Klein-Edwards Professional Services

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 Truck Trail 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 Mountain 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). A total of one (1) Quino checkerspot butterfly was detected along the trail. The sighting was as follows: 1 adult male just outside of BLM jurisdictional lands within lands owned and managed formerly by the Environmental Trust. This report provides the results and conclusions of KEPS's 2006 surveys for the adult Quino checkerspot butterfly.

Site Location and Description

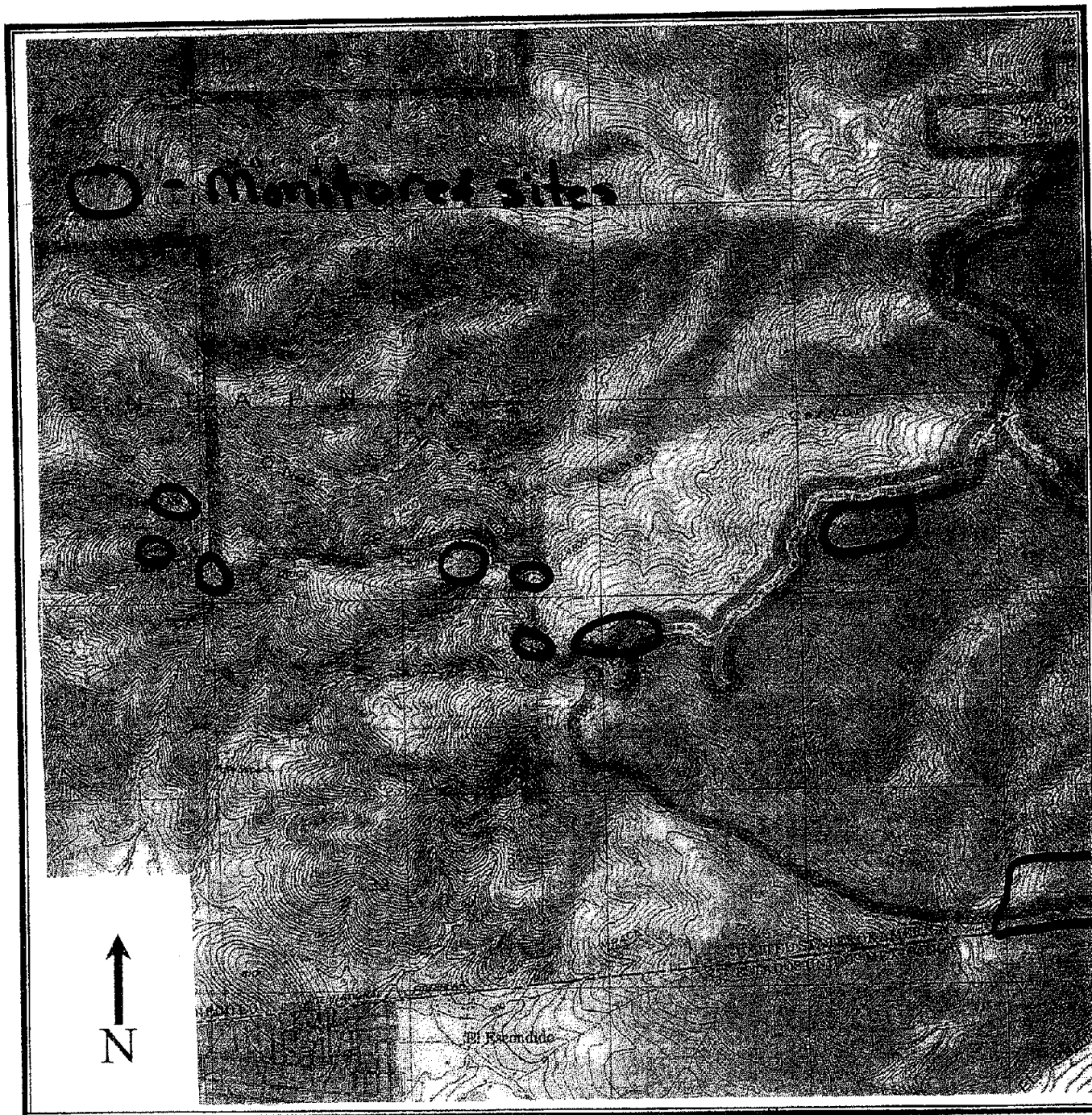
The Otay Truck Trail site is located on Otay Mountain in southern San Diego County, California. The scope of the survey areas were suitable areas on the western side of the Mountain west of Doghouse Junction. Monitored sites included nine locations along the Otay Mountain Truck Trail and the Pack Trail just east of Wild Bill Canyon all within the Designated Wilderness area of the Bureau of Land Management (BLM) and three locations along the Otay Mountain Truck Trail west of the BLM Wilderness area within the area owned and managed formerly by the Environmental Trust. The site is within portions of the USGS 7.5' Otay Mesa and Otay Mountain Quadrangles, Sections 28 and 29, Township 18 South, Range 2 East. The site can also be found on The Thomas Guide for San Diego County, Detail Map Page 1352, and Map Coordinates H-1 to J-2.

The fires of October 2003 removed the vegetation but new growth is sprouting back indicative of dense chaparral, and Tecate Cypress Woodland. There are interspersed refugia within Section 28 of Tecate Cypress Woodland and chaparral still intact.

Elevations on site range from approximately 1,330 feet above meal sea level (MSL) at the western end of the Truck Trail to over 2,700 MSL at the eastern most monitored site. Within Wild Bill Canyon elevations range from approximately 960 feet MSL at the Canyon floor to over 1,500 feet MSL along the eastern edge of the mesa along the Pack Trail.

