	Abundant	popcorn flower (*Cryptantha/Plagiobothrys* spp.)	
purple owl's clover (*Castilleja exserta*)		goldfields (*Lasthenia* spp.)	
snapdragon (*Antirrhinum coulterianum*)		goldenstar (*Muilla* spp.)	
birds-beak (*Cordylanthus rigidus*)		fiddleneck (*Amsinckia menziesii* var. *intermedia*)	
woolly plantain (*Plantago patagonica*)		onion (*Allium* spp.)	
Chinese houses (*Collinsia* spp.)		buckwheat (*Eriogonum fasciculatum*)	Many
		ground pink (*Linanthus dianthiflorus*)	Many
Host Plant Mapping Updated (circle) Yes (No)		New Area or Existing Area (circle) New Existing Both	
Species updated (list)			

Butterfly Species	No.	Butterfly Species	No.
Checkerspots		**Hairstreaks**	
California patch (*Chlosyne californica*)		great purple hairstreak (*Atlides halesus corcorani*)	
Gabb's checkerspot (*C. gabbii*)		brown elfin (*Callophrys augustinus*)	
Quino checkerspot (*Euphydryas editha quino*)		bramble (gerylenus) hairstreak (*C. dumetorum affinis*)	
chalcedon checkerspot (*E. chalcedona chalcedona*)		gray hairstreak (*Strymon melinus pudica*)	IIII
Leanira checkerspot (*Thessalia leanira wrighti*)		**Ladies/Admirals**	
Mylitta crescent (*Phyciodes mylitta*)		California sister (*Adelpha bredowii californica*)	
Blues		Lorquin's admiral (*Limenitis lorquini*)	
western pygmy-blue (*Brephidium exile*)		west coast lady (*Vanessa annabella*)	
western tailed blue (*Everes amyntula*)		red admiral (*V. atalanta rubria*)	I
southern blue (*Glaucopsyche lygdamus australis*)		painted lady (*V. cardui*)	
Edward's blue (*Hemiargus ceraunus gyas*)		American (Virginia) lady (*V. virginiensis*)	
Acmon blue (*Icaricia acmon acmon*)		unidentified lady (*Vanessa* sp.)	I
marine blue (*Leptotes marina*)		**Swallowtails**	
unidentified blue		pale swallowtail (*Papilio eurymedon*)	
Whites		western tiger swallowtail (*P. rutulus*)	
Sara orangetip (*Anthocharis sara sara*)	10	anise swallowtail (*P. zelicaon*)	
desert (Felder's) orangetip (*A. cethura*)		**Miscellaneous**	
common California ringlet (*Coenonympha californica*)		monarch (*Danaus plexippus*)	
cabbage white (*Pieris rapae*)		common buckeye (*Junonia coenia grisea*)	I
checkered (common) white (*Pontia protodice*)		mourning cloak (*Nymphalis antiopa*)	
spring white (*P. sisymbrii*)		**Skippers**	
unidentified white	III	funereal duskywing (*Erynnis funeralis*)	I
Metalmarks		mournful duskywing (*Erynnis tristis*)	I
Behr's metalmark (*Apodemia mormo virgulti*)	25	fiery skipper (*Hylephila phyleus*)	
Wright's metalmark (*Calephelis wrighti*)		white (common) checkered-skipper (*Pyrgus albescens*)	
Sulphurs		**Other**	
orange sulphur (*Colias eurytheme*)		Common Buckeye	I
sleepy orange (*Eurema nicippe*)		Buckeye larvae	Many III
cloudless sulfur (*Phoebus sennae marcellina*)			
unidentified sulphur	I		
Column Subtotal	43	Column Subtotal	II
		Total	54

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: Renee Owens **Date:** 3-26-2016

Site Name: JPD-08 Proctor Valley – Village 14 of Otay Ranch **Site Visit No:** 5

Area Surveyed D **Acres Surveyed** 42 **Survey Time:** 6 hrs **Acres per Hour:** 7

Other Surveyors Present:

Field Conditions				
	Time (24 hr)	**Temperature (˚F)**	**Wind Speed (mph)**	**Cloud Cover**
Start	0835	62	0	0
End	1425	74	3.0	0
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)
Mixed chaparral w/ *A. fasciculatum, Bahiopsis, S.mellifera and apiana, E. fasciculatum, A. californica, L. scoparius, R. crocea*

Host Plants	**Obs.**	**Nectar Plants**	**Obs.**
dwarf plantain (*Plantago erecta*)		popcorn flower (*Cryptantha/Plagiobothrys* spp.)	x
purple owl's clover (*Castilleja exserta*)		goldfields (*Lasthenia* spp.)	x
snapdragon (*Antirrhinum coulterianum*)	x	goldenstar (*Muilla* spp.)	x
birds-beak (*Cordylanthus rigidus*)		fiddleneck (*Amsinckia menziesii* var. *intermedia*)	x
woolly plantain (*Plantago patagonica*)		onion (*Allium* spp.)	x
Chinese houses (*Collinsia* spp.)		buckwheat (*Eriogonum fasciculatum*)	x
		ground pink (*Linanthus dianthiflorus*)	x
Host Plant Mapping Updated (*circle*) Yes	No	**New Area or Existing Area** (*circle*) New	Existing Both
Species updated (list)			

Butterfly Species	**No.**	**Butterfly Species**	**No.**
Checkerspots		**Hairstreaks**	
California patch (*Chlosyne californica*)		great purple hairstreak (*Atlides halesus corcorani*)	
Gabb's checkerspot (*C. gabbii*)	3	brown elfin (*Callophrys augustinus*)	
Quino checkerspot (*Euphydryas editha quino*)		bramble (perplexing) hairstreak (C. *dumetorum affinis*)	
chalcedon checkerspot (*E. chalcedona chalcedona*)		gray hairstreak (*Strymon melinus pudica*)	
Leanira checkerspot (*Thessalia leanira wrighti*)		**Ladies/Admirals**	
Mylitta crescent (*Phyciodes mylitta*)		California sister (*Adelpha bredowii californica*)	
Blues		Lorquin's admiral (*Limenitis lorquini*)	
western pygmy-blue (*Brephidium exila*)		west coast lady (*Vanessa annabella*)	
western tailed blue (*Everes amyntula*)		red admiral (*V. atalanta rubria*)	
southern blue (*Glaucopsyche lygdamus australis*)	1	painted lady (*V. cardui*)	
Edward's blue (*Hemiargus ceraunus gyas*)		American (Virginia) lady (*V. virginiensis*)	
Acmon blue (*Icaricia acmon acmon*)	3	unidentified lady (*Vanessa* sp.)	
marine blue (*Leptotes marina*)	4	**Swallowtails**	
unidentified blue	1	pale swallowtail (*Papilio eurymedon*)	1
Whites		western tiger swallowtail (*P. rutulus*)	
Sara orangetip (*Anthocharis sara sara*)	20	anise swallowtail (*P. zelicaon*)	
desert (Felder's) orangetip (*A. cethura*)		**Miscellaneous**	
common California ringlet (*Coenonympha californica*)	1	monarch (*Danaus plexippus*)	
cabbage white (*Pieris rapae*)		common buckeye (*Junonia coenia grisea*)	1
checkered (common) white (*Pontia protodice*)	2	mourning cloak (*Nymphalis antiopa)*	1
spring white (*P. sisymbrii*)		**Skippers**	
unidentified white		funereal duskywing (*Erynnis funeralis*)	1
Metalmarks		mournful duskywing (*Erynnis tristis*)	
Behr's metalmark (*Apodemia mormo virgulti*)	12	fiery skipper (*Hylephila phyleus*)	1
Wright's metalmark (*Calephelis wrighti*)		white (common) checkered-skipper (*Pyrgus albescens*)	1
Sulphurs		**Other**	
orange sulphur (*Colias eurytheme*)	1		
sleepy orange (*Eurema nicippe*)			
cloudless sulfur (*Phoebus sennae marcellina*)	1		
unidentified sulphur	2		
Column Subtotal	**21**	**Column Subtotal**	**6**
		Total	**57**

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: Chez Baumgraber Date: 7/27/16

Site Name: JPD-08 Proctor Valley – Village 14 of Otay Ranch Site Visit No: 5

Area Surveyed: Y, Z (partial) Acres Surveyed: 108 Survey Time: 9hr 45min Acres per Hour: 12.34 (6.1 ac/hr)

Other Surveyors Present: Nicole Kimball

Field Conditions				
	Time (24 hr)	Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start	0915	72	0-2	0%
End	1800	79	0-3	0%
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)

Host Plants	Obs.	Nectar Plants	Obs.
dwarf plantain (*Plantago erecta*)	Quer	popcorn flower (*Cryptantha/Plagiobothrys* spp.)	Quer
purple owl's clover (*Castilleja exserta*)	Quer	goldfields (*Lasthenia* spp.)	Quer
snapdragon (*Antirrhinum coulterianum*)		goldenstar (*Muilla* spp.)	
birds-beak (*Cordylanthus rigidus*)		fiddleneck (*Amsinckia menziesii* var. *intermedia*)	
woolly plantain (*Plantago patagonica*)		onion (*Allium* spp.)	Quer
Chinese houses (*Collinsia* spp.)		buckwheat (*Eriogonum fasciculatum*)	Quer
		ground pink (*Linanthus dianthiflorus*)	Quer
Host Plant Mapping Updated (circle) (Yes) No		New Area or Existing Area (circle) New Existing Both	
Species updated (list) Collinsia, 3 PCAS = plugged total 48 x 6, with 2 kits			

Butterfly Species	No.	Butterfly Species	No.
Checkerspots		**Hairstreaks**	
California patch (*Chlosyne californica*)		great purple hairstreak (*Atlides halesus corcorani*)	
Gabb's checkerspot (*C. gabbii*)	1	brown elfin (*Callophrys augustinus*)	
Quino checkerspot (*Euphydryas editha quino*)		bramble (perplexing) hairstreak (*C. dumetorum affinis*)	
chalcedon checkerspot (*E. chalcedona chalcedona*)		gray hairstreak (*Strymon melinus pudica*)	11
Leanira checkerspot (*Thessalia leanira wrighti*)		**Ladies/Admirals**	
Mylitta crescent (*Phyciodes mylitta*)		California sister (*Adelpha bredowii californica*)	
Blues		Lorquin's admiral (*Limenitis lorquini*)	
western pygmy-blue (*Brephidium exile*)		west coast lady (*Vanessa annabella*)	
western tailed blue (*Everes amyntula*)		red admiral (*V. atalanta rubria*)	
southern blue (*Glaucopsyche lygdamus australis*)		painted lady (*V. cardui*)	2
Edward's blue (*Hemiargus ceraunus gyas*)		American (Virginia) lady (*V. virginiensis*)	
Acmon blue (*Icaricia acmon acmon*)		unidentified lady (*Vanessa* sp.)	1 + 1 = 2
marine blue (*Leptotes marina*)	1 + 3	**Swallowtails**	
unidentified blue		pale swallowtail (*Papilio eurymedon*)	
Whites		western tiger swallowtail (*P. rutulus*)	1
Sara orangetip (*Anthocharis sara sara*)		anise swallowtail (*P. zelicaon*)	
desert (Felder's) orangetip (*A. cethura*)		**Miscellaneous**	
common California ringlet (*Coenonympha californica*)		Monarch (*Danaus plexippus*)	
cabbage white (*Pieris rapae*)		common buckeye (*Junonia coenia grisea*)	11
checkered (common) white (*Pontia protodice*)	1	mourning cloak (*Nymphalis antiopa*)	
spring white (*P. sisymbrii*)		**Skippers**	+ 1 = 1
unidentified white	11	funereal duskywing (*Erynnis funeralis*)	11 + 3 = 5
Metalmarks		mournful duskywing (*Erynnis tristis*)	1
Behr's metalmark (*Apodemia mormo virgulti*)		fiery skipper (*Hylephila phyleus*)	
Wright's metalmark (*Calephelis wrighti*)		white (common) checkered-skipper (*Pyrgus albescens*)	1 + 6 = 7
Sulphurs		**Other**	
orange sulphur (*Colias eurytheme*)		UA - silver skipper	1
sleepy orange (*Eurema nicippe*)		Comstock Satyr	1 + 3 = 4
cloudless sulfur (*Phoebus sennae marcellina*)		Dainty Sulphur	1
unidentified sulphur	111		
Column Subtotal	251	Column Subtotal	35
		Total	286

2015 Quino Checkerspot Butterfly Survey Form

Surveyor: _____ Date: _____

Site Name: Otay Mesa-Otay Valley Ledge # (if Otay Ranch): _____ Site Visit No: _____

Acres Surveyed: _____ Survey Time: _____ Acres per Hour: _____

Other Surveyors Present: _____

Field Conditions

	Time (24 hr)	Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start				
End				
Start				
End				

Vegetation Communities Surveyed (inc. dominant taxa): _____

Host Plants	Obs	Nectar Plants	Obs
Dwarf plantain (*Plantago erecta*)		popcorn flower (*Cryptantha/Plagiobothrys* sp.)	
purple owl's clover (*Castilleja exserta*)		goldfields (*Lasthenia* spp.)	
woolly marbles (*Antirrhinum multiflorum*)		goldenrod (*Solidago* spp.)	
Snake head (*Collinsia heterophylla*)		Redmaids (*Calandrinia menziesii*, *C. ciliata*)	
woolly plantain (*Plantago patagonica*)		onion (*Allium* spp.)	
Chinese houses (*Collinsia* spp.)		lupine (*Lupinus* spp.)	
		ground pink (*Petrorhagia dianthoidea*)	

Host Plant Mapping Updated (circle): Yes No — New Areas or Existing Areas (circle): New Existing Both

Species updated (list): _____

Butterfly Species	No.	Butterfly Species	No.
Checkerspots		**Hairstreaks**	
California patch (*Chlosyne californica*)		gray hairstreak (*Strymon melinus*)	
Hoffman's checkerspot (*Chlosyne hoffmani*)		Sylvan hairstreak (*Satyrium sylvinus*)	
Quino checkerspot (*Euphydryas editha quino*)		Thorne's hairstreak (*Mitoura thornei*)	
Variable checkerspot (*Euphydryas chalcedona*)		gray hairstreak (*Strymon melinus*)	
Leanira checkerspot (*Thessalia leanira*)		**Metalmarks**	
Mylitta crescent (*Phyciodes mylitta*)		California saddle (*Anthanassa drusilla californica*)	
Blues		Lorquin's admiral (*Limenitis lorquini*)	
western pygmy blue (*Brephidium exilis*)		west coast lady (*Vanessa annabella*)	
western tailed blue (*Everes amyntula*)		**Swallowtails**	
acmon blue (*Glaucopsyche lygdamus australis*)		pale swallowtail (*Papilio eurymedon*)	
Thorne's blue (*Hemiargus isola gyas*)		western tiger swallowtail (*P. rutulus*)	
Reakirt's blue (*Hemiargus isola gyas*)		anise swallowtail (*P. zelicaon*)	
unidentified blue		**Whites/Sulphurs**	
Whites		Pipevine (*Battus philenor hirsuta*)	
Sara orangetip (*Anthocharis sara sara*)		Common buckeye (*Junonia coenia hierta*)	
Behr's (*Falcapica*) or Veined (*A. stella*)		mourning cloak (*Nymphalis antiopa*)	
Common California White (*Pontia protodice californica*)		**Skippers**	
Cabbage white (*Pieris rapae*)		Acmon (*Hesperia juba*)	
checkered (common) white (*Pontia protodice*)		Common branded (*Hesperia comma yuma*)	
spring white (*P. sisymbrii*)		mourning cloak (*Nymphalis antiopa*)	
unidentified white		**Skippers**	
Metalmarks		Common sandy (*Hesperia juba*)	
Acmon Fritillarium (*Apodemia mormo virgulti*)		mournful duskywing (*Erynnis tristis*)	
Weidemeyer's admiral (*Limenitis weidemeyerii*)		Sonoran duskywing (*Erynnis funeralis*)	
Sulphurs		Other	
Orange sulphur (*Colias eurytheme*)			
Western orange (*C. occidentalis*)			
Unidentified sulphur			
	Column Subtotal		Column Subtotal
	Total		Total

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: GARRETT HUFFMAN Date: 03/24/16

Site Name: JPD-08 Proctor Valley – Village 14 of Otay Ranch Site Visit No: 5

Area Surveyed EE/R Acres Surveyed 30 Survey Time: 8 Hours Acres per Hour: 3.75

Other Surveyors Present: NONE

Field Conditions	Time (24 hr)	Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start	0830	63	0-2	0%
End	1330	81	2-4	0%
Start	1400	83	2-4	0%
End	1700	76	2-4	0%

Vegetation Communities Surveyed (inc. dominant spp.)

CHAMISE CHAPARRAL, LEARNING SAGE SCRUB, NON-NATIVE GRASSLAND

Host Plants	Obs.
dwarf plantain (*Plantago erecta*)	X
purple owl's clover (*Castilleja exserta*)	X
snapdragon (*Antirrhinum coulterianum*)	
birds-beak (*Cordylanthus rigidus*)	
woolly plantain (*Plantago patagonica*)	
Chinese houses (*Collinsia* spp.)	
Host Plant Mapping Updated (circle) Yes (No)	
Species updated (list)	

Nectar Plants	Obs.
popcorn flower (*Cryptantha/Plagiobothrys* spp.)	X
goldfields (*Lasthenia* spp.)	X
goldenstar (*Muilla* spp.)	
fiddleneck (*Amsinckia menziesii* var. *intermedia*)	
onion (*Allium* spp.)	X
buckwheat (*Eriogonum fasciculatum*)	X
ground pink (*Linanthus dianthiflorus*)	X
New Area or Existing Area (circle) New Existing Both	

Butterfly Species	No.
Checkerspots	
California patch (*Chlosyne californica*)	1
Gabb's checkerspot (*C. gabbii*)	2
Quino checkerspot (*Euphydryas editha quino*)	
chalcedon checkerspot (*E. chalcedona chalcedona*)	
Leanira checkerspot (*Thessalia leanira wrighti*)	
Mylitta crescent (*Phyciodes mylitta*)	
Blues	
western pygmy-blue (*Brephidium exile*)	
western tailed blue (*Everes amyntula*)	
southern blue (*Glaucopsyche lygdamus australis*)	
Edward's blue (*Hemiargus ceraunus gyas*)	
Acmon blue (*Icaricia acmon acmon*)	
marine blue (*Leptotes marina*)	2
unidentified blue	
Whites	
Sara orangetip (*Anthocharis sara sara*)	69
desert (Felder's) orangetip (*A. cethura*)	
common California ringlet (*Coenonympha californica*)	14
cabbage white (*Pieris rapae*)	
checkered (common) white (*Pontia protodice*)	8
spring white (*P. sisymbrii*)	
unidentified white	
Metalmarks	1
Behr's metalmark (*Apodemia mormo virgulti*)	49
Wright's metalmark (*Calephelis wrighti*)	
Sulphurs	
orange sulphur (*Colias eurytheme*)	
sleepy orange (*Eurema nicippe*)	
cloudless sulfur (*Phoebus sennae marcellina*)	
unidentified sulphur	
Column Subtotal	146

Butterfly Species	No.
Hairstreaks	
great purple hairstreak (*Atlides halesus corcorani*)	
brown elfin (*Callophrys augustinus*)	
bramble (perplexing) hairstreak (*C. dumetorum affinis*)	1
gray hairstreak (*Strymon melinus pudica*)	
Ladies/Admirals	
California sister (*Adelpha bredowii californica*)	
Lorquin's admiral (*Limenitis lorquini*)	
west coast lady (*Vanessa annabella*)	1
red admiral (*V. atalanta rubria*)	1
painted lady (*V. cardui*)	
American (Virginia) lady (*V. virginiensis*)	
unidentified lady (*Vanessa* sp.)	
Swallowtails	
pale swallowtail (*Papilio eurymedon*)	1
western tiger swallowtail (*P. rutulus*)	
anise swallowtail (*P. zelicaon*)	1
Miscellaneous	
monarch (*Danaus plexippus*)	
common buckeye (*Junonia coenia grisea*)	2
mourning cloak (*Nymphalis antiopa*)	
Skippers	
funereal duskywing (*Erynnis funeralis*)	2
mournful duskywing (*Erynnis tristis*)	
fiery skipper (*Hylephila phyleus*)	
white (common) checkered-skipper (*Pyrgus albescens*)	
Other	
CALLIPE FEMILUNA (SPECIMEN COLLECTED)	3
Column Subtotal	8

TOTAL 154

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: Chez Bruzgaitis Date: 3/29/16

Site Name: JPD-08 Proctor Valley – Village 14 of Otay Ranch Site Visit No: 5

Area Surveyed: EE pt 3 Acres Surveyed: 30 Survey Time: 3hr 15min Acres per Hour: 9.2

Other Surveyors Present: -

Field Conditions				
	Time (24 hr)	Temperature (F)	Wind Speed (mph)	Cloud Cover
Start	1100	60.1	4-9	35%
End	1415	63	4-9, gusts to 17	40%
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)

Host Plants	Obs.	Nectar Plants	Obs.
dwarf plantain (*Plantago erecta*)		popcorn flower (*Cryptantha/Plagiobothrys* spp.)	Many
purple owl's clover (*Castilleja exserta*)		goldfields (*Lasthenia* spp.)	
snapdragon (*Antirrhinum coulterianum*)		goldenstar (*Muilla* spp.)	Many
birds-beak (*Cordylanthus rigidus*)		fiddleneck (*Amsinckia menziesii* var. *intermedia*)	
woolly plantain (*Plantago patagonica*)		onion (*Allium* spp.)	
Chinese houses (*Collinsia* spp.)		buckwheat (*Eriogonum fasciculatum*)	Many
		ground pink (*Linanthus dianthiflorus*)	
Host Plant Mapping Updated (circle) Yes (No)		New Area or Existing Area (circle) New Existing Both	
Species updated (list)			

Butterfly Species	No.	Butterfly Species	No.
Checkerspots		**Hairstreaks**	
California patch (*Chlosyne californica*)		great purple hairstreak (*Atlides halesus corcorani*)	
Gabb's checkerspot (*C. gabbii*)		brown elfin (*Callophrys augustinus*)	
Quino checkerspot (*Euphydryas editha quino*)		bramble (perplexing) hairstreak (*C. dumetorum affinis*)	
chalcedon checkerspot (*E. chalcedona chalcedona*)		gray hairstreak (*Strymon melinus pudica*)	
Leanira checkerspot (*Thessalia leanira wright*)		**Ladies/Admirals**	
Mylitta crescent (*Phyciodes mylitta*)		California sister (*Adelpha bredowii californica*)	
Blues		Lorquin's admiral (*Limenitis lorquini*)	
western pygmy-blue (*Brephidium exile*)		west coast lady (*Vanessa annabella*)	
western tailed blue (*Everes amyntula*)		red admiral (*V. atalanta rubria*)	
southern blue (*Glaucopsyche lygdamus australis*)		painted lady (*V. cardui*)	
Edward's blue (*Hemiargus ceraunus gyas*)		American (Virginia) lady (*V. virginiensis*)	
Acmon blue (*Icaricia acmon acmon*)		unidentified lady (*Vanessa* sp.)	
marine blue (*Leptotes marina*)		**Swallowtails**	
unidentified blue		pale swallowtail (*Papilio eurymedon*)	
Whites		western tiger swallowtail (*P. rutulus*)	
Sara orangetip (*Anthocharis sara sara*)		anise swallowtail (*P. zelicaon*)	
desert (Felder's) orangetip (*A. cethura*)		**Miscellaneous**	
common California ringlet (*Coenonympha californica*)	1	monarch (*Danaus plexippus*)	
cabbage white (*Pieris rapae*)		common buckeye (*Junonia coenia grisea*)	1
checkered (common) white (*Pontia protodice*)		mourning cloak (*Nymphalis antiopa*)	
spring white (*P. sisymbri*)		**Skippers**	
unidentified white	11	funereal duskywing (*Erynnis funeralis*)	1
Metalmarks		mournful duskywing (*Erynnis tristis*)	
Behr's metalmark (*Apodemia mormo virgulti*)	1111	fiery skipper (*Hylephila phyleus*)	
Wright's metalmark (*Calephelis wrighti*)		white (common) checkered-skipper (*Pyrgus albescens*)	
Sulphurs		**Other**	
orange sulphur (*Colias eurytheme*)		Crickets fighting	1
sleepy orange (*Eurema nicippe*)			
cloudless sulfur (*Phoebus sennae marcellina*)			
unidentified sulphur			
Column Subtotal	7	Column Subtotal	3
		Total	10

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: Erik LaCoste **Date:** 3/25/16

Site Name: JPD-08 Proctor Valley – Village 14 of Otay Ranch **Site Visit No:** 5

Area Surveyed: S.F. **Acres Surveyed:** 91 **Survey Time:** 9.3 hrs **Acres per Hour:** 9.8

Other Surveyors Present: Erica Harris, Hannah Sasowski (unpermitted)

Field Conditions				
	Time (24 hr)	Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start	0830 hrs	63	0-1	0
End	1740 pm	82	4-7	0
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)
Chaparral, CSS, MHC, NFG, Ceanothus chaparral

Host Plants	Obs.	Nectar Plants	Obs.
dwarf plantain (*Plantago erecta*)		popcorn flower (*Cryptantha/Plagiobothrys* spp.)	✓
purple owl's clover (*Castilleja exserta*)	✓	goldfields (*Lasthenia* spp.)	
snapdragon (*Antirrhinum coulterianum*)		goldenstar (*Muilla* spp.)	
birds-beak (*Cordylanthus rigidus*)		fiddleneck (*Amsinckia menziesii* var. *intermedia*)	
woolly plantain (*Plantago patagonica*)		onion (*Allium* spp.)	
Chinese houses (*Collinsia* spp.)		buckwheat (*Eriogonum fasciculatum*)	
		ground pink (*Linanthus dianthiflorus*)	✓
Host Plant Mapping Updated (circle) Yes No		**New Area or Existing Area** (circle) New Existing Both	
Species updated (list)			

Butterfly Species	No.	Butterfly Species	No.
Checkerspots		**Hairstreaks**	
California patch (*Chlosyne californica*)		great purple hairstreak (*Atlides halesus corcorani*)	
Gabb's checkerspot (*C. gabbii*) ♀	11	brown elfin (*Callophrys augustinus*)	
Quino checkerspot (*Euphydryas editha quino*)		bramble (perplexing) hairstreak (*C. dumetorum affinis*)	
chalcedon checkerspot (*E. chalcedona chalcedona*)		gray hairstreak (*Strymon melinus pudica*)	
Leanira checkerspot (*Thessalia leanira wrighti*)		**Ladies/Admirals**	
Mylitta crescent (*Phyciodes mylitta*)		California sister (*Adelpha bredowii californica*)	1
Blues		Lorquin's admiral (*Limenitis lorquini*)	
western pygmy-blue (*Brephidium exile*)		west coast lady (*Vanessa annabella*)	
western tailed blue (*Everes amyntula*)		red admiral (*V. atalanta rubria*)	
southern blue (*Glaucopsyche lygdamus australis*) ♂	1	painted lady (*V. cardui*)	
Edward's blue (*Hemiargus ceraunus gyas*)		American (Virginia) lady (*V. virginiensis*)	
Acmon blue (*Icaricia acmon acmon*)		unidentified lady (*Vanessa* sp.)	4
marine blue (*Leptotes marina*) ♂	1	**Swallowtails**	
unidentified blue ♂	5	pale swallowtail (*Papilio eurymedon*) ♂	1
Whites		western tiger swallowtail (*P. rutulus*)	
Sara orangetip (*Anthocharis sara sara*) ♂♀	83	anise swallowtail (*P. zelicaon*) ♀	2
desert (Felder's) orangetip (*A. cethura*)		**Miscellaneous**	
common California ringlet (*Coenonympha californica*) ♂	19	monarch (*Danaus plexippus*)	
cabbage white (*Pieris rapae*) ♂	2	common buckeye (*Junonia coenia grisea*)	
checkered (common) white (*Pontia protodice*) ♂	2	mourning cloak (*Nymphalis antiopa*)	
spring white (*P. sisymbrii*)	4	**Skippers**	
unidentified white		funereal duskywing (*Erynnis funeralis*) ♂	7
Metalmarks		mournful duskywing (*Erynnis tristis*)	
Behr's metalmark (*Apodemia mormo virgulti*) ♂♀	10 72	fiery skipper (*Hylephila phyleus*)	
Wright's metalmark (*Calephelis wrighti*)		white (common) checkered-skipper (*Pyrgus albescens*) ♂	1
Sulphurs		**Other**	
orange sulphur (*Colias eurytheme*)			
sleepy orange (*Eurema nicippe*)			
cloudless sulfur (*Phoebus sennae marcellina*)			
unidentified sulphur	2		
Column Subtotal	[redacted]	Column Subtotal	10
	162	Total	[redacted] 174

JPD '05 Dreath
QUB #15 (G/F) 3123/1LP
Start: 830, 63°F, 0-1, 0%
Stop: 1300, 81°F, 4-7.5%
Eds: Erik Lyttleton (Supervisor)

WEME	CATH	NOMO	ANNA
MOOD	CORA	BUSH	ROUR
CATH	RITA	KOSP	HOFI
WREN	COHN	ARCH	TRES
LEAD	BOSP	CALT	SCHOOLS

BTJR	granite spiny liz.
COMMON	western fence liz.

