

June 9th, 2022



U.S. Fish and Wildlife Service
Attention: Recovery Permit Coordinator
6010 Hidden Valley Road
Carlsbad, California 92011

Subject: 2022 Focused Quino Checkerspot Butterfly Survey Report for the Proposed Rice Canyon Reservoir Access Road Project, Lake Elsinore, CA. Marshall Paymard (TE-64455D-0).

Dear Recovery Permit Coordinator:

This letter report documents the 2022 results of a focused survey conducted for the federally listed endangered Quino checkerspot butterfly (*Euphydryas editha quino*; Quino) by Osprey Environmental Associates (Osprey). This survey was conducted in support of the Rice Canyon Reservoir Access Road Project (Project). This report is intended to satisfy reporting requirements for Quino-permitted biologist, Marshall Paymard (TE-64455D-0).

Project Location and Existing Conditions

The proposed Project is located on USGS 7.5' Series Alberhill Quadrangle, Section 33, Township 5 South, Range 5 West, in the City of Lake Elsinore, California (Figure 1-Regional Map). The Project is situated in Rice Canyon, just west of Dale Court Road on Assessor Parcel Numbers (APNs): 394-140-001, 394-150-011, 394-150-001, 394-140-004, and 394-140-003 (Figure 2-Vicinity Map).

Vegetation Communities

Six vegetation communities or land cover types were mapped in the Project footprint, including areas within 50-feet of the Project footprint (herein referred to as the, "Study Area"), and are as follows: Riversidean Sage Scrub, Riversidean Alluvial Fan Sage Scrub, Coast Live Oak Woodland, Riparian Forest, Disturbed Habitat, and Unvegetated Channel. A summary of the vegetation communities or land cover types are present in the Study Area are discussed below.

Riversidean Sage Scrub

This vegetation community is dominated by a mix of felt leaved yerba santa (*Eriodictyon crassifolium*), California buckwheat (*Eriogonum fasciculatum*), Short winged deerweed (*Acmispon glaber var. brevialatus*), and Laurel sumac (*Malosma laurina*). Less common species documented within this habitat type include California sagebrush (*Artemisia californica*), slender sunflower (*Helianthus gracilentus*), blue witch (*Solanum umbelliferum*), and blunt-leaved Lupine (*Lupinus truncates*).

Riversidean Alluvial Fan Sage Scrub

Riversidean Alluvial Fan Sage Scrub is present within the active flood plain in the Study Area. This community is dominated sparse occurrences of felt leaved yerba santa and scalebroom (*Lepidospartum squamatum*).

Disturbed Habitat

Disturbed habitat is composed of an unvegetated previously graded road.

Coast Live Oak Woodland

Coast live oak woodland covers the majority of the southern and western Study Area. This community is dominated by Coast live oak (*Quercus agrifolia*) and an understory comprised of chaparral bush mallow (*Malacothamnus fasciculatus*), including a mixed herbaceous component of native and exotic species (e.g., *Bromus spp.*).

Riparian Forest

Areas mapped as riparian forest are composed of California sycamore (*Platanus racemosa*) with a mixed understory of mulefat (*Baccharis salicifolia*) and occurrences of upland species such as, laurel sumac and California buckwheat.

Unvegetated Channel

Areas mapped as unvegetated channel are primarily devoid of vegetation and within the active floodplain.

Methods

Host Plant Mapping

Quino host plant mapping and a site assessment was conducted on February 19th, 2022 prior to the initiation of focused Quino surveys. Host plant mapping surveys focused on the identification and location of all seven recognized host plants for Quino: dotseed plantain (*Plantago erecta*), exserted Indian paintbrush (*Castilleja exserta*), woolly plantain (*Plantago patagonica*), Coulter's snapdragon (*Antirrhinum coulterianum*), stiffbranch bird's beak (*Cordylanthus rigidus*), Chinese houses (*Collinsia concolor*), and purple Chinese houses (*Collinsia heterophylla*) (USFWS 2014).

Focused Quino Surveys

Focused Quino surveys were conducted per the *Quino Checkerspot Survey Guidelines* (2014). A total of 12 focused quino surveys were conducted between February 26th, 2022, and May 13th, 2022 by Osprey biologist, Marshall Paymard (TE-64455D-0). The entire Study Area (8.97-acres) was surveyed on-foot, at a rate of approximately 5-10 acres (2-4 hectares) per person hour. Survey transects were walked roughly parallel to each other and spaced approximately 30 feet (10 meters) apart. Weather conditions were

conducive for species detection and followed the parameters as stated in the *Quino Checkerspot Butterfly Survey Guidelines* (2014). Table 1 summarizes the survey dates, time, and environmental conditions documented during the focused Quino surveys.

Table 1
Focused Quino Checkerspot Butterfly Survey Schedule and Environmental Conditions

Survey Pass	Surveyor	Date	Hours	Conditions (start/stop)
1	MP	2/26/2022	1400-1500	70°F/73°F, 15%/25% cc, 0-1/1-2mph wind
2	MP	3/2/2022	1300-1430	70°F/71°F, 20%/20% cc, 0-1/0-1mph wind
3	MP	3/11/2022	1300-1503	75°F/75°F, 0%/0% cc, 0-1/0-5mph wind
4	MP	3/16/2022	1515-1630	78°F/79°F, 0%/0% cc, 1-3/2-4mph wind
5	MP	3/23/2022	1500-1630	80°F/80°F, 0%/0% cc, 1-2/1-4mph wind
6	MP	3/30/2022	1503-1620	81°F/81°F, 0%/0% cc, 1-2/1-2mph wind
7	MP	4/05/2022	1400-1520	82°F/83°F; 0%/0% cc; 2-5/3-5 mph wind
8	MP	4/15/2022	1403-1535	80°F/81°F; 0%/0% cc; 1-2/1-2 mph wind
9	MP	4/21/2022	1415-1532	78°F/79°F; 0%/0% cc; 2-5/2-5 mph wind
10	MP	4/29/2022	1406-1528	79°F/80°F; 0%/0% cc; 0-1/0-1 mph wind
11	MP	5/04/2022	1305-1432	86°F/88°F; 0%/0% cc; 0-1/0-1 mph wind
12	MP	5/13/2022	1300-1426	88°F/89°F; 0%/0% cc; 0-1/0-1 mph wind

MP= Marshall Paymard (TE-64455D-0)

Results

Host Plant Mapping

No Quino host plants were observed in the Study Area. A total of 25 plant species were observed in bloom and were recorded as potential nectar sources for Quino and include the following species: blue witch (*Solanum umbelliferum*), chilicothe (*Marah macrocarpa*), California peony (*Paeonia californica*), common cryptantha (*Cryptantha intermedia*), miner's lettuce (*Claytonia perfoliate*), California poppy (*Eschscholzia californica*), mule fat (*Baccharis salicifolia*), blue-eyed African daisy (*Arctotis venusta*), blunt-leaved Lupine (*Lupinus truncates*), Short winged deerweed (*Acmispon glaber var. brevialetus*), tree tobacco (*Nicotiana glauca*), slender sunflower (*Helianthus gracilentus*), felt leaved yerba santa (*Eriodictyon crassifolium*), chia sage (*Salvia columbariae*), desert wishbone bush (*Mirabilis laevis*), ladies' tobacco (*Pseudognaphalium californicum*), strigose lotus (*Acmispon strigosus*), blue dicks (*Dipterostemon capitatus*), golden yarrow (*Eriophyllum confertiflorum*), California buckwheat (*Eriogonum fasciculatum*), island false bindweed (*Calystegia macrostegia*), chaparral bush mallow (*Malacothamnus fasciculatus*), California bee plant (*Scrophularia californica*), showy penstemon (*Penstemon spectabilis*), and Coulter's matilija poppy (*Romneya coulteri*).

Focused Quino Surveys

No Quino was observed during the 2022 focused survey effort. A total of 11 butterfly species were identified during the survey's, which included, Acmon blue (*Plebejus acmon*), checkered white (*Pontia protodice*), western tiger swallowtail (*Papilio rutulus*), Sara orangetip (*Anthocharis sara sara*), cabbage white (*Pieris rapae*), pale swallowtail (*Papilio eurymedon*), common buckeye (*Junonia coenia grisea*), mournful duskywing (*Erynnis tristis*), southern blue (*Glaucopsyche lygdamus australis*), monarch (*Danaus plexippus*) and bramble (perplexing) hairstreak (*C. dumetorum affinis*).

I certify that the information in this survey report and attached exhibits fully and accurately represents my work. Please feel free to contact Marshall Paymard at, mpaymard@ospreyenv.com, if you have any questions regarding the contents of this report.