Immediately south is the International Border with Wild Bill Canyon and its mesa immediately

PO Box 4326, San Diego, California 92164-4326 • Telephone: 619.282.8687 • Facsimile: 619.282.8678



REGIONAL LOCATION
ON USGS 1:24000 SCALE
OTAY MOUNTAIN QUADRANGLE

FIGURE 1

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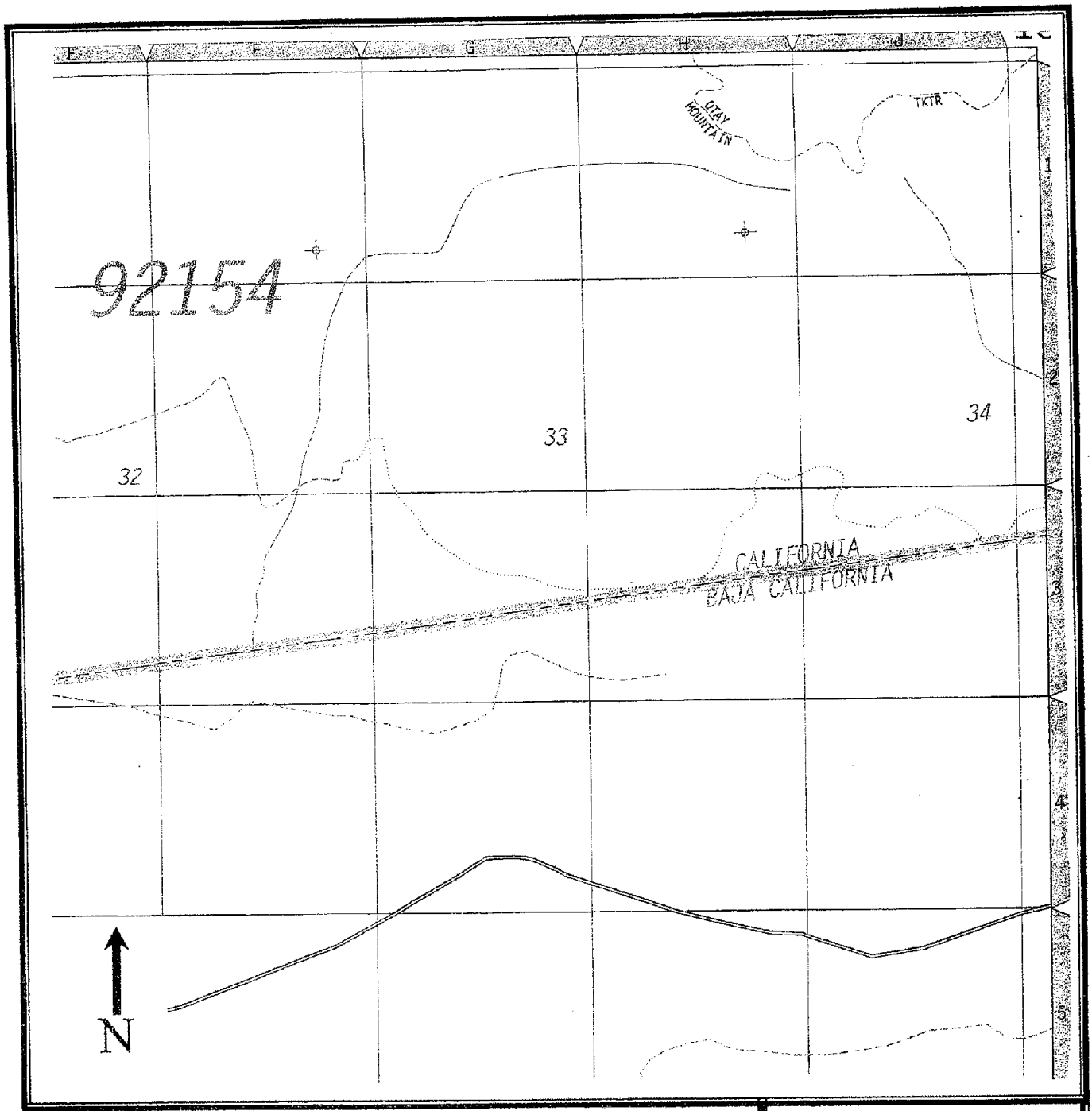


OTAY TRUCK TRAIL
THOMAS BROS MAP
PAGE 1352

FIGURE 2

Klein-Edwards Professional Services PO Box 4326 San Diego, CA 92164-4326

adjacent to the International fence. There are several steep canyons and drainages throughout which makes access without a vehicle difficult. The Truck Trail and access road into Wild Bill Canyon are regularly maintained by the Border Patrol and therefore these primary roads are in fair to good condition.

Proximity to Known Quino Checkerspot Butterfly Sightings

There are recent historical records of QCB along the Truck Trail, and Wild Bill Canyon. All of the monitored areas except one have recorded Quino. Therefore it the potential for observing QCB within any of these monitored areas in 2006 is high.

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.

As part of gaining the required field hours, Nicole Bailey accompanied me on one visit. She was in a 'Supervised' capacity and within the required distance to me during the visit.

TABLE 1:
OTAY TRUCK TRAIL QUINO CHECKERSPOT BUTTERFLY SURVEY INFORMATION

Date	Survey Hours	Weather Conditions	Purpose of Visit, Biologist(s)
3/05/06	0930-1430	Sunny; W @ 8-12 mph, mid-60's. Joined by Claude Edwards	QCB Site Assessment
4/09/06	0945-1445	Partly Cloudy to sunny, S-W @ 4-9 mph, 53-63°F.	QCB Monitoring. No adults observed.
4/17/06	1030-1500	80%-10% clouds; NW @ 9-23 mph; 54-64°F. Joined by Joyce Schlachter, BLM and Nicole Bailey	QCB Monitoring. 1 male QCB observed within former Environmental Trust lands.
4/22/06	1130-1530	Mostly Cloudy, W @ 6-9 mph, 55-53°F. Joined by Dr. Gordon Pratt	QCB Monitoring with an emphasis to look for females and larval clusters. No QCB observed.
4/30/06	1345-1600	Sunny, W @ 9 mph, 72°F. Joined by DR. Gordon Pratt.	QCB Monitoring with and emphasis to look for females and larval clusters. No QCB observed.
5/1/06	1030-1430	Sunny, SE-NW @ 6-11 mph, 70-69°F.	QCB Monitoring. No adults or larval clusters observed.
5/11/06	0900-1330	Sunny; NE-NW @ 4-10 mph, 68-74°F.	QCB Monitoring. No adults or larval clusters observed.
5/14/06	0930-1530	Sunny; SW @ 4-8 mph; 70-74°F.	QCB Monitoring. No adults or larval clusters observed.

Results

A total of one (1) adult Quino Checkerspot butterflies was observed at 1 location and is herein described below:

Location #1 – Is located along the Otay Mountain Truck Trail approximately 1km west of the entrance to the BLM Wilderness area sign. One male quino was observed hilltopping on April 17th. GPS location is 11S 509942 3604499 (NAD 83). The hill is a small rocky hill with both primary and secondary hostplants at the north side base of the hill. The hostplants were dwarf plantain (*Plantago erecta*) and purple owl's clover (*Castilleja exserta*). Joyce Schlachter and Nicole Bailey were present on that day. Neither saw the butterfly well but when it came back for a third pass and landed quickly Nicole saw what she claimed "was suspicious looking." Mr. Klein got to see it land for about 2-3 seconds and saw all of the characteristics. It then took off and cool westerly winds as well as thick clouds moved over the Mountain and after 20+ minutes the butterfly did not return.

