

# Klein-Edwards Professional Services

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May 29, 2006

Ms. Alison Anderson  
U.S. Fish and Wildlife Service  
Carlsbad Fish & Wildlife Office  
6010 Hidden Valley Road  
Carlsbad, CA 92009-4219

Subject: Results, and Conclusions of Quino Checkerspot Butterfly Monitoring on the Otay Lakes South Site Located in San Diego County, California.

FLITE Tours, Inc, DBA: Klein-Edwards Professional Services (KEPS) was retained by the U.S. Fish and Wildlife Service to conduct post-fire monitoring for the federally endangered Quino checkerspot butterfly (*Euphydryas editha quino*) on the Otay Truck Trail site located in the County of San Diego, California. KEPS's surveys were conducted according to the U.S. Fish and Wildlife Service protocols for this species (USFWS 2002). No Quino checkerspot butterflies were observed this year.

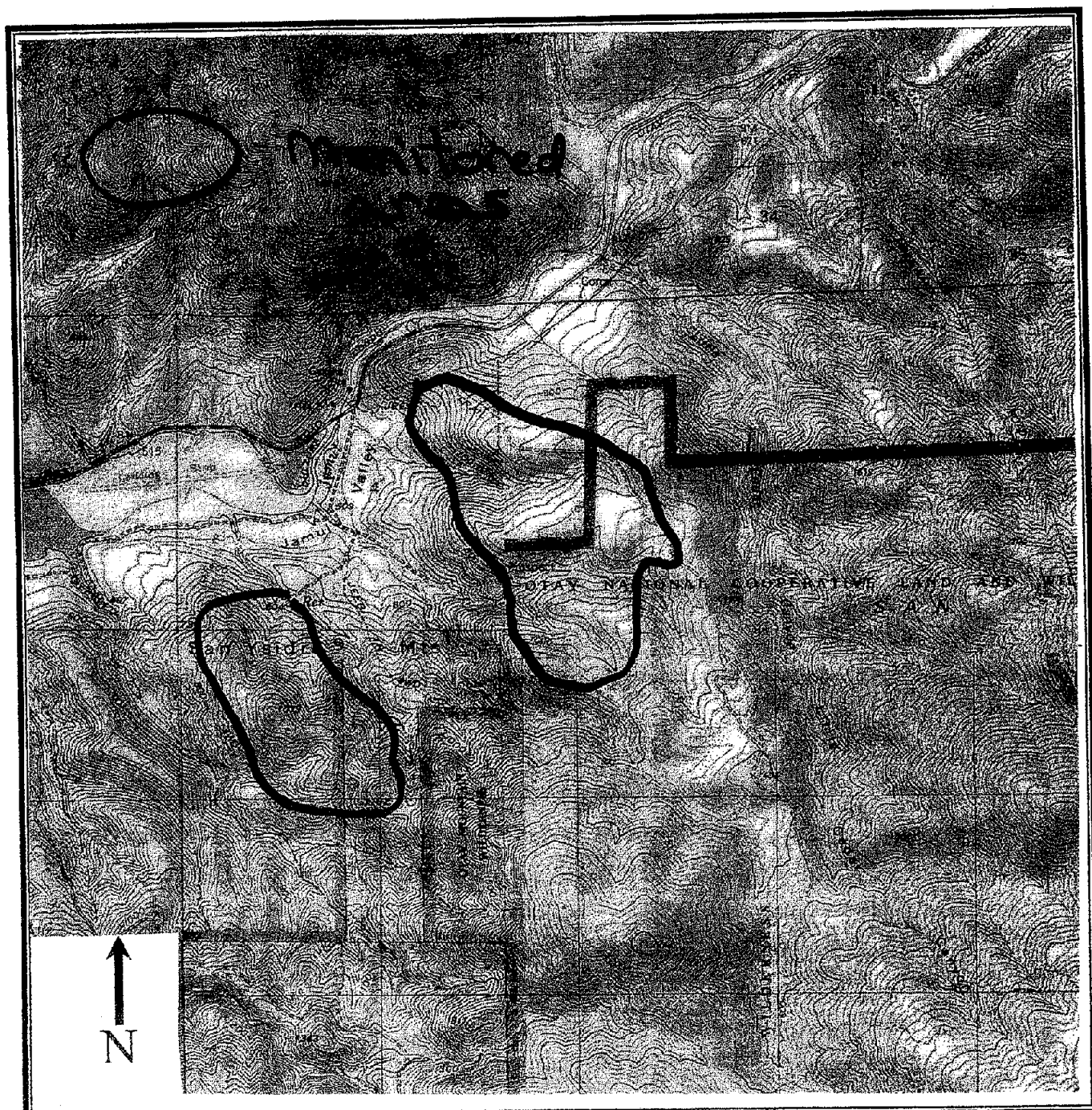
## Site Location and Description

The Otay Lakes South site is located on Otay Mountain in southern San Diego County, California. The scope of the survey areas were suitable areas on the northern slope of Otay Mountain and south of Otay Lakes Road south and east of the glider port (Nichols Landing). Monitored sites included all suitable hills and ridgelines within the U.S. Fish and Wildlife Service managed land, Bureau of Land Management (BLM) lands and California Department of Fish and Game (DFG) lands. The monitored area is within portions of the USGS 7.5' Jamul Mountains and Otay Mountains Quadrangles, Sections 4, 9 and 10 Township 18 South, Range 1 East. The site can also be found on The Thomas Guide for San Diego County 2005, Detail Map Page 1293, and Map Coordinates F-6 to J-7.