Spiny	111	Anise	1
Funereal	11	Blue	1111
Behr's	111	Gassier	1
Garniget	1111	Golds	111
Leaf	1111	Sulphur	111
Scrubs	1111 1111 1111 1111 1111 111		

Flowers: clarkia purpurea, collinsia, sierra mariposa, penstemon, red cliff, lizard's tail, wooly sunflower, blue dicks, silver dollar, woodland star, fiddleneck, miner's lettuce, allium, sticky monkey flower, bicolor, encelia, California buckeye, blue dicks, yellow monkey flower, lupine, bush poppy, toyon, manzanita, poison oak, sycamore, oak, California bay, Apache plume, mallow, sage, Indian paint brush, ceanothus

H Sadowski 3/25/16
Temp: 63-81°F GOB w/ Erica
Wind: 0-4 IPD-51
Cloud: 0%-5
Time: 8:45-1 (4.25 hours)

Birds
RTHA

Butterfly
Blues: III Pale Swallowtail: I
Sara's: III VIII VIII * Gulf's: III
Cabbage white: II Dun: I
Sulfurs: III
duskywing: I

Flower
Silene gallica viopud, blue dicks, wild onion, Erodium spp. (?) poppy, deer weed, chamise, Adelpas, spiny redberry, gallium, sage, dragon, soap plant, and clover (exserta), pincushion flower, monkey flowers, golden yarrow, Eriogonum spp.
Purple wine, 3D Salvia vine

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: Amy Mattson **Date:** 3/25/16

Site Name: JPD-08 Proctor Valley – Village 14 of Otay Ranch **Site Visit No:** 5

Area Surveyed H **Acres Surveyed** 55 **Survey Time:** 5:35 (5.0) **Acres per Hour:** 9.1

Other Surveyors Present: Talaya Bachelet (supervised individual)

Field Conditions				
	Time (24 hr)	Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start	915	71	0	0
End	1450	79	0-3	50
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)
CSS, SMC, MHC

Host Plants	Obs.	Nectar Plants	Obs.
dwarf plantain (*Plantago erecta*)	✓	popcorn flower (*Cryptantha/Plagiobothrys* spp.)	✓
purple owl's clover (*Castilleja exserta*)		goldfields (*Lasthenia* spp.)	
snapdragon (*Antirrhinum coulterianum*)		goldenstar (*Muilla* spp.)	✓
birds-beak (*Cordylanthus rigidus*)		fiddleneck (*Amsinckia menziesii* var. *intermedia*)	
woolly plantain (*Plantago patagonica*)		onion (*Allium* spp.) Lavender & White	✓
Chinese houses (*Collinsia* spp.)		buckwheat (*Eriogonum fasciculatum*)	✓
		ground pink (*Linanthus dianthiflorus*)	
Host Plant Mapping Updated (circle) Yes No		**New Area or Existing Area** (circle) New Existing Both	
Species updated (list)			

Butterfly Species	No.	Butterfly Species	No.
Checkerspots		**Hairstreaks**	
California patch (*Chlosyne californica*)		great purple hairstreak (*Atlides halesus corcorani*)	
Gabb's checkerspot (*C. gabbii*)		brown elfin (*Callophrys augustinus*)	
Quino checkerspot (*Euphydryas editha quino*)		bramble (perplexing) hairstreak (*C. dumetorum affinis*)	
chalcedon checkerspot (*E. chalcedona chalcedona*)		gray hairstreak (*Strymon melinus pudica*)	
Leanira checkerspot (*Thessalia leanira wrighti*)		**Ladies/Admirals**	
Mylitta crescent (*Phyciodes mylitta*)		California sister (*Adelpha bredowii californica*)	
Blues		Lorquin's admiral (*Limenitis lorquini*)	
western pygmy-blue (*Brephidium exile*)		west coast lady (*Vanessa annabella*)	1
western tailed blue (*Everes amyntula*)		red admiral (*V. atalanta rubria*)	
southern blue (*Glaucopsyche lygdamus australis*)		painted lady (*V. cardui*)	
Edward's blue (*Hemiargus ceraunus gyas*)		American (Virginia) lady (*V. virginiensis*)	1
Acmon blue (*Icaricia acmon acmon*)		unidentified lady (*Vanessa* sp.)	1
marine blue (*Leptotes marina*)		**Swallowtails**	
unidentified blue	1	pale swallowtail (*Papilio eurymedon*)	
Whites		western tiger swallowtail (*P. rutulus*)	
Sara orangetip (*Anthocharis sara sara*)	1	anise swallowtail (*P. zelicaon*)	
desert (Felder's) orangetip (*A. cethura*)		**Miscellaneous**	
common California ringlet (*Coenonympha californica*)		monarch (*Danaus plexippus*)	
cabbage white (*Pieris rapae*)	1	common buckeye (*Junonia coenia grisea*)	
checkered (common) white (*Pontia protodice*)		mourning cloak (*Nymphalis antiopa*)	
spring white (*P. sisymbrii*)		**Skippers**	
unidentified white	1	funereal duskywing (*Erynnis funeralis*)	
Metalmarks		mournful duskywing (*Erynnis tristis*)	1
Behr's metalmark (*Apodemia mormo virgulti*)		fiery skipper (*Hylephila phyleus*)	
Wright's metalmark (*Calephelis wrighti*)		white (common) checkered-skipper (*Pyrgus albescens*)	1
Sulphurs		**Other**	
orange sulphur (*Colias eurytheme*)		dusky sulphur	1
sleepy orange (*Eurema nicippe*)			
cloudless sulfur (*Phoebus sennae marcellina*)			
unidentified sulphur	1		
Column Subtotal	116	Column Subtotal	9
		Total	113

3/25/16 JPDOS QCBS Anatl Anes

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Cal thae
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Cyptandha
Encan
Dic Cap
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2016 Quino Checkerspot Butterfly Survey Form

Surveyor: Anny Mattson **Date:** 3.24.16

Site Name: JPD-08 Proctor Valley – Village 14 at Otay Ranch **Site Visit No:** 5

Area Surveyed: I **Acres Surveyed:** 4.2 **Survey Time:** 4:25 (4.4) **Acres per Hour:** 9.5

Other Surveyors Present: —

Field Conditions				
	Time (24 hr)	Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start	11:20	79	0-1	0%
End	15:45	82	0-6	0%
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)

NNG, CSS

Host Plants	Obs.	Nectar Plants	Obs.
dwarf plantain (*Plantago erecta*)	✓	popcorn flower (*Cryptantha/Plagiobothrys* spp.)	✓
purple owl's clover (*Castilleja exserta*)		goldfields (*Lasthenia* spp.)	
snapdragon (*Antirrhinum coulterianum*)		goldenaster (*Mulilla* spp.)	
birds-beak (*Cordylanthus rigidus*)		fiddleneck (*Amsinckia menziesii* var. *intermedia*)	
woolly plantain (*Plantago patagonica*)		onion (*Allium* spp.) almost all done	✓
Chinese houses (*Collinsia* spp.)		buckwheat (*Eriogonum fasciculatum*)	✓
		ground pink (*Linanthus dianthiflorus*)	
Host Plant Mapping Updated (circle) Yes (No)		**New Area or Existing Area** (circle) New Existing Both	
Species updated (list)			

Butterfly Species	No.	Butterfly Species	No.
Checkerspots		**Hairstreaks**	
California patch (*Chlosyne californica*)		great purple hairstreak (*Atlides halesus corcorani*)	
Gabb's checkerspot (*E. gabbii*)		brown elfin (*Callophrys augustinus*)	
Quino checkerspot (*Euphydryas editha quino*)		bramble (perplexing) hairstreak (*C. dumetorum affinis*)	
chalcedon checkerspot (*E. chalcedona chalcedona*)		gray hairstreak (*Strymon melinus pudica*)	
Leanira checkerspot (*Thessalia leanira wrighti*)		**Ladies/Admirals**	
Mylitta crescent (*Phyciodes mylitta*)		California sister (*Adelpha bredowii californica*)	
Blues		Lorquin's admiral (*Limenitis lorquini*)	
western pygmy-blue (*Brephidium exilis*)		west coast lady (*Vanessa annabella*)	
western tailed blue (*Everes amyntula*)		red admiral (*V. atalanta rubria*)	
southern blue (*Glaucopsyche lygdamus australis*)		painted lady (*V. cardui*)	
Edward's blue (*Hemiargus ceraunus gyas*)		American (Virginia) lady (*V. virginiensis*)	
Acmon blue (*Icaricia acmon acmon*)		unidentified lady (*Vanessa* sp.) (1)	1
marine blue (*Leptotes marina*)		**Swallowtails**	
unidentified blue		pale swallowtail (*Papilio eurymedon*)	
Whites		western tiger swallowtail (*P. rutulus*)	
Sara orangetip (*Anthocharis sara sara*) (13)	13	anise swallowtail (*P. zelicaon*)	
desert (Felder's) orangetip (*A. cethura*)		**Miscellaneous**	
common California dogtail (*Coenonympha californica*)		monarch (*Danaus plexippus*)	
cabbage white (*Pieris rapae*) (1)	1	common buckeye (*Junonia coenia grisea*) (2)	11
checkered (common) white (*Pontia protodice*)		mourning cloak (*Nymphalis antiopa*)	
spring white (*P. sisymbrii*)		**Skippers**	
unidentified white (3)	18	funereal duskywing (*Erynnis funeralis*) (3)	111
Metalmarks		mournful duskywing (*Erynnis tristis*)	
Behr's metalmark (*Apodemia mormo virgulti*) (2)	2	fiery skipper (*Hylephila phyleus*)	
Wright's metalmark (*Calephelis wrighti*)		white (common) checkered-skipper (*Pyrgus albescens*) (1)	1
Sulphurs		**Other**	
orange sulphur (*Colias eurytheme*)			
sleepy orange (*Eurema nicippe*)			
cloudless sulfur (*Phoebus sennae marcellina*)			
unidentified sulphur (14)	14		
Column Subtotal	52	Column Subtotal	7
		Total	59

JP008 Area Area I
3.24.16 QCB 5

Melissa (GyH) Dic cap Placenta
Foo cic/bot Acem gla
Ved cre Bdellac t
Sal gal Phacelia
Son vole Mil lae
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- Eri fas
- Iso men
- Cryptantha
Cal mac
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Sal apis
Sanicula sp
Solanum elaeagnifolium

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: MELANIE DICUS, JOHN DYER **Date:** 03-29-2016

Site Name: JPD-08 Proctor Valley – Village 14 of Otay Ranch **Site Visit No:** 5

Area Surveyed F. 11(5) **Acres Surveyed** 68 **Survey Time:** 4.25 HRS **Acres per Hour:** BEACH BID

Other Surveyors Present: —

Field Conditions				
	Time (24 hr)	Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start	1200	60	2 MPH	30%
End	1615	60	7-9 MPH	40%
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.) CHAMISE CHAPARRAL, NNG [AUDERA], ERIOGONUM SPP. BCSS: ERODIUM SPP, BROMUS SPP, ARTEMISIA CA, E. FASCICULATUM, M. LAXUM, NEEDLEGRASS GRASSLAND (DISTURBED): VULPIA SPP, BROMUS SPP, ERODIUM SPP

Host Plants	Obs.	Nectar Plants	Obs.
dwarf plantain (*Plantago erecta*)	X	popcorn flower (*Cryptantha/Plagiobothrys* spp.)	X
purple owl's clover (*Castilleja exserta*) / Dove Owl's	X	goldfields (*Lasthenia* spp.)	
snapdragon (*Antirrhinum coulterianum*)		goldenstar (*Muilla* spp.)	X
birds-beak (*Cordylanthus rigidus*)		fiddleneck (*Amsinckia menziesii* var. *intermedia*)	
woolly plantain (*Plantago patagonica*)		onion (*Allium* spp.)	X
Chinese houses (*Collinsia* spp.)		buckwheat (*Eriogonum fasciculatum*)	X
		ground pink (*Linanthus dianthiflorus*)	
Host Plant Mapping Updated (circle) (Yes) No		**New Area or Existing Area** (circle) (New) Existing	Both
Species updated (list) C. RIGIDUS, FASCA			

Butterfly Species	No.	Butterfly Species	No.
Checkerspots		**Hairstreaks**	
California patch (*Chlosyne californica*)		great purple hairstreak (*Atlides halesus corcorani*)	
Gabb's checkerspot (*C. gabbii*)		brown elfin (*Callophrys augustinus*)	
Quino checkerspot (*Euphydryas editha quino*)		bramble (perplexing) hairstreak (*C. dumetorum affinis*)	
chalcedon checkerspot (*E. chalcedona chalcedona*)		gray hairstreak (*Strymon melinus pudica*)	
Leanira checkerspot (*Thessalia leanira wrighti*)		**Ladies/Admirals**	
Mylitta crescent (*Phyciodes mylitta*)		California sister (*Adelpha bredowii californica*)	
Blues		Lorquin's admiral (*Limenitis lorquini*)	
western pygmy-blue (*Brephidium exilis*)	1	west coast lady (*Vanessa annabella*)	
western tailed blue (*Everes amyntula*)		red admiral (*V. atalanta rubria*)	
southern blue (*Glaucopsyche lygdamus australis*)		painted lady (*V. cardui*)	3
Edward's blue (*Hemiargus ceraunus gyas*)		American (Virginia) lady (*V. virginiensis*)	3
Acmon blue (*Icaricia acmon acmon*)	2	unidentified lady (*Vanessa* sp.)	
marine blue (*Leptotes marina*)	1	**Swallowtails**	
unidentified blue		pale swallowtail (*Papilio eurymedon*)	
Whites		western tiger swallowtail (*P. rutulus*)	
Sara orangetip (*Anthocharis sara sara*)	27	anise swallowtail (*P. zelicaon*)	
desert (Felder's) orangetip (*A. cethura*)		**Miscellaneous**	
common California ringlet (*Coenonympha californica*)		monarch (*Danaus plexippus*)	
cabbage white (*Pieris rapae*)		common buckeye (*Junonia coenia grisea*)	6
checkered (common) white (*Pontia protodice*)	7	mourning cloak (*Nymphalis antiopa*)	
spring white (*P. sisymbrii*)		**Skippers**	
unidentified white		funereal duskywing (*Erynnis funeralis*)	4
Metalmarks		mournful duskywing (*Erynnis tristis*)	
Behr's metalmark (*Apodemia mormo virgulti*)	13	fiery skipper (*Hylephila phyleus*)	
Wright's metalmark (*Calephelis wrighti*)		white (common) checkered-skipper (*Pyrgus albescens*)	1
Sulphurs		**Other**	
orange sulphur (*Colias eurytheme*)	6	(DANAUS EUFILA	1
sleepy orange (*Eurema nicippe*)			
cloudless sulfur (*Phoebus sennae marcellina*)			
unidentified sulphur			
Column Subtotal	87	Column Subtotal	18
		Total	105

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: MELANIE DICUS, JOHN DICUS **Date:** 03-27-2016

Site Name: JPD-08 Proctor Valley – Village 14 of Otay Ranch **Site Visit No:** 5

Area Surveyed K, L, M (46) **Acres Surveyed** 41.33 **Survey Time:** 8 HRS **Acres per Hour:** 5.3 / EACH BIO

Other Surveyors Present: —

Field Conditions				
	Time (24 hr)	Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start	0845	63	1 MPH	0
End	1645	72	4.7 MPH	1%
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.) (1) NWSS: BRASSICA N. ADENOPHORUS, AVENA FATUA, HORDEUM SPP.
(2) DCSS: ELYMUS SPP. ARTEMISIA CA, E. FASCICULATUM, M. LAURINA, BRASSICA CAMP
(3) RVC WOODLAND W/ EGG UNBLEEDED Y: EUCALYPTUS SP, ARTEMISIA CA, E. FASCICULATUM

Host Plants	Obs.	Nectar Plants	Obs.
dwarf plantain (*Plantago erecta*)	X	popcorn flower (*Cryptantha/Plagiobothrys* spp.)	X
purple owl's clover (*Castilleja exserta*)		goldfields (*Lasthenia* spp.)	X
snapdragon (*Antirrhinum coulterianum*)		goldenstar (*Muilla* spp.)	X
birds-beak (*Cordylanthus rigidus*)		fiddleneck (*Amsinckia menziesii* var. *intermedia*)	X
woolly plantain (*Plantago patagonica*)		onion (*Allium* spp.)	X
Chinese houses (*Collinsia* spp.)		buckwheat (*Eriogonum fasciculatum*)	X
		ground pink (*Linanthus dianthiflorus*)	X
Host Plant Mapping Updated (circle) Yes (No)		**New Area or Existing Area** (circle) New Existing Both	
Species updated (list)			

Butterfly Species	No.	Butterfly Species	No.
Checkerspots		**Hairstreaks**	
California patch (*Chlosyne californica*)		great purple hairstreak (*Atlides halesus corcoran*)	
Gabb's checkerspot (*C. gabbii*)		brown elfin (*Callophrys augustinus*)	
Quino checkerspot (*Euphydryas editha quino*)		bramble (pericwing) hairstreak (*C. dumetorum affinis*)	
chalcedon checkerspot (*E. chalcedona chalcedona*)		gray hairstreak (*Strymon melinus pudica*)	1
Leanira checkerspot (*Thessalia leanira wrighti*)		**Ladies/Admirals**	
Mylitta crescent (*Phyciodes mylitta*)		California sister (*Adelpha bredowii californica*)	
Blues		Lorquin's admiral (*Limenitis lorquini*)	
western pygmy-blue (*Brephidium exilis*)	1	west coast lady (*Vanessa annabella*)	
western tailed blue (*Everes amyntula*)		red admiral (*V. atalanta rubria*)	3
southern blue (*Glaucopsyche lygdamus australis*)		painted lady (*V. cardui*)	1
Edward's blue (*Hemiargus ceraunus gyas*)		American (Virginia) lady (*V. virginiensis*)	3
Acmon blue (*Icaricia acmon acmon*)		unidentified lady (*Vanessa* sp.)	
marine blue (*Leptotes marina*)	3	**Swallowtails**	
unidentified blue		pale swallowtail (*Papilio eurymedon*)	1
Whites		western tiger swallowtail (*P. rutulus*)	
Sara orangetip (*Anthocharis sara sara*)	133	anise swallowtail (*P. zelicaon*)	
desert (Felder's) orangetip (*A. cethura*)		**Miscellaneous**	
common California ringlet (*Coenonympha californica*)	2	monarch (*Danaus plexippus*)	
cabbage white (*Pieris rapae*)		common buckeye (*Junonia coenia grisea*)	15
checkered (common) white (*Pontia protodice*)	13	mourning cloak (*Nymphalis antiopa*)	
spring white (*P. sisymbri*)		**Skippers**	
unidentified white		funereal duskywing (*Erynnis funeralis*)	7
Metalmarks		mournful duskywing (*Erynnis tristis*)	
Behr's metalmark (*Apodemia mormo virgulti*)	47	fiery skipper (*Hylephila phyleus*)	1
Wright's metalmark (*Calephelis wrighti*)		white (common) checkered-skipper (*Pyrgus albescens*)	15
Sulphurs		**Other**	
orange sulphur (*Colias eurytheme*)	8	COLIAS HARFORDII	7
sleepy orange (*Eurema nicippe*)		HYLOPHILUS EXCLAMATIONIS	2
cloudless sulfur (*Phoebus sennae marcellina*)			
unidentified sulphur			
Column Subtotal	207	**Column Subtotal**	56
		Total	263

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: Cooper - Hyperman Date: 3/31/16

Site Name: JPD-98 Proctor Valley – Village 14 of Otay Ranch Site Visit No: 5

Area Surveyed: N Acres Surveyed: 66 Survey Time: 8 hours Acres per Hour: 8.13

Other Surveyors Present:

	Time (24 hr)	Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start	0830	60	2-5	0
End	1630	63	3-8	1
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)

CHAPARRAL, CHAMISE CHAPARRAL, COASTAL SAGE SCRUB, NON-NATIVE GRASSLAND

Host Plants	Obs.	Nectar Plants	Obs.
dwarf plantain (*Plantago erecta*)	X	popcorn flower (*Cryptantha/Plagiobothrys* spp.)	X
Purple owl's clover (*Castilleja exserta*)	X	goldfields (*Lasthenia* spp.)	
snapdragon (*Antirrhinum coutterianum*)		goldenstar (*Muilla* spp.)	
birds-beak (*Cordylanthus rigidus*)		fiddleneck (*Amsinckia menziesii* var. *intermedia*)	
woolly plantain (*Plantago patagonica*)		onion (*Allium* spp.)	X
Chinese houses (*Collinsia* spp.)		buckwheat (*Eriogonum fasciculatum*)	X
		ground pink (*Linanthus dianthiflorus*)	X
Host Plant Mapping Updated (circle) Yes (No)		New Area or Existing Area (circle) New Existing Both	
Species updated (list)			

Butterfly Species	No.	Butterfly Species	No.
Checkerspots		**Hairstreaks**	
California patch (*Chlosyne californica*)		great purple hairstreak (*Atlides halesus corcorani*)	
Gabb's checkerspot (*C. gabbii*)	1	brown elfin (*Callophrys augustinus*)	
Quino checkerspot (*Euphydryas editha quino*)		bramble (perplexing) hairstreak (*C. dumetorum affinis*)	
chalcedon checkerspot (*E. chalcedona chalcedona*)		gray hairstreak (*Strymon melinus pudica*)	
Leanira checkerspot (*Thessalia leanira wrighti*)		**Ladies/Admirals**	
Mylitta crescent (*Phyciodes mylitta*)		California sister (*Adelpha bredowii californica*)	
Blues		Lorquin's admiral (*Limenitis lorquini*)	
western pygmy-blue (*Brephidium exile*)		west coast lady (*Vanessa annabella*)	
western tailed blue (*Everes amyntula*)		red admiral (*V. atalanta rubria*)	
southern blue (*Glaucopsyche lygdamus australis*)		painted lady (*V. cardui*)	
Edward's blue (*Hemiargus ceraunus gyas*)		American (Virginia) lady (*V. virginiensis*)	2
Acmon blue (*Icaricia acmon acmon*)		unidentified lady (*Vanessa* sp.)	
marine blue (*Leptotes marina*)	2	**Swallowtails**	
unidentified blue		pale swallowtail (*Papilio eurymedon*)	
Whites		western tiger swallowtail (*P. rutulus*)	1
Sara orangetip (*Anthocharis sara sara*)	72	anise swallowtail (*P. zelicaon*)	
desert (Felder's) orangetip (*A. cethura*)		**Miscellaneous**	
common California ringlet (*Coenonympha californica*)		monarch (*Danaus plexippus*)	
cabbage white (*Pieris rapae*)		common buckeye (*Junonia coenia grisea*)	10
checkered (common) white (*Pontia protodice*)	4	mourning cloak (*Nymphalis antiopa*)	
spring white (*P. sisymbrii*)		**Skippers**	
unidentified white		funereal duskywing (*Erynnis funeralis*)	
Metalmarks		mournful duskywing (*Erynnis tristis*)	
Behr's metalmark (*Apodemia mormo virgulti*)	42	fiery skipper (*Hylephila phyleus*)	
Wright's metalmark (*Calephelis wrighti*)		white (common) checkered-skipper (*Pyrgus albescens*)	
Sulphurs		**Other**	
orange sulphur (*Colias eurytheme*)	1		
sleepy orange (*Eurema nicippe*)			
cloudless sulfur (*Phoebus sennae marcellina*)			
unidentified sulphur			
Column Subtotal	122	Column Subtotal	13
		TOTAL	~~135~~ 135

2016 Quino Checkerspot Butterfly Survey Form

Surveyor Alicia Hill **Date:** 3/27/16

Site Name: JPD-08 Proctor Valley – Village 14 of Otay Ranch **Site Visit No:** 5

Area Surveyed O, V **Acres Surveyed** 137 **Survey Time:** 5.5 **Acres per Hour:** 10

Other Surveyors Present: Travis Cooper

Field Conditions				
	Time (24 hr)	**Temperature (˚F)**	**Wind Speed (mph)**	**Cloud Cover**
Start	0850	68	0-1	0
End	1420	78	2-5	0
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.) chamise chaparral (ADE FAS, ERI FAS, ACM GLA),
native/non-native grassland (Stipa sp., BRO MAD, Avena sp.)
coastal sage scrub (ART CAL, ERI FAS,ACM GLA)

Host Plants	**Obs.**	**Nectar Plants**	**Obs.**
dwarf plantain (*Plantago erecta*)	x	popcorn flower (*Cryptantha/Plagiobothrys* spp.)	X
purple owl's clover (*Castilleja ~~exserta~~*) densiflora	X	goldfields (*Lasthenia* spp.)	X
snapdragon (*Antirrhinum coulterianum*)		goldenstar (*Muilla* spp.) Bloomeria clevelandii	X
birds-beak (*Cordylanthus rigidus*)		fiddleneck (*Amsinckia menziesii* var. *intermedia*)	X
woolly plantain (*Plantago patagonica*)		onion (*Allium* spp.)	X
Chinese houses (*Collinsia* spp.)		buckwheat (*Eriogonum fasciculatum*)	X
		ground pink (*Linanthus dianthiflorus*)	X
Host Plant Mapping Updated (*circle*) (Yes) No		**New Area or Existing Area** (*circle*) New Existing (Both)	
Species updated (list) CAS DEN, BLO CLE			

Butterfly Species	**No.**	**Butterfly Species**	**No.**
Checkerspots		**Hairstreaks**	
California patch (*Chlosyne californica*)		great purple hairstreak (*Atlides halesus corcorani*)	
Gabb's checkerspot (*C. gabbii*)		brown elfin (*Callophrys augustinus*)	
Quino checkerspot (*Euphydryas editha quino*)		bramble (perplexing) hairstreak (C. *dumetorum affinis*)	
chalcedon checkerspot (*E. chalcedona chalcedona*)		gray hairstreak (*Strymon melinus pudica*)	
Leanira checkerspot (*Thessalia leanira wrighti*)		**Ladies/Admirals**	
Mylitta crescent (*Phyciodes mylitta*)		California sister (*Adelpha bredowii californica*)	
Blues		Lorquin's admiral (*Limenitis lorquini*)	
western pygmy-blue (*Brephidium exila*)		west coast lady (*Vanessa annabella*)	
western tailed blue (*Everes amyntula*)		red admiral (*V. atalanta rubria*)	
southern blue (*Glaucopsyche lygdamus australis*)		painted lady (*V. cardui*)	2
Edward's blue (*Hemiargus ceraunus gyas*)		American (Virginia) lady (*V. virginiensis*)	3
Acmon blue (*Icaricia acmon acmon*)		unidentified lady (*Vanessa* sp.)	
marine blue (*Leptotes marina*)	5	**Swallowtails**	
unidentified blue	2	pale swallowtail (*Papilio eurymedon*)	
Whites		western tiger swallowtail (*P. rutulus*)	
Sara orangetip (*Anthocharis sara sara*)	118	anise swallowtail (*P. zelicaon*)	
desert (Felder's) orangetip (*A. cethura*)		**Miscellaneous**	
common California ringlet (*Coenonympha californica*)		monarch (*Danaus plexippus*)	
cabbage white (*Pieris rapae*)		common buckeye (*Junonia coenia grisea*)	19
checkered (common) white (*Pontia protodice*)	29	mourning cloak (*Nymphalis antiopa)*	
spring white (*P. sisymbrii*)		**Skippers**	
unidentified white	1	funereal duskywing (*Erynnis funeralis*)	1
Metalmarks		mournful duskywing (*Erynnis tristis*)	
Behr's metalmark (*Apodemia mormo virgulti*)	87	fiery skipper (*Hylephila phyleus*)	
Wright's metalmark (*Calephelis wrighti*)		white (common) checkered-skipper (*Pyrgus albescens*)	4
Sulphurs		**Other**	
orange sulphur (*Colias eurytheme*)	10	Harford's sulphur	5
sleepy orange (*Eurema nicippe*)		Dainty sulphur	1
cloudless sulfur (*Phoebus sennae marcellina*)			
unidentified sulphur			
Column Subtotal	252	**Column Subtotal**	35
		Total	287

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2016 Quino Checkerspot Butterfly Survey Form

Surveyor: Garrett Huffman Date: 3/27/16

Site Name: PD-08 Proctor Valley – Village 14 of Otay Ranch Site Visit No: 5

Area Surveyed: F Acres Surveyed: 61 Survey Time: 8 HRS Acres per Hour: 7.6

Other Surveyors Present: None

	Time (24 hr)	Field Conditions		
		Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start	0815	60	2-4	0
End	1630	90	3-9	0
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)

Chamise chaparral + coastal sage scrub, NNG native grassland

Host Plants	Obs.	Nectar Plants	Obs.
dwarf plantain (*Plantago erecta*)	X	popcorn flower (*Cryptantha/Plagiobothrys* spp.)	X
purple owl's clover (*Castilleja exserta*)	X	goldfields (*Lasthenia* spp.)	X
snapdragon (*Antirrhinum coulterianum*)		goldenstar (*Muilla* spp.)	X
birds-beak (*Cordylanthus rigidus*)		fiddleneck (*Amsinckia menziesii* var. *intermedia*)	
woolly plantain (*Plantago patagonica*)		onion (*Allium* spp.)	X
Chinese houses (*Collinsia* spp.)		buckwheat (*Eriogonum fasciculatum*)	X
		ground pink (*Linanthus dianthiflorus*)	
Host Plant Mapping Updated (circle)	Yes / No	New Area or Existing Area (circle)	New / Existing / Both
Species updated (list)	Plantago erecta, Castilleja sp.		