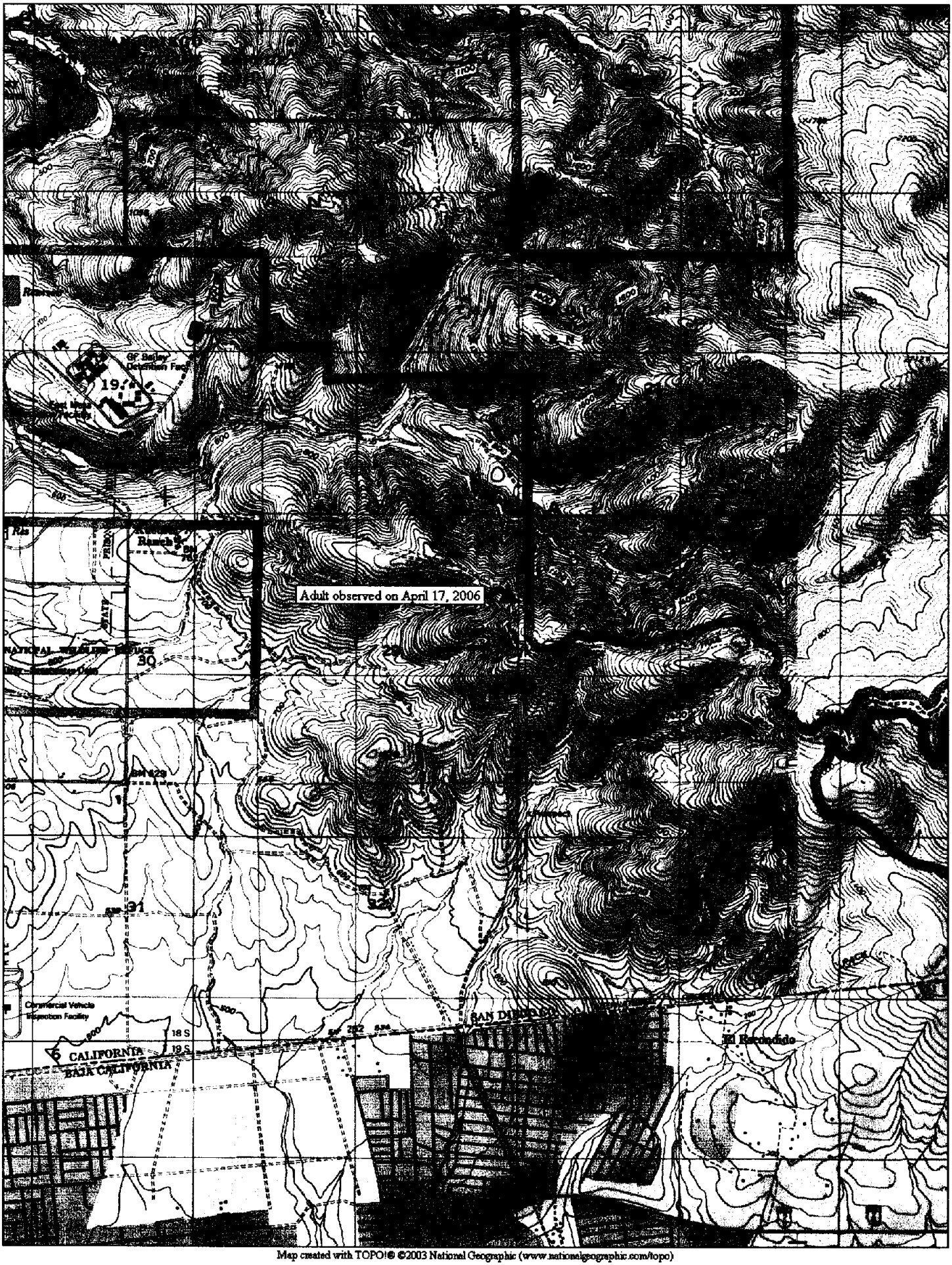
Presence and Distribution of Larval Host Plants
Dwarf plantain, the primary larval host plant for the Quino checkerspot butterfly within the region, was found at all but one location monitored during the adult flight season. Purple owl's clover was found at one location which was at the same location as the QCB sighting.

Diversity and Distribution of Adult Nectar Sources
Late winter and spring rains as well as low amounts of rain delayed plant development in 2006. Very little nectar resources were available at the time of the adult sighting. Popcornflower and forget-me-not were eventually abundant at every monitored location. Goldfields (*Lasthenia californica*), bluedicks (*Dichelostemma capitatum*) and early onion (*Allium praecox*) were also found at Wild Bill Canyon.

Open Soils
Open soils and sparsely vegetated ground occur throughout the site mostly due to the low winter rainfall amounts. 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. Four of the locations burned in the October 2003 fires and are in a recovering succession. The remaining locations monitored were impacted from a fire in 1996 and show suitable recovery with limited exotic weedy conversion. At each location, time was spent standing in one location to watch for hilltopping activity. All monitored locations were visited by butterflies and other insects associated with hilltopping behavior.

Dirt Roads
All monitored locations had vehicular dirt roads except the two locations where quino were found. The Wild Bill Canyon Location did have access via a pack trail and the other location was adjacent to Otay Mountain Truck Trail. The roads are used regularly by Border Patrol vehicles and the trucks will park on these hilltops sometimes for hours.