Sincerely,



Marshall Paymard
Permit No. TE-64455D-0

Date: June 3rd 2022

Att: Figure 1- Regional Map
Figure 2- Vicinity Map
Figure 3- Vegetation Communities
Appendix A- Quino Survey Notes/Forms

References

USFWS. 2014. "Quino Checkerspot Butterfly Survey Guidelines." Carlsbad Field Office. Carlsbad, California. December 15,2014.



Figure 1- Regional Location Map

2022 Focused Quino Checkerspot Butterfly Survey Report for the Proposed Rice Canyon Reservoir Access Road Project, Lake Elsinore, CA



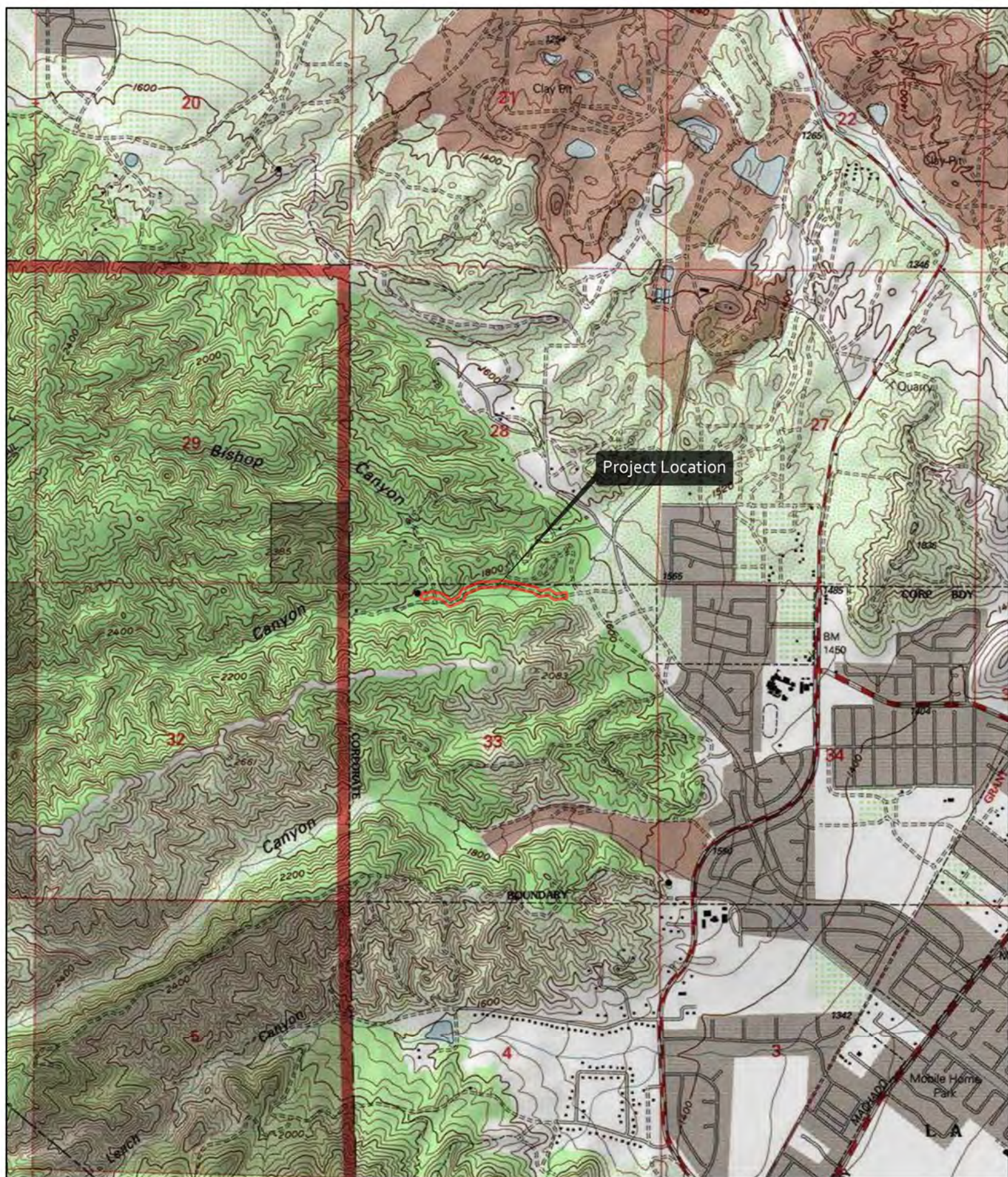


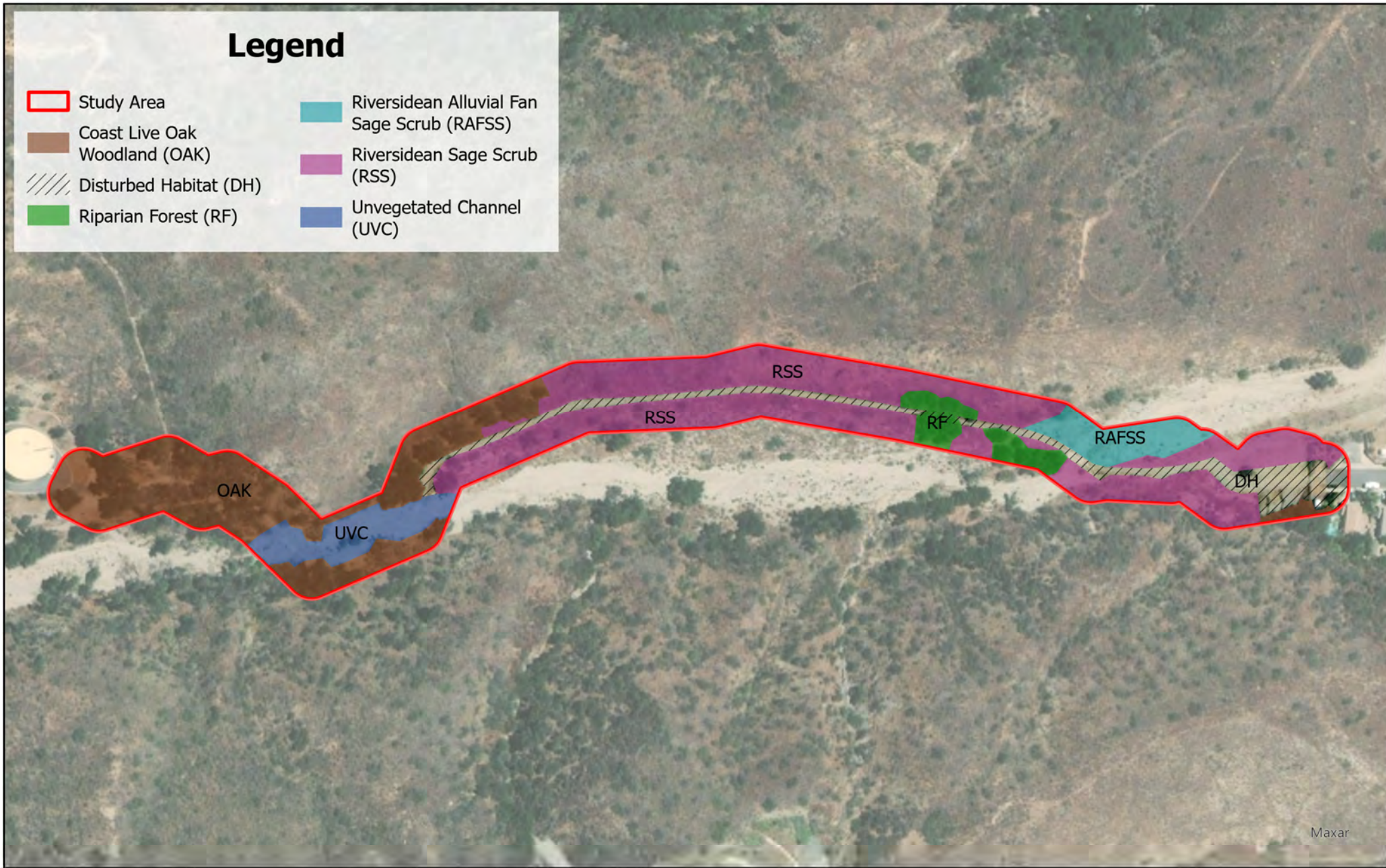
Figure 2- Vicinity Map

2022 Focused Quino Checkerspot Butterfly Survey Report for the Proposed Rice Canyon Reservoir Access Road Project, Lake Elsinore, CA



Legend

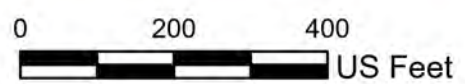
- Study Area
- Coast Live Oak Woodland (OAK)
- Disturbed Habitat (DH)
- Riparian Forest (RF)
- Riversidean Alluvial Fan Sage Scrub (RAFSS)
- Riversidean Sage Scrub (RSS)
- Unvegetated Channel (UVC)



