

**FIRST YEAR FOCUSED SURVEY FOR DELHI
SANDS FLOWER-LOVING FLY
ON THE RIVERSIDE PUBLIC UTILITIES, RIVERSIDE
TRANSMISSION RELIABILITY PROJECT, RIVERSIDE AND
SAN BERNARDINO COUNTIES, CALIFORNIA**

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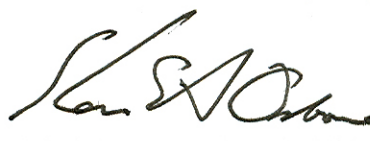
November 4, 2006

**FIRST YEAR FOCUSED SURVEY FOR DELHI SANDS
FLOWER-LOVING FLY
ON THE SOUTHERN CALIFORNIA EDISON,
RIVERSIDE TRANSMISSION RELIABILITY PROJECT,
RIVERSIDE AND SAN BERNARDINO COUNTIES,
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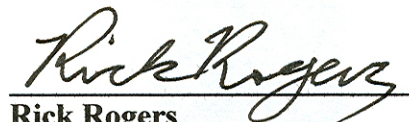
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The undersigned certify this report to be a complete and accurate account of the findings and conclusions of a first year, 2006 focused survey for Delhi Sands Giant Flower-loving Fly (*Rhaphiomidas terminatus abdominalis*) on the Southern California Edison, Riverside Transmission Reliability Project, Riverside and San Bernardino Counties, California.



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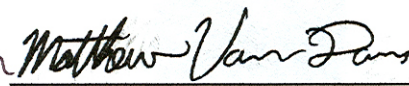
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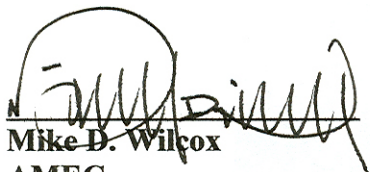
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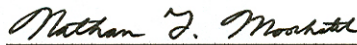
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1. INTRODUCTION

Riverside Public Utilities is planning alternative routes for the Riverside Transmission Reliability Project in order to maintain and improve their quality of service. Alternative routes for the project extend generally from the Grand Terrace and Colton area, southwest along the Santa Ana River through Riverside, then west out through Ontario.

Osborne Biological Consulting was contracted by TRC Essex Environmental, Inc., on behalf of Riverside Public Utilities, in order to undertake presence / absence surveys for the Delhi Sands Flower-loving Fly (DSF, *Rhaphiomidas terminatus abdominalis*). The DSF was listed as an endangered species by the U.S. Fish and Wildlife Service (USFWS) on September 23, 1993 (USFWS 1993). Portions of the project centerline areas mapped as having Delhi series sands suggesting potential for DSF. Habitat assessments and evaluations conducted by TRC Essex in spring of 2006, indicated that a focused survey was needed on several portions of the project to meet the requirements of the U.S. Fish and Wildlife Service's (USFWS) Delhi Sands Flower-loving Fly survey protocol (USFWS 1996). This report presents the methods and findings of the habitat assessment and focused survey covering thirteen areas over Riverside and San Bernardino Counties.

2. PROJECT DESCRIPTION

As described above, RPU is investigating alternative routes for the Riverside Transmission Reliability Project. Thirteen areas along the alternative project centerlines were initially identified as being subject to some habitat assessment or survey for the DSF. After intense habitat assessments by Osborne, survey areas were refined, with eleven areas receiving full DSF survey efforts.

Areas surveyed for this project may be found on the San Bernardino South, Fontana, Riverside West, Corona North, and Guasti, USGS 7.5 minute series Quadrangles. Figures 1 through 5 (section 11) present maps depicting the survey areas at 50% scale and figures 6 through 11 present these at a 200% scale. Additional figures 12 through 15 present these surveys on an aerial overlay showing alternative routes for the RPU Riverside Transmission Reliability Project.

3. NATURAL HISTORY OF THE DELHI SANDS FLOWER-LOVING FLY

Delhi Sands Flower-loving fly, belongs to a genus of flies (*Rhaphiomidas*) commonly known as giant flower loving flies. There are more than 30 species of these flies, distributed across the southwestern United States and northern Mexico. These flies are *huge* by the standards set by most flies – with size among the species ranging from ca. 1.5 centimeters up to 3, and even 4 centimeters, usually gray, tan, rust or yellow in color. All species of *Rhaphiomidas* are associated with rather arid, sandy habitats, with most species living on dune systems of inland desert valleys, rivers, deltas, and beach strands. A few species are found in sandy washes, alluvial benches and remnant glacial moraines. Many species of

these flies often hover before flowers in the manner of hummingbirds, using a long, thin, tubular proboscis (mouth-part), with which the flies probe for nectar – hence the name “giant flower-loving flies”. Smaller flies of the family Apociceridae, once considered very closely related to *Rhaphiomidas* were traditionally called “flower-loving flies”.

The DSF which is only known to occur in association with Delhi sand deposits, presumably occupied the once extensive dune system of the upper Santa Ana River Valley, including portions of what is now the City of Colton, west through portions of the City of Ontario, and south to the Santa Ana River. Today, DSF exists on only a few disjunct sites (USFWS 1997) within a radius of about eight miles in southwestern San Bernardino and northwestern Riverside Counties (Colton, Rialto, Fontana, and Ontario). More than 95 percent of known DSF habitat was considered eliminated by development, agriculture and other land management practices by 1993 (Smith 1993, USFWS 1996 *in* Kingsley 1996), however, this proportion is now nearer 98 to 99% due to these ongoing processes. Many of the last remaining fragments of DSF habitat are currently under pressure by land management efforts such as heavy disking, irrigation, manure dumping, and gravel dumping. There is presently an estimated 1,200 acres of habitat that can support this species (USFWS 1997), however, this estimate likely includes lands needing extensive habitat restoration.

Adult DSF flight period is typically August and September, when individual adults emerge, reproduce and die. The adult life span of an individual DSF lasts for a few days and adults do not live beyond the flight period (Kiyani 1995). DSF, like other *Rhaphiomidas* species, appears to have an annual life cycle (because of the annual flight). However, it is widely believed that the underground larval/pupal stage may persist for additional years, depending upon various environmental factors such as annual rainfall, food availability and weather conditions during the flight season (many desert *Rhaphiomidas* species do not appear after a drought year and often, substantial flights occur only sporadically over the years). It is known that DSF larvae develop underground, however the specific biology (larval biology, habits and food requirements) are not yet known for DSF or any other *Rhaphiomidas* species. Known life histories of all related fly families and genera involve parasitism or predation on other soil dwelling arthropods and it is there for considered highly likely that *Rhaphiomidas* development is dependent on some other endemic insect species in the community.

Adult DSF are highly mobile, agile fliers. Male DSF are frequently seen flying low through habitat, using apparently random, circuitous paths around and between shrubs in search of females. Such “cruising” behavior often covers areas on the scale of 1000 square meters in the time span of a minute. Alternatively, male DSF are often seen flying about an open patch of ground (ca 100 square meters) such as along a dirt path or dune blow-out area. Here, males may repetitively land and rest on one or another object (such as small dried plants) in the area, and such rests are interrupted by periods of patrolling flight (apparently territorial) about the spot. When alarmed, these insects tend to fly rapidly in more or less a straight line – often covering distances of 100 meters in less than 6 seconds. Adult DSF are known to nectar at flowers of California buckwheat (*Eriogonum fasciculatum*) and California croton (*Croton californicus*).

3.1 DSF Habitat Characteristics

DSF is typically found in areas of unconsolidated sandy soils (Delhi series) supporting an open community of native and exotic plant species. Dominant plants are typically California buckwheat, California croton, telegraph weed (*Heterotheca grandiflora*), and deerweed (*Lotus scoparius*) but many exotic species often dominate on DSF habitat as well. DSF have been found in habitats that do not support these dominant plant species, and plant species composition may not be directly relevant to larval development (due to likely predatory or parasitic habit of DSF larvae). Adult DSF are known to nectar at flowers of California buckwheat and California croton. Many other plant species are common, including Thurber's eriogonum (*Eriogonum thurberi*), Autumn vinegar weed (*Lessingia glandulifera*), and sapphire eriastrum (*Eriastrum sapphirinum*). Non-native plant species also occur in DSF habitat (and incidentally, virtually everywhere). DSF habitat also supports other associated insects such as flies and wasps considered as indicator species – *Apiocera convergens*, *Apiocera chrysolasia*, *Ligyra gozophylax*, *Campsomeris tolteca*, *Trielis alcione*, and *Nemomydas pantherinus*. Over 350 insect species have been found on one DSF site, and DSF habitat is typically marked by high abundance and diversity of predatory and parasitic insect groups including many highly specialized families of flies, wasps, bees, beetles, and antlions. The Delhi Sands community is one of California's unique natural communities containing an array of native plants and animals, some of which are found nowhere else. One plant species, Pringle's monardella, (*Monardella pringlei*) is already presumed extinct, as no living individuals have been observed in many years. Several species of insects and some vertebrates, which inhabit the Delhi Sands dunes system, are as endangered as the DSF, but no one has yet petitioned to have them officially declared Endangered. These include the convergent flower-loving fly *Apiocera convergens*, a newly discovered species of Jerusalem cricket, (*Stenopelmatus* sp.), a new species of camel cricket (*Ceuthophilus* sp.) and an endemic subspecies of butterfly *Apodemia mormo nigrescens* (Emmel and Emmel 1998). The other apiocerid fly (*Apiocera chrysolasia*), although known from approximately six general localities, is only common within the Delhi sands.

3.2 DSF Survey Guidelines

Interim General Survey Guidelines for the DSF have been suggested by the USFWS (1996). By following these guidelines, DSF presence or absence survey results may be deemed acceptable to the USFWS (rejection of survey results is likely to result where the guidelines are not followed). The guidelines indicate that focused DSF surveys should be conducted wherever Delhi sands are present within the presumed range of DSF, twice weekly (two days per week) during the single annual flight period (usually from August 1 to September 20). Recent early season DSF discoveries led the USFWS to recommend a survey season from July 15 to September 20 for 2003 and a survey season from July 1 to September 20 from the year 2004. Surveys must be conducted for two flight periods (two years). Furthermore, weather conditions must be suitable for DSF activity at the times survey work is pursued. The DSF is generally active when daytime temperatures exceed

80 degrees Fahrenheit (°F), but may fly with slightly cooler temperatures in bright sunlight.

4. METHODOLOGY

4.1 Habitat Assessment

Initially, thirteen sites of interest were identified by Roger Overstreet of TRC Essex, based on the intersection of RPU project centerlines with areas mapped as having Delhi sand soils. These locations were assigned numbers in order to facilitate the logistics of survey scheduling. Upon additional investigation by Osborne, survey areas were refined by addition of previously unrecognized DSF habitat, by subtraction of unsuitable or developed habitats, and elimination of site number 7 due to lack of DSF habitat. Site number 13 was also later dropped after it was learned that the RPU project in that location would only impact previously developed (paved) areas. Some survey areas were further subdivided for similar reasons. Area number 1 for example was subdivided with area 1a in order to accommodate a restricted schedule of access on the Agua Mansa Cemetery. These numeric site identifiers appear on the maps provided in figures one through eleven, appear in the field notes, and are used generally for this reporting of survey results.

Habitat suitability for DSF was evaluated using indicators of potential DSF habitat noted during the field visits, including: presence and abundance of loose, unconsolidated Delhi sands with low organic contamination; and, degree of habitat disturbance indicated by plant species composition and disposition of soil surface, presence and abundance of native sand associated plants such as *Croton californicus*, *Heterotheca grandiflora*, *Eriogonum thurberi* and *Eriogonum fasciculatum*. These plants are actually more an indication of relative disturbance regimen – conditions with lesser disturbance being of higher quality for DSF. Additional DSF habitat indicators considered were presence and abundance of Delhi sands associated insects such as *Apiocera convergens*, *Apiocera chrysolasia* and (to a lesser extent) *Nemomydas pantherinus*. Potential DSF habitat was further evaluated on the basis of overall insect diversity and abundance, particularly with respect to sand associated predators and parasitoids.

In the course of previous work, Osborne and Ballmer (Osborne et al. 2003, Osborne 2003) have developed a means of rating habitat on sites for potential to support DSF, on a scale of 1 to 5, with 5 being the best quality and most suitable habitat based on the following scheme:

1. Developed areas, non-Delhi sands soils with high clay, silt, and/or gravel content. Delhi sands extensively and deeply covered by dumping of exotic soils, rubble, trash or organic debris. *Unsuitable*.
2. Delhi sands are present but the soil characteristics include a predominance of exotic soils such as alluvial materials, or predominance of other foreign

- contamination. Severe and frequent disturbance (such as a maintenance yard or high use roadbed). *Very Low Quality*.
3. Moderately contaminated Delhi sands. Delhi sands with moderate to high disturbance (such as annual disking). Sufficient Delhi Sands are present to prevent soil compaction (related to contamination by foreign soils). Some sandy soils exposed on the surface due to fossorial animal activity. *Low Quality*.
 4. Abundant clean Delhi Sands with little or no foreign soils (such as alluvial material) present. Moderate abundance of exposed sands on the soil surface. Low vegetative cover. Evidence of moderate degree of fossorial animal activity by vertebrates and invertebrates. May represent high quality habitat with mild or superficial disturbance. *Moderate Quality*
 5. Sand dune habitat with clean Delhi Sands. High abundance of exposed sands on the soil surface. Low vegetative cover. Evidence (soil surface often gives under foot) of high degree of fossorial animal activity by vertebrates and invertebrates. Sand associated plant and arthropod species may be abundant. *High Quality*

It should be noted that habitat qualities often vary spatially within a site so that conditions on a site fall within a range of qualities. Further, overall habitat quality is affected by the overall habitat area on a site, such that very small areas diminish the overall habitat value of a site. Use of this habitat rating system is somewhat subjective and best undertaken by a biologist who has extensive experience with *Rhaphiomidas* species. While investigating the various survey areas on this project, I subjected each site to an analysis of this kind so as to give a general estimate of overall DSF habitat conditions through the project (see Table 12, results section).

4.2 Focused Surveys

The surveyed areas were visited from July 1, to September 20, 2006, following the USFWS Interim General Survey Guidelines. We surveyed the subject sites at least twice a week, generally between the hours of 1000 and 1400 (Tables 1 through 11). The survey protocol, as set forth in the Interim General Guidelines for the Delhi Sands flower-loving fly survey, is designed to maximize the validity of a presence/absence determination. Table 1 below provides a list of the biologists that conducted surveys and their USFWS permit.

The survey areas included any suitable DSF habitat within 300 feet of the project centerline. However, habitats occurring on the opposite side of any substantial paved roadway were not included in the survey as being outside the scope of potential biological impacts from the project.

Table 1: Focused Survey Biologists

Biologist	U. S. Fish and Wildlife Service Permit Number
Kendall H. Osborne	TE-837760-5
Rick Rogers	Under Kendall Osborne's permit
Matthew Van Dam	Under Kendall Osborne's permit
Alex Van Dam	Under Kendall Osborne's permit
Brian M. Drake	TE-006328
Ellen K. Shafhouser	TE-084-254-0
Mike D. Wilcox	TE-836491-4
Nathan T. Moorhatch	TE-029414-1

The project was artificially divided into 13 areas to facilitate scheduling and these areas were designated as shown in Table 2.

Table 2: Survey areas, location, approximate acreages and relevant commentary

Area	Location	Acreage	Comments
Area 1		15.94	Divided to include Area 1a - Agua Manza Cemetery with limited access separates this from area 1
Area 2		15.79	Survey ends mid season on northern portion after we learn of HCP
Area 3		0.496	
Area 4		3.07	
Area 5		3.79	Southern portion of this area excluded due to elimination of habitat and denied access
Area 6		13.90	Northern portion area 6N, includes fenced area. Southern portion area 6S
Area 7		24.77	Dense, wet, Riparian woodland Not DSF habitat, Not surveyed
Area 8		11.62	
Area 9		45.68	Small portions of this are excluded as unsuitable for DSF. Area 9a is small eastern disjunct part.
Area 10		63.84	10W (western half) 10E (eastern half) large area divided for scheduling
Area 11		2.73	
Area 12		4.84	

Osborne photographed the survey sites from several perspectives to document existing conditions. Representative photographs of sites are found in Appendix C. Notes were taken on vegetative cover and plant species composition, abundance and diversity and species composition of insects and other animals, soil types, degree and nature of

disturbance, surface cover, organic content, compaction, current land management practices, existing development, conditions of surrounding vicinity, and proximity of other DSF populations.

5. Existing Environments and Communities

5.1 Adjacent lands

In general, DSF habitats are more or less surrounded by developed lands. With respect to this study, Survey Areas 1, 2, 3, 4, 5, 8, 9, and 10 occurred in the context of surrounding undeveloped lands similar to the survey areas themselves. Survey Areas 6, 11, 12, and 13 occurred as islands in the context of developed commercial and or residential areas. Areas 7 (not surveyed) and 8 occurred within the Santa Ana River bottom or immediately adjacent areas. Undeveloped lands supporting DSF are known only in the immediate vicinity of areas 1, 2, and 3.

5.2 Topography

Survey areas 1, 5, and 6 occur over Delhi sands deposits which cap a terrace above the Santa Ana River flood plain, thus have generally flat or rolling topography with a steep slope against the river plain. Areas 2 and 3 are generally rolling or flat, but associated with sand formations similar to those on the terrace areas. Areas 4 and northern portions of 6 may be derived both from terrace and secondary blow sands against hillsides. Areas 7 and 8 are generally flat, may have alluvially derived elements mixed (in the case of Area 8) with blown sands against slopes above the Santa Ana River. Areas 9, 10, 11, 12, and 13 all occur on flatlands (often agricultural) in the southern Ontario area.

5.3 Soils

Woodruff (1980) and Knecht (1971) indicated soils over all survey areas to consist of Delhi fine sands and field observations confirm Delhi sands throughout on these sites to varying degrees.

5.4 Vegetation

The survey areas are generally characterized as disturbed due to histories of disking, mowing, farming, and other activities. These areas generally support low vegetative diversity of an early successional type – mostly exotic grasses. Portions of some survey areas (Areas 1, 2, 4, 5, and 6) have remained relatively undisturbed and support either coastal sage scrub, or vegetation communities of low to intermediate disturbance with such species as *Heterotheca grandiflora*, *Croton californica*, and *Encelia farinosa*. Appendix A provides a list of plant species encountered on the survey areas.

5.5 Insect Communities

During site visits for 2006, at least 160 insect species (counting only large and conspicuous insects) were either casually observed or collected across all of the survey areas. A list of most insect species observed during the course of year 2006 focused survey work is presented in the appendix (Appendix A). The insect communities encountered on the survey areas 1, 2 (northern portions), 4, 5, and 6 (northern portions), had high abundance and diversity reflecting relatively more mature ecological communities associated with Delhi sands, including Mydidae (and DSF – Areas 1 and 2), Asilidae, Apioceridae, Sphecidae, Scoliidae, Mutilidae, Pompillidae, and Mymerliontidae. Survey Areas 3, 9, 10, 11, and 12, generally supported low arthropod diversity, due to extremely disturbed conditions. Survey Area 8 had unusually high arthropod diversity, and many species not previously seen on DSF surveys, due to close association with extensive riparian habitats.

6. RESULTS

6.1 Habitat Assessment

As mentioned above, habitat as defined by presence of Delhi sands was used to identify survey areas subject to potential DSF occurrence. Through the project areas generally, habitat conditions for DSF ranged from High quality to Very Low Quality (with Unsuitable areas not being surveyed). In general, the highest quality DSF habitat conditions were found on the far eastern portions of the project as with Areas 1 through 6. The lowest quality habitats occurred through Areas 7 (not surveyed) and 8 – due to marginal conditions associated with the River bottom and abundant riparian vegetation – and through Areas 10 (disturbed agricultural), and Area 11 (disturbed, small site, and surrounded by development). Areas 9 and 12 were found to be of intermediate habitat quality due either to more extensive lands not currently in agriculture, or presence of indicator plants with open sands.

The table below provides Osborne's rating habitats on sites for potential to support DSF, along with brief explanation of conditions driving the rating.

Table 3: Rating of DSF habitat quality on Survey areas

Survey Area	Habitat for DSF	Explanation
1	Moderate to High Quality	Some disturbed areas such as irrigated portion of cemetery, but extensive undisturbed Delhi sands with intact ecological communities
2	Moderate to High Quality	Some disturbed areas heavily disked, but northern portions with extensive undisturbed Delhi sands and intact ecological communities
3	Low Quality	Heavily disked, admixed with other soils
4	Moderate to High Quality	Low sand abundance, often compacted partially developed to railway, but slopes with long

		undisturbed and intact ecological communities
5	High Quality	Northern portions with relatively undisturbed Delhi sands and intact ecological communities
6	Low to High Quality	Variable from disturbed, graded, disked, landscaped, ranging up to slopes with long undisturbed and intact ecological communities
7	Unsuitable	Deep, dense, wet, riparian woodland on alluvial sands – River bottom.
8	Unsuitable to Moderate	High disturbance due both to paved roadway and fluvial processes (river). However, some areas with blow sands and open sandy areas with indicator plant species. Much riparian influence.
9	Very Low to Moderate	Mainly disturbed by a history of disking, some portions not disked so often.
10	Very Low to Low	Intense active agriculture, dairies, where currently fallow – overgrown with exotic shrubs such as <i>Kochia</i> . Sands seem overly fine and semi alkaline.
11	Very Low to Moderate	Very small, disturbed and contaminated site west of railroad, relatively undisturbed clean sands to east of rail, but site is surrounded by large developed areas
12	Very Low to Moderate	Very long narrow strip bounded by road and flood channel. Much disturbance, equestrian and vehicular use, but many areas with open sands and indicator vegetation.

6.2 Focused Surveys

Delhi Sands Flower-loving Fly found on Survey Areas 1 and 2.

A total of two female and three male Delhi Sands Flower-Loving Flies were observed on Survey Areas 1 and 2 during the course of this year 2006 field season. These DSF locations are shown in figure 16, Appendix B. DSF was not observed on any other survey area during the course of this field season.

On August 11, 2006, a male DSF was followed by Ken Osborne for several minutes on the western margin of Area 1, just outside (west of) the northwestern Cemetery fence. This male was observed to locate a female DSF and mate. The initial observation of a cruising male DSF was made at 1150 hours. This male was seen at a distance of approximately 20 meters (just outside of our survey area). Osborne followed this cruising male around while it made random flights through vegetation in a searching mode. During approximately 5 minutes, the DSF traveled through an area of some 40 meters by 40 meters (all just outside of the survey area). Finally, the male landed on the top of a dry *Heterotheca* stalk and it was observed to have found a teneral female (1154

am), quickly manipulated its abdomen to begin copulation. Copulation lasted approximately 3 minutes. The unmolested pair broke up, the male flying two to three meters to the north and the female flying approximately 10 meters to the southeast (ending up approximately 8 meters from the northern fence line of the Agua Mansa Cemetery. The observations lasted to approximately noon. Photographs were taken throughout the observations. The coordinates of this observation are approximately 34° 02' 34.2" N latitude, 117° 21' 49.8" W longitude. This sighting is in close proximity to other known sightings (a little farther west) from the previous year by Rick Rogers (pers. comm.).

On August 14, 2006, between approximately 1115 and 1130 hours, Alex Van Dam made observations of approximately two male and one female DSF on a small remaining strip of undisturbed habitat on the southern portion of Area 2. These DSF were too active to be photographed. The coordinates of these observations are approximately 34° 01' 42" N latitude and 117° 22' 31" W longitude.

6.3 Other Species of Special Interest

One "Special Animal" as defined California Department of Fish and Game Natural Diversity DataBase (CNDDDB 2005) was incidentally detected within some of the survey areas during the course of field surveys. Burrowing Owl (*Athene cunicularia*) is listed as a "California Special Concern Species" (CSC) and Federal "Bird of Conservation Concern" species (BCC). The Burrowing Owl has been proposed as a candidate for listing as endangered under the State Endangered Species Act.

Burrowing Owl was observed on western portions of survey Area 9 (around a catch basin and associated spillways), and on the eastern, disjunct part of Area 9 (referenced in notes as Area 9a) on piles of introduced soils and waste materials, and at various locations along the channel sides adjacent to survey Area 12.