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

Scientific Name	Common Name
Papilio zelicaon	anise swallowtail
Papilio eurymedon	pale swallowtail
Pieris rapae	cabbage white
Anthocharis sara	Pacific sara orange-tip
Anthocharis cethura	desert orange-tip
Callophrys perplexa	perplexing hairstreak
Glaucopsyche lygdamus australis	southern blue
Celastrina echo	echo blue
Euphilotes bernardino	bernardino blue
Apodemia virgulti	Behr's metalmark
Chlosyne gabbii	Gabb's checkerspot
Euphydryas editha quino	**quino checkerspot**
Limenitis lorquini	Lorquin's admiral

Conclusions

All of the monitored locations should continue to be suitable for the presence of quino. Even though the October 2003 fires impacted some of the sites, the presence of dirt roads will still provide conditions suitable for hilltopping butterflies as well as dispersing one. 2006 has been a difficult year to call due to the late development of host plants and nectar resources. The winter and spring rains were below average and the timing of the rains may have caused a very early and quick adult emergence which was missed by many monitors. Another possibility is that post-diapause larvae may have come out to feed and found little to no host plants in which to feed upon and returned into diapause. Some of them may have made a second emergence when the rains and cooler temperatures of March and April stimulated host plant development. Therefore we saw a late adult emergence in early April and then host plants began to dry quickly and therefore shortened the season. These locations along the Truck Trail appear to sustain small numbers of butterflies and therefore the possibility of them 'blinking out' when conditions are not the most optimum is not unexpected. Wild Bill Canyon probably contains the best and most isolated area where occurrence of annual emergence is possible. The only concern with this area is the lack of monitoring and enforcement by BLM law enforcement to control illegal grazing. No evidence of grazing was observed during the 2005 surveys yet 2006 showed clear and recent grazing both on the Mexican and U.S. sides with actually observed cattle and horses on two different occasions. If enforcement is not done to restrict the grazing to the Mexican side there is a potential for the Wild Bill Canyon population to become extirpated.

The Environmental Trust locations have good habitat patches but since they are along the Truck trail dust has a tendency to cover these patches. With out regular rains to keep the dust off of them these will probably be subject to 'blinking out' events. It is possible these populations will maintain low numbers.

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

Michael W. Klein Sr.