Maxar

Figure 3- Vegetation Communities and Land Cover Types

2022 Focused Quino Checkerspot Butterfly Survey Report for the Proposed Rice Canyon Reservoir Access Road Project, Lake Elsinore, CA



Quino Checkerspot Butterfly Survey Form

Surveyor: Marshall Paymard

Date: 2/26/22

Project: EMWD Rice Canyon

Site Visit Number: 1

Time	Temperature	Wind Speed (mph)	Cloud Cover
Start 1400	70° F	0-1 mph	15 B
End 1500	73° F	1-2 mph	25 B
Start			
End			

Host Plants	Obs.	Nectar Plants	Obs.
dwarf plantain (<i>Plantago erecta</i>)	—	popcorn flower (<i>Cryptantha/Plagiobothrys</i> spp.)	///
purple owl's clover (<i>Castilleja exserta</i>)	—	goldfields (<i>Lasthenia</i> spp.)	—
snapdragon (<i>Antirrhinum coulterianum</i>)	—	goldenstar (<i>Mulla</i> spp.)	—
birds-beak (<i>Cordylanthus rigidus</i>)	—	fiddleneck (<i>Amsinckia menziesii</i> var. <i>intermedia</i>)	—
woolly plantain (<i>Plantago patagonica</i>)	—	onion (<i>Allium</i> spp.)	—
Chinese houses (<i>Collinsia</i> spp.)	—	buckwheat (<i>Eriogonum fasciculatum</i>)	—
	—	ground pink (<i>Linanthus dianthiflorus</i>)	—
Butterfly Species	No.	Butterfly Species	No.
Checkerspots		Hairstreaks	
California patch (<i>Chlosyne californica</i>)		great purple hairstreak (<i>Atides halesus corcoram</i>)	
Gabb's checkerspot (<i>C. gabbi</i>)		brown elfin (<i>Callophrys augustinus</i>)	
Quino checkerspot (<i>Euphydryas editha quino</i>)		bramble (perplexing) hairstreak (<i>C. dumetorum affinis</i>)	
chalcedon checkerspot (<i>E. chalcedona chalcedona</i>)		gray hairstreak (<i>Strymon melinus pudica</i>)	
Leanira checkerspot (<i>Thessalia leanira wrighti</i>)		Ladies/Admirals	
Mylitta crescent (<i>Phyciodes mylitta</i>)		California sister (<i>Adelpha bredowii californica</i>)	
Blues		Lorquin's admiral (<i>Limenitis lorquini</i>)	
western pygmy-blue (<i>Brephidium exila</i>)		west coast lady (<i>Vanessa annabella</i>)	
western tailed blue (<i>Everes amyntula</i>)		red admiral (<i>V. atalanta rubria</i>)	
southern blue (<i>Glaucopsyche lygdamus australis</i>)		painted lady (<i>V. cardui</i>)	
Edward's blue (<i>Hemiargus ceraunus gyas</i>)		American (Virginia) lady (<i>V. virginensis</i>)	
Acmon blue (<i>Icaricia acmon acmon</i>)		unidentified lady (<i>Vanessa</i> sp.)	
marine blue (<i>Leptotes marina</i>)		Swallowtails	
unidentified blue		pale swallowtail (<i>Papilio eurymedon</i>)	
Whites		western tiger swallowtail (<i>P. rutulus</i>)	
Sara orangetip (<i>Anthocharis sara sara</i>)		anise swallowtail (<i>P. zelicaon</i>)	
desert (Felder's) orangetip (<i>A. cethura</i>)		Miscellaneous	
common California ringlet (<i>Coenonympha californica</i>)		monarch (<i>Danaus plexippus</i>)	
cabbage white (<i>Pieris rapae</i>)		common buckeye (<i>Junonia coenia grisea</i>)	
checkered (common) white (<i>Pontia protodice</i>)		mourning cloak (<i>Nymphalis antiopa</i>)	
spring white (<i>P. sisymbrii</i>)		Skippers	
unidentified white		funereal duskywing (<i>Erynnis funeralis</i>)	
Metalmarks		mournful duskywing (<i>Erynnis tristis</i>)	
Behr's metalmark (<i>Apodemia mormo virgulti</i>)		fiery skipper (<i>Hylephila phyleus</i>)	
Wright's metalmark (<i>Calephelis wrighti</i>)		white (common) checkered-skipper (<i>Pyrgus albescens</i>)	
Sulphurs		Other	
orange sulphur (<i>Golias eurytheme</i>)			
sleepy orange (<i>Eurema nicippe</i>)			
cloudless sulfur (<i>Phoebus sennae marcellina</i>)			
unidentified sulphur			
Column Subtotal	0	Column Subtotal	0
		Total	0

NECTAR: Sol unib Esch cal Nil gla
 Mar mac Bac sal
 Pae cal Arc Vent
 Cry int Lupin trun
 Clay Perf ACMi gla



Quino Checkerspot Butterfly Survey Form

Surveyor: Marshall Paymard

Date: 3/2/22

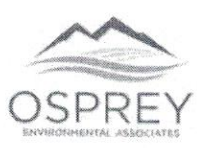
Project: Rice Canyon

Site Visit Number: 2

Time	Temperature	Wind Speed (mph)	Cloud Cover
Start 1300	70° F	0-1	20%
End 1430	71° F	0-1	20%
Start			
End			

Host Plants	Obs.	Nectar Plants	Obs.
dwarf plantain (<i>Plantago erecta</i>)	-	popcorn flower (<i>Cryptantha/Plagiobothrys</i> spp.)	111
purple owl's clover (<i>Castilleja exserta</i>)	-	goldfields (<i>Lasthenia</i> spp.)	
snapdragon (<i>Antirrhinum coulterianum</i>)	-	goldenstar (<i>Muilla</i> spp.)	
birds-beak (<i>Cordylanthus rigidus</i>)	-	fiddleneck (<i>Amsinckia menziesii</i> var. <i>intermedia</i>)	
woolly plantain (<i>Plantago patagonica</i>)	-	onion (<i>Allium</i> spp.)	
Chinese houses (<i>Collinsia</i> spp.)	-	buckwheat (<i>Eriogonum fasciculatum</i>)	
		ground pink (<i>Linanthus dianthiflorus</i>)	
Butterfly Species	No.	Butterfly Species	No.
Checkerspots		Hairstreaks	
California patch (<i>Chlosyne californica</i>)		great purple hairstreak (<i>Atlides halesus corcoram</i>)	
Gabb's checkerspot (<i>C. gabbi</i>)		brown elfin (<i>Callophrys augustinus</i>)	
Quino checkerspot (<i>Euphydryas editha quino</i>)		bramble (perplexing) hairstreak (<i>C. dumetorum affinis</i>)	1
chalcedon checkerspot (<i>E. chalcedona chalcedona</i>)		gray hairstreak (<i>Strymon melinus pudica</i>)	
Leanira checkerspot (<i>Thessalia leanira wrighti</i>)		Ladies/Admirals	
Mylitta crescent (<i>Phyciodes mylitta</i>)		California sister (<i>Adelpha bredowii californica</i>)	
Blues		Lorquin's admiral (<i>Limenitis lorquini</i>)	
western pygmy-blue (<i>Brephidium exila</i>)		west coast lady (<i>Vanessa annabella</i>)	
western tailed blue (<i>Everes amyntula</i>)		red admiral (<i>V. atalanta rubria</i>)	
southern blue (<i>Glaucopsyche lygdamus australis</i>)	11	painted lady (<i>V. cardui</i>)	
Edward's blue (<i>Hemiargus ceraunus gyas</i>)		American (Virginia) lady (<i>V. virginensis</i>)	
Acmon blue (<i>Icaricia acmon acmon</i>)	1	unidentified lady (<i>Vanessa</i> sp.)	
marine blue (<i>Leptotes marina</i>)		Swallowtails	
unidentified blue		pale swallowtail (<i>Papilio eurymedon</i>)	
Whites		western tiger swallowtail (<i>P. rutulus</i>)	
Sara orangetip (<i>Anthocharis sara sara</i>)	1111	anise swallowtail (<i>P. zelicaon</i>)	
desert (Felder's) orangetip (<i>A. cethura</i>)		Miscellaneous	
common California ringlet (<i>Coenonympha californica</i>)		monarch (<i>Danaus plexippus</i>)	
cabbage white (<i>Pieris rapae</i>)		common buckeye (<i>Junonia coenia grisea</i>)	
checkered (common) white (<i>Pontia protodice</i>)		mourning cloak (<i>Nymphalis antiopa</i>)	
spring white (<i>P. sisymbrii</i>)		Skippers	
unidentified white		funereal duskywing (<i>Erynnis funeralis</i>)	
Metalmarks		mournful duskywing (<i>Erynnis tristis</i>)	111111
Behr's metalmark (<i>Apodemia mormo virgulti</i>)		fiery skipper (<i>Hylephila phyleus</i>)	
Wright's metalmark (<i>Calephelis wrighti</i>)		white (common) checkered-skipper (<i>Pyrgus albescens</i>)	
Sulphurs		Other	
orange sulphur (<i>Golias eurytheme</i>)			
sleepy orange (<i>Eurema nicippe</i>)			
cloudless sulfur (<i>Phoebus sennae marcellina</i>)			
unidentified sulphur			
Column Subtotal	7	Column Subtotal	9
		Total	16