7.0 DISCUSSION

The best habitat conditions for DSF were observed on the northern portion of survey Area 2. When we were informed that a Habitat Conservation Plan (HCP) for this area has been approved by the USFWS, and after receiving information that RPU project activities would be covered by this HCP, we discontinued the survey on this northern portion of Area 2 around the end of July. Although DSF was not observed on the northern portion of Area 2 during the course of our survey, we believe that this high quality habitat is very likely occupied by a population of DSF.

A further discussion and analysis considering the implications of DSF findings on this survey will be undertaken upon completion of the full survey (after the second protocol survey season).

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APPENDIX

Appendix A: Data Tables

Table 1. Area 1: Dates, personnel, times and conditions for DSF survey work

Date	Biologists	Hours	Weather Conditions
July 1, 2006	K. Osborne	1016-1050	clear, calm, 97-105°F for day
July 2, 2006	M. Van Dam	1100-1158	clear, winds 0-2 mph, 87- 101°F
July 4, 2006	M. Van Dam	1303-1400	clear, calm, 94°F
July 6, 2006	M. Van Dam	1210-1246	clear, winds 0-5 mph, 93°F
July 9, 2006	A. Van Dam	1320-1410	clear, wind 2-3 mph, 92-104°F for day
July 10, 2006	A. Van Dam	1000-1100	clear, wind 1-6, 94-104°F for day
July 12, 2006	A. Van Dam	1024-1059	clear, wind 2-4 mph, 97-105°F
July 14, 2006	A. Van Dam	1058-1140	15% clouds, calm, 90-100°F
July 15, 2006	A. Van Dam	1305-1400	clear, wind 2-6, 95-108°F
July 17, 2006	A. Van Dam	1000-1100	20-80% clouds, wind 1-8 mph, 91-104°F
July 19, 2006	A. Van Dam	1045-1120	clear, calm, 95°F
July 21, 2006	A. Van Dam	1054-1130	clear, winds 0-5 mph, 92°F
July 22, 2006	A. Van Dam	1000-1100	0-10% clouds, calm, 100-102°F
July 23, 2006	A. Van Dam	1045-1121	clouds 50-100%, wind 2-8 mph, 92-97°F
July 24, 2006	A. Van Dam	1000-1100	0-30% clouds, calm, 100°F
July 27, 2006	K. Osborne	1030-1130	clear, calm, 90°F
July 29, 2006	A. Van Dam and R. Rogers	1126-1156	clouds 40-90%, 85-90°F, winds 0-12 mph
July 29, 2006	K. Osborne	1252-1344	25% clouds, winds 0-5 mph, 87°F
August 1, 2006	A. Van Dam and R. Rogers	1220-1253	50% clouds, wind 0-2 mph, 85-90 °F for day
August 3, 2006	K. Osborne	1338-1420	clear, calm, 82-85°F
August 5, 2006	A. Van Dam	1157-1257	clear, calm, 87-95°F
August 7, 2006	A. Van Dam	1335-1400	clear, wind 0-2, 90-91°F
August 9, 2006	A. Van Dam and R. Rogers	1300-1320	clear, calm, 89-101°F
August 11, 2006	K. Osborne	1115-1210	clear, calm, 92-93°F
August 12, 2006	A. Van Dam	1000-1100	clear, wind 0-2 mph, 81-100°F
August 13, 2006	A. Van Dam	1130-1206	clear, calm, 87°F
August 14, 2006	A. Van Dam	1000-1100	clear, wind 0-2 mph, 87-95°F
August 17, 2006	K. Osborne	1115-1155	clear, calm, 85°F
August 19, 2006	A. Van Dam	1000-1100	clear, calm, 89-95°F for day
August 20, 2006	A. Van Dam	1047-1128	clear, calm, 85-103°F for day
August 21, 2006	A. Van Dam	1000-1100	clear, calm, 86-100°F for day
August 23, 2006	A. Van Dam	1000-1036	clear, wind 0-2, 95-100°F for day
August 26, 2006	A. Van Dam	1250-1350	clear, wind 0-2 mph, 87-98°F for day
August 27, 2006	A. Van Dam	1000-1036	clear, calm, 90-103°F for day

August 28, 2006	A. Van Dam	1230-1330	clear, calm, 98-100°F
August 31, 2006	K. Osborne	1100-1139	clear, calm, 94°F
September 2, 2006	A. Van Dam	1045-1145	clear, wind 0-2 mph, 100-104°F for day
September 3, 2006	A. Van Dam	1050-1126	clear, calm, 99-107°F for day
September 4, 2006	A. Van Dam	1000-1100	clear, calm, 96-107°F for day
September 7, 2006	K. Osborne	1047-1133	clear, calm, 87-90°F
September 10, 2006	K. Osborne	1029-1230	clear, calm, 82-85°F
September 14, 2006	A. Van Dam	1044-1230	overcast, calm, 80°F
September 16, 2006	R. Rogers	1220-1400	clear, wind 0-2 mph, 84-89°F
September 18, 2006	A. Van Dam	1229-1400	clear, calm, 97°F

Table 2. Area 2: Dates, personnel, times and conditions for DSF survey work.

Date	Biologists	Hours	Weather Conditions
July 1, 2006	K. Osborne	1102-1121	clear, calm, 97-105°F for day
July 2, 2006	M. Van Dam	1210-1332	clear, wind 0-2 mph, 101°F
July 4, 2006	K. Osborne	1046-1112	clear, calm, 89-90°F
July 4, 2006	M. Van Dam	1140-1300	clear, calm, 92°F
July 9, 2006	A. Van Dam	1226-1315	clear, wind 2-3 mph, 92-104°F for day
July 10, 2006	A. Van Dam	1115-1240	clear, wind 1-6, 94-104°F for day
July 15, 2006	A. Van Dam	1141-1300	clear, wind 2-6, 95-108°F
July 17, 2006	A. Van Dam	1107-1237	20-80% clouds, wind 1-8 mph, 91-104°F
July 22, 2006	A. Van Dam	1106-1236	0-10% clouds, calm, 100-102°F
July 24, 2006	A. Van Dam	1105-1235	0-30% clouds, calm, 100°F
July 29, 2006	A. Van Dam and R. Rogers	1032-1112	clouds 40-90%, 85-90°F, winds 0-12 mph
August 1, 2006	A. Van Dam and R. Rogers	1123-1203	50% clouds, wind 0-2 mph, 85-90°F for day
August 5, 2006	A. Van Dam	1105-1150	clear, calm, 87-95°F
August 7, 2006	A. Van Dam	1107-1152	overcast, calm, 80°F
August 12, 2006	A. Van Dam	1110-1155	clear, wind 0-2 mph, 100°F
August 12, 2006	K. Osborne	1148-1159	clear, calm, 87°F
August 14, 2006	A. Van Dam	1104-1149	clear, wind 0-2 mph, 95°F
August 19, 2006	A. Van Dam	1105-1150	clear, calm, 89-95°F for day
August 21, 2006	A. Van Dam	1105-1150	clear, calm, 86-100°F for day
August 26, 2006	A. Van Dam	1147-1232	clear, wind 0-2 mph, 87-98°F for day
August 28, 2006	A. Van Dam	1140-1225	clear, calm, 96-98°F

Table 3. Area 3: Dates, personnel, times and conditions for DSF survey work.

Date	Biologists	Hours	Weather Conditions
July 1, 2006	K. Osborne	1123-1126	clear, calm, 97-105°F for day
July 2, 2006	M. Van Dam	1334-1337	clear, wind 0-2 mph, 102°F
July 4, 2006	M. Van Dam	1130-1133	clear, calm, 90°F
July 9, 2006	A. Van Dam	1217-1224	clear, wind 2-3 mph, 92-104°F for day
July 10, 2006	A. Van Dam	1242-1248	clear, wind 1-6, 94-104°F for day
July 15, 2006	A. Van Dam	1136-1140	clear, wind 2-6, 95-108°F
July 17, 2006	A. Van Dam	1238-1242	20-80% clouds, wind 1-8 mph, 91-104°F
July 22, 2006	A. Van Dam	1239-1244	0-10% clouds, calm, 100-102°F
July 24, 2006	A. Van Dam	1240-1245	0-30% clouds, calm, 100°F
July 29, 2006	A. Van Dam and R. Rogers	1114-1119	clouds 40-90%, 85-90°F, winds 0-12 mph
August 1, 2006	A. Van Dam and R. Rogers	1113-1116	50% clouds, wind 0-2 mph, 85-90°F for day
August 5, 2006	A. Van Dam	1057-1102	clear, calm, 87-90°F
August 7, 2006	A. Van Dam	1159-1202	clear, wind 0-2, 90-91°F
August 12, 2006	A. Van Dam	1334-1339	clear, wind 0-2 mph, 100°F
August 14, 2006	A. Van Dam	1158-1203	clear, wind 0-2 mph, 95°F
August 19, 2006	A. Van Dam	1200-1205	clear, calm, 89-95°F for day
August 21, 2006	A. Van Dam	1155-1200	clear, calm, 86-100°F for day
August 26, 2006	A. Van Dam	1137-1144	clear, wind 0-2 mph, 87-98°F for day
August 28, 2006	A. Van Dam	1132-1137	clear, calm, 96°F
September 2, 2006	A. Van Dam	1150-1155	clear, wind 0-2 mph, 100-104°F for day
September 4, 2006	A. Van Dam	1108-1113	clear, calm, 96-107°F for day
September 11, 2006	A. Van Dam	1228-1233	clear, calm, 87-95°F for day
September 14, 2006	A. Van Dam	1234-1239	overcast, wind 0-2, 83°F
September 16, 2006	K. Osborne	1010-1018	clear, calm, 80°F
September 18, 2006	A. Van Dam	1219-1224	clear, calm, 97°F

Table 4. Area 4: Dates, personnel, times and conditions for DSF survey work.

Date	Biologists	Hours	Weather Conditions
July 1, 2006	K. Osborne	1129-1139	clear, calm, 97-105°F for day
July 2, 2006	M. Van Dam	1340-1400	clear, wind 0-2 mph, 103°F
July 4, 2006	M. Van Dam	1025-1045	clear, calm, 84°F
July 9, 2006	A. Van Dam	1151-1213	clear, wind 2-3 mph, 92-104°F for day
July 10, 2006	A. Van Dam	1250-1310	clear, wind 1-6, 94-104°F for day
July 15, 2006	A. Van Dam	1107-1127	clear, wind 2-6, 95-108°F
July 17, 2006	A. Van Dam	1248-1309	20-80% clouds, wind 1-8 mph, 91-104°F
July 22, 2006	A. Van Dam	1247-1307	0-10% clouds, calm, 100-102°F
July 24, 2006	A. Van Dam	1247-1307	0-30% clouds, calm, 100°F
July 29, 2006	A. Van Dam and R. Rogers	1205-1216	clouds 40-90%, 85-90°F, winds 0-12 mph
August 1, 2006	A. Van Dam and R. Rogers	1051-1058	50% clouds, wind 0-2 mph, 85-90°F for day
August 5, 2006	A. Van Dam	1035-1055	clear, calm, 87-90°F
August 7, 2006	A. Van Dam	1207-1227	clear, wind 0-2, 90-91°F
August 12, 2006	A. Van Dam	1244-1306	clear, wind 0-2 mph, 100°F
August 14, 2006	A. Van Dam	1209-1229	clear, wind 0-2 mph, 95°F
August 19, 2006	A. Van Dam	1208-1228	clear, calm, 89-95°F for day
August 21, 2006	A. Van Dam	1204-1224	clear, calm, 86-100°F for day
August 26, 2006	A. Van Dam	1113-1133	clear, wind 0-2 mph, 87-98°F for day
August 28, 2006	A. Van Dam	1108-1128	clear, calm, 90-96°F
September 2, 2006	A. Van Dam	1200-1220	clear, wind 0-2 mph, 100-104°F for day
September 4, 2006	A. Van Dam	1118-1138	clear, calm, 96-107°F for day
September 11, 2006	A. Van Dam	1200-1220	clear, calm, 87-95°F for day
September 13, 2006	A. Van Dam	1117-1137	clear, calm, 87-93°F
September 16, 2006	K. Osborne and R. Rogers	1157-1202	clear, winds 0-2 mph, 84°F
September 18, 2006	A. Van Dam	1110-1130	clear, calm, 97°F
September 20, 2006	K. Osborne	1213-1233	clear, calm, 86°F

Table 5. Area 5: Dates, personnel, times and conditions for DSF survey work.

Date	Biologists	Hours	Weather Conditions
July 1, 2006	K. Osborne	1147-1204	clear, calm, 97-105°F for day
July 4, 2006	M. Van Dam	1050-1120	clear, calm, 86°F
July 9, 2006	A. Van Dam	1108-1138	clear, wind 2-3 mph, 92-104°F for day
July 10, 2006	A. Van Dam	1312-1342	clear, wind 1-6, 94-104°F for day
July 15, 2006	A. Van Dam	1028-1058	clear, wind 2-6, 95-108°F
July 17, 2006	A. Van Dam	1312-1342	20-80% clouds, wind 1-8 mph, 91-104°F
July 22, 2006	A. Van Dam	1310-1340	0-10% clouds, calm, 100-102°F
July 24, 2006	A. Van Dam	1312-1342	0-30% clouds, calm, 100°F
July 29, 2006	A. Van Dam and R. Rogers	1229-1244	clouds 40-90%, 85-90°F, winds 0-12 mph
August 1, 2006	A. Van Dam and R. Rogers	1036-1048	50% clouds, wind 0-2 mph, 85-90°F for day
August 2, 2006	K. Osborne	1154-1230	partial clouds to clear, wind 0-5 mph, 82-85°F
August 5, 2006	K. Osborne	1134-1215	clear, calm, 86°F
August 7, 2006	A. Van Dam	1232-1302	clear, wind 0-2, 90-91°F
August 12, 2006	A. Van Dam	1202-1232	clear, wind 0-2 mph, 100°F
August 14, 2006	A. Van Dam	1236-1306	clear, wind 0-2 mph, 95°F
August 19, 2006	A. Van Dam	1230-1300	clear, calm, 89-95°F for day
August 21, 2006	A. Van Dam	1230-1300	clear, calm, 86-100°F for day
August 26, 2006	A. Van Dam	1027-1057	clear, wind 0-2 mph, 87-98°F for day
August 28, 2006	A. Van Dam	1028-1058	clear, calm, 90°F
September 2, 2006	A. Van Dam	1230-1300	clear, wind 0-2 mph, 100-104°F for day
September 4, 2006	A. Van Dam	1143-1217	clear, calm, 96-107°F for day
September 11, 2006	A. Van Dam	1126-1156	clear, calm, 87-95°F for day
September 14, 2006	A. Van Dam	1242-1313	overcast, wind 0-2, 83°F
September 16, 2006	K. Osborne and R. Rogers	1028-1050	clear, calm, 80°F
September 18, 2006	A. Van Dam	1140-1210	clear, calm, 97°F

Table 6. Area 6: Dates, personnel, times and conditions for DSF survey work.

Date	Biologists	Hours	Weather Conditions
1 July 2006	K. H. Osborne	1300 - 1330	93°F, calm
July 1, 2006	K. Osborne	1208-1258	clear, calm, 97-105°F for day
July 4, 2006	M. Van Dam	1000-1020	clear, wind 0-2 mph, 82°F
July 4, 2006	K. Osborne	1117-1205	clear, calm, 89-90°F
July 9, 2006	A. Van Dam	1032-1058	clear, wind 2-3 mph, 92-104°F for day
July 9, 2006	K. Osborne	1214-1256	clear, winds 0-5 mph, 105°F
July 10, 2006	A. Van Dam	1344-1400	clear, wind 1-6, 94-104°F for day
July 14, 2006	A. Van Dam	1000-1040	15% clouds, calm, 90-100°F
July 15, 2006	A. Van Dam	1000-1020	clear, wind 2-6, 95-108°F
July 17, 2006	A. Van Dam	1343-1400	20-80% clouds, wind 1-8 mph, 91-104°F
July 21, 2006	A. Van Dam	1000-1040	clear, winds 0-5 mph, 92°F
July 22, 2006	A. Van Dam	1341-1400	0-10% clouds, calm, 100-102°F
July 23, 2006	A. Van Dam	1000-1040	clouds 50-100%, wind 2-8 mph, 92-97°F
July 24, 2006	A. Van Dam	1345-1400	0-30% clouds, calm, 100°F
July 27, 2006	K. Osborne	1134-1222	clear, calm, 90°F
July 29, 2006	A. Van Dam and R. Rogers	1253-1327	clouds 40-90%, 85-90°F, winds 0-12 mph
August 1, 2006	A. Van Dam and R. Rogers	1016-1026	50% clouds, wind 0-2 mph, 85-90°F for day
August 1, 2006	K. Osborne	1205-1245	clear, calm, 84°F
August 5, 2006	A. Van Dam	1010-1030	clear, calm, 75-79°F
August 6, 2006	A. Van Dam and R. Rogers	1340-1400	clear, wind 0-8, 95°F
August 7, 2006	A. Van Dam	1310-1330	clear, wind 0-2, 90-91°F
August 9, 2006	A. Van Dam and R. Rogers	1230-1250	clear, calm, 89-101°F
August 12, 2006	K. Osborne	1207-1255	clear, calm, 87°F
August 12, 2006	A. Van Dam	1312-1332	clear, wind 0-2 mph, 100°F
August 14, 2006	A. Van Dam	1319-1339	clear, wind 0-2 mph, 95°F
August 16, 2006	A. Van Dam and R. Rogers	1008-1048	clear, wind 0-2 mph, 84-94°F
August 19, 2006	A. Van Dam	1308-1328	clear, calm, 89-95°F for day
August 20, 2006	A. Van Dam	1000-1040	clear, calm, 85-103°F for day
August 21, 2006	A. Van Dam	1306-1326	clear, calm, 86-100°F for day
August 23, 2006	A. Van Dam	1045-1125	clear, wind 0-2, 95-100°F for day
August 26, 2006	A. Van Dam	1000-1020	clear, wind 0-2 mph, 87-98°F for day
August 27, 2006	A. Van Dam	1046-1126	clear, wind 0-2 mph, 90-103°F for day
August 28, 2006	A. Van Dam	1000-1020	clear, calm, 80-85°F
August 30, 2006	A. Van Dam	1000-1040	clear, calm, 89-100°F
September 2, 2006	A. Van Dam	1305-1325	clear, wind 0-2 mph, 100-104°F for day

September 3, 2006	A. Van Dam	1000-1040	clear, calm, 99-107°F for day
September 4, 2006	A. Van Dam	1225-1245	clear, calm, 96-107°F for day
September 7, 2006	K. Osborne	1138-1220	clear, calm, 90-93°F
September 8, 2006	K. Osborne	1116-1136	clear, wind 0-5 mph, 82°F
September 11, 2006	A. Van Dam	1015-1117	clear, calm, 87-95°F for day
September 13, 2006	A. Van Dam	1010-1030, 1036-1116	clear, calm, 87°F
September 16, 2006	K. Osborne	1102-1130	clear, calm, 80-84°F
September 16, 2006	R. Rogers	1102-1136	clear, calm, 80°F
September 16, 2006	K. Osborne and R. Rogers	1136-1150	clear, calm, 80-84°F
September 18, 2006	A. Van Dam	1000-1106	clear, calm, 85-95°F

Table 7. Area 8: Dates, personnel, times and conditions for DSF survey work.

Date	Biologists	Hours	Weather Conditions
July 2, 2006	K. Osborne	1215-1345	clear, calm, 96°F
July 4, 2006	K. Osborne	1220-1445	clear, calm, 89-90°F
July 10, 2006	K. Osborne	1301-1400	clear, wind 0-2 mph, 102°F
July 19, 2006	K. Osborne	1310-1400	clear, 0-2 mph, 100°F
July 23, 2006	A. Van Dam	1145-1245	clouds 50-100%, wind 2-8 mph, 92-97°F
July 27, 2006	K. Osborne	1240-1330	clear, calm, 90°F
July 29, 2006	B. Drake	1230-1330	90% clouds, wind 0-5 mph, 88-92°F
August 5, 2006	B. Drake	1230-1330	clear, wind 0-2 mph, 89-94°F
August 8, 2006	B. Drake	1030-1130	10% clouds, wind 0-4 mph, 83-90°F
August 10, 2006	B. Drake	1030-1130	65% clouds, wind 0-2 mph, 73-80°F
August 12, 2006	B. Drake	1230-1330	clear, calm, 92-98°F
August 14, 2006	K. Osborne	1130-1230	clear, calm, humid, 85-90°F
August 19, 2006	B. Drake	1230-1330	clear, calm. 86-91°F
August 22, 2006	B. Drake	1030-1130	10% clouds, winds 0-5 mph, 90-95°F
August 26, 2006	B. Drake	1230-1330	clear, winds 0-5 mph, 89-92°F
August 29, 2006	B. Drake	1030-1130	10% clouds, winds 0-4 mph, 89-98°F
September 2, 2006	B. Drake	1230-1330	20% clouds, wind 0-4 mph, 98-102°F
September 5, 2006	B. Drake	1030-1130	20% clouds, calm, 93-101°F
September 10, 2006	K. Osborne	1300-1400	clear, wind 0-5 mph, 85°F
September 11, 2006	K. Osborne	1204-1304	clear, winds 0-5 mph, 92°F
September 16, 2006	B. Drake	1230-1330	clear, winds 0-6 mph, gusts to 11, 87-89°F
September 19, 2006	K. Osborne	1230-1330	clear, winds 0-2 mph., 91°F

Table 8. Area 9: Dates, personnel, times and conditions for DSF survey work.