May 23, 2006
Date

Permit # TE039305-3

Quino Checkerspot Butterfly Surveys

Performed at the Otay Mountain Truck Trail

San Diego County – 2006

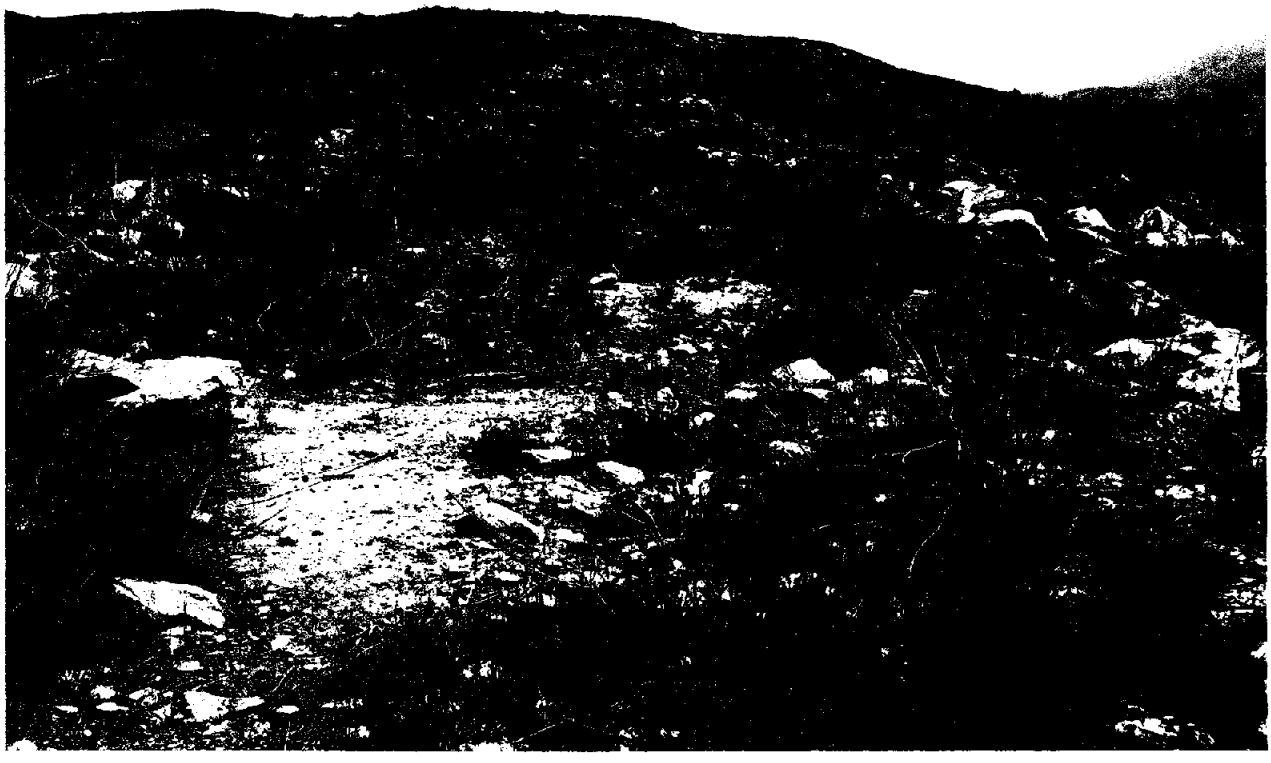
APPENDIX 1

PHOTO PLATES OF THE TERRAIN,

VEGETATION, AND SURVEY AREAS ONSITE

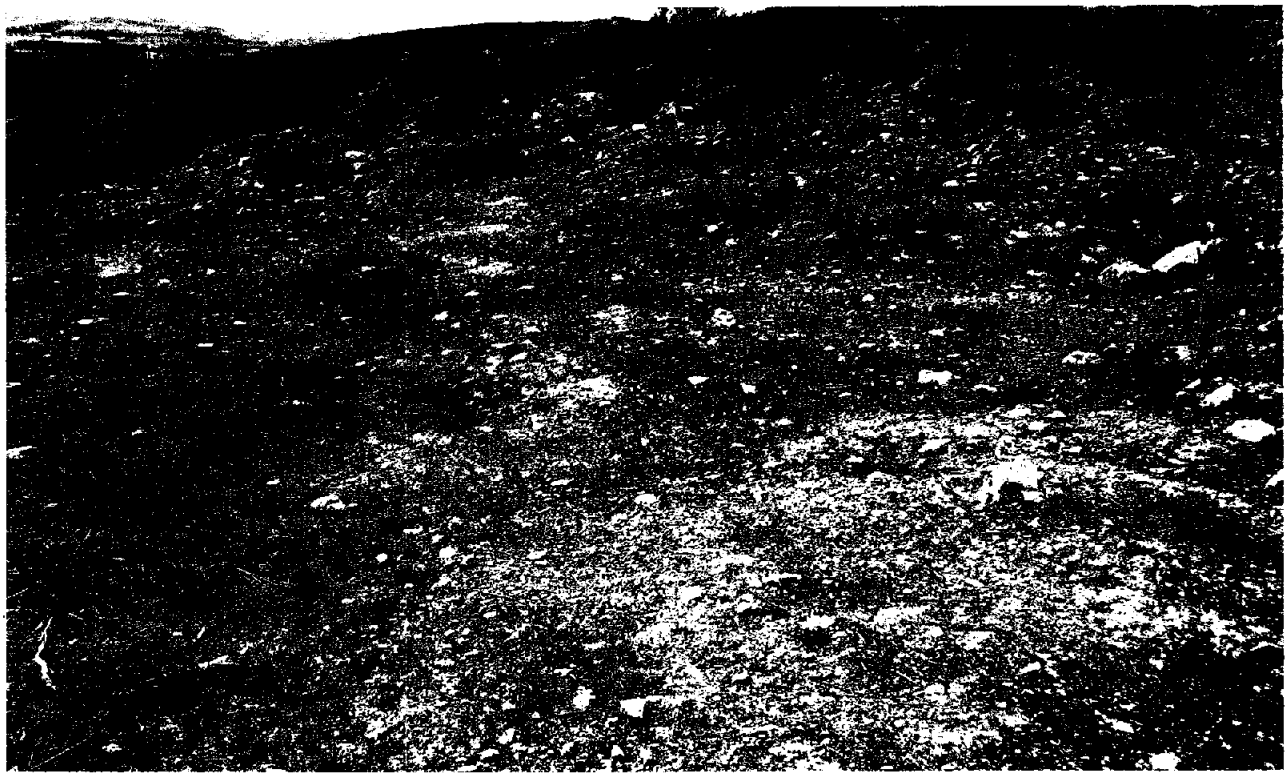
Otay Mountain Truck Trail QCB Photo Plates

Eastern most hill along the Truck Trail. Limited hilltopping activity and no host plants found.



Three hills west of the eastern most hill. 2005 had excellent hilltopping but 2006 was poor. Limited host plants at the base.

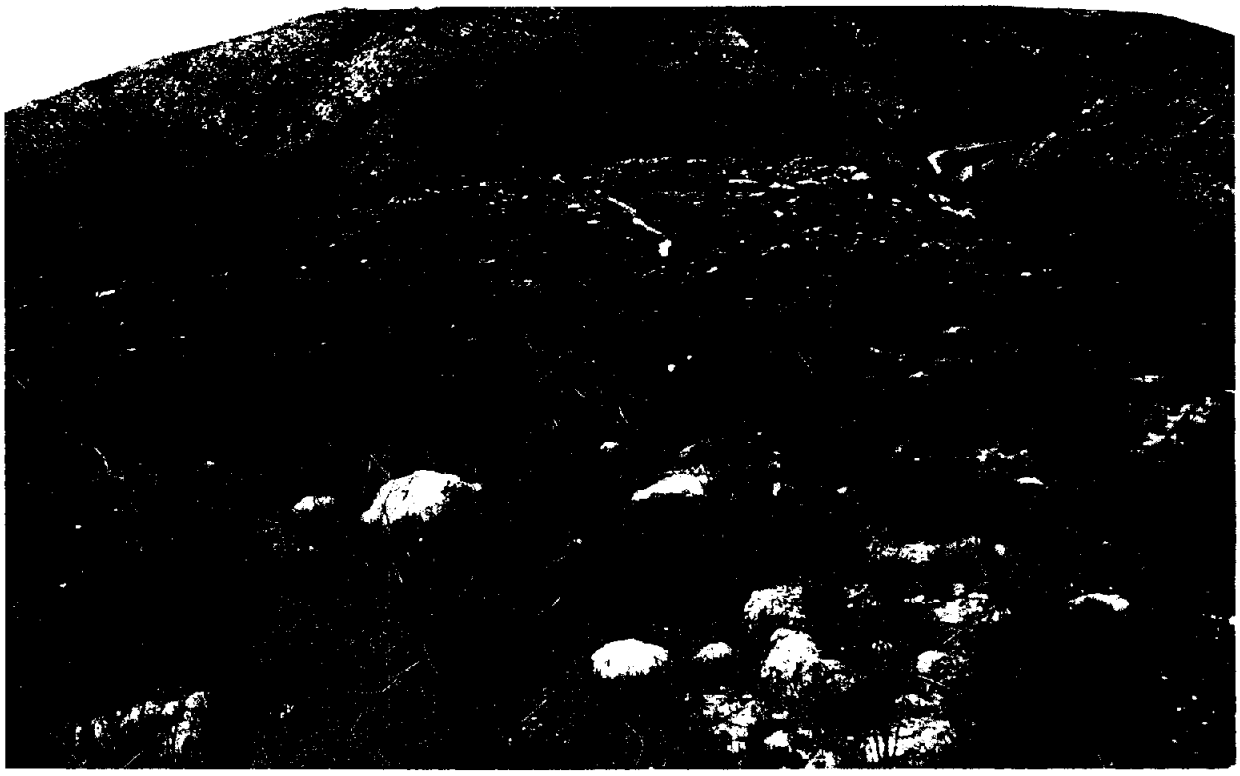
Otay Mountain Truck Trail QCB Photo Plates



Hill within Environmental Trust lands where Dr. Pratt had larval clusters in 2003. Not butterfly activity in 2006 yet excellent host plant amounts.

Hill within Environmental Trust lands where Quino was observed on April 17th this year. Plenty of host plant resources of primary and secondary plants.

Otay Mountain Truck Trail QCB Photo Plates



Mesa top in Wild Bill Canyon on May 1st after decent rains. Good host plant amounts and nectar resources. No QCB observed in 2006.

A closer look at the mesa top at Wild Bill Canyon. This spot has probably the highest potential to maintain Quino. Illegal grazing needs to be stopped.

Quino Checkerspot Butterfly Surveys

Performed at the Otay Mountain Truck Trail

San Diego County – 2006

APPENDIX 2

FLORAL COMPENDIUM

PLANT SPECIES INDENTIFIED ONSITE

Otay Mountain Truck Trail Plant List

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 of the monitored sites.

Dicots

CARROT FAMILY (APIACEAE)
Rattlesnake Weed (*Daucus pusillus*)

SUNFLOWER FAMILY (ASTERACEAE)
Long-Stem Golden Yarrow (*Eriophyllum confertiflorum*)
Dundelion (*Malacothrix incana*)

BORAGE FAMILY (BORAGINACEAE)
Cryptantha (*Cryptantha* sp.)
Pectocarya (*Pectocarya* sp.)
Popcornflower (*Plagiobothrys* sp.)

