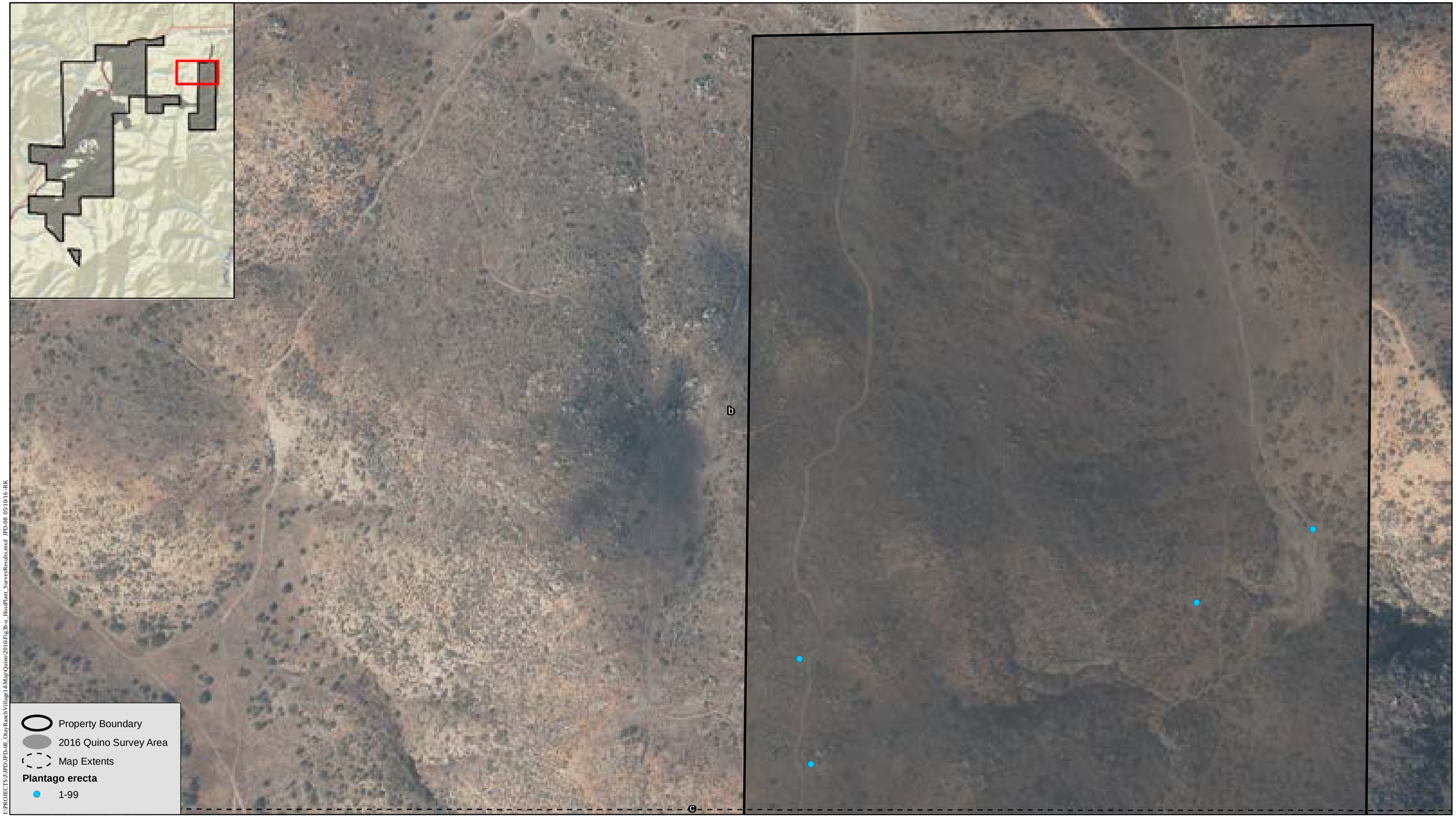


2016 Quino Checkerspot Butterfly Host Plant Locations

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



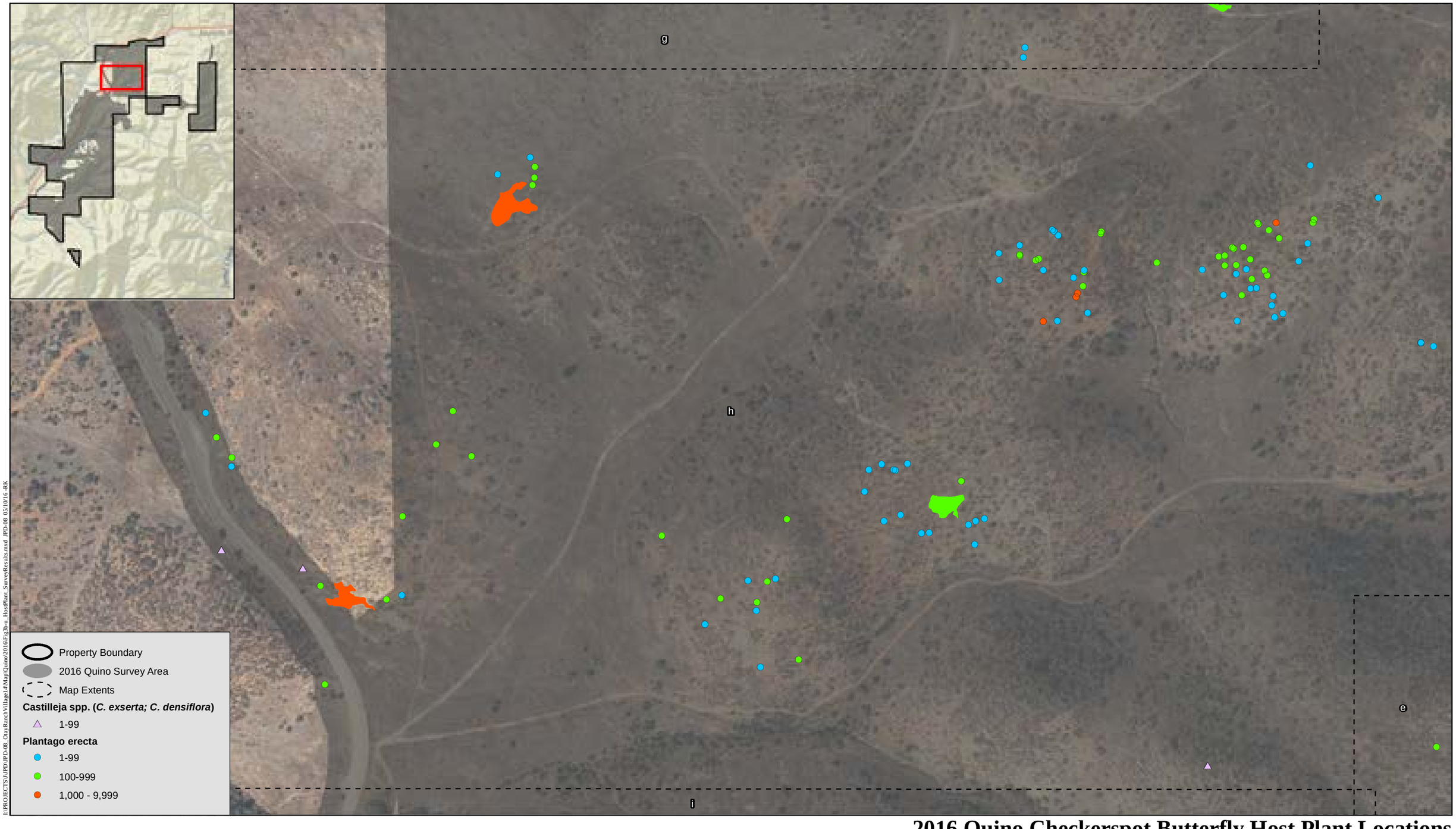
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2016 Quino Checkerspot Butterfly Host Plant Locations

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

I:\PROJECTS\JUPD\JPD-08_OtayRanchVillage14\MapQuino2016\Fig3h-n_HostPlant_SurveyResults.mxd JPD-08 05/10/16 -RK

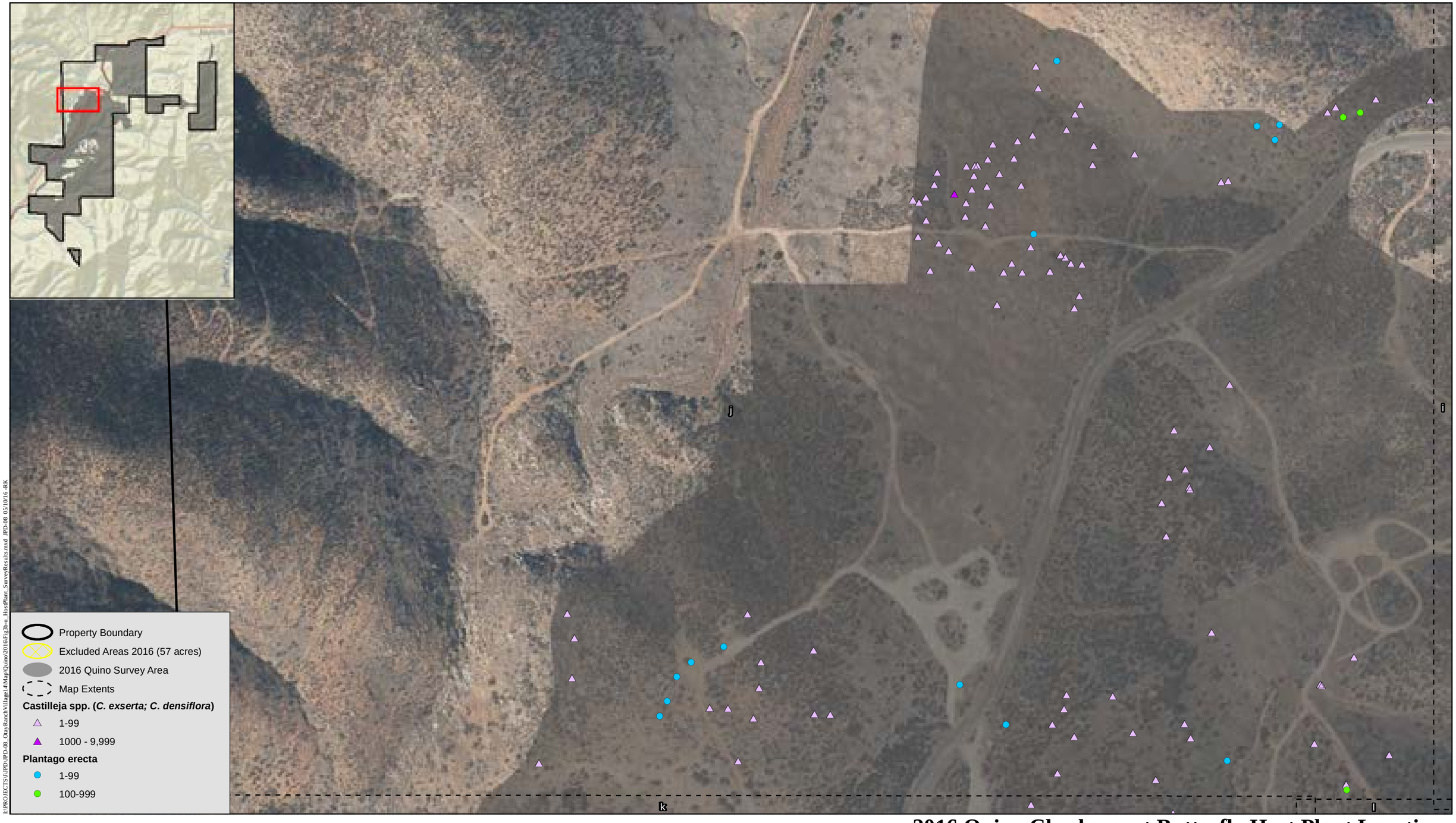
2016 Quino Checkerspot Butterfly Host Plant Locations

OTAY RANCH PROCTOR VALLEY VILLAGE 14 AND PRESERVE

HELIX Environmental Planning

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

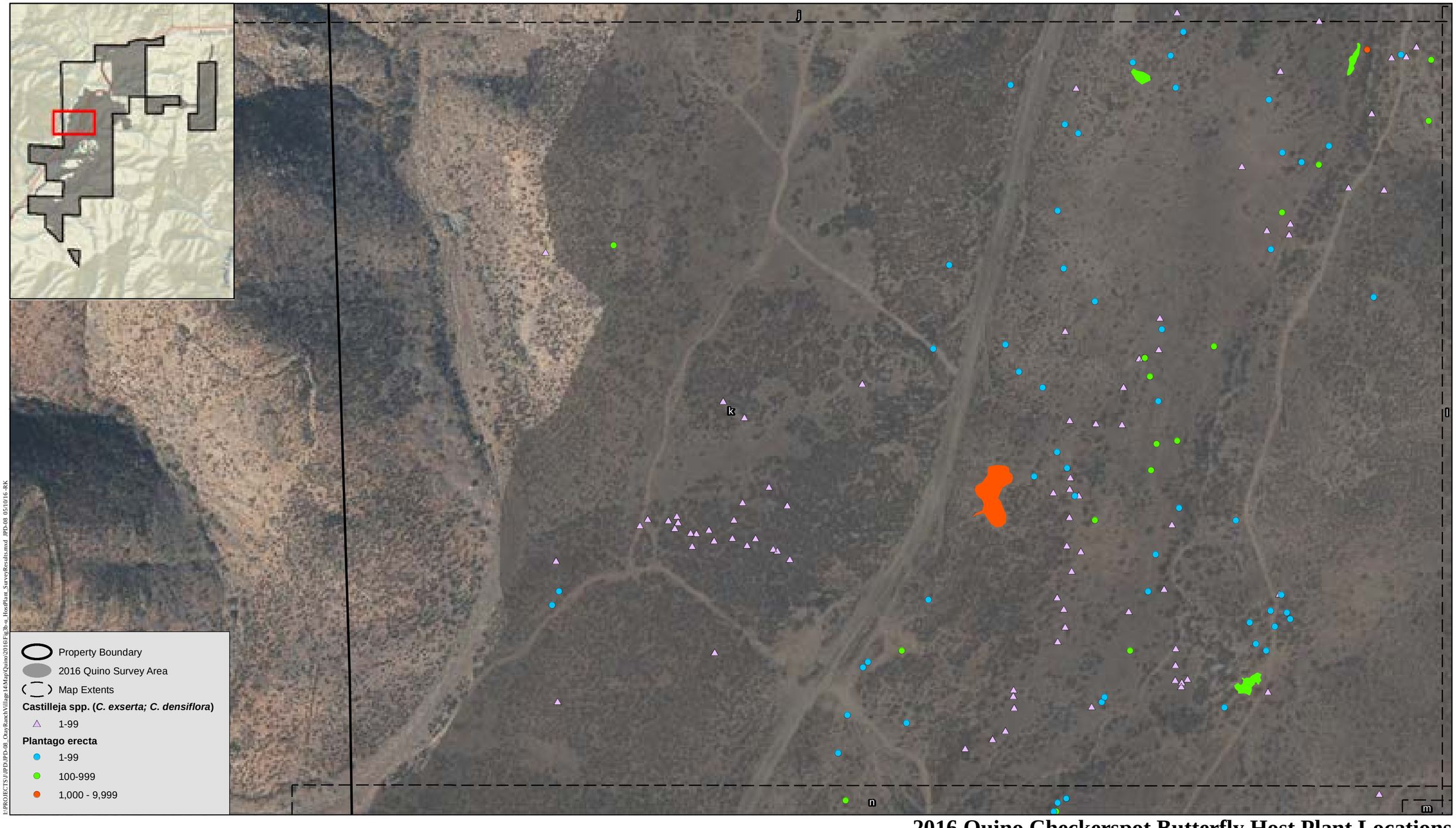
OTAY RANCH PROCTOR VALLEY VILLAGE 14 AND PRESERVE