Vector: Bac Sal Acmi Sal
 mar mac Lupi tru
 Pae cal Arc vent
 cry Int Nic gla
 Clay Perf
 Esch cal



Quino Checkerspot Butterfly Survey Form

Surveyor: Marshall Paymard

Date: 3/11/22

Project: Rite Canyon

Site Visit Number: 3

Time	Temperature	Wind Speed (mph)	Cloud Cover
Start 1300	75°F	0-1	0%
End 1503	75°F	0-5	0%
Start			
End			

Host Plants	Obs.	Nectar Plants	Obs.
dwarf plantain (<i>Plantago erecta</i>)	—	popcorn flower (<i>Cryptantha/Plagiobothrys</i> spp.)	11
purple owl's clover (<i>Castilleja exserta</i>)	—	goldfields (<i>Lasthenia</i> spp.)	—
snapdragon (<i>Antirrhinum coulterianum</i>)	—	goldenstar (<i>Muilla</i> spp.)	—
birds-beak (<i>Cordylanthus rigidus</i>)	—	fiddleneck (<i>Amsinckia menziesii</i> var. <i>intermedia</i>)	—
woolly plantain (<i>Plantago patagonica</i>)	—	onion (<i>Allium</i> spp.)	—
Chinese houses (<i>Collinsia</i> spp.)	—	buckwheat (<i>Eriogonum fasciculatum</i>)	—
		ground pink (<i>Linanthus dianthiflorus</i>)	—
Butterfly Species	No.	Butterfly Species	No.
Checkerspots		Hairstreaks	
California patch (<i>Chlosyne californica</i>)		great purple hairstreak (<i>Atlides halesus corcoram</i>)	
Gabb's checkerspot (<i>C. gabbii</i>)		brown elfin (<i>Callophrys augustinus</i>)	
Quino checkerspot (<i>Euphydryas editha quino</i>)		bramble (perplexing) hairstreak (<i>C. dumetorum affinis</i>)	1
chalcedon checkerspot (<i>E. chalcedona chalcedona</i>)		gray hairstreak (<i>Strymon melinus pudica</i>)	
Leanira checkerspot (<i>Thessalia leanira wrighti</i>)		Ladies/Admirals	
Mylitta crescent (<i>Phyciodes mylitta</i>)		California sister (<i>Adelpha bredowii californica</i>)	
Blues		Lorquin's admiral (<i>Limenitis lorquini</i>)	
western pygmy-blue (<i>Brephidium exila</i>)		west coast lady (<i>Vanessa annabella</i>)	
western tailed blue (<i>Everes amyntula</i>)		red admiral (<i>V. atalanta rubria</i>)	
southern blue (<i>Glaucopsyche lygdamus australis</i>)	1111	painted lady (<i>V. cardui</i>)	
Edward's blue (<i>Hemiargus ceraunus gyas</i>)		American (Virginia) lady (<i>V. virginensis</i>)	
Acmon blue (<i>Icaricia acmon acmon</i>)	1	unidentified lady (<i>Vanessa</i> sp.)	
marine blue (<i>Leptotes marina</i>)		Swallowtails	
unidentified blue		pale swallowtail (<i>Papilio eurymedon</i>)	
Whites		western tiger swallowtail (<i>P. rutulus</i>)	
Sara orangetip (<i>Anthocharis sara sara</i>)	1111	anise swallowtail (<i>P. zelicaon</i>)	
desert (Felder's) orangetip (<i>A. cethura</i>)		Miscellaneous	
common California ringlet (<i>Coenonympha californica</i>)		monarch (<i>Danaus plexippus</i>)	1
cabbage white (<i>Pieris rapae</i>)		common buckeye (<i>Junonia coenia grisea</i>)	
checkered (common) white (<i>Pontia protodice</i>)		mourning cloak (<i>Nymphalis antiopa</i>)	
spring white (<i>P. sisymbrii</i>)		Skippers	
unidentified white		funereal duskywing (<i>Erynnis funeralis</i>)	
Metalmarks		mournful duskywing (<i>Erynnis tristis</i>)	111111111
Behr's metalmark (<i>Apodemia mormo virgulti</i>)		fiery skipper (<i>Hylephila phyleus</i>)	
Wright's metalmark (<i>Calephelis wrighti</i>)		white (common) checkered-skipper (<i>Pyrgus albescens</i>)	
Sulphurs		Other	
orange sulphur (<i>Golias eurytheme</i>)			
sleepy orange (<i>Eurema nicippe</i>)			
cloudless sulfur (<i>Phoebus sennae marcellina</i>)			
unidentified sulphur			
Column Subtotal	9	Column Subtotal	13
		Total	22

Nectar: Clay Perf
 Cry Perf
 Pae cal
 Sol umb
 Miv MAC
 Esch cal
 Lupin tun
 Aze vent
 Acari gla
 Bac Sal
 Miv gla
 Heli gra
 Sal mel
 Acari str
 Erio crn
 Sal columb
 Miv laev
 Pca. J cal



Quino Checkerspot Butterfly Survey Form

Surveyor: Marshall Paymard

Date: 3/16/22

Project: *Rice Canyon*

Site Visit Number: 4

Time	Temperature	Wind Speed (mph)	Cloud Cover
Start 1515	78°	1-3 mph	DR
End 1630	79°	2-4	DR
Start			
End			

Host Plants	Obs.	Nectar Plants	Obs.
dwarf plantain (<i>Plantago erecta</i>)	-	popcorn flower (<i>Cryptantha/Plagiobothrys</i> spp.)	//
purple owl's clover (<i>Castilleja exserta</i>)	-	goldfields (<i>Lasthenia</i> spp.)	-
snapdragon (<i>Antirrhinum coulterianum</i>)	-	goldenstar (<i>Muilla</i> spp.)	-
birds-beak (<i>Cordylanthus rigidus</i>)	-	fiddleneck (<i>Amsinckia menziesii</i> var. <i>intermedia</i>)	-
woolly plantain (<i>Plantago patagonica</i>)	-	onion (<i>Allium</i> spp.)	-
Chinese houses (<i>Collinsia</i> spp.)	-	buckwheat (<i>Eriogonum fasciculatum</i>)	-
		ground pink (<i>Linanthus dianthiflorus</i>)	-
Butterfly Species	No.	Butterfly Species	No.
Checkerspots		Hairstreaks	
California patch (<i>Chlosyne californica</i>)		great purple hairstreak (<i>Atlides halesus corcoram</i>)	
Gabb's checkerspot (<i>C. gabbii</i>)		brown elfin (<i>Callophrys augustinus</i>)	
Quino checkerspot (<i>Euphydryas editha quino</i>)		bramble (perplexing) hairstreak (<i>C. dumetorum affinis</i>)	
chalcedon checkerspot (<i>E. chalcedona chalcedona</i>)		gray hairstreak (<i>Strymon melinus pudica</i>)	
Leanira checkerspot (<i>Thessalia leanira wrighti</i>)		Ladies/Admirals	
Mylitta crescent (<i>Phyciodes mylitta</i>)		California sister (<i>Adelpha bredowii californica</i>)	
Blues		Lorquin's admiral (<i>Limenitis lorquini</i>)	
western pygmy-blue (<i>Brephidium exila</i>)		west coast lady (<i>Vanessa annabella</i>)	
western tailed blue (<i>Everes amyntula</i>)		red admiral (<i>V. atalanta rubria</i>)	
southern blue (<i>Glaucopsyche lygdamus australis</i>)	//	painted lady (<i>V. cardui</i>)	
Edward's blue (<i>Hemiargus ceraunus gyas</i>)		American (Virginia) lady (<i>V. virginensis</i>)	
Acmon blue (<i>Icaricia acmon acmon</i>)	//	unidentified lady (<i>Vanessa</i> sp.)	
marine blue (<i>Leptotes marina</i>)		Swallowtails	
unidentified blue	/	pale swallowtail (<i>Papilio eurymedon</i>)	
Whites		western tiger swallowtail (<i>P. rutulus</i>)	//
Sara orangetip (<i>Anthocharis sara sara</i>)		anise swallowtail (<i>P. zelicaon</i>)	
desert (Felder's) orangetip (<i>A. cethura</i>)		Miscellaneous	
common California ringlet (<i>Coenonympha californica</i>)		monarch (<i>Danaus plexippus</i>)	
cabbage white (<i>Pieris rapae</i>)		common buckeye (<i>Junonia coenia grisea</i>)	
checkered (common) white (<i>Pontia protodice</i>)		mourning cloak (<i>Nymphalis antiopa</i>)	
spring white (<i>P. sisymbrii</i>)		Skippers	
unidentified white		funereal duskywing (<i>Erynnis funeralis</i>)	
Metalmarks		mournful duskywing (<i>Erynnis tristis</i>)	++++
Behr's metalmark (<i>Apodemia mormo virgulti</i>)		fiery skipper (<i>Hylephila phyleus</i>)	
Wright's metalmark (<i>Calephelis wrighti</i>)		white (common) checkered-skipper (<i>Pyrgus albescens</i>)	
Sulphurs		Other	
orange sulphur (<i>Golias eurytheme</i>)			
sleepy orange (<i>Eurema nicippe</i>)			
cloudless sulfur (<i>Phoebus sennae marcellina</i>)			
unidentified sulphur			
Column Subtotal	5	Column Subtotal	9
		Total	14