Butterfly Species			
Checkerspots	No.	**Butterfly Species**	No.
California patch (*Chlosyne californica*)		**Hairstreaks**	
Gabb's checkerspot (*C. gabbii*)		great purple hairstreak (*Atlides halesus corcorani*)	
Quino checkerspot (*Euphydryas editha quino*)	1	brown elfin (*Callophrys augustinus*)	
chalcedon checkerspot (*E. chalcedona chalcedona*)		bramble (perplexing) hairstreak (*C. dumetorum affinis*)	
Leanira checkerspot (*Thessalia leanira wrighti*)		gray hairstreak (*Strymon melinus pudica*)	
Mylitta crescent (*Phyciodes mylitta*)		**Ladies/Admirals**	
Blues		California sister (*Adelpha bredowii californica*)	
western pygmy-blue (*Brephidium exile*)		Lorquin's admiral (*Limenitis lorquini*)	
western tailed blue (*Everes amyntula*)		west coast lady (*Vanessa annabella*)	
southern blue (*Glaucopsyche lygdamus australis*)		red admiral (*V. atalanta rubria*)	
Edward's blue (*Hemiargus ceraunus gyas*)		painted lady (*V. cardui*)	2
Acmon blue (*Icaricia acmon acmon*)		American (Virginia) lady (*V. virginiensis*)	2
marine blue (*Leptotes marina*)		unidentified lady (*Vanessa* sp.)	
unidentified blue		**Swallowtails**	
Whites		pale swallowtail (*Papilio eurymedon*)	
Sara orangetip (*Anthocharis sara sara*)	2pcs	western tiger swallowtail (*P. rutulus*)	
desert (Felder's) orangetip (*A. cethura*)		anise swallowtail (*P. zelicaon*)	
common California ringlet (*Coenonympha californica*)	1	**Miscellaneous**	
cabbage white (*Pieris rapae*)		monarch (*Danaus plexippus*)	
checkered (common) white (*Pontia protodice*)	5	common buckeye (*Junonia coenia grisea*)	
spring white (*P. sisymbrii*)		mourning cloak (*Nymphalis antiopa*)	
unidentified white		**Skippers**	
Metalmarks		funereal duskywing (*Erynnis funeralis*)	5
Behr's metalmark (*Apodemia mormo virgulti*)	2	mournful duskywing (*Erynnis tristis*)	
Wright's metalmark (*Calephelis wrighti*)		fiery skipper (*Hylephila phyleus*)	
Sulphurs		white (common) checkered-skipper (*Pyrgus albescens*)	4
orange sulphur (*Colias eurytheme*)	5	**Other**	
sleepy orange (*Eurema nicippe*)		Hylitus sp. Skipper	1
cloudless sulfur (*Phoebus sennae marcellina*)			
unidentified sulphur			
Column Subtotal	76	Column Subtotal	14

TOTAL 90

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: Gregor Huffman **Date:** 3/30/16

Site Name: JPD-08 Proctor Valley – Village 14 of Otay Ranch **Site Visit No:** 5

Area Surveyed Q **Acres Surveyed** 55 **Survey Time:** 6 Hours **Acres per Hour:** 9.16

Other Surveyors Present: NONE

Field Conditions				
	Time (24 hr)	Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start	0830	60	2-4	10
End	1130	58	3-8	70
Start	1400	60	2-6	50
End	1700	60	3-8	30

Vegetation Communities Surveyed (inc. dominant spp.)

Chaparral, Coastal Sage Scrub, Non-Native Grassland

Host Plants	Obs.	Nectar Plants	Obs.
dwarf plantain (*Plantago erecta*)	X	popcorn flower (*Cryptantha/Plagiobothrys* spp.)	X
purple owl's clover (*Castilleja exserta*)	X	goldfields (*Lasthenia* spp.)	X
snapdragon (*Antirrhinum coulterianum*)		goldenstar (*Mullia* spp.)	X
birds-beak (*Cordylanthus rigidus*)		fiddleneck (*Amsinckia menziesii* var. *intermedia*)	X
woolly plantain (*Plantago patagonica*)		onion (*Allium* spp.)	X
Chinese houses (*Collinsia* spp.)		buckwheat (*Eriogonum fasciculatum*)	X
		ground pink (*Linanthus dianthiflorus*)	
Host Plant Mapping Updated (circle) Yes (No)		**New Area or Existing Area** (circle) New Existing Both	
Species updated (list)			

Butterfly Species	No.	Butterfly Species	No.
Checkerspots		**Hairstreaks**	
California patch (*Chlosyne californica*)		great purple hairstreak (*Atlides halesus corcorani*)	
Gabb's checkerspot (*C. gabbii*)		brown elfin (*Callophrys augustinus*)	
Quino checkerspot (*Euphydryas editha quino*)		bramble (perplexing) hairstreak (*C. dumetorum affinis*)	
chalcedon checkerspot (*E. chalcedona chalcedona*)		gray hairstreak (*Strymon melinus pudica*)	1
Leanira checkerspot (*Thecusla leanira wrighti*)		**Ladies/Admirals**	
Mylitta crescent (*Phyciodes mylitta*)		California sister (*Adelpha bredowii californica*)	
Blues		Lorquin's admiral (*Limenitis lorquini*)	
western pygmy-blue (*Brephidium exile*)		west coast lady (*Vanessa annabella*)	
western tailed blue (*Everes amyntula*)		red admiral (*V. atalanta rubria*)	3
southern blue (*Glaucopsyche lygdamus australis*)		painted lady (*V. cardui*)	5
Edward's blue (*Hemiargus ceraunus gyas*)		American (Virginia) lady (*V. virginiensis*)	4
Acmon blue (*Icaricia acmon acmon*)		unidentified lady (*Vanessa* sp.)	
marine blue (*Leptotes marina*)	2	**Swallowtails**	
unidentified blue		pale swallowtail (*Papilio eurymedon*)	
Whites		western tiger swallowtail (*P. rutulus*)	1
Sara orangetip (*Anthocharis sara sara*)	25	anise swallowtail (*P. zelicaon*)	
desert (Felder's) orangetip (*A. cethura*)		**Miscellaneous**	
common California ringlet (*Coenonympha californica*)	1	monarch (*Danaus plexippus*)	
cabbage white (*Pieris rapae*)		common buckeye (*Junonia coenia grisea*)	
checkered (common) white (*Pontia protodice*)	3	mourning cloak (*Nymphalis antiopa*)	
spring white (*P. sisymbrii*)		**Skippers**	
unidentified white		funereal duskywing (*Erynnis funeralis*)	
Metalmarks		mournful duskywing (*Erynnis tristis*)	
Behr's metalmark (*Apodemia mormo virgulti*)	12	fiery skipper (*Hylephila phyleus*)	
Wright's metalmark (*Calephelis wrighti*)		white (common) checkered-skipper (*Pyrgus albescens*)	1
Sulphurs		**Other**	
orange sulphur (*Colias eurytheme*)			
sleepy orange (*Eurema nicippe*)			
cloudless sulfur (*Phoebus sennae marcellina*)			
unidentified sulphur			
Column Subtotal	43	**Column Subtotal**	19
		TOTAL	57

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: Gregg Hueman **Date:** 3/25/14

Site Name: JPD-08 Proctor Valley – Village 14 of Otay Ranch **Site Visit No:** 5

Area Surveyed R/P **Acres Surveyed** 40 **Survey Time:** 8 hours **Acres per Hour:** 5

Other Surveyors Present: NONE

Field Conditions				
	Time (24 hr)	Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start	0830	66	1-4	0
End	1630	73	3-6	20
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)

CHAMISE CHAPARRAL, COASTAL SAGE SCRUB, NON-NATIVE GRASSLAND

Host Plants	Obs.	Nectar Plants	Obs.
dwarf plantain (*Plantago erecta*)	Y	popcorn flower (*Cryptantha/Plagiobothrys* spp.)	Y
purple owl's clover (*Castilleja exserta*)	Y	goldfields (*Lasthenia* spp.)	Y
snapdragon (*Antirrhinum coulterianum*)		goldenstar (*Muilla* spp.)	
birds-beak (*Cordylanthus rigidus*)		fiddleneck (*Amsinckia menziesii* var. *intermedia*)	
woolly plantain (*Plantago patagonica*)		onion (*Allium* spp.)	X
Chinese houses (*Collinsia* spp.)		buckwheat (*Eriogonum fasciculatum*)	X
		ground pink (*Linanthus dianthiflorus*)	X
Host Plant Mapping Updated (circle)	Yes / No	**New Area or Existing Area** (circle)	New / Existing / Both
Species updated (list)	FESTUCA sp.		

Butterfly Species	No.	Butterfly Species	No.
Checkerspots		**Hairstreaks**	
California patch (*Chlosyne californica*)		great purple hairstreak (*Atlides halesus corcorani*)	
Gabb's checkerspot (*C. gabbii*)	2	brown elfin (*Callophrys augustinus*)	
Quino checkerspot (*Euphydryas editha quino*)		bramble (perplexing) hairstreak (*C. dumetorum affinis*)	
chalcedon checkerspot (*E. chalcedona chalcedona*)		gray hairstreak (*Strymon melinus pudica*)	
Leanira checkerspot (*Thessalia leanira wrighti*)		**Ladies/Admirals**	
Mylitta crescent (*Phyciodes mylitta*)		California sister (*Adelpha bredowii californica*)	
Blues		Lorquin's admiral (*Limenitis lorquini*)	
western pygmy-blue (*Brephidium exile*)		west coast lady (*Vanessa annabella*)	
western tailed blue (*Everes amyntula*)		red admiral (*V. atalanta rubria*)	
southern blue (*Glaucopsyche lygdamus australis*)		painted lady (*V. cardui*)	1
Edward's blue (*Hemiargus ceraunus gyas*)		American (Virginia) lady (*V. virginiensis*)	
Acmon blue (*Icaricia acmon acmon*)	1	unidentified lady (*Vanessa* sp.)	
marine blue (*Leptotes marina*)	3	**Swallowtails**	
unidentified blue		pale swallowtail (*Papilio eurymedon*)	
Whites		western tiger swallowtail (*P. rutulus*)	
Sara orangetip (*Anthocharis sara sara*)	30	anise swallowtail (*P. zelicaon*)	
desert (Felder's) orangetip (*A. cethura*)		**Miscellaneous**	
common California ringlet (*Coenonympha californica*)	4	monarch (*Danaeus plexippus*)	
cabbage white (*Pieris rapae*)		common buckeye (*Junonia coenia grisea*)	9
checkered (common) white (*Pontia protodice*)	1	mourning cloak (*Nymphalis antiopa*)	
spring white (*P. sisymbri*)		**Skippers**	
unidentified white		funereal duskywing (*Erynnis funeralis*)	
Metalmarks		mournful duskywing (*Erynnis tristis*)	
Behr's metalmark (*Apodemia mormo virgulti*)	35	fiery skipper (*Hylephila phyleus*)	
Wright's metalmark (*Calephelis wrighti*)		white (common) checkered-skipper (*Pyrgus albescens*)	
Sulphurs		**Other**	
orange sulphur (*Colias eurytheme*)	6		
sleepy orange (*Eurema nicippe*)			
cloudless sulfur (*Phoebus sennae marcellina*)			
unidentified sulphur			
Column Subtotal	122	**Column Subtotal**	10

TOTAL 132

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: Renee Owens **Date:** 3-27-2016

Site Name: JPD-08 Proctor Valley – Village 14 of Otay Ranch **Site Visit No:** 5

Area Surveyed S **Acres Surveyed** 47 **Survey Time:** 5.5 hrs **Acres per Hour:** 8.5

Other Surveyors Present: Patrick Hord

Field Conditions				
	Time (24 hr)	**Temperature (˚F)**	**Wind Speed (mph)**	**% Cloud Cover**
Start	0810	61	0	10
End	1340	73	3.2	0
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)
Mixed chaparral w/ *A. fasciculatum, Bahiopsis, Salvia mellifera & apiana, E. fasciculatum, A. californica, L. scoparius, R. crocea,*

Host Plants	**Obs.**	**Nectar Plants**	**Obs.**
dwarf plantain (*Plantago erecta*)		popcorn flower (*Cryptantha/Plagiobothrys* spp.)	x
purple owl's clover (*Castilleja exserta*)		goldfields (*Lasthenia* spp.)	x
snapdragon (*Antirrhinum coulterianum*)		goldenstar (*Muilla* spp.)	x
birds-beak (*Cordylanthus rigidus*)		fiddleneck (*Amsinckia menziesii* var. *intermedia*)	x
woolly plantain (*Plantago patagonica*)		onion (*Allium* spp.)	x
Chinese houses (*Collinsia* spp.)		buckwheat (*Eriogonum fasciculatum*)	x
		ground pink (*Linanthus dianthiflorus*)	
Host Plant Mapping Updated (*circle*) Yes	No	**New Area or Existing Area** (*circle*) New	Existing Both
Species updated (list)			

Butterfly Species	**No.**	**Butterfly Species**	**No.**
Checkerspots		**Hairstreaks**	
California patch (*Chlosyne californica*)		great purple hairstreak (*Atlides halesus corcorani*)	
Gabb's checkerspot (*C. gabbii*)		brown elfin (*Callophrys augustinus*)	1
Quino checkerspot (*Euphydryas editha quino*)		bramble (perplexing) hairstreak (C. *dumetorum affinis*)	
chalcedon checkerspot (*E. chalcedona chalcedona*)		gray hairstreak (*Strymon melinus pudica*)	
Leanira checkerspot (*Thessalia leanira wrighti*)		**Ladies/Admirals**	
Mylitta crescent (*Phyciodes mylitta*)		California sister (*Adelpha bredowii californica*)	
Blues		Lorquin's admiral (*Limenitis lorquini*)	
western pygmy-blue (*Brephidium exila*)		west coast lady (*Vanessa annabella*)	
western tailed blue (*Everes amyntula*)		red admiral (*V. atalanta rubria*)	
southern blue (*Glaucopsyche lygdamus australis*)		painted lady (*V. cardui*)	
Edward's blue (*Hemiargus ceraunus gyas*)		American (Virginia) lady (*V. virginiensis*)	
Acmon blue (*Icaricia acmon acmon*)	2	unidentified lady (*Vanessa* sp.)	
marine blue (*Leptotes marina*)	8	**Swallowtails**	
unidentified blue		pale swallowtail (*Papilio eurymedon*)	
Whites		western tiger swallowtail (*P. rutulus*)	
Sara orangetip (*Anthocharis sara sara*)	16	anise swallowtail (*P. zelicaon*)	
desert (Felder's) orangetip (*A. cethura*)		**Miscellaneous**	
common California ringlet (*Coenonympha californica*)		monarch (*Danaus plexippus*)	
cabbage white (*Pieris rapae*)		common buckeye (*Junonia coenia grisea*)	3
checkered (common) white (*Pontia protodice*)	1	mourning cloak (*Nymphalis antiopa)*	
spring white (*P. sisymbrii*)		**Skippers**	
unidentified white	1	funereal duskywing (*Erynnis funeralis*)	
Metalmarks		mournful duskywing (*Erynnis tristis*)	
Behr's metalmark (*Apodemia mormo virgulti*)	16	fiery skipper (*Hylephila phyleus*)	1
Wright's metalmark (*Calephelis wrighti*)		white (common) checkered-skipper (*Pyrgus albescens*)	
Sulphurs		**Other**	
orange sulphur (*Colias eurytheme*)	1		
sleepy orange (*Eurema nicippe*)			
cloudless sulfur (*Phoebus sennae marcellina*)			
unidentified sulphur			
Column Subtotal	45	**Column Subtotal**	5
		Total	50

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: Brian Lohstroh **Date:** 25 March 2016

Site Name: JPD-08 Proctor Valley – Village 14 of Otay Ranch **Site Visit No:**

Area Surveyed T **Acres Surveyed** 57 acres **Survey Time:** 6.17 hrs **Acres per Hour:** 9.24

Other Surveyors Present:

Field Conditions				
	Time (24 hr)	**Temperature (˚F)**	**Wind Speed (mph)**	**Cloud Cover**
Start	08:40	64 air, 66 at ground	0-1	Clear
End	14:50	86	0-4	Clear
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)
scrub (*B. laciniata, M. laurina*); chaparral (*A. fasciculatum*, *M. laurina, R. crocea, C. tomentosus*);
NNG (*Avena* spp, *Bromus* spp.)

Host Plants	**Obs.**	**Nectar Plants**	**Obs.**
dwarf plantain (*Plantago erecta*)		popcorn flower (*Cryptantha/Plagiobothrys* spp.)	X
purple owl's clover (*Castilleja exserta*)	X	goldfields (*Lasthenia* spp.)	
snapdragon (*Antirrhinum coulterianum*)		goldenstar (*Muilla* spp.)	
birds-beak (*Cordylanthus rigidus*)		fiddleneck (*Amsinckia menziesii* var. *intermedia*)	
woolly plantain (*Plantago patagonica*)		onion (*Allium* spp.)	X
Chinese houses (*Collinsia* spp.)	X	buckwheat (*Eriogonum fasciculatum*)	X
		ground pink (*Linanthus dianthiflorus*)	
Host Plant Mapping Updated (*circle*) Yes **No**		**New Area or Existing Area** (*circle*) New **Existing** Both	
Species updated (list)			

Butterfly Species	**No.**	**Butterfly Species**	**No.**
Checkerspots		**Hairstreaks**	
California patch (*Chlosyne californica*)		great purple hairstreak (*Atlides halesus corcorani*)	
Gabb's checkerspot (*C. gabbii*)	11	brown elfin (*Callophrys augustinus*)	
Quino checkerspot (*Euphydryas editha quino*)		bramble (perplexing) hairstreak (C. *dumetorum affinis*)	
chalcedon checkerspot (*E. chalcedona chalcedona*)		gray hairstreak (*Strymon melinus pudica*)	
Leanira checkerspot (*Thessalia leanira wrighti*)		**Ladies/Admirals**	
Mylitta crescent (*Phyciodes mylitta*)		California sister (*Adelpha bredowii californica*)	
Blues		Lorquin's admiral (*Limenitis lorquini*)	
western pygmy-blue (*Brephidium exila*)		west coast lady (*Vanessa annabella*)	
western tailed blue (*Everes amyntula*)		red admiral (*V. atalanta rubria*)	1
southern blue (*Glaucopsyche lygdamus australis*)		painted lady (*V. cardui*)	1
Edward's blue (*Hemiargus ceraunus gyas*)		American (Virginia) lady (*V. virginiensis*)	2
Acmon blue (*Icaricia acmon acmon*)		unidentified lady (*Vanessa* sp.)	1
marine blue (*Leptotes marina*)	9	**Swallowtails**	
Spring azure (*Celastrina ladon echo*)		pale swallowtail (*Papilio eurymedon*)	
Whites		western tiger swallowtail (*P. rutulus*)	
Sara orangetip (*Anthocharis sara sara*)	32	anise swallowtail (*P. zelicaon*)	
desert (Felder's) orangetip (*A. cethura*)		**Miscellaneous**	
common California ringlet (*Coenonympha californica*)	11	monarch (*Danaus plexippus*)	
cabbage white (*Pieris rapae*)		common buckeye (*Junonia coenia grisea*)	
checkered (common) white (*Pontia protodice*)	11	mourning cloak (*Nymphalis antiopa)*	
spring white (*P. sisymbrii*)		**Skippers**	
unidentified white		funereal duskywing (*Erynnis funeralis*)	4
Metalmarks		mournful duskywing (*Erynnis tristis*)	
Behr's metalmark (*Apodemia mormo virgulti*)	35	fiery skipper (*Hylephila phyleus*)	
Wright's metalmark (*Calephelis wrighti*)		white (common) checkered-skipper (*Pyrgus albescens*)	10
Sulphurs		**Other**	
orange sulphur (*Colias eurytheme*)	4	Lupine blue (*Plebejus lupines*)	
sleepy orange (*Eurema nicippe*)		*Erynnis* sp.	
cloudless sulfur (*Phoebus sennae marcellina*)			
dainty sulphur (*Nathalis iole*)	2		
Column Subtotal	**115**	**Column Subtotal**	**19**
		Total	**134**

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: John Lovio **Date:** 3-24-16

Site Name: JPD-08 Proctor Valley – Village 14 of Otay Ranch **Site Visit No:** 5

Area Surveyed Polygon U **Acres Surveyed** 48 **Survey Time:** 5.2 hours **Acres per Hour:** 9

Other Surveyors Present: None

Field Conditions				
	Time (24 hr)	**Temperature (˚F)**	**Wind Speed (mph)**	**Cloud Cover**
Start	10:00	76	2	0
End	15:00	83	5-10, W	0
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)
Chaparral: *Adenostema fasciculatum*, *Ceanothus tomentosus*, *Quercus berberidifolia*, *Xylococcus bicolor* > *Heteromeles arbutifolia*, *Mimulus aurantiacus*, *Rhus integrifolia*, *Malsoma laurina*, *Salvia munzii*, *Yucca schidigera*

Host Plants	**Obs.**	**Nectar Plants**	**Obs.**
dwarf plantain (*Plantago erecta*)		popcorn flower (*Cryptantha/Plagiobothrys* spp.)	X
purple owl's clover (*Castilleja exserta*)		goldfields (*Lasthenia* spp.)	X
snapdragon (*Antirrhinum coulterianum*)		goldenstar (*Muilla* spp.)	
birds-beak (*Cordylanthus rigidus*)		fiddleneck (*Amsinckia menziesii* var. *intermedia*)	
woolly plantain (*Plantago patagonica*)		onion (*Allium* spp.)	X
Chinese houses (*Collinsia* spp.)		buckwheat (*Eriogonum fasciculatum*)	
		ground pink (*Linanthus dianthiflorus*)	
Host Plant Mapping Updated (*circle*) Yes **No**		**New Area or Existing Area** (*circle*) New **Existing** Both	
Species updated (list)			

Butterfly Species	**No.**	**Butterfly Species**	**No.**
Checkerspots		**Hairstreaks**	
California patch (*Chlosyne californica*)		great purple hairstreak (*Atlides halesus corcorani*)	
Gabb's checkerspot (*C. gabbii*)		brown elfin (*Callophrys augustinus*)	
Quino checkerspot (*Euphydryas editha quino*)		bramble (perplexing) hairstreak (C. *dumetorum affinis*)	
chalcedon checkerspot (*E. chalcedona chalcedona*)		gray hairstreak (*Strymon melinus pudica*)	
Leanira checkerspot (*Thessalia leanira wrighti*)		**Ladies/Admirals**	
Mylitta crescent (*Phyciodes mylitta*)		California sister (*Adelpha bredowii californica*)	
Blues		Lorquin's admiral (*Limenitis lorquini*)	
western pygmy-blue (*Brephidium exila*)		west coast lady (*Vanessa annabella*)	
western tailed blue (*Everes amyntula*)		red admiral (*V. atalanta rubria*)	
southern blue (*Glaucopsyche lygdamus australis*)		painted lady (*V. cardui*)	
Edward's blue (*Hemiargus ceraunus gyas*)		American (Virginia) lady (*V. virginiensis*)	
Acmon blue (*Icaricia acmon acmon*)		unidentified lady (*Vanessa* sp.)	6
marine blue (*Leptotes marina*)		**Swallowtails**	
Spring azure (*Celastrina ladon echo*)		pale swallowtail (*Papilio eurymedon*)	
Whites		western tiger swallowtail (*P. rutulus*)	
Sara orangetip (*Anthocharis sara sara*)	16	anise swallowtail (*P. zelicaon*)	
desert (Felder's) orangetip (*A. cethura*)		**Miscellaneous**	
common California ringlet (*Coenonympha californica*)		monarch (*Danaus plexippus*)	
cabbage white (*Pieris rapae*)		common buckeye (*Junonia coenia grisea*)	1
checkered (common) white (*Pontia protodice*)		mourning cloak (*Nymphalis antiopa)*	
spring white (*P. sisymbrii*)		**Skippers**	
unidentified white	2	funereal duskywing (*Erynnis funeralis*)	
Metalmarks		mournful duskywing (*Erynnis tristis*)	
Behr's metalmark (*Apodemia mormo virgulti*)	9	fiery skipper (*Hylephila phyleus*)	
Wright's metalmark (*Calephelis wrighti*)		white (common) checkered-skipper (*Pyrgus albescens*)	1
Sulphurs		**Other**	
orange sulphur (*Colias eurytheme*)	1	Lupine blue (*Plebejus lupines*)	
sleepy orange (*Eurema nicippe*)		*Erynnis* sp.	
cloudless sulfur (*Phoebus sennae marcellina*)			
unidentified sulphur	2		
Column Subtotal	**30**	**Column Subtotal**	**8**
		Total	**38**

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: Renee Owens **Date:** 3-31-2016

Site Name: JPD-08 Proctor Valley – Village 14 of Otay Ranch **Site Visit No:** 5

Area Surveyed W **Acres Surveyed** 54 **Survey Time:** 6.5 hrs **Acres per Hour:** 8.3

Other Surveyors Present:

Field Conditions				
	Time (24 hr)	**Temperature (˚F)**	**Wind Speed (mph)**	**% Cloud Cover**
Start	0805	60	0	10
End	1420	71	3.6	0
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)
Mixed chaparral w/ A. fasciculatum, *Salvia mellifera & apiana, E. fasciculatum, Artemisia, Lutus scoparius, Rhamnus crocea, Quercus spp.*

Host Plants	**Obs.**	**Nectar Plants**	**Obs.**
dwarf plantain (*Plantago erecta*)		popcorn flower (*Cryptantha/Plagiobothrys* spp.)	x
purple owl's clover (*Castilleja exserta*)		goldfields (*Lasthenia* spp.)	x
snapdragon (*Antirrhinum coulterianum*)	x	goldenstar (*Muilla* spp.)	
birds-beak (*Cordylanthus rigidus*)		fiddleneck (*Amsinckia menziesii* var. *intermedia*)	x
woolly plantain (*Plantago patagonica*)		onion (*Allium* spp.)	x
Chinese houses (*Collinsia* spp.)		buckwheat (*Eriogonum fasciculatum*)	x
		ground pink (*Linanthus dianthiflorus*)	
Host Plant Mapping Updated (*circle*) Yes	No	**New Area or Existing Area** (*circle*) New	Existing Both
Species updated (list)			

Butterfly Species	**No.**	**Butterfly Species**	**No.**
Checkerspots		**Hairstreaks**	
California patch (*Chlosyne californica*)		great purple hairstreak (*Atlides halesus corcorani*)	
Gabb's checkerspot (*C. gabbii*)		brown elfin (*Callophrys augustinus*)	
Quino checkerspot (*Euphydryas editha quino*)		bramble (perplexing) hairstreak (C. *dumetorum affinis*)	
chalcedon checkerspot (*E. chalcedona chalcedona*)		gray hairstreak (*Strymon melinus pudica*)	
Leanira checkerspot (*Thessalia leanira wrighti*)		**Ladies/Admirals**	
Mylitta crescent (*Phyciodes mylitta*)		California sister (*Adelpha bredowii californica*)	
Blues		Lorquin's admiral (*Limenitis lorquini*)	
western pygmy-blue (*Brephidium exila*)		west coast lady (*Vanessa annabella*)	
western tailed blue (*Everes amyntula*)		red admiral (*V. atalanta rubria*)	
southern blue (*Glaucopsyche lygdamus australis*)		painted lady (*V. cardui*)	
Edward's blue (*Hemiargus ceraunus gyas*)		American (Virginia) lady (*V. virginiensis*)	
Acmon blue (*Icaricia acmon acmon*)	1	unidentified lady (*Vanessa* sp.)	
marine blue (*Leptotes marina*)	14	**Swallowtails**	
unidentified blue	1	pale swallowtail (*Papilio eurymedon*)	
Whites		western tiger swallowtail (*P. rutulus*)	
Sara orangetip (*Anthocharis sara sara*)	9	anise swallowtail (*P. zelicaon*)	
desert (Felder's) orangetip (*A. cethura*)		**Miscellaneous**	
common California ringlet (*Coenonympha californica*)	1	monarch (*Danaus plexippus*)	
cabbage white (*Pieris rapae*)	1	common buckeye (*Junonia coenia grisea*)	2
checkered (common) white (*Pontia protodice*)		mourning cloak (*Nymphalis antiopa)*	
spring white (*P. sisymbrii*)		**Skippers**	
unidentified white		funereal duskywing (*Erynnis funeralis*)	
Metalmarks		mournful duskywing (*Erynnis tristis*)	1
Behr's metalmark (*Apodemia mormo virgulti*)	14	fiery skipper (*Hylephila phyleus*)	1
Wright's metalmark (*Calephelis wrighti*)		white (common) checkered-skipper (*Pyrgus albescens*)	
Sulphurs		**Other**	
orange sulphur (*Colias eurytheme*)			
sleepy orange (*Eurema nicippe*)			
cloudless sulfur (*Phoebus sennae marcellina*)	1		
unidentified sulphur			
Column Subtotal	**42**	**Column Subtotal**	**4**
		Total	**46**

2015 Quino Checkerspot Butterfly Survey Form

Surveyor: Barry Prescott Date: 5/15/15

Site Name: Jeffrey Property - Village 21 of Otay Ranch Site Visit No: 5

Acres Surveyed: X Acres Surveyed: 62 Survey Time: 6:25 h Acres per Hour: 9.9

Other Surveyors Present: N/A

Field Conditions

	Time (24 hr)	Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start	0915	63	3-5	0%
End	1530	74	5-7	0%
Start				
End				

Vegetation Communities Surveyed (exc. developed areas):

CC: ADE, DAS, MAL, GAH, SAB, PAV NNGB: BEG, MAS, AMB, ANA, CEG, SUC

CSSC: PEF, SAS, CHI, EAG, SAL, SHU

Host Plants	Obs.	Nectar Plants	Obs.
dwarf plantain (Plantago erecta)		common fiddleneck (Amsinckia intermedia)	
purple owl's clover (Castilleja exserta)		goldfields (Lasthenia spp.)	✓
snapdragon (Antirrhinum coulterianum)		popcorn flower (Plagiobothrys spp.)	
bird's beak (Cordylanthus rigidus)		California buckwheat (Eriogonum fasciculatum)	
woolly plantain (Plantago patagonica)		onion (Allium spp.)	
Chinese houses (Collinsia spp.)		butterweed (Isocoma menziesii)	✓
		ground pink (Eremalche exilis)	✓

Host Plant Mapping Updated (circle): Yes No New Area or Existing Area (circle): New Existing Both

Species updated (list):

Butterfly Species	No.	Butterfly Species	No.
Checkerspots		**Hairstreaks**	
California patch (Chlosyne californica)		great purple hairstreak (Atlides halesus corcoran)	
Gabb's checkerspot (C. gabbii)	4	brown elfin (Callophrys augustinus)	
Quino checkerspot (Euphydryas editha quino)		[species not specified] (C. dumetorum, affinis)	
northern checkerspot (E. editha editha)		gray hairstreak (Strymon melinus humuli)	1
Taylor's checkerspot (Thessalia editha taylori)		**Ladies/Admirals**	
Mylitta crescent (Phyciodes mylitta)		California sister (Adelpha bredowii californica)	
Blues		painted lady (Vanessa cardui)	
western pygmy blue (Brephidium exile)		west coast lady (Vanessa annabella)	
reakirt's blue (Hemiargus isola)		red admiral (V. atalanta rubria)	
gray's blue (Glaucopsyche lygdamus australis)		common buckeye (J. coenia)	2
Echo blue (Lycaeides argyrognomon lotis)		American lady (V. virginiensis)	
acmon blue (Icaricia acmon acmon)		[unidentified lady] (V. virginiensis/cardui)	
marine blue (Leptotes marina)		**Swallowtails**	
[unidentified blue]		pale swallowtail (Papilio eurymedon)	
Whites		western tiger swallowtail (P. rutulus)	
Sara orangetip (Anthocharis sara sara)	12	anise swallowtail (P. zelicaon)	1
[orange tip] (Anthocharis spp.)		**Miscellaneous**	
common California white (Pieris rapae)		moths (Various families)	
cabbage white (Pieris rapae)		[unidentified butterfly] (Various species)	
[marbled white] (Euchloe spp.)		[skipper] (Various species)	
sara orangetip (E. ausonides)		**Skippers**	
[checkered white] (Pontia spp.)		[unidentified skipper] (Various species)	
Swallowtails		**Other**	
pale swallowtail (Papilio eurymedon)			
[swallowtail] (Papilio spp.)			
Hairstreaks			
[unidentified butterfly]			

Column Subtotal: 51 Column Subtotal: 4

Total: 55

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: Chez Baumgarten Date: 3/23/16

Site Name: JPD-08 Proctor Valley – Village 14 of Otay Ranch Site Visit No: ~~1~~, ~~2~~, ~~3~~, ~~4~~, 5

2 partial Area Surveyed: ~~1~~ Acres Surveyed: 50 Survey Time: 5hrs Acres per Hour: 10 (5.6 Apr)

Other Surveyors Present: Nicole Kimball

Field Conditions				
	Time (24 hr)	Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start	0900	61	0-2	0%
End	~~1500~~ 1400	81	4-7	0%
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)

Host Plants	Obs.	Nectar Plants	Obs.
dwarf plantain (*Plantago erecta*)	Saw	popcorn flower (*Cryptantha/Plagiobothrys* spp.)	Saw
purple owl's clover (*Castilleja exserta*)	Saw	goldfields (*Lasthenia* spp.)	Saw
snapdragon (*Antirrhinum coulterianum*)		goldenstar (*Muilla* spp.)	
birds-beak (*Cordylanthus rigidus*)		fiddleneck (*Amsinckia menziesii* var. *intermedia*)	
woolly plantain (*Plantago patagonica*)		onion (*Allium* spp.)	
Chinese houses (*Collinsia* spp.)		buckwheat (*Eriogonum fasciculatum*)	Saw
		ground pink (*Linanthus dianthiflorus*)	
Host Plant Mapping Updated (circle) Yes (No)		New Area or Existing Area (circle) New Existing Both	
Species updated (list)			

Butterfly Species	No.	Butterfly Species	No.
Checkerspots		**Hairstreaks**	
California patch (*Chlosyne californica*)		great purple hairstreak (*Atlides halesus corcoran*)	
Gabb's checkerspot (*C. gabbii*)		brown elfin (*Callophrys augustinus*)	
Quino checkerspot (*Euphydryas editha quino*)		bramble (perplexing) hairstreak (*C. dumetorum affinis*)	
chalcedon checkerspot (*E. chalcedona chalcedona*)		gray hairstreak (*Strymon melinus pudica*)	
Leanira checkerspot (*Thessalia leanira wrighti*)		**Ladies/Admirals**	
Mylitta crescent (*Phyciodes mylitta*)		California sister (*Adelpha bredowii californica*)	
Blues		Lorquin's admiral (*Limenitis lorquini*)	
western pygmy-blue (*Brephidium exile*)		west coast lady (*Vanessa annabella*)	
western tailed blue (*Everes amyntula*)		red admiral (*V. atalanta rubria*)	
southern blue (*Glaucopsyche lygdamus australis*)		painted lady (*V. cardui*)	
Edward's blue (*Hemiargus ceraunus gyas*)		American (Virginia) lady (*V. virginiensis*)	
Acmon blue (*Icaricia acmon acmon*)		unidentified lady (*Vanessa* sp.)	1
marine blue (*Leptotes marina*)	1	**Swallowtails**	
unidentified blue	1	pale swallowtail (*Papilio eurymedon*)	
Whites		western tiger swallowtail (*P. rutulus*)	
Sara orangetip (*Anthocharis sara sara*)	~~1~~ 2	anise swallowtail (*P. zelicaon*)	
desert (Felder's) orangetip (*A. cethura*)		**Miscellaneous**	
common California ringlet (*Coenonympha californica*)	1	mosaic (*Danaus plexippus*)	
cabbage white (*Pieris rapae*)		common buckeye (*Junonia coenia grisea*)	1
checkered (common) white (*Pontia protodice*)		mourning cloak (*Nymphalis antiopa*)	
spring white (*P. sisymbrii*)		**Skippers**	
unidentified white	31	funereal duskywing (*Erynnis funeralis*)	
Metalmarks		mournful duskywing (*Erynnis tristis*)	
Behr's metalmark (*Apodemia mormo virgulti*) ~~1~~ 2	~~1~~ 2	fiery skipper (*Hylephila phyleus*)	
Wright's metalmark (*Calephelis wrighti*)		white (common) checkered-skipper (*Pyrgus albescens*)	14
Sulphurs		**Other**	
orange sulphur (*Colias eurytheme*)		Buckeye ~~larvae~~ larvae	1
sleepy orange (*Eurema nicippe*)			
cloudless sulfur (*Phoebus sennae marcellina*)			
unidentified sulphur			
Column Subtotal	58	Column Subtotal	13
		Total	71

Appendix C

BUTTERFLY CHECKLIST

Appendix C
BUTTERFLY CHECKLIST

2016 Quino Checkerspot Butterfly Surveys
BUTTERFLY CHECKLIST

Site Name: Proctor Valley – Village 14 of Otay Ranch

Dates: February 24 – March 31, 2016

Survey Numbers: 1-5

Surveyors: Jasmine Bakker, Erica Harris, Amy Mattson, Melissa Busby, Darin Busby, Melanie Rocks, Brian Lohstroh, Erik LaCoste, Gretchen Cummings, Brenna Ogg, Brian Parker, Crysta Dickson, Diana Saucedo, John Lovio, Monica Alfaro, Natalie Brodie, Renee Owens, Chez Brungraber, Andrew Borcher, Nicole Kimball, Travis Cooper, Alicia Hill, Melanie Dicus, John Dicus, and Garrett Huffman (Ben Rosenbaum, Hannah Sadowski, Talaya Rachels, Griffin Brungraber, Andy Smisek, and Patrick Hord as supervised individuals)

Butterfly Species	No.	Butterfly Species	No.
Checkerspots		**Metalmarks**	
California patch (*Chlosyne californica*)	26	Behr's metalmark (*Apodemia mormo virgulti*)	2,817
Gabb's checkerspot (*C. gabbii*)	180	Wright's metalmark (*Calephelis wrighti*)	57
Quino checkerspot (*Euphydryas editha quino*)		**Ladies/Admirals**	
chalcedon checkerspot (*E. chalcedona chalcedona*)		California sister (*Adelpha bredowii californica*)	2
Leanira checkerspot (*Thessalia leanira 1ulphu*)		Lorquin's admiral (*Limenitis lorquini*)	
Mylitta crescent (*Phyciodes mylitta*)		west coast lady (*Vanessa annabella*)	48
Blues		red admiral (*V. atalanta rubria*)	102
western pygmy-blue (*Brephidium exila*)	20	painted lady (*V. cardui*)	139
Bernardino blue (*Euphilotes bernardino allyni*)	1	American (Virginia) lady (*V. virginiensis*)	123
western tailed blue (*Everes amyntula*)	2	unidentified lady (*Vanessa* sp.)	154
southern blue (*Glaucopsyche lygdamus australis*)	264	**Swallowtails**	
Edward's blue (*Hemiargus ceraunus gyas*)	4	Giant swallowtail (*Papilio cresphontes*)	15
Acmon blue (*Icaricia acmon acmon*)	108	pale swallowtail (*P. eurymedon*)	44
marine blue (*Leptotes marina*)	177	western tiger swallowtail (*P. rutulus*)	16
unidentified blue	125	anise swallowtail (*P. zelicaon*)	136
Whites		**Skippers**	
Sara orangetip (*Anthocharis sara sara*)	4,262	Bald duskywing (*Erynnis afranius*)	2
desert (Felder's) orangetip (*A. cethura*)	22	funereal duskywing (*E. funeralis*)	587
common California ringlet (*Coenonympha californica*)	652	Artful duskywing (*E. pacuvius*)	10
Common ringlet (*Coenonympha tuillia*)	2	mournful duskywing (*E. tristis*)	88
cabbage white (*Pieris rapae*)	133	Duskywing sp. (*Erynnis* sp.)	26
checkered (common) white (*Pontia protodice*)	310	Northern white skipper (*Heliopetes ericetorum*)	89
spring white (*P. sisymbrii*)	41	fiery skipper (*Hylephila phyleus*)	19
unidentified white	208	Eufala skipper (*Lerodea eufala*)	11
Sulphurs		white (common) checkered-skipper (*Pyrgus albescens*)	403
orange sulphur (*Colias eurytheme*)	365	Arizona powdered skipper (*Systasea zampa*)	2
Harford's sulphur *(C. harfordii)*	68	unidentified Skipper	12
sleepy orange (*Eurema nicippe*)	8	**Miscellaneous**	
dainty sulphur *(Nathalis iole)*	15	Gulf fritillary (*Agraulis vanillae incarnata*)	24
cloudless sulfur (*Phoebus sennae marcellina*)	5	Spring azure (*Celastrina ladon*)	1
unidentified sulphur	198	Striated queen *(Danaus gilippus)*	1
Hairstreaks		monarch (*D. plexippus*)	57
great purple hairstreak (*Atlides halesus corcorani*)		Pearly marble (*Euchloe hyantis*)	9
brown elfin (*Callophrys augustinus*)	48	common buckeye (*Junonia coenia grisea*)	233
bramble (perplexing) hairstreak (C. *dumetorum affinis*)	30	mourning cloak (*Nymphalis antiopa)*	15
gray hairstreak (*Strymon melinus pudica*)	97	California tortoiseshell (*N. californica)*	1
		Callippe fritillary *(Speyeria callippe consecra)*	3
		Comstock's fritillary (*Speyeria callippe comstocki*)	7
Column Subtotal	**7,371**	**Column Subtotal**	**5,253**
		Total Butterflies Observed	**12,624**

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APPENDIX E

Coastal California Gnatcatcher Survey Reports

DUDEK

MAIN OFFICE
605 THIRD STREET
ENCINITAS, CALIFORNIA 92024
T 760.942.5147 T 800.450.1818 F 760.632.0164

January 26, 2015 8207

U.S. Fish and Wildlife Service
Attention: Recovery Permit Coordinator
2177 Salk Avenue, Suite 250
Carlsbad, California 92008

Subject: ***California Gnatcatcher Survey Report for the Proctor Valley Project (Otay Ranch Village 14, Planning Areas 16 and 19) County of San Diego, Jamul California***

Dear Recovery Permit Coordinator:

This report documents the results of protocol-level presence/absence surveys for the coastal California gnatcatcher (*Polioptila californica californica*; CAGN). Focused surveys were conducted throughout all areas of suitable habitat (i.e., coastal sage scrub and sub-associations) for the proposed Proctor Valley Project (project) (Figure 1). The proposed project consists of three Village/Planning Areas (i.e., Village 14 and Planning Areas 16 and 19) within Otay Ranch and a portion of Proctor Valley Road located in the City of San Diego or City of Chula Vista, California (Figure 1). The Village/Planning areas are either owned by the city, privately owned or owned by the California Department of Fish and Wildlife (CDFW). This report focuses on the private- and city-owned portions of the project. Results of the CDFW surveys are provided as a separate survey report. Dudek biologists Thomas Liddicoat, Erin Bergman, Paul Lemons, and Jeff Priest conducted a first round of surveys in June and July 2014. A second round of surveys was conducted in October and November 2014 by Dudek biologists Thomas Liddicoat, Erin Bergman, Paul Lemons, Jeff Priest, Anita Hayworth, Kam Muri, Brock Ortega, and Tricia Wotipka-Priest.

The CAGN is a federally-listed threatened species and a California Department of Fish and Game Species of Special Concern. It is closely associated with coastal sage scrub habitat and typically occurs below 950 feet elevation and on slopes less than 40% (Atwood 1990), but CAGN have been observed at elevations greater than 2,000 feet. The species is threatened primarily by loss, degradation, and fragmentation of coastal sage scrub habitat, and is also impacted by brown-headed cowbird (*Molothrus ater*) nest parasitism.

LOCATION AND EXISTING CONDITIONS

The proposed Proctor Valley project is located in within the community of Jamul in southern San Diego County, California. Specifically, the project site is located on the U.S. Geological

Survey 7.5 minute series Jamul Mountains Quadrangle map, Township 17 South, Range 1 East, section 17 (Figure 2). The project site is centered around Proctor Valley Road, which generally runs north to south through the entire site.

The project site supports native vegetation communities and is topographically diverse from steep-rolling hillsides along the east portions of the project to flat areas along Proctor Valley Road. Elevations across the site decrease from north to south; approximately 950 feet above mean sea level (AMSL) along the northern boundary, approximately 630 feet AMSL centrally, and approximately 540 feet ASML along the southern boundary. The highest elevation is slightly above 1,500 feet and found within the most eastern portion of the project site within Village 16 (privately-owned lands).

The entire site, other than Proctor Valley Road, is undeveloped with a number of dirt roads traversing the project site. A transmission line crosses the project site from west to east. Vacant lands surround much of the project site; however, existing residential development is present to the north and south. Upper Otay Lake is also located to the south.

Vegetation Communities

Vegetation types that potentially support gnatcatchers within the privately-owned and city-owned lands focused survey area included coastal sage scrub and disturbed coastal sage scrub, totaling approximately 907 acres. The acreages of suitable habitat surveyed is provided in Table 1 and descriptions of these communities are provided below.

Table 1
Survey Area Acreages

Vegetation Community	Privately-owned Lands (Survey Areas 1, 2, 3, 4, 5)	City-owned Lands (Survey Area 1)	Total
Round 1			
Coastal Sage Scrub	248	61	309
Disturbed Coastal Sage Scrub	60	99	159
Subtotal	*308*	*160*	***468***
Round 2			
Coastal Sage Scrub	418	0	418
Disturbed Coastal Sage Scrub	21	0	22
Subtotal	*439*	*0*	***439***
Total	747	160	907

Coastal Sage Scrub

Coastal sage scrub is a native plant community composed of a variety of soft, low, aromatic shrubs, characteristically dominated by drought-deciduous species such as California sagebrush (*Artemisia californica*), California buckwheat (*Eriogonum fasciculatum*), and sages (*Salvia* spp.); with scattered evergreen shrubs, including lemonadeberry (*Rhus integrifolia*), laurel sumac (*Malosma laurina*), and toyon (*Heteromeles arbutifolia*). It typically develops on south-facing slopes and other xeric situations (Holland 1986).

Coastal sage scrub habitat occurs throughout the entire project site. Areas of disturbed costal sage scrub generally support a higher percent cover of non-native annual grass species such as wild oat (*Avena barbata*) and ripgut species (*Bromus* spp.). The southern areas of the project have the largest portion of costal sage scrub habitat but most of the acreage comes from the western and eastern boundaries in the northern half of the project site.

METHODS

The City is enrolled in the Natural Community Conservation Planning (NCCP) through its San Diego Multiple Species Conservation Program (MSCP); thus, in accordance with U.S. Fish and Wildlife Service (USFWS) (USFWS 1997) survey protocol, three surveys were conducted for the project site. The project site was surveyed over two rounds of field surveys to cover the entire project site and were conducted under the authorization of permit holders Thomas Liddicoat (TE139634-2), Erin Bergman (TE813545-5), Paul Lemons (TE051248-4), Jeff Priest (TE840619), Anita Hayworth (TE781084-8), Kam Muri (TE051250-3), Brock Ortega (TE813545-5), and Tricia Wotipka-Priest (independent investigator under permit TE840619) according to the schedule provided below in Table 2. The specific areas surveyed during the two rounds of surveys are provided in Figure 3.

Table 2
Survey Details and Conditions

Site	Date	Time	Personnel	Survey Conditions	Survey Area
Round One					
Privately-Owned Lands	6/26/14	0640–1210	TSL	100-70% cc; wind 0–3mph; 65-79°F	4
	6/26/14	0600–1200	EJB	100-0% cc; wind 1–4mph; 62-86°F	1
	6/27/14	0615–1300	EJB	90-0% cc; wind 1–5mph; 63-87°F	3
	7/2/14	0602-1200	EJB	100-0% cc; wind 1–4mph; 62-78°F	1
	7/3/14	0608-1200	EJB	100-0% cc; wind 1–5mph; 64-81°F	3
	7/9/14	0700-1200	JDP	100-0% cc; wind 1–4mph, 67-82°F	4

Table 2
Survey Details and Conditions

Site	Date	Time	Personnel	Survey Conditions	Survey Area
	7/9/14	0700-1200	EJB	100-0% cc; wind 1–3mph; 62-84°F	1
	7/10/14	0600-1200	EJB	100-0% cc; wind 1–2mph; 63-82°F	3
	7/16/14	0700-1200	TSL	100-0% cc; wind 0–5mph; 68-81°F	4
City Owned Lands	6/18/14	0700–1205	TSL	0% cc; wind 3–8 mph, 59-73°F	5
	6/26/14	0640–1210	TSL	100-70% cc; wind 0–3 mph; 65-79°F	4
	7/1/14	0608-1200	EJB	100-0% cc; wind 1–5mph, 63-84°F	5
	7/8/14	0700-1200	PML	60-5% cc; wind 4–8mph (9-15 gusts); 67-89°F	5
	7/9/14	0700-1200	JDP	100-0% cc; wind 1–4mph, 67-82°F	4
	7/16/14	0700-1200	TSL	100-0% cc; wind 0–5mph; 68-81°F	4
Round Two					
Privately Owned Lands	10/23/14	0620-1145	EJB	0% cc; wind 1-6 mph; 58-79°F	1
	10/31/14	0615-1200	EJB	0% cc; wind 1-6 mph; 56-81°F	1
	11/7/14	0600-1150	AMH	0% cc; wind 3-5 mph; 64-78°F	1
	10/24/14	0700-1040	TSL	0% cc; wind 0-3 mph; 55-74°F	2
	11/2/14	0700-1200	JDP	50% cc; wind 0-4 mph; 57-68°F	2
	11/11/14	0540-1005	BAO	100% cc; wind 0-3 mph; 50-66°F	2
	10/24/14	0645-1030	JDP	0% cc; wind 0-4 mph; 60-72°F	3
	11/4/14	0700-1045	TWP	50% cc; wind 0-4 mph; 57-68°F	3
	11/11/14	0715-1145	KJM	0% cc; wind 2-3 mph; 51-71°F	3
	10/27/14	0715-1300	KJM	0% cc; wind 0-6 mph; 54-71°F	4
	11/4/14	0700-1200	JDP	0% cc; wind 0-6 mph; 56-74°F	4
	11/16/14	0710-1200	PLM	5-15% cc; wind 0-5 mph; 60-69°F	4
	10/30/14	0700-1030	PLM	40-70% cc; wind 0-2 mph; 60-74°F	5
	11/6/14	0545-0955	BAO	0% cc; wind 0-1 mph; 50-83°F	5
	11/13/14	0615-1030	AMH	0% cc; wind 1-3 mph; 55-69°F	5

Personnel: TSL=Thomas Liddicoat (TE139634-2), EJB=Erin Bergman (TE813545-5), PML=Paul Lemons (TE051248-4), JDP= Jeff Priest (TE840619), AMH=Anita Hayworth (TE781084-8), KJM=Kam Muri (TE051250-3), BAO=Brock Ortega (TE813545-5), and TWP=Tricia Wotipka-Priest (independent investigator under permit TE840619)
Survey Conditions: cc = cloud cover, °F = degrees Fahrenheit, mph = miles per hour

In accordance with the protocol, no more than 100-acres of suitable habitat was surveyed by a singe biologist during each visit. The entire project area was covered on-foot during each survey visit for 100% visual and audible coverage of the site; routes of the surveys are illustrated on Figure 3. During each round of surveys the visits were conducted at minimum one-week intervals (i.e., 7-day) and were performed in conformance with the currently accepted protocol of the USFWS *Coastal California Gnatcatcher (Polioptila californica californica) Presence/Absence Survey Protocol* (USFWS 1997).

A topographic map at 100-scale of the site (1 inch = 100 feet) overlain with vegetation polygons and the project boundary was carried during the survey. Additionally, digital mobile maps were utilized during the surveys to assist in navigating each survey area and mapping any gnatcatcher present. Weather conditions during surveys are provided in Table 2. Appropriate binoculars (e.g., 8.5x42 to 10×50 and magnification) were used to aid in detecting and identifying bird species. A tape of recorded gnatcatcher vocalizations was played approximately every 100-150 feet to induce responses from potentially present gnatcatchers. Tape-playback was terminated immediately upon detection of any gnatcatchers to minimize the potential for harassment. Weather conditions, time of day, and season were appropriate for the detection of gnatcatchers.

RESULTS

To Dudek's knowledge, no previous presence/absence survey efforts for California Gnatcatcher have occurred for the project site. Throughout the two rounds of surveys a total of 25 CAGN were observed including nine pairs, four fledglings/juveniles, and two lone males (Figure 4). The survey results according to property ownership are described below.