Date	Biologists	Hours	Weather Conditions
July 1, 2006	K. Osborne	1340-1440	clear, calm, 97-105°F for day
July 3, 2006	M. Van Dam	1000-1400	clear to overcast, 2-10 mph, 87-94°F
July 3, 2006	K. Osborne	1118-1148	high overcast, calm, 98-102°F
July 5, 2006	M. Van Dam	1000-1400	clear, mostly calm (gusts to 10 mph), 81-99°F
July 6, 2006	M. Van Dam	1050-1100	clear, winds 0-5 mph, to 90°F
July 9, 2006	K. Osborne	1314-1324	clear, winds 0-5 mph, to 106°F
July 12, 2006	E. Shafhauser	1000-1400	clear, wind 0-3 mph, 86-101°F
July 12, 2006	A. Van Dam	1158-1208	clear, wind 2-4 mph, 97-105°F
July 14, 2006	E. Shafhauser	1000-1400	50% patchy clouds, wind 0-3 mph, 90-107°F
July 19, 2006	E. Shafhauser	1000-1400	40-50% high cirrus, wind 0-6 mph, 88-101°F
July 19, 2006	A. Van Dam	1150-1200	clear, calm, 95°F
July 21, 2006	E. Shafhauser	1000-1400	clear, 20% high cirrus, wind 0-4 mph, gusts to 9 mph, 87-106°F
July 23, 2006	A. Van Dam	1255-1305	clouds 50-100%, wind 2-8 mph, 92-97°F
July 24, 2006	E. Shafhauser	1000-1400	40% patchy clouds, wind 0-3 mph, 89-103°F
July 25, 2006	A. Van Dam	1000-1400	clear, 95-106°F, winds 3-10 mph
July 27, 2006	K. Osborne	1340-1400	clear, calm, 90°F
July 28, 2006	K. Osborne	1052-1134	clearing, calm,
July 28, 2006	K. Osborne	1052-1134	25% clouds, calm, 87°F
July 28, 2006	K. Osborne and R. Rogers	1134-1315	clear, calm, 84-90°F
July 28, 2006	K. Osborne and R. Rogers	1134-1316	25% clouds, calm, 87-90°F
July 28, 2006	R. Rogers	1316-1400	25% clouds, calm, 90°F
July 29, 2006	A. Van Dam and R. Rogers	1355-1400	clouds 40-90%, 85-90°F, winds 0-12 mph
July 30, 2006	A. Van Dam and R. Rogers	1054-1154	clouds 70-100%, 82-85°F, wind 2 mph
August 1, 2006	A. Van Dam and R. Rogers	1337-1342	50% clouds, wind 0-2 mph, 85-90°F for day
August 3, 2006	A. Van Dam and R. Rogers	1000-1100	overcast, calm, 73-79°F
August 4, 2006	K. Osborne	1045-1250	clear, calm, 88-96°F
August 6, 2006	A. Van Dam and R. Rogers	1000-1210	clear, wind 0-2 mph, 82-95°F
August 9, 2006	A. Van Dam and R. Rogers	1000-1200	clear, calm, 89-101°F
August 13, 2006	A. Van Dam	1030-1330	clear, calm, 82 °F

	and R. Rogers		
August 14, 2006	R. Rogers	1205-1215	clear, calm, 88 °F
August 16, 2006	R. Rogers	1015-1245	clear, wind 1-3, 84-94°F
August 16, 2006	A. Van Dam and R. Rogers	1108-1245	clear, wind 2-4 mph, 94°F
August 20, 2006	R. Rogers	1030-1040	clear, calm, 85°F
August 20, 2006	A. Van Dam and R. Rogers	1145-1345	clear, wind 2-3 mph, 103°F
August 20, 2006	A. Van Dam and R. Rogers	1145-1345	clear, calm, 85-103°F for day
August 23, 2006	R. Rogers	1045-1055	clear, calm, 100°F
August 23, 2006	A. Van Dam and R. Rogers	1100-1300	clear, calm, 100°F
August 23, 2006	A. Van Dam and R. Rogers	1145-1315	clear, wind 0-2, 95-100°F for day
August 27, 2006	R. Rogers	1115-1330	clear, wind 1-2 mph, 103°F
August 27, 2006	A. Van Dam and R. Rogers	1143-1330	clear, wind 1-2 mph, 103°F
August 27, 2006	R. Rogers	1330-1350	clear, wind 1-2 mph, 103°F
August 30, 2006	R. Rogers	1120-1335	clear, wind 0-2 mph, 100-105°F
August 30, 2006	A. Van Dam	1135-1335	clear, wind 1-2 mph, 105°F
September 2, 2006	R. Rogers	1320-1330	clear, wind 1-2 mph, 102°F
September 3, 2006	A. Van Dam and R. Rogers	1000-1255	5% patchy clouds, calm, 99-107°F
September 3, 2006	A. Van Dam and R. Rogers	1145-1255	clear, calm, 99-107°F for day
September 4, 2006	R. Rogers	1250-1300	clear to patchy clouds, calm, 100°F
September 6, 2006	A. Van Dam and R. Rogers	1015-1215	clear, winds 0-2, 94-100°F
September 6, 2006	A. Van Dam and R. Rogers	1030-1230	clear, calm, 100-108°F
September 10, 2006	R. Rogers	1000-1400	clear, wind 0-2, 84-92°F
September 11, 2006	R. Rogers	1225-1235	clear, wind 2-3 mph, 92 °F
September 12, 2006	R. Rogers	1000-1400	clear, calm, 92-101°F
September 14, 2006	R. Rogers	1215-1225	overcast, calm, 81°F
September 17, 2006	R. Rogers	1110-1120	clear, wind 0-7, 88-95°F for day
September 17, 2006	A. Van Dam	1000-1400	clear, winds 0-3, later 5-10 mph, 88-99°F
September 19, 2006	R. Rogers	1000-1400	clear, winds 0-2, 85-92°F
September 20, 2006	R. Rogers	1045-1055	clear, winds 0-4, 89 to 90°F

Table 9. Area 10: Dates, personnel, times and conditions for DSF survey work.

Date	Biologists	Hours	Weather Conditions
July 1, 2006	K. Osborne	1314-1334	clear, calm, 97-105°F for day
July 5, 2006	N. Moorhatch and M. Wilcox	1000-1400	clear-hazy, winds 0-3, 78-87°F
July 7, 2006	N. Moorhatch and M. Wilcox	1000-1130	clear, winds 0-2 mph, 86-88°F
July 9, 2006	A. Van Dam	1000-1400	clear, wind 0-5, 94-105°F
July 11, 2006	E. Shafhauser	1000-1400	clear, wind 1-3 mph, 87-101°F
July 11, 2006	A. Van Dam	1000-1400	clear, calm, 93-102°F
July 13, 2006	E. Shafhauser	1000-1400	clear, wind 0-5 mph, 83-103°F
July 16, 2006	A. Van Dam	1000-1400	30-40% clouds, wind 0-2 mph, 92+°F
July 18, 2006	A. Van Dam	1000-1400	clear, wind 1-10, 94-98°F
July 20, 2006	E. Shafhauser	1000-1400	clear, winds 0-5 mph, 82-96°F
July 21, 2006	B. Drake	1030-1200	20-30% clouds, winds 0-2, gusts to 6 mph, 91-99°F
July 22, 2006	E. Shafhauser	1000-1400	40% patchy cumulonimbus, wind 0-3 mph, 96-111°F
July 23, 2006	E. Shafhauser	1000-1400	overcast to 80% patchy, wind 0-5 mph, 87-111°F
July 26, 2006	A. Van Dam	1000-1400	80% marine layer to 1130, then clear, 97-102°F, winds 2-5 mph
July 27, 2006	A. Van Dam	1000-1400	clear, 91-100°F, winds 0-8 mph
August 2, 2006	A. Van Dam and R. Rogers	1000-1400	hazy, clearing, wind 0-4 mph, 91-96°F
August 4, 2006	A. Van Dam and R. Rogers	1000-1400	clear, wind 0-3 mph, 92-95°F
August 4, 2006	K. Osborne	1020-1040	10% clouds, clearing, calm, 85°F
August 6, 2006	A. Van Dam and R. Rogers	1230-1320	clear, wind 0-8, 95°F
August 8, 2006	A. Van Dam and R. Rogers	1000-1310	clear, calm, 92-103°F
August 10, 2006	A. Van Dam and R. Rogers	1000-1400	clear, wind 0-4 mph, 96-100°F
August 13, 2006	A. Van Dam and R. Rogers	1335-1400	clear, calm, 93°F
August 15, 2006	A. Van Dam and R. Rogers	1000-1335	50% overcast, clearing, calm, 90-93°F
August 17, 2006	A. Van Dam and R. Rogers	1000-1400	clear, calm, 94-98°F
August 22, 2006	A. Van Dam and R. Rogers	1000-1400	clear, calm, 101-103°F
August 24, 2006	A. Van Dam and R. Rogers	1000-1400	clear, wind 0-2, 94-100°F
August 29, 2006	A. Van Dam	1000-1400	clear, calm, 94-104°F

	and R. Rogers		
August 31, 2006	A. Van Dam and R. Rogers	1000-1400	clear, wind 0-2 mph, 90-99°F
September 3, 2006	A. Van Dam	1300-1400	clear, calm, 99-107°F for day
September 3, 2006	R. Rogers	1300-1400	5% patchy clouds, calm, 107°F
September 4, 2006	R. Rogers	1125-1155	clear, calm, 90-100°F
September 5, 2006	A. Van Dam and R. Rogers	1000-1400	clear, calm, 102-103°F
September 7, 2006	A. Van Dam and R. Rogers	1000-1200	clear, calm, 94-96°F
September 8, 2006	A. Van Dam and R. Rogers	1000-1200	clear, calm, 93-94°F
September 13, 2006	K. Osborne and A. Van Dam	1210-1408	clear, wind 2 mph, 93°F
September 17, 2006	R. Rogers	1130-1330	clear, wind 0-7, 88-95°F for day
September 18, 2006	R. Rogers	1000-1400	clear, wind 0-3 mph, 87-96°F
September 19, 2006	B. Drake	1300-1400	clear, winds 0-6 mph, 90-94°F
September 20, 2006	R. Rogers	1130-1400	clear, winds 0-4, 89 to 90°F

Table 10. Area 11: Dates, personnel, times and conditions for DSF survey work.

Date	Biologists	Hours	Weather Conditions
July 3, 2006	K. Osborne	1319-1345	high overcast, calm, 105°F
July 6, 2006	M. Van Dam	1000-1020	clear, winds 0-5 mph, 81°F
July 8, 2006	K. Osborne	1200-1220	clear, calm, 100°F
July 12, 2006	A. Van Dam	1318-1338	clear, wind 2-4 mph, 97-105°F
July 19, 2006	A. Van Dam	1311-1331	clear, calm, 95°F
July 23, 2006	A. Van Dam	1345-1400	clouds 50-100%, wind 2-8 mph, 92-97°F
July 28, 2006	K. Osborne and R. Rogers	1022-1032	50% clouds, calm, 84°F
July 30, 2006	A. Van Dam and R. Rogers	1000-1010	clouds 70-100%, 79-82°F, wind 2 mph
August 3, 2006	A. Van Dam and R. Rogers	1240-1250	overcast, calm, 79°F
August 5, 2006	R. Rogers	1245-1305	clear, calm, 85°F
August 7, 2006	R. Rogers	1330-1350	clear, calm, 88-89°F
August 14, 2006	R. Rogers	1015-1035	clear, wind 1-2, 87°F
August 19, 2006	R. Rogers	1250-1310	clear, wind 3-4 mph, 90-95°F
August 21, 2006	R. Rogers	1255-1315	clear, calm, 96-97°F
August 26, 2006	R. Rogers	1250-1315	clear, wind 0-3 mph, 95°F
August 28, 2006	R. Rogers	1250-1310	clear, calm, 98-100°F
September 2, 2006	R. Rogers	1200-1220	clear, wind 1-2 mph, 100°F
September 4, 2006	R. Rogers	1100-1120	clear, calm, 90°F

September 11, 2006	R. Rogers	1115-1135	clear, wind 2-3 mph, 90°F
September 14, 2006	R. Rogers	1100-1120	overcast, wind 0-3, 80-81°F
September 17, 2006	R. Rogers	1000-1020	clear, wind 8-10, 88°F
September 20, 2006	R. Rogers	1100-1120	clear, winds 0-4, 89 to 90°F

Table 11. Area 12: Dates, personnel, times and conditions for DSF survey work.

Date	Biologists	Hours	Weather Conditions
July 3, 2006	K. Osborne	1217-1242	high overcast, calm, 103°F
July 6, 2006	M. Van Dam	1105-1150	clear, winds 0-5 mph, to 93°F
July 9, 2006	K. Osborne	1324-1400	clear, winds 0-5 mph, to 106°F
July 12, 2006	A. Van Dam	1218-1240	clear, wind 2-4 mph, 97-105°F
July 19, 2006	A. Van Dam	1220-1305	clear, calm, 95°F
July 23, 2006	A. Van Dam	1310-1340	clouds 50-100%, wind 2-8 mph, 92-97°F
July 28, 2006	R. Rogers	1049-1134	25% clouds, calm, 87-90°F
July 28, 2006	R. Rogers	1049-1134	25% clouds, calm, 87°F
July 30, 2006	A. Van Dam and R. Rogers	1025-1047	clouds 70-100%, 82-85°F, wind 2 mph
August 3, 2006	A. Van Dam and R. Rogers	1205-1228	overcast, calm, 73-79°F
August 5, 2006	R. Rogers	1310-1400	clear, calm, 97 °F
August 8, 2006	A. Van Dam and R. Rogers	1325-1346	clear, calm, 92-103°F
August 14, 2006	R. Rogers	1040-1205	clear, calm, 88 °F
August 20, 2006	R. Rogers	1040-1125	clear, wind 2-3 mph, 103°F
August 23, 2006	R. Rogers	1000-1045	clear, calm, 98°F
August 27, 2006	R. Rogers	1030-1115	clear, calm, 92°F
August 30, 2006	R. Rogers	1035-1120	clear, calm, 90-105°F
September 2, 2006	R. Rogers	1230-1320	clear, wind 1-2 mph, 100-102°F
September 4, 2006	R. Rogers	1200-1245	clear, calm, 90-100°F
September 11, 2006	R. Rogers	1140-1225	clear, wind 2-3 mph, 90-92°F
September 14, 2006	R. Rogers	1125-1210	overcast, wind 0-3, 80-81°F
September 17, 2006	R. Rogers	1025-1110	clear, wind 0-7, 88-95°F for day
September 20, 2006	R. Rogers	1000-1045	clear, winds 0-4, 89 to 90°F

Table 12. Plant species encountered on the survey areas (2006)

Family/common name	Species	Area	1	2	3	4	5	6	7	8	9	10	11	12
ADOXACEAE														
Mexican elderberry	<i>Sambucus mexicana</i>		x	x				x						
AMERANTHACEAE														
white tumbleweed	<i>Amaranthus albus</i>		x	x	x			x		x	x	x	x	x
ANACARDIACEAE														
Peruvian Peppertree	<i>Schinus molle</i>		x	x				x						
ARECACEAE														
fan palm	<i>Washingtonia</i>							x			x			
ASTERACEAE														
Annual bur-weed	<i>Ambrosia acanthicarpa</i>		x	x	x	x	x	x		x	x		x	x
California sage	<i>Artemisia californica</i>					x		x		x				
tarragon	<i>Artemisia dracunculus</i>									x				
mule fat	<i>Baccharis salicifolia</i>				x			x		x	x		x	
Tocalote	<i>Centaurea melitensis</i>					x	x	x						x
common pineapple weed	<i>Chamomilla suaveolens</i>							x						
bull thistle	<i>Ciricium vulgare</i>		x							x				
flax-leaved horseweed	<i>Conyza bonariensis</i>		x				x	x					x	x
brittlebush	<i>Encelia farinosa</i>		x		x	x	x	x						
sunflower	<i>Helianthus annua</i>		x	x	x	x	x	x		x	x	x	x	x
telegraphweed	<i>Heterotheca grandiflora</i>		x	x		x	x	x		x			x	x
prickly lettuce	<i>Lactuca serriola</i>							x				x		x
cudweed aster	<i>Lessingia filaginifolia</i>									x				
common sow-thistle	<i>Sonchus oleraceus</i>							x				x	x	
	<i>Verbesina encelioides</i>							x		x	x	x	x	x
BORAGINACEAE														
ranchers fiddleneck	<i>Amsinkia menziesii</i>		x				x	x						
heliotrope	<i>Heliotropium crassavicum</i>									x	x			
BRASSICACEAE														
shortpod mustard	<i>Hirschfeldia incana</i>		x		x	x	x	x			x		x	x
London rocket	<i>Sisymbrium irio</i>		x								x	x	x	x
wild radish	<i>Raphanus sativus</i>						x							
CACTACEAE														
prickly pear	<i>Opuntia littoralis</i>		x					x						
valley cholla	<i>Opuntia parryi</i>		x					x						
CHENOPODIACEAE														
Saltbush	<i>Atriplex canescens</i>							x						
pitseed goosefoot	<i>Chenopodium berlandieri</i>											x		
Kochia	<i>Kochia scoparia</i>										x	x		x
russion thistle	<i>Salsola tragus</i>		x								x	x	x	x
CUSCUTACEAE														
Dove weed	<i>Eremocarpus setigerus</i>		x											
EUPHORBIACEAE														
California croton	<i>Croton californicus</i>		x			x	x			x				
castor-bean	<i>Ricinus communis</i>		x		x	x	x							
FABACEAE														
Palo verde	<i>Cercidium floridum</i>										x			
deer weed	<i>Lotus scoparius</i>		x											

mesquite	<i>Prosopis glandulosa</i>	x							
GERANIACEAE									
red-stem filaree	<i>Erodium cicutarium</i>	x		x	x			x	x x
GROSSULARIACEAE									
hillside gooseberry	<i>Ribes californicum</i>								
HYDROPHYLLACEAE									
common phacelia	<i>Phacelia distans</i>							x	
LAMINACEAE									
Horehound	<i>Marubium vulgare</i>	x							
black sage	<i>Salvia mellifera</i>				x				
MYRTACEAE									
Eucalyptus	<i>Eucalyptus</i>	x	x		x	x		x	x
ONAGRACEAE									
California sun cup	<i>Camissonia bistorta</i>	x							
PINACEAE									
Pine	<i>Pinus</i>					x			
POLYGONACEAE									
slender buckwheat	<i>Eriogonum gracile</i>	x							
Cal buckwheat	<i>Eriogonum fasciculatum</i>	x		x		x		x	
curly dock	<i>Rumex crispus</i>								x
SALICACEAE									
cottonwood	<i>Populus fremontii</i>						x	x	
Black willow	<i>Salix gooddingii</i>						x	x	x
arroyo willow	<i>Salix lasiolepis</i>						x	x	x
sandbar willow	<i>Salix exigua</i>						x		
SIMAROUBACEAE									
tree of heaven	<i>Ailanthus altissima</i>					x		x	x
SOLANACEAE									
Jimson weed	<i>Datura wrightii</i>	x						x	x
tree tobacco	<i>Nicotiana glauca</i>	x		x	x	x		x	x
TAMARICACEAE									
Mediterranean tamarisk	<i>Tamarix ramosissima</i>	x					x	x	x
VITACEAE									
Grape	<i>Vitis vinifera</i>						x	x	
ZYGOPHYLLACEAE									
Puncture vine	<i>Tribulus terrestris</i>	x							x
POACEAE									
Giant cane	<i>Arundo donax</i>						x	x	
slender oat	<i>Avena barbata</i>			x		x			x
ripgut	<i>Bromus diandrus</i>	x	x			x		x	x
Foxtail chess/red brome	<i>Bromus madritensis</i>	x		x	x	x		x	x
Bermuda grass	<i>Cynodon dactylon</i>	x				x		x	x
Schismus	<i>Schismus barbatus</i>	x		x		x		x	x
TYPHACEAE									
cat-tail	<i>Typha</i>						x		

Table 13. Insects encountered on the survey areas (2006).

Diptera													
Family	Species	Area	1	2	3	4	5	6	8	9	10	11	12
Mydidae (DSF)	<i>Rhaphiomidas terminatus</i>		x	x									
Mydidae	<i>Nemomydas pantherinus</i>		x					x		x			
Apioceridae	<i>Apiocera convergens</i>		x										
Apioceridae	<i>Apiocera crysolasia</i>		x			x		x					
Asilidae	<i>Efferia albibarbis</i>		x	x				x	x	x	x	x	x
Asilidae	<i>Mallophora fauatrix</i>		x					x	x	x			
Asilidae	<i>Promachus aldrichii</i>		x	x		x		x					
Asilidae	<i>Saropogon luteus</i>					x		x		x	x		
Asilidae	<i>Stenopogon brevisculus</i>		x					x	x	x	x	x	x
Asilidae	<i>Stenopogon rufibarbis</i>		x										
Bombyliidae	<i>Exoprosopa butleri</i>		x			x	x						
Bombyliidae	<i>Exoprosopa divisa</i>					x	x	x					
Bombyliidae	<i>Neodiplocampta mira</i>									x			
Bombyliidae	<i>Neodiplocampta mira</i>					x							
Bombyliidae	<i>Poecilanthrax arethusa</i>								x				
Bombyliidae	<i>Poecilognathus</i>							x					
Bombyliidae	<i>Thyridanthrax atrata</i>		x	x		x	x	x	x	x	x	x	x
Bombyliidae	<i>Thyridanthrax nugator</i>					x		x					
Bombyliidae	<i>Toxophora pellucida</i>		x										
Bombyliidae	<i>Villa lateralis</i>		x							x			
Bombyliidae	<i>Villa miscella</i>					x							
Bombyliidae	<i>Villa moliter</i>		x	x		x	x	x	x	x	x	x	x
Calliphoridae	<i>Phaenicia sericata</i>		x						x	x			
Conopidae	<i>Physocephala texana</i>					x		x	x	x			
Dolichopodidae	<i>Condylostylus pilicornis</i>							x	x	x			
Muscidae	<i>Musca domestica</i>		x	x	x	x	x	x	x	x	x	x	x
Sarcophagidae	<i>Sarcophaga sp</i>		x						x	x			
Syrphidae	<i>Eristalis tenax</i>								x	x			
Syrphidae	<i>Eristlis aenea</i>								x				x
Syrphidae	<i>Eupeodes volucris</i>					x							
Syrphidae	<i>Syritta pipiens</i>								x				
Syrphidae	<i>Volucella mexicana</i>							x	x	x			
Tabanidae	<i>Tabanus punctifer</i>		x						x	x		x	
Tachinidae	<i>Archytas apicifer</i>									x			
Tachinidae	<i>Gymnosoma fuliginosum</i>					x		x		x			
Tachinidae	<i>Peleteria ?</i>									x			
Therividae	<i>Thereva semitaria</i>		x										

Hymenoptera													
Family	Species	Area	1	2	3	4	5	6	8	9	10	11	12
Anthophoridae	<i>Anthophora urbana</i>								x				x
Anthophoridae	<i>Diadasia</i>					x							
Anthophoridae	<i>Melissodes</i>							x	x				
Anthophoridae	<i>Nomada</i>			x		x							

Andrenidae	<i>Nomadopsis</i>								X			
Apidae	<i>Apis mellifera</i>	X	X	X	X	X	X	X	X	X	X	X
Formicidae	<i>Iridomyrmex humilis</i>	X						X		X		X
Formicidae	<i>Liometopum</i>							X				
Formicidae	<i>Pogonomyrmex californicus</i>	X	X	X	X	X	X	X	X	X	X	X
Halictidae	<i>Agapostemon</i>	X			X	X		X	X	X	X	X
Megachilidae	<i>Megachile</i>							X				X
Mutillidae	<i>Dasymutilla californica</i>	X						X	X	X		
Mutillidae	<i>Dasymutilla coccineohirta</i>							X				
Mutillidae	<i>Dasymutilla sackeni</i>							X				
Pompilidae	<i>Ageniella</i>				X							
Pompilidae	<i>Pepsis chrysothemis</i>				X		X	X	X	X	X	
Pompilidae	<i>Pepsis thysbe</i>							X				
Pompilidae	<i>unidentified</i>				X				X			
Scoliidae	<i>Campsomeris tolteca</i>				X			X				
Scoliidae	<i>Trielis alcione</i>				X							
Sphecidae	<i>Ammophila</i>		X									
Sphecidae	<i>Ammophila aberti</i>	X			X		X	X	X	X	X	X
Sphecidae	<i>Ammophila azteca</i>				X		X		X	X		
Sphecidae	<i>Bembis melanaspsis</i>				X				X	X	X	X
Sphecidae	<i>Bembix americana</i>	X	X		X	X	X	X	X	X	X	X
Sphecidae	<i>Bembix melenopsis</i>		X									
Sphecidae	<i>Bicyrtes ventralis</i>				X			X				
Sphecidae	<i>cerceris</i>							X				
Sphecidae	<i>Cerceris</i>								X			
Sphecidae	<i>Cerceris femorrubrum</i>				X		X					
Sphecidae	<i>Cerceris femurrubrum</i>							X	X			X
Sphecidae	<i>Cerceris sextoides</i>						X					
Sphecidae	<i>Chlorion aerarium</i>	X			X			X	X	X		X
Sphecidae	<i>Hapalomellinus</i>				X				X			
Sphecidae	<i>Hoplisoides diversus</i>				X				X			
Sphecidae	<i>Liris</i>				X							
Sphecidae	<i>Philanthus multimaculatus</i>	X	X		X	X	X	X	X	X	X	
Sphecidae	<i>Philanthus ventilabris</i>		X									
Sphecidae	<i>Prionyx foxi</i>	X	X		X		X	X	X	X	X	X
Sphecidae	<i>Prionyx thomae</i>	X						X			X	X
Sphecidae	<i>Scellphron caementarium</i>	X			X	X	X	X	X	X	X	X
Sphecidae	<i>Tachysphex</i>				X							
Sphecidae	<i>Tachysphex</i>						X					
Sphecidae	<i>Tachysphex</i>						X					
Sphecidae	<i>Tachysphex</i>											X
Sphecidae	<i>Taschytes elongatus</i>	X			X		X	X	X	X		
Sphecidae	<i>unidentified</i>							X	X	X	X	
Sphecidae	<i>unidentified</i>							X				
Tiphiidae	<i>Myzinum maculatum</i>				X		X					
Vespidae	<i>Eumenes bollii</i>							X				
Vespidae	<i>Eumenes crucifera</i>				X							
Vespidae	<i>Euodynerus annulatum</i>				X			X	X	X		
Vespidae	<i>Polistes apachus</i>	X			X		X	X	X	X	X	X
Vespidae	<i>Polistes dorsalis</i>							X				

Vespidae	<i>Polistes exclamens</i>		X					X				
Vespidae	<i>Polistes fuscatus</i>							X	X	X		
Vespidae	<i>Xylocopa veripuncta</i>		X					X				X

Andrenidae	<i>Nomadopsis</i>								X			
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Neuroptera

Family	Species	Area	1	2	3	4	5	6	8	9	10	11	12
Mymarionidae			X	X	X	X	X	X	X	X	X	X	X