The fires of October 2003 removed the vegetation but new growth is sprouting back indicative of dense chaparral, mixed chaparral, annual grassland, and Tecate Cypress Woodland. The entire survey area monitored was removed during the fires and no refugia has been found.

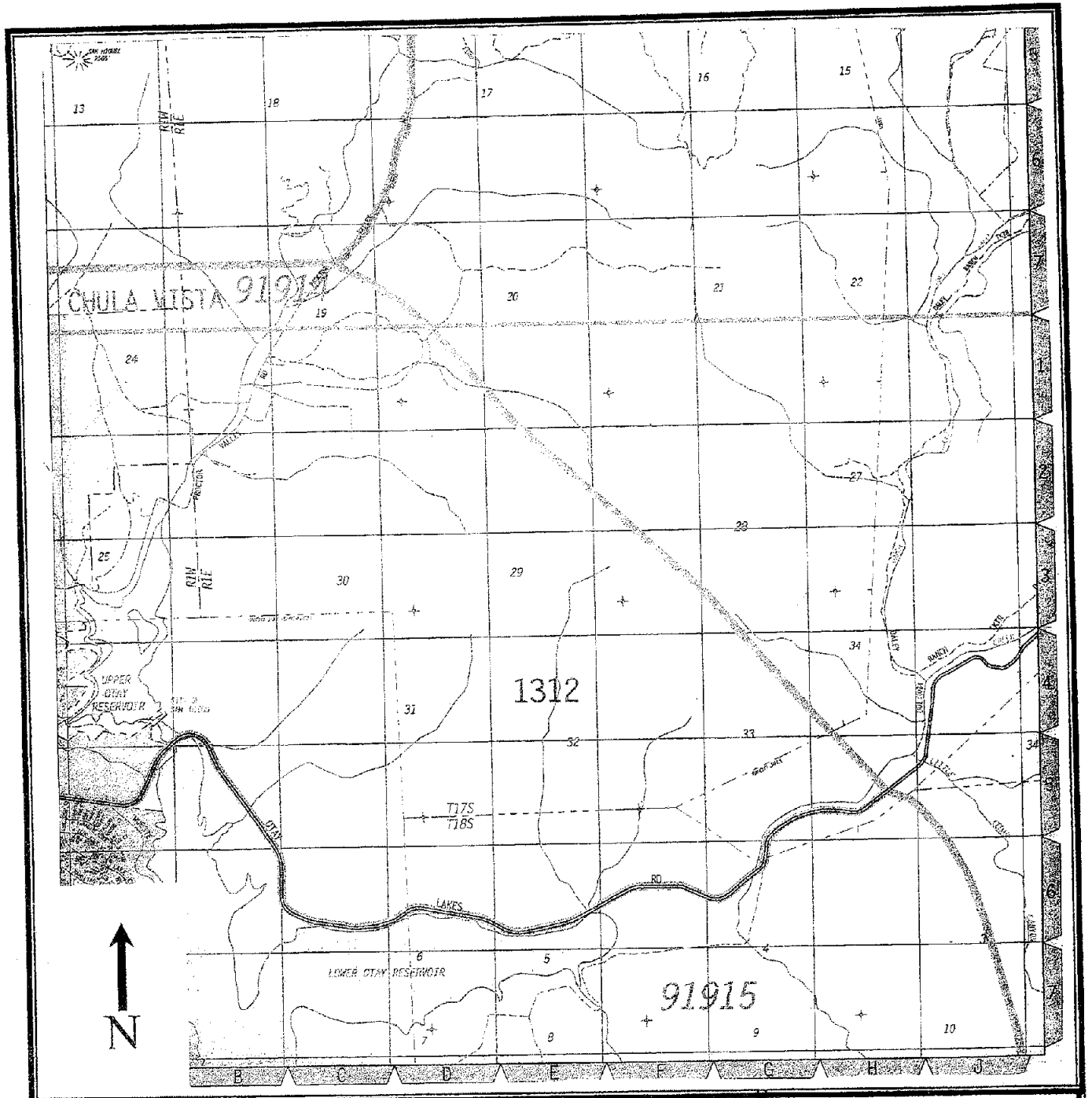
Elevations on site range from approximately 600 feet above mean sea level (MSL) at the north central portion just south of the runway of Nichols Landing to over 1,400 MSL at the southeastern section near the base of the mountains just west of Little Cedar Canyon.

To the north is Otay Lakes Road and Nichols Landing to the west is DFG preserved mitigation lands called Village 15 to the east is a quarry under the management of Vulcan and to the south is Immediately south is the Wilderness designated lands under the management of the BLM. Also part of the eastern access is the lower portion of the Minnewawa Truck Trail.



REGIONAL LOCATION  
ON USGS 1:24000 SCALE  
JAMUL MOUNTAINS QUADRANGLE

FIGURE 1



OTAY LAKES SOUTH  
THOMAS BROS MAP  
PAGE 1293

FIGURE 2

Proximity to Known Quino Checkerspot Butterfly Sightings

2005 reported sightings of adult QCB on 'Klein Hill', a hill south and west of that area and then within a ridgeline west of that.