Nectar:

Pseud Cal	Amu Mac	Are Vent
Mic lan	Sol whb	Acam glr
Sul columb	Pse cal	Dac sul
Erid crn	Cry part	Asc gla
Acami str	Clay part	
Sul mel	Esc' cal	
Hel grac	Lop tra	



Quino Checkerspot Butterfly Survey Form

Surveyor: Marshall Paymard

Date: 3/23/22

Project: R Canyon

Site Visit Number: 5

Time	Temperature	Wind Speed (mph)	Cloud Cover
Start 1500	80°F	1-2 mph	0%
End 1630	80°F	1-4 mph	0%
Start			
End			

Host Plants	Obs.	Nectar Plants	Obs.
dwarf plantain (<i>Plantago erecta</i>)	—	popcorn flower (<i>Cryptantha/Plagiobothrys</i> spp.)	
purple owl's clover (<i>Castilleja exserta</i>)	—	goldfields (<i>Lasthenia</i> spp.)	—
snapdragon (<i>Antirrhinum coulterianum</i>)	—	goldenstar (<i>Muilla</i> spp.)	—
birds-beak (<i>Cordylanthus rigidus</i>)	—	fiddleneck (<i>Amsinckia menziesii</i> var. <i>intermedia</i>)	—
woolly plantain (<i>Plantago patagonica</i>)	—	onion (<i>Allium</i> spp.)	—
Chinese houses (<i>Collinsia</i> spp.)	—	buckwheat (<i>Eriogonum fasciculatum</i>)	—
		ground pink (<i>Linanthus dianthiflorus</i>)	—
Butterfly Species	No.	Butterfly Species	No.
Checkerspots		Hairstreaks	
California patch (<i>Chlosyne californica</i>)		great purple hairstreak (<i>Atlides halesus corcoram</i>)	
Gabb's checkerspot (<i>C. gabbi</i>)		brown elfin (<i>Callophrys augustinus</i>)	
Quino checkerspot (<i>Euphydryas editha quino</i>)		bramble (perplexing) hairstreak (<i>C. dumetorum affinis</i>)	
chalcidon checkerspot (<i>E. chalcidona chalcidona</i>)		gray hairstreak (<i>Strymon melinus pudica</i>)	
Leanira checkerspot (<i>Thessalia leanira wrighti</i>)		Ladies/Admirals	
Mylitta crescent (<i>Phyciodes mylitta</i>)		California sister (<i>Adelpha bredowii californica</i>)	
Blues		Lorquin's admiral (<i>Limenitis lorquini</i>)	
western pygmy-blue (<i>Brephidium exila</i>)		west coast lady (<i>Vanessa annabella</i>)	
western tailed blue (<i>Everes amyntula</i>)		red admiral (<i>V. atalanta rubria</i>)	
southern blue (<i>Glaucopsyche lygdamus australis</i>)		painted lady (<i>V. cardui</i>)	
Edward's blue (<i>Hemiargus ceraunus gyas</i>)		American (Virginia) lady (<i>V. virginensis</i>)	
Acmon blue (<i>Icaricia acmon acmon</i>)		unidentified lady (<i>Vanessa</i> sp.)	
marine blue (<i>Leptotes marina</i>)		Swallowtails	
unidentified blue		pale swallowtail (<i>Papilio eurymedon</i>)	/
Whites		western tiger swallowtail (<i>P. rutulus</i>)	
Sara orangetip (<i>Anthocharis sara sara</i>)		anise swallowtail (<i>P. zelicaon</i>)	
desert (Felder's) orangetip (<i>A. cethura</i>)		Miscellaneous	
common California ringlet (<i>Coenonympha californica</i>)		monarch (<i>Danaus plexippus</i>)	
cabbage white (<i>Pieris rapae</i>)		common buckeye (<i>Junonia coenia grisea</i>)	
checkered (common) white (<i>Pontia protodice</i>)		mourning cloak (<i>Nymphalis antiopa</i>)	
spring white (<i>P. sisymbrii</i>)		Skippers	
unidentified white		funereal duskywing (<i>Erynnis funeralis</i>)	
Metalmarks		mournful duskywing (<i>Erynnis tristis</i>)	
Behr's metalmark (<i>Apodemia mormo virgulti</i>)		fiery skipper (<i>Hylephila phyleus</i>)	
Wright's metalmark (<i>Calephelis wrighti</i>)		white (common) checkered-skipper (<i>Pyrgus albescens</i>)	
Sulphurs		Other	
orange sulphur (<i>Golias eurytheme</i>)			
sleepy orange (<i>Eurema nicippe</i>)			
cloudless sulfur (<i>Phoebus sennae marcellina</i>)			
unidentified sulphur			
Column Subtotal	9	Column Subtotal	12
		Total	21

Bloom!

Blue cam Mar ma Arc Vnt
 Acmi str Sol umb Acem gla
 Sal Mel Pae cal Bac Sal
 Hel gal Cry puf
 Pscub ca | Clay part
 Mir lya ESE cal
 Eri Len Int form



Quino Checkerspot Butterfly Survey Form

Surveyor: Marshall Paymard

Date: 3/30/22

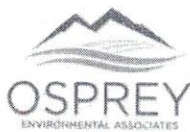
Project: R. Canyon

Site Visit Number: 6

Time	Temperature	Wind Speed (mph)	Cloud Cover
Start 1503	81°F	1-2 mph	Clear 08
End 1620	81°F	1-2 mph	Clear 08
Start			
End			