Coleoptera

Family	Species	Area	1	2	3	4	5	6	8	9	10	11	12
Chrysomelidae	<i>Diabrotica balteata</i>								X				
Chrysomelidae	<i>Diabrotica unedecimpunctata</i>							X					
Chrysomelidae	<i>Lema trilineata</i>								X				
Coccinellidae	<i>Hippodamia convergens</i>								X				
Meloidae	<i>Nemognatha lurida apicalis</i>									X			
Scarabaeidae	<i>Cotinus texana</i>		X	X	X	X	X	X	X	X	X	X	X
Scarabaeidae	<i>Polyphylla decimlineata</i>									X			
Tenebrionidae	<i>Elodes gracilis</i>		X					X					

Lepidoptera

Family	Species	Area	1	2	3	4	5	6	8	9	10	11	12
Danaidae	<i>Danaus gillipus</i>								X				
Danaidae	<i>Danaus plexippus</i>								X				
Hesperiidae	<i>Hylephila phyleus</i>		X	X		X	X	X	X	X		X	X
Hesperiidae	<i>Lerodia eufala</i>										X		
Hesperiidae	<i>Pyrgus albescens</i>							X	X		X		X
Lycaenidae	<i>Atlides halesus</i>								X				
Lycaenidae	<i>Brephidium exilis</i>							X	X	X			
Lycaenidae	<i>Leptotes marina</i>								X				
Lycaenidae	<i>Plebejus acmon</i>								X				
Lycaenidae	<i>Strymon melinus</i>		X			X		X	X				
Noctuidae	<i>Schinia sexplagiata</i>		X										
Nymphalidae	<i>Agraulis vanillae</i>		X					X	X				X
Nymphalidae	<i>Junonia coenia</i>						X		X	X	X		X
Nymphalidae	<i>Limenitis lorquini</i>								X				
Nymphalidae	<i>Nymphalis antiopa</i>								X				
Nymphalidae	<i>Vanessa cardui</i>							X	X				
Papilionidae	<i>Papilio cressphontes</i>		X					X					
Papilionidae	<i>Papilio rutulus</i>								X				
Pieridae	<i>Colias eurytheme</i>							X	X				
Pieridae	<i>Pieris rapae</i>		X					X	X				X
Pieridae	<i>Pontia protodice</i>		X	X	X	X	X	X	X	X	X	X	X

Heteroptera

Family	Species	Area	1	2	3	4	5	6	8	9	10	11	12
Lygaeidae	<i>Lygaeus kalmii</i>					X		X	X				
Nabidae	<i>Nabis</i>							X	X	X		X	X
Pentatomidae	<i>Chlorochroa uhleri</i>		X			X			X	X	X	X	X
Rhopalidae	<i>Arhyssus</i>								X				

Orthoptera

Family	Species	Area	1	2	3	4	5	6	8	9	10	11	12
Acrididae	<i>Derotmema saussuraenum</i>		X	X			X	X					
Acrididae	<i>Melanoplus</i>		X			X		X	X				
Acrididae	<i>Melanoplus</i>						X						
Acrididae	<i>Melanoplus yarrowii</i>								X				
Acrididae	<i>Psoloessa thamnogaea</i>							X					
Acrididae	<i>Schistocerca</i>								X				
Acrididae	<i>Schistocerca nitens</i>		X			X		X	X				
Acrididae	<i>Trimerotropis californica</i>		X	X		X	X	X	X	X		X	X
Acrididae	<i>Trimerotropis fontana</i>					X		X	X				
Acrididae	<i>Trimerotropis pallidipennis</i>		X	X	X	X	X	X	X	X	X	X	X
Acrididae									X				
Gryllidae	<i>Oecanthus</i>								X				
Tettigoniidae	<i>Microcentrum rhombifolium</i>							X					

Mantodea

Family	Species	Area	1	2	3	4	5	6	8	9	10	11	12
Mantidae	<i>Iris oratoria</i>		X			X	X	X	X	X	X		X

Odonata

Family	Species	Area	1	2	3	4	5	6	8	9	10	11	12
Aeshnidae	<i>Aeshna multicolor</i>		X	X			X		X	X	X		X
Aeshnidae	<i>Anax junius</i>		X	X			X		X	X	X	X	X
Calopterygidae	<i>Hetaerina americana</i>								X				
Coenagrionidae	<i>Argia</i>		X						X				
Libellulidae	<i>Brechmorhoga mendax</i>		X			X			X				
Libellulidae	<i>Libellula croceipennis</i>								X				
Libellulidae	<i>Libellula saturata</i>								X	X			
Libellulidae	<i>Pantala flavescens</i>		X	X	X	X	X	X	X	X	X	X	X
Libellulidae	<i>Pantala hymenaea</i>		X				X	X	X	X	X		
Libellulidae	<i>Perithemis intensa</i>								X				
Libellulidae	<i>Sympetrum corruptum</i>		X	X	X		X	X	X	X	X		X
Libellulidae	<i>Sympetrum illotum</i>												

Libellulidae	<i>Tramea lacerata</i>	x		x	x	x	x	x
Libellulidae	<i>Tramea onusta</i>	x	x	x	x	x	x	x

Appendix B: Vicinity Maps and Aerial Overviews

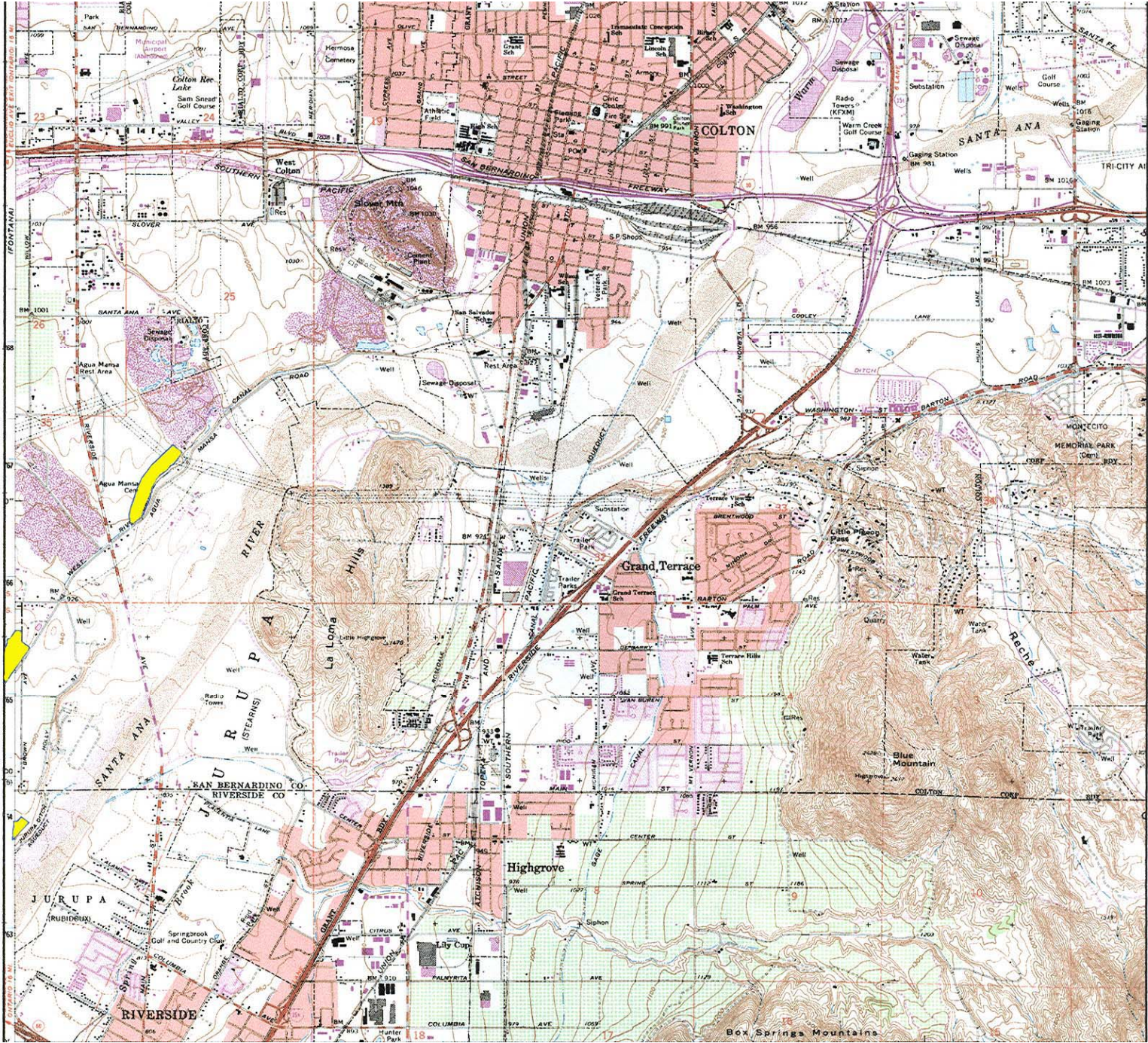
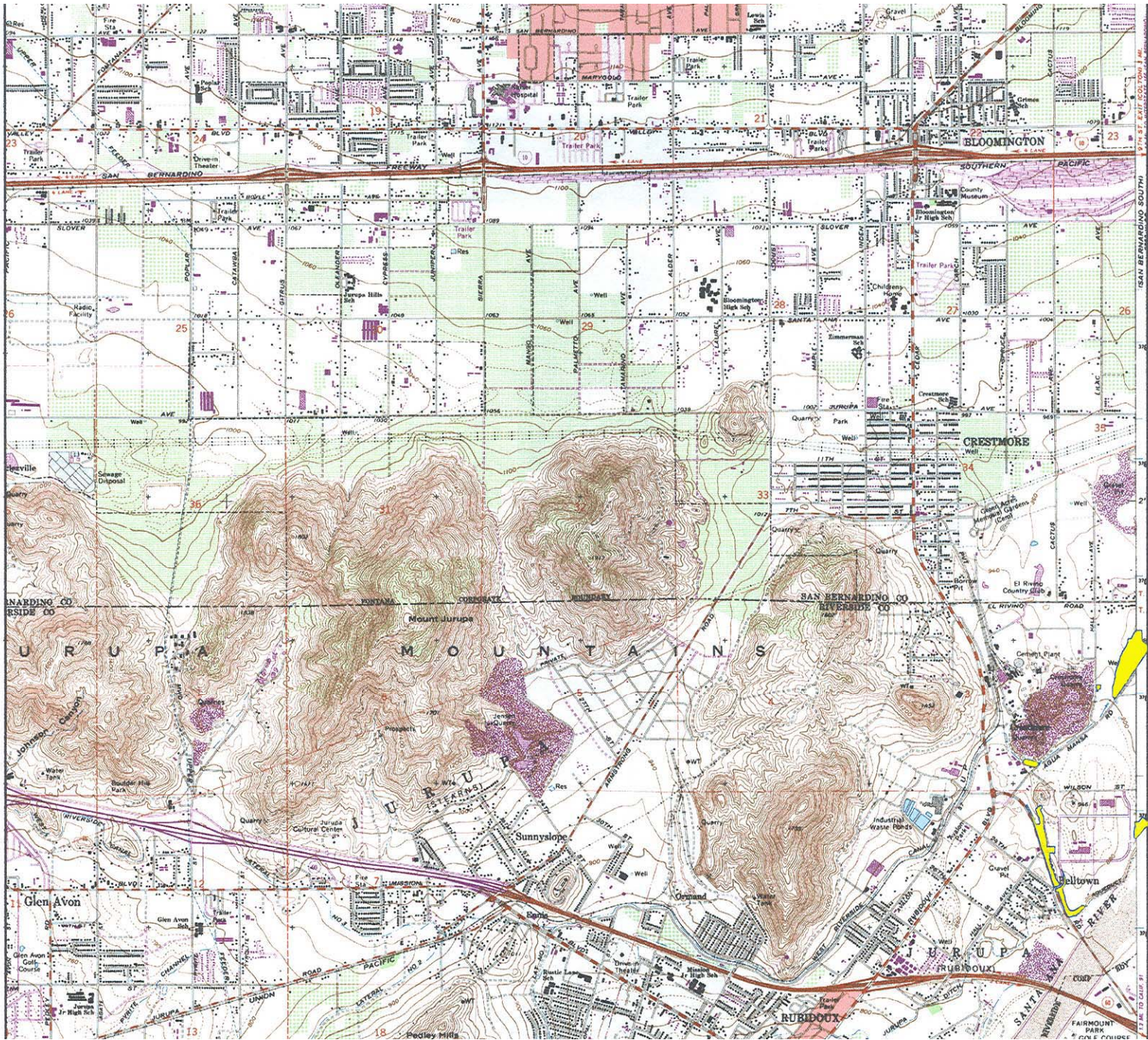


Figure 1. General vicinity of survey Areas 1, 2 and 5, San Bernardino South, California USGS 7.5" quadrangle at 50%. The sites are outlined in blue and highlighted in yellow.



— = 1 mile ↑
N

Figure 2. General vicinity of survey Areas 2 through 6, Fontana, California USGS 7.5” quadrangle at 50%. The sites are outlined in blue and highlighted in yellow.

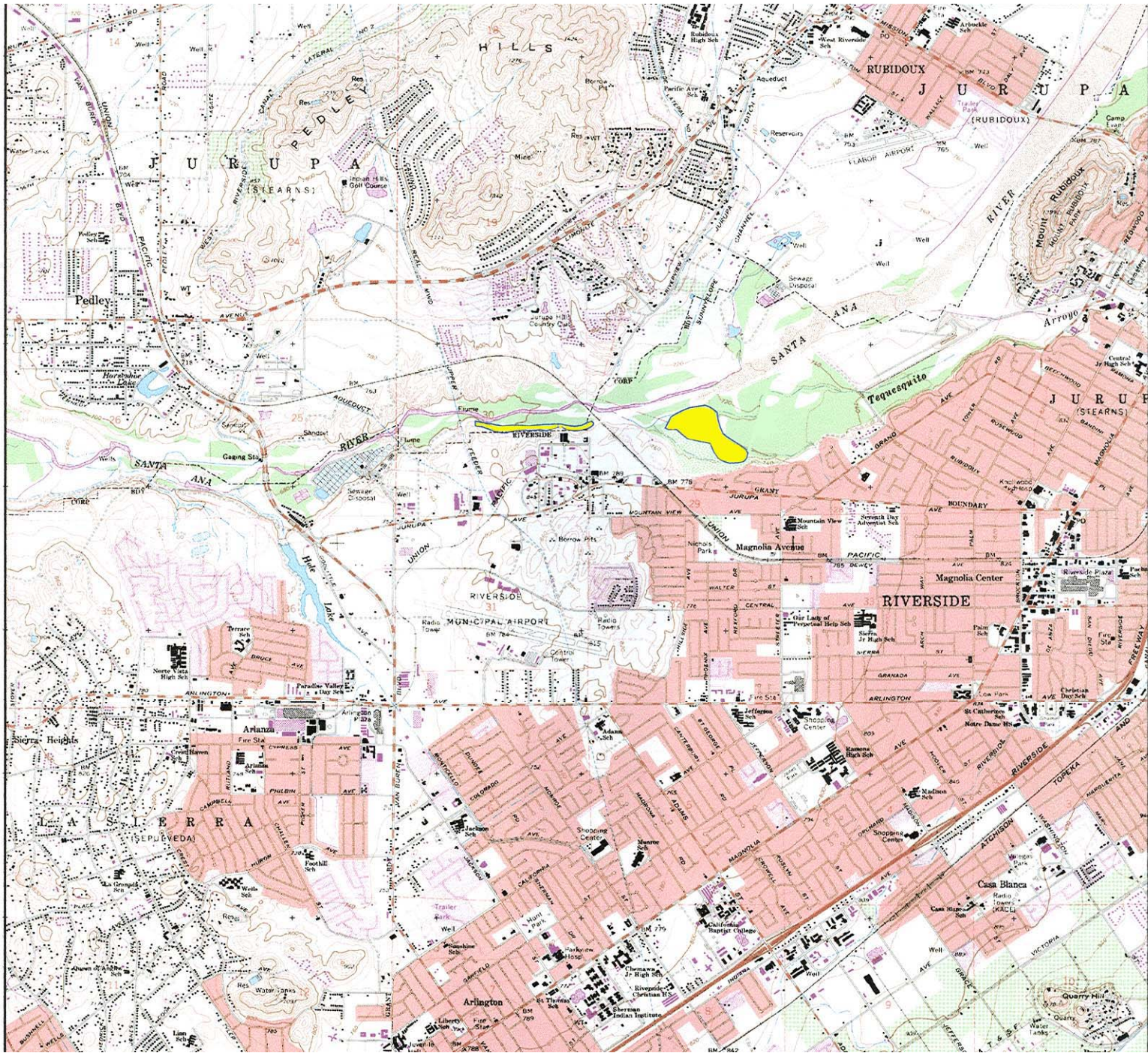


Figure 3. General vicinity of survey Areas 7 and 8, Riverside West, California USGS 7.5" quadrangle at 50%. The sites are outlined in blue and highlighted in yellow.

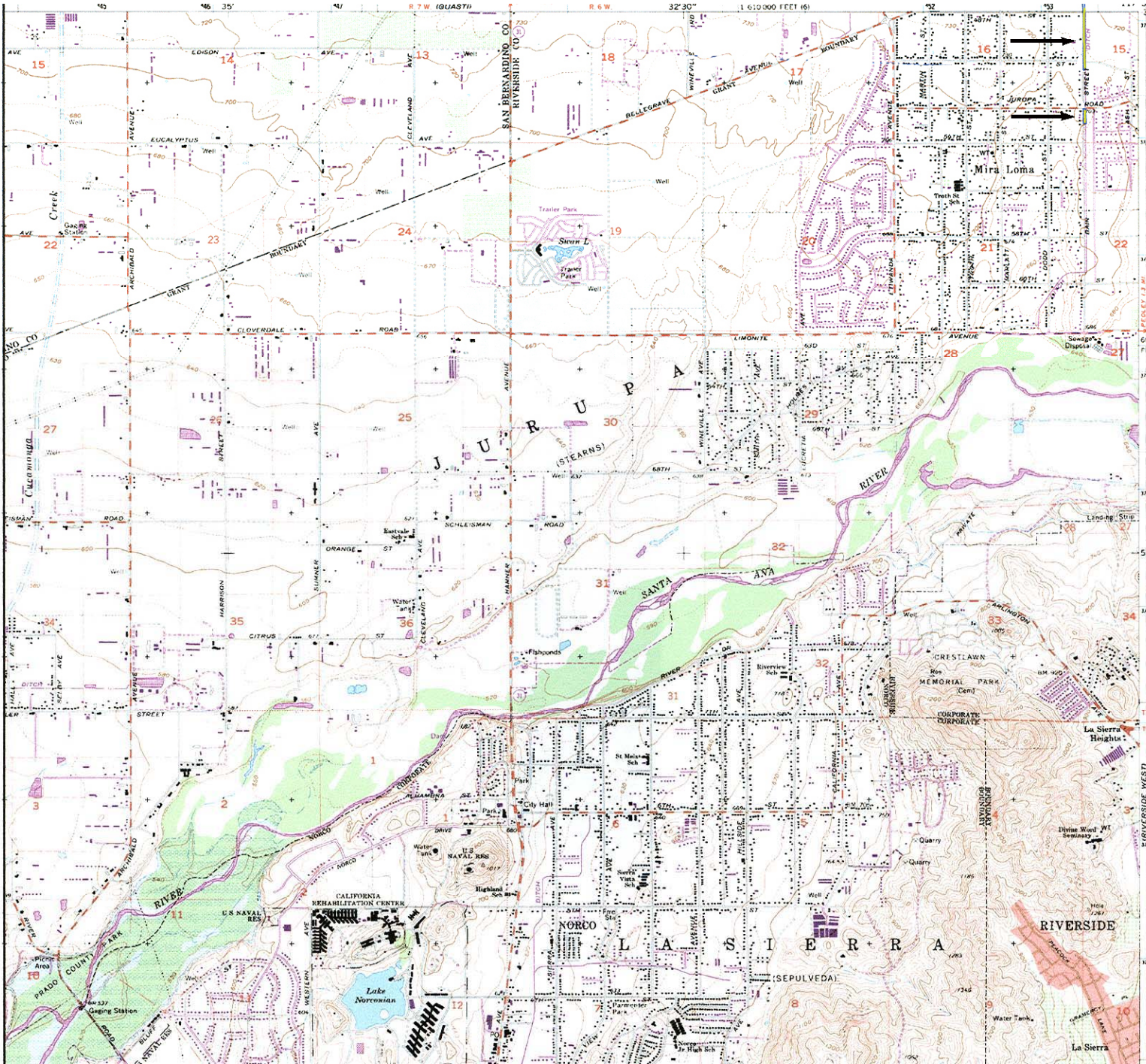


Figure 4. General vicinity of survey Area 12 (southern portion), Corona North, California USGS 7.5" quadrangle at 50%. The survey site (arrow) is outlined in blue and highlighted in yellow.