Privately-Owned Lands

A total of four CAGN pairs and one lone male were detected during the two rounds of surveys within the privately-owned lands incorporated into the proposed project survey area (Figure 4). Although these surveys did not include identifying CAGN territories, three CAGN pairs and the lone male were detected in the proposed Village 14 site, and the other CAGN pair was observed within Village 16. No CAGN were observed within Village 19 site.

City Owned Lands

A total of five CAGN pairs, one lone male, and four juveniles were detected during the two rounds of surveys within the City owned lands incorporated in to the project survey area (Figure 4).

I certify that the information in this survey report and attached exhibits fully and accurately represents my work.

Sincerely,

Thomas S. Liddicoat
Permit # TE139634-2

Kam Muri
Permit # TE051250-3

Erin Bergman
Permit # TE813545-5

Brock Ortega
Permit # TE813545-5

Jeff Priest
Permit # TE840619

Tricia Wotipka-Priest
Independent investigator under permit # TE840619)

Paul Lemons
Permit # TE051248-4

Anita Hayworth
Permit # TE781084-8

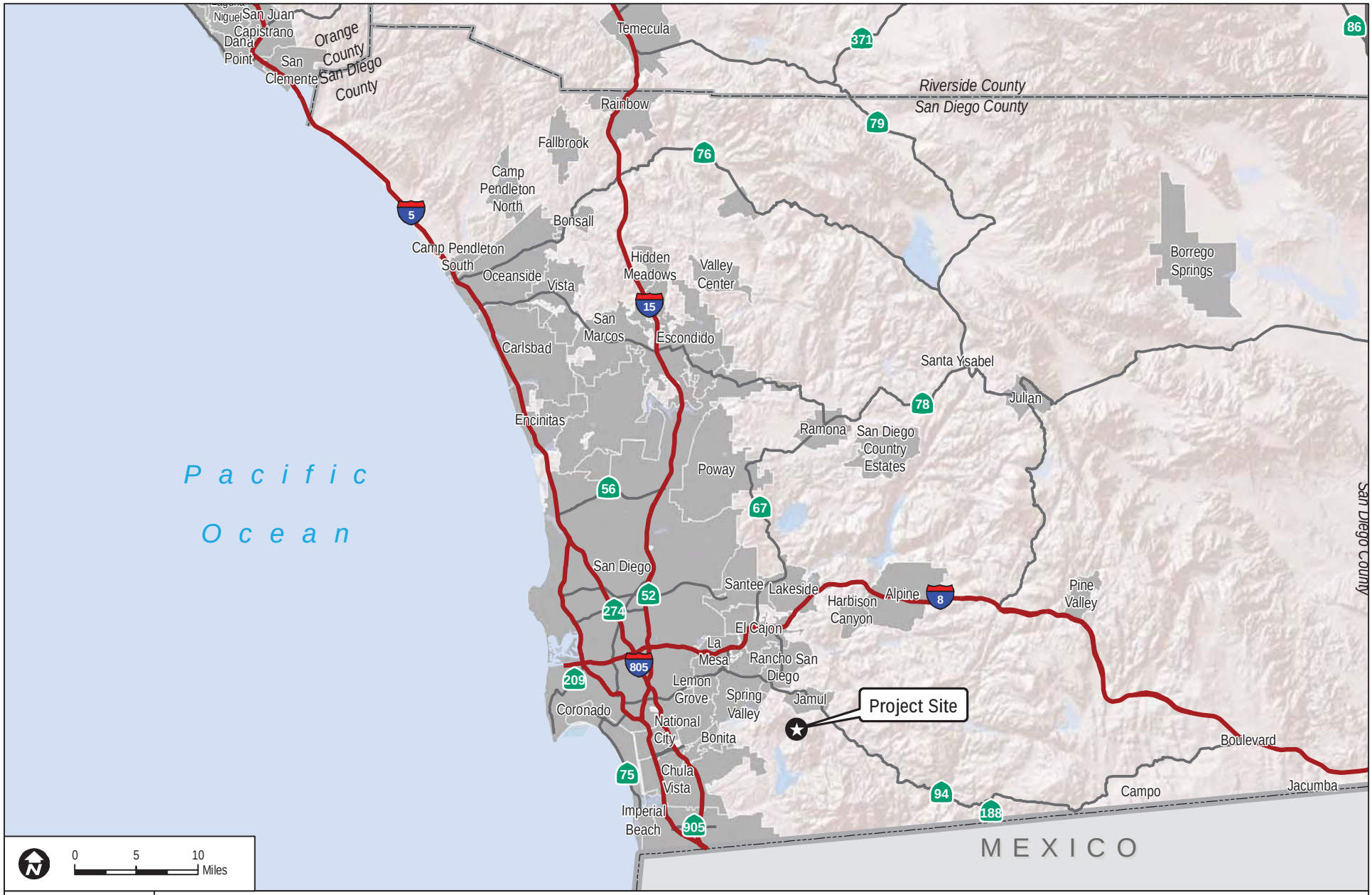
Att.: *Figure 1, Regional Map*
Figure 2, Vicinity Map
Figure 3, CAGN Survey Comparison
Figure 4, Biological Resources and CAGN Survey Routes
Appendix A, Compendium of Wildlife Species Observed or Detected

REFERENCES

Atwood, J.L. 1990. *Status review of the California gnatcatcher* (Polioptila california). Unpublished technical report, Manomet Bird Observatory, Manomet, Massachusetts. 79 pp.

Holland, R.F. 1986. *Preliminary Descriptions of the Terrestrial Natural Communities of California.* Nongame-Heritage Program, California Department of Fish and Game. October 1986.

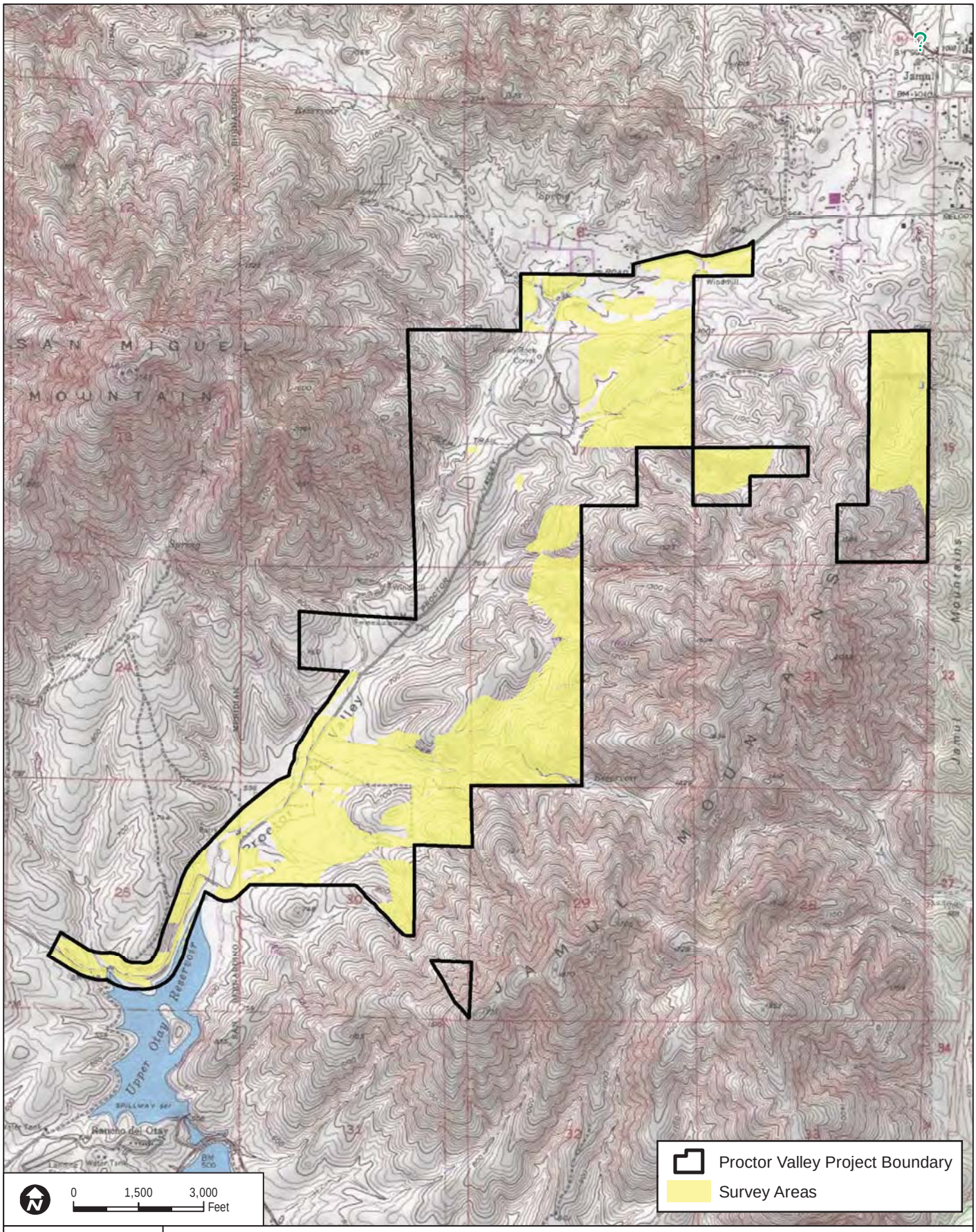
USFWS (U.S. Fish and Wildlife Service). 1997. *Coastal California Gnatcatcher* (Polioptila californica californica) *Presence/Absence Survey Guidelines, July 28, 1997.*



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FIGURE 1
Regional Map

2014 FOCUSED CALIFORNIA GNATCATCHER SURVEY REPORT FOR PROCTOR VALLEY PROJECT
(OTAY RANCH VILLAGE 14, PLANNING AREAS 16 AND 19) - PRIVATE AND CITY OWNED LANDS



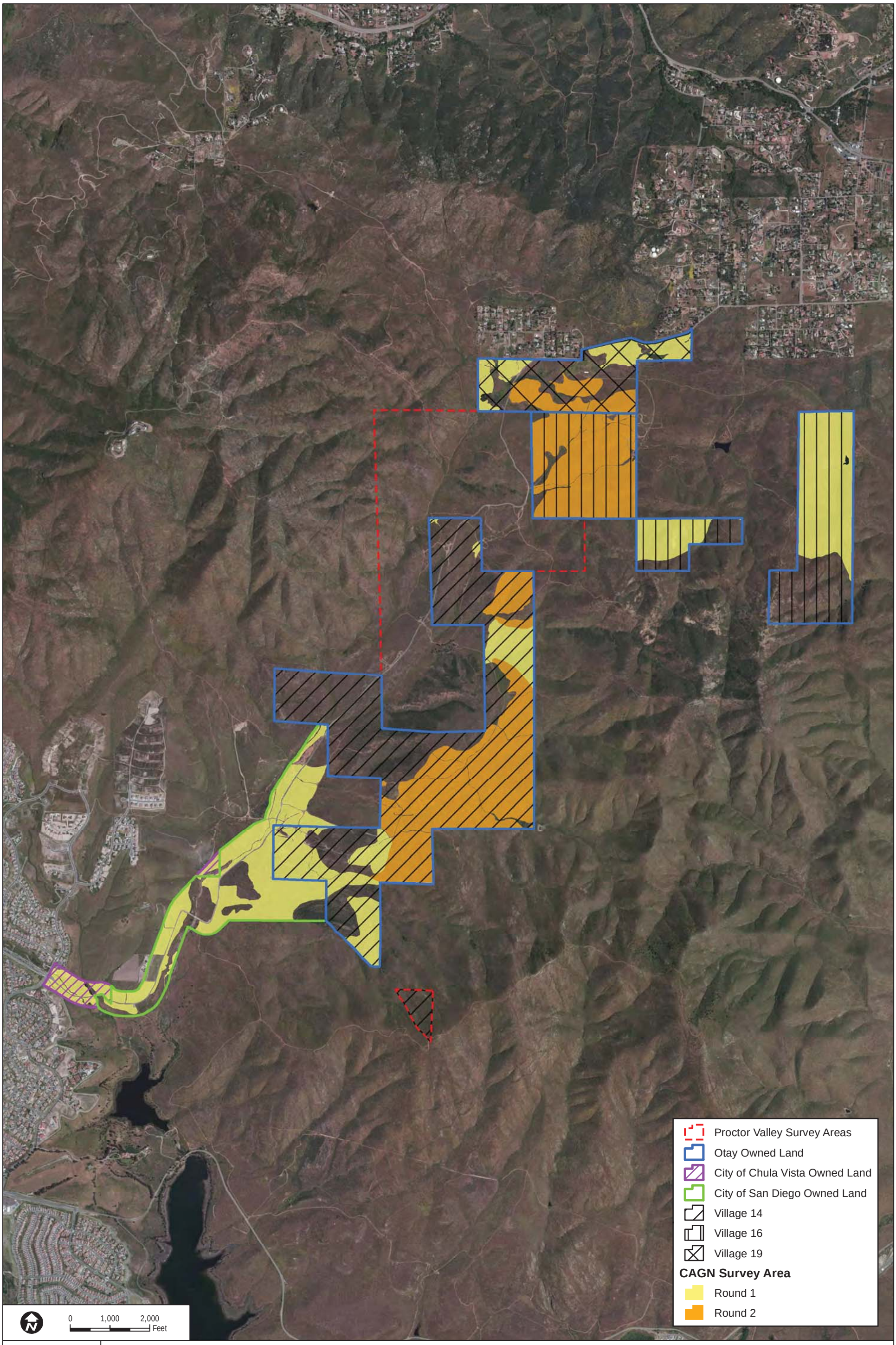
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SOURCE: USGS 7.5-Minute Series Jamul Mountains Quadrangle

FIGURE 2

Vicinity Map

2014 FOCUSED CALIFORNIA GNATCATCHER SURVEY REPORT FOR PROCTOR VALLEY PROJECT
(OTAY RANCH VILLAGE 14, PLANNING AREAS 16 AND 19) - PRIVATE AND CITY OWNED LANDS



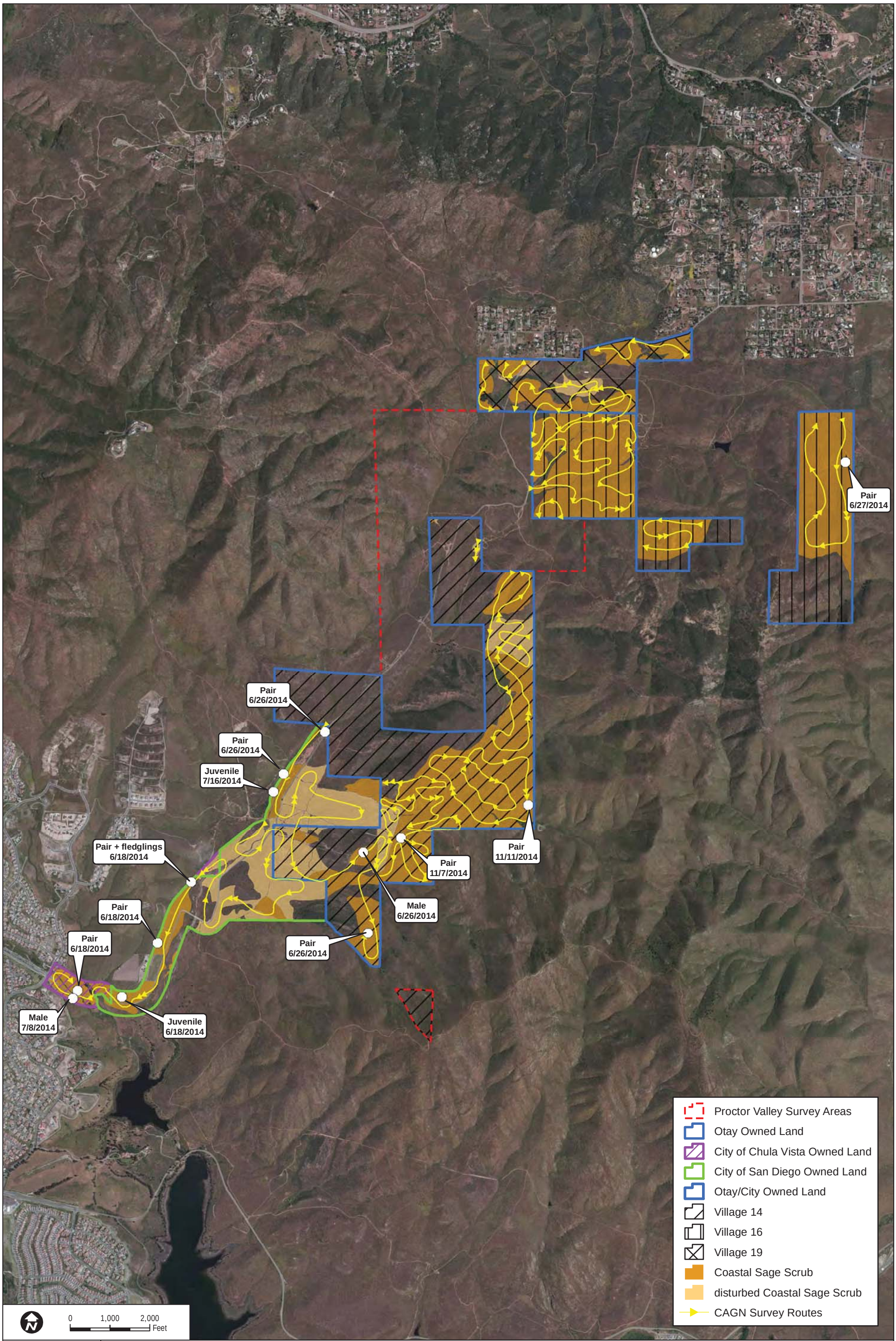
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SOURCE: Bing Maps 2014; Hunsaker 2014

FIGURE 3

CAGN Survey Comparison

2014 FOCUSED CALIFORNIA GNATCATCHER SURVEY REPORT FOR PROCTOR VALLEY PROJECT
(OTAY RANCH VILLAGE 14, PLANNING AREAS 16 AND 19) - PRIVATE AND CITY OWNED LANDS



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SOURCE: Bing Maps 2014; Hunsaker 2014

FIGURE 4

Biological Resources and CAGN Survey Routes

2014 FOCUSED CALIFORNIA GNATCATCHER SURVEY REPORT FOR PROCTOR VALLEY PROJECT
(OTAY RANCH VILLAGE 14, PLANNING AREAS 16 AND 19) - PRIVATE AND CITY OWNED LANDS

APPENDIX A

Compendium of Wildlife Species Observed or Detected

APPENDIX A
Compendium of Wildlife Species Observed or Detected

BIRDS

ACCIPITRIDAE – HAWKS

Accipiter cooperii – Cooper's hawk
Buteo jamaicensis – red-tailed hawk
Buteo lineatus – red-shouldered hawk
Circus cyaneus – northern harrier

AEGITHALIDAE – BUSHTITS

Psaltriparus minimus – bushtit

ALAUDIDAE – LARKS

Eremophila alpestris – horned lark

APODIDAE – SWIFTS

Aeronautes saxatalis – white-throated swift

CAPRIMULGIDAE – GOATSUCKERS

Chordeiles acutipennis – lesser nighthawk

CARDINALIDAE – CARDINALS AND ALLIES

Passerina caerulea – blue grosbeak

CATHARTIDAE – NEW WORLD VULTURES

Cathartes aura – turkey vulture

COLUMBIDAE – PIGEONS AND DOVES

Columbina passerina—common ground-dove
* *Streptopeplia decaocto* – Eurasian collared-dove
Zenaida macroura – mourning dove

CORVIDAE – JAYS AND CROWS

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

CUCULIDAE – CUCKOOS, ROADRUNNERS, AND ANIS

Geococcyx californianus – greater roadrunner

EMBERIZIDAE – BUNTINGS AND SPARROWS

Aimophila ruficeps canescens – Southern California rufous-crowned sparrow
Ammodramus savannarum – grasshopper sparrow
Chondestes grammacus – lark sparrow
Melospiza melodia – song sparrow
Passerculus sandwichensis—savannah sparrow
Pipilo crissalis – California towhee
Pipilo maculatus – spotted towhee
Zonotrichia leucophrys—white-crowned sparrow

FALCONIDAE – CARACARAS AND FALCONS

Falco sparverius – American kestrel

FRINGILLIDAE – FINCHES

Carpodacus mexicanus – house finch
Carduelis psaltria – lesser goldfinch

HIRUNDINIDAE – SWALLOWS

Petrochelidon pyrrhonota – cliff swallow
Tachycineta thalassina – violet-green swallow

ICTERIDAE – BLACKBIRDS

Agelaius phoeniceus – red-winged blackbird
Icterus cucullatus – hooded oriole
Sturnella neglecta – western meadowlark

MIMIDAE – THRASHERS

Mimus polyglottos – northern mockingbird
Toxostoma redivivum – California thrasher

ODONTOPHORIDAE—NEW WORLD QUAIL

Callipepla californica—California quail

PARULIDAE – WOOD-WARBLERS

Cardellina pusilla – Wilson's warbler
Geothlypis trichas – common yellowthroat
Setophaga coronata—yellow-rumped warbler

PASSERIDAE – OLD WORLD SPARROWS

* *Passer domesticus* – house sparrow

PHASIANIDAE – PHEASANTS AND QUAILS

Callipepla californica – California quail

PICIDAE – WOODPECKERS AND ALLIES

Colaptes auratus – northern flicker
Picoides nuttallii – Nuttall's woodpecker

PTILOGONATIDAE – SILKY FLYCATCHERS

Phainopepla nitens – phainopepla

STURNIDAE – STARLINGS AND ALLIES

* *Sturnus vulgaris* – European starling

SYLVIIDAE – GNATCATCHERS

Polioptila californica californica – coastal California gnatcatcher

TIMALIIDAE – LAUGHINGTHRUSH AND WRENTIT

Chamaea fasciata – wrentit

TROCHILIDAE – HUMMINGBIRDS

Calypte anna – Anna's hummingbird
Calypte costae – Costa's hummingbird

TROGLODYTIDAE – WRENS

Salpinctes obsoletus—rock wren
Thryomanes bewickii – Bewick's wren

TURDIDAE – THRUSHES

Sialia mexicana – western bluebird

TYRANNIDAE – TYRANT FLYCATCHERS

Myiarchus cinerascens **–** ash-throated flycatcher
Sayornis nigricans – black phoebe
Sayornis saya **–** Say's phoebe
Tyrannus verticalis – western kingbird
Tyrannus vociferans – Cassin's kingbird

INVERTEBRATE

BUTTERFLIES

NYMPHALIDAE—BRUSH-FOOTED BUTTERFLIES

*Vanessa cardui***—**painted lady

MAMMAL

CANIDS

CANIDAE—WOLVES AND FOXES

Canis latrans—coyote

HARES AND RABBITS

LEPORIDAE—HARES AND RABBITS

Lepus californicus bennettii—San Diego black-tailed jackrabbit

RATS AND MICE

MURIDAE—RATS & MICE

Neotoma sp—woodrat species

SQUIRRELS

SCIURIDAE—SQUIRRELS

Spermophilus(Otospermophilus) beecheyi—California ground squirrel

UNGULATES

CERVIDAE—DEERS

Odocoileus hemionus—mule deer

REPTILE

PHRYNOSOMATIDAE—IGUANID LIZARDS

Sceloporus occidentalis—western fence lizard

ANGUIDAE—ALLIGATOR LIZARDS

Elgaria multicarinata—southern alligator lizard

SNAKES

BOIDAE—BOAS

Lichanura trivirgata—rosy boa

* signifies introduced (non-native) species

DUDEK

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ENCINITAS, CALIFORNIA 92024
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January 26, 2015 8207

U.S. Fish and Wildlife Service
Attention: Recovery Permit Coordinator
2177 Salk Avenue, Suite 250
Carlsbad, California 92008

Subject: ***California Gnatcatcher Survey Report for the Proctor Valley Project (Otay Ranch Village 14, Planning Areas 16 and 19) State Owned Lands – CDFW, County of San Diego, Jamul, California***

Dear Recovery Permit Coordinator:

This report documents the results of protocol-level presence/absence surveys for the coastal California gnatcatcher (*Polioptila californica californica;* CAGN). Focused surveys were conducted throughout all areas of suitable habitat (i.e., coastal sage scrub and sub-associations) for the proposed Proctor Valley Project (project) (Figure 1). The proposed project consists of three Village/Planning Areas (i.e., Village 14 and Planning Areas 16 and 19) within Otay Ranch and a portion of Proctor Valley Road located in the City of San Diego, California (Figure 1). The Village/Planning areas are either privately owned or owned by the California Department of Fish and Wildlife (CDFW). This report focuses on the state-owned, California Department of Fish and Wildlife (CDFW) portions of the project study area. Results of the surveys within the Private/City owned lands are provided as a separate survey report. Dudek biologists, Erin Bergman and Jeff Priest conducted a first round of surveys in June and July 2014. A second round was conducted in October and November 2014 by Dudek biologists Paul Lemons, Jeff Priest, Anita Hayworth, Kam Muri, Brock Ortega, and Tricia Wotipka-Priest.

The CAGN is a federally-listed threatened species and a California Department of Fish and Game Species of Special Concern. It is closely associated with coastal sage scrub habitat and typically occurs below 950 feet elevation and on slopes less than 40% (Atwood 1990), but CAGN have been observed at elevations greater than 2,000 feet. The species is threatened primarily by loss, degradation, and fragmentation of coastal sage scrub habitat, and is also impacted by brown-headed cowbird (*Molothrus ater*) nest parasitism.

LOCATION AND EXISTING CONDITIONS

The proposed Proctor Valley project is located in the community of Jamul within southern San Diego County, California. Specifically, the project site is located on the U.S. Geological

Survey 7.5 minute series Jamul Mountains Quadrangle map, Township 17 South, Range 1 East, section 17 (Figure 2). The project site is centered around Proctor Valley Road, which runs north south through the entire site.

The project site supports native vegetation communities and is topographically diverse from steep-rolling hillsides along the east portions of the project to flat areas along Proctor Valley Road. Elevations across the site decrease from north to south; approximately 950 feet above mean sea level (AMSL) along the northern boundary, approximately 630 feet AMSL centrally, and approximately 540 feet ASML along the southern boundary. The highest elevation is slightly above 1,500 feet and found within the most eastern portion of the project site within Village 16 (privately-owned lands).

The entire site, other than Proctor Valley Road, is undeveloped with a number of dirt roads traversing the project site. A transmission line crosses the project site from west to east. Vacant lands surround much of the project site; however, existing residential development is present to the north and south. Upper Otay Lake is also located to the south.

Vegetation Communities

Vegetation types that potentially support gnatcatchers within the state-owned lands focused survey area included coastal sage scrub and disturbed coastal sage scrub, totaling approximately 156 acres. The acreages of suitable habitat surveyed is provided in Table 1 and descriptions of these communities are provided below.

Table 1
Survey Area Acreages

Vegetation Community	State Owned Lands - CDFW
Round 1	
Coastal Sage Scrub	66
Disturbed Coastal Sage Scrub	30
Subtotal	*96*
Round 2	
Coastal Sage Scrub	60
Disturbed Coastal Sage Scrub	0
Subtotal	*60*
Total	156

Coastal Sage Scrub

Coastal sage scrub is a native plant community composed of a variety of soft, low, aromatic shrubs, characteristically dominated by drought-deciduous species such as California sagebrush (*Artemisia californica*), California buckwheat (*Eriogonum fasciculatum*), and sages (*Salvia* spp.); with scattered evergreen shrubs, including lemonadeberry (*Rhus integrifolia*), laurel sumac (*Malosma laurina*), and toyon (*Heteromeles arbutifolia*). It typically develops on south-facing slopes and other xeric situations (Holland 1986).

Coastal sage scrub and disturbed coastal sage scrub habitats occur throughout the entire project site. Areas of disturbed coastal sage scrub generally support a higher percent cover of non-native annual grass species such as wild oat (*Avena barbata*) and ripgut species (*Bromus* spp.). Within the State owned lands, the coastal sage scrub is a continuous swath that covers both slopes on either side of the major drainage that runs southwest through the parcel.