MUSTARD FAMILY (BRASSICAEAE)
Short-Pod Mustard (*Hirschfeldia incana*)
Wild Radish (*Raphanus sativus*)

MORNING-GLORY FAMILY (CONVOLVULACEAE)
Morning-Glory (*Calystegia longipes*)

LEGUME FAMILY (FABACEAE)
Coast Deerweed (*Lotus scoparius*)
Chaparral Pea (*Pickeringia montana*)

GERANIUM FAMILY (GERANIACEAE)
Red-Stem Filaree (*Erodium cicutarium*)

WATERLEAF FAMILY (HYDROPHYLACEAE)
Yerba Santa (*Eriodictyon crassifolium*)

MINT FAMILY (LAMIACEAE)
Munz's Sage (*Salvia munzii*)

MALLOW FAMILY (MALVACEAE)
Checker Mallow (*Sidalcea malvaeflora*)

POPPY FAMILY (PAPAVERACEAE)
Bush Poppy (*Dendromecon rigida*)
Golden Ear-Drops (*Dicentra chrysantha*)
California Poppy (*Eschscholzia californica*)

PLANTAIN FAMILY (PLANTAGINACEAE)
Dwarf Plantain (*Plantago erecta*)

PHLOX FAMILY (POLEMONIACEAE)
Skunkweed (*Navarretia fossalis*)

BUCKWHEAT FAMILY (POLYGONACEAE)
California Buckwheat (*Eriogonum fasciculatum*)

PRIMROSE FAMILY (PRIMULACEAE)
Padre's Shooting Star (*Dodecatheon clevelandii*)

BUCKTHORN FAMILY (RHAMNACEAE)
Ramona Lilac (*Ceanothus tomentosus*)

FIGWORT FAMILY (SCROPHULARIACEAE)
Purple Owl's-Clover (*Castilleja exserta*)

NIGHTSHADE FAMILY (SOLANACEAE)
Purple Nightshade (*Solanum xanti*)

Monocots

BRODIAEA FAMILY (THEMIDACEAE)
Blue Dicks (*Dichelostemma capitatum*)

Quino Checkerspot Butterfly Surveys

Performed at the Otay Mountain Truck Trail

San Diego County – 2006

APPENDIX 3

FAUNA COMPENDIUM

INDENTIFIED ONSITE

Otay Mountain Truck Trail Fauna List

INVERTEBRATES

DRAGONFLIES AND DAMSELFLIES (ODONATA)

Tule Bluet (*Enallagma carunculatum*)
Common Green Darner (*Anax junius*)
Variegated Meadowhawk (*Sympetrum corruptum*)

GRASSHOPPERS, CRICKETS AND KATYDIDS (ORTHOPTERA)

Field Cricket (*Gryllus* sp.)
Pallid Band-Wing (*Trimerotropis pallidipennis*)

BUTTERFLIES, SKIPPERS, MOTHS (LEPIDOPTERA)

Anise Swallowtail (*Papilio zelicaon*)
Pale Swallowtail (*Pterourus eurymedon*)
Desert Orangetip (*Anthocharis cethura*)
Sara Orangetip (*Anthocharis sara*)
Cabbage White (*Pieris rapae*)
Perplexing Hairstreak (*Callophrys perplexa*)
Echo Blue (*Celastrina echo*)
Bernardino Blue (*Euphilotes bernardino*)
Southern Blue (*Glaucopsyche lygdamus australis*)
Behr's Metalmark (*Apodemia virgulti*)
Gabb's Checkerspot (*Chlosyne gabbii*)
Quino Checkerspot (*Euphydryas editha quino*)
Lorquin's Admiral (*Limenitis lorquini*)
Annaphila Moth (*Annaphila* sp.)

GNATS, MIDGES AND FLIES (DIPTERA)

Robber Fly (*Asilid* Family)
Bee Fly (*Bombus* sp.)
Bee Fly (*Conophorus* sp.)
Geron Bee Fly (*Geron* sp.)
Exoprosopa Bee Fly (*Exoprosopa* sp.)
Flower Fly (*Syrphidae* Family)
Drone Fly (*Eristalis tenax*)
Hover Fly (*Syrphus* sp.)
Muscid Fly (*Muscidae* Family)
Flesh Fly (*Sarcophaga* sp.)
Tachinid Fly (*Tachinid* sp.)

BEETLES (COLEOPTERA)

Bear Beetle (*Paracotalpa ursina*)
Soft-winged Flower Beetle (*Dasytinid* sp.)
Convergent Ladybird Beetle (*Hippodamia convergens*)

ANTS, WASPS, BEES (HYMENOPTERA)

Harvester Ant (*Pogonomyrmex* sp.)
Paper Wasp (*Polistes* sp.)
Tarantula Wasp (*Pepsis* sp.)

REPTILES AND AMPHIBIANS

PHRYNOSOMATID LIZARDS (PHRYNOSOMATIDAE)

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

WHIPTAIL LIZARDS (TEIIDAE)

Western Whiptail (*Cnemidophorus tigris multiscutatus*)

BIRDS

HAWKS, EAGLES AND KITES (ACCIPITRIDAE)

Cooper's Hawk (*Accipiter cooperii*)

WOOD-PARTRIDGES (ODONTOPHORIDAE)

California Quail (*Callipepla californica*)

CUCKOOS (CUCULIDAE)

Greater Roadrunner (*Geococcyx californianus*)

SWIFTS (APODIDAE)

White-throated Swift (*Aeronautes saxatalis*)

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

SWALLOWS AND MARTINS (HIRUNDINIDAE)
Violet-green Swallow (*Tachycineta thalassina*)
Cliff Swallow (*Petrochelidon pyrrhonota*)

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

OLD WORLD WARBLERS (SYLVIIDAE)
Wrentit (*Chamaea fasciata*)

GNATCATCHERS (POLIOPTILIDAE)
Blue-gray Gnatcatcher (*Polioptila caerulea*)
California Gnatcatcher (*Polioptila californica*)

LONG-TAILED TITS (AEGITHALIDAE)
Bushtit (*Psaltriparus 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*)