HELIX Environmental Planning

N

0 200 Feet

Figure 3j



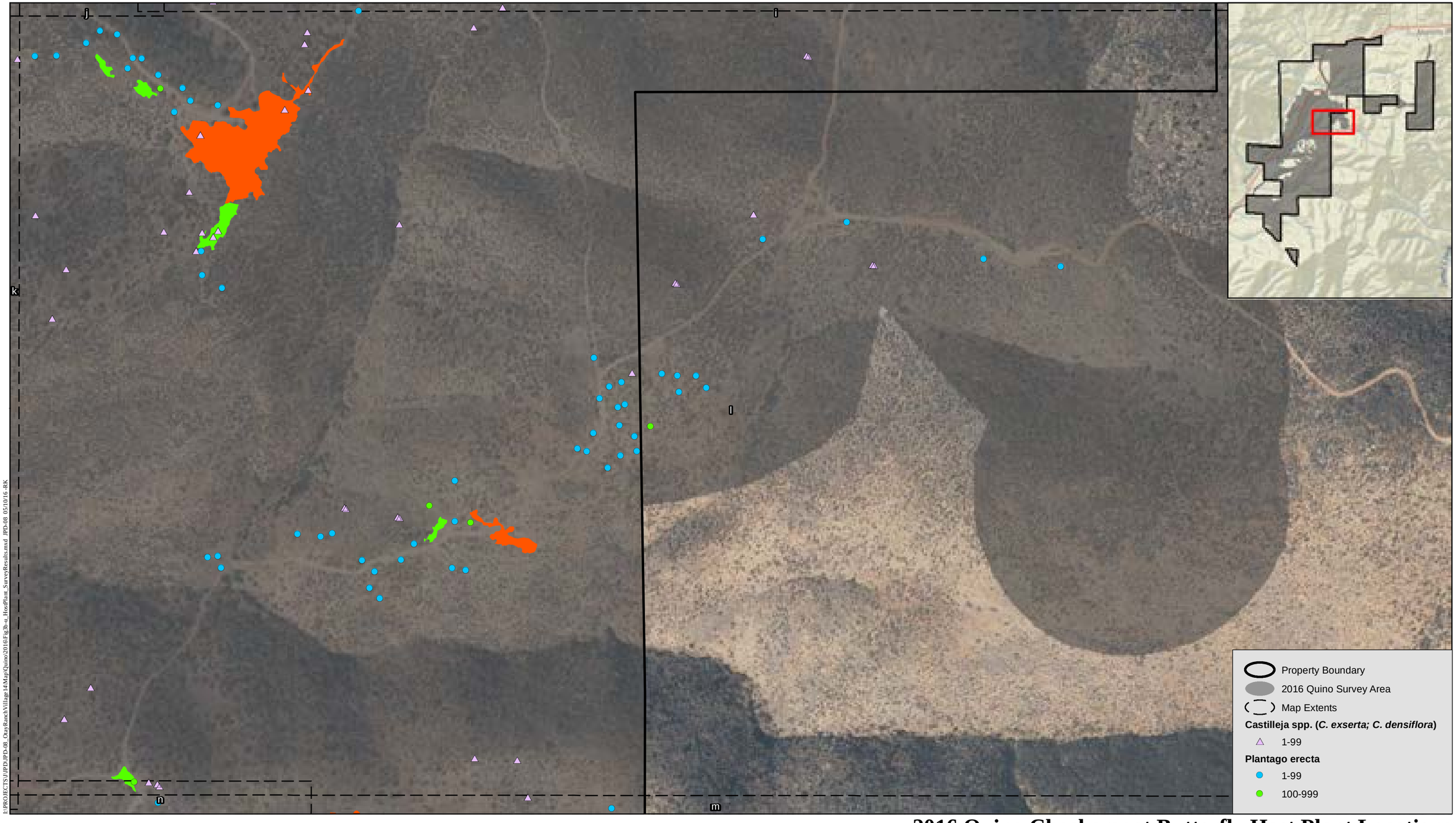
I:\PROJECTS\OPD\OPD-08_OtayRanchVillage14\MapQuino\2016\Fig3k-u_HostPlant_SurveyResults.mxd OPD-08 05/10/16 -RK

2016 Quino Checkerspot Butterfly Host Plant Locations

OTAY RANCH PROCTOR VALLEY VILLAGE 14 AND PRESERVE

HELIX Environmental Planning

Figure 3k



I:\PROJECTS\JPD\JPD-08_OtayRanchVillage14Map\Quino2016\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 3l



I:\PROJECTS\JJPD\JPD-08_OtayRanchVillage14MapsQuino\2016Fig3b-n_HostPlant_SurveyResults.mxd JPD-08 05/10/16 RK

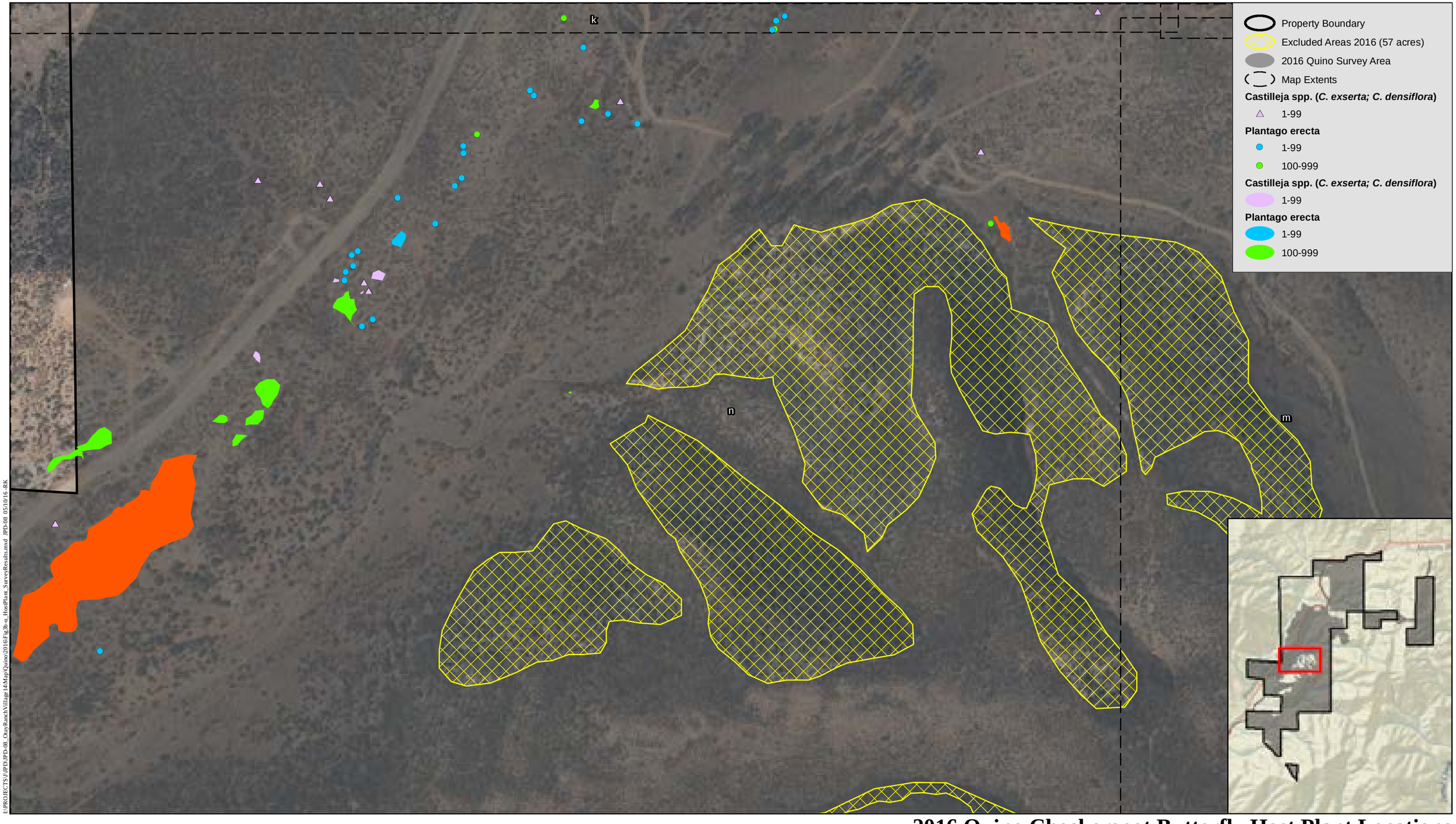
2016 Quino Checkerspot Butterfly Host Plant Locations

OTAY RANCH PROCTOR VALLEY VILLAGE 14 AND PRESERVE

HELIX Environmental Planning

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

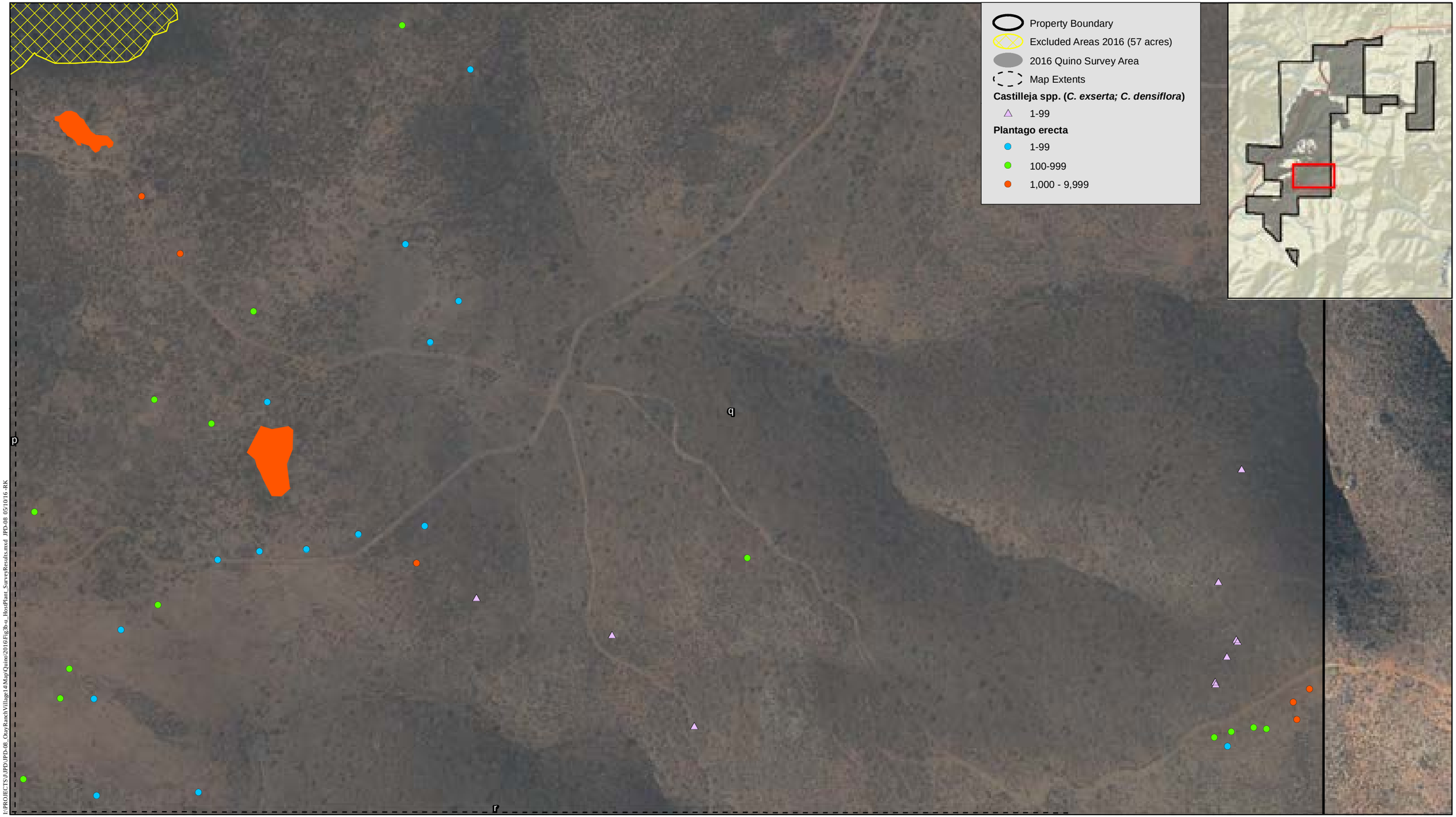
2016 Quino Checkerspot Butterfly Host Plant Locations