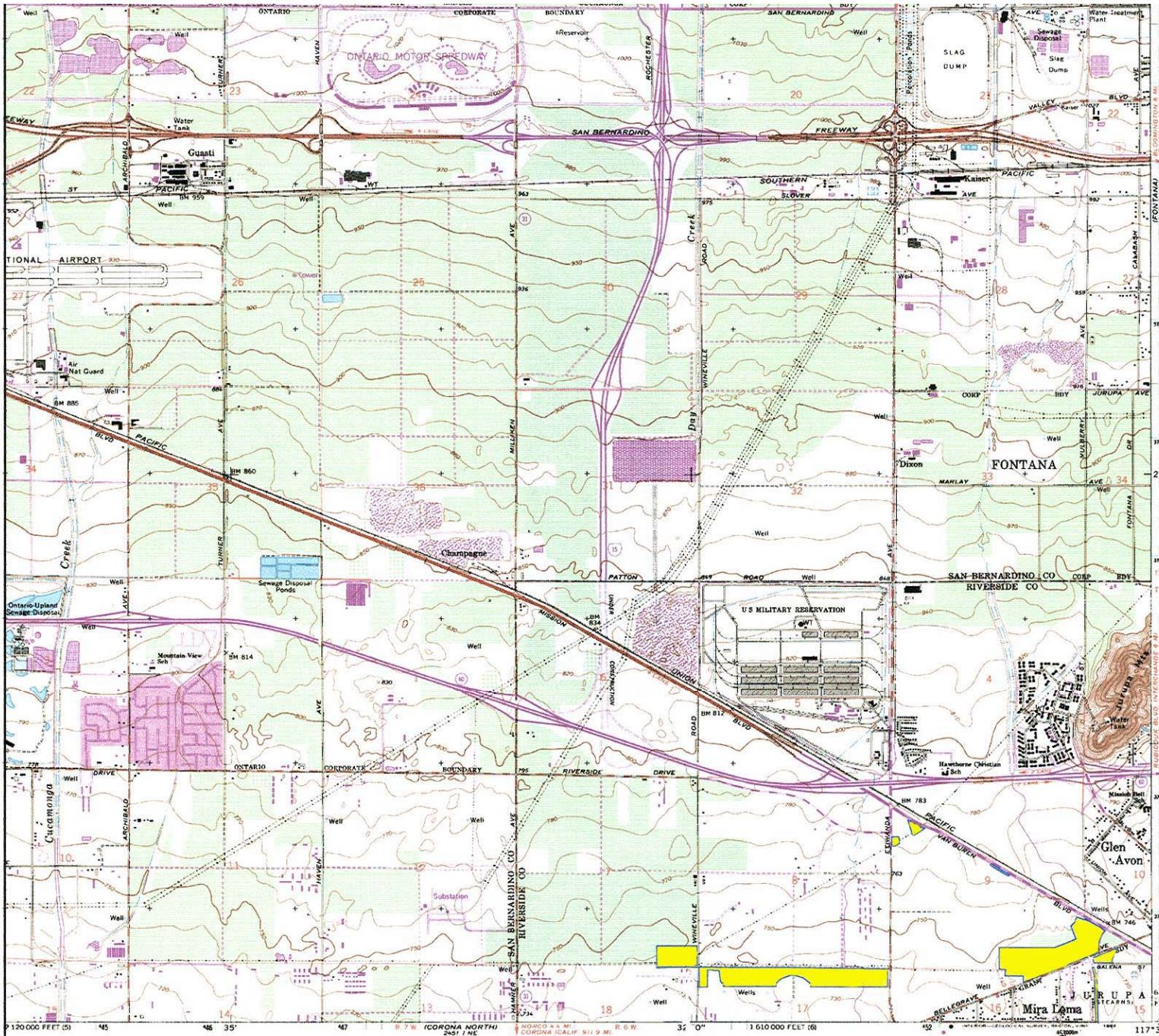
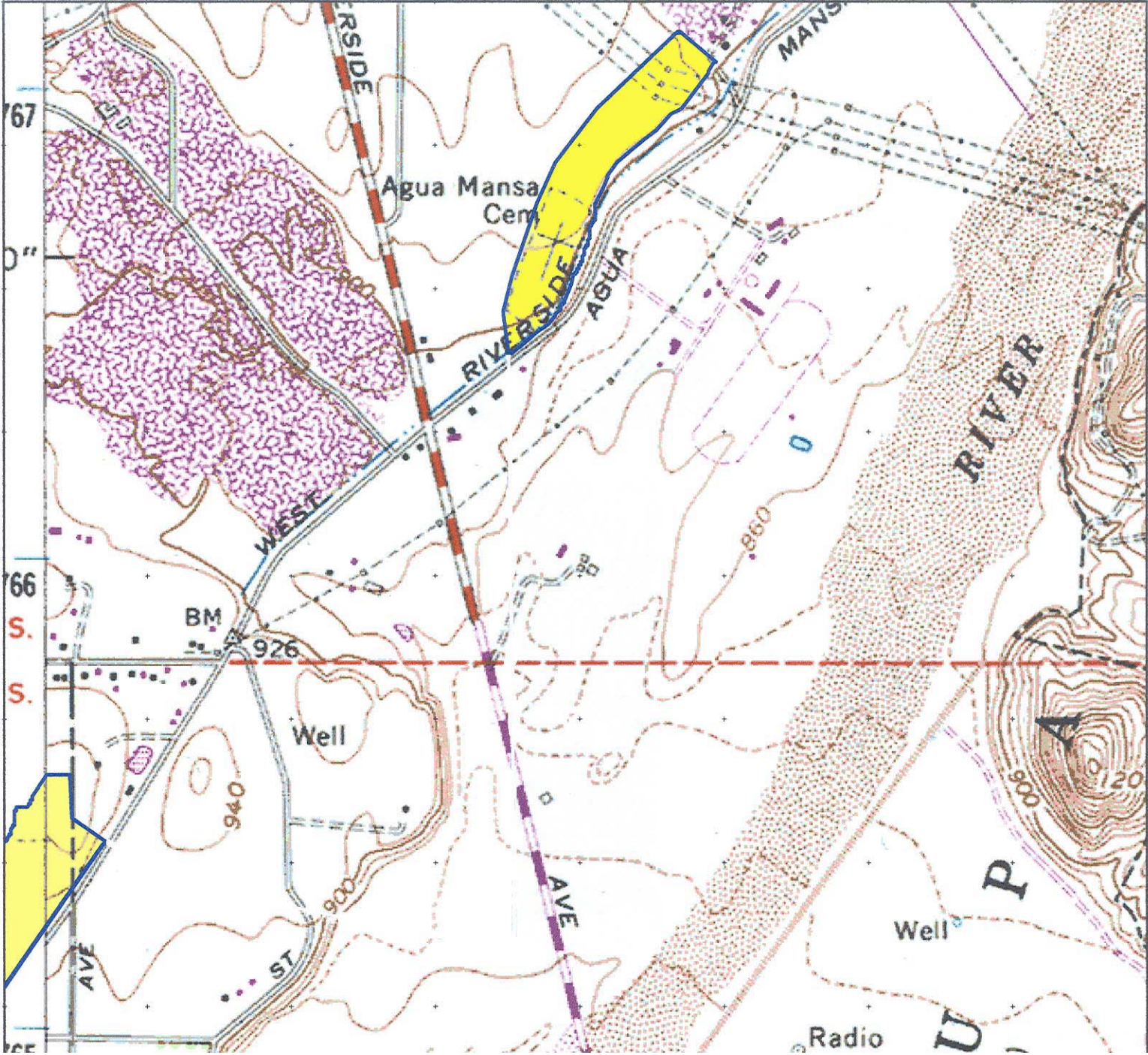


Figure 5. General vicinity of survey Areas 9 through 12 (northern portion), Guasti, California USGS 7.5" quadrangle at 50%. The sites are outlined in blue and highlighted in yellow.



— = 100 meters N ↑

Figure 6. General vicinity of survey Areas 1 and 2, San Bernardino South, California USGS 7.5" quadrangle at 200%. The sites are outlined in blue and highlighted in yellow.

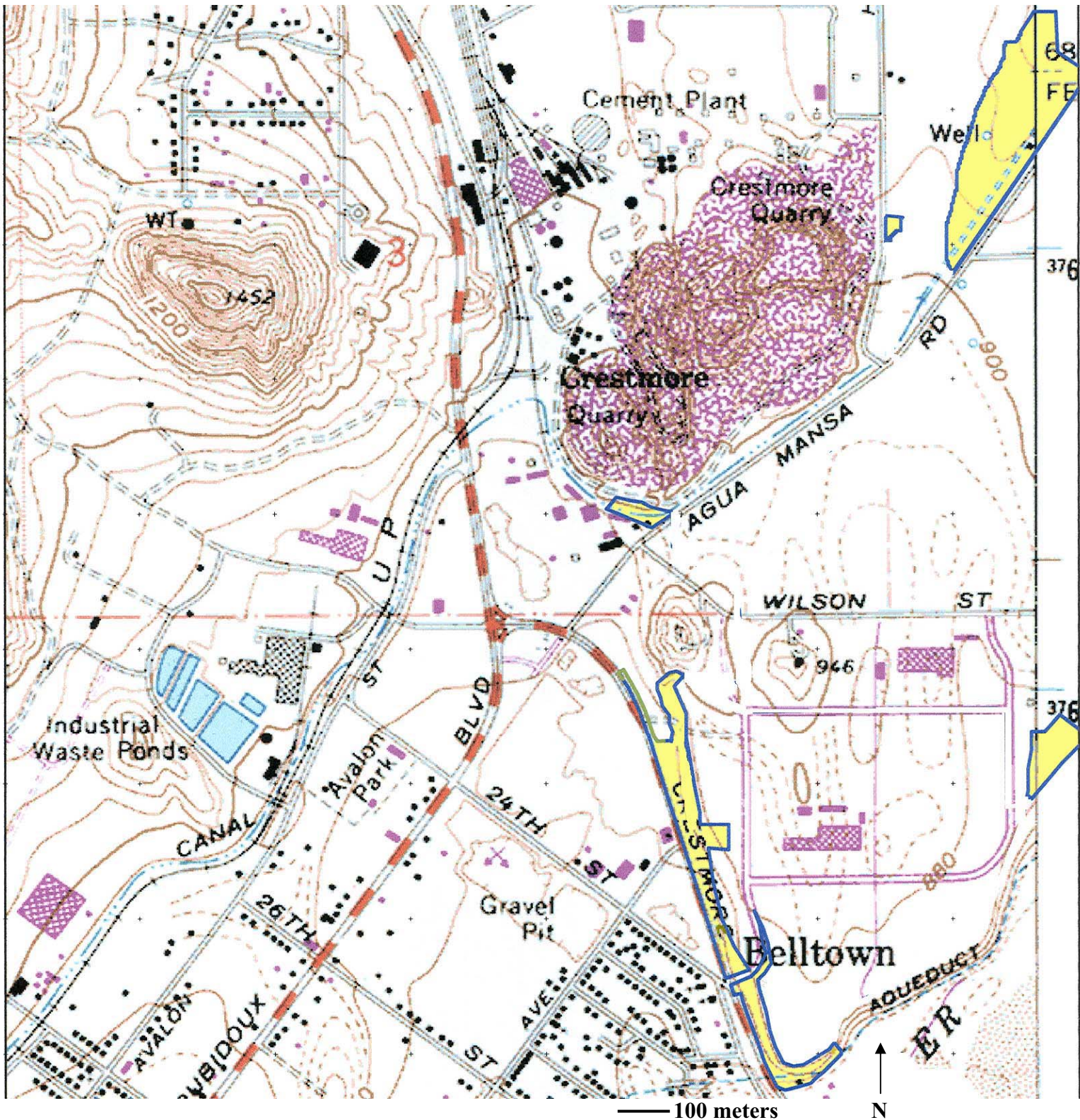


Figure 7. General vicinity of survey Areas 2 through 6, Fontana, California USGS 7.5" quadrangle at 200%. The sites are outlined in blue and highlighted in yellow.

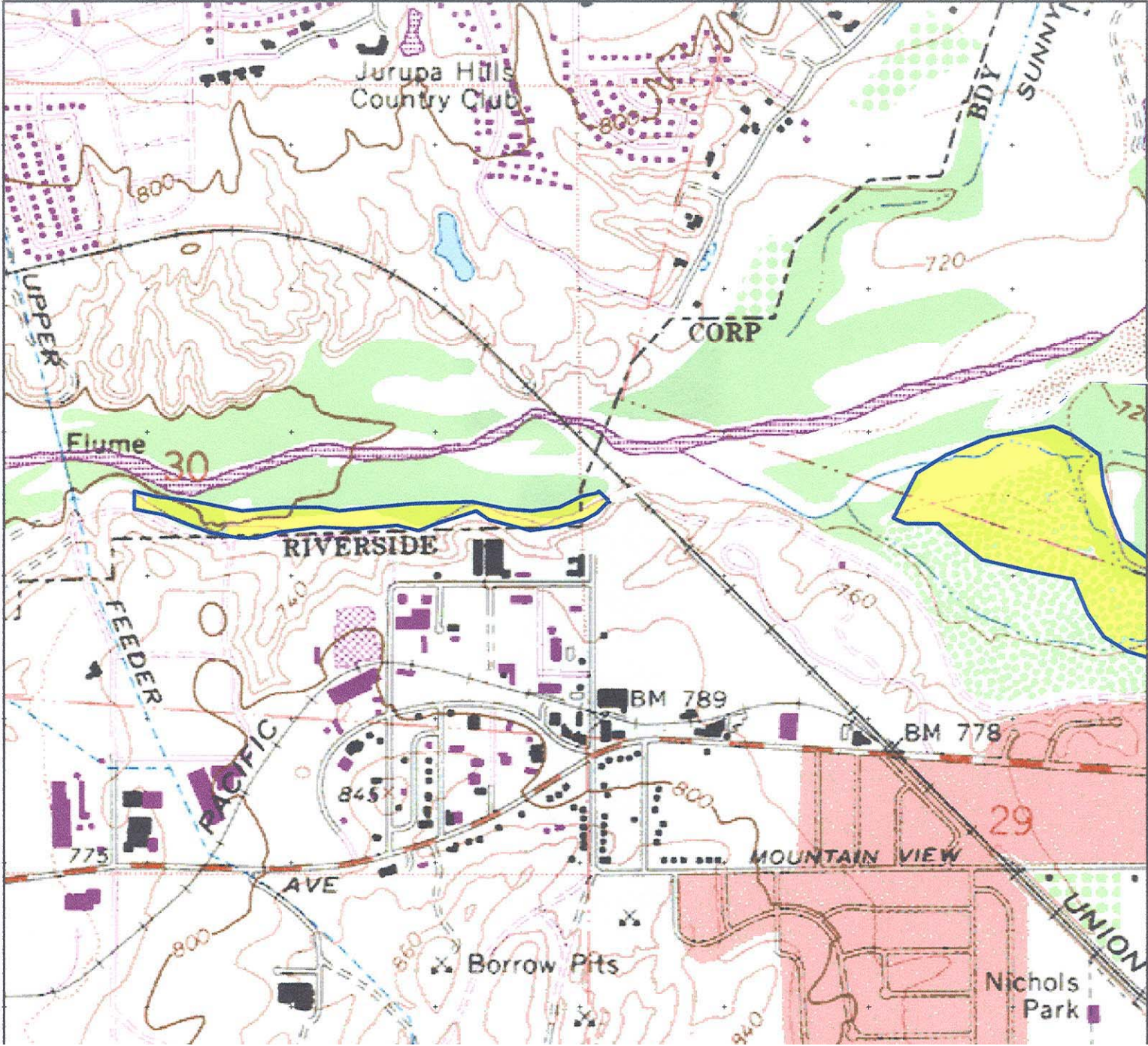


Figure 8. General vicinity of survey Areas 7 and 8 (7 only assessed), Riverside West, USGS 7.5" quadrangle at 200%. The sites are outlined in blue and highlighted in yellow.

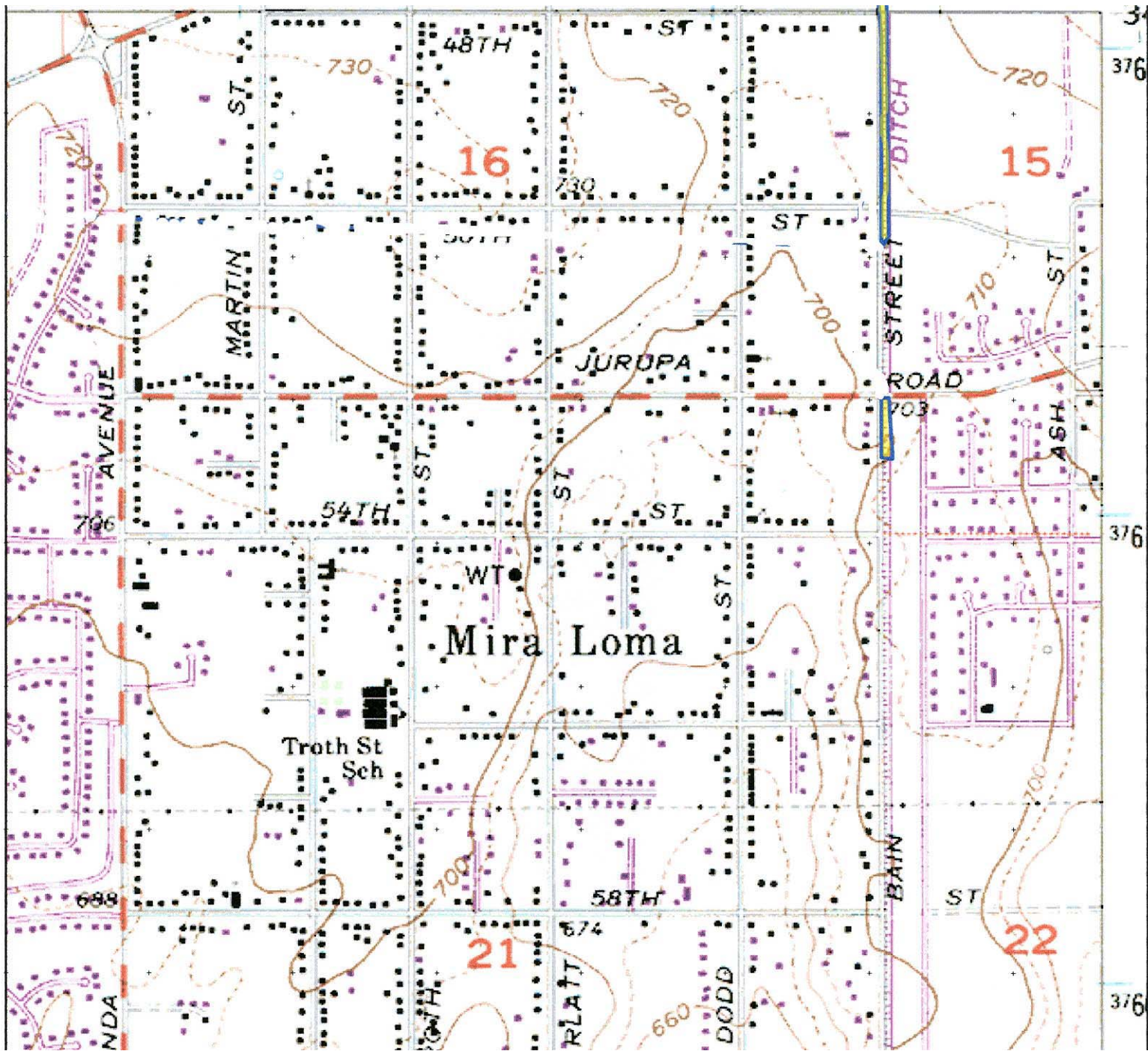


Figure 9. General vicinity of survey Area 12 (southern portion), Corona North, California USGS 7.5" quadrangle at 200%. The site is outlined in blue and highlighted in yellow.

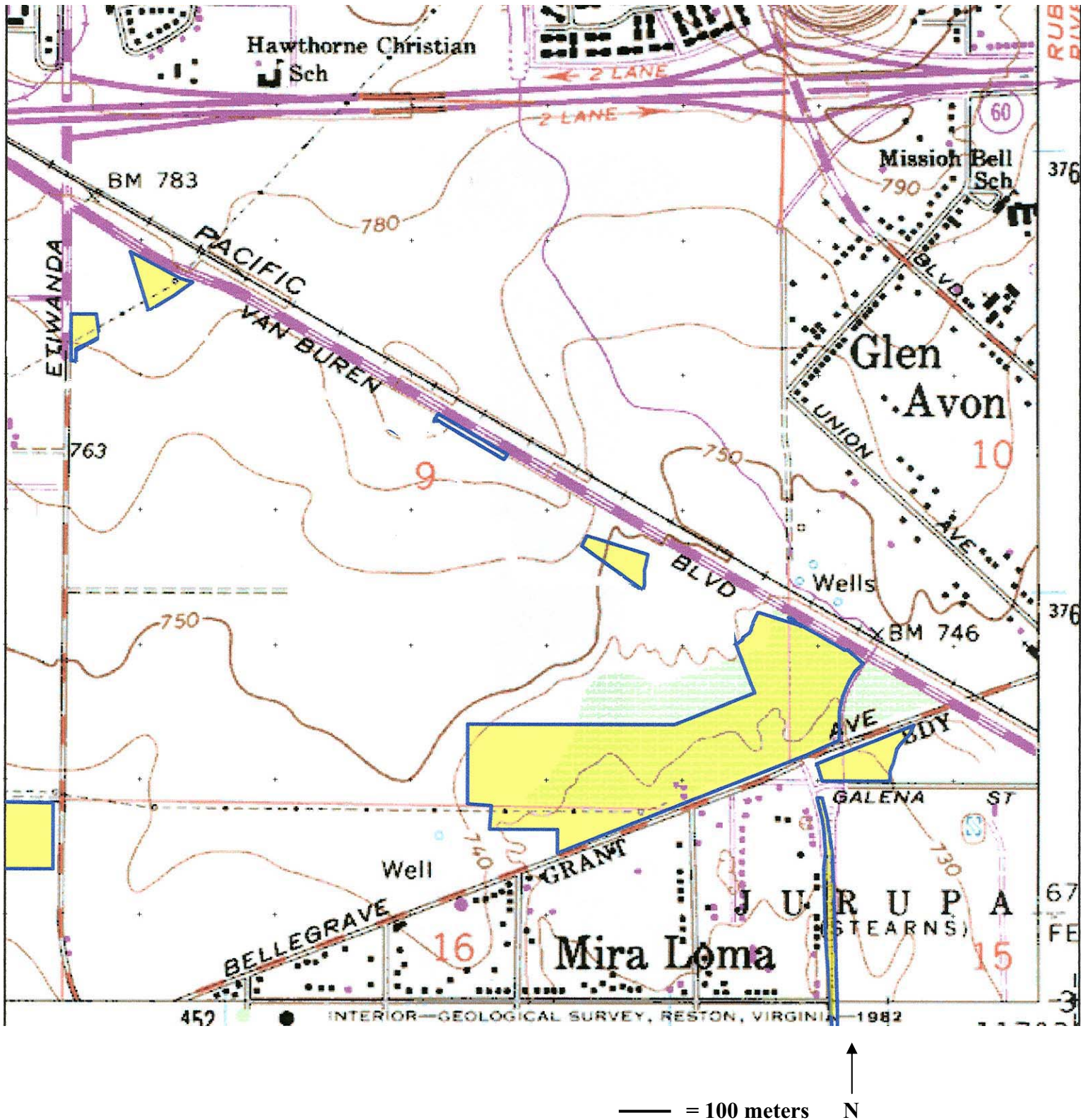


Figure 10. General vicinity of survey Areas 9 through 10 (eastern end) and 11 through 12 (northern portion), Guasti, California USGS 7.5" quadrangle at 200%. The sites are outlined in blue and highlighted in yellow.