BUNTINGS AND NEW WORLD SPARROWS (EMBERIZIDAE)
Spotted Towhee (*Pipilo maculatus*)
California Towhee (*Pipilo crissalis*)
Black-chinned Sparrow (*Spizella atrogularis*)
Lark Sparrow (*Chondestes grammacus*)
Savannah Sparrow (*Passerculus sandwichensis*)
White-crowned Sparrow (*Zonotrichia leucophrys*)

GROSBEAKS, SEED-FINCHES AND ALLIES (CARDINALIDAE)
Black-headed Grosbeak (*Pheucticus melanocephalus*)
Lazuli Bunting (*Passerina amoena*)

Quino Checkerspot Butterfly Surveys

Performed at the Otay Mountain Truck Trail

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 9, 2006

Otay Mountain Truck Trail QCB Monitoring

Start: 0945, clear w/ clouds around the mountain, S@4mph, 53°F
Stop: 1445, sunny, W@9mph, 63°F

Visiting the Otay Mountain Truck Trail to perform QCB monitoring along the western portion of the Truck Trail and the mesa top adjacent to Wild Bill Canyon. Not the warmest of conditions to start the day. I am beginning at the eastern most hills which are approx. 2km from the Wild Bill Canyon road. I am calling this area 'Hills 1 & 2. Hill #1 is still very open and suitable for any hilltopping activity. The only things flowering were chaparral pea and bush poppy. The only insects observed were field cricket, band-wing grasshopper and bear beetle.

Hill #2 is a bit more active with some manzanita flowering and on the higher point I had perplexing hairstreaks hilltopping and one Sara orangetip. Also present were sarchophagid and drone flies.

The next area is Hill #3. It is really more of a mesa than a hill. It is where there is a small very mature stand of Tecate Cypress not burned from thec 2003 fire. It is a very open area which could be utilized by insects. Nothing active here except a bear beetle and a syrphid fly around the cypress. No C. thornei observed either.

Continuing west on the Truck Trail is Hill #4 which is two hills. One smaller one approx. 100m from the Cypress patch. The second hill of this group has a Border Patrol access road to the top. In 2005 they was cordylanthus, castilleja, and plantain. This hill also was a very active hill for hilltopping insects. Things are really behind in development here. Some mallow and deerweed are in flower as well as erodium. Very little insect activity. Observed were bear beetle, drone fly, syrphid fly, an annaphila moth and one southern blue. Some plantain is just beginning to sprout but no clover or bird's beak is evident

I'm doing the mesa at the bottom of Wild Bill Canyon. 1230 is when I got here and when I parked I saw five horses grazing on the Mexican side on the slopes. Since I am by myself today I am going to have to pass surveying the mesa. I am concerned about any cowboy which may be watching the horses and I am in fear of getting shot at. I will let the BLM know and also inquire if they repaired the fencing. The barbed-wire border fence at the creek bottom is still broken so I must assume the fencing on the mesa top is also. A concern about this is that if livestock are free to roam onto BLM land on this mesa, it could very well have an impact on the survival of the butterfly here.

Hill #6 is an area just to the west of the BLM Wilderness sign. There is an access road used by the Border Patrol. The hill is very open with large patches of plantain. Borages are beginning to flower. No butterfly activity was observed. I only saw bear beetles.

Hill #7 is about 1km west on the Truck Trail from the BLM sign. It is within the area previously occupied by the Environmental Trust. The habitat patch contains a high concentration of plantain. There is also a good amount of nectar plants. Adjacent to this patch is a small rocky hill where adult quino were observed in 2005. Recent rains have been good and even though there is a cool westerly breeze, temps are about 63F. I have southern blues flying around the deerweed so I am assuming conditions are suitable for quino. I spent a good twenty minutes on the hilltop and no butterflies showed up. I did have one Annaphila nectaring on some popcorn flower.

I checked out the Thorne's area along the Truck Trail and did not flush out any butterflies.

No Quino observed today.

April 17, 2006

Otay Mountain Truck Trail QCB Monitoring

Start: 1030, 80% clouds, NW @9-11mph, 54°F
Stop: 1500, 10% clouds, NW @18-23mph, 64°F

Monitoring along Otay Mountain Truck Trail. Due conditions not being the best I decided to focus on those areas where adult Quino were observed in 2005. Joining me today are Joyce Schlachter – biologist for the BLM and Nicole Bailey – biologist needing hours for her Quino qualifications. Both ladies were never further than 10 feet away from while performing any Quino work.

We began on the mesa down in Wild Bill Canyon. Conditions overall were poor. Clouds kept giving the impression they would clear u but never did. Most of the time the breezes were not all that bad but with the extensive cloud clover and cooler temperatures, insect activity was at a premium. We saw some harvester ants, field crickets were heard and one female tarantula wasp.

1300 – Completed the mesa without seeing any Quino. Host plant patches are still healthy with new growth owl's clover at about 2" tall and plantago is soft and succulent. Nectar resources are plentiful and in flower. Examples are popcorn flower, blue dicks, shooting stars, and ceanothus. We are heading over to the hill within the old Environmental Trust lands. Host plant patch is the best I have seen this year. One southern blue flew past us at the habitat patch. Plantago is succulent and many have flower heads. Owl's clover is beginning to sprout and is in suitable status for larval feeding. There are numerous popcorn flower plants flowering within the patch. We made it to the small hill adjacent to the habitat patch and after standing up there for about 5 minutes I saw a Quino checkerspot fly over some laurel sumac. The winds on this hill were blowing at a minimum of 16 mph but it did not seem to deter hilltopping activity. After about 3 minutes the Quino returned and Joyce commented that what she seemed smaller and darker than what she was led to believe was a Quino. Nicole saw what she described as a suspicious butterfly and that there was enough orange that she was leaning towards Quino. She also commented on how fast it was flying and was led to believe that these butterflies have a tendency to be lazy fliers. I explained to her that male Quino which freshly emerge are beginning to establish territories and are very territorial and aggressive. I also mentioned to her that we are in their turf and are considered infringing into their area and that they will aggressively defend it. Nicole again mentioned that this was new thinking for her.

Well the butterfly returned and landed not even 3 feet from me for at the most 2 seconds. Nicole saw it land and tried to get her binoculars on it but it flew away too quickly. I saw it easily and noted it to be a male Quino. By this time the sun had been out from under the clouds for nearly 15 minutes and was warming up the area. After the butterfly landed and then immediately flew, the clouds rolled back in. we waited for over 20 minutes for the clouds to clear out but looking to the NW it was evident that more clouds were coming in an we lost or day.