OTAY RANCH PROCTOR VALLEY VILLAGE 14 AND PRESERVE

HELIX Environmental Planning

0 200 Feet

Figure 3p

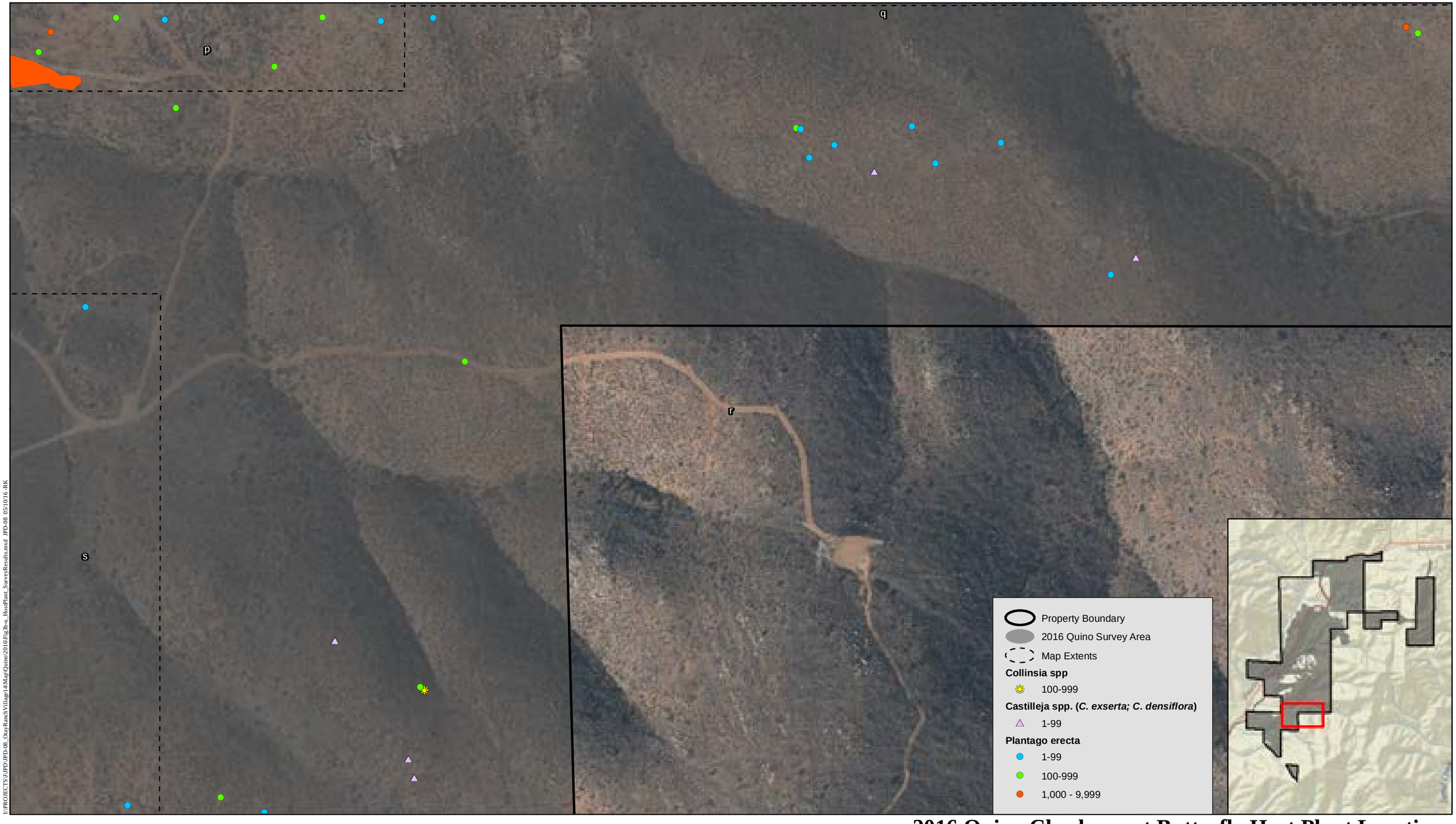


2016 Quino Checkerspot Butterfly Host Plant Locations

OTAY RANCH PROCTOR VALLEY VILLAGE 14 AND PRESERVE

HELIX Environmental Planning

Figure 3q



I:\PROJECTS\JUPD\JPD-08_OtayRanchVillage14\MapQuino\2016\Fig3b-u_HostPlant_SurveyResults.mxd JPD-08 05/10/16 RK

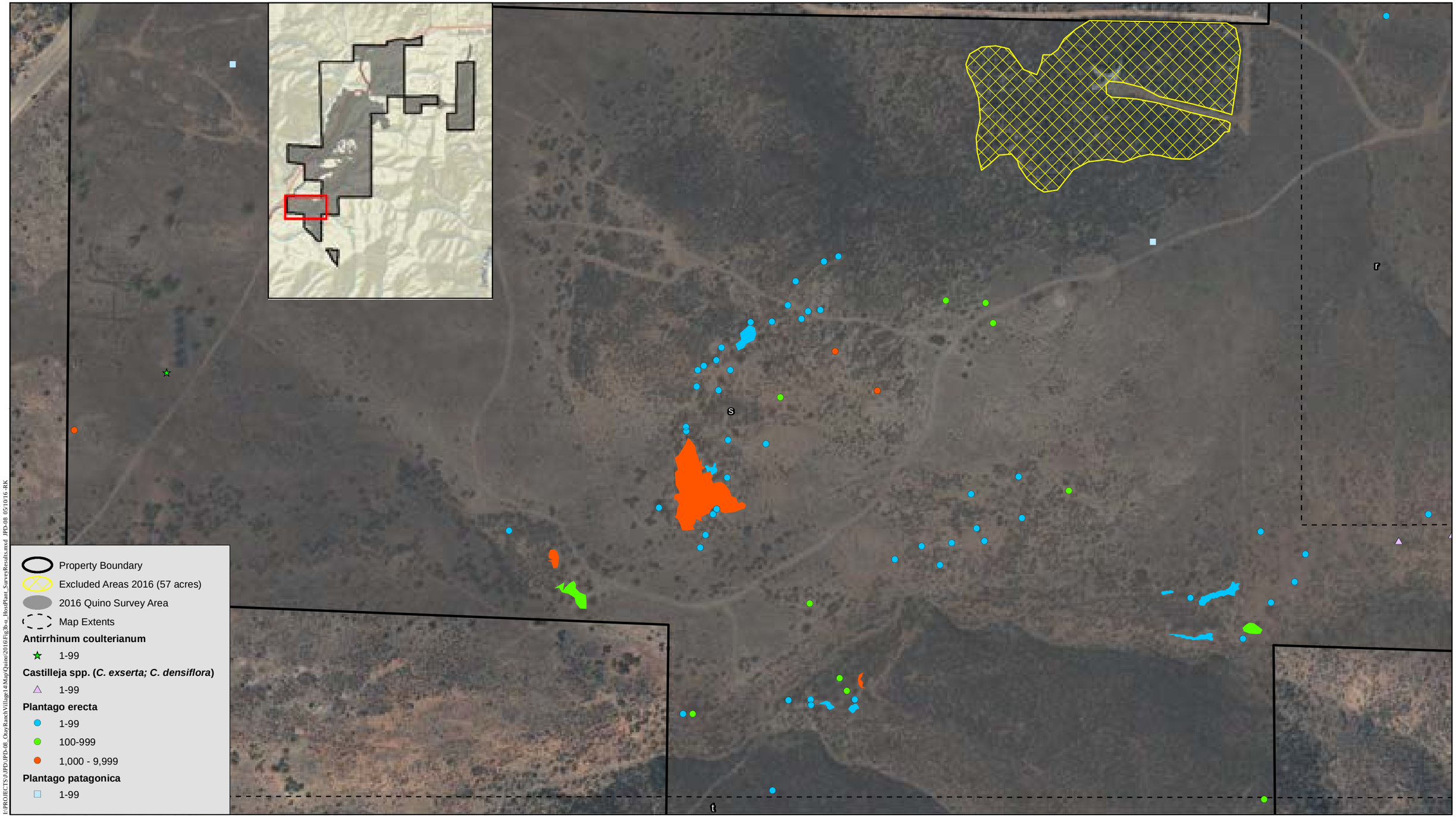
2016 Quino Checkerspot Butterfly Host Plant Locations

OTAY RANCH PROCTOR VALLEY VILLAGE 14 AND PRESERVE

HELIX Environmental Planning

0 200 Feet

Figure 3r

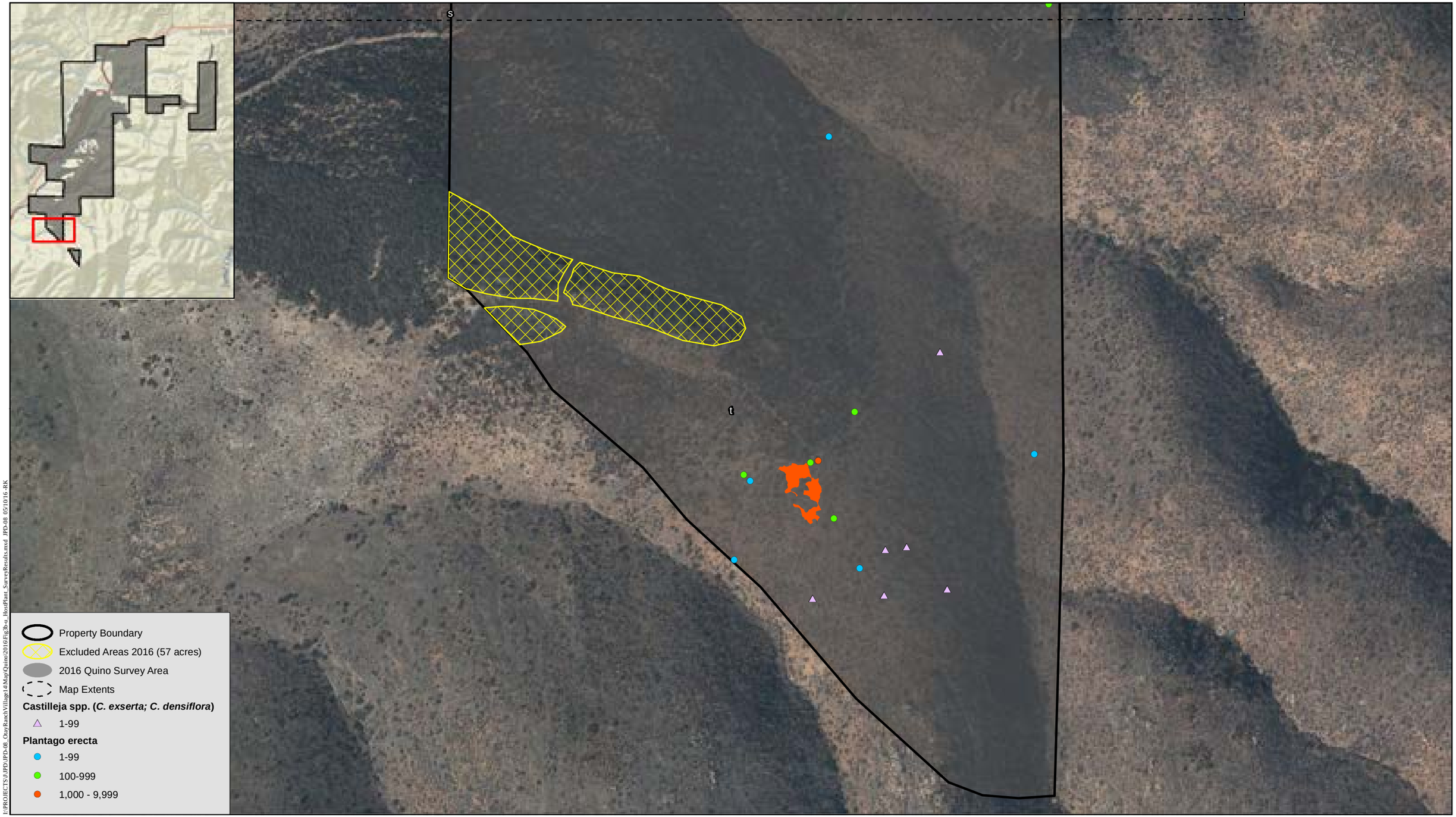


2016 Quino Checkerspot Butterfly Host Plant Locations

OTAY RANCH PROCTOR VALLEY VILLAGE 14 AND PRESERVE

HELIX Environmental Planning

Figure 3s



I:\PROJECTS\JPD\JPD-08_OtayRanchVillage14\Map\Quino\2016\Fig3t-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 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: C Dickson **Date:** 2/28/16

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

Acres Surveyed 35 **Survey Time:** 6.25 **Acres per Hour:** 8.8

Other Surveyors Present: N/A

Field Conditions				
	Time (24 hr)	Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start	0745	65.2	3.1	0%
End	1400	86.7	2.5	0%
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)
CSS/NNG/CHAP

Host Plants	Obs.	Nectar Plants	Obs.
dwarf plantain (*Plantago erecta*)	N	popcorn flower (*Cryptantha/Plagiobothrys* spp.)	X
purple owl's clover (*Castilleja exserta*)	N	goldfields (*Lasthenia* spp.)	N
snapdragon (*Antirrhinum coulterianum*)	N	goldenstar (*Muilla* spp.)	N
birds-beak (*Cordylanthus rigidus*)	N	fiddleneck (*Amsinckia menziesii* var. *intermedia*)	N
woolly plantain (*Plantago patagonica*)	N	onion (*Allium* spp.)	X
Chinese houses (*Collinsia* spp.)	N	buckwheat (*Eriogonum fasciculatum*)	X
		ground pink (*Linanthus dianthiflorus*)	N
Host Plant Mapping Updated (circle) Yes (No)		**New Area of 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*)	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*)	
Sara orangetip (*Anthocharis sara sara*)	14	anise swallowtail (*P. zelicaon*)	
desert (Felder's) orangetip (*A. cethura*)		**Miscellaneous**	
common California ringlet (*Coenonympha 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*)	
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		
sleepy 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 Brungraber