**Survey Methods**

Biologist Michael W. Klein (TE039305-3) conducted a protocol assessment of the site to evaluate continued suitability of these monitored areas as well as looking for host plant and nectar resources. At the same time Mr. Klein monitored for the presence of adult Quino checkerspot butterflies. Survey approach was to monitor the eastern and southeastern boundary east of a north-south drainage which drains into Dulzura Creek one day then all suitable hills and ridgelines west of the drainage to the edge of the Village 15 parcel on the second visit.

**TABLE 1:**  
**OTAY LAKES SOUTH QUINO CHECKERSPOT BUTTERFLY SURVEY INFORMATION**

Date	Survey Hours	Weather Conditions	Purpose of Visit, Biologist(s)
3/05/06	0930-1130	Sunny; W @ 8-12 mph, mid 60's.	QCB monitoring. No Adults or caterpillars observed
4/07/06	1000-1300	Partly Cloudy, W @ 7-10 mph, 59-65°F.	QCB monitoring. No adults observed.
4/10/06	1100-1500	Sunny to mostly cloudy; W @ 7-10 mph; 62-68°F.	QCB monitoring. No adults observed.
4/23/06	1300-1500	Partly cloudy, NW @ 10-20 mph, 62°F.	QCB monitoring. No adults observed.
4/24/06	1230-1400	Partly Cloudy, NW @ 10-20 mph, 66°F.	QCB monitoring. No adults observed.
4/30/06	1000-1030	Sunny, W @ 4 mph, 64°F. Joined by Dr. Gordon Pratt	QCB monitoring. No adults or pre-diapause larvae observed.
5/08/06	1030-1430	Mostly cloudy to hazy sun, NW @ 5-11 mph, 65-72°F.	QCB monitoring. No adults or pre-diapause larvae observed.
5/14/06	1300-1530	Sunny; SW @ 8 mph; 74°F.	QCB monitoring. No Adults observed

**Results**

No QCB adults, post-diapause or pre-diapause larvae were observed in 2006. Rains for 2006 were low and spotty during the winter and springtime. This caused many locations to show either low numbers or even no presence as was the case in the area monitored for 2006. When Dr. Pratt was accompanying Mr. Klein, his comment was that these small populations are more easily effected by winter rains and not uncommon for them to have periodic blinking-out occurrences. Also 'Klein Hill' showed signs of significant off-road disturbance and possibly impacted the presence this year. Monitoring the recovery of the area as well as monitoring for caterpillars and adults is recommended.

*Presence and Distribution of Larval Host Plants*

Dwarf plantain, the primary larval host plant for the Quino checkerspot butterfly within the region, was found at all but one location monitored during the adult flight season. Also, Nuttall's snapdragon (*Antirrhinum nuttallianum*) was found at 'Klein Hill' on the final visit. Purple owl's clover was also found at all but one location which was at the same location in which no hostplants were found.

*Diversity and Distribution of Adult Nectar Sources*

Due to the low rainfall amounts and the timing of these rains plant development was delayed and the timing of caterpillar development as well as adult emergence appeared to be in a state of disconnect. This probably had an effect on emergence.

*Open Soils*

Open soils and sparsely vegetated ground occur throughout the site due mostly to the October fires. Tuber and stump sprouting of shrub plants are occurring and with record winter rains, the currently open areas will once again contain dense cover. Many areas where the soils were open were in association to rocky areas.

*Availability of Ridgelines and Hilltops*

All of the monitored sites were in association to hilltops and ridgelines. As you walked south along the trail towards the base of the Mountain a few hills which are recovering from the fires contains tall and dense annual grasses. Searching for any open areas within these hills indicated that there were none. It is too early to tell but one of the hills may be marginally considered type converted to annual grassland and too dense to support quino populations. Most of the hills or ridgelines though were still fairly open and contained suitable conditions for them to be occupied.

*Dirt Roads*

On the eastern side of the site, the Truck Trail was the primary dirt road and is regularly driven by Border Patrol. On the western portion of the site is an east-west road at the base of the hills which accesses Village 15. Approximately one-half of the way through the east-west road is an old maintenance road which heads south and upslope. This old trail contains numerous deep eroded areas and appears not have been used in a number of years. The recovering vegetation is beginning to take back the road. Once you access the southern hilltops on either the east or west side of the site you encounter a series of small pack trails where you see visible signs of open ground. These pack trails were utilized to access all hilltops.

A total of fourteen butterfly species were detected over the course of the surveys.

Scientific Name

*Papilio zelicaon*

*Papilio rutulus*

*Papilio eurymedon*

*Anthocharis sara sara*

Common Name

anise swallowtail

western tiger swallowtail

pale swallowtail

Pacific sara orange-tip

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*Anthocharis cethura*

*Callophrys perplexa*

*Callophrys augustus*

*Leptotes marina*

*Glaucopsyche lygdamus australis*

*Apodemia virgulti*

*Speyeria callippe comstocki*

*Chlosyne gabbii*

*Erynnis funeralis*

*Pyrgus albescens*

desert orange-tip

perplexing hairstreak

brown elfin

marine blue

southern blue

Behr's metalmark

Comstock's fritillary

Gabb's checkerspot

funeral duskywing

western checkered skipper

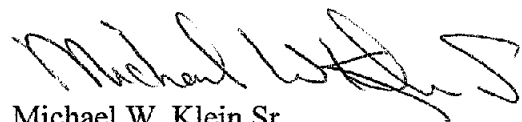
## Conclusions

Low amounts of winter and spring rains, timing of those rains caused a disconnect in larval development and plant development and the timing for these.. Also 'Klein Hill' showed a significant off-road disturbance and probably impacted diapausing caterpillars therefore either causing mortality or creating an environment in which they would not emerge from their winter diapause. Continuing to monitor this area in particular is strongly recommended to see if this area has permanent damage or just a temporary effect in conjunction with the winter rain fluctuations.