METHODS

Surveys were conducted under the authorization of permit holders Erin Bergman (TE813545-5), Paul Lemons (TE051248-4), Jeff Priest (TE840619), Anita Hayworth (TE781084-8), Kam Muri (TE051250-3), Brock Ortega (TE813545-5), and Tricia Wotipka-Priest (independent investigator under permit TE840619). The project site was surveyed over two rounds of field surveys to cover the entire project site. During each round of surveys suitable habitat within the project site was surveyed three times for CAGN within coastal sage scrub (including disturbed coastal sage scrub) according to the schedule provided below in Table 2. The specific areas surveyed during the two rounds of surveys are provided in Figure 3.

Table 2
Survey Conditions

Site	Date	Time	Personnel	Survey Conditions
Round One				
State Owned Lands – CDFW	6/26/14	0700–1200	JDP	100-70% cc; wind 1–5mph; 64-78°F
	7/11/14	0600–1200	EJB	100-0%cc; wind 1–2mph; 62-81°F
	7/18/14	0600–1200	EJB	100-95%; wind 1–2mph; 62-86°F
Round Two				
State Owned Lands – CDFW	10/24/14	1030-1145	JDP	0% cc; wind 0-4 mph; 60-72°F
	11/4/14	1045-1200	TWP	50% cc; wind 0-4 mph; 57-68°F
	11/11/14	1145-1315	KJM	0% cc; wind 2-3 mph; 51-71°F
	10/30/14	1030-1120	PML	40-70% cc; wind 0-2 mph; 60-74°F

Table 2
Survey Conditions

Site	Date	Time	Personnel	Survey Conditions
	11/6/14	0955-1115	BAO	0% cc; wind 0-1 mph; 50-83°F
	11/13/14	1030-1150	AMH	0% cc; wind 1-3 mph; 55-69°F

Personnel: EJB=Erin Bergman (TE813545-5), JDP= Jeff Priest (TE840619), PML=Paul Lemons (TE051248-4), AMH=Anita Hayworth (TE781084-8), KJM=Kam Muri (TE051250-3), BAO=Brock Ortega (TE813545-5), and TWP=Tricia Wotipka-Priest (independent investigator under permit TE840619) Survey Conditions: Cc = cloud cover, °F = degrees Fahrenheit, mph = miles per hour

In accordance with the protocol, no more than 100-acres of suitable habitat was surveyed by a singe biologist during each visit. The entire project area was covered on-foot during each survey visit for 100% visual and audible coverage of the site; routes of the surveys are illustrated on Figure 4. During each round of surveys the visits were conducted at minimum one-week intervals (i.e., 7-day) and were performed in conformance with the currently accepted protocol of the USFWS *Coastal California Gnatcatcher (Polioptila californica californica) Presence/Absence Survey Protocol* (USFWS 1997).

A topographic map of the site (scale 1 inch = 100 feet) overlain with vegetation polygons was used for the survey. Additionally, digital mobile maps were utilized during the surveys to assist in navigating each survey area and mapping any gnatcatcher present. Weather conditions during surveys are provided in Table 2. Binoculars (8.5x42 to 10×50 magnification) were used to aid in detecting and identifying bird species. Taped gnatcatcher vocalizations were played frequently in order to elicit a response from the species, if present. The tape was played approximately every 100–150 feet within suitable habitat to induce responses from potentially present gnatcatchers. Tape-playback was terminated immediately upon detection of any gnatcatchers to minimize the potential for harassment. Weather conditions, time of day, and season were appropriate for the detection of gnatcatchers.

RESULTS

State Owned Lands - CDFW

One individual male California gnatcatcher was observed within the State Owned Lands - CDFW of the proposed Proctor Valley project site during one of the first round surveys only (Figure 4). No other California gnatcatchers were detected within State Owned Lands-CDFW during any of other the survey visits

I certify that the information in this survey report and attached exhibits fully and accurately represents my work.

Sincerely,

Jeff Priest
Permit # TE840619

Kam Muri
Permit # TE051250-3

Erin Bergman
Permit # TE813545-5

Brock Ortega
Permit # TE813545-5

Paul Lemons
Permit # TE051248-4

Tricia Wotipka-Priest
Independent investigator under permit # TE840619)

Anita Hayworth
Permit # TE781084-8

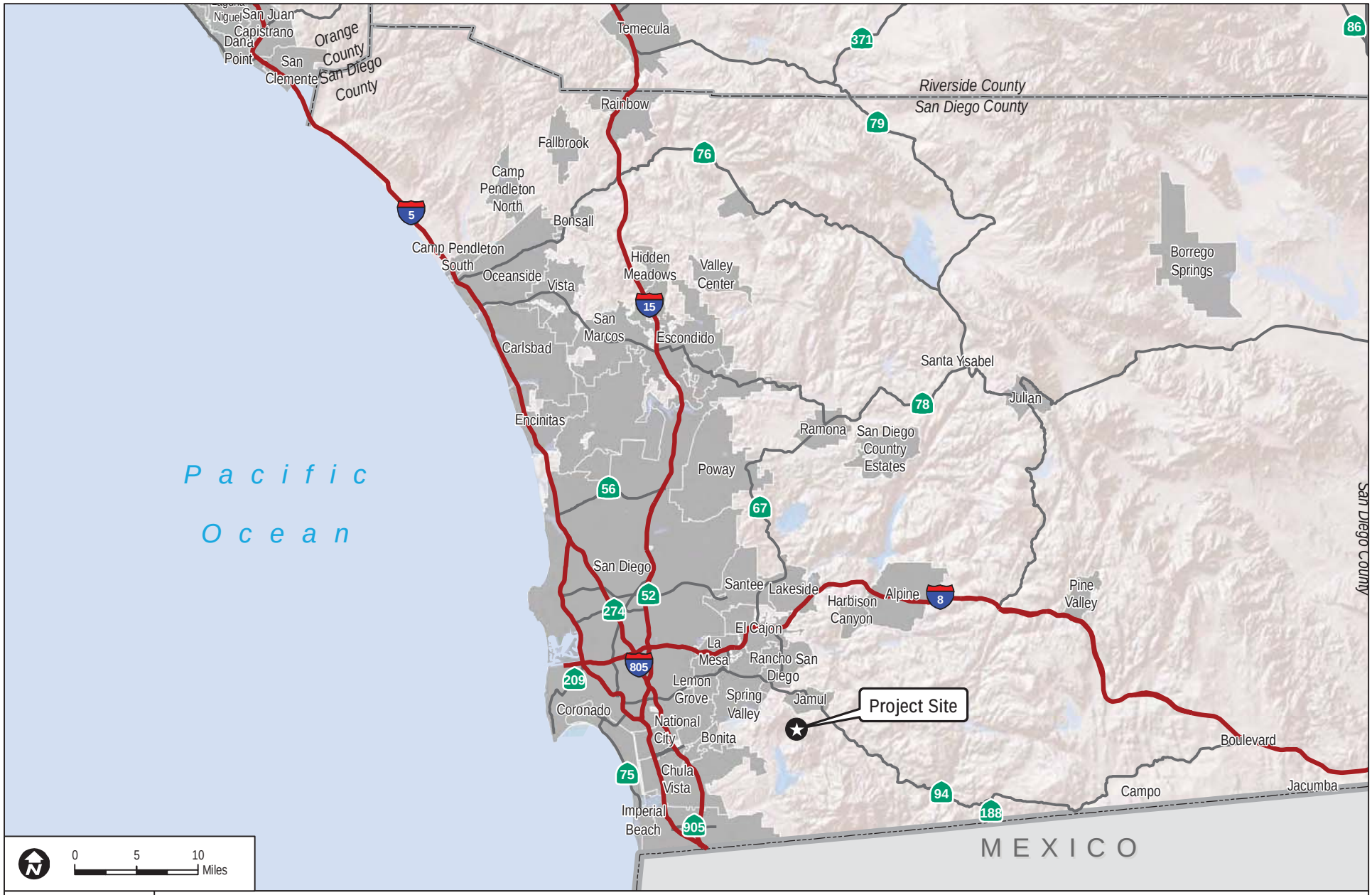
Att: Figure 1, Regional Map
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Atwood, J.L. 1990. *Status review of the California gnatcatcher* (Polioptila california). Unpublished technical report, Manomet Bird Observatory, Manomet, Massachusetts. 79 pp.

Holland, R.F. 1986. *Preliminary Descriptions of the Terrestrial Natural Communities of California.* Nongame-Heritage Program, California Department of Fish and Game. October 1986.

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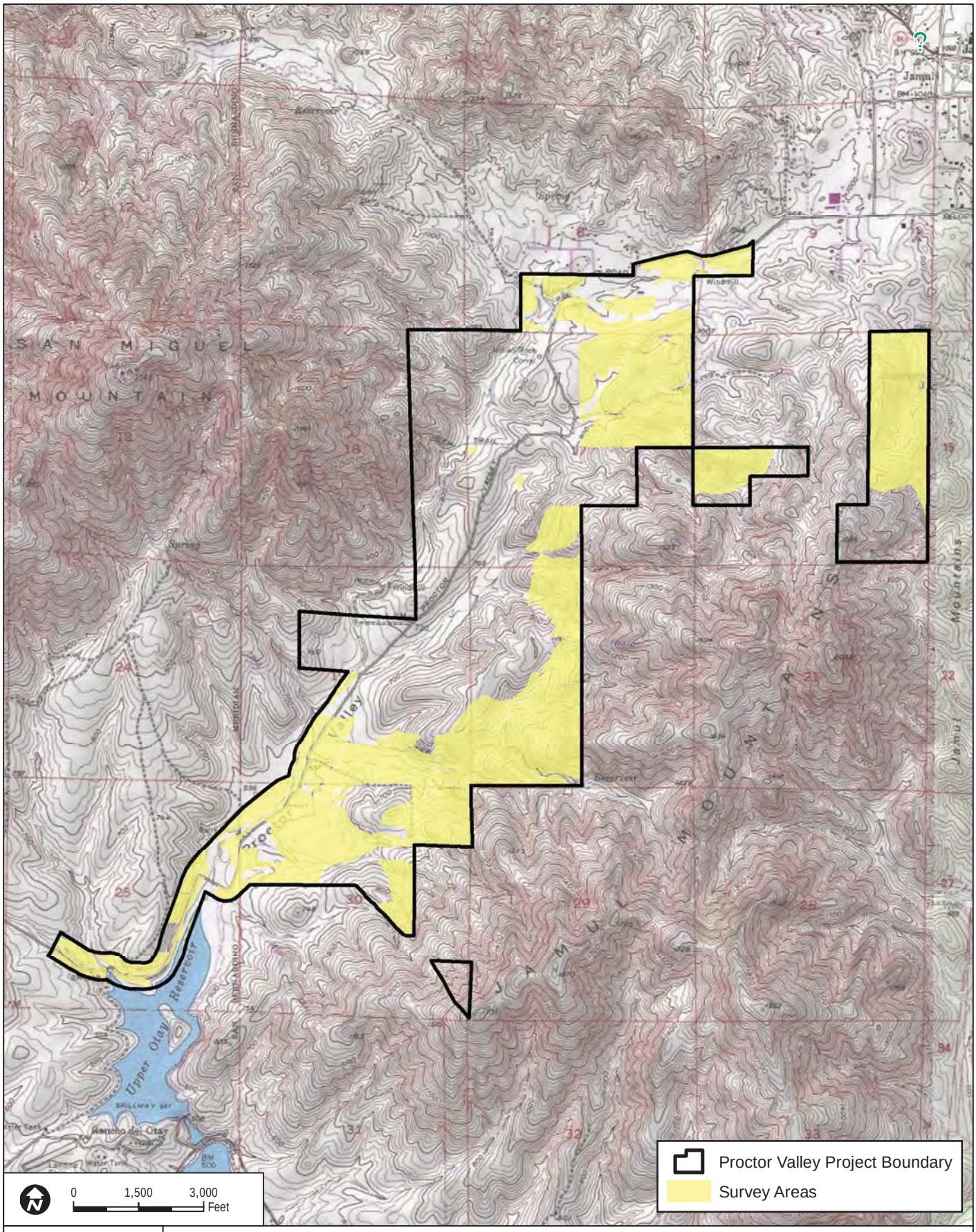


DUDEK

FIGURE 1

Regional Map

2014 FOCUSED CALIFORNIA GNATCATCHER SURVEY REPORT FOR PROCTOR VALLEY PROJECT
(OTAY RANCH VILLAGE 14, PLANNING AREAS 16 AND 19) - STATE OWNED LANDS



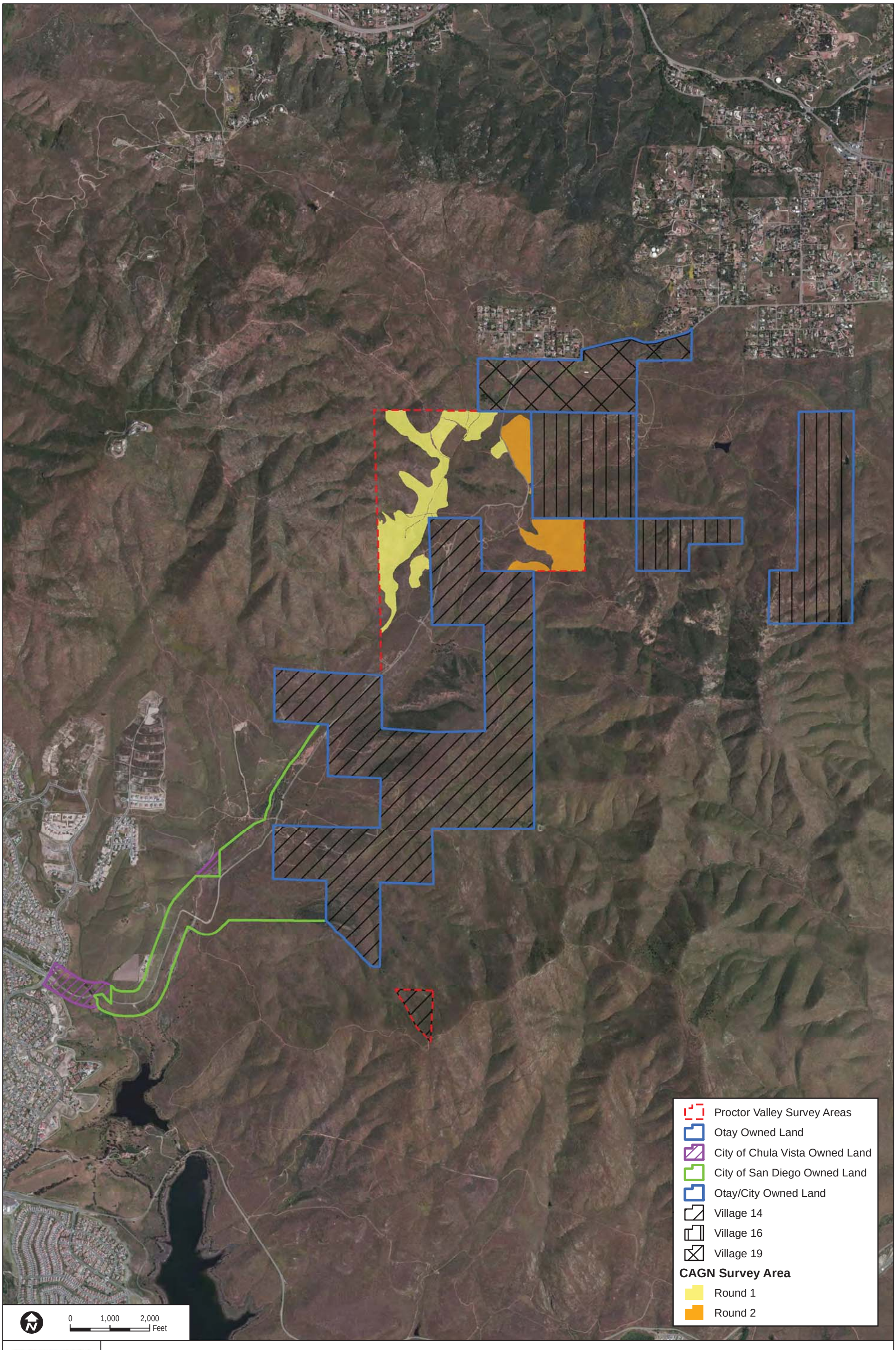
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SOURCE: USGS 7.5-Minute Series Jamul Mountains Quadrangle

FIGURE 2

Vicinity Map

2014 FOCUSED CALIFORNIA GNATCATCHER SURVEY REPORT FOR PROCTOR VALLEY PROJECT
(OTAY RANCH VILLAGE 14, PLANNING AREAS 16 AND 19) - STATE OWNED LANDS



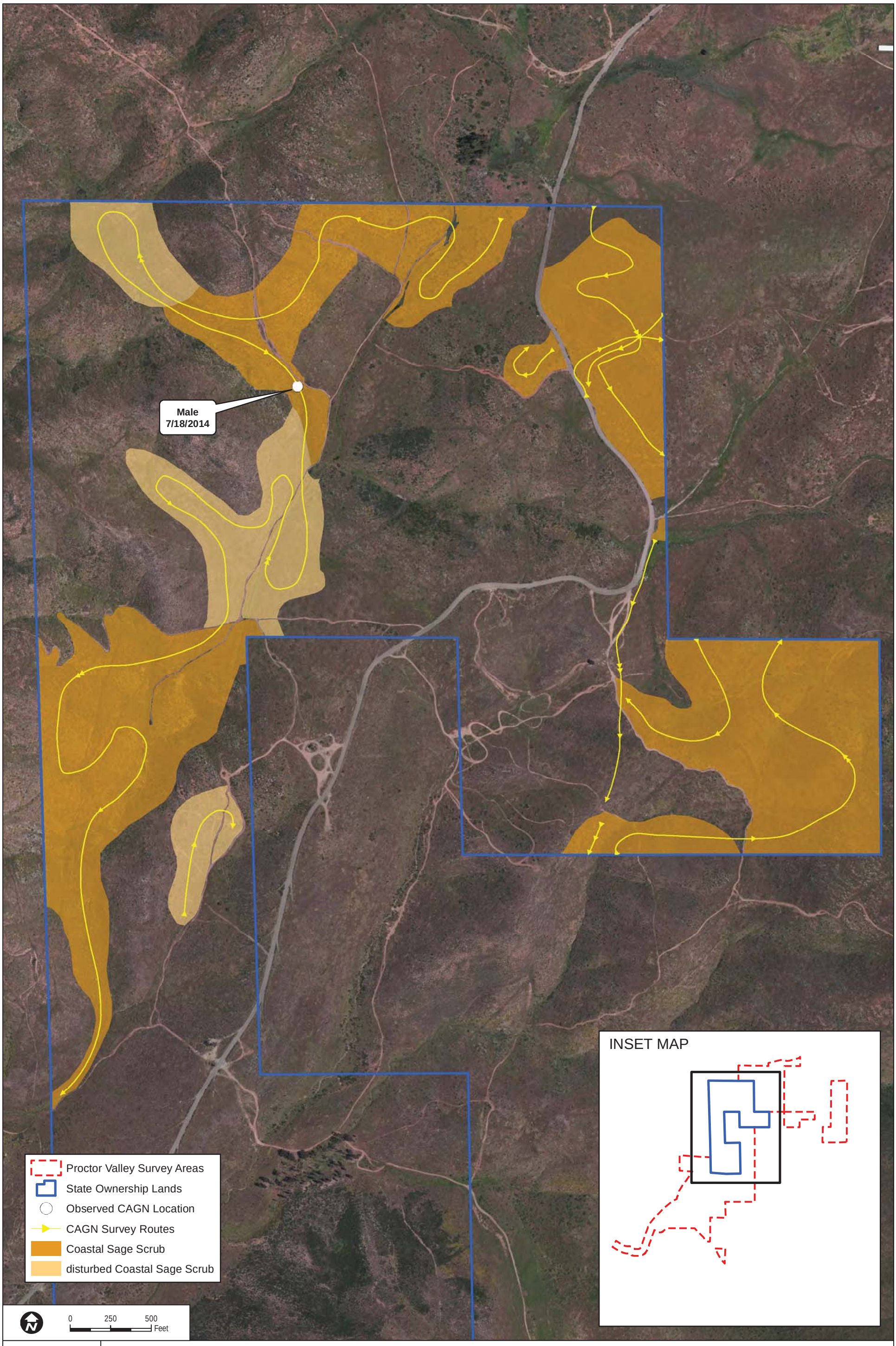
DUDEK

SOURCE: Bing Maps 2014; Hunsaker 2014

FIGURE 3

CAGN Survey Comparison

2014 FOCUSED CALIFORNIA GNATCATCHER SURVEY REPORT FOR PROCTOR VALLEY PROJECT
(OTAY RANCH VILLAGE 14, PLANNING AREAS 16 AND 19) - STATE OWNED LANDS



DUDEK

SOURCE: Bing Maps 2014; Hunsaker 2014

FIGURE 4

Biological Resources and CAGN Survey Routes

2014 FOCUSED CALIFORNIA GNATCATCHER SURVEY REPORT FOR PROCTOR VALLEY PROJECT
(OTAY RANCH VILLAGE 14, PLANNING AREAS 16 AND 19) - STATE OWNED LANDS

APPENDIX A

Compendium of Wildlife Species Observed or Detected

APPENDIX A
Compendium of Wildlife Species Observed or Detected

BIRDS

ACCIPITRIDAE – HAWKS

Accipiter cooperii – Cooper ‘s hawk
Buteo jamaicensis – red-tailed hawk
Buteo lineatus – red-shouldered hawk

AEGITHALIDAE – BUSHTITS

Psaltriparus minimus – bushtit

ALAUDIDAE – LARKS

Eremophila alpestris – horned lark

APODIDAE – SWIFTS

Aeronautes saxatalis – white-throated swift

CATHARTIDAE – NEW WORLD VULTURES

Cathartes aura – turkey vulture

COLUMBIDAE – PIGEONS AND DOVES

Columbina passerina—common ground-dove
Zenaida macroura – mourning dove

CORVIDAE – JAYS AND CROWS

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

CUCULIDAE – CUCKOOS, ROADRUNNERS, AND ANIS

Geococcyx californianus **–** greater roadrunner

EMBERIZIDAE – BUNTINGS AND SPARROWS

Aimophila ruficeps canescens – Southern California rufous-crowned sparrow
Chondestes grammacus- Lark sparrow
Melospiza melodia – song sparrow
Passerculus sandwichensis- Savannah sparrow
Pipilo crissalis – California towhee
Pipilo maculatus – spotted towhee
Zonotrichia leucophrys- White-crowned sparrow

FALCONIDAE – CARACARAS AND FALCONS

Falco sparverius – American kestrel

FRINGILLIDAE – FINCHES

Carpodacus mexicanus – house finch

Carduelis psaltria – lesser goldfinch

HIRUNDINIDAE – SWALLOWS

Petrochelidon pyrrhonota – cliff swallow

Tachycineta bicolor – tree swallow

ICTERIDAE – BLACKBIRDS

Icterus cucullatus – hooded oriole

Sturnella neglecta – western meadowlark

MIMIDAE – THRASHERS

Mimus polyglottos – northern mockingbird

Toxostoma redivivum – California thrasher

ODONTOPHORIDAE—NEW WORLD QUAIL

Callipepla californica—California quail

PARULIDAE—WOOD-WARBLERS

Setophaga coronata—yellow-rumped warbler

PASSERIDAE – OLD WORLD SPARROWS

* *Passer domesticus* – house sparrow

PHASIANIDAE – PHEASANTS AND QUAILS

Callipepla californica – California quail

PICIDAE—WOODPECKERS AND ALLIES

Picoides nuttallii—Nuttall's woodpecker

PTILOGONATIDAE – SILKY FLYCATCHERS

Phainopepla nitens – phainopepla

SYLVIIDAE – GNATCATCHERS

Polioptila californica californica – coastal California gnatcatcher

TIMALIIDAE – LAUGHINGTHRUSH AND WRENTIT

Chamaea fasciata – wrentit

TROCHILIDAE – HUMMINGBIRDS

Calypte anna – Anna's hummingbird
Calypte costae – Costa's hummingbird

TROGLODYTIDAE—WRENS

Salpinctes obsoletus—rock wren
Thryomanes bewickii—Bewick's wren

TYRANNIDAE – TYRANT FLYCATCHERS

Myiarchus cinerascens **–** ash-throated flycatcher
Sayornis nigricans- black phoebe
Sayornis saya- say's phoebe
Tyrannus vociferans – Cassin's kingbird

INVERTEBRATES

BUTTERFLIES

NYMPHALIDAE—BRUSH-FOOTED BUTTERFLIES

Vanessa cardui—painted lady

MAMMALS

CANIDS

CANIDAE—WOLVES AND FOXES

Canis latrans—coyote

HARES AND RABBITS

LEPORIDAE—HARES AND RABBITS

Lepus californicus bennettii—San Diego black-tailed jackrabbit
Sylvilagus bachmani—Brush rabbit

RATS AND MICE

MURIDAE—RATS AND MICE

Neotoma sp.—Woodrat species

SQUIRRELS

SCIURIDAE—SQUIRRELS

Spermophilus (Otospermophilus) beecheyi—California ground squirrel

UNGULATES

CERVIDAE—DEERS

Odocoileus hemionus—Mule deer

REPTILE

LIZARDS

PHRYNOSOMATIDAE—IGUANID LIZARDS

Sceloporus occidentalis—western fence lizard

ANGUIDAE—ALLIGATOR LIZARDS

Elgaria multicarinata—southern alligator lizard

* signifies introduced (non-native) species

APPENDIX F

Fairy Shrimp Survey Reports

DUDEK

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605 THIRD STREET
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T 760.942.5147 T 800.450.1818 F 760.632.0164

August 18, 2015 8207

U.S. Fish and Wildlife Service
Attn: Recovery Permit Coordinator
2177 Salk Avenue, Suite 250
Carlsbad, California 92008

Subject: ***2014/15 Wet Season Presence/Absence Survey for Vernal Pool Branchiopods, Proctor Valley Project (Otay Ranch Village 14, Planning Areas 16 and 19), San Diego County, California***

Dear Recovery Permit Coordinator:

This report fulfills the reporting requirements in accordance with the Section 10(a)(1)(A) Recovery Permit and documents the results of a wet season presence/absence survey for vernal pool branchiopods conducted for the Proctor Valley project (project), located in the southwestern portion of San Diego County, California. This report documents a wet season survey conducted for the project in 2014/15.

The 2014/15 wet season survey was performed by Dudek biologists Danielle Mullen (Permit No. TE-31221B-0), Thomas Liddicoat (TE-139634) and Paul Lemons (TE-051248) between December 19, 2014, and June 1, 2015. The survey focused on the determination of the presence or absence of two federally listed endangered vernal pool branchiopod species, Riverside fairy shrimp (*Streptocephalus woottoni*) and San Diego fairy shrimp (*Branchinecta sandiegonensis*), and was conducted according to the Interim Survey Guidelines to Permittees for Recovery Permits under Section 10(a)(1)(A) of the Endangered Species Act for the Listed Vernal Pool Branchiopods (Interim Survey Guidelines; USFWS 1996).

A total of 81 features were recorded within the project study area that could potentially support vernal pool branchiopods. Of these 81 features sampled, 7 features (A12, A22, A23, A27, B2, C14, C21) were found to support San Diego fairy shrimp, 4 features (B7, C5, C8, C12) were found occupied with versatile fairy shrimp (*Branchinecta lindahli*), and 7 features (B23, C13, C15, C16, C17, C18, C19) were observed with immature branchiopod individuals that were unidentifiable to species (*Branchinecta* sp.). The survey is discussed in further detail in the following sections.

PROJECT LOCATION AND EXISTING CONDITIONS

The project site is located within Otay Ranch, southwest of Jamul and northeast of Bonita (Figure 1, Regional Map). The Upper and Lower Otay Lakes are located to the south of the

project and open space borders the project site to the northwest and southeast. More specifically, the project site is located primarily southeast of Proctor Valley Road, within the Jamul Mountains U.S. Geological Survey 7.5-minute quadrangle, Township 17 South, Ranges 1 East and 1 West, Sections 8, 9, 16, 17, 18, 19, 20, 25 and 30 (Figure 2, Vicinity Map). The approximate center of the project site is located at a latitude and longitude of 32°40′57″ north and 116°54′24″ west.