Date: 2/27/15

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

Site Visit No: 1

Acres Surveyed 47 (east/AA) Survey Time: 8.83 hrs (8hr 50min) Acres per Hour: 5.32

Other Surveyors Present: ✓

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., Solanum sp., Mirabilis laevis, Dichelostemma capitata, Malacothamnus) open Malosma chaparral w/some chamise + Rhamnus ~~ilicifolius~~ crocea

Host Plants	Obs.	Nectar Plants	Obs.
dwarf plantain (*Plantago erecta*)		popcorn flower (*Cryptantha/Plagiobothrys* spp.)	flwr - many
purple owl's clover (*Castilleja exserta*)		goldfields (*Lasthenia* spp.)	flwr
snapdragon (*Antirrhinum coulterianum*)	flwr	goldenstar (*Muilla* spp.)	
birds-beak (*Cordylanthus rigidus*)		fiddleneck (*Amsinckia menziesii* var. *intermedia*)	flwr
woolly plantain (*Plantago patagonica*)		onion (*Allium* spp.)	flwr
Chinese houses (*Collinsia* spp.)		buckwheat (*Eriogonum fasciculatum*)	veg
		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 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*)	6	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*)	
Whites		western tiger swallowtail (*P. rutulus*)	
Sara orangetip (*Anthocharis sara sara*)	11	anise swallowtail (*P. zelicaon*)	11
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	8	funereal duskywing (*Erynnis funeralis*)	6
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*)	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 Quino Checkerspot Butterfly Survey Form

Surveyor: N. Bradu & B. Ogg (TE 135948-2 + 134338-2) **Date:** 28 Feb 2016

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

Acres Surveyed 60 **Survey Time:** 3 hrs 25 min x2 **Acres per Hour:** 8.8

Other Surveyors Present: —

Field Conditions				
	Time (24 hr)	**Temperature (°F)**	**Wind Speed (mph)**	**Cloud Cover**
Start	0800	61	0-2	0% clear
End	0920	63	0-2	15%
Start	1210	75°	9-10	60% thin, high
End	1415	82°	0-5	60% thin, high

Vegetation Communities Surveyed (inc. dominant spp.)

coastal sage scrub (Erifas, Artcal)
chaparral (Adefas, Ceatom)

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*)	

+ Diccap Bahlac

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*)		painted lady (*V. cardui*) |||	3
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 |||	3	pale swallowtail (*Papilio eurymedon*)	
Whites		western tiger swallowtail (*P. rutulus*)	
Sara orangetip (*Anthocharis sara sara*) ~~||||~~ |||| |	16	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 ||	2	funereal duskywing (*Erynnis funeralis*) ~~||||~~ ||||	9
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*) ||	2
Sulphurs		**Other**	
orange sulphur (*Colias eurytheme*)		~~checker~~ Harford's sulfur ||	3
sleepy orange (*Eurema nicippe*)		Erynnis sp. |||	3
cloudless sulfur (*Phoebus sennae marcellina*)			
unidentified sulphur |||	3		
Column Subtotal	38	**Column Subtotal**	25
		Total	63

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: Chez Brungraber

Site Name: JPD-08 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)	Field Conditions		
		Temperature (°F)	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 chaap (scrub oak, chamise) NNG (Bromus dia., Erodium sp., D. capitata, A. menziesii) buckwheat scrub (Eriog fasc, Allium sp, D. capitata, Stipa sp.)

Host Plants	Obs.
dwarf plantain (*Plantago erecta*)	
purple owl's clover (*Castilleja exserta*)	flwr
snapdragon (*Antirrhinum coulterianum*)	
birds-beak (*Cordylanthus rigidus*)	
woolly plantain (*Plantago patagonica*)	
Chinese houses (*Collinsia* spp.)	flwr
	flwr
Host Plant Mapping Updated (circle) Yes (M) No	
Species updated (list) tons of Plantago - will GPS if plant team did not, but I don't have maps yet	

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*)	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 exila*)	II
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	IIII
Whites	
Sara orangetip (*Anthocharis sara sara*)	IIII
desert (Felder's) orangetip (*A. cethura*)	
common California ringlet (*Coenonympha californica*)	III
cabbage white (*Pieris rapae*)	
checkered (common) white (*Pontia protodice*)	
spring white (*P. sisymbrii*)	
unidentified white	IIII
Metalmarks	
Behr's metalmark (*Apodemia mormo virgulti*)	III
Wright's metalmark (*Calephelis wrighti*)	
Sulphurs	
orange sulphur (*Colias eurytheme*)	I
sleepy orange (*Eurema nicippe*)	
cloudless sulfur (*Phoebus sennae marcellina*)	I
unidentified sulphur	I
Column Subtotal	~~76~~ 75

Butterfly Species	No.
Hairstreaks	
great purple hairstreak (*Atlides halesus corcorani*)	
brown elfin (*Callophrys augustinus*)	I
bramble (perplexing) hairstreak (*C. dumetorum affinis*)	II
gray hairstreak (*Strymon melinus pudica*)	I
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.)	III
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*)	I
Other unidentified skipper	1
Column Subtotal	9
Total	~~85~~ 84

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: N. Brodie (TE 135948-2) **Date:** 28 Feb 2016

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

Acres Surveyed 33 **Survey Time:** 2h 30m x 2 **Acres per Hour:** 6.6

Other Surveyors Present: B. Ogg (TE 134338-2)

Field Conditions				
	Time (24 hr)	Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start	0930	63°	0-2	15%
End				
Start				
End	1200	75°	9-10, gust to 15	10% high, thin clouds

Vegetation Communities Surveyed (inc. dominant spp.)
Coastal sage scrub (Erifas, Artcal)
chaparral (Adefas, Ceatom)

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)			

yucca, bluedicks, shooting star, Bahlae

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*) |||	3
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*)	
Sara orangetip (*Anthocharis sara sara*) ~~|||| |||| |||| ||||~~	26	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 ||	2	funereal duskywing (*Erynnis funeralis*) ~~||||~~	5
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*)		Erynnis sp.	1
sleepy orange (*Eurema nicippe*)			
cloudless sulfur (*Phoebus sennae marcellina*)			
unidentified sulphur ||||	4		
Column Subtotal	38	**Column Subtotal**	12
		Total	50

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: Chez Brungraber

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)	Field Conditions		
		Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start	0845	66.7	0-3	15%
End	1545	87.1	0-3	5%
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)

Chamise chap (chamise, buckwheat), NNG (Avena sp, Bromus sp, Erodium sp, blue dicks), native bunch grassland (stipa sp., blue dicks, Solanum sp, Sisyr-bel)

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.)	
buckwheat (*Eriogonum fasciculatum*)	flwr
ground pink (*Linanthus dianthiflorus*)	flwr
New Area or Existing Area (*circle*) New Existing Both	

Butterfly Species	No.	Butterfly Species	No.
Checkerspots		**Hairstreaks**	
California patch (*Chlosyne californica*)	1	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*)	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*)		**Swallowtails**	
unidentified blue	IIII	pale swallowtail (*Papilio eurymedon*)	1
Whites		western tiger swallowtail (*P. rutulus*)	
Sara orangetip (*Anthocharis sara sara*)	HH HH HH I	anise swallowtail (*P. zelicaon*)	1
desert (Felder's) orangetip (*A. cethura*)		**Miscellaneous**	
common California ringlet (*Coenonympha californica*)	HH HH HH II	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	HH	funereal duskywing (*Erynnis funeralis*)	IIII
Metalmarks		mournful duskywing (*Erynnis tristis*)	
Behr's metalmark (*Apodemia mormo virgulti*)	HH HH HH HH HH	fiery skipper (*Hylephila phyleus*)	
Wright's metalmark (*Calephelis wrighti*)		white (common) checkered-skipper (*Pyrgus albescens*)	
Sulphurs		**Other**	
orange sulphur (*Colias eurytheme*)	1	Pearly marble	1
sleepy orange (*Eurema nicippe*)			
cloudless sulfur (*Phoebus sennae marcellina*)			
unidentified sulphur	II		
Column Subtotal	102	**Column Subtotal**	9
		Total	111

(+25)

2016 Quino Checkerspot Butterfly Survey Form

45 →

Surveyor: Chez Baungraber

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

Acres Surveyed: DD, Z west, AA west Survey Time: 7.75 hrs Site Visit No: 1

Other Surveyors Present: ✓ Acres per Hour: 5.8

	Time (24 hr)	Field Conditions		
		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 (chamise, Xylococcus bicolor), annual grass (S. apiana, Plagio sp., Mirabilis, Lathyrus sp., Solanum sp.)
Salvia clevelandii scrub w/ venegasia carpesioides

Host Plants	Obs.	Nectar Plants	Obs.
dwarf plantain (*Plantago erecta*)	flwr	popcorn flower (*Cryptantha/Plagiobothrys* spp.)	flwr
purple owl's clover (*Castilleja exserta*)		goldfields (*Lasthenia* spp.)	
snapdragon (*Antirrhinum coulterianum*)	flwr	goldenstar (*Muilla* spp.)	flwr
birds-beak (*Cordylanthus rigidus*)		fiddleneck (*Amsinckia menziesii* var. *intermedia*)	flwr
woolly plantain (*Plantago patagonica*)		onion (*Allium* spp.)	flwr
Chinese houses (*Collinsia* spp.)		buckwheat (*Eriogonum fasciculatum*)	veg
		ground pink (*Linanthus dianthiflorus*)	flwr
Host Plant Mapping Updated (*circle*) Yes (M) No		**New Area or Existing Area** (*circle*) New Existing Both	
Species updated (list) maybe added more plantago - not sure until I see data			

Butterfly Species	No.	Butterfly Species	No.
Checkerspots		**Hairstreaks**	
California patch (*Chlosyne californica*)		great purple hairstreak (*Atlides halesus corcorani*)	
Gabb's checkerspot (*C. gabbii*)	I	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*)	II	west coast lady (*Vanessa annabella*)	
western tailed blue (*Everes amyntula*)		red admiral (*V. atalanta rubria*)	
southern blue (*Glaucopsyche lygdamus australis*)	𝍸 𝍸 𝍸 I	painted lady (*V. cardui*)	
Edward's blue (*Hemiargus ceraunus gyas*)		American (Virginia) lady (*V. virginiensis*)	
Acmon blue (*Icaricia acmon acmon*)	II	unidentified lady (*Vanessa* sp.)	III
marine blue (*Leptotes marina*)		**Swallowtails**	
unidentified blue	III	pale swallowtail (*Papilio eurymedon*)	II
Whites		western tiger swallowtail (*P. rutulus*)	
Sara orangetip (*Anthocharis sara sara*)	𝍸 𝍸	anise swallowtail (*P. zelicaon*)	
desert (Felder's) orangetip (*A. cethura*)	𝍸	**Miscellaneous**	
common California ringlet (*Coenonympha californica*)	𝍸 𝍸 𝍸 𝍸	monarch (*Danaus plexippus*)	I
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*)	III
Metalmarks		mournful duskywing (*Erynnis tristis*)	
Behr's metalmark (*Apodemia mormo virgulti*)	𝍸 𝍸	fiery skipper (*Hylephila phyleus*)	
Wright's metalmark (*Calephelis wrighti*)		white (common) checkered-skipper (*Pyrgus albescens*)	I
Sulphurs		**Other**	
orange sulphur (*Colias eurytheme*)	𝍸 II		
sleepy orange (*Eurema nicippe*)			
cloudless sulfur (*Phoebus sennae marcellina*)			
unidentified sulphur	III		
Column Subtotal	121	**Column Subtotal**	II
		Total	132

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: BRIAN PARKER **Date:** 2-23-2016

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

Acres Surveyed 51 **Survey Time:** 6.0 **Acres per Hour:** 8.5

Other Surveyors Present: —

Field Conditions				
	Time (24 hr)	Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start	0820	64	0-1	0%
End	1420	75	4-6	10%
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)

DCSS - ERI Fas SMC - Ade fas, Cea tom,

CC - Ade fas

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*)		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*)	
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.)	
marine blue (*Leptotes marina*)		**Swallowtails**	
unidentified blue	2	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*)		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*)	1	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*)	[redacted]		
unidentified sulphur	2		
Column Subtotal	16	**Column Subtotal**	4
		Total	20

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: GARRETT HUFFMAN **Date:** 2/24/16

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

Acres Surveyed 43 **Survey Time:** ~~0930 – 1600~~ 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
End	1315	82	0-4	20
P Start	1345	82	0-4	20
End	~~1600~~ 1800	74	2-5	40

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*)	
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*)	
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*)	5
Edward's blue (*Hemiargus ceraunus gyas*)	
Acmon blue (*Icaricia acmon acmon*)	
marine blue (*Leptotes marina*)	
unidentified blue	
Whites	
Sara orangetip (*Anthocharis sara sara*)	60
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. sisymbrii*)	
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	
great 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 (*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*)	5
Other	
Column Subtotal	~~143~~ 23

TOTAL 143

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: Erik LaCoste **Date:** 2/25/16

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

Acres Surveyed 34 **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	12:00	87	1.0 avg 2.3 max	0
End	3:30	82	2.7 avg 5.4 max	0
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)

CSS, mix chaparral

Host Plants	Obs.	Nectar Plants	Obs.
dwarf plantain (*Plantago erecta*)	n	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	fiddleneck (*Amsinckia 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*)	n
Host Plant Mapping Updated (circle) Yes No		**New Area of 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*)	2
western tailed blue (*Everes amyntula*)		red admiral (*V. atalanta rubria*)	
southern blue (*Glaucopsyche lygdamus australis*)	6	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*)	1	**Swallowtails**	
unidentified blue		pale swallowtail (*Papilio eurymedon*)	2
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*)		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*)	3	CA ringlet	1
sleepy orange (*Eurema nicippe*)			
cloudless sulfur (*Phoebus sennae marcellina*)			
unidentified sulphur			
Column Subtotal	32	**Column Subtotal**	12
		Total	44

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: Chez Bungraber

Site Name: JPD-08 Proctor Valley – Village 14 of Otay Ranch Date: 2/29/16

Acres Surveyed FF - 58acres 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 bunch grassland (Stipa sp. blue dicks, Solanum sp., Mirabilis), buckwheat scrub, disturbed (Erodium sp.)