If you have any questions or comments regarding this report, please contact me directly at 619.282.8687.

Sincerely,

## KLEIN-EDWARDS PROFESSIONAL SERVICES



Michael W. Klein Sr.

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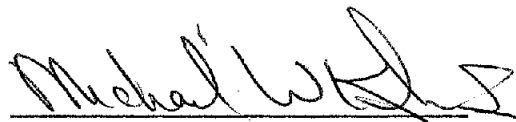
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I certify that the information in this survey report and attached exhibits fully and accurately represents my work

  
Michael W. Klein Sr.

5/27/06  
Date

Permit # TE039305-3



**Quino Checkerspot Butterfly Surveys**

**Performed at the Otay Lakes South**

**San Diego County – 2006**

**APPENDIX 1**

**PHOTO PLATES OF THE TERRAIN,  
VEGETATION, AND SURVEY AREAS ONSITE**

OTAY LAKES SOUTH PHOTO PLATES – 2006



Klein Hill monitored area during the 2006 surveys.



Close up of Klein Hill after some rains from 2006. Notice off-road disturbance.

OTAY LAKES SOUTH PHOTO PLATES – 2006



One of the hills along the east side of survey area..



What that hill looked like at the top.

OTAY LAKES SOUTH PHOTO PLATES – 2006



Hill where quino were seen in 2005 and adjacent to un-named creek.



What the hilltop of the previous hill looked like.

OTAY LAKES SOUTH PHOTO PLATES – 2006



Ridgeline saddle where quino was observed in 2005.



What that ridgeline saddle looked like in 2006.

**Quino Checkerspot Butterfly Surveys**  
**Performed at the Otay Lakes South Site**  
**San Diego County – 2006**

**APPENDIX 2**

**FLORAL COMPENDIUM**  
**PLANT SPECIES IDENTIFIED ONSITE**

## Otay Lakes South Plant Compendium

The Plant List only reflects those plants which were flowering and would provide a possible nectar resource for Quino. It in no way represents the entire flora on the monitored sites.

### Dicots

#### SUNFLOWER FAMILY (ASTERACEAE)

Golden Yarrow (*Eriophyllum confertiflorum*)  
California Everlasting (*Gnaphalium californicum*)  
California Matchweed (*Gutierrezia californica*)  
Sawtooth Goldenbush (*Hazardia squarrosa*)  
Common Goldfields (*Lasthenia californica*)  
Dundelion (*Malacothrix incana*)

#### BORAGE FAMILY (BORAGINACEAE)

Popcornflower (*Plagiobothrys* sp.)

#### MUSTARD FAMILY (BRASSICAEAE)

Peppergrass (*Lepidium* sp.)

#### MORNING-GLORY FAMILY (CONVOLVULACEAE)

Morning-Glory (*Calystegia macrostegia*)

#### GOURD FAMILY (CUCURBITACEAE)

Wild-Cucumber (*Marah macrocarpus*)

#### LEGUME FAMILY (FABACEAE)

Sweet Pea (*Lathyrus vestitus*)  
Coast Deerweed (*Lotus scoparius*)

#### GERANIUM FAMILY (GERANIACEAE)

Long-Beak Filaree (*Erodium botrys*)  
Red-Stem Filaree (*Erodium cicutarium*)

#### WATERLEAF FAMILY (HYDROPHYLACEAE)

Yerba Santa (*Eriodictyon crassifolium*)

#### MALLOW FAMILY (MALVACEAE)

Checker Mallow (*Sidalcea malvaeflora*)

#### POPPY FAMILY (PAPAVERACEAE)

Golden Ear-Drops (*Dicentra chrysantha*)

#### PLANTAIN FAMILY (PLANTAGINACEAE)

Dwarf Plantain (*Plantago erecta*)

#### PHLOX FAMILY (POLEMONIACEAE)

Farinose Ground Pink (*Linanthus dianthiflorus*)

#### PRIMROSE FAMILY (PRIMULACEAE)

Scarlet Pimpernel (*Anagallis arvensis*)

#### BUCKTHORN FAMILY (RHAMNACEAE)

Ramona Lilac (*Ceanothus tomentosus*)

#### FIGWORT FAMILY (SCROPHULARIACEAE)

Coast Paintbrush (*Castilleja affinis*)  
Purple Owl's-Clover (*Castilleja exserta*)  
Scarlet Monkey-Flower (*Mimulus cardinalis*)

#### NIGHTSHADE FAMILY (SOLANACEAE)

Nightshade (*Solanum xanti*)

### Monocots

#### ONION FAMILY (ALLIACEAE)

Early Onion (*Allium praecox*)

#### HYACINTH FAMILY (HYACINTHACEAE)

Soap Plant (*Chlorogalum parviflorum*)

#### IRIS FAMILY (IRIDACEAE)

Blue-Eyed Grass (*Sisyrinchium bellum*)

**BRODIAEA FAMILY**

**(THEMIDACEAE)**

Blue Dicks (*Dichelostemma capitatum*)



**Quino Checkerspot Butterfly Surveys**  
**Performed at the Otay Lakes South Site**  
**San Diego County – 2006**

**APPENDIX 3**

**FAUNA COMPENDIUM**  
**IDENTIFIED ONSITE**

# Otay Lakes South Fauna Compendium

## GRASSHOPPERS, CRICKETS AND KATYDIDS (ORTHOPTERA)

Field Cricket (*Gryllus* sp.)  
Pallid Band-Wing (*Trimerotropis pallidipennis*)  
Gray Bird Locust (*Schistocerca nitens*)

## CICADAS, HOPPERS, APHIDS, SCALES AND OTHERS (HOMOPTERA)

Spittle Bug (*Philaenus* sp.)