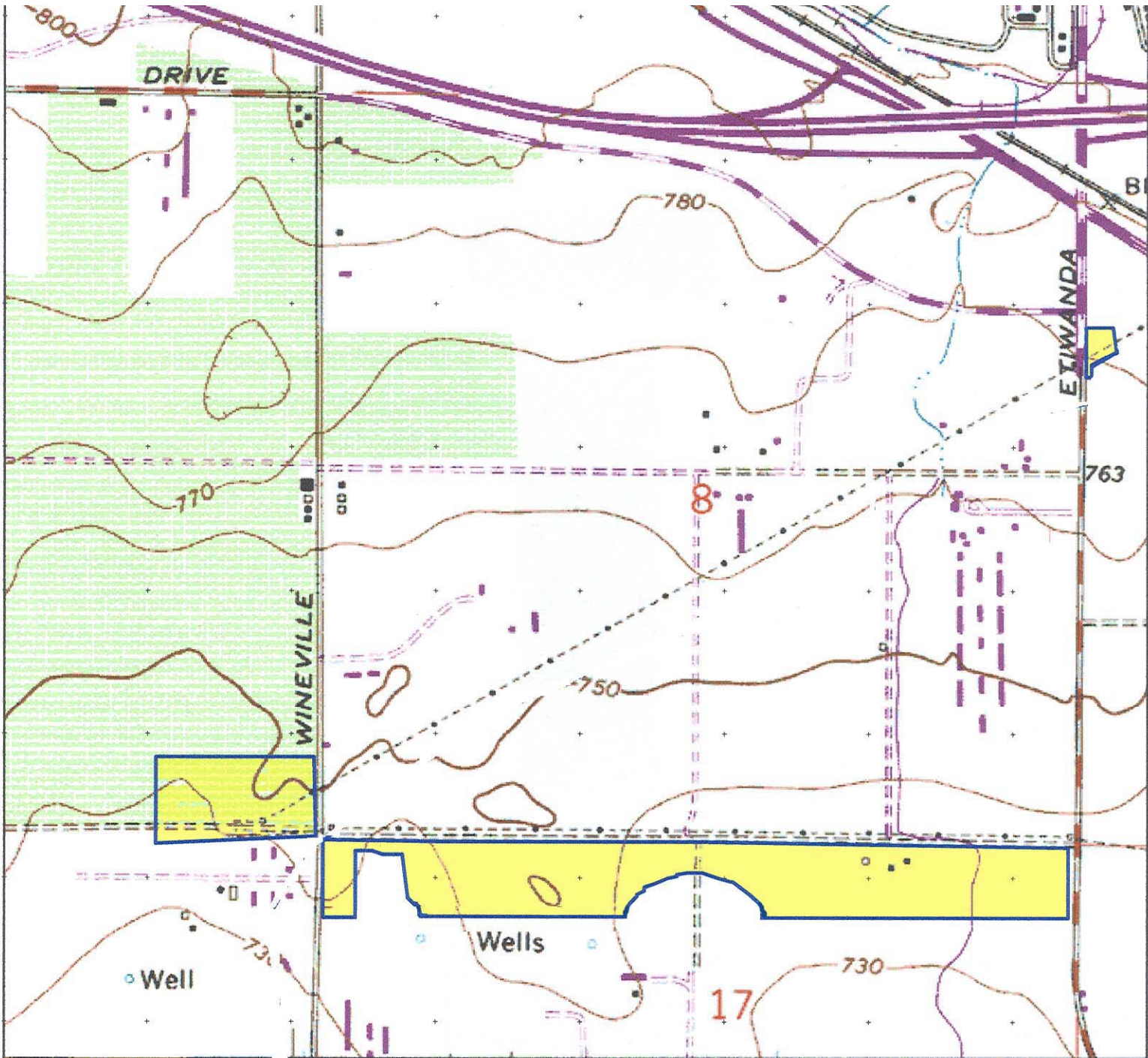
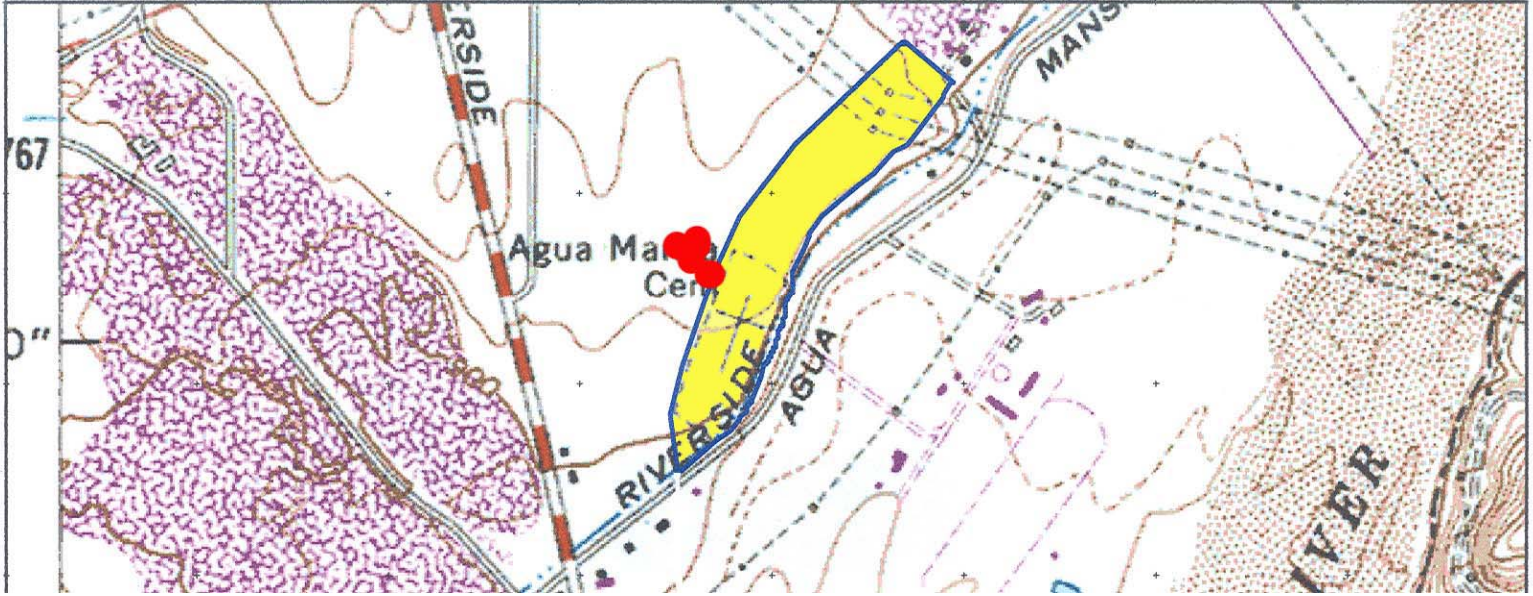
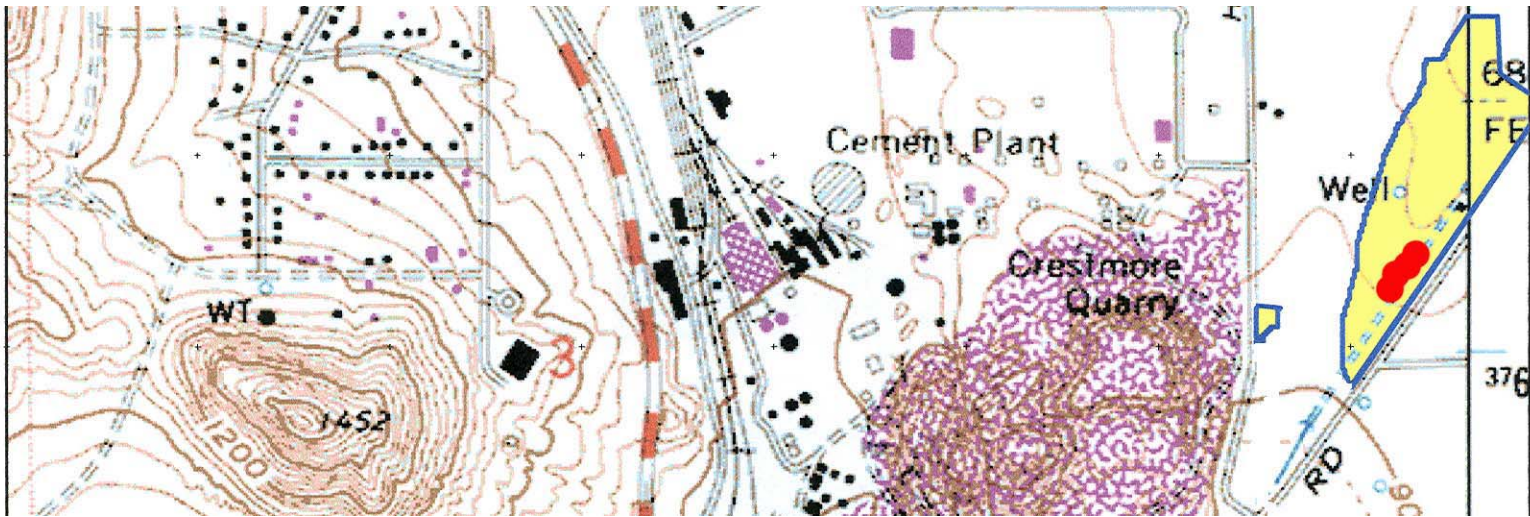


Figure 11. General vicinity of survey Areas 10 and 11, Guasti, California USGS 7.5" quadrangle at 200%. The site are outlined in blue and highlighted in yellow.



Survey Area 1



Survey Area 2

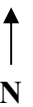



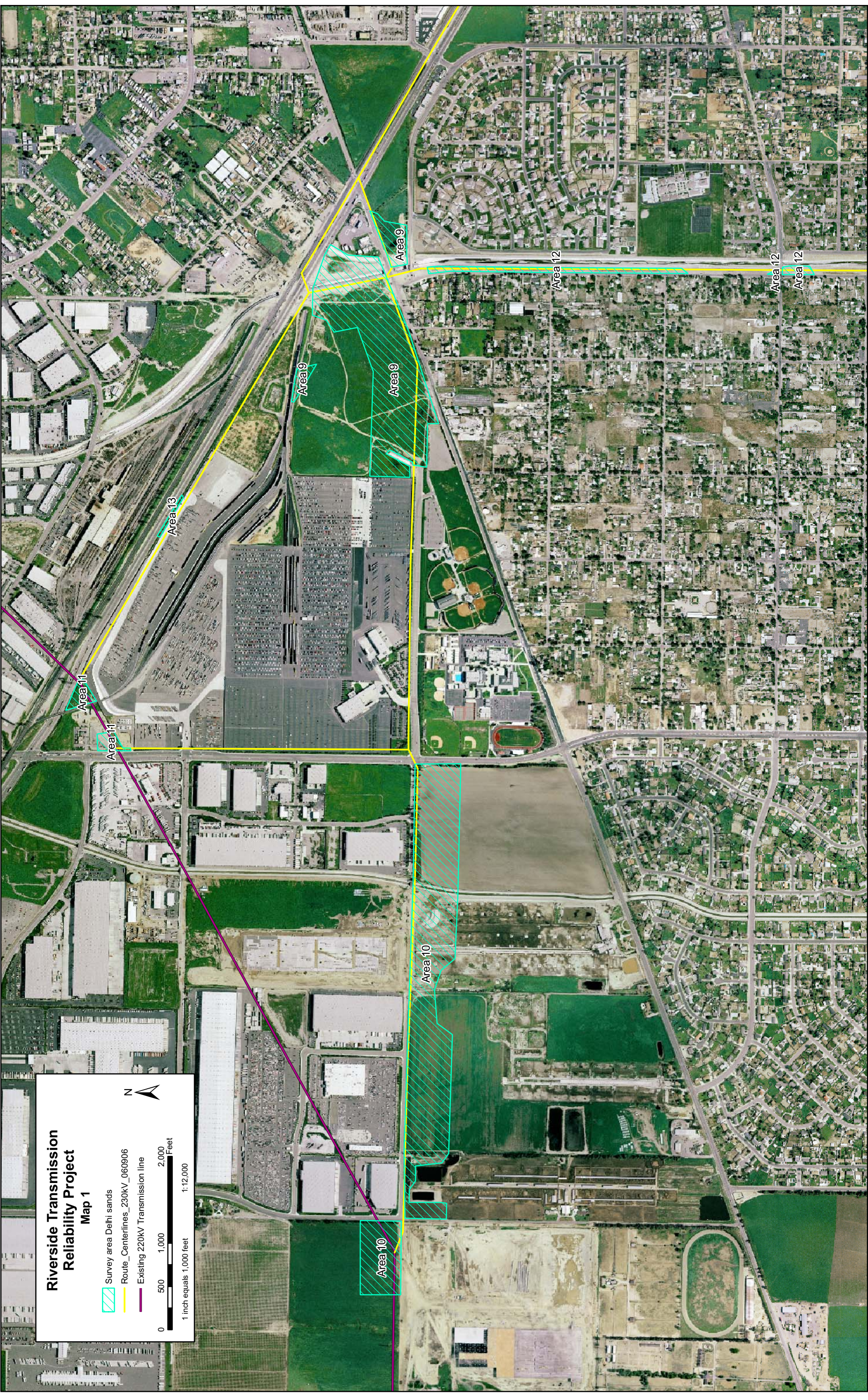
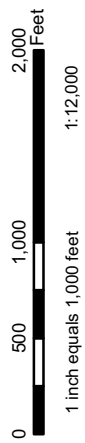


Figure 16. Approximate locations of DSF observations for 2006 (Red dots) around survey Areas 1 and 2.




Riverside Transmission Reliability Project

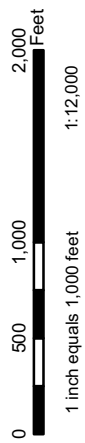
Map 1

-  Survey area Delhi sands
-  Route_Centerlines_230kV_060906
-  Existing 220kV Transmission line






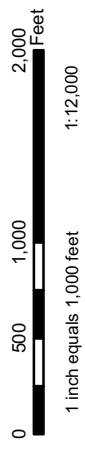
Riverside Transmission Reliability Project Map 2

-  Survey area Delhi sands
-  Route_Centerlines_230kV_060906
-  Existing 220kV Transmission line






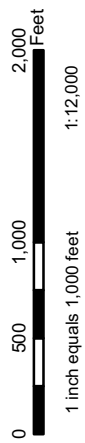
Riverside Transmission Reliability Project Map 3

-  Survey area Delhi sands
-  Route_Centerlines_230kV_060906
-  Existing 220kV Transmission line



**Riverside Transmission
Reliability Project
Map 4**

-  Survey area Delhi sands
-  Route_Centerlines_230kV_060906
-  Existing 220kV Transmission line



Appendix C: Representative Photographs



Figure 16. Photograph of mating pair of DSF observed on the northwestern edge of Area 1. Male DSF was followed for several minutes until observed to discover the female.



Figure 17. Photograph of the northwestern edge of the Agua Mansa Cemetery on survey Area 1, showing location of DSF observations (location is west of the cemetery). Cemetery fence is seen in the background (left).



Figure 18. Photograph of the southern edge of the Agua Mansa Cemetery (part of survey Area 1). Note abundance of clean exposed sands and *Croton californica*.



Figure 19. Photograph of extremely high quality DSF habitat on the northern portion of survey Area 2. Survey on this area was abandoned when it was discovered that an HCP has been approved for the site.



Figure 20. Photograph of survey Area 4, showing exposed sands on the cut banks surrounding the rail tracks. Note the abundance of coastal sage scrub indicating lack of disturbance at least on these substrates.



Figure 21. Photograph of the northern portion of survey Area 6, showing exposed sands on the cut banks and at the base of the hill. Coastal sage scrub indicates lack of disturbance on these substrates, resulting in high abundance and diversity of insect species associated with DSF habitats.



Figure 22. Photograph of survey Area 8 (lower slopes and foot of hill) on the southern edge of the Santa Ana River. This area has abundant alluvial sands on the flat areas (along with scattered trees and shrubs), but also has wind blown sands on the lower slopes. Coastal sage scrub and abundant sands associated insects are found here.



Figure 23. Photograph of the Area 7 (not surveyed) located beyond the bend in the river. This area supports dense riparian woodland on wet, flooded river bottom. View looks east from the railway bridge over the Santa Ana River.,



Figure 24. Photograph of the western portion of survey Area 11, showing disturbed conditions next to a parking lot. This weedy site featured very low insect diversity.



Figure 25. Photograph of the northern portion of survey Area 12, showing exposed sands along an equestrian trail. Conditions on this site range from low (disturbed sands at left for example) to moderate (such as vegetated areas as seen on the right).

Appendix D: Field Notes

Date 7/1/05 Time 1016 to 1218
 Miles 156213 on rd ~1250 - 1400
 Biologists Kato

Job Edison/Fire

Weather: Temp 97-105 Wind 0 Cloud cover 0 Rain 0

Comments:

			Miles
Area 1	1016 - 1050		6213
Area 2	1102 - 1121		6215
Area 3	1123 - 1126		6216
RR track Area 4	1127 - 1139	RR track	6218
Area 5	1147 - 1204	region across from Fleetwood St	6218
6	1208 - 1216	across from	6219
	to 1258	need to add @ before S and N ends	
		access issue @ N end (fence + yard of 1 in)	
		in bk lot off of Via Carlo?	
	(to Agustin) leaving Area 6 @ 1258		6223
Area 10	1314 - 1334		6234 (6237)
Area 9	1340 - 1400		6238

Biological elements:

Rhaphiomidas terminatus? time _____ sex _____ numbers _____

Other arthropods (general) Bombyliids Asilids
 Mydids Apiocerids _____ Sphecids
 Chrysidids _____ Mutilids Scoliids _____
 Mymerleontids Other insects of note _____

Plants: *Croton* _____ *Telegraph weed* _____ *Eriogonum fasciculatum* _____
Eriogonum thurberi _____ other *Eriogonum* _____ *Oenothera* _____
Camissonia _____ *Eriastrum* _____
 Others: _____

Vertebrates

Date 7/2/06 Time 1215 to 1345
Miles _____
Biologists UAP

Job Aves
Santa Ana

Weather: Temp 96 Wind 0 Cloud cover 0 Rain 0
(Shade)

Comments:

Biological elements:

Rhaphiomidas terminatus ? _____ time _____ sex _____ numbers _____

Other arthropods (general) Bombyliids _____ Asilids _____
Mydids _____ Apiocerids _____ Sphecids _____
Chrysidids _____ Mutilids _____ Scoliids _____
Mymerleontids _____ Other insects of note _____

Plants: *Croton* _____ Telegraph weed _____ *Eriogonum fasciculatum* _____
Eriogonum thurberi _____ other *Eriogonum* _____ *Oenothera* _____
Camissonia _____ *Eriastrum* _____
Others: _____

Vertebrates

Date July 2, 2006 Time 10:00 to 2:00

Job RTRP

Miles _____

Biologists M Kan Dam

Weather: Temp 87- Wind 2- Cloud cover 0 Rain 0

Comments:

- 1. 101° F 11:00 11:00 - 11:58
- 2. 101° F 12:10 - 1:32
- 3. 102° F 1:34 - 1:37
- 4. 103° F 1:40 - 1:50

Biological elements:

Rhaphiomidas terminatus? _____ time _____ sex _____ numbers _____

Other arthropods (general) Bombyliids Asilids
 Mydids _____ Apiocerids _____ Sphecids
 Chrysidids _____ Mutilids _____ Scoliids
 Mymerleontids _____ Other insects of note _____

Plants: *Croton* _____ *Telegraph weed* _____ *Eriogonum fasciculatum* _____
Eriogonum thurberi _____ other *Eriogonum* _____ *Oenothera* _____
Camissonia _____ *Eriastrum* _____
 Others: _____

Vertebrates

Date 7/3/05 Time 1118 to 1400
Miles 156494
Biologists KAD

Job SC6 area 9

Weather: Temp 8-105 Wind 0 Cloud cover high Rain 0
to 100%

Comments:

Area 9	1118 - 1148	102°
Area 12	1217 - 1242 = 1/2	Back walk to hill @ Jumps/cath. 103°
Area 11	1319 - 1348	@ 156501 mi
13	1348 - 1400	@ 156504

Biological elements:

Rhaphiomidas terminatus ? time sex numbers

Other arthropods (general) Bombyliids Asilids
Mydids Apiocerids Sphecids
Chrysidids Mutilids Scoliids
Mymerleontids Other insects of note

Plants: *Croton* Telegraph weed *Eriogonum fasciculatum*
Eriogonum thurberi other *Eriogonum* *Oenothera*
Camissonia *Eriastrum*
Others:

Vertebrates

Date July 3, 2006 Time 10 to 2 Job RTRP
Miles _____
Biologists NVD

Weather: Temp 87-94 Wind 2-10 Cloud cover 0-overcast Rain 0

Comments: #9 10:00-1:00 87-94-
11.

Biological elements:
Rhaphiomidas terminatus? _____ time _____ sex _____ numbers _____

Other arthropods (general) Bombyliids Asilids
Mydids _____ Apiocerids _____ Sphecids
Chrysidids _____ Mutilids _____ Scoliids _____
Mymerleontids _____ Other insects of note _____

Plants: *Croton* _____ *Telegraph weed* _____ *Eriogonum fasciculatum* _____
Eriogonum thurberi _____ other *Eriogonum* _____ *Oenothera* _____
Camissonia _____ *Eriastrum* _____
Others: _____

Vertebrates red tail hawk, ground squirrel.
Uta sp.

Date 7/4/66 Time 1042 to 1400-1445 Job SCB
Miles 156642
Biologists KWV

Weather: Temp 89- Wind / Cloud cover / Rain /
90° @ 1130

Comments:

1042 - Agua Mansa Cemetery Closed mi 156642
1046 - 1112 Area 2 (Ward) 542
1117 - 1125 Area 6N (N part) 695
1140 - 1205 " 6N
1220 - 245 Santa Ana R

Biological elements:

Rhaphiomidas terminatus? ___ time ___ sex ___ numbers ___

Other arthropods (general) Bombyliids ___ Asilids ___
Mydids ___ Apiocerids ___ Sphecids ___
Chrysidids ___ Mutilids ___ Scoliids ___
Mymmerleontids ___ Other insects of note ___

Plants: *Croton* ___ *Telegraph weed* ___ *Eriogonum fasciculatum* ___
Eriogonum thurberi ___ other *Eriogonum* ___ *Oenothera* ___
Camissonia ___ *Eriastrum* ___
Others: ___

Vertebrates

Date July 4, 2000 Time 10:00 to 2:00
Miles _____
Biologists MVD

Job RTRP

Weather: Temp 82 Wind 2 Cloud cover 0 Rain _____

Comments:

65 10-10:20
4 10:25-10:45 84°F Promacrus 2^{many} large gray Asilids
5 10:50-11:20 85°F-66
3 11:30-11:35 90°F
2 11:40-1:00 92°F
1 1:03-2:00 94°F 1 Promacrus

Biological elements:

Rhaphiomidas terminatus ? _____ time _____ sex _____ numbers _____

Other arthropods (general) Bombyliids Asilids
Mydids _____ Apiocerids _____ Sphecids
Chrysidids _____ Mutilids _____ Scoliids _____
Mymarleontids _____ Other insects of note _____

Plants: *Croton* _____ *Telegraph weed* _____ *Eriogonum fasciculatum* _____
Eriogonum thurberi _____ other *Eriogonum* _____ *Oenothera* _____
Camissonia _____ *Eriastrum* _____
Others: _____

Vertebrates

Date 7/05/06 Time 10:00 to 14:00

Job Riv. Transmission Reliability

Miles _____

Parcel 10

Biologists Nathan Moorhates & Mike Wilcox

Weather: Temp 78°-~87°F Wind 0-2.5 mph Cloud cover 0% Rain ∅

hazy
(smog)

Comments:

Evidence of sheep grazing, majority of site appears unsuitable for DSFLF
(Areas of solid Kochia, silty/gravelly/rocky soils, not much loose surface
sand) Active Agriculture, dairy farm

Biological elements:

Rhaphiomidas terminatus? time _____ sex _____ numbers _____

Other arthropods (general) Bombyliids Asilids
Mydids _____ Apiocerids _____ Sphecids
Chrysidids Mutilids Scoliids _____
Mymereleontids _____ Other insects of note Polistes apachus,
Pogonomyza, Pyrgus communis, Fiery Skipper, Efferia, Stenopogon
Trimerotropis, Pygmy Blue, Villa/Anthrax, Musca domestica, Pentatomidae

Plants: Croton _____ Telegraph weed _____ Eriogonum fasciculatum _____
Eriogonum thurberi _____ other Eriogonum _____ Oenothera _____
Camissonia _____ Eriastrum _____

Others: Conyza canadensis, Kochia scoparia (dominant)

Vertebrates

MODO, BLPH, RTHA, HOSP, GAKI, BASW, Uta, CAGS, NOMO, KILL
Sylvilagus audubonii, Sceloporus occidentalis, BRBL, SAPH

Date July 5, 2006 Time 10 to 2
Miles _____
Biologists _____

Job RTRP

Weather: Temp 81-99 Wind 2-11 Cloud cover 0 Rain 0

Comments: 9 10:00 81 F-

Biological elements:

Rhaphiomidas terminatus? _____ time _____ sex _____ numbers _____

Other arthropods (general) Bombyliids Asilids
Mydids _____ Apiocerids _____ Sphecids
Chrysidids Mutilids _____ Scoliids _____
Mymerleontids _____ Other insects of note _____

Plants: *Croton* _____ Telegraph weed _____ *Eriogonum fasciculatum* _____
Eriogonum thurberi _____ other *Eriogonum* _____ *Oenothera* _____
Camissonia _____ *Eriastrum* _____
Others: _____

Vertebrates

Date July 6, 1966 Time 10 to 12:50 Job RTRP
Miles _____
Biologists MVD

Weather: Temp 81-93 Wind 2-5 Cloud cover 0 Rain 0

Comments:
11, 10-10:20
13, 10:30-10:45
9a, 10:50-11:00
12, 11:05-11:50 - Prionus sp., 7 burrowing
1a, 12:10-12:46 - Apocera owls

Biological elements:
Rhaphiomidas terminatus ? _____ time _____ sex _____ numbers _____

Other arthropods (general) Bombyliids _____ Asilids _____
Mydids _____ Apiocerids _____ Sphecids _____
Chrysidids _____ Mutilids _____ Scoliids _____
Mymelerontids _____ Other insects of note _____

Plants: *Croton* _____ Telegraph weed _____ *Eriogonum fasciculatum* _____
Eriogonum thurberi _____ other *Eriogonum* _____ *Oenothera* _____
Camissonia _____ *Eriastrum* _____
Others: _____

Vertebrates

Date 7/8/66 Time 1140 to 1155 Job SCR
Miles 157051
Biologists KHO

Weather: Temp 100+ Wind 0 Cloud cover 0 Rain 0

Comments:

Sta 13: 1140 - 1155
11: 1200 - 1220 157052

Biological elements:

Rhaphiomidas terminatus? time sex numbers .

Other arthropods (general) Bombyliids Asilids
Mydids Apiocerids Sphecids
Chrysidids Mutilids Scoliids
Mymarleontids Other insects of note

Plants: *Croton* Telegraph weed *Eriogonum fasciculatum*
Eriogonum thurberi other *Eriogonum* *Oenothera*
Camissonia *Eriastrum*
Others:

Vertebrates

Date ~~VI~~ VII-8-06 Time 10:30 to 2:00
Miles 223816-
Biologists AVD

Job SCE

Weather: Temp 92- Wind 2-3 Cloud cover 0 Rain 0

Comments:

55, 10:32-10:50, Bombyliidae, Asilidae
5, 11:08-11:38, 3 species Bombyliidae, Sphec
4, 11:51-12:13, 2 Bombyliidae, Croton by RR tracks
3, 12:17-12:24
~~2~~ 12:26-12:26 Endemic Eriogonum sp., Barbix sp.
1, 1:20-2:10, 2 species Sphecidae, Bombyliidae Asilidae

Biological elements:

Rhaphiomidas terminatus? _____ time _____ sex _____ numbers _____

Other arthropods (general) Bombyliids Asilids
Mydids _____ Apocerids _____ Sphecids
Chrysidids _____ Mutilids _____ Scoliids _____
Mymarleontids Other insects of note _____

Plants: *Croton* Telegraph weed *Eriogonum fasciculatum*
Eriogonum thurberi _____ other *Eriogonum* *Oenothera* _____
Camissonia _____ *Eriastrum* _____
Others: _____

Vertebrates

~~1~~ *Sceloporus occidentalis*
Jack Rabbit.