Host Plants	Obs.	Nectar Plants	Obs.
dwarf plantain (<i>Plantago erecta</i>)		popcorn flower (<i>Cryptantha/Plagiobothrys</i> spp.)	11
purple owl's clover (<i>Castilleja exserta</i>)		goldfields (<i>Lasthenia</i> spp.)	
snapdragon (<i>Antirrhinum coulterianum</i>)		goldenstar (<i>Muilla</i> spp.)	
birds-beak (<i>Cordylanthus rigidus</i>)		fiddleneck (<i>Amsinckia menziesii</i> var. <i>intermedia</i>)	
woolly plantain (<i>Plantago patagonica</i>)		onion (<i>Allium</i> spp.)	
Chinese houses (<i>Collinsia</i> spp.)		buckwheat (<i>Eriogonum fasciculatum</i>)	
		ground pink (<i>Linanthus dianthiflorus</i>)	
Butterfly Species	No.	Butterfly Species	No.
Checkerspots		Hairstreaks	
California patch (<i>Chlosyne californica</i>)		great purple hairstreak (<i>Allides halesus corcoram</i>)	
Gabb's checkerspot (<i>C. gabbii</i>)		brown elfin (<i>Callophrys augustinus</i>)	
Quino checkerspot (<i>Euphydryas editha quino</i>)		bramble (perplexing) hairstreak (<i>C. dumetorum affinis</i>)	
chaicedon checkerspot (<i>E. chalconota chalconota</i>)		gray hairstreak (<i>Strymon melinus pudica</i>)	
Leanira checkerspot (<i>Thessalia leanira wrighti</i>)		Ladies/Admirals	
Mylitta crescent (<i>Phyciodes mylitta</i>)		California sister (<i>Adelpha bredowii californica</i>)	
Blues		Lorquin's admiral (<i>Limenitis lorquini</i>)	
western pygmy-blue (<i>Brephidium exila</i>)		west coast lady (<i>Vanessa annabella</i>)	
western tailed blue (<i>Everes amyntula</i>)		red admiral (<i>V. atalanta rubria</i>)	
southern blue (<i>Glaucopsyche lygdamus australis</i>)	//	painted lady (<i>V. cardui</i>)	
Edward's blue (<i>Hemiargus ceraunus gyas</i>)		American (Virginia) lady (<i>V. virginensis</i>)	
Acmon blue (<i>Icaricia acmon acmon</i>)	111	unidentified lady (<i>Vanessa</i> sp.)	
marine blue (<i>Leptotes marina</i>)		Swallowtails	
unidentified blue		pale swallowtail (<i>Papilio eurymedon</i>)	1
Whites		western tiger swallowtail (<i>P. rutulus</i>)	
Sara orangetip (<i>Anthocharis sara sara</i>)	111	anise swallowtail (<i>P. zelicaon</i>)	
desert (Felder's) orangetip (<i>A. cethura</i>)		Miscellaneous	
common California ringlet (<i>Coenonympha californica</i>)		monarch (<i>Danaus plexippus</i>)	
cabbage white (<i>Pieris rapae</i>)		common buckeye (<i>Junonia coenia grisea</i>)	
checkered (common) white (<i>Pontia protodice</i>)	//	mourning cloak (<i>Nymphalis antiopa</i>)	
spring white (<i>P. sisymbrii</i>)		Skippers	
unidentified white		funereal duskywing (<i>Erynnis funeralis</i>)	
Metalmarks		mournful duskywing (<i>Erynnis tristis</i>)	111
Behr's metalmark (<i>Apodemia mormo virgulti</i>)		fiery skipper (<i>Hylephila phyleus</i>)	
Wright's metalmark (<i>Calephelis wrighti</i>)		white (common) checkered-skipper (<i>Pyrgus albescens</i>)	
Sulphurs		Other	
orange sulphur (<i>Golias eurytheme</i>)			
sleepy orange (<i>Eurema nicippe</i>)			
cloudless sulfur (<i>Phoebus sennae marcellina</i>)			
unidentified sulphur			
Column Subtotal	12	Column Subtotal	6
		Total	18

Acms gla Acmi str Nil gla
 Bac sal Pae cal Sal colun
 Eri crns Lup trun
 Heli grac Dip cap
 Pseud cal Esch cal
 Mir lne cal ped
 Sol Unb Mar mac



Quino Checkerspot Butterfly Survey Form

Surveyor: Marshall Paymard

Date: 4/5/22

Project: Ro Canyon

Site Visit Number: 7

Time	Temperature	Wind Speed (mph)	Cloud Cover
Start 1400	82°	2-5	08
End 1520	83°	3-5	0%
Start			
End			

Host Plants	Obs.	Nectar Plants	Obs.
dwarf plantain (<i>Plantago erecta</i>)	—	popcorn flower (<i>Cryptantha/Plagiobothrys</i> spp.)	111
purple owl's clover (<i>Castilleja exserta</i>)	—	goldfields (<i>Lasthenia</i> spp.)	—
snapdragon (<i>Antirrhinum coulterianum</i>)	—	goldenstar (<i>Muilla</i> spp.)	—
birds-beak (<i>Cordylanthus rigidus</i>)	—	fiddleneck (<i>Amsinckia menziesii</i> var. <i>intermedia</i>)	—
woolly plantain (<i>Plantago patagonica</i>)	—	onion (<i>Allium</i> spp.)	—
Chinese houses (<i>Collinsia</i> spp.)	—	buckwheat (<i>Eriogonum fasciculatum</i>)	—
		ground pink (<i>Linanthus dianthiflorus</i>)	—
Butterfly Species	No.	Butterfly Species	No.
Checkerspots		Hairstreaks	
California patch (<i>Chlosyne californica</i>)		great purple hairstreak (<i>Allides halesus corcoram</i>)	
Gabb's checkerspot (<i>C. gabbii</i>)		brown elfin (<i>Callophrys augustinus</i>)	
Quino checkerspot (<i>Euphydryas editha quino</i>)		bramble (perplexing) hairstreak (<i>C. dumetorum affinis</i>)	
chalcon checkerspot (<i>E. chalcon chalcon</i>)		gray hairstreak (<i>Strymon melinus pudica</i>)	
Leanira checkerspot (<i>Thessalia leanira wrighti</i>)		Ladies/Admirals	
Mylitta crescent (<i>Phyciodes mylitta</i>)		California sister (<i>Adelpha bredowii californica</i>)	
Blues		Lorquin's admiral (<i>Limenitis lorquini</i>)	
western pygmy-blue (<i>Brephidium exila</i>)		west coast lady (<i>Vanessa annabella</i>)	
western tailed blue (<i>Everes amyntula</i>)		red admiral (<i>V. atalanta rubria</i>)	
southern blue (<i>Glaucopsyche lygdamus australis</i>)		painted lady (<i>V. cardui</i>)	
Edward's blue (<i>Hemiargus ceraunus gyas</i>)		American (Virginia) lady (<i>V. virginensis</i>)	
Acmon blue (<i>Icaricia acmon acmon</i>)		unidentified lady (<i>Vanessa</i> sp.)	
marine blue (<i>Leptotes marina</i>)		Swallowtails	
unidentified blue		pale swallowtail (<i>Papilio eurymedon</i>)	
Whites		western tiger swallowtail (<i>P. rutulus</i>)	
Sara orangetip (<i>Anthocharis sara sara</i>)	\ \ \ \	anise swallowtail (<i>P. zelicaon</i>)	
desert (Felder's) orangetip (<i>A. cethura</i>)		Miscellaneous	
common California ringlet (<i>Coenonympha californica</i>)		monarch (<i>Danaus plexippus</i>)	
cabbage white (<i>Pieris rapae</i>)	\ \	common buckeye (<i>Junonia coenia grisea</i>)	
checkered (common) white (<i>Pontia protodice</i>)	\	mourning cloak (<i>Nymphalis antiopa</i>)	
spring white (<i>P. sisymbrii</i>)		Skippers	
unidentified white		funereal duskywing (<i>Erynnis funeralis</i>)	
Metalmarks		mournful duskywing (<i>Erynnis tristis</i>)	+ + + \ \ \
Behr's metalmark (<i>Apodemia mormo virgulti</i>)		fiery skipper (<i>Hylephila phyleus</i>)	
Wright's metalmark (<i>Calephelis wrighti</i>)		white (common) checkered-skipper (<i>Pyrgus albescens</i>)	
Sulphurs		Other	
orange sulphur (<i>Golias eurytheme</i>)			
sleepy orange (<i>Eurema nicippe</i>)			
cloudless sulfur (<i>Phoebus sennae marcellina</i>)			
unidentified sulphur			
Column Subtotal	9	Column Subtotal	10
		Total	19

Nic gla Mar Mac End cross
 Acni gla Hel grac ACM str
 Lup tru DIP cap Sol umb
 Bach sal Sal Columbr mal fas
 Esc cal Mr (rovi)
 Cry inter rae cal



Quino Checkerspot Butterfly Survey Form

Surveyor: Marshall Paymard

Date: 4/15/22

Project: Rice Canyon

Site Visit Number: 8

Time	Temperature	Wind Speed (mph)	Cloud Cover
Start 1403	80°	1-2	08
End 1535	81°	1-2	08
Start			
End			