## BUTTERFLIES, SKIPPERS, MOTHS (LEPIDOPTERA)

Cankerworm Moth (*Oenochrominae* Subfamily)  
Anise Swallowtail (*Papilio zelicaon*)  
Western Tiger Swallowtail (*Pterourus rutulus*)  
Pale Swallowtail (*Pterourus eurymedon*)  
Desert Orangetip (*Anthocharis cethura*)  
Sara Orangetip (*Anthocharis sara*)  
Perplexing Hairstreak (*Callophrys perplexa*)  
Brown Elfin (*Callophrys augustinus iroides*)  
Marine Blue (*Leptotes marina*)  
Southern Blue (*Glaucopsyche lygdamus australis*)  
Behr's Metalmark (*Apodemia virgulti*)  
Comstock's Fritillary (*Speyeria callippe comstocki*)  
Gabb's Checkerspot (*Chlosyne gabbii*)  
Funereal Duskywing (*Erynnis funeralis*)  
White Checkered-Skipper (*Pyrgus albescens*)

## GNATS, MIDGES AND FLIES (DIPTERA)

Bee Fly (*Bombus* sp.)  
Fenestratus Bee Fly (*Conophorus fenestratus*)  
Geron Bee Fly (*Geron* sp.)  
Exoprosopa Bee Fly (*Exoprosopa* sp.)  
Hover Fly (*Syrphus* sp.)

Muscid Fly (*Muscidae* Family)  
Canyon Fly (*Fannia benjamini*)  
Flesh Fly (*Sarcophaga* sp.)

## BETTERLES (COLEOPTERA)

Ground Beetle (*Carabid* sp.)  
Bear Beetle (*Paracotalpa ursina*)  
Soft-winged Flower Beetle (*Dasytinid* sp.)  
Convergent Ladybird Beetle (*Hippodamia convergens*)  
Long-horned Borer (*Xylotrechus* sp.)

## ANTS, WASPS, BEES (HYMENOPTERA)

Tarantula Wasp (*Pepsis* sp.)  
Blue Mud Wasp (*Chalybion californicum*)  
Threadwaisted Wasp (*Ammophila* sp.)  
Plasterer Bee (*Colletes* sp.)  
Sweat Bee (*Nomia* sp.)  
Leaf-cutting Bee (*Megachile* sp.)  
Honey Bee (*Apis mellifera*)

## Reptiles and Amphibians

### PHRYNOSOMATID LIZARDS (PHRYNOSOMATIDAE)

Western Fence Lizard (*Sceloporus occidentalis*)  
Side-Blotched Lizard (*Uta stansburiana*)

### RATTLESNAKES (VIPERIDAE)

Pacific Rattlesnake (*Crotalus viridis*)

## Birds

### DOVES AND PIGEONS (COLUMBIDAE)

Mourning Dove (*Zenaida macroura*)

### SWIFTS (APODIDAE)

White-throated Swift (*Aeronautes saxatalis*)

**HUMMINGBIRDS (TROCHILIDAE)**

Anna's Hummingbird (*Calypte anna*)  
Costa's Hummingbird (*Calypte costae*)

**TYRANT FLYCATCHERS  
(TYRANNIDAE)**

Black Phoebe (*Sayornis nigricans*)  
Cassin's Kingbird (*Tyrannus vociferans*)

**SWALLOWS AND MARTINS  
(HIRUNDINIDAE)**

Northern Rough-winged Swallow  
(*Stelgidopteryx serripennis*)  
Cliff Swallow (*Petrochelidon pyrrhonota*)

**WRENS (TROGLODYTIDAE)**

Rock Wren (*Salpinctes obsoletus*)  
Bewick's Wren (*Thryomanes bewickii*)

**MOCKINGBIRDS AND THRASHERS  
(MIMIDAE)**

Northern Mockingbird (*Mimus polyglottos*)

**OLD WORLD WARBLERS  
(SYLVIIDAE)**

Wrentit (*Chamaea fasciata*)

**GNATCATCHERS (POLIOPTILIDAE)**

Blue-gray Gnatcatcher (*Polioptila caerulea*)

**LONG-TAILED TITS  
(AEGITHALIDAE)**

Bushtit (*Psaltirparus minimus*)

**Crows and Jays (Corvidae)**

Western Scrub-Jay (*Aphelocoma californica*)  
Common Raven (*Corvus corax*)

**SISKINS, CROSSBILLS AND ALLIES  
(FRINGILLIDAE)**

House Finch (*Carpodacus mexicanus*)  
Lesser Goldfinch (*Carduelis psaltria*)  
Lawrence's Goldfinch (*Carduelis lawrencei*)

**BUNTINGS AND NEW WORLD  
SPARROWS (EMBERIZIDAE)**

Spotted Towhee (*Pipilo maculatus*)  
California Towhee (*Pipilo crissalis*)  
Black-chinned Sparrow (*Spizella atrogularis*)  
Lark Sparrow (*Chondestes grammacus*)  
Grasshopper Sparrow (*Ammodramus savannarum*)