The majority of the study area is undeveloped, with on-site elevations ranging between 590 feet and 1,200 feet above mean sea level. The study area is diverse in topography and contains a flat valley along Proctor Valley Road and rolling hills in the remainder of the site. The study area is bordered by the San Miguel and Jamul Mountains immediately to the northwest and southeast, with the foothills of these mountains encroaching into the study area. The eastern portion of the project site is located in the Jamul Mountains and contains the highest elevations. The project site is dominated by native upland vegetation (chaparral and sage scrub communities), with substantial areas of native and non-native grasslands. Various wetland plant communities also occur in the site.

Twelve soil series occur in the study area, including Diablo, Escondido, Friant, Linne, Olivenhain, Placentia, Riverwash, San Miguel–Exchequer, Visalia, Vista, Water, and Wyman. Specifically, 20 soil types occur in the study area, including Diablo–Olivenhain complex, 9% to 30% slopes; Diablo clay, 15% to 30% slopes; Diablo clay, 9% to 15% slopes; Escondido very fine sandy loam, 9% to 15% slopes, eroded; Friant rocky fine sandy loam, 30% to 70% slopes; Friant rocky fine sandy loam, 9% to 30% slopes; Linne clay loam, 9% to 30% slopes; Olivenhain cobbly loam, 2% to 9% slopes; Olivenhain cobbly loam, 9% to 30% slopes; Placentia sandy loam, 2% to 9% slopes; Placentia sandy loam, 5% to 9% slopes; eroded; Placentia sandy loam, thick surface, 2% to 9% slopes; Riverwash; San Miguel–Exchequer rocky silt loams, 9% to 70% slopes; Visalia gravelly sandy loam, 2% to 5% slopes; Visalia sandy loam, 2% to 5% slopes; Visalia sandy loam, 5% to 9% slopes; Vista rocky coarse sandy loam, 5% to 15% slopes; Water; Wyman loam, 2% to 5% slopes (Bowman 1973). Of those soil types, the Diablo, Olivenhain and San Miguel are known to support special-status plant species. Note that although Water is mapped on site by Bowman as a soil type, this area is located around and extends over 3,000 feet upstream from Upper Otay Lake. This area around the lake is not actually covered by water.

VEGETATION COMMUNITIES, LAND COVERS, AND VERNAL POOL FEATURES

The project site supports 11 vegetation communities and 3 land cover types and was mapped by Dudek biologists in April and May of 2014. Vegetation community classifications used in this report

follow Holland (1986) and Oberbauer et al. (2008), where feasible, with modifications to accommodate the lack of conformity of the observed communities to those of Holland (1986) or Oberbauer et al. (2008). Vegetation communities within the study area include granitic chamise chaparral (including disturbed form), southern mixed chaparral, Diegan coastal sage scrub (including disturbed form), Diegan coastal sage scrub: baccharis-dominated (including disturbed form), non-native grassland, cismontane alkali marsh (including disturbed), mulefat scrub, freshwater marsh, southern coast live oak riparian forest, southern willow scrub, and eucalyptus woodland. Land cover types in the study area include unvegetated channel, disturbed habitat, and urban/developed land.

Potentially suitable habitat (i.e., ephemerally wet/ponded features) for vernal pool branchiopods was identified on site and consists of depressions (natural and man-made) located in the lower-elevation areas of the project site, both east and west of Proctor Valley Road. Clusters/complexes of these features occur in multiple areas in the study area. The majority of the features are road-rut-type depressions, lack vegetation, and are located adjacent to or within frequently traveled access roads. All of the features recorded are considered potentially suitable habitat for vernal pool branchiopods. Within the survey area, the features were found in areas mapped as granitic chamise chaparral, coastal sage scrub: baccharis-dominated, non-native grassland, and disturbed habitat. Descriptions of these vegetation and land cover types are provided in the following paragraphs.

Granitic Chamise Chaparral

Granitic chamise chaparral contains shrubs, overwhelmingly dominated by chamise, from 3 to 10 feet tall with little cover provided by other species. Stump sprouting allows this vegetation to adapt to repeated fires. Chamise chaparral typically occurs on dry slopes and ridges (Holland 1986). On site, granitic chamise chaparral is typically characterized by a relatively monotypic stand of chamise with some diversity of other shrubs and herbaceous cover. Areas where native species were co-dominant with non-native grasses were mapped as disturbed granitic chamise chaparral. Chamise chaparral occurs throughout much of the project site and is the most dominant vegetation community.

Diegan Coastal Sage Scrub: Baccharis-Dominated

Diegan coastal sage scrub: Baccharis-dominated is similar to Diegan coastal sage scrub but dominated by *Baccharis* species (desert broom (*B. sarothroides*) and/or coyote brush (*B. pilularis*)) (Oberbauer et al. 2008). This community typically occurs on disturbed sites or those with nutrient-poor soils and is often found within other forms of Diegan coastal sage scrub and on upper terraces of river valleys. This community is distributed along coastal and foothill areas in San Diego County. On site, areas mapped as Diegan coastal sage scrub: baccharis-dominated are dominated

by either coyote brush or desert baccharis but have other coastal sage species, such as Menzies' goldenbush (*Isocoma menziesii*), Eastern Mojave buckwheat (*Eriogonum fasciculatum*), or sage (*Salvia* spp.), present. Areas where native species were co-dominant with non-native grasses were mapped as Diegan coastal sage scrub: baccharis-dominated (disturbed). This community is mapped along Proctor Valley Road in the southern portion of the project site.

Non-Native Grassland

Non-native grassland consists of dense to sparse cover of annual grasses with flowering culms between 0.5 and 3 feet in height (Oberbauer et al. 2008). On site, oats (*Avena* spp.), bromes (*Bromus* spp.), stork's bills (*Erodium* spp.), and mustards (*Brassica* spp.) are the more dominant species in this community. Non-native grassland is mapped in the flatter portions of the Proctor Valley (Valley) throughout the project site.

Disturbed Habitat

Disturbed habitats are areas that have been physically disturbed and are no longer recognizable as native or naturalized vegetation associations (Oberbauer et al. 2008). These areas may continue to retail soil substrate. If vegetation is present, it is almost entirely composed of non-native vegetation, such as ornamentals or ruderal exotic species. Examples of these areas may include graded landscapes or areas, graded firebreaks, graded construction pads, construction staging areas, off-highway vehicle (OHV) trails, areas repeatedly cleared for fuel management, or repeatedly used areas that prevent revegetation (e.g., parking lots, trails that have persisted for years). On site, the dirt roads, dirt trails, and OHV areas are mapped as disturbed habitat.

PREVIOUS BRANCHIOPOD STUDIES

Surveys to identify vernal pools in the Valley (including the project study area) have occurred over the last several decades and were first recorded in 1978 (AECOM and Hogan 2012). Prior to the USFWS 1996 Interim Survey Guidelines, various surveys were conducted, including Dudek surveys in 1992, when multiple vernal pool complexes were identified. During 2010/11 the City of San Diego, the Chaparral Lands Conservancy, and AECOM completed surveys to map any potential vernal pool features in the Valley during preparation of the Proctor Valley Vernal Pool Restoration Plan (Restoration Plan) (AECOM and Hogan 2012). Additionally, Rocks Biological Consulting and the Branchiopod Research Group at San Diego State University completed vernal pool surveys in the Valley to document vernal pool species for the Restoration Plan. For further details on previous branchiopod surveys in the Valley, refer to the Restoration Plan.

It is our understanding that no protocol-level surveys for listed branchiopods had been completed for the proposed project prior to this 2014/15 wet season survey. Therefore, this 2014/15 wet season survey will serve as the first-year protocol-level survey for the project.

SURVEY METHODS

This 2014/15 survey methodology included an initial field assessment of the entire project study area during the summer of 2014 to evaluate and map the location of potential vernal pool branchiopod habitat. This summer field survey was conducted by Dudek biologist Thomas Liddicoat (TE 139634) and was performed on foot and by vehicle to provide 100% visual coverage of the site. An aerial orthographic map overlaid with the site topography and the project study area boundary was carried to identify areas with potential to support vernal pool branchiopods. The maps of the Recovery Plan were also carried during the survey to identify known features in the project study area.

Onset significant rain events (i.e., greater than 0.20 inch cumulative) for the 2014/15 wet season at the project site began during the storm between December 2 and December 4, 2014. With continued heavy rainfall accumulation (approximately 2.8 inches recorded), protocol-level sampling commenced on site on December 19, 2014, in accordance with the survey protocol to initiate sampling within 2 weeks of initial inundation. All habitats (features) on site that met the USFWS inundation criteria (i.e., depth of 3 centimeters (1.2 inches) or greater 48 hours post rainfall) to initiate protocol-level surveys were sampled and USFWS survey forms were completed.

After initial inundation (i.e., wet at least 3 centimeters (1.2 inches) deep), all wet features were surveyed at approximately 2-week intervals, according to the survey protocol, until dried up or until 120 days of continuous inundation had elapsed. Features that dried up and then refilled were surveyed within 8 days of refilling and surveys were reinitiated at the 2-week interval. During the 2014/15 wet season survey, the project site was surveyed 11 times. A schedule of the 2014/15 survey season is presented in Table 1.

The surveys were conducted by Dudek biologists holding 10(a)(1)(A) recovery permits for vernal pool branchiopods: Danielle Mullen (Permit No. TE-31221B-0), Paul Lemons (TE-051248) and Thomas Liddicoat (TE-139634). Non-permitted Dudek biologists directly assisted a permit holder when necessary. During each site visit, surveyors evaluated all features to document inundation levels and performed sampling when appropriate. Throughout the 2014/15 season, daily precipitation was monitored from weather station KCACHULA20 in Chula Vista, California (Weather Underground Inc. 2014–2015).

Table 1
2014/15 Schedule of Surveys

Survey Number	Biologist	Date
1	DAM, PML, TSL	December 19, 2014
2	DAM, TSL	January 2, 2015
3	DAM	January 13, 2015
4	DAM, TSL	January 16, 2015
5	DAM	January 30, 2015
6	DAM	February 13, 2015
7	DAM, TSL	March 3, 2015
8	DAM	March 16, 2015
9	DAM	March 30, 2015
10	TSL	May 18, 2015
11	TSL	June 1, 2015

DAM = Danielle Mullen; PML = Paul Lemons; TSL = Thomas Liddicoat.

Protocol-level sampling was performed within all features that were deemed suitable for use by vernal pool branchiopods and any depressions meeting the USFWS 3-centimeter (1.2-inch) inundation requirement. The location of each feature sampled was recorded using a Global Positioning System (GPS) unit with sub-meter accuracy. GPS data were downloaded into an ArcGIS file by Dudek geographic information systems (GIS) manager Mark McGinnis.

During each survey, surveyors inspected the individual features for depth, surface area of water, air and water temperature, level of disturbance, and presence of aquatic wildlife. An aquarium net was passed through every feature that met the USFWS inundation requirement. All portions of ponded water were surveyed from the bottom to the surface. Samples were collected, when needed, using the aquarium net and a 40-milliliter (1.4-ounce) glass vial. Specimens were stored in the vial with water collected where the specimen was found. Specimens were taken to the laboratory within 24 hours of collection and placed in a 200 proof ethyl alcohol solution for preservation. Each specimen was inspected thoroughly using a dissecting microscope and soft-tip forceps. Eriksen and Belk (1999) was used to verify the species of each specimen collected. The specimens are currently being prepared for submittal and accessioning according to the specifications in the survey protocol.

All information was recorded in the field on an electronic data sheet as provided in the survey protocol, with the most pertinent information (e.g., inundation, fairy shrimp presence/absence, and species identification) recorded on a spreadsheet survey log (Appendix A). The recorded daily weather monitored for the project area is provided in Appendix B. Survey data sheets

were completed for every feature that met the minimum USFWS inundation requirement at the time of sampling (Appendix C). Photographs of the features are included at the end of each data form in Appendix C.

SURVEY RESULTS

Feature Descriptions

A total of 81 features were identified as suitable habitat for vernal pool branchiopods and were sampled during the 2014/2015 wet survey season. The features were distributed randomly throughout the site; however, a few clusters/complexes were observed (see Figure 3 through Figure 11). Most of the features were located alongside or within existing dirt roads on site and are moderately disturbed in character. Many of the features detected show evidence of historical OHV disturbance (i.e., shaped like tire tracks). The features detected on site were either: (1) road ruts: depressions that are typically formed by vehicular traffic within or immediately adjacent to roadways, generally lack aquatic vegetation, and are heavily disturbed by vehicular traffic; (2) ephemeral basins: surface depressions that retain sufficient water level, support aquatic vegetation, and generally lack vehicle disturbance; or (3) vernal pools: depressions that retain sufficient water level, support vernal pool indicator plant species, and likely support vernal pool branchiopods.

Multiple vernal pool indicator species occur on site during the surveys. San Diego button-celery (*Eryngium aristulatum* var. *parishii*) is a federally and state-listed endangered, California Rare Plant Rank 1B.1, Multiple Species Conservation Program covered, and Los Angeles County List A species. It is an annual or perennial herb that is associated with vernal pools in coastal scrub and valley and foothill grassland. San Diego button-celery was found adjacent to Feature B2, which supported San Diego fairy shrimp. Other vernal pool indicator plant species observed on site include common brassbuttons (*Cotula coronopifolia*), slender woollyheads (*Psilocarphus tenellus*), San Diego goldenaster (*Bloomeria clevelandii*), and short woollyheads (*Psilocarphus brevissimus* var. *brevissimus*).

Fairy Shrimp Presence/Absence

During 11 survey sampling visits, seven features (A12, A22, A23, A27, B2, C14, and C21) were found occupied by San Diego fairy shrimp, four features (B7, C5, C8, and C12) were occupied by versatile fairy shrimp, and seven features (B23, C13, and C15–C19) were occupied by immature branchiopods that were unidentifiable to species (*Branchinecta* sp.). A summary of the survey results is provided in Table 2 and the full survey log is included in this report as

Appendix A. The distribution of features sampled in the study area is presented in Figures 3 through 11 attached to this report.

Table 2
2014/15 Vernal Pool Branchiopods Survey Results

Feature ID	Branchiopod Species Observed
A1	None
A2	None
A3	None
A4	None
A5	None
A6	None
A7	None
A8	None
A9	None
A10	None
A11	None
A12	Fairy Shrimp Present; San Diego Fairy Shrimp *(Branchinecta sandiegonensis)*
A13	None
A14	None
A15	None
A16	None
A17	None
A18	None
A19	None
A20	None
A21	None
A22	Fairy Shrimp Present; San Diego Fairy Shrimp *(Branchinecta sandiegonensis)*
A23	Fairy Shrimp Present; San Diego Fairy Shrimp *(Branchinecta sandiegonensis)*
A24	None
A25	None
A26	None
A27	Fairy Shrimp Present; San Diego Fairy Shrimp *(Branchinecta sandiegonensis)*
AA1	None
AA2	None
AA3	None

Table 2
2014/15 Vernal Pool Branchiopods Survey Results

Feature ID	Branchiopod Species Observed
AA4	None
B1	None
B2	Fairy Shrimp Present; San Diego Fairy Shrimp *(Branchinecta sandiegonensis)*
B3	None
B4	None
B5	None
B6	None
B7	Fairy Shrimp Present; Versatile Fairy Shrimp *(Branchinecta lindahli)*
B8	None
B9	None
B10	None
B11	None
B12	None
B13	None
B14	None
B15	None
B16	None
B17	None
B18	None
B19	None
B20	None
B21	None
B22	None
B23	Fairy Shrimp Present; unknown species (immature *Branchinecta* sp.)
B24	None
B25	None
C1	None
C2	None
C3	None
C4	None
C5	Fairy Shrimp Present; Versatile Fairy Shrimp (*Branchinecta lindahli*)
C6	None

Table 2
2014/15 Vernal Pool Branchiopods Survey Results

Feature ID	Branchiopod Species Observed
C7	None
C8	Fairy Shrimp Present; Versatile Fairy Shrimp *(Branchinecta lindahli)*
C9	None
C10	None
C11	None
C12	Fairy Shrimp Present; Versatile Fairy Shrimp (*Branchinecta lindahli*)
C13	Fairy Shrimp Present; unknown species (immature *Branchinecta* sp.)
C14	Fairy Shrimp Present; San Diego Fairy Shrimp *(Branchinecta sandiegonensis)*
C15	Fairy Shrimp Present; unknown species (immature *Branchinecta* sp.)
C16	Fairy Shrimp Present; unknown species (immature *Branchinecta* sp.)
C17	Fairy Shrimp Present; unknown species (immature *Branchinecta* sp.)
C18	Fairy Shrimp Present; unknown species (immature *Branchinecta* sp.)
C19	Fairy Shrimp Present; unknown species (immature *Branchinecta* sp.)
C20	None
C21	Fairy Shrimp Present; San Diego Fairy Shrimp *(Branchinecta sandiegonensis)*
C22	None
C23	None
C24	None
C25	None

All required data collection information per the survey guidelines (USFWS 1996) was recorded and is included as Appendices A through C of this report.

I certify that the information presented in this survey report and attached exhibits fully and accurately represents my work. Please feel free to contact Brock Ortega at bortega@dudek.com, Danielle Mullen at dmullen@dudek.com, Thomas Liddicoat at tliddicoat@dudek.com, or Paul Lemons at plemons@dudek.com if you have any questions regarding the contents of this report.

Sincerely,

Danielle Mullen
TE-31221B-0

Paul Lemons
TE051248

Thomas Liddicoat
TE139634

Att: Figure 1, Regional Map
Figure 2, Vicinity Map
Figures 3–11, Feature Locations and Species Observed
Appendix A, Survey Log
Appendix B, Weather Data
Appendix C, Survey Data Forms and Photographs

cc: Brock Ortega, Dudek

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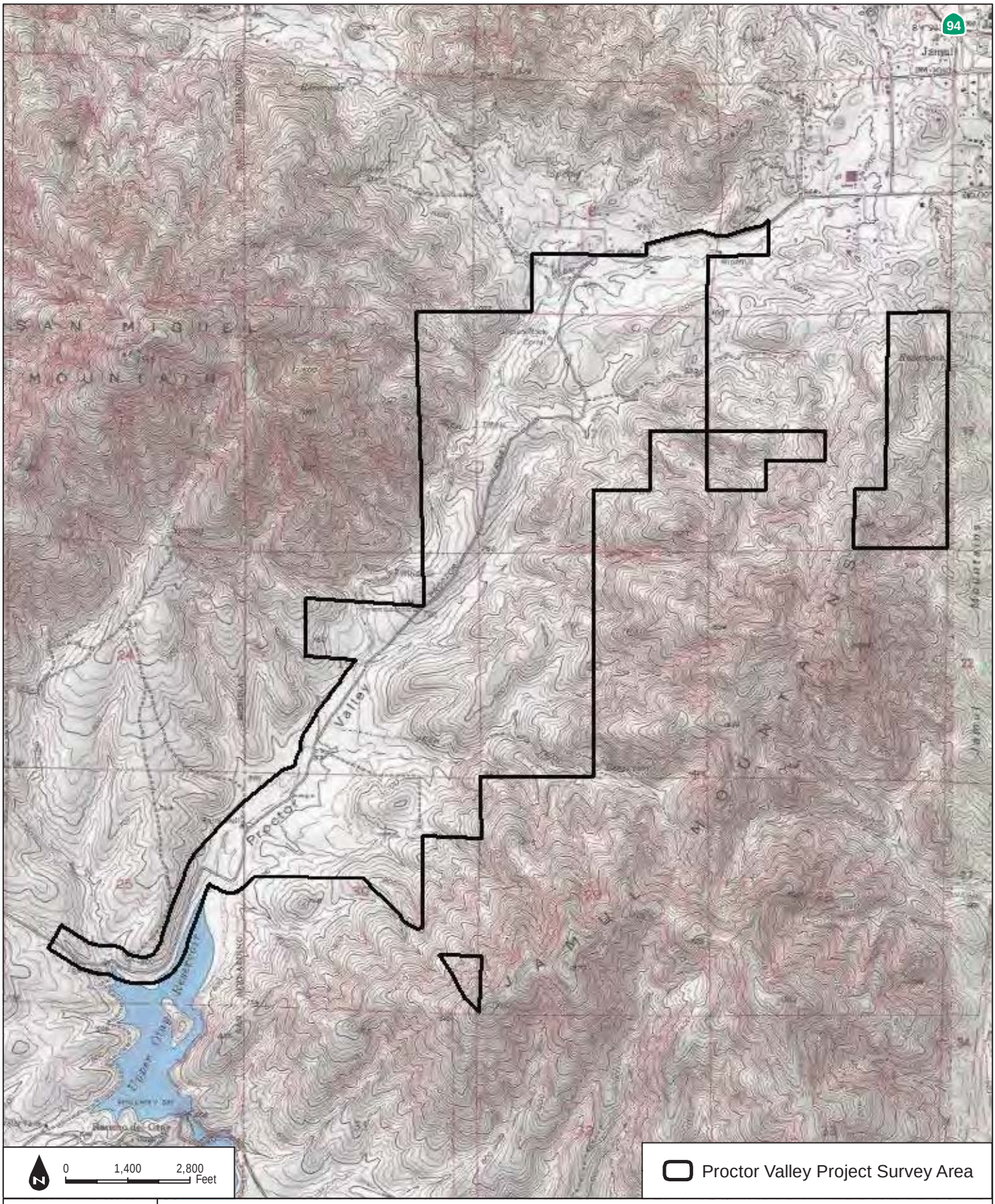
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FIGURE 1

Regional Map

2014/15 Wet Season Presence/Absence Survey for Vernal Pool Branchiopods, Proctor Valley Project (Otay Ranch Village 14, Planning Areas 16 and 19), San Diego County, California



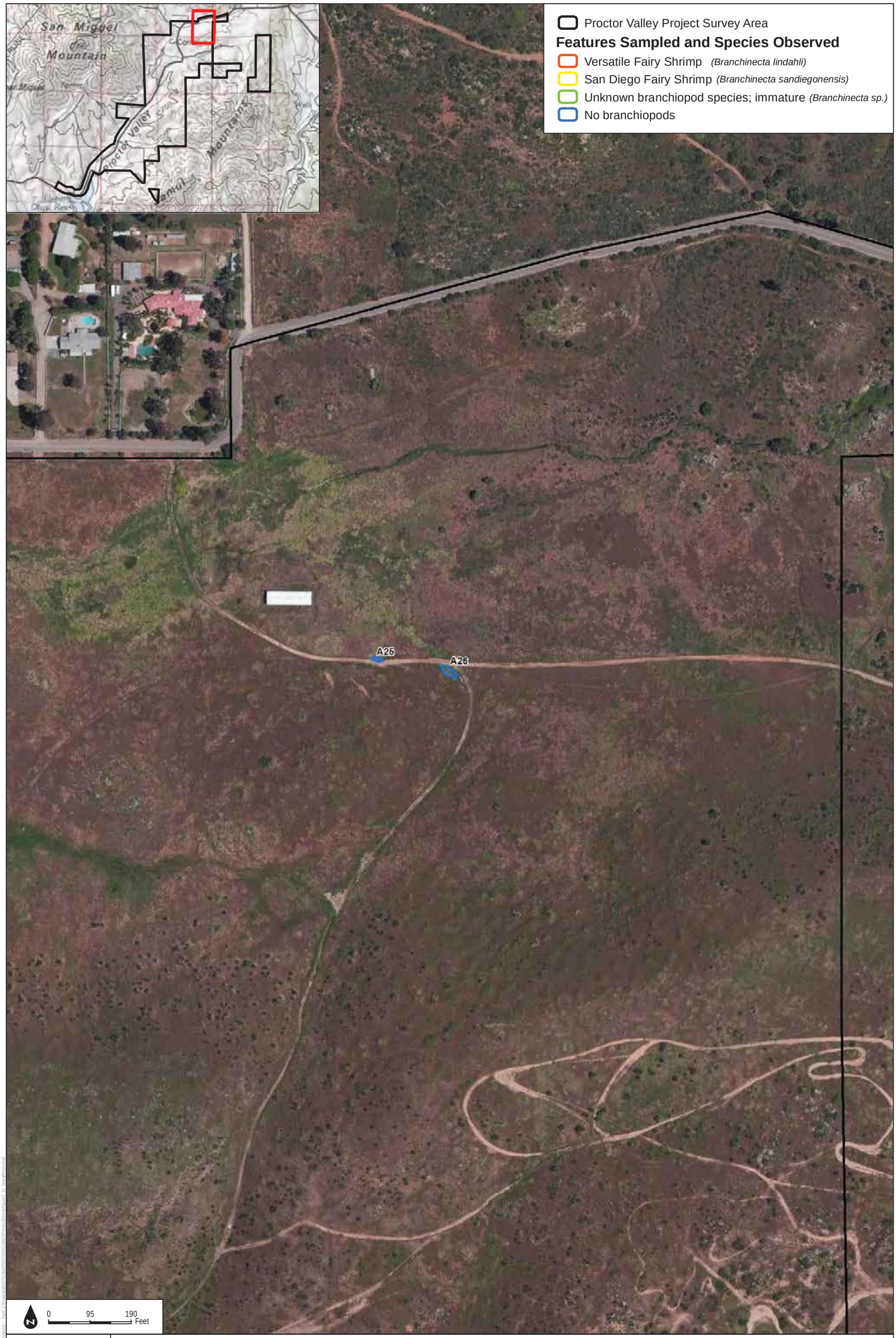
DUDEK

SOURCE: USGS 7.5-Minute Series Jamul Mountains Quadrangle; Hunsaker 2015

FIGURE 2

Vicinity Map

2014/15 Wet Season Presence/Absence Survey for Vernal Pool Branchiopods, Proctor Valley Project (Otay Ranch Village 14, Planning Areas 16 and 19), San Diego County, California



SOURCE: Bing Maps 2015; Hunsaker 2015

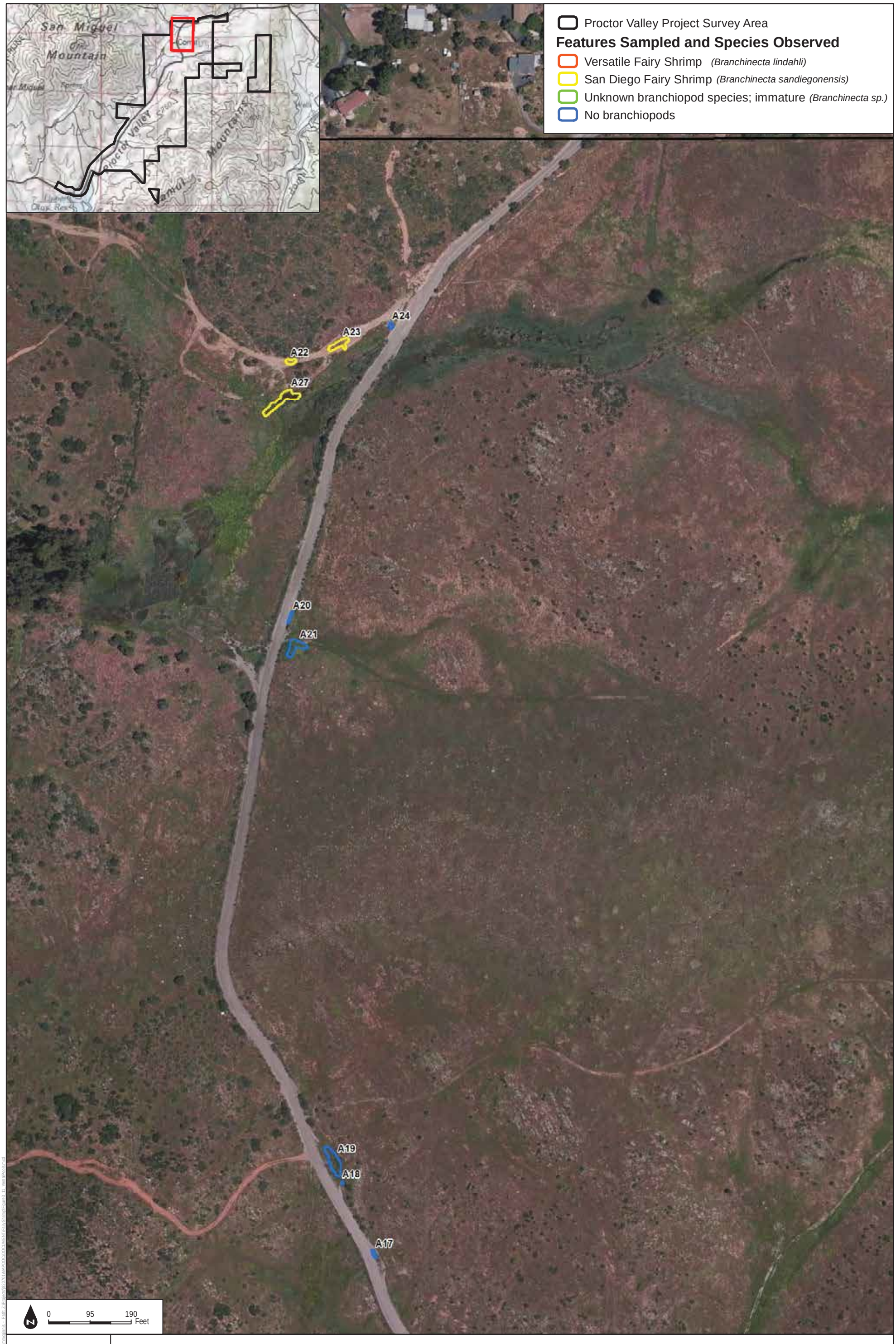
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Figure 3