Host Plants	Obs.	Nectar Plants	Obs.
dwarf plantain (<i>Plantago erecta</i>)	—	popcorn flower (<i>Cryptantha/Plagiobothrys</i> spp.)	11/
purple owl's clover (<i>Castilleja exserta</i>)	—	goldfields (<i>Lasthenia</i> spp.)	
snapdragon (<i>Antirrhinum coulterianum</i>)	—	goldenstar (<i>Muilla</i> spp.)	
birds-beak (<i>Cordylanthus rigidus</i>)	—	fiddleneck (<i>Amsinckia menziesii</i> var. <i>intermedia</i>)	
woolly plantain (<i>Plantago patagonica</i>)	—	onion (<i>Allium</i> spp.)	
Chinese houses (<i>Collinsia</i> spp.)	—	buckwheat (<i>Eriogonum fasciculatum</i>)	
		ground pink (<i>Linanthus dianthiflorus</i>)	
Butterfly Species	No.	Butterfly Species	No.
Checkerspots		Hairstreaks	
California patch (<i>Chlosyne californica</i>)		great purple hairstreak (<i>Allides halesus corcoram</i>)	
Gabb's checkerspot (<i>C. gabbii</i>)		brown elfin (<i>Callophrys augustinus</i>)	
Quino checkerspot (<i>Euphydryas editha quino</i>)		bramble (perplexing) hairstreak (<i>C. dumetorum affinis</i>)	
chalcedon checkerspot (<i>E. chalcedona chalcedona</i>)		gray hairstreak (<i>Strymon melinus pudica</i>)	
Leanira checkerspot (<i>Thessalia leanira wrighti</i>)		Ladies/Admirals	
Mylitta crescent (<i>Phyciodes mylitta</i>)		California sister (<i>Adelpha bredowii californica</i>)	
Blues		Lorquin's admiral (<i>Limenitis lorquini</i>)	
western pygmy-blue (<i>Brephidium exila</i>)		west coast lady (<i>Vanessa annabella</i>)	
western tailed blue (<i>Everes amyntula</i>)		red admiral (<i>V. atalanta rubria</i>)	
southern blue (<i>Glaucopsyche lygdamus australis</i>)	111	painting lady (<i>V. cardui</i>)	
Edward's blue (<i>Hemiargus ceraunus gyas</i>)		American (Virginia) lady (<i>V. virginensis</i>)	
Acmon blue (<i>Icaricia acmon acmon</i>)	111	unidentified lady (<i>Vanessa</i> sp.)	
marine blue (<i>Leptotes marina</i>)		Swallowtails	
unidentified blue	1	pale swallowtail (<i>Papilio eurymedon</i>)	
Whites		western tiger swallowtail (<i>P. rutulus</i>)	
Sara orangetip (<i>Anthocharis sara sara</i>)	111	anise swallowtail (<i>P. zelicaon</i>)	
desert (Felder's) orangetip (<i>A. cethura</i>)		Miscellaneous	
common California ringlet (<i>Coenonympha californica</i>)		monarch (<i>Danaus plexippus</i>)	
cabbage white (<i>Pieris rapae</i>)		common buckeye (<i>Junonia coenia grisea</i>)	1
checkered (common) white (<i>Pontia protodice</i>)		mourning cloak (<i>Nymphalis antiopa</i>)	
spring white (<i>P. sisymbrii</i>)		Skippers	
unidentified white		funereal duskywing (<i>Erynnis funeralis</i>)	
Metalmarks		mournful duskywing (<i>Erynnis tristis</i>)	111
Behr's metalmark (<i>Apodemia mormo virgulti</i>)		fiery skipper (<i>Hylephila phyleus</i>)	
Wright's metalmark (<i>Calephelis wrighti</i>)		white (common) checkered-skipper (<i>Pyrgus albescens</i>)	
Sulphurs		Other	
orange sulphur (<i>Golias eurytheme</i>)			
sleepy orange (<i>Eurema nicippe</i>)			
cloudless sulfur (<i>Phoebus sennae marcellina</i>)			
unidentified sulphur	1		
Column Subtotal	11	Column Subtotal	4
		Total	15

ectar: Cal macr Sol umb Rom Pop
 Eri fab Dip Cup Hel gra
 Eri confert Nic gla mal fas
 Acmi gla Scr Cal Cal mac
 Cry Mt Pen spec



Quino Checkerspot Butterfly Survey Form

Surveyor: Marshall Paymard

Date: 4/21/22

Project: Rice Canyon

Site Visit Number: 9

Time	Temperature	Wind Speed (mph)	Cloud Cover
Start 1415	78°	2-5 mph	0%
End 1532	79°	2-5 mph	0%
Start			
End			

Host Plants	Obs.	Nectar Plants	Obs.
dwarf plantain (<i>Plantago erecta</i>)	-	popcorn flower (<i>Cryptantha/Plagiobothrys</i> spp.)	
purple owl's clover (<i>Castilleja exserta</i>)	-	goldfields (<i>Lasthenia</i> spp.)	-
snapdragon (<i>Antirrhinum coulterianum</i>)	-	goldenstar (<i>Muilla</i> spp.)	-
birds-beak (<i>Cordylanthus rigidus</i>)	-	fiddleneck (<i>Amsinckia menziesii</i> var. <i>intermedia</i>)	-
woolly plantain (<i>Plantago patagonica</i>)	-	onion (<i>Allium</i> spp.)	-
Chinese houses (<i>Collinsia</i> spp.)	-	buckwheat (<i>Eriogonum fasciculatum</i>)	-
		ground pink (<i>Linanthus dianthiflorus</i>)	-
Butterfly Species	No.	Butterfly Species	No.
Checkerspots		Hairstreaks	
California patch (<i>Chlosyne californica</i>)		great purple hairstreak (<i>Atlides halesus corcoram</i>)	
Gabb's checkerspot (<i>C. gabbi</i>)		brown elfin (<i>Callophrys augustinus</i>)	
Quino checkerspot (<i>Euphydryas editha quino</i>)		bramble (perplexing) hairstreak (<i>C. dumetorum affinis</i>)	
chalcedon checkerspot (<i>E. chalcedona chalcedona</i>)		gray hairstreak (<i>Strymon melinus pudica</i>)	
Leanira checkerspot (<i>Thessalia leanira wrighti</i>)		Ladies/Admirals	
Mylitta crescent (<i>Phyciodes mylitta</i>)		California sister (<i>Adelpha bredowii californica</i>)	
Blues		Lorquin's admiral (<i>Limenitis lorquini</i>)	
western pygmy-blue (<i>Brephidium exila</i>)		west coast lady (<i>Vanessa annabella</i>)	
western tailed blue (<i>Everes amyntula</i>)		red admiral (<i>V. atalanta rubria</i>)	
southern blue (<i>Glaucopsyche lygdamus australis</i>)		painted lady (<i>V. cardui</i>)	
Edward's blue (<i>Hemiargus ceraunus gyas</i>)		American (Virginia) lady (<i>V. virginensis</i>)	
Acmon blue (<i>Icaricia acmon acmon</i>)		unidentified lady (<i>Vanessa</i> sp.)	
marine blue (<i>Leptotes marina</i>)		Swallowtails	
unidentified blue		pale swallowtail (<i>Papilio eurymedon</i>)	
Whites		western tiger swallowtail (<i>P. rutulus</i>)	
Sara orangetip (<i>Anthocharis sara sara</i>)		anise swallowtail (<i>P. zelicaon</i>)	
desert (Felder's) orangetip (<i>A. cethura</i>)		Miscellaneous	
common California ringlet (<i>Coenonympha californica</i>)		monarch (<i>Danaus plexippus</i>)	
cabbage white (<i>Pieris rapae</i>)		common buckeye (<i>Junonia coenia grisea</i>)	
checkered (common) white (<i>Pontia protodice</i>)		mourning cloak (<i>Nymphalis antiopa</i>)	
spring white (<i>P. sisymbrii</i>)		Skippers	
unidentified white		funereal duskywing (<i>Erynnis funeralis</i>)	
Metalmarks		mournful duskywing (<i>Erynnis tristis</i>)	
Behr's metalmark (<i>Apodemia mormo virgulti</i>)		fiery skipper (<i>Hylephila phyleus</i>)	
Wright's metalmark (<i>Calephelis wrighti</i>)		white (common) checkered-skipper (<i>Pyrgus albescens</i>)	
Sulphurs		Other	
orange sulphur (<i>Golias eurytheme</i>)			
sleepy orange (<i>Eurema nicippe</i>)			
cloudless sulfur (<i>Phoebus sennae marcellina</i>)			
unidentified sulphur			
Column Subtotal	7	Column Subtotal	3
		Total	10

Rom pop Eri fas
 Hel gra acmi glab
 Mui fas Cry int
 Cal mac Nil glau
 Sol unb Pen spe
 Dip cup Scr cal
 Mui fas



Quino Checkerspot Butterfly Survey Form

Surveyor: Marshall Paymard

Date: 4/29/22

Project: Rice Canyon

Site Visit Number: 10

Time	Temperature	Wind Speed (mph)	Cloud Cover
Start 1406	79°	0-1	02
End 1528	80°	0-1	08
Start			
End			