Day ended with attempting to go down the Mini-wa-wa Truck Trail. By the time we got to the gate by Klein Hill we had sunnier conditions but the winds were now easily blowing at 20+mph. I called the rest of the day.

Due to the aggressive nature of the butterfly I was not able to photograph it. When I return later this week I will take the time to get some photos.

April 22, 2006

Otay Mountain Truck trail QCB Monitoring

Start: 1130, overcast, w@6mph, 55°F
Stop: 1530, mostly cloudy, w@9mph, 53°F

Met Dr. Gordon Pratt and we proceed up the west side of Otay Mountain. Conditions were not suitable for adult butterflies to be flying and so we decided to visit a few locations that both Gordon and I have observed Quino and begin looking for eggs or pre-diapause larvae.

We first visited is hill just west of the one I saw the male QCB this past Monday. Plantain patch looks excellent and Gordon commented that it was the tallest he ever saw it. Of course no adults were see and the only thing seen flying were 2 female Pepsis wasps. We looked carefully for and eggs or larval clusters and we were not able to find anything.

From there we walked over to my patch and he commented on what he has seen in this area previously and admitted it was a very good location. Plantain and owl's clover were looking very good but again no adults sighted or no eggs or larval clusters.

We then went to the next hill up which I felt last year was the best area on this western side of the Truck Trail. Gordon also believed it was the best location and he mentioned some of the things he saw up there. We spent a lot of time in this fairly large mesa and again were unsuccessful in finding any life staged of the butterfly.

We decided to go back to our first two hills and remained there until 1530. Clouds and west breezes kept conditions very poor but still with the hope of finding eggs of larval clusters. We both came up empty. Both of us believed the cloudy conditions was continually delaying development and even though we both believe that adults are present that the possibility of eggs is possibly a few days too early and larval clusters is still about a week away.

April 30, 2006

Otay Lakes South QCB Monitoring & Otay Mountain Truck Trail

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 tomantosus*). 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-diapuase 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 1, 2006

Otay Mountain Truck Trail QCB Monitoring
Start: 1030, sunny, SE @6mph, 70°F
Stop: 1430, sunny, W - NW @8-11mph, 69°F

Good day for butterfly activity. I checked the hill within the Environmental Trust area and even though the hill and patch look very good, no butterfly activity was observed.

1115 - I am no in Wild Bill Canyon and I am heading up the pack trail. A nice SE breeze is blowing but not enough to curtail insect activity. Mesa has SW breezes to 10mph, with gusts over 13mph. The fencing is worse now than we I visited it last with Joyce from the BLM.

1330 - west and SW winds on the mesa maintaining 15-17mph. This is due to the early morning marine layer. Very little insect activity on the mesa. Plants and available nectar resources are plentiful so I am assuming the diversity is down due late development of the insects from low rainfall amounts as well as late blooming plants and therefore the the timing is off for both to benefit. No QCB observed.

1345 - I got out of Wild Bill Canyon and went east on the Truck Trail to the next hill. It has always been good for hilltopping. All I observed were Diptera hilltopping. No butterfly activity. From up here the breezes feel cool and coming from the W and NW at 8-9mph. Since the ocean is still pretty cool the winds coming off from there it affecting Otay Mountain and making it feel cool. No QCB observed.

Invertebrates: green darner, pepsis wasp, flesh fly, bee fly, pallid band-wing grasshopper, field cricket, G. lygdamus (2), bluet, A, cethura (2), polistes wasp, robber fly, P. rapae, drone fly, muscid fly, lorquin's admiral

Herps: SB Liz, western fence lizard, western whiptail

Plants: morning glory, plantain, golden yarrow, deerweed, ceanothus, filaree, dandelion, short-podded mustard, owl's clover, rattlesnake weed, blue dick, cyrptantha, yerba santa, tear-drops, checker mallow, nightshade, munz's sage, buckwheat, chaparral pea, california poppy, wild radish

May 11, 2006

Otay Mountain Truck Trail QCB Monitoring

Start: 0900, hazy, sunny, NE@4-10mph, 68°F
Stop: 1330, sunny, NW@5-8mph, 74°F

I am starting in Wild Bill Canyon. Conditions look fair but things are drying very quickly. No butterfly activity even though I still have nectar resources available. This area has definitely not been a good year for butterflies. The timing of plants versus butterfly activity has been off by quite a bit and therefore has caused a disconnect to activities.

1100 - I am at the hill just above the road to Wild Bill. I have hilltopping activity here with anise swallowtail a couple of orange-tips, echo blue and perplexing hairstreak. There are some also hilltopping.

1130 - I checked out my tecate cypress area along the Truck Trail and did not flush out any Thorne's hairstreaks. They also have not had a very good year. Their second brood is due out around now so I will continue to monitor this area for any adults.

1215 - I am at the first hill just outside the BLM Wilderness area. Gordon and I have visited this area in late April. No Quino but the plantago still looks pretty good and many plants are showing heavy feeding damage. There is no evidence of fras tents so it is inconclusive to be Quino. It could be buckeyes feeding. Also there is a large amount of rabbit pellets by the damaged plantago. It could also be rabbits. Although it is not much food for them but anything is possible. On the adjacent hill, I had one pale swallowtail and below I had a Behr's metalmark and a blue.

1245 - I went to the next west hill where I had a Quino back on April 10th. Most of the plantago is dry and there is plenty of owl's clover now. No feeding damage. I went to the small hill because I saw a butterfly hilltopping. It turns it was a male Gabb's checkerspot.

1315 - I am the next hill to the west where Gordon and I have visited twice a few weeks back. Plantago is in state of 50/50 between dry and still looking good. One anise and pale swallowtail were hilltopping along with a pepsis wasp and some bee flies. Below at the base of the hill was a metalmark patroling around some buckwheat.

No Quino observed.

Invertebrates: P. zelicaon (2), C. echo (1), A. sara (2), C. perplexa (1), drone fly, flesh fly, hover fly, muscid fly, ladybird beetle, flower beetle, pallid band-wing grasshopper, variegated meadowhawk, P. eurymedon (2), A. virgulti (2), bee fly, C. gabbii (1), pepsis

Birds: CORA,, LEGO, CLSW, CATO, BGGN, BUTI, HOFI, WTSW, WREN, BEWR, LZBU, BHGR, COHU, SPTO, CAQU, BCSP, CAGN, COHA, ROWR, GRRU

Plants: golden yarrow, pectocharia, skunk-weed

Herps: 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 17th. 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 toPio 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 nuttalianum 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