Host Plants	Obs.	Nectar Plants	Obs.
dwarf plantain (*Plantago erecta*)	flwr	popcorn flower (*Cryptantha/Plagiobothrys* spp.)	flwr
purple owl's clover (*Castilleja exserta*)		goldfields (*Lasthenia* spp.)	
snapdragon (*Antirrhinum coulterianum*)	flwr	goldenstar (*Muilla* spp.)	flwr
birds-beak (*Cordylanthus rigidus*)		fiddleneck (*Amsinckia menziesii* var. *intermedia*)	flwr
woolly plantain (*Plantago patagonica*)	flwr	onion (*Allium* spp.)	flwr
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) need to check maps			

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*)	II	painted lady (*V. cardui*)	
Edward's blue (*Hemiargus ceraunus gyas*)		American (Virginia) lady (*V. virginiensis*)	
Acmon blue (*Icaricia acmon acmon*)	II	unidentified lady (*Vanessa* sp.)	
marine blue (*Leptotes marina*)		**Swallowtails**	
unidentified blue	IIII	pale swallowtail (*Papilio eurymedon*)	
Whites		western tiger swallowtail (*P. rutulus*)	
Sara orangetip (*Anthocharis sara sara*)	IIII IIII II	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*)	II
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*)	III
Sulphurs		**Other**	
orange sulphur (*Colias eurytheme*)	I	Northern white skipper	I
sleepy orange (*Eurema nicippe*)			
cloudless sulfur (*Phoebus sennae marcellina*)			
unidentified sulphur	III		
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 (incl munzii), Art cal, Eriophyllum confertiflorum; Chamise Chaparral - Adenostoma fasc ; NNG - 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 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*)	
Acmon blue (*Icaricia acmon acmon*)		unidentified lady (*Vanessa* sp.)	3
marine blue (*Leptotes marina*)		**Swallowtails**	
unidentified blue (likely So.)	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. sisymbrii*)		**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**

JPD08 ERICA TH
QUB ##(AREA TH) 2125/16
STAR: 0910, 76°F, 0-3.0%
STOP: 1440, 80°F, 1-6, 0%

BEAR WHITE RTTA RAUR
CATH CALT WOSP WREN
GRRO ANHU RESP NOFL
REKI BUSH LEGO MODO
HOLA OLWA TRES ANCR

Side-blotched coast horn liz.
coyote SO. pac. rattle
BTJR Fence liz.
CA gr. squirrel
Gray HAIRSTREAK II
monarch I Buckeye II
WESTCOAST I SO. Blue IIII
Creek skip. II Behr's ##I
Funeral ##I Sara's IIII
Pygmy III Sulphur IIII
White Sp. III Lady IIII

Flower: Hir ING. erodium, sorrels, eritas, mir lalv, lath vest, cea tom, pan lac, Dic cap, guitenzi, acm gla, ec cal, allium, onyolinita, calchrac, ana ary, oxalis, sel sal, mair mac, Pla ere, solanum, PPla ck, nioped, eri cal, cal cil, sal mun, cas off, sis bel

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
QUB #1 (Area I) 2/24/16
START: 0900; 75°F, 4-8, 0%
STOP: 1312; 84°F, 1-3, 0%

YKWA RITA NOHA CORA
HOF1 ARCK WASP WHITE
ANHU HOLA CALT LEGIO
COHU SANS TRES RESP
GRRO GAK1 MOOD SAPH
NORO NRWS

side-blotched 1.2
CA gr. squirrel COMMON RAIL

Anise II
CA nirgret III
Pygmy 1
Sarais IIII
Behrs II
Red admiral 1
Checkered Skip IIII

Sulphur IIII
Lady IIII
Funeral III
White sp. IIII
Monarch 1
Blue sp. 1

Flower: red polygonum, eriog, Ammen, Lac ser, Dic cap, viola, sonchus, cryptantha, plagiobothrys, gutierrezia, Lath vest, mira laev, Sisyrinchium, amsinckia, allium, Selaginella, cal cil, thirteen, isomeris

Kite in the Rain

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: GARRETT HUFFMAN **Date:** ~~8~~ 2/24/16

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

Acres Surveyed 65 **Survey Time:** ~~8~~7 HOURS **Acres per Hour:** ~~8~~9.3

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 (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*)	
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 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*)	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. 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*)	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

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

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

HER INC **Acres Surveyed** 63 **Survey Time:** 3.6 **Acres per Hour:** 8.75

ERO CIC **Other Surveyors Present:** Trams Cooper

Camissonia sp.

LOT STR

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				

BAH CAN

SIS BEL

LYS ARV

NUT TEX

GUT CAL

Ceanothus sp.

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

ESC CAL

MIM AUR

SOL PAR

MAL DEN

PEN ARI

ALL PRA

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)			

CAL CIL

CAL MAC

PHA CIC

LAT VES

SID SPA

HEL SCO

LIN DEN

MIR LAE

SAL MUN

DIC CAP

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

Acres Surveyed 66 **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 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*)	
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. 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*)	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: GARRETT HUFFMAN **Date:** 2/28/16

Site Name: JPD-08 Proctor Valley – Village 14 of Otay Ranch PARCEL R **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	99	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*)		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) 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*)	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*)	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. sisymbrii*)		**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	~~116~~ 121	**Column Subtotal**	~~8~~ 11

TOTAL 132

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: Brenna Ogg (TE 134338-2) **Date:** 27 Feb 2016

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

Acres Surveyed 47 **Survey Time:** 5hr 20 min **Acres per Hour:** 8.8

Other Surveyors Present: —

Field Conditions				
	Time (24 hr)	**Temperature (°F)**	**Wind Speed (mph)**	**Cloud Cover**
Start	0755	61 @ ground	0-2	0
End	1315	81 @ ground	2-6, occ. gust to 8	0
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)
coastal sage scrub (Erifas, Bahlae, Artcal)
chaparral (Adefas, Ceatom)

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*)	X	onion (*Allium* spp.)	X
Chinese houses (*Collinsia* spp.)		buckwheat (*Eriogonum fasciculatum*)	X
		ground pink (*Linanthus dianthiflorus*)	

+Diccap Bahlae

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

Species updated (list) Plaere, Plapat

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*) in poly R	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*)	2
Edward's blue (*Hemiargus ceraunus gyas*)		American (Virginia) lady (*V. virginiensis*)	3
Acmon blue (*Icaricia acmon acmon*)		unidentified lady (*Vanessa* sp.)	3
marine blue (*Leptotes marina*)	1	**Swallowtails**	
unidentified blue	3	pale swallowtail (*Papilio eurymedon*)	1
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*)	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*)	22	fiery skipper (*Hylephila phyleus*)	
Wright's metalmark (*Calephelis wrighti*)		white (common) checkered-skipper (*Pyrgus albescens*)	3
Sulphurs		**Other**	
orange sulphur (*Colias eurytheme*)	3	dainty sulphur (in poly R)	1
sleepy orange (*Eurema nicippe*)		Erynnis sp.	2
cloudless sulfur (*Phoebus sennae marcellina*)			
unidentified sulphur	4		
Column Subtotal	74	**Column Subtotal**	16
		Total	90

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 K+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	Ø	Ø
End	1530	77	3	Ø
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)

DCSS = ARTEMISIA CALIFORNICA, ERODIUM SPP, ERIOGONUM FASCICULATUM, MALOSMA LAURINA

NNG = BROMUS DIANDRUS, AVENA SPP, HORDEUM MARINUM + MURINUM, 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 exila*)		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 sara*)	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 HARFORDII	1
sleepy orange (*Eurema nicippe*)		HELIOPETES ERICETORUM	1
cloudless sulfur (*Phoebus sennae marcellina*)			
unidentified sulphur			
Column Subtotal	65	**Column Subtotal**	33
		Total	98

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: JOHN DICUS, MELANIE DICUS **Date:** 02-28-2016

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:** 6.06 / EACH BIO

Other Surveyors Present:

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

Vegetation Communities Surveyed (inc. dominant spp.) CHAMISE CHAP: ADENOSTOMA FASCICULATUM, ERODIUM BOTRYS, BRACHYPODIUM DISS: ARTEMISIA CA, ERIOGONUM FASCICULATUM, MALOSMA LAURINA, CHLORALGALE SP. BROMUS SPP. NNB/RUDERAL: BROMUS MADRITENSIS, B. DIANDRUS, ERODIUM BOTRYS/BRACHYCARPUM; NEEDLEGRASS GRASSLAND: STIPA LEPIDA, 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*) 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
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 exila*)		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 HARFORDII	5
sleepy orange (*Eurema nicippe*)		HELIOPETES ERICETORUM	1
cloudless sulfur (*Phoebus sennae marcellina*)			
unidentified sulphur			
Column Subtotal	121	**Column Subtotal**	36
		Total	157

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: C Dickson **Date:** 2/26/16

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

Acres Surveyed 57 **Survey Time:** 6 hrs **Acres per Hour:** 9.5

Other Surveyors Present: N/A

Field Conditions				
	Time (24 hr)	Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start	0900	69	2.6	0%
End	1500	75	1.2	20%
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)
CSS / Chamise / NNG

Host Plants	Obs.	Nectar Plants	Obs.
dwarf plantain (*Plantago erecta*)	n	popcorn flower (*Cryptantha/Plagiobothrys* spp.)	y
purple owl's clover (*Castilleja exserta*)	n	goldfields (*Lasthenia* spp.)	n
snapdragon (*Antirrhinum coulterianum*)	n	goldenstar (*Muilla* spp.)	y
birds-beak (*Cordylanthus rigidus*)	n	fiddleneck (*Amsinckia 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*)	n
Host Plant Mapping Updated (circle) Yes (No)		**New Area of 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*)		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	3	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*)	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		funereal duskywing (*Erynnis funeralis*)	2
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*)	1
Sulphurs		**Other**	
orange sulphur (*Colias eurytheme*)	10		
sleepy orange (*Eurema nicippe*)			
cloudless sulfur (*Phoebus sennae marcellina*)			
unidentified sulphur			
Column Subtotal	76	**Column Subtotal**	8
		Total	84

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: Gretchen Cummings **Date:** 2/26/16

Site Name: JPD-08 Proctor Valley – Village 14 of Otay Ranch (Area U) **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 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*)	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*)	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*)	
checkered (common) white (*Pontia protodice*)		mourning cloak (*Nymphalis antiopa*)	
spring white (*P. sisymbrii*)		**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*)			
cloudless 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
Camissonia sp.
MIR LAE
DOD
LOT STR
BAH CAN
CLA CON
MAL DEN
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2016 Quino Checkerspot Butterfly Survey Form

Surveyor: Alicia Hill **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	88	0-1	0%
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.) Chamise chaparral (ADE FAS, 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	Hartford 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 Dickerson **Date:** 2/27/16

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

Acres Surveyed 54 **Survey Time:** 6 **Acres per Hour:** 9

Other Surveyors Present: n/a

Field Conditions				
	Time (24 hr)	**Temperature (°F)**	**Wind Speed (mph)**	**Cloud Cover**
Start	0800	62.1	0.6	0%
End	1400	86.1	2.1	0%
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)

Chamise ch | nng

Host Plants	**Obs.**	**Nectar Plants**	**Obs.**
dwarf plantain (*Plantago erecta*)	n	popcorn flower (*Cryptantha/Plagiobothrys* spp.)	y
purple owl's clover (*Castilleja exserta*)	n	goldfields (*Lasthenia* spp.)	y n
snapdragon (*Antirrhinum coulterianum*)	n	goldenstar (*Muilla* spp.)	y
birds-beak (*Cordylanthus rigidus*)	n	fiddleneck (*Amsinckia menziesii* var. *intermedia*)	y n
woolly plantain (*Plantago patagonica*)	n	onion (*Allium* spp.)	y
Chinese houses (*Collinsia* spp.)	n	buckwheat (*Eriogonum fasciculatum*)	y
		ground pink (*Linanthus dianthiflorus*)	y n
Host Plant Mapping Updated (circle) Yes (No)		**New Area of 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*)	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 (Felder's) orangetip (*A. cethura*)		**Miscellaneous**	
common California ringlet (*Coenonympha californica*)	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		
sleepy orange (*Eurema nicippe*)			
cloudless sulfur (*Phoebus sennae marcellina*)			
unidentified sulphur			
Column Subtotal	26	**Column Subtotal**	3
		Total	29

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: Erik LaCoste **Date:** 2/26/16

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

Acres Surveyed 62 **Survey Time:** 6.25 hrs **Acres per Hour:** 9.9

Other Surveyors Present: NONE

Field Conditions				
	Time (24 hr)	**Temperature (°F)**	**Wind Speed (mph)**	**Cloud Cover**
Start	09.00	69	2.6 Ave 3.5 max	0
End	3:15	81	4.3 Ave 7.0 max	0
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)

Chamise Chaparral, CSS, NNG, 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	fiddleneck (*Amsinckia 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 exila*)		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. sisymbrii*)		**Skippers**	
unidentified white		funereal duskywing (*Erynnis funeralis*)	2
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*)	
Sulphurs		**Other**	
orange sulphur (*Colias eurytheme*)	3		
sleepy orange (*Eurema nicippe*)			
cloudless sulfur (*Phoebus sennae marcellina*)			
unidentified sulphur			
Column Subtotal	39	**Column Subtotal**	9
		Total	48