**GROSBEAKS, SEED-FINCHES AND  
ALLIES (CARDINALIDAE)**

Lazuli Bunting (*Passerina amoena*)

**TROUPIALS, AMERICAN  
BLACKBIRDS AND ALLIES  
(ICTERIDAE)**

Red-winged Blackbird (*Agelaius phoeniceus*)  
Western Meadowlark (*Sturnella neglecta*)

**Mammals****SQUIRRELS & MARMOTS  
(SCURIDAE)**

Californian Ground Squirrel (*Spermophilus beecheyi*)

**POCKET GOPHERS (GEOMYIDAE)**

Valley Pocket Gopher (*Thomomys bottae*)

**DOGS (CANIDAE)**

Coyote (*Canis latrans*)

**Quino Checkerspot Butterfly Surveys**  
**Performed at the Otay Lakes South Site**  
**San Diego County – 2006**

**APPENDIX 4**

**COPIES OF SURVEY FIELD NOTES**

Sunday, March 5, 2006

## Otay Lakes (Klein Hill), Otay Mountain Truck Trail QCB Monitoring

Start: 0930, Sunny, west @ 8-12mph, mid-60's

Stop: 1430, Sunny, west @ 10mph, mid-60's

Monitoring areas for the FWS at designated QCB sites to see the conditions of the SE sites and report to the Service how host plant, larval and adult status is doing.

First visit was along Otay Lakes Road near Nichols Landing airstrip to 'Klein Hill'. Recent rains have stimulated new plantain growth and helped the drought stressed plantain from the week's previous visit. No standard nectar resources were sprouting. Some evidence of soap plant was beginning to show. Needs more rain and time.

Also, the area shows recent intrusion onto the QCB habitat patch. Photos taken show tire depressions which appear to be very recent. The access and exits points that were closed off with rocks are still there but tire tracks indicate they are driving further into the chamise scrub and circumventing the blocked area. Also the recent tire depressions are further down the road by about 20 feet from the lower entrance/exit point that was rocked off. Further up the road past the rocked area shows evidence of 3-point turns with clear and recent tire tracks.

No QCB caterpillars or adults and no butterflies observed. Heard some field crickets and saw a few Sarcophagid flies.

### Otay Mountain Truck Trail:

Stop 1 – The area west and outside of the BLM Wilderness Area shows still very dry conditions with little new growth of anything. This is the area where QCB adults were present in 2005.

Stop 2 – Further up the Truck Trail is another spot just outside of the BLM Wilderness area where no quino were found last year but suitable conditions were present. Recent rains show signs of new growth plantain about 1-2mm tall. No nectar resources are sprouting yet. Still too early for anything.

Stop 3 – This is along the truck trail and monitoring the Thorne's Hairstreak population. Shook all the cypress tress at this area to see if any butterflies were perched higher up with no results. Dry conditions probably have them still in their pupa.

Stop 4 – Wild Bill Canyon and mesa top. This area had adult QCB from 2005. The dry conditions in the Canyon make it easy to see the switch-back path that leads to the mesa top. There is evidence of recent cattle grazing by migrant cowboys. Very fresh (still shiny) cow and horse manure were present throughout the path to the mesa top. Also the barbed wire over the creek has been cut. At the top of the mesa there is also evidence of very fresh cow and horse manure. The spot where the plantain and clover were the densest has piles of horse manure. Also there are two locations on the barbed wire fencing where it has been cut as well as two of the posts holding the wires have been pulled from the ground and are lying there. The migrant cowboys are using the mesa top as a grazing area and affecting the Quino occupied areas. Because of this it is unclear as to the conditions but assume most of the area is still very dry for any Quino. I will contact BLM about this problem. Hopefully they can fix it fairly quickly or any potential Quino will be removed from here. Photos were taken of the fencing poles pulled out as well as the cut wiring and manure piles.

Overall, conditions still very dry and too early for much of the host plants and nectar resources to begin sprouting. The area needs more rain as well as time for plants to sprout. Also the grazing issue needs to be resolved quickly.

No butterflies observed at any location of any species.

April 7, 2006

Otay Lakes South QCB Monitoring

Start: 1000, partly cloudy, west @7mph, 59°F

Stop: 1300, partly cloudy, west@ 10mph, 65°F

An initial visit to Otay Lakes to get a better feel on whether conditions appear suitable for the potential presence of adult QCB. 'Klein Hill' has the best parameters for deciding as to whether I begin the focused monitoring or delay. Rains have been below average this winter and spring but the past month has provided some precipitation to stimulate annual plants.

The hill is looking better since my previous visit a month ago. Plantain looks fairly healthy with mean height of about 15mm. Many have flower heads. There is still very little nectar resources for any butterfly activity. Conditions overall not the best for activity today but I will see if there are any post-diapause larvae or pupa.

I have searched with my binoculars and have been unable to find any larvae or pupa. I am somewhat concerned that not observing post-diapause larvae so far this year that this area may not produce adults. I did see a few carabid beetles but that is all I saw today.

Flowering plants: ceanothus, plantain, peppergrass, deerweed, nightshade

April 10, 2006

### Otay Lakes South QCB Monitoring

Start: 1100, mostly sunny, west @7mph, 62°F

Stop: 1500, mostly cloudy, west @ 10mph, 68°F

Beginning the Otay Lakes QCB Monitoring. I am working the east side today. This area includes 'Klein Hill' and works south with Little Cedar Canyon as a boundary. It then goes west near the base of the mountain to a series NW hills dropping down into a drainage which flows into Dulzura Creek meeting at the SE corner of the landing strip.