Feature Locations and Species Observed

2014/15 Wet Season Presence/Absence Survey for Vernal Pool Branchiopods, Proctor Valley Project (Otay Ranch Village 14, Planning Areas 16 and 19), San Diego County, California

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SOURCE: Bing Maps 2015; Hunsaker 2015

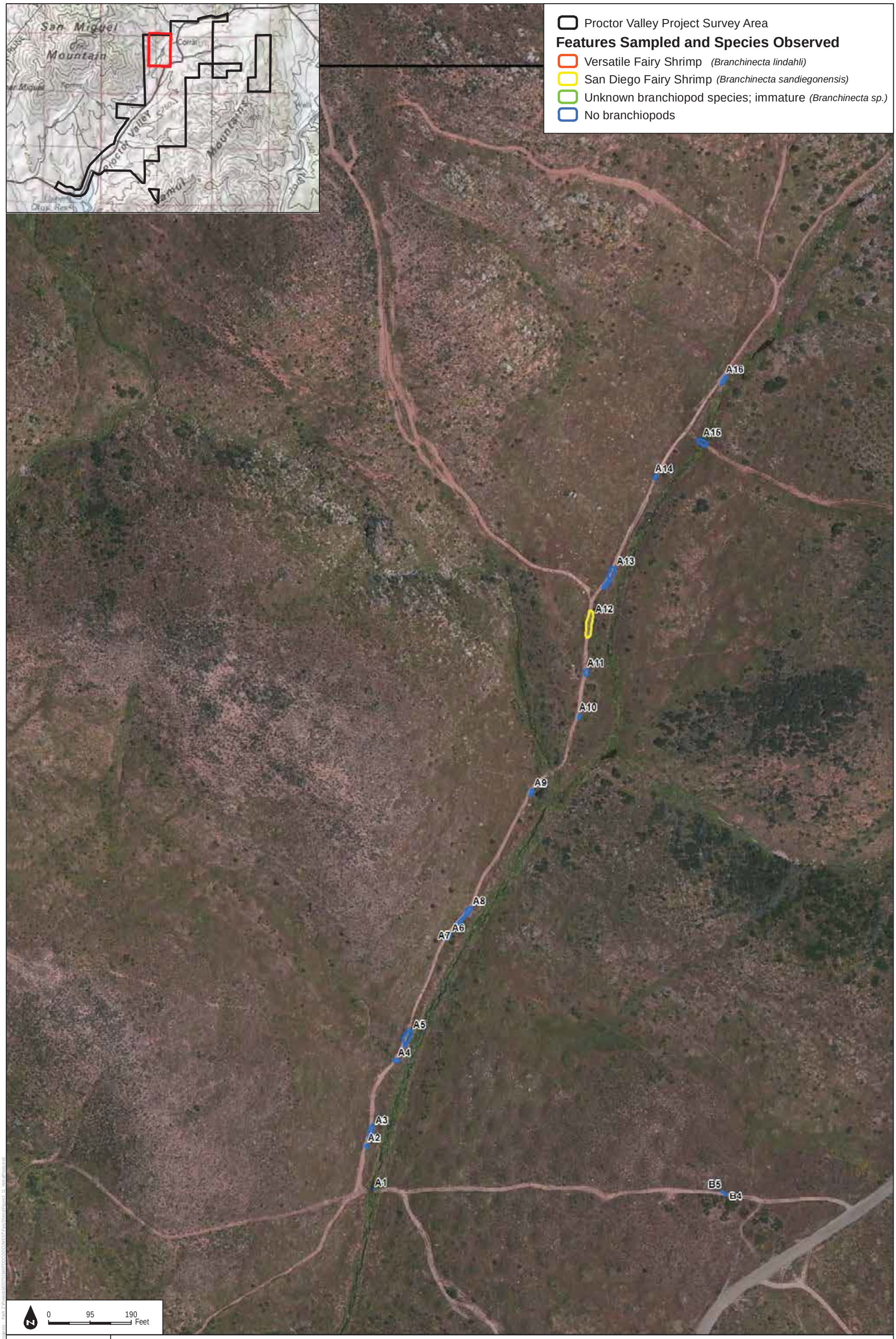
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Figure 4

Feature Locations and Species Observed

2014/15 Wet Season Presence/Absence Survey for Vernal Pool Branchiopods, Proctor Valley Project (Otay Ranch Village 14, Planning Areas 16 and 19), San Diego County, California

Date: 7/20/2015 - Last saved by: mmorgenis - Path: Z:\Projects\9230701\MAPDOC\DOCUMENT\Fairy Shrimp\Figure3_11_VernalPools.mxd



SOURCE: Bing Maps 2015; Hunsaker 2015

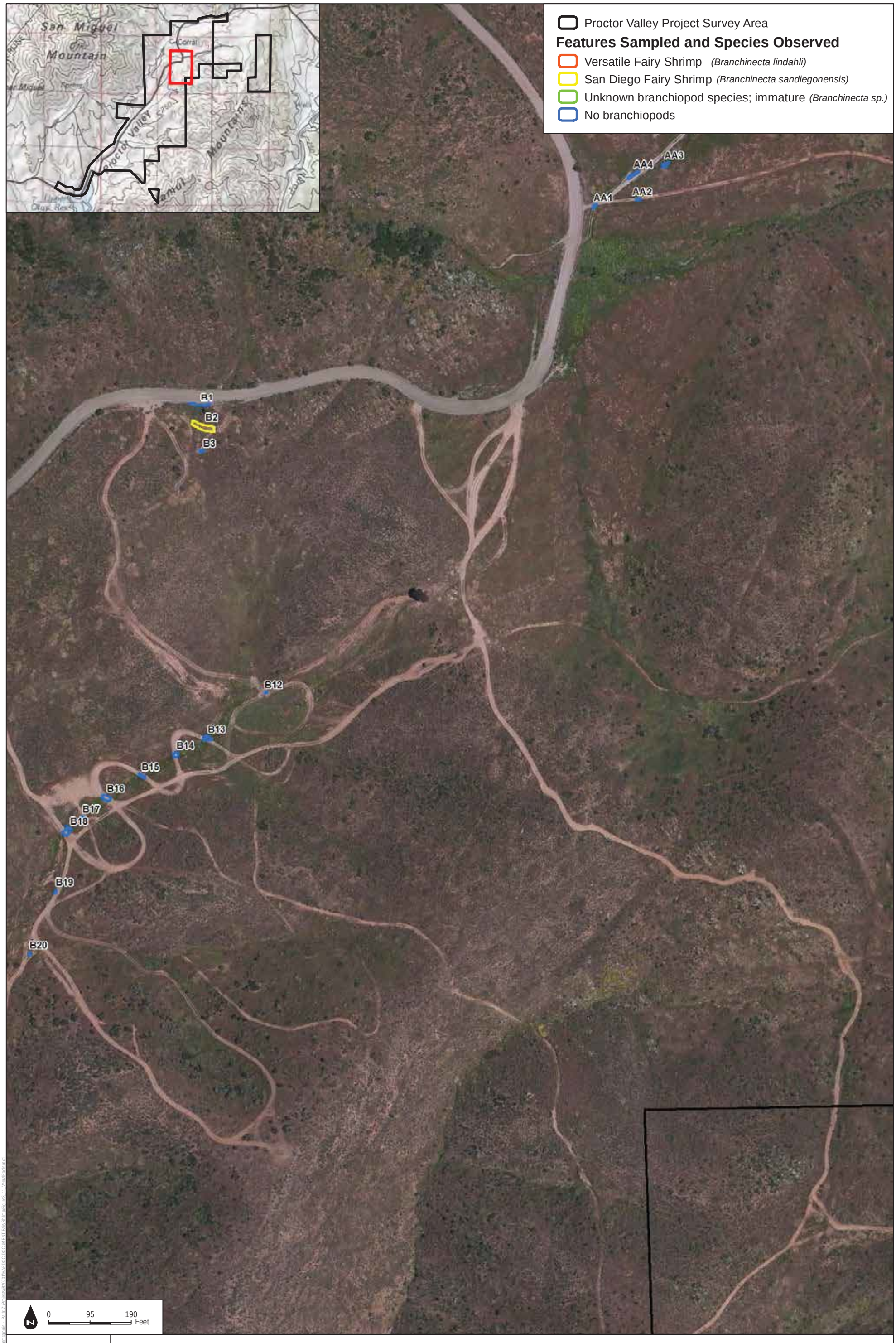
Figure 5

Feature Locations and Species Observed

2014/15 Wet Season Presence/Absence Survey for Vernal Pool Branchiopods, Proctor Valley Project (Otay Ranch Village 14, Planning Areas 16 and 19), San Diego County, California

DUDEK

Date: 7/20/2015 - Last saved by: mmannis - Path: Z:\Projects\820701\MAPDOCS\DOCUMENT\FairyShrimpFigure3_11_VernalPools.mxd



SOURCE: Bing Maps 2015; Hunsaker 2015

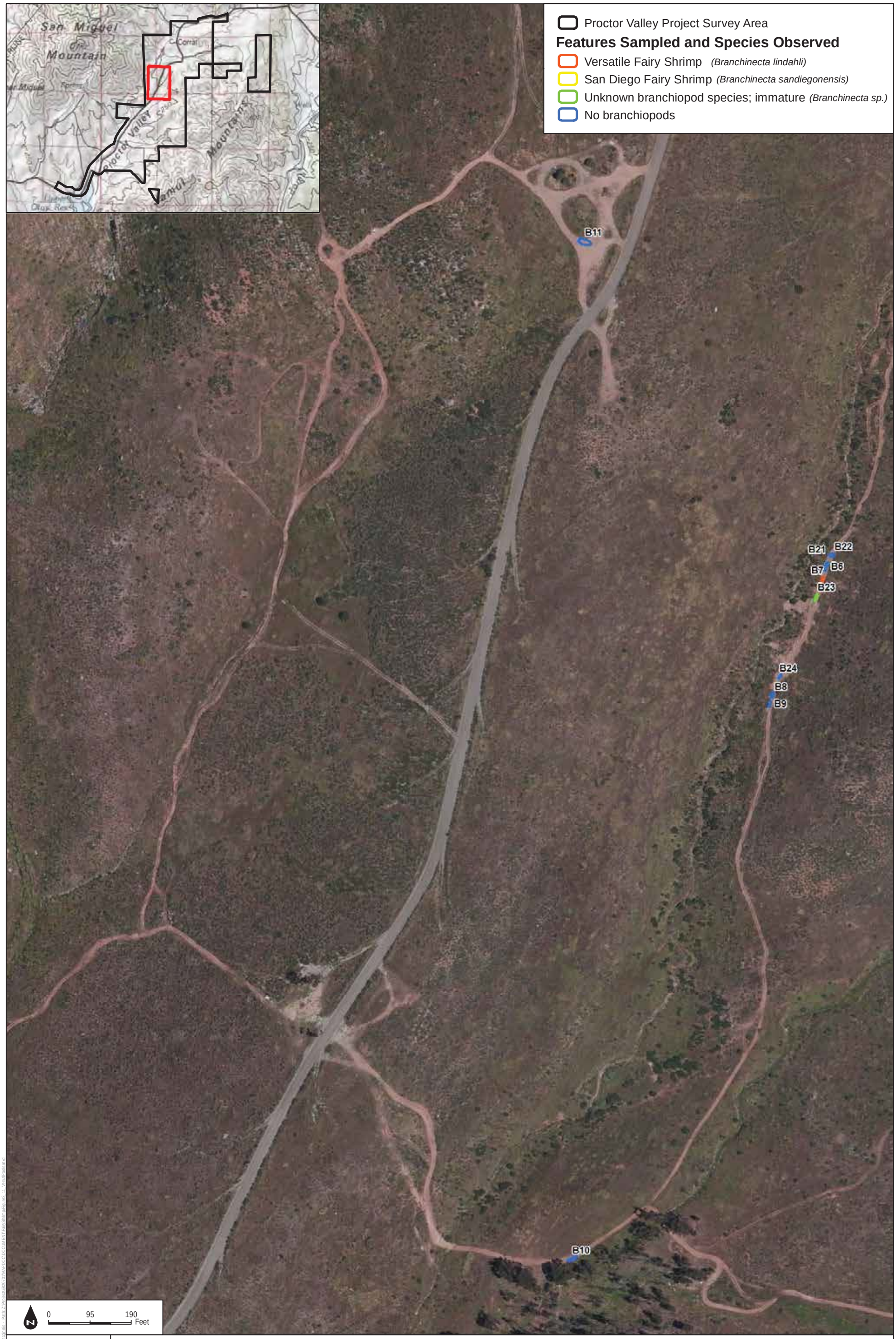
Figure 6

Feature Locations and Species Observed

2014/15 Wet Season Presence/Absence Survey for Vernal Pool Branchiopods, Proctor Valley Project (Otay Ranch Village 14, Planning Areas 16 and 19), San Diego County, California

DUDEK

Date: 7/20/2015 Last saved by: mmcginnis Path: J:\Projects\8207011\MAPDOC\GDOC\MEMT\FairyShrimpFigure3_11_VernalPools.mxd



SOURCE: Bing Maps 2015; Hunsaker 2015

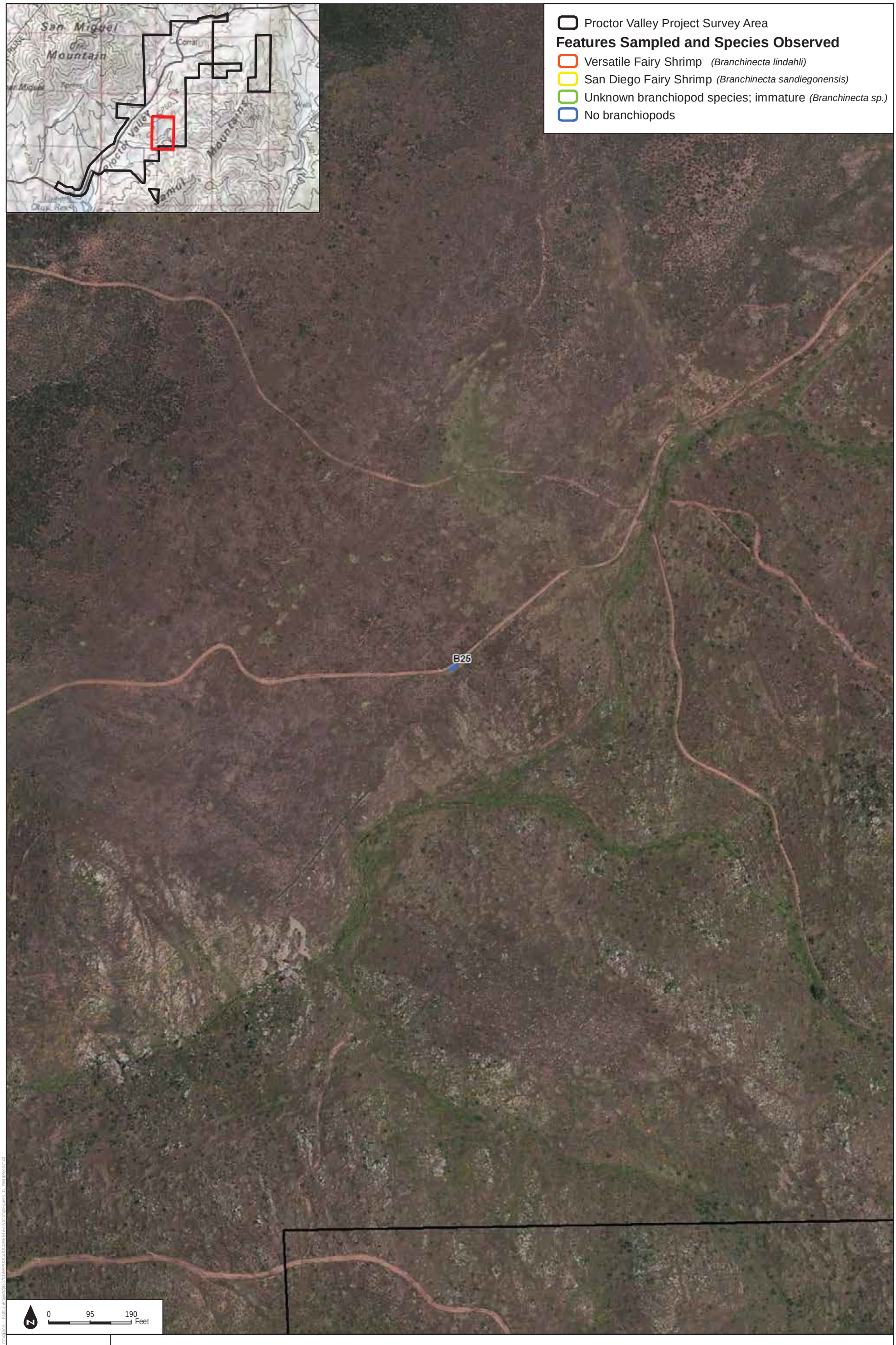
Figure 7

Feature Locations and Species Observed

2014/15 Wet Season Presence/Absence Survey for Vernal Pool Branchiopods, Proctor Valley Project (Otay Ranch Village 14, Planning Areas 16 and 19), San Diego County, California

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Date: 7/20/2015 - Last saved by: mmarinis - Path: Z:\Projects\9120701MAP\DOCS\DOCUMENT\FairyShrimpFigure3_11_VernalPools.mxd



SOURCE: Bing Maps 2015; Hunsaker 2015

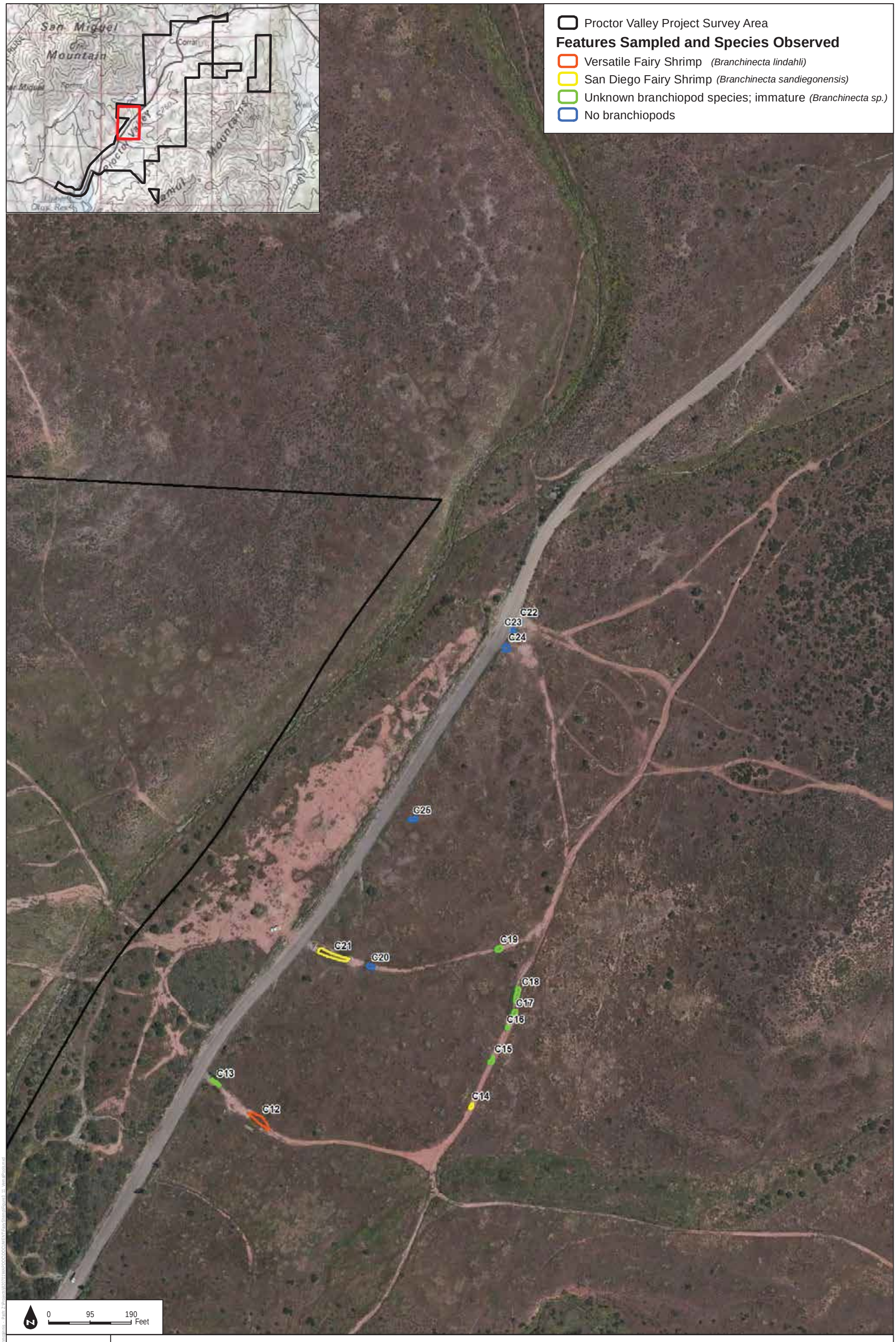
Figure 8

Feature Locations and Species Observed

2014/15 Wet Season Presence/Absence Survey for Vernal Pool Branchiopods, Proctor Valley Project (Otay Ranch Village 14, Planning Areas 16 and 19), San Diego County, California

DUDEK

Date: 7/20/2015 - Last saved by: mmcginnis - Path: Z:\Projects\9200701\MAPDOCS\DOCUMENTS\FairyShrimpsFigure3_11_WetlandPools.mxd



SOURCE: Bing Maps 2015; Hunsaker 2015

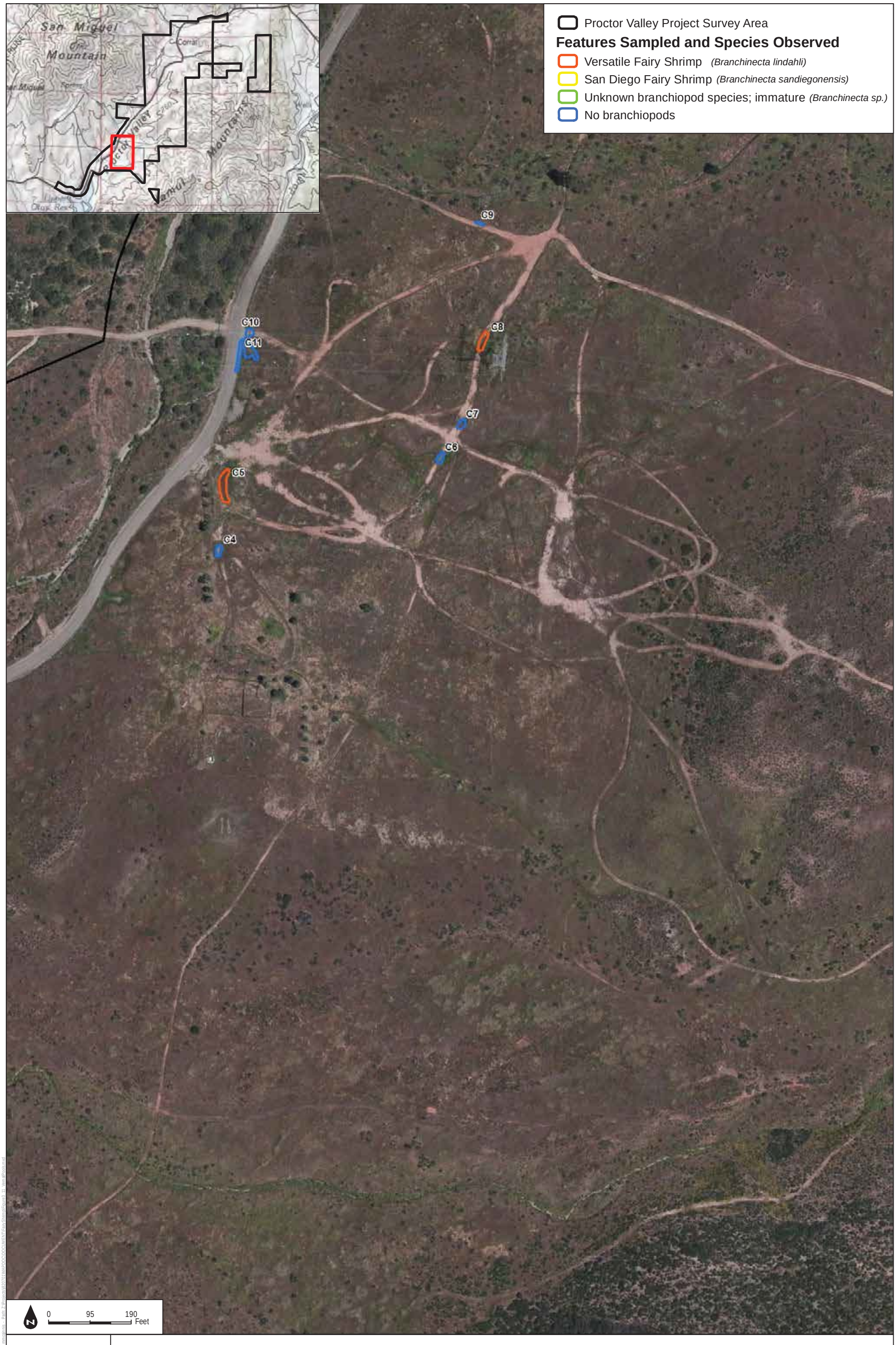
Figure 9

Feature Locations and Species Observed

2014/15 Wet Season Presence/Absence Survey for Vernal Pool Branchiopods, Proctor Valley Project (Otay Ranch Village 14, Planning Areas 16 and 19), San Diego County, California

DUDEK

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SOURCE: Bing Maps 2015; Hunsaker 2015

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Figure 10

Feature Locations and Species Observed

2014/15 Wet Season Presence/Absence Survey for Vernal Pool Branchiopods, Proctor Valley Project (Otay Ranch Village 14, Planning Areas 16 and 19), San Diego County, California

Date: 7/20/2015 - Last saved by: mmorris - Path: Z:\Projects\9120701\MAPDOC\DOCUMENT\FairyShrimpFigure3_11_VernalPools.mxd