Date 7/9/65 Time 12 A to 1256 6N Job SC13
Miles 157084 - 085 / 14 - 200 9a + 12 157099 mi
Biologists KTB

Weather: Temp 105 Wind 0-5 Cloud cover 0 Rain 0

Comments: h 100°

Biological elements:

Rhaphiomidas terminatus ? _____ time _____ sex _____ numbers _____

Other arthropods (general) Bombyliids ✓ Asilids ✓
Mydids _____ Apiocerids _____ Sphecids ✓
Chrysidids _____ Mutilids _____ Scoliids ✓
Mymerleontids _____ . Other insects of note _____

Plants: *Croton* _____ *Telegraph weed* _____ *Eriogonum fasciculatum* _____
Eriogonum thurberi _____ other *Eriogonum* _____ *Oenothera* _____
Camissonia _____ *Eriastrum* _____
Others: _____

Vertebrates

Date VII-9-06 Time 10:00 am to 2:00 pm Job SCE 10
Miles 223846
Biologists AVD

Weather: Temp 94-105 Wind 0-5 Cloud cover 0 Rain 0

Comments:

~~Species~~ 5 species of Sphecidae
1 vespid sp. 1 Asilid sp.
Chrysididae sp. red Mutilid in Pagonomyx nest
→ found dead.

Biological elements:

Rhaphiomidas terminatus? _____ time _____ sex _____ numbers _____

Other arthropods (general) Bombyliids Asilids
Mydids _____ Apocerids _____ Sphecids
Chrysidids Mutilids Scoliids _____
Mymeleontids _____ Other insects of note Cabbage white
butterflies, ~~can~~ hair streaks

Plants: *Croton* _____ *Telegraph weed* _____ *Eriogonum fasciculatum* _____
Eriogonum thurberi _____ other *Eriogonum* _____ *Oenothera* _____
Camissonia _____ *Eriastrum* _____
Others: _____

Vertebrates

ground squirrels, Sceloporus occidentalis,
side blotted lizard, cotton tail rabbit

Date 7/10/00 Time 1301 to 1410
Miles 157/13
Biologists KGD

Job SCRE 8

Weather: Temp 102 Wind 0-2 Cloud cover 0 Rain 0

Comments:

Biological elements:

Rhaphiomidas terminatus ? _____ time _____ sex _____ numbers _____

Other arthropods (general) Bombyliids Asilids
Mydids _____ Apiocerids _____ Sphecids
Chrysidids _____ Mutilids _____ Scoliids _____
Mymelerontids Other insects of note Stygomyia

Plants: *Croton* _____ Telegraph weed _____ *Eriogonum fasciculatum* _____
Eriogonum thurberi _____ other *Eriogonum* _____ *Oenothera* _____
Camissonia _____ *Eriastrum* _____
Others: _____

Vertebrates

Date 7-10-06 Time 10:00 to 2:00
Miles 323871
Biologists AVD

Job SCE

Weather: Temp 94-104 Wind FB Cloud cover B Rain 0

Comments:

1. 10:00-11:00, Apicera, Sphecia 5 sp, Asilids.
2. 11:15-12:40, ~~Promecus~~ sp. vespida, Sphecia.
3. ~~11:42-12:48~~
4. 12:50-1:10 Promecus pair mating
5. 1:12-1:42 homeless people down the hill, have ramshackle houses and dogs, Vespids.
6. 1:44-2:00 Croton californica on hillside vespidae sp.

Biological elements:

Rhaphiomidas terminatus? _____ time _____ sex _____ numbers _____

Other arthropods (general) Bombyliids Asilids
Mydids Apicocerids Sphecids
Chrysidids _____ Mutilids _____ Scoliids _____
Mymerleontids Other insects of note _____

Plants: Croton _____ Telegraph weed _____ Eriogonum fasciculatum _____
Eriogonum thurberi _____ other Eriogonum _____ Oenothera _____
Camissonia _____ Eriastrum _____
Others: _____

Vertebrates

~~SE~~ Side blotched lizards, many juveniles.
ground squirrels, logger head Shrike on S

Date VII-11-06 Time 10:00 to 2600

Job SLE

Miles 223894

Biologists AVD

Weather: Temp 93-102 Wind calm-10 Cloud cover 0 Rain 0

Comments:

Mydidae Pseudomomeuera sp.
Bembix, and Chrysis sp.
3 Bombyliidae sp. 2 Asilidae sp.

Biological elements:

Rhaphiomidas terminatus ? _____ time _____ sex _____ numbers _____

Other arthropods (general) Bombyliids Asilids
Mydids Apiocerids _____ Sphecids
Chrysidids Mutilids _____ Scoliids _____
Mymmerleontids _____ Other insects of note _____

Plants: *Croton* _____ *Telegraph weed* _____ *Eriogonum fasciculatum* _____
Eriogonum thurberi _____ other *Eriogonum* _____ *Oenothera* _____
Camissonia _____ *Eriastrum* _____
Others: _____

Vertebrates

Delhi sands flower-loving fly - General Form

Date: 7/11/06

Time: 10:00-14:00

Job :Plot #10, DSFLF absences/presence survey

Surveyor : Ellen Schafhauser

Survey Partner(s): NA

Mileage on site: 0

Weather: (General) Temp :86.7-101.5 Wind 1.5-2.9 Cloud cover: 0% Rain 0

Time (24 hr)	% Cloud	Sky	Winds (mph)	Temp (F)
Start: 10:00	0	<u>clear</u> patchy overcast drizzle shower	1.5ave.	86.7 F
		clear patchy overcast drizzle shower		
		clear patchy overcast drizzle shower		
Stop: 14:00	0	<u>clear</u> patchy overcast drizzle shower	2.9 SW	101.5

Biological elements:*Rhaphiomidas terminatus* ? _____ time _____ sex _____ numbers _____._____
NONE

Other arthropods (general)

Bombyliids X Asilids X
 Mydids _____ Apocerids X Sphecids X Pompillids Scoliids
 Chrysidids X Vespidae Coccinellidae Mutillidae Hesperidae
 Coleoptera Libellulidae Nymphidae Lycaenidae Hesperidae
 Scarabade X Pyralidae X Pieridae X Acrididae X

Other insects of note: Swallowtail Butterfly (Yellow), Mydidedae (Neomydias pantheridus)

Plants: *Croton* _____ Telegraph weed _____ x _____ *Eriogonum fasciculatum* _____*Eriogonum thurberi* _____ x _____ other *Eriogonum* _____ *Oenothera* _____*Camissonia* _____ x _____ *Eriastrum* _____Others: _____

Vertebrates: Starling, House Sparrow, W. Kingbird, Mocking bird, W. Fence lizard, Cottontail rabbit, CA. Squirrel, Mourning Dove, Red Tail Hawk, common Crow, Blackneck stilt, Black Pheobe, Killdeer, TV, Black Bird ?,

Comments: _____

Date ~~III~~ IV-12-00

Time 10:30 to 2:00

Job SCE

Miles 223231

Biologists AVD

Weather: Temp 97-105 Wind 2-4 Cloud cover 0 Rain 0

Comments:

10:24 ~~10:58~~ 11:00 a: cemetery entrance closed so I surveyed
 the perimeter. Bembres sp.
 very good habitat behind the fence N side.
 9a: 11:58-12:08. Yellow band winged grasshopper (Acrididae)
 11 - 1:19-1:38 Common Brown Cicada
 12 - 12:18. Burrowing owl colonies along berm E of the fence.
 13 - 12:45 - 2:00 ground squirrel burrows
 1 T. 12:40

Biological elements:

Rhaphiomidas terminatus? ___ time ___ sex ___ numbers ___

Other arthropods (general) Bombyliids Asilids
 Mydids ___ Apocerids ___ Sphecids
 Chrysidids ___ Mutilids ___ Scoliids ___
 Mymerleontids ___ Other insects of note _____

Plants: *Croton* ___ Telegraph weed ___ *Eriogonum fasciculatum* ___
Eriogonum thurberi ___ other *Eriogonum* ___ *Oenothera* ___
Camissonia ___ *Eriastrum* ___
 Others: _____

Vertebrates

Delhi sands flower-loving fly - General Form

Date: 7/12/06

Time: 10:00-14:00

Job :Plot # 9, DSFLF absences/presence survey

Surveyor : Ellen Schafhauser

Survey Partner(s): NA

Mileage on site: 0

Weather: (General) Temp 86.1-100.7 Wind: 1.3-2.7 Cloud cover: 0 Rain: 0

Time (24 hr)	% Cloud	Sky	Winds (mph)	Temp (F)
Start: 10:00	0	<u>clear</u> patchy overcast drizzle shower	1.3 ave.	86.1 F
		clear patchy overcast drizzle shower		
		clear patchy overcast drizzle shower		
Stop: 14:00	0	<u>clear</u> patchy overcast drizzle shower	2.7 SW	100.7

Biological elements:*Rhaphiomidas terminatus* ? _____ time _____ sex _____ numbers _____._____
NONE

Other arthropods (general) Bombyliids ___x___ Asilids ___x___
 Mydids _____ Apocerids ___x___ Sphecids ___x___
 Pompillids _____ Scoliids _____ Chrysidids ___x___
 Vespidae X Coccinellidae X Mutillidae X Hesperidae X Coleoptera
 Libellulidae X Nymphidae X Lycaenidae X Hesperidae
 Pyralidae X

Other insects of note:

See photo attached, Marine Blue Butterfly (*Leptotes mariana*)

Plants: *Croton* _____ Telegraph weed ___x___ *Eriogonum fasciculatum* _____
Eriogonum thurberi ___x___ other *Eriogonum* _____ *Oenothera* _____
Camissonia ___x___ *Eriastrum* _____
 Others: _____

Vertebrates: Cotton tail rabbit, CA. Squirrel, Mourning Dove, W. Fence lizard, Red Tail Hawk,
 common Crow, W. Kingbird, Killdeer,

Comments: _____

Delhi sands flower-loving fly - General Form

Date: 7/13/06

Time: 10:00-14:00

Job :Plot # 10 E and W, DSFLF

absences/presence survey

Surveyor : Ellen Schafhauser

Survey Partner(s): NA

Mileage on site: 0

Weather: (General) Temp: 82.7 - 103.2 Wind .8 - 4.4 Ave ___ Cloud cover 0 Rain: 0

Time (24 hr)	% Cloud	Sky	Winds (mph)	Temp (F)
Start: 10:00	0	<u>clear</u> patchy overcast drizzle shower	.8 SW Ave. 2.4 SW Max.	82.7 F
		clear patchy overcast drizzle shower		
		clear patchy overcast drizzle shower		
Stop: 14:00	0	<u>clear</u> patchy overcast drizzle shower	4.4 SW Ave 5.4 SW Max.	103.2

Biological elements:*Rhaphiomidas terminatus* ? ___ time ___ sex ___ numbers ___._____
NONE

Other arthropods (general)

Bombyliids X Asilids X
 Mydids ___ Apiocerids X Sphecids X
 Pompillids ___ Scoliids ___ Chrysidids X
 Vespidae X Coccinellidae Mutillidae Hesperidae X Coleoptera
 Libellulidae X Nymphaidae X Lycaenidae X Hesperidae X
 Pyralidae X Mydidadae X Noctuidae X Acrididae X
 Pentatomidae X Nymphalidae X

Other insects of note:

Plants: *Croton* ___ Telegraph weed ___ x ___ *Eriogonum fasciculatum* ___
Eriogonum thurberi ___ x ___ other *Eriogonum* ___ *Oenothera* ___
Camissonia ___ x ___ *Eriastrum* ___

Others: _____

Vertebrates: cottontail rabbit, CA. squirrel, mournig dove, W. fence lizard, red tail hawk,
 common crow, W. kingbird, killdeer, blackneck stilt, starling, mocking bird, barn swallow,
 meadowlark, cattle egret, turkey vulture, Black Phoebe, house sparrow, starling, pegion

Comments: _____

Date 7/14/06 Time 10:00 to 11:40
Miles 23978
Biologists AVD

Job SCE

Weather: Temp 90-100 Wind 0-1 Cloud cover 15% Rain 0

Comments:

6N - 10:00-10:40 New Aphidid sp. Mutilidae,
Promecus sp., Scoliid sp., Asilid mimics of pryonix foxi
Heterogasteris on Croton.
1A - 10:58-11:40 4 species of Aphididae
Red Asilid, Vespid

Biological elements:

Rhaphiomidas terminatus ? _____ time _____ sex _____ numbers _____

Other arthropods (general) Bombyliids _____ Asilids
Mydids _____ Apocerids _____ Sphecids
Chrysidids _____ Mutilids Scoliids
Mymerleontids _____ Other insects of note _____

Plants: *Croton* _____ Telegraph weed _____ *Eriogonum fasciculatum* _____
Eriogonum thurberi _____ other *Eriogonum* _____ *Oenothera* _____
Camissonia _____ *Eriastrum* _____
Others: _____

Vertebrates

Delhi sands flower-loving fly - General Form

Date 7/14/06 Time 10:00-2:00 Job Plot # 9Surveyor Ellen Schafhauser Survey :Partner(s) NAMileage on site 0Weather: (General) Tem: 90.0 -107.0 Wind: 2.4 -1.6 Cloud cover: 50% cirrus, smoke
Rain: 0

Time (24 hr)	% Cloud	Sky	Winds (mph)	Temp (F)
Start: 10:00	50%	clear <u>patchy</u> overcast drizzle shower	2.4 Average	90.0
		clear patchy overcast drizzle shower		
		clear patchy overcast drizzle shower		
Stop: 2:00	50%	clear <u>patchy</u> overcast drizzle shower	1.6 Average	107.0

Biological elements:

Rhaphiomidas terminatus ? NA time NA sex NA numbers NA.Other arthropods (general) Bombyliids X Asilids X
Mydids NA Apiocerids X Sphecids X
Pompillids NA Scoliids NA Chrysidids X
Other insects of note _____

_____Plants: *Croton* NA Telegraph weed NA *Eriogonum fasciculatum* NA
Eriogonum thurberi NA other *Eriogonum* NA *Oenothera* NA
Camissonia NA *Eriastrum* NA
Others: _____
_____Vertebrates: Vertebrates: Annas Humming bird, cottontail rabbit, CA. squirrel, mournig dove, W.
fence lizard, red tail hawk, common crow, W. kingbird, killdeer, starling, mocking bird, Black
Phoebe, house sparrow, starling, pegeion, four Burrowing owl

Date VII-15-06 Time 10:00 to 2:00

Job SLE

Miles 223993

Biologists _____

Weather: Temp 95-108 Wind 2-6 Cloud cover 0 Rain 0

Comments: 65 - 10:00-10:20 Black and White Mutilid ♀
5 - 10:28-10:58 Curculionidae sp. vespida, Antlion sp.
4 - 11:07-11:27 Scutella on Eriogonum fasciculatum
Pyronyx Pyronyx pyricid parvi also Sphecids sp.
3 - 11:36-11:40 Bombyliids
2 - 11:46-1:00 Promecila sp., large Sphecid sp.
1 - 1:05-2:00 - Sphecids, Asilids, Pyronyx spp.

Biological elements:

Rhaphiomidas terminatus ? _____ time _____ sex _____ numbers _____

Other arthropods (general) Bombyliids Asilids
 Mydids _____ Apocerids _____ Sphecids
 Chrysidids _____ Mutilids Scoliids
 Mymarleontids Other insects of note _____
Weevil on Croton

Plants: Croton _____ Telegraph weed _____ Eriogonum fasciculatum _____
 Eriogonum thurberi _____ other Eriogonum _____ Oenothera _____
 Camissonia _____ Eriastrum _____
 Others: _____

Vertebrates

Date VII-16-06 Time 10:00 to 2:00 Job SLE
Miles 224020
Biologists AVD

Weather: Temp 92- Wind Calm-2 Cloud cover 40%~~30%~~ Rain 0

Comments: Chrysis sp. Anthophoridae, Apids,
* new black and red Pyronx sp.

Biological elements:
Rhaphiomidas terminatus ? time _____ sex _____ numbers _____

Other arthropods (general) Bombyliids Asilids
Mydids _____ Apocerids _____ Sphecids
Chrysidids Mutilids _____ Scoliids _____
Mymmerleontids _____ Other insects of note _____

Plants: Croton _____ Telegraph weed _____ Eriogonum fasciculatum _____
Eriogonum thurberi _____ other Eriogonum _____ Oenothera _____
Camissonia _____ Eriastrum _____
Others: _____

Vertebrates

Date III-17-2008 Time 10:00 to 2:00

Job SCE

Miles 324046

Biologists AVD

Weather: Temp 91-104 Wind ~~1-8~~ Cloud cover 20%-80% Rain 0

Comments:

- 1- 10:00-11:00 Red ant block ♂ Mutilid
- 2- 11:07-12:37 *Pyronyx fossi*, *Promega* sp., *Vespa*
lower portion of 2 was recently dissected
- 3- 12:38-12:42
- 4- 12:43-1:09 a variety of Bombyliid spp., Scollidae,
- 5- 1:12-1:42 Bombyliid
- 6- 1:43-2:00 - begin to get quite cloudy

Biological elements:

Rhaphiomidas terminatus? _____ time _____ sex _____ numbers _____

Other arthropods (general) Bombyliids Asilids
 Mydids _____ Apocerids _____ Sphecids
 Chrysidids _____ Mutilids Scollids
 Mymerleontids _____ Other insects of note _____

Plants: *Croton* _____ *Telegraph weed* _____ *Eriogonum fasciculatum* _____
Eriogonum thurberi other *Eriogonum* _____ *Oenothera* _____
Camissonia _____ *Eriastrum* _____
 Others: _____

Vertebrates

Date 7/18-2006 Time 10:00 to 2:00 Job SCE
Miles 224070-2241
Biologists AVD

Weather: Temp 94-98 Wind 1-10 Cloud cover 0 Rain 0

Comments:

Asilids, various bee species were abundant
in the morning hours

Biological elements:

Rhaphiomidas terminatus? _____ time _____ sex _____ numbers _____

Other arthropods (general) Bombyliids Asilids
Mydids _____ Apiocerids _____ Sphecids
Chrysidids Mutilids _____ Scoliids _____
Mymereleontids _____ Other insects of note _____

Plants: *Croton* _____ Telegraph weed _____ *Eriogonum fasciculatum* _____
Eriogonum thurberi _____ other *Eriogonum* _____ *Oenothera* _____
Camissonia _____ *Eriastrum* _____
Others: _____

Vertebrates

Date 7/19/66 Time 1:10 to 2:00 Job SCIP 8
Miles 187812
Biologists LVAD

Weather: Temp ~100° Wind 0-2 Cloud cover 0 Rain 0

Comments:

Biological elements:

Rhaphiomidas terminatus? _____ time _____ sex _____ numbers _____

Other arthropods (general) Bombyliids Asilids
Mydids _____ Apiocerids _____ Sphecids
Chrysidids _____ Mutilids _____ Scoliids
Mymerleontids Other insects of note _____

Plants: *Croton* _____ Telegraph weed _____ *Eriogonum fasciculatum* _____
Eriogonum thurberi _____ other *Eriogonum* _____ *Oenothera* _____
Camissonia _____ *Eriastrum* _____
Others: _____

Vertebrates

Date VII-19-06 Time 10:45 to ~~2:50~~
Miles 22425 1:31
Biologists AVD

Job SCE

Weather: Temp 95- Wind alm- Cloud cover 0 Rain 0

Comments:

1a - 10:45 - 11:20 Pyromys foxi, Parkei, Mutilid sp.
9a - 11:50 - 12:00 Asilids, various species.
11 - 1:11 - 1:31 Amophila sp. - various Apidae spp.
12 - 12:20 - 1:05 Black Bombyliid sp.

Biological elements:

Rhaphiomidas terminatus ? _____ time _____ sex _____ numbers _____

Other arthropods (general) Bombyliids Asilids
Mydids _____ Apiocerids _____ Sphecids
Chrysidids _____ Mutilids Scoliids _____
Mymerleontids _____ Other insects of note _____

Plants: *Croton* _____ *Telegraph weed* _____ *Eriogonum fasciculatum* _____
Eriogonum thurberi _____ other *Eriogonum* _____ *Oenothera* _____
Camissonia _____ *Eriastrum* _____
Others: _____

Vertebrates

Delhi sands flower-loving fly - General Form

Date: 7/19/06

Time: 10:00-14:00

Job :Plot # 9, DSFLF absences/presence survey

Surveyor : Ellen Schafhauser

Survey Partner(s): NA

Mileage on site: 0

Weather: (General) Temp: slight humidity
Cloud cover: clear other than cirrusWind: increasing
Rain: 0

Time (24 hr)	% Cloud	Sky	Winds (mph)	Temp (F)
Start: 10:00	40% High Cirrus	clear <u>patchy</u> overcast drizzle shower	2.4 Max .6 Ave SW	87.7F
		clear patchy overcast drizzle shower		
		clear patchy overcast drizzle shower		
Stop: 14:00	50% High Cirrus	clear <u>patchy</u> overcast drizzle shower	6.2 Max 4.9 Ave SW	101.2F

Biological elements:

Rhaphiomidas terminatus ? _____ time _____ sex _____ numbers _____._____
NONE
_____Other arthropods (general) Bombyliids x Asilids x Mydids _____ Apocerids x Sphecids x

Pompillids _____ Scoliids _____ Chrysidids _____

Vespidae X Coccinellidae X Mutillidae X Hesperidae X Coleoptera

Libellulidae X Nymphaidae X Lycaenidae X Scrabedae X Bombyliidae X

Pyralidae X Acrididae X

Other insects of note:

Plants: *Croton* _____ Telegraph weed x *Eriogonum fasciculatum* _____*Eriogonum thurberi* x other *Eriogonum* _____ *Oenothera* _____*Camissonia* x *Eriastrum* _____Others: _____

Vertebrates: Cotton tail rabbit, CA. Squirrel, Mourning Dove, W. Fence lizard, Red Tail Hawk, common Crow, W. Kingbird, Killdeer, Burrowing Owl (4) Meadow lark, Pigeon, Gopher, Redtail hawk, Starling, Barn Swallow. Anna's Humming Bird,

Delhi sands flower-loving fly - General Form

Date: 7/20/06

Time: 10:00-14:00

Job :Plot #10 W, DSFLF absences/presence survey

Surveyor : Ellen Schafhauser

Survey Partner(s): NA

Mileage on site: 0

Weather: (General) Wind: Cloud cover: Clear other than Cum Nimbus build up Rain 0

Time (24 hr)	% Cloud	Sky	Winds (mph)	Temp (F)
Start: 10:00	10% Cum Nimbus E	<u>clear</u> patchy overcast drizzle shower	.9 Max .6 Ave	81.7 F
		clear patchy overcast drizzle shower		
		clear patchy overcast drizzle shower		
Stop: 14:00	40% Cum Nimbus N & E	<u>clear</u> patchy overcast drizzle shower	5.3 Max 3.2 Ave	96.4 F

Biological elements:*Rhaphiomidas terminatus* ? _____ time _____ sex _____ numbers _____._____
NONE

Other arthropods (general)

Bombyliids X Asilids X
 Mydids _____ Apiocerids X Sphecids X Pompillids Scoliids
 Chrysidids X Vespidae X Coccinellidae X Mutillidae Hesperidae X
 Coleoptera Libellulidae X Nymphidae Lycaenidae
 Scarabae X Pyralidae X Pieridae Acrididae X

Other insects of note:

Plants: *Croton* _____ Telegraph weed _____ x _____ *Eriogonum fasciculatum* X
Eriogonum thurberi _____ x _____ other *Eriogonum* _____ *Oenothera* _____
Camissonia _____ x _____ *Eriastrum* _____
 Others: _____

Vertebrates: Starling, House Sparrow, W. Kingbird, Mocking bird, W. Fence lizard, Cottontail rabbit, CA. Squirrel, Mourning Dove, Red Tail Hawk, common Crow, Black Pheobe, Killdeer, TV, Starling, Redwing Black bird, Sharp-shin hawk,

Date 7-21-06 Time 10:00 to 11:30
Miles 2241825-224186
Biologists AVD

Job SCE

Weather: Temp 92- Wind calm-5 Cloud cover 0 Rain 0

Comments:

6 N-10:00-10:40 Bembis, Polistes sp.
19 10:54-11:30 Pyromys foxi, pyromys parkeri.
Dense stand of Eriogonum that is sand endemic
on cemetery.