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: Chez Brungraber Date: 2/24/16

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

Acres Surveyed: 58 (Area Y) Survey Time: 9:15am - 4:30pm 7.25 Acres per Hour: 8

Other Surveyors Present: none

Field Conditions				
	Time (24 hr)	Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start	0915	70.1	0-3, gust 7mph	0
End	1630	86.6	0-3	0
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)

Annual grassland, buckwheat scrub, Venegasia scrub, Ceanothus chaparral

Host Plants	Obs.	Nectar Plants	Obs.
dwarf plantain (*Plantago erecta*)		popcorn flower (*Cryptantha/Plagiobothrys* spp.)	X flwr
purple owl's clover (*Castilleja exserta*)		goldfields (*Lasthenia* spp.)	
snapdragon (*Antirrhinum coulterianum*)	X veg	goldenstar (*Muilla* spp.)	
birds-beak (*Cordylanthus rigidus*)		fiddleneck (*Amsinckia menziesii* var. *intermedia*)	
woolly plantain (*Plantago patagonica*)		onion (*Allium* spp.)	X flwr
Chinese houses (*Collinsia* spp.)		buckwheat (*Eriogonum fasciculatum*)	X 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 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*)	𝍸 II	painted lady (*V. cardui*)	III
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	𝍸 III	pale swallowtail (*Papilio eurymedon*)	1
Whites		western tiger swallowtail (*P. rutulus*)	
Sara orangetip (*Anthocharis sara sara*) + 16	𝍸 𝍸 𝍸 𝍸	anise swallowtail (*P. zelicaon*)	1
desert (Felder's) orangetip (*A. cethura*)	II	**Miscellaneous**	
common California ringlet (*Coenonympha californica*)	𝍸 𝍸 I	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*)	II	**Skippers**	
unidentified white	𝍸 II	funereal duskywing (*Erynnis funeralis*)	𝍸 III
Metalmarks		mournful duskywing (*Erynnis tristis*)	
Behr's metalmark (*Apodemia mormo virgulti*)	𝍸 𝍸 III	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	90	Column Subtotal	14
		Total	104

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: Chez Brungraber

Site Name: JPD-08 Proctor Valley – Village 14 of Otay Ranch Date: 2/25/16

53 → Acres Surveyed 2. east of road Survey Time: 8 hrs Site Visit No: 1

Other Surveyors Present: – Acres per Hour: 6.625

	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 (Solanum sp., Allium sp., Lathyrus sp.), Malosma - Rhus open scrub, Buckwheat scrub, ~~Salvia~~

Host Plants	Obs.	Nectar Plants	Obs.
dwarf plantain (*Plantago erecta*)	flwr	popcorn flower (*Cryptantha/Plagiobothrys* spp.)	flwr
purple owl's clover (*Castilleja exserta*)		goldfields (*Lasthenia* spp.)	
snapdragon (*Antirrhinum coulterianum*)	flwr	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*)	veg/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)	→ I dont have data yet so I mapped what I found just in case		

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 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	~~175~~	Column Subtotal	14
	145	Total	~~174~~ 159

60 + ~~35~~

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 Borngraber Date: 3/3/16

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

Area Surveyed AA, BB Acres Surveyed 97 Survey Time: 7.75 Acres per Hour: 12.5 (6.25 ac/pp)

51+46

Other Surveyors Present: Andrew Borcher

Field Conditions				
	Time (24 hr)	Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start	0815	60	0	15%
End	1600	70	0-3	90%
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)

Chamise chap, NNG, bunchgrassland
(chamise, buckwheat, ~~[illegible]~~, blue dicks, Stipa sp., Malosma)

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
		ground 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*)	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*)	III
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*)	IIII	painted lady (*V. cardui*)	I
Edward's blue (*Hemiargus ceraunus gyas*)		American (Virginia) lady (*V. virginiensis*)	II
Acmon blue (*Icaricia acmon acmon*)		unidentified lady (*Vanessa* sp.)	VII
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*)	II	anise swallowtail (*P. zelicaon*)	I
desert (Felder's) orangetip (*A. cethura*)		**Miscellaneous**	
common California ringlet (*Coenonympha californica*)	II	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*)	I	**Skippers**	
unidentified white	III	funereal duskywing (*Erynnis funeralis*)	III
Metalmarks		mournful duskywing (*Erynnis tristis*)	I
Behr's metalmark (*Apodemia mormo virgulti*)		fiery skipper (*Hylephila phyleus*)	
Wright's metalmark (*Calephelis wrighti*)		white (common) checkered-skipper (*Pyrgus albescens*)	I
Sulphurs		**Other**	
orange sulphur (*Colias eurytheme*)			
sleepy orange (*Eurema nicippe*)			
cloudless sulfur (*Phoebus sennae marcellina*)			
unidentified sulphur	III		
Column Subtotal	94 ~~97~~	Column Subtotal	~~3~~ 34
		Total	128

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: C Dickson **Date:** 03/04/16

Site Name: JPD-08 Proctor Valley – Village 14 of Otay Ranch PB **Site Visit No:** 02

Acres Surveyed 60 **Survey Time:** 6 hrs **Acres per Hour:** 10 ac

Other Surveyors Present: n/a

Field Conditions				
	Time (24 hr)	Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start	0940	73	2.9	20% high & thin
End	1545	68	5.9	50%
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 of 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*)		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*)	2
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	2	pale swallowtail (*Papilio eurymedon*)	2
Whites		western tiger swallowtail (*P. rutulus*)	
Sara orangetip (*Anthocharis sara sara*)	22	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*)	
spring white (*P. sisymbrii*)		**Skippers**	
unidentified white		funereal duskywing (*Erynnis funeralis*)	8
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*)	3		
sleepy orange (*Eurema nicippe*)			
cloudless sulfur (*Phoebus sennae marcellina*)			
unidentified sulphur			
Column Subtotal	42	**Column Subtotal**	15
		Total	57

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: Brian Parker **Date:** 3-5-16

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

Area Surveyed C **Acres Surveyed** 33 **Survey Time:** 3.5 **Acres per Hour:** 9.4

Other Surveyors Present: —

Field Conditions				
	Time (24 hr)	Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start	1125	70	0	40%
End	1455	68	5-8	70%
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)

Chamise Chaparral - Ade fas, Mal lau, Xyl bic

CSS - Art cal, Bah lan, Mal lau, Sal api, Bro mad rub, Ery bot.

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*)		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*)		painted lady (*V. cardui*)	
Edward's blue (*Hemiargus ceraunus gyas*)		American (Virginia) lady (*V. virginiensis*)	4
Acmon blue (*Icaricia acmon acmon*)		unidentified lady (*Vanessa* sp.)	2
marine blue (*Leptotes marina*)		**Swallowtails**	
unidentified blue	1	pale swallowtail (*Papilio eurymedon*)	1
Whites		western tiger swallowtail (*P. rutulus*)	
Sara orangetip (*Anthocharis sara sara*)	8	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	1	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*)	
Sulphurs		**Other**	
orange sulphur (*Colias eurytheme*)			
sleepy orange (*Eurema nicippe*)			
cloudless sulfur (*Phoebus sennae marcellina*)			
unidentified sulphur			
Column Subtotal	12	**Column Subtotal**	10
		Total	22

5hrs 30mins

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: Chez Baugraber Date: 3/8/16

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

42+58 Area Surveyed CC, [redacted] FF Acres Surveyed 100 Survey Time: [redacted] Acres per Hour: [redacted] (6 ac/pp/hr)

Other Surveyors Present: Andrew Borcher, Erica Harris, Ben Rosenbaum (in training) 18

Field Conditions				
	Time (24 hr)	Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start	0900	60	0-1	0
3.25 End	[redacted] 1215	66	3-5	0
Start	1400	67	3-5	0
2.25 / 5.5 End	1615	66	3-5	0

Vegetation Communities Surveyed (inc. dominant spp.)

Chamise chap (chamise), buckwheat scrub, NNG, native bunch grassland (blue dicks, Stipa sp., Eriodictyon sp.)

Host Plants	Obs.	Nectar Plants	Obs.
dwarf plantain (*Plantago erecta*)	flwr	popcorn flower (*Cryptantha/Plagiobothrys* spp.)	flwr
purple owl's clover (*Castilleja exserta*)	[redacted]	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
		ground 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*)	I
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*)	II	painted lady (*V. cardui*)	
Edward's blue (*Hemiargus ceraunus gyas*)		American (Virginia) lady (*V. virginiensis*)	I
Acmon blue (*Icaricia acmon acmon*)		unidentified lady (*Vanessa* sp.)	II
marine blue (*Leptotes marina*)		**Swallowtails**	
unidentified blue	I	pale swallowtail (*Papilio eurymedon*)	
Whites		western tiger swallowtail (*P. rutulus*)	
Sara orangetip (*Anthocharis sara sara*)	IIII II	anise swallowtail (*P. zelicaon*)	
desert (Felder's) orangetip (*A. cethura*)		**Miscellaneous**	
common California ringlet (*Coenonympha californica*)	IIII 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		funereal duskywing (*Erynnis funeralis*)	IIII II
Metalmarks		mournful duskywing (*Erynnis tristis*)	IIII
Behr's metalmark (*Apodemia mormo virgulti*)	IIII IIII IIII I	fiery skipper (*Hylephila phyleus*)	
Wright's metalmark (*Calephelis wrighti*)		white (common) checkered-skipper (*Pyrgus albescens*)	IIII
Sulphurs		**Other**	
orange sulphur (*Colias eurytheme*)			
sleepy orange (*Eurema nicippe*)			
cloudless sulfur (*Phoebus sennae marcellina*)			
unidentified sulphur			
Column Subtotal	42	**Column Subtotal**	21
		Total	63

JPD-08 03/08/16
QLB #2
Ben R. Erica H. Andrew B. Chez B. [redacted]
CL, FF, DD

Start: 0900 End: [redacted] 1615
Temp: 60°F Temp: 66°F
Wind: 0-1 mph Wind: 2-5 mph
Sky: Clear 0% Sky: Clear
Blue: Bluegrass Castilleja Ericad Redmonts
Flowering Plants Arrowleaf Balsamroot Groundsel
Arnica, Blue dicks, Erodium, Allium sp. [redacted]
Balsam, Mistle, Triteleia, Calypso, Microsteris,
Aster, Binary, Splendid Mariposa Lily, Solomon sp.
Cryptantha sp. Miner's, Erigeron, [redacted] Xylbic
Phacelia Phacelia, Salmon Mules Ears Silverleaf
Wildlife Black tail Jack rabbit, Sideblotched Lizard
WEME, EUST, LACuni, RTHA, COLA, ANHU
PSFL Gopher snake, BUTI MOUS, CAKI
Funereal Duskywing: IIII BUOW
Sara orangetip: IIII IIII
Southern Blue: I
Uncertain Skipper: III
Behrs Metalmark: III
Greenstreak: I

VPD-DS QCBFF2(DD) Encath
QCBFF2(CC/FF) 3/8/16
STCIT: 0900, 60°F, 0-1,0%
STOP: 1515, 66°F, 2-5, 0%
BIDS: Chez B; Ardrew B;
Ben R (supervised)

EAST	WHITE	LEGO	SPTO
ANCR	OAKU	CALT	CAtaN
HOF1	TRES	WOSP	CATH
MODO	WREN	TRES	BUSH
NOFL	WISW	YRWA	ROWR
COHK	SAPH	RCSP	NOFL
BUOW	CAK1		

CA nrglet 𝍸 𝍸 III	Buckeye 1
Ben's 𝍸 𝍸 𝍸 𝍸	Sulphur 1
Sara's 𝍸 𝍸 II	Gray Hair 1
SD. Blue III	

Flower: erodium, acmgia, selgal, Dic cap, en ras, ade ras, Lastrea, Bach ac, onyxumbra, mir kar, mimeur, allium, ra ras, LAT vest, Hedcre, Solanum, Hir inc, Indica, Sedmun, Sisbel, Phacic, cal mac Calspl, asdenexe, en con, viOped

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: C Dickson **Date:** 03/05/16

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

Acres Surveyed 42 **Survey Time:** 5.25 **Acres per Hour:** 8

Other Surveyors Present: n/a

Field Conditions				
	Time (24 hr)	Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start	0900	60°	1.8	90%
End	1411	71°	3.9	95%
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)
CCH / 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*)		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 of 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*)	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 exila*)		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*)	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*)	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*)	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*)	2
Metalmarks		mournful duskywing (*Erynnis tristis*)	
Behr's metalmark (*Apodemia mormo virgulti*)	7	fiery skipper (*Hylephila phyleus*)	
Wright's metalmark (*Calephelis wrighti*)		white (common) checkered-skipper (*Pyrgus albescens*)	1
Sulphurs		**Other**	
orange sulphur (*Colias eurytheme*)	7		
sleepy orange (*Eurema nicippe*)			
cloudless sulfur (*Phoebus 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: JPD-08 Proctor Valley – Village 14 of Otay Ranch, E **Site Visit No:** 2

Acres Surveyed 51 **Survey Time:** 1015 - 1530 (5.25 hrs) **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 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*)	
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*)	5
western tailed blue (*Everes 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 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*)	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*)			
cloudless sulfur (*Phoebus 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 E&F R Site Visit No: 2

Acres Surveyed 65 Survey Time: 5.3~~0~~ HOURS Acres per Hour: ~~10~~ 6.1

Other Surveyors Present: ERICA 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*)	
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 exila*)	
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*)	1
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	59

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*)	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*)	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

JPD-08 Encanti
QUBA2(EE/R) 3/4/16
START: 1020, 65°F, 0-3, 10%
STOP: 1600, 63°F, 1-6, 60%.