Hill #1 is 'Klein Hill'. No quino observed today but the habitat patch looks very good. Plantain and nectar plants are healthy. A couple Sara orange-tips, southern blues and bear beetles are present. field crickets, pallid band-wing grasshopper

Hill #2 is within BLM and is adjacent to Little Cedar Canyon. Conditions good for hilltopping. No host plants but good nectar plants. Along the way I had afresh male desert orange-tip.

Hill #3 is further south and is more of a mesa heading west to the series of NW hills. The road is the only good surveyable area. Plenty of nectar plants. Some southern blues and Sara orange-tips.

Hill #4 is the taller of all these hills good hilltopping with anise swallowtail, perplexing hairstreak and Sara orange-tips.

Hill #5 is really a saddle north of the previous hill. Very open with good nectar plants. Funereal duskywing, Sara orange-tip, bear beetle and gray bird locust all present here and a plasterer bee

Hill #6 is the next hill north. Good hilltopping place. Observed hilltopping were perplexing hairstreak, anise swallowtail, flesh fly, muscid fly, bear beetle. mud wasp,

Flowering plants: ceanothus, morning glory, indian paintbrush, plantain, peppergress, checker mallow, deerweed, popcorn flower, nightshade, alium, tear drop, wild cucumber, blue-eyed grass



April 23. 2006

Otay Lakes South QCB Monitoring

Start: 1300, 50% clouds, NW @10mph, 62°F

Stop: 1500, 30% clouds, NW @16-20mph, 62°F

I am visiting the Otay Lakes area to see if Quino are flying and assess the conditions. Cloudy conditions from yesterday with some scattered showers overnight has delayed my time in getting onsite. I will not be able to monitor the west section today as planned but I will at least look at the Quino patch within the FWS Refuge lands. The Border Patrol has leveled the access road and smoothed the deep eroded areas. They have also place larger rocks to block vehicle access to the habitat patch allowing it to recover from earlier disturbance. There are more flowering plants and therefore making the conditions more inviting for insect activity.

1420 – Clouds are beginning the thin out. There are still periods of cloud cover on this ridgeline and the NW breezes are keeping the temps cool. I did have a *P. rutulus* fly up here quickly and then it went back down the hillside. There are a few honey bees but they are not flying much either. Some plantago is beginning to show signs of stress while others still look very good. Plants in flower include goldfields, ceanothus, gutierrez, nightshade, deerweed, blue dicks and popcorn flower. The plantago does show sporadic signs of feeding damage but I am still unable to find any adults or pre-diapause caterpillars. Of the damage could be caused by a number of things. The ground and rocks feel warm compared to the air temp and therefore I would expect to flush something up.

1500 – Winds are just too high and keeping things cool. Even though the ground and rocks are warm, even the honey bees are hanging onto the deerweed. I am going to stop the monitoring today and try to find another day when conditions are less windy and a couple of degrees warmer. I am very confident that if the winds were not this strong that I would be seeing butterflies.

April 24, 2006

Otay Lakes South QCB Monitoring

Start: 1230, 30% clouds, NW @10mph, 66°F

Stop: 1400, 10% clouds, NW @16-20mph, 66°F

I am visiting the Otay Lakes area to see if Quino are flying and assess the conditions. Better conditions than yesterday but the winds are still a bit up there. The Border Patrol is continuing working on the access road.

I have looked at all the plantain patches and have not found any eggs or larval clusters. I have also walked north and south within the habitat patch seeing if I can flush up any adult Quino with no success. I continue to be concerned that they may not be flying on this 'Hill' this year. I plan to visit it again on Sunday the 30<sup>th</sup> with Dr. Gordon Pratt.

April 30, 2006

### Otay Lakes South QCB Monitoring

Start: 1000, marine layer breaking up, W@4mph, 64°F

Stop: 1600, sunny, w@9mph, 72°F

Meeting Dr. Gordon Pratt today to help him find some female QCB for a project he is working on. Conditions better than the previous week so hopefully adults will be present. We met at the Otay Lakes South area and went to the hill known as 'Klein Hill'. Conditions still look fine but most plantain is beginning to show signs of stress. Not much in nectar plants. The primary flowering shrub is Ramona Lilac (*Ceanothus tomentosus*). We observed one blue which was probably a southern blue and a male desert orange-tip (*Anthocharis cethura*). Since no Quino were found there after walking the area for over 15 minutes we felt it would be best to go to another spot.

1100 – We went over the Dulzura Fuel Break area off of Marron Valley Road. Unfortunately no female QCB were found. We did see at least 10 male QCB at three different locations and many of them appeared fairly fresh looking. Almost no wind at the ridgelines and pleasant conditions. We also saw a female acmon blue and a few desert orange-tips. We stayed at the ridgeline and this site for over 2.5 hours. Also of note we could not find and egg masses or larval clusters. Gordon asked me that when I re-visit later this week to let him know if I see and larval clusters. He felt the site had lots of potential and could very well be a good spot to see adults fly regularly during their annual flight season.