Host Plants	Obs.	Nectar Plants	Obs.
dwarf plantain (<i>Plantago erecta</i>)	—	popcorn flower (<i>Cryptantha/Plagiobothrys</i> spp.)	1
purple owl's clover (<i>Castilleja exserta</i>)	—	goldfields (<i>Lasthenia</i> spp.)	—
snapdragon (<i>Antirrhinum coulterianum</i>)	—	goldenstar (<i>Muilla</i> spp.)	—
birds-beak (<i>Cordylanthus rigidus</i>)	—	fiddleneck (<i>Amsinckia menziesii</i> var. <i>intermedia</i>)	—
woolly plantain (<i>Plantago patagonica</i>)	—	onion (<i>Allium</i> spp.)	—
Chinese houses (<i>Collinsia</i> spp.)	—	buckwheat (<i>Eriogonum fasciculatum</i>)	—
		ground pink (<i>Linanthus dianthiflorus</i>)	—
Butterfly Species	No.	Butterfly Species	No.
Checkerspots		Hairstreaks	
California patch (<i>Chlosyne californica</i>)		great purple hairstreak (<i>Atides halesus corcoram</i>)	
Gabb's checkerspot (<i>C. gabbii</i>)		brown elfin (<i>Callophrys augustinus</i>)	
Quino checkerspot (<i>Euphydryas editha quino</i>)		bramble (perplexing) hairstreak (<i>C. dumetorum affinis</i>)	
chalcedon checkerspot (<i>E. chalcedona chalcedona</i>)		gray hairstreak (<i>Strymon melinus pudica</i>)	
Leanira checkerspot (<i>Thessalia leanira wrighti</i>)		Ladies/Admirals	
Mylitta crescent (<i>Phyciodes mylitta</i>)		California sister (<i>Adelpha bredowii californica</i>)	
Blues		Lorquin's admiral (<i>Limenitis lorquini</i>)	
western pygmy-blue (<i>Brephidium exila</i>)		west coast lady (<i>Vanessa annabella</i>)	
western tailed blue (<i>Everes amyntula</i>)		red admiral (<i>V. atalanta rubria</i>)	
southern blue (<i>Glaucopsyche lygdamus australis</i>)		painted lady (<i>V. cardui</i>)	
Edward's blue (<i>Hemiargus ceraunus gyas</i>)		American (Virginia) lady (<i>V. virginensis</i>)	
Acmon blue (<i>Icaricia acmon acmon</i>)	//	unidentified lady (<i>Vanessa</i> sp.)	
marine blue (<i>Leptotes marina</i>)		Swallowtails	
unidentified blue		pale swallowtail (<i>Papilio eurymedon</i>)	
Whites		western tiger swallowtail (<i>P. rutulus</i>)	/
Sara orangetip (<i>Anthocharis sara sara</i>)	///	anise swallowtail (<i>P. zelicaon</i>)	
desert (Felder's) orangetip (<i>A. cethura</i>)		Miscellaneous	
common California ringlet (<i>Coenonympha californica</i>)		monarch (<i>Danaus plexippus</i>)	
cabbage white (<i>Pieris rapae</i>)		common buckeye (<i>Junonia coenia grisea</i>)	/
checkered (common) white (<i>Pontia protodice</i>)	///	mourning cloak (<i>Nymphalis antiopa</i>)	
spring white (<i>P. sisymbrii</i>)		Skippers	
unidentified white		funereal duskywing (<i>Erynnis funeralis</i>)	(1)
Metalmarks		mournful duskywing (<i>Erynnis tristis</i>)	(1)
Behr's metalmark (<i>Apodemia mormo virgulti</i>)		fiery skipper (<i>Hylephila phyleus</i>)	
Wright's metalmark (<i>Calephelis wrighti</i>)		white (common) checkered-skipper (<i>Pyrgus albescens</i>)	
Sulphurs		Other	
orange sulphur (<i>Golias eurytheme</i>)			
sleepy orange (<i>Eurema nicippe</i>)			
cloudless sulfur (<i>Phoebus sennae marcellina</i>)			
unidentified sulphur	/		
Column Subtotal	10	Column Subtotal	5
		Total	15

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Quino Checkerspot Butterfly Survey Form

Surveyor: Marshall Paymard

Date: 5/4/22

Project: Rice Canyon

Site Visit Number: 11

Time	Temperature	Wind Speed (mph)	Cloud Cover
Start 1305	86°	0-1	clear 100%
End 1432	88°	0-1	0%
Start			
End			

Host Plants	Obs.	Nectar Plants	Obs.
dwarf plantain (<i>Plantago erecta</i>)	—	popcorn flower (<i>Cryptantha/Plagiobothrys</i> spp.)	1
purple owl's clover (<i>Castilleja exserta</i>)	—	goldfields (<i>Lasthenia</i> spp.)	
snapdragon (<i>Antirrhinum coulterianum</i>)	—	goldenstar (<i>Muilla</i> spp.)	
birds-beak (<i>Cordylanthus rigidus</i>)	—	fiddleneck (<i>Amsinckia menziesii</i> var. <i>intermedia</i>)	
woolly plantain (<i>Plantago patagonica</i>)	—	onion (<i>Allium</i> spp.)	
Chinese houses (<i>Collinsia</i> spp.)	—	buckwheat (<i>Eriogonum fasciculatum</i>)	
		ground pink (<i>Linanthus dianthiflorus</i>)	
Butterfly Species	No.	Butterfly Species	No.
Checkerspots		Hairstreaks	
California patch (<i>Chlosyne californica</i>)		great purple hairstreak (<i>Atlides halesus corcoram</i>)	
Gabb's checkerspot (<i>C. gabbii</i>)		brown elfin (<i>Callophrys augustinus</i>)	
Quino checkerspot (<i>Euphydryas editha quino</i>)		bramble (perplexing) hairstreak (<i>C. dumetorum affinis</i>)	
chalcedon checkerspot (<i>E. chalcedona chalcedona</i>)		gray hairstreak (<i>Strymon melinus pudica</i>)	
Leanira checkerspot (<i>Thessalia leanira wrighti</i>)		Ladies/Admirals	
Mylitta crescent (<i>Phyciodes mylitta</i>)		California sister (<i>Adelpha bredowii californica</i>)	
Blues		Lorquin's admiral (<i>Limenitis lorquini</i>)	
western pygmy-blue (<i>Brephidium exila</i>)		west coast lady (<i>Vanessa annabella</i>)	
western tailed blue (<i>Everes amyntula</i>)		red admiral (<i>V. atalanta rubria</i>)	
southern blue (<i>Glaucopsyche lygdamus australis</i>)		painted lady (<i>V. cardui</i>)	
Edward's blue (<i>Hemiargus ceraunus gyas</i>)		American (Virginia) lady (<i>V. virginensis</i>)	
Acmon blue (<i>Icaricia acmon acmon</i>)	//	unidentified lady (<i>Vanessa</i> sp.)	
marine blue (<i>Leptotes marina</i>)		Swallowtails	
unidentified blue		pale swallowtail (<i>Papilio eurymedon</i>)	
Whites		western tiger swallowtail (<i>P. rutulus</i>)	/
Sara orangetip (<i>Anthocharis sara sara</i>)	///	anise swallowtail (<i>P. zelicaon</i>)	
desert (Felder's) orangetip (<i>A. cethura</i>)		Miscellaneous	
common California ringlet (<i>Coenonympha californica</i>)		monarch (<i>Danaus plexippus</i>)	
cabbage white (<i>Pieris rapae</i>)		common buckeye (<i>Junonia coenia grisea</i>)	/
checkered (common) white (<i>Pontia protodice</i>)	///	mourning cloak (<i>Nymphalis antiopa</i>)	
spring white (<i>P. sisymbrii</i>)		Skippers	
unidentified white		funereal duskywing (<i>Erynnis funeralis</i>)	
Metalmarks		mournful duskywing (<i>Erynnis tristis</i>)	///
Behr's metalmark (<i>Apodemia mormo virgulti</i>)		fiery skipper (<i>Hylephila phyleus</i>)	
Wright's metalmark (<i>Calephelis wrighti</i>)		white (common) checkered-skipper (<i>Pyrgus albescens</i>)	
Sulphurs		Other	
orange sulphur (<i>Goiias eurytheme</i>)			
sleepy orange (<i>Eurema nicippe</i>)			
cloudless sulfur (<i>Phoebus sennae marcellina</i>)			
unidentified sulphur	//		
Column Subtotal	10	Column Subtotal	5
		Total	15

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Quino Checkerspot Butterfly Survey Form

Surveyor: Marshall Paynard

Date: 5/13/22

Project: Rice Canyon

Site Visit Number: 12

Time	Temperature	Wind Speed (mph)	Cloud Cover
Start 1300	88°	0-1	0%
End 1426	89°	0-1	0%
Start			
End			

Host Plants	Obs.	Nectar Plants	Obs.
dwarf plantain (<i>Plantago erecta</i>)	—	popcorn flower (<i>Cryptantha/Plagiobothrys</i> spp.)	1
purple owl's clover (<i>Castilleja exserta</i>)	—	goldfields (<i>Lasithenia</i> spp.)	
snapdragon (<i>Antirrhinum coulterianum</i>)	—	goldenstar (<i>Mulla</i> spp.)	
birds-beak (<i>Cordylanthus rigidus</i>)	—	ridgeline (<i>Amsinckia menziesii</i> var. <i>intermedia</i>)	
woolly plantain (<i>Plantago patagonica</i>)	✓	onion (<i>Allium</i> spp.)	
Chinese houses (<i>Collinsia</i> spp.)	—	buckwheat (<i>Eriogonum fasciculatum</i>)	
		ground pink (<i>Linanthus dianthiflorus</i>)	

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

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