RTHA UCSP CORA WRTN
RESP RAVR AMKE NOMO
GALT BUSH BEGN CALN
SPTO ANHU COHU YRUA
NOFL,

SO. PAC. RATTLE COTTONTAIL
SIDE-BLOTCH BNR
COAST HORN LIZ. COYOTE

AMERICAN II LADY ||||| |||
GARTER SNAKE ||||| SQUIRREL ||||| |
SO. BLUE 1 SULPHUR ~~|||~~ |||||
BEHR'S ||||| ||||| ||| WHITE SP. ||
FUNERAL ||| GRAY HAIR 1

Flower: DIC CAP, ACM GLA, ALLIUM, HOPED ENTHUS, MIMAUR, CAS ATT, CAS DEN, LIN DIG, ESCAL, BAH LAC, CRYPTANTHA, SOLANUM, PRA LIC, CAL HAC, CAL CIL, PRIMDEV, CAL SPI, CEA TOM, PLA ERE, SAL MUN, HIR INC, ADE FAS, GUITTENZA

Rite in the Rain.

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: Darin Busby **Date:** 3/31/16

Site Name: JPD-08 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	3-7	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 (perplexing) 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	5	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		
Column Subtotal	73	**Column Subtotal**	38
		Total	111

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

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: Chez Brungraber Date: 3/4/16

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

Area Surveyed: EF partial Acres Surveyed: 10 Survey Time: 1hr 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	100%
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)

NNG (Bromus sp.), CSS (Art cal, Eriog fas), native bunch grassland (Stipa sp, blue dicks, Solanum sp, Erodium sp.)

Host Plants	Obs.	Nectar Plants	Obs.
dwarf plantain (*Plantago erecta*)		popcorn flower (*Cryptantha/Plagiobothrys* spp.)	flwr
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 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.)	
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	~~2~~		
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: Amy Mattsson & Chez Brungraber **Date:** 3/4/16

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

Area Surveyed H+I **Acres Surveyed** 97 **Survey Time:** 10:00 **Acres per Hour:** 9.7

Other Surveyors Present:

Field Conditions				
	Time (24 hr)	**Temperature (°F)**	**Wind Speed (mph)**	**Cloud Cover**
Start	10:15	74.1	0	5% (haze)
End	15:15	69.3	5-7	3%
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)

NNG (Avena, Ero bot, Dic cap) CSS (Mal lan, Art cal, Sal api, Eri fas),
SHC (Mal lan, NNGs, Sal api, Art cal, Ero bot)

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*)		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*)	1	painted lady (*V. cardui*)	
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*)	6	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*)	2
checkered (common) white (*Pontia protodice*)		mourning cloak (*Nymphalis antiopa*)	
spring white (*P. sisymbrii*)		**Skippers**	
unidentified white	2	funereal duskywing (*Erynnis funeralis*)	10
Metalmarks		mournful duskywing (*Erynnis tristis*)	2
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*)			
sleepy orange (*Eurema nicippe*)			
cloudless sulfur (*Phoebus sennae marcellina*)			
unidentified sulphur	7		
Column Subtotal	28	**Column Subtotal**	17
		Total	45

JPD08 Amy 3/4/16 QB2 H&I

Eco bot - Eri fas
Bra nig Cal max
Sil gal Acm gla
Son ole Cal sgl.
Eco mos Mit lac
Eco cic - Cryptantha -
Hyp gla Pe
Sporobolus phac dis/cic
Mel ind Acm spon sg.
Dic cap.
Gut sar
Esc Cal.
Solanum de purple.
- Allium sp.
Vio pet red
Stanleya
Cal cil
Sis tol
Mui mar
Pah lac t
Sal mun
Oxa cal

Much of lower elevation areas dominated by NDG.
Even hilltops @ lower elev. fewer nectaring resources for 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:** 8.9/EACH BIO

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.) CHAMISE CHAP = ADENOSTOMA FASCICULATUM, ERODIUM SPP.
DISS: ARTEMISIACA, E. FASCICULARIA, M. LAUMNA, CHLORAGALUM SP, BROMUS SPP, ERODIUM SPP.
NNG/RUDERAL = ERODIUM SPP, BROMUS MADRITENSIS, DIANDRUS, NEEDLEGRASS GRASSLAND = STIPA LEPIDA, 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*) 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
Host Plant Mapping Updated (*circle*) (Yes) No		**New Area or Existing Area** (*circle*) (New) Existing Both	
Species updated (list) PLANTAGO ERECTA, CASTILLEJA DENSIFLORA			

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*)	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 DICUS **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:** ~8/EACH BIO

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.)

DCSS= ARTEMISIA CA, ERODIUM SPP, E. FASCICULATUM, M. LAURINA

NNG: B. DIANDRUS, AVENA 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 exila*)	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*)	11	COLIAS HARFORDII	1
sleepy orange (*Eurema nicippe*)		HELIOPETES ERICETORUM	3
cloudless sulfur (*Phoebus sennae marcellina*)			
unidentified sulphur			
Column Subtotal	78	**Column Subtotal**	44
		Total	122

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: GARRETT HUFFMAN **Date:** 3/2/16

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

Acres Surveyed 65 **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	1600	75	2-4	20
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)

CHAMISE CHAPARRAL
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*)	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 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*)		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*)	10
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 (NATALIS 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 LAE
ALI PRA
SOL 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 Garrett H
QBF2(P/Q) Enicath
STAT: 1000, 65°F, 1-4, 40%
STOP: 1600, 65°F, 2-7, 100%

WEME ANHU ARCR YRUA
CALT RCSP HOFI WCSP
NOFL SPTO ROWR HOLA
QUA NOTO NOTA BUSH
TRES CATH COHU
GOEA ARKE WRTN
GAGN BEWR WTSW

BTJR side-blotched
COTOTCHO coast horn lizard
coyote (SC.)

Behr's ||||
Perplexing |
Tiger |
Sara's |||| ||
Creek Skip ||
Anise ||
Garnet |||| ||
Lady |
Funeral |

ammen, squirrel
Flower. Lamprest, calmat, calspel
mimaurean, lac, leduce, endcrass
entas, escal, geantom, salmun,
erodium, dic, car, e, pnm, clev, mo, pea,
allium, pla, ore, sis, bel, cal, cil
cryptant, icas, da, phacic, sea, sal,
Adelfas, Lasthenia, viola, wildcrip

2016 Quino Checkerspot Butterfly Survey Form

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

Site Name: JPD-08 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 (*C. 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 exilis*)		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: JPD-08 Proctor Valley – Village 14 of Otay Ranch **Site Visit No:** #2

Area Surveyed T+east 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 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 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*)	14	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 (*Phoebus sennae marcellina*)			
unidentified sulphur			
Column Subtotal	49	**Column Subtotal**	27
		Total	76

2016 Quino Checkerspot Butterfly Survey Form

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

Site Name: JPD-08 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 Love surveyed the rest of this polygon earlier today. Entire Polygon completed

Field Conditions				
	Time (24 hr)	Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start	1560	75	3-7	moderate haze
End	1639	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 exilis*)		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 (*Phoebus sennae marcellina*)			
unidentified sulphur			
Column Subtotal	10	**Column Subtotal**	6
		Total	16

* 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 U **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: Adenostema fasciculatum > Quercus berb., Ceanothus tomentosus > Heteromeles arbutifolia, Salvia manzii

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*)	
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 (*Eurema nicippe*)~~ Nathalis iole	1		
cloudless sulfur (*Phoebus 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 Proctor Valley 4 Mar 2016
Village 14 QCB Survey #1 @ Area V (44ac) JB

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

Butterflies

Sara's Orangetip 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 (50)
Checkered Skipper 𝍸 𝍸 | (11)
W. Coast Lady || (2)
Southern Blue ||| (3)
Sulphur sp. 𝍸 || (7)
Behr's metalmark 𝍸 𝍸 𝍸 | (16)
Common Buckeye ||| (3)
Lady sp. | (1)
Fun. dusky wing 𝍸 || (7)
Skipper sp. || (2)
Acmon Blue | (1)
Calif Ringlet || (2)
= Arizona Powdered Skipper

Plant Spp. - flowering	Places*			Wildlife	
Allium sp.*	Acamgla	Castmyn	Viaped	SPTO	CAKI
Dic cap	Lindia*	Coa tom	Ams.men*	Lonsup	CALT LEGF
Hyp gla	Calcil	Pseu.cal	Cryptantha*	Corcor	WREN NOMO
Son asp	Silgal	Cal mac	Silmar	CORA	BUSH
Ero mos/Eucic	Sisymbrium	Pho.mem	Stiel	CAGN	CAQU
Erifas*	Mir lae	Pectocarya	Hdsco	WEME	BGGN
Isomen	Escal	Anacard	Lupinus		BEWR
Solanum	Mimaur	Gallium	Bahlac		COHU
Yucshi	Malfas	Hirinc	Oxa cal	Eumeces	

2016 Quino Checkerspot Butterfly Survey Form

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

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 Saucedo / 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 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*)	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*)		unidentified moth	5
sleepy orange (*Eurema nicippe*)			
cloudless sulfur (*Phoebus sennae marcellina*)			
unidentified sulphur	5		
Column Subtotal	44	**Column Subtotal**	22
		Total	66

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: Chez Brungraber Date: 3/2/16

Site Name: JPD-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 (6.3 acre/pp/hr)

Other Surveyors Present: Erica Harris, Andrew Forcher, Ben Rosenbaum (in training)

60+58 +30

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 fasc., blue dicks, Cryptantha 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*)	flwr
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)			

Butterfly Species	No.	Butterfly Species	No.
Checkerspots		**Hairstreaks**	
California patch (*Chlosyne californica*)		great purple hairstreak (*Atlides halesus corcorani*)	
Gabb's checkerspot (*C. gabbii*)	IIII	brown elfin (*Callophrys augustinus*)	
Quino checkerspot (*Euphydryas editha quino*)		bramble (perplexing) hairstreak (*C. dumetorum affinis*)	I
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*)	HHHHIII	painted lady (*V. cardui*)	I
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	HH	pale swallowtail (*Papilio eurymedon*)	II
Whites		western tiger swallowtail (*P. rutulus*)	
Sara orangetip (*Anthocharis sara sara*) III	HH HH	anise swallowtail (*P. zelicaon*)	
desert (Felder's) orangetip (*A. cethura*)	HH HH III	**Miscellaneous**	
common California ringlet (*Coenonympha californica*)	HH II	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*)	I	**Skippers**	
unidentified white	II	funereal duskywing (*Erynnis funeralis*)	II
Metalmarks		mournful duskywing (*Erynnis tristis*)	III
Behr's metalmark (*Apodemia mormo virgulti*) IIII	HH HH HH HH	fiery skipper (*Hylephila phyleus*)	
Wright's metalmark (*Calephelis wrighti*)		white (common) checkered-skipper (*Pyrgus albescens*)	I
Sulphurs		**Other**	
orange sulphur (*Colias eurytheme*)			
sleepy orange (*Eurema nicippe*)			
cloudless sulfur (*Phoebus sennae marcellina*)			
unidentified sulphur	HH II		
Column Subtotal	94 ~~95~~	Column Subtotal	II
		Total	~~104~~

JPD-08 03/02/16

Quinn Survey

Beach. Erica H. Chris B. Andrew B.

Start: 0900 End: 1630

Temp: 65°F Temp: 68°F

wind: 1-2mph wind: 1-5mph

Sky: 20% Sky: 50%

Wildlife

Western tiger swallowtail: 1 Pinwheel: IIII

Sara orangetip: IIII IIII IIII II Lady sp: II

Funereal duskywing: II Checkered skipper: 1

Behrs metalmark: IIII IIII I

Marine Blue: II

Sulphur sp: II

White sp: III

Mourning cloak: 1

Buckeye: 1

Flowering Plants

Baileys Blue dicks, Erodium, Acrylo

Erithm, Vicia, Hirschfeldia, Cryptantha sp.

Solanum sp. Malvas, [redacted] Mistoe

Calmoe, Escal, Phacic, Allium,

Mimaor, Salmon Branig, [redacted]

Sunning Sasexe Groundsquirrel

JPD 08 Erica H
QUB #2 (Y, Z, DD) 3/2/16
SCIA: 840, 67°F, 1-3, 20%
SDP: 1630, 67°F, 1-3, 10%
BIDS: Chez B, Andrew B.
Ben R (supervised)

RAVE	BUSH	NOMO	ATTY
RCSP	CATH	WREN	WCSP
CALT	WOME	KITA	COHU
YRUA	BUSH	LECO	HOFI
NOFL	TRES	BEGN	

coyote		BEAR	
cottontail		side-blotch	
Blue sp	III	painted	II
Sulphur	IIII	red admiral	I
Behr's	𝍸 𝍸 IIII	Lady sp.	II
Anise	𝍸 𝍸 𝍸 𝍸	creek stip	I
Sara's	𝍸 𝍸 II	marine	I
Funeral	IIII	white sp.	I

Flower: Baha lac, Dic cap, acm gra, mir lae v, Crameseyce, en fas, calmad, Hir inc, Sisymbrium, Solanum, lotha cic, Lom vest, mal fas, hib pec, cryptantha, primula, sal mur, esc cal, Hir inc, Heuchera, cal cil ca, Gil mimaur, sam mex, allium, Stipa, castilleja sp, am mer, Lin a.g. Rite in the Rain
arc cin, Sel Sal, Lasthenia

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 Brungraber Date: 3/11/16

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

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

Other Surveyors Present: Griffin Brungraber (supervised)

Field Conditions				
	Time (24 hr)	Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start	1100	68	2-7	25%
End	1515	70	7-10	100%
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)

Coastal sage scrub, NNG, bunchgrassland (Malosma, Artcal, buckwheat, Baheopsis capesis, blue dicks, 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) P. erecta, 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*)	
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.)	II
marine blue (*Leptotes marina*)		**Swallowtails**	
unidentified blue		pale swallowtail (*Papilio eurymedon*)	
Whites		western tiger swallowtail (*P. rutulus*)	
Sara orangetip (*Anthocharis sara sara*)	IIII IIII III	anise swallowtail (*P. zelicaon*)	
desert (Felder's) orangetip (*A. cethura*)		**Miscellaneous**	
common California ringlet (*Coenonympha californica*)	IIII 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 III	fiery skipper (*Hylephila phyleus*)	
Wright's metalmark (*Calephelis wrighti*)		white (common) checkered-skipper (*Pyrgus albescens*)	IIII III
Sulphurs		**Other**	
orange sulphur (*Colias eurytheme*)	1		
sleepy orange (*Eurema nicippe*)			
cloudless sulfur (*Phoebus sennae marcellina*)			
unidentified sulphur	III		
Column Subtotal	55	Column Subtotal	14
		Total	69

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 Brungraber **Date:** 3/10/16

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

Area Surveyed Y, BB **Acres Surveyed** 104 **Survey Time:** 7hrs 30mins **Acres per Hour:** 13.8 (7acre/pp/hr)

Other Surveyors Present: Andrew Borcher

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, chamise chap, native bunch grass
Baheopsis carpunder, Malosma, Eriogonum fasc, chamise, Stipa sp., Erodium sp.)