1345 – We decided to head over to the western end of the Otay Mountain Truck Trail to see what 3 previously occupied Quino spots had this week. Habitat patches looked very healthy with good amounts of plantago and owl's clover as well as seeing some new growth bird's beak. Excellent nectar resources but unfortunately no adult Quino or eggs or larval clusters. Gordon did document a fresh male Bernardino blue. He also expressed frustration and concern that nothing was present but also believed that since the winter rains came so late that post-diapause caterpillars probably went back into diapause or very few matured to adult-hood and we may have already missed their flight season. I told him I would continue to monitor these areas over the next few weeks to be sure the season was over. Gordon felt that that was a safe move.

We finished that day with no female QCB and a very small presence and any adult butterflies. Ended day at 1600 out by Dulzura.

May 8, 2006

Otay Lakes South QCB Monitoring

Start: 1030, mostly cloudy, NW@5mph, 65°F

Stop: 1430, hazy sun, W-NW@9-11mph, 72°F

I am visiting the west hills of my survey area today. Marine layer clouds are beginning to break up and I expect it to be sunny within the hour. Not a good year for Quino but I want at least see what this area looks like. I will access the hill from trail adjacent to the un-named drainage and will work my way up and south onto the hills then westward follow the ridgeline back down to a primary E-W road.

1130 - I am on the top of the hill adjacent to the un-named drainage. Clouds are just burning off with currently a hazy sun. Limited hilltopping activity by flies and bees. There is no host plant up here and very limited nectar resources. I had one brown elfin remaining perched on some recovering laurel sumac.

On my way over to the next western hills and ridgeline which would take me north and downslope I had a male Gabb's checkerspot patrolling a small drainage. My next hill over has similar conditions as the last hill, no host plant and limited nectar resources.

1230 - I am in the area where I had a Quino in 2005. The area is very dry with a decent amount of owl's clover. I am unable to find any plantago this time. One Behr's metalmark in the area.

I got to the next northern hill along the ridgeline and finally encountered butterfly hilltopping activity. Pale and anise swallowtails as well as desert orange-tips and a few Comstock's fritillaries.

1330 - Finished the west hills of my respective area with no Quino observed. It is very likely the season is either over or within the next week. All hills and ridgelines showed many annuals already drying or dried. Of note was filaree. Wherever I walked there was a distinct crunching sound of the dried vegetation.

Invertebrates: flesh fly, muscid fly, pallid band-wing grasshopper, pepsis wasp, spittle bug, megachild bee, hover fly, *C. augustina* (1), *C. gabbii* (1), geometrid moth, convergent ladybird, flower beetle, honey bee, *A. virgulti* (1), sweat bee, long-horned beetle, *S. callipe* (3), *A. cethura* (3), *P. eurymedon* (1), *P. zelicaon* (1), bear beetle, bee fly, sphecoid wasp, *P. albescens* (1)

Mammals: gopher, coyote, squirrel,

Birds: LZBU, CATO, LEGO, MODO, SCJA, WREN, COHU, LASP, WTSW, CORA, SPTO, CLSW, CAKI, GRSP, HOFL, ROWR, WEME, NRSW, RWBL, BCSP, NOMO, BLPH

Plants: scarlet pimpernel, checker mallow, dandelion, monkey flower, yerba santa, Calif  
everlasting, sweet-pea, golden yarrow, saw-tooth goldenbush, owl's clover, ground pink,

Herps: western diamondback, WF Liz, SB Liz

May 14, 2006

# Otay Mountain Truck Trail and Otay Lakes QCB Monitoring

Start: 0930, hazy, sunny, SW@4mph, 70°F  
Stop: 1530, sunny, SW@8mph, 74°F

Since I saw a worn Quino in Dulzura the day before I decided to visit the Truck Trail and Otay Lakes one more time to see if there may be any late dispersing butterflies. I checked out the three locations on the west side of the Truck Trail within the old Environmental trust lands just west of the BLM Wilderness area. There is very little to not butterfly activity. A Gabb's checkerspot is still on the hill where I had Quino on the 17<sup>th</sup>. It is a male and hilltopping. A pepsis wasp showed up as well as a few flesh flies. Plantago continues to dry and looks very much as though the conditions are not suitable for pre-diapause larvae.

At the more western hill the plantago does appear more healthy but beginning to show signs of stress. Annuals look pretty good yet but only a few bee flies are visiting it. Insect activity is very low and I believe it has to do with the low winter and spring rains and therefore will keep insect numbers very low.

The hill above Wild Bill Canyon looks fairly dry now. I would guess that less than 10% of the plantago is still even in decent shape the rest are dried. Limited nectar resources also and I saw a metalmark up here. There was a pale swallowtail hilltopping at the small hill nearby.

I took the Mininwawa Truck Trail down to Pio Pico and went over the Otay Lakes and just checked out 'Klein Hill'. Conditions are pretty dry here also with any remnant plantago under the chamise. I am seeing snapdragon now beginning to sprout and last year it was nuttallianum so I believe it is the same plant. There are about 5 plants coming up and they are all about 2.5 inches tall. There are no butterflies flying here. This area really was non-active for 2006 and I hope that off road damage from whomever has not permanently damaged the spot for 2007.

No Quino observed.

Invertebrates: drone fly, flesh fly, hover fly, muscid fly, flower beetle, pallid band-wing grasshopper, *P. eurymedon* (1), *A. virgulti* (1), bee fly, *C. gabbii* (1), pepsis

Birds: CORA, LEGO, CLSW, CATO, BGGN, BUTI, WREN, BEWR, LZBU, COHU, SPTO, BCSP, CAGN