Host Plants	**Obs.**	**Nectar Plants**	**Obs.**
dwarf plantain (*Plantago erecta*)	flwr	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*)	IIII	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*)	II	painted lady (*V. cardui*)	IIII II
Edward's blue (*Hemiargus ceraunus gyas*)		American (Virginia) lady (*V. virginiensis*)	
Acmon blue (*Icaricia acmon acmon*)		unidentified lady (*Vanessa* sp.)	IIII II
marine blue (*Leptotes marina*)	III	**Swallowtails**	
unidentified blue	II	pale swallowtail (*Papilio eurymedon*)	
Whites		western tiger swallowtail (*P. rutulus*)	
Sara orangetip (*Anthocharis sara sara*) VIII IIII	IIII IIII II	anise swallowtail (*P. zelicaon*)	
desert (Felder's) orangetip (*A. cethura*)		**Miscellaneous**	
common California ringlet (*Coenonympha californica*)	IIII IIII III	monarch (*Danaus plexippus*)	I
cabbage white (*Pieris rapae*)		common buckeye (*Junonia coenia grisea*)	IIII
checkered (common) white (*Pontia protodice*)		mourning cloak (*Nymphalis antiopa*)	I
spring white (*P. sisymbrii*)		**Skippers**	
unidentified white	IIII IIII I	funereal duskywing (*Erynnis funeralis*)	IIII III
Metalmarks		mournful duskywing (*Erynnis tristis*)	II
Behr's metalmark (*Apodemia mormo virgulti*) II IIII	IIII IIII III	fiery skipper (*Hylephila phyleus*)	
Wright's metalmark (*Calephelis wrighti*)		white (common) checkered-skipper (*Pyrgus albescens*)	III
Sulphurs		**Other**	
orange sulphur (*Colias eurytheme*)	II		
sleepy orange (*Eurema nicippe*)			
cloudless sulfur (*Phoebus sennae marcellina*)			
unidentified sulphur	III		
Column Subtotal	93	**Column Subtotal**	34
		Total	127

93
34
127

Phone 562-907-1752 fax

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: BRIAN PARKER Date: 3-13-2016

Site Name: JPD-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: CRYSTA DICKSON

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, SMC

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*)		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	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 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	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			
Column Subtotal	18	Column Subtotal	2

Totals
Column 2: 2
GRAND: 20

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: CDICKSON Date: 03/13/16

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

Acres Surveyed ~16.5 Survey Time: 8.25 Acres per Hour:

Other Surveyors Present: B. PARKER

Field Conditions				
	Time (24 hr)	Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start	1100	74grnd/74air	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*)		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*)	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*)	IIII	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*)	1
Whites		western tiger swallowtail (*P. rutulus*)	
Sara orangetip (*Anthocharis sara sara*)	IIIIIIIIIII	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*)	
spring white (*P. sisymbrii*)	1	**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*)	1		
sleepy orange (*Eurema nicippe*)			
cloudless sulfur (*Phoebus sennae marcellina*)			
unidentified sulphur			
Column Subtotal	29	Column Subtotal	4
		Total	33

10ac + 58ac

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: Chez Brungraber

Date: 3/15/16

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

Site Visit No: 3

Area Surveyed: partial CC, FF

Acres Surveyed: 68

Survey Time: 8hr 15min

Acres per Hour: 8.24

Other Surveyors Present: /

	Time (24 hr)	Field Conditions: 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.)

NNG, native bunchgrassland, CSS, chaparral
B. diandrus, Erodium, Avena, stipa sp., blue dicks, buckwheat, Malosma, Rhamnus crocea

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.)	
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	flwr

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*)	
Edward's blue (*Hemiargus ceraunus gyas*)	
Acmon blue (*Icaricia acmon acmon*)	
marine blue (*Leptotes marina*)	
unidentified blue	
Whites	IIII
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. 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 57

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*)	
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*)	IIII
mourning cloak (*Nymphalis antiopa*)	
Skippers	
funereal duskywing (*Erynnis funeralis*)	IIII 1
mournful duskywing (*Erynnis tristis*)	IIII
fiery skipper (*Hylephila phyleus*)	
white (common) checkered-skipper (*Pyrgus albescens*)	III
Other	
Unknown skipper	II
Column Subtotal	29
Total	91 86

226h
LIL RSB vernal pool fox SZ65-906-1165

CH01
052-619
4 trips

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: BRIAN PARKER Date: 3-13-2016

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

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

Other Surveyors Present: CRYSTA DICKSON

Field Conditions				
	Time (24 hr)	Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start	1300	72	4-6	100%
End	1530	67	8-10	60%
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.)	x
goldfields (*Lasthenia* spp.)	
goldenstar (*Muilla* spp.)	
fiddleneck (*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*)	
Quino checkerspot (*Euphydryas editha quino*)	1
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*)	7
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*)	9
common California ringlet (*Coenonympha californica*)	
cabbage white (*Pieris rapae*)	1
checkered (common) white (*Pontia protodice*)	
spring white (*P. sisymbrii*)	
unidentified white	
Metalmarks	
Behr's metalmark (*Apodemia mormo virgulti*)	
Wright's metalmark (*Calephelis wrighti*)	7
Sulphurs	
orange sulphur (*Colias eurytheme*)	
sleepy orange (*Eurema nicippe*)	
cloudless sulfur (*Phoebus sennae marcellina*)	
unidentified sulphur	
Column Subtotal	1
	26

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*)	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	
Column Subtotal	4

Totals Column: 4

GRAND: 30

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: DICKSON Date: 03/13/16

Site Name: JPD-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 grnd	4-6	10%
End	1530	67 grnd	8-10	60%
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)
CCH/CSS/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*)		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*)	
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 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*)	111	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	24	Column Subtotal	3
		Total	27

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: A. BORCHER **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: CHEZ, E. HARRIS

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.
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.)	
goldenstar (*Muilla* spp.)	X
fiddleneck (*Amsinckia menziesii* var. *intermedia*)	
onion (*Allium* spp.)	X
buckwheat (*Eriogonum fasciculatum*)	X
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 exila*)	
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*)	1111
desert (Felder's) orangetip (*A. cethura*)	
common California ringlet (*Coenonympha californica*)	1111
cabbage white (*Pieris rapae*)	
checkered (common) white (*Pontia protodice*)	
spring white (*P. sisymbrii*)	
unidentified white	
Metalmarks	
Behr's metalmark (*Apodemia mormo virgulti*)	1111
Wright's metalmark (*Calephelis wrighti*)	
Sulphurs	
orange sulphur (*Colias eurytheme*)	
sleepy orange (*Eurema nicippe*)	
cloudless sulfur (*Phoebus sennae marcellina*)	
unidentified sulphur	
Column Subtotal	15

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*)	
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*)	11
mournful duskywing (*Erynnis tristis*)	
fiery skipper (*Hylephila phyleus*)	
white (common) checkered-skipper (*Pyrgus albescens*)	
Other	
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. antirrhinoides*)

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
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*)	
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*)	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 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*)	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 lupines*)	
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: C. DICKSON Date: 03/12/16

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

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

Other Surveyors Present: OGG / SAUCEDO

Field Conditions				
	Time (24 hr)	Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start	1130	70.6grd / 63air	0-8	95%
End	1300	68 grnd / 62air	5	100%
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*)		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*)		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*)		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*)	1	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	1	**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 Watson, Chez Brungrabor **Date:** 3/9/16

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	0845	64	0	0 %
End	1505	74	0-2	1 %
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.)
NNG, ES, SMC, CC (Chamise, Malosma, Salvia apiana, Rhamnus crocea)

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*)		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 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.)	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. sisymbrii*)		**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	brown 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 JPD08 Areas H, I Amy M

flowering

Ero bot/cic
Son ole
Sisymbrium
Sil gal
Bra nig

Mui cle
Eri fas
Acin gla
Dic cap
Cryptantha.
Mirlae
Bah lac
Azmicon
Gut sar
Cal mac
Oxa ca
Phacre
Esc cal
Pseudognephalium
Solanum dk purple
Ant nut
Lathyrus
Allium sp.
Hofarb.
Hdlscap
Eri con
Vio ped
Eso men
Lup bic
Cal cil
Sanicula red
Sid mal

mark

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	0900	61	2.1	5%
End	1650	74	3	Ø
Start				
End				

Vegetation Communities Surveyed (inc. dominant spp.) CHAMISE CHAPARRAL; MUSEUM/NNG: ERODIUM SPP. HORDEUM SPP, BROMUS SPP. NEEDLEGRASS GRASSLAND = STIPA PURCHRA, ERODIUM SPP, BROMUS SPP. DESS: ERODIUM 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*)/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*)	
Host Plant Mapping Updated (*circle*) (Yes) No		**New Area or Existing Area** (*circle*) (New) Existing Both	
Species updated (list) PLANTAGO ERECTA, CASTILLEJA DENSIFLORA; C. DENSIFLORA JUST SPREAD Rawlinsia			

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 exila*)	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** LERODEA EUFALA	3
orange sulphur (*Colias eurytheme*)	33	COLIAS HARFORDII	3
sleepy orange (*Eurema nicippe*)	1	NYMPHALIS CALIFORNICA	1
cloudless sulfur (*Phoebus sennae marcellina*)		HELIOPETES ERICETORUM	2
unidentified sulphur		AGRAULIS VANILLAE	1
Column Subtotal	230	**Column Subtotal**	64
		Total	294

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: JOHN DICUS, MELANIE DICUS **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:** 8-10

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 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*)	
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**	2
		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/EACH BIO

Other Surveyors Present:

Field Conditions				
	Time (24 hr)	**Temperature (°F)**	**Wind Speed (mph)**	**Cloud Cover**
Start	0945	60	1.6	30%
End	1630	61	3.8	35%
Start				
End				

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

DCSS = A. CALIFORNICA, ERODIUM SPP, ERIOGONUM FASCICULATUM, M. LIUMNA

NNGI: BROMUS DIANDRUS, HORDEUM SPP, FERULA SPP, AVENA FATUA

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) PLANTAGO ERECTA, MOST ARE STUNTED BUT 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*)	
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*)	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*)	12
Sulphurs		**Other**	
orange sulphur (*Colias eurytheme*)	10	PAPILIO CRESPHONTES	1
sleepy orange (*Eurema nicippe*)		COLIAS HARFORDII	4
cloudless sulfur (*Phoebus sennae marcellina*)			
unidentified sulphur			
Column Subtotal	71	**Column Subtotal**	39
		Total	110

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: GARRETT HUFFMAN

Site Name: JPD-08 Proctor Valley – Village 14 of Otay Ranch PARCEL 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)	Field Conditions		
		Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start	0800	64	0-2	20
End	1690	71	3-6	40
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

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 wrighti*)	
Mylitta crescent (*Phyciodes mylitta*)	
Blues	
western pygmy-blue (*Brephidium exila*)	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. sisymbrii*)	
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	~~79~~ 76

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*)	1
red admiral (*V. atalanta rubria*)	
painted lady (*V. cardui*)	5
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*)	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 - ~~99~~ 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~~* dorsiflora)	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.)	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: GARRETT HUFFMAN P/Q **Date:** 3/13/16

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

Acres Surveyed ~~79.71~~ ~~60.16~~ 58.64 **Survey Time:** 8 HOURS **Acres per Hour:** ~~9.00~~ 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/Plagiobothrys* spp.)	X
goldfields (*Lasthenia* spp.)	X
goldenstar (*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 exila*)	
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. sisymbrii*)	
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 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*)	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 Q/P **Site Visit No:** 3

Acres Surveyed ~~[illegible]~~ 62.3 **Survey Time:** 8.5 HOURS **Acres per Hour:** ~~[illegible]~~ 7.33

Other Surveyors Present: NONE

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

Butterfly Species	No.	Butterfly Species	No.
Checkerspots		**Hairstreaks**	
California patch (*Chlosyne californica*)		great purple hairstreak (*Atlides halesus corcorani*)	
Gabb's checkerspot (*C. gabbii*)	6	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*)	1
western tailed blue (*Everes amyntula*)		red admiral (*V. atalanta rubria*)	1
southern blue (*Glaucopsyche lygdamus australis*)	4	painted lady (*V. cardui*)	2
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*)		**Swallowtails**	
unidentified blue		pale swallowtail (*Papilio eurymedon*)	
Whites		western tiger swallowtail (*P. rutulus*)	1
Sara orangetip (*Anthocharis sara sara*)	47	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*)	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*)	8	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			
Column Subtotal	81	**Column Subtotal**	14
		TOTAL	95

2016 Quino Checkerspot Butterfly Survey Form

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

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

Acres Surveyed 30 **Survey Time:** 3 HOURS **Acres per Hour:** 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 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.)	
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: GARRETT HUFFMAN **Date:** 3/12/16

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

Acres Surveyed 50 **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	1100	62	4-8	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.	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*)	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.	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*)	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*)	21	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*)		**Skippers**	
unidentified white		funereal duskywing (*Erynnis funeralis*)	
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*)	
Sulphurs		**Other**	
orange sulphur (*Colias eurytheme*)			
sleepy orange (*Eurema nicippe*)			
cloudless sulfur (*Phoebus sennae marcellina*)			
unidentified sulphur			
Column Subtotal	51	**Column Subtotal**	1

TOTAL 52