Biological elements:

Rhaphiomidas terminatus? _____ time _____ sex _____ numbers _____

Other arthropods (general) Bombyliids _____ Asilids _____
Mydids _____ Apiocerids _____ Sphecids _____
Chrysidids _____ Mutilids _____ Scoliids _____
Mymeleontids _____ Other insects of note _____

Plants: *Croton* _____ *Telegraph weed* _____ *Eriogonum fasciculatum* _____
Eriogonum thurberi _____ other *Eriogonum* _____ *Oenothera* _____
Camissonia _____ *Eriastrum* _____
Others: _____

Vertebrates

Date 7/21/06

Time 1030 to 1200

Job 10 W

Miles _____

Biologists Brian Drake

Weather: Temp 91.3 Wind NW 2.7/4.7 Cloud cover 20% Rain 0
98.5 WC 2.2/5.8 30%

Comments:

<u>Chiron acerarium</u>	<u>scyllidae</u>
<u>Musca domestica</u>	<u>apis mellifera</u>
<u>Scaphomyia</u>	<u>Jill</u>
<u>Cotinus mutabilis</u>	<u>Brephidium exilis</u>
<u>Trimastix</u>	
<u>Ammophilus</u>	
<u>Melissodes</u>	
<u>Anthomyia</u>	
<u>Bombix comata</u>	
<u>Chrysoidea</u>	
<u>Gelis erythron</u>	
<u>Mutilla</u>	
<u>Cerceris</u>	

Biological elements:

Rhaphiomidas terminatus? _____ time _____ sex _____ numbers _____

Other arthropods (general) Bombyliids _____ Asilids _____
Mydids _____ Apiocerids _____ Sphecids _____
Chrysidids _____ Mutillids _____ Scoliids _____
Mymerleontids _____ Other insects of note _____

Plants: *Croton* _____ *Telegraph weed* _____ *Eriogonum fasciculatum* _____
Eriogonum thurberi _____ other *Eriogonum* _____ *Oenothera* _____
Camissonia _____ *Eriastrum* _____
Others: _____

Vertebrates

<u>mdo</u>	<u>nomo</u>	<u>utw</u>	<u>basw</u>
<u>cus +</u>	<u>nosP</u>	<u>blph</u>	<u>w. fin lizard</u>
<u>nhd</u>	<u>brbb</u>	<u>rodo</u>	

Delhi sands flower-loving fly - General Form

Date: 7/21/06

Time: 10:00-14:00

Job :Plot # 9, DSFLF absences/presence survey

Surveyor : Ellen Schafhauser

Survey Partner(s): NA

Mileage on site: 0

Weather: (General) Temp: Increasing general heat from previous days Wind: Stronger gusts than usual Cloud cover: Clear other than high cirrus Rain: 0

Time (24 hr)	% Cloud	Sky	Winds (mph)	Temp (F)
Start: 10:00	20% High Cirrus	<u>clear</u> patchy overcast drizzle shower	3.6 Max 1.0 Ave SW	87.5F
		clear patchy overcast drizzle shower		
		clear patchy overcast drizzle shower		
Stop: 14:00	40% High Cirrus N&W	<u>clear</u> patchy overcast drizzle shower	9.0 Max 3.6 Ave SW	106.7F

Biological elements:

Rhaphiomidas terminatus ? _____ time _____ sex _____ numbers _____.

NONE

Other arthropods (general) Bombyliids ___ x ___ Asilids ___ x ___

Mydids _____ Apiocerids ___ x ___ Sphecids ___ x _____

Pompillids _____ Scoliids _____ Chrysidids _____

Vespidae X Coccinellidae Mutillidae X Hesperidae X Coleoptera

Libellulidae X Nymphaidae X Lycaenidae X Scabedae X Bombyliidae X

Pyrilidae X Acrididae X Asthenidae X

Other insects of note:

Plants: *Croton* _____ Telegraph weed ___ x ___ *Eriogonum fasciculatum* x ___

Eriogonum thurberi ___ x ___ other *Eriogonum* _____ *Oenothera* _____

Camissonia ___ x ___ *Eriastrum* _____

Others: _____

7/21/00

Vertebrates: Shrike, Cotton tail rabbit, CA. Squirrel, Mourning Dove, W. Fence lizard, Red Tail Hawk, common Crow, W. Kingbird, Killdeer, Pigeon, Redtail hawk, Starling, Barn Swallow. Annas Humming Bird,

Comments: _____

Date 7-22-06 Time 10:00 to 2:00
Miles 224228
Biologists AVP

Job SCE

Weather: Temp 100-112 Wind calm-2 Cloud cover 0-10% Rain 0

Comments:

1-10:00-11:00 various Pyronyx sp.
2-11:06-12:36 Bemisid sp.
3-12:39-12:44
~~4-1:01-1:13~~
4-12:47-1:07 yellow band winged grasshopper
5-1:10-1:40 Bemisid sp. Pyronyx sp.
6-1:41-2:00 very hot most insects were
in the shade.

Biological elements:

Rhaphiomidas terminatus ? _____ time _____ sex _____ numbers _____

Other arthropods (general) Bombyliids Asilids
Mydids _____ Apiocerids _____ Sphecids
Chrysidids _____ Mutilids _____ Scoliids _____
Mymelerontids _____ Other insects of note
Weevils on sand croton. 1, 2, 5

Plants: *Croton* _____ *Telegraph weed* _____ *Eriogonum fasciculatum* _____
Eriogonum thurberi _____ other *Eriogonum* _____ *Oenothera* _____
Camissonia _____ *Eriastrum* _____
Others: _____

Vertebrates

Delhi sands flower-loving fly - General Form

Date: 7/22/06

Time: 10:00-14:00

Job :Plot #10 W, DSFLF absences/presence survey

Surveyor : Ellen Schafhauser

Survey Partner(s): NA

Mileage on site: 0

Weather: (General) Record heat high Wind: Cloud cover: Impending possible rain

Rain: Humidity rising from previous days

Time (24 hr)	% Cloud	Sky	Winds (mph)	Temp (F)
Start: 10:00	40% High Cirr. NW	clear patchy overcast drizzle shower	2.6 Max 1.1 Ave	96.0F
		clear patchy overcast drizzle shower		
		clear patchy overcast drizzle shower		
Stop: 14:00	40% Cum Nimbus N & E	clear patchy overcast drizzle shower	3.3 Max 1.0 Ave	111.4 F 113.1 (Sun, 1 meter)

Biological elements:

Rhaphiomidas terminatus ? _____ time _____ sex _____ numbers _____._____
NONE

Other arthropods (general)

Bombyliids X Asilids X

Mydids _____ Apiocerids X Sphecids X Pompillids Scoliids

Chrysidids X Vespidae X Coccinellidae X Mutillidae Hesperidae X

Coleoptera Libellulidae X Nymphaidae Lycaenidae

Scarabade Pyralidae X Pieridae Acrididae X

Other insects of note:

Plants: *Croton* _____ Telegraph weed _____ x _____ *Eriogonum fasciculatum* x _____*Eriogonum thurberi* _____ x _____ other *Eriogonum* _____ *Oenothera* _____*Camissonia* _____ x _____ *Eriastrum* _____Others: _____

7/22/55

Vertebrates: Starling, House Sparrow, W. Kingbird, Mocking bird, W. Fence lizard, Cottontail rabbit, CA. Squirrel, Mourning Dove, Red Tail Hawk, Common Crow, Black Pheobe, Killdeer, TV, Starling, Redwing Black bird, Sharp-shin hawk, House finch, Barn Swallow

Comments: _____

Date 7-23-06 Time 10:00 to 2:00 Job SCE
Miles 224244
Biologists AVD

Weather: Temp 92-97 Wind 2-8 Cloud cover 50%-100% Rain 0 - Aprimble

Comments:
6N-10:00-10:40 various sphecids sp. Vespids.
7a-10:45-11:21 Bembix sp.
8-11:45-12:45 Amophila sp.
9a-12:55-1:05
11-1:45-2:00 Bembix sp.
12-1:10-1:40

Biological elements:
Rhaphiomidas terminatus? time _____ sex _____ numbers _____

Other arthropods (general) Bombyliids _____ Asilids _____
Mydids _____ Apiocerids _____ Sphecids
Chrysidids Mutilids Scoliids _____
Mymereleontids Other insects of note _____

Plants: Croton _____ Telegraph weed _____ Eriogonum fasciculatum _____
Eriogonum thurberi _____ other Eriogonum _____ Oenothera _____
Camissonia _____ Eriastrum _____
Others: _____

Vertebrates

Delhi sands flower-loving fly - General Form

Date: 7/23/06

Time: 10:00-14:00

Job :Plot #10 E, DSFLF absences/presence survey

Surveyor : Ellen Schafhauser

Survey Partner(s): NA

Mileage on site: 0

Weather: (General) Lightning to the SW 10:00-10:20am Wind: very still Cloud cover: low
Rain Few drops, humid

Time (24 hr)	% Cloud	Sky	Winds (mph)	Temp (F)
Start: 10:00	100%	clear patchy <u>overcast</u> drizzle shower	Max 1.5 Ave .6	87.4F
		clear patchy overcast drizzle shower		
		clear patchy overcast drizzle shower		
Stop: 14:00	80% Cum Nimbus N & E	clear <u>patchy</u> overcast drizzle shower	Max 5.3 Ave 3.1 SW	110.6 F 115F (full sun in green grass)

Biological elements:

Rhaphiomidas terminatus ? _____ time _____ sex _____ numbers _____.

_____ NONE _____

Other arthropods (general)

Bombyliids X Asilids X
Mydids _____ Apicerids X Sphecids X Pompillids Scoliids
Chrysidids X Vespidae X Coccinellidae X Mutillidae Hesperidae X
Coleopetera Libellulidae X Nymphidae Lycaenidae X
Scarabade Pyralidae Pieridae Acrididae X

Other insects of note:

Plants: *Croton* _____ Telegraph weed _____ x _____ *Eriogonum fasciculatum* X
Eriogonum thurberi _____ x _____ other *Eriogonum* _____ *Oenothera* _____
Camissonia _____ x _____ *Eriastrum* _____
Others: _____

Vertebrates: Starling, House Sparrow, W. Kingbird, Mocking bird, W. Fence lizard, Cottontail rabbit, CA. Squirrel, Mourning Dove, Red Tail Hawk, Common Crow, Black Pheobe, Killdeer, TV, Starling, Anna's humming bird, House finch

Date 7-24-06 Time 10:00 to 2:00

Job SCE

Miles 224301

Biologists AVD

Weather: Temp 100- Wind 1- Cloud cover 30- Rain 0

Comments:

1- 10:00-11:00 Black Sphecid sp.
 2- 11:05-12:35
 3- 12:40-12:45 Black Bombyliidae
 4- 12:47-1:07 Various Bombyliid spp.
 5- 1:12-1:42 Vespids, Chrysidid
 6- 1:45-2:00 common mites

Biological elements:

Rhaphiomidas terminatus ? time sex numbers

Other arthropods (general) Bombyliids Asilids
 Mydids Apiocerids Sphecids
 Chrysidids Mutilids Scoliids
 Mymerleontids Other insects of note Cotinus texana 65

Plants: *Croton* Telegraph weed *Eriogonum fasciculatum*
Eriogonum thurberi other *Eriogonum* *Oenothera*
Camissonia *Eriastrum*
 Others:

Vertebrates

Delhi sands flower-loving fly - General Form

Date: 7/24/06

Time: 10:00-14:00

Job :Plot # 9, DSFLF absences/presence survey

Surveyor : Ellen Schafhauser

Survey Partner(s): NA

Mileage on site: 0

Weather: (General) Temp: Lingering Humidity form previous day building to only a few drops of rain
 Wind: Cloud cover: Rain: few drops

Time (24 hr)	% Cloud	Sky	Winds (mph)	Temp (F)
Start: 10:00	70% N and E	clear <u>patchy</u> overcast drizzle shower	2.8 Max .7 Ave SW	89.1F
12:16	Heavy cum, possible rain	clear <u>patchy</u> <u>overcast</u> drizzle shower		
12:56	Light rain	clear <u>patchy</u> overcast <u>drizzle</u> shower		
Stop: 14:00	40% Cum/Nimbus NWand E	clear <u>patchy</u> overcast drizzle shower	3.8 Max 2.8 Ave. SW	103.2F

Biological elements:

Rhaphiomidas terminatus ? _____ time _____ sex _____ numbers _____.

 NONE

Other arthropods (general) Bombyliids x Asilids x
 Mydids _____ Apocerids x Sphecids x
 Pompillids _____ Scoliids _____ Chrysidids x
 Vespidae X Coccinellidae X Mutillidae X Hesperidae X Coleoptera
 Libellulidae X Nymphaidae X Lycaenidae X Scrabedae X
 Pyralidae X Acrididae X
 Other insects of note:

Plants: *Croton* _____ Telegraph weed x *Eriogonum fasciculatum* X
Eriogonum thurberi x other *Eriogonum* _____ *Oenothera* _____
Camissonia x *Eriastrum* _____
 Others: _____

Vertebrates: Cotton tail rabbit, CA. Squirrel, Mourning Dove, W. Fence lizard, Red Tail Hawk, common Crow, W. Kingbird, Killdeer, Burrowing Owl (4) Meadow lark, Pigeon, Redtail hawk, Starling, Barn Swallow. Anna's Humming Bird, Shrike

Comments: _____

Date 7-26-06 Time 10:00 to 2:00

Job SCE 10

Miles 224353

Biologists ALD

Weather: Temp 97-102 Wind 2-5 Cloud cover 80% ^{marine layer} Rain 0
After 11:30

Comments:

Bombia sp., Pyronyx parkeri, Chrysis sp.
various Bombyliidae 2 Lycænidæ sp.
Cotinus texanus, Nemomydas sp.
other common brown dipterid sp.

Biological elements:

Rhaphiomidas terminatus? _____ time _____ sex _____ numbers _____

Other arthropods (general) Bombyliids Asilids
Mydids Apiocerids _____ Sphecids
Chrysidids Mutilids _____ Scoliids _____
Mymarleontids _____ Other insects of note _____

Plants: *Croton* _____ Telegraph weed _____ *Eriogonum fasciculatum* _____
Eriogonum thurberi _____ other *Eriogonum* _____ *Oenothera* _____
Camissonia _____ *Eriastrum* _____
Others: _____

Vertebrates

Date 7/27/06 Time 1030 to 1400

Job SE13

Miles water

Biologists WAV

Weather: Temp 29.0 - Wind 0 Cloud cover 0 Rain 0

Comments:

<u>area 1a</u>	<u>1030-1130</u>	<u>160624</u>	<u>Bobcat Carcass f: T.V.</u>
<u>6N</u>	<u>1134-1222</u>	<u>160626</u>	<u>Proctos, Scorpion</u>
<u>8</u>	<u>1240-1330</u>	<u>160635</u>	
<u>9a</u>	<u>1340-1400</u>	<u>160642</u>	<u>Burrowing Owl</u>

Biological elements:

Rhaphiomidas terminatus ? _____ time _____ sex _____ numbers _____

Other arthropods (general) Bombyliids _____ Asilids _____

Mydids _____ Apiocerids _____ Sphecids _____

Chrysidids _____ Mutilids _____ Scoliids _____

Mymeleontids _____ Other insects of note _____

Plants: *Croton* _____ *Telegraph weed* _____ *Eriogonum fasciculatum* _____

Eriogonum thurberi _____ other *Eriogonum* _____ *Oenothera* _____

Camissonia _____ *Eriastrum* _____

Others: _____

Vertebrates

Date 7-27-2006 Time 10:00 to 2:00
Miles 224393
Biologists AVD

Job SCE 10E

Weather: Temp 91-100 Wind 1-8 Cloud cover 0 Rain 0

Comments:

Nemomydia, Cembria, various Hesperidae.
Potinus texanus, other ~~sphecids~~ other sphecidae sp.
Sceliphron multimaculata, common Asilids

Biological elements:

Rhaphiomidas terminatus ? _____ time _____ sex _____ numbers _____

Other arthropods (general) Bombyliids Asilids
Mydids Apiocerids _____ Sphecids
Chrysidids _____ Mutilids _____ Scoliids _____
Mymelerleontids _____ Other insects of note _____

Plants: *Croton* _____ Telegraph weed _____ *Eriogonum fasciculatum* _____
Eriogonum thurberi _____ other *Eriogonum* _____ *Oenothera* _____
Camissonia _____ *Eriastrum* _____
Others: _____

Vertebrates

ground squirrels, common gopher

Delhi sands flower-loving fly - General Form

Date 7/28/06 Time 10:22- 1:16 pm Job SCBSurveyor KHO + R. Rogers Survey Partner(s) R. RogersMileage on site 160674 to 160678 on various parts

Weather: (General) Temp _____ Wind _____ Cloud cover _____ Rain _____

Time (24 hr)	% Cloud	Sky	Winds (mph)	Temp (F)
Start <u>1022</u>	<u>56</u>	clear <u>patchy</u> overcast drizzle shower	<u>calm</u>	<u>84</u>
<u>1134</u>	<u>25</u>	clear <u>patchy</u> overcast drizzle shower		<u>87</u>
		clear patchy overcast drizzle shower		
Stop <u>116</u>	<u>25</u>	clear <u>patchy</u> overcast drizzle shower	<u>calm</u>	<u>90</u>

Biological elements:

Rhaphiomidas terminatus ? _____ time _____ sex _____ numbers _____

Other arthropods (general) Bombyliids _____ Asilids
 Mydids _____ Apiocerids _____ Sphecids
 Pompilids _____ Scoliids _____ Chrysidids
 Other insects of note _____

Area 11: Dip 6, Np 10, Tachetia

Plants: *Croton* _____ Telegraph weed _____ *Eriogonum fasciculatum* _____
Eriogonum thurberi _____ other *Eriogonum* _____ *Oenothera* _____
Camissonia _____ *Eriastrum* _____
 Others: _____

Vertebrates: Burrowing owl / Shrike or area 9 western meadowlark

Comments: Area 11 1022-1032 KHO+RR 50% clouds / thin
Area 12 1049-1134 R. Rogers 25% clouds
Area 9 1052-1134 KHO alone 160678 on site
" " 1134-116 KHO+RR

Burrowing owl 34 00.331 117 30.783 N edge of pond
.306 .786 middle of pond

Delhi sands flower-loving fly - General Form

Date 7/29/06 Time 1252-144Job SCB 1aSurveyor 1540 Survey Partner(s) ✓Mileage on site 160716Weather: (General) Temp 87 Wind 0-5 Cloud cover 25 Rain ✓

Time (24 hr)	% Cloud	Sky	Winds (mph)	Temp (F)
Start <u>1252</u>	<u>25</u>	clear <u>patchy</u> overcast drizzle shower	<u>0-5</u>	<u>87</u>
		clear patchy overcast drizzle shower		
		clear patchy overcast drizzle shower		
Stop <u>144</u>	<u>25-51</u>	clear <u>patchy</u> overcast drizzle shower	<u>0-5</u>	<u>87</u>

Biological elements:

Rhaphiomidas terminatus ? ___ time ___ sex ___ numbers ___

Other arthropods (general) Bombyliids ___ Asilids ✓
 Mydids ___ Apiocerids ___ Sphecids ✓
 Pompillids ___ Scoliids ___ Chrysidids ___
 Other insects of note Proctos 14m 10

Plants: *Croton* ___ Telegraph weed ___ *Eriogonum fasciculatum* ___
Eriogonum thurberi ___ other *Eriogonum* ___ *Oenothera* ___
Camissonia ___ *Eriastrum* ___
 Others: _____

Vertebrates: Un, AMKE

Comments: _____

Date 7-29-2006 Time 10:32 to 2:00
Miles 22447
Biologists AVD/RA

Job SCE

Weather: Temp 85-90 Wind 1-12 Cloud cover 95-100 Rain 0

Comments:

2-10:32-11:12 22447 Promachus, Bembix melanopsis,
Bombyliidae; Aphobantus niss, Pyromyza parkeri,
gonomyza, Bembix cornata. Mutilid: Dasyneura
Cosiphia hirta
3-11:14-11:19 Pogonomyza, saddle back dragonfly, jube triter.
22447.6 11:16-40% cloud cover.
mating pair of Promachus sp.
1-11:26-11:56 22449.9 Pyromyza foxi, Chalabium sp. Pogonomyza sp.
4-12:05-22451.3 Zachyphes sp.
5-12:29-12:41 22452.1 Palorus californicus, Thyrodenthus allata.
Philanthus areolaris
6N-22452.8-12:03-11:13 Pyromyza foxi Zachyphes sp.
6S-22454.1-11:17-1:27 Planig melaotal, Megastyle sp.
~~11-1:44-1:54 22446.7~~ 12-99:1:55-2:00 22446.1 Halictidae

Biological elements:

Rhaphiomidas terminatus ? time _____ sex _____ numbers _____

Megastyle sp
Pogonomyza

Other arthropods (general) Bombyliids Asilids
Mydids _____ Apiocerids _____ Sphecids
Chrysidids _____ Mutilids Scoliids _____
Mymereleontids Other insects of note _____

Plants: Croton _____ Telegraph weed _____ Eriogonum fasciculatum _____
Eriogonum thurberi _____ other Eriogonum _____ Oenothera _____
Camissonia _____ Eriastrum _____
Others: _____

Vertebrates

Date 7/29/06

Time 1230 to 1330

Job 8

Miles _____

Biologists Brian Drake

Weather: Temp 88.2 Wind NWC 1.7/4.0 Cloud cover 90% Rain 0
91.9 NWC 2.7/5.1 90%

Comments:

obovate
p. protuber
bimbi X
formicidae
prionyx

Biological elements:

Rhaphiomidas terminatus? _____ time _____ sex _____ numbers _____

Other arthropods (general) Bombyliids _____ Asilids _____
Mydids _____ Apiocerids _____ Sphecids _____
Chrysidids _____ Mutilids _____ Scoliids _____
Mymerleontids _____ Other insects of note _____

Plants: *Croton* _____ Telegraph weed _____ *Eriogonum fasciculatum* _____
Eriogonum thurberi _____ other *Eriogonum* _____ *Oenothera* _____
Camissonia _____ *Eriastrum* _____
Others: _____

Vertebrates

hoop moths rthd
ute sperm. bearn.
calypso amcr

Date 7-30-06 Time 10:00 to 11:54
Miles 224521
Biologists AVD/AR

Job SC E

Weather: Temp 79-82-85 Wind 2 Cloud cover 100-70 Rain 0

Comments:

11- 10:00 - 10:10 - 224524 - *Anthophoridae* *Comptosia* sp.
Cocculinidae, *Syrphidae* - *Aristalis* sp.
12- 10:25 - 10:47 - 224523, 4 - *Bembix* *canata*. *Pezonomiomyx* sp.
~~93~~ *Cotinus texanus*, *Polistes* *exulans*
fiery skipper, Acmon blue, pygmy blue, gray lode drake.
Pieris *protodesca*.
9- 10:54 - 11:54 - 224523.8 - *Cephestilum* *mexicana*,
Dasyneura *cinisshurta*, *Diphridae*, *Halictidae*, *Agapostemon*
Onelidae, ~~*Stenobothrus*~~ *Pteris* - *Bombyliidae*
Efiria *albocincta*

Biological elements:

Rhaphiomidas terminatus? _____ time _____ sex _____ numbers _____

Other arthropods (general) Bombyliids Asilids
Mydids _____ Apocerids _____ Sphecids
Chrysidids _____ Mutilids Scoliids _____
Mymerleontids _____ Other insects of note _____

Plants: *Croton* _____ *Telegraph weed* _____ *Eriogonum fasciculatum* _____
Eriogonum thurberi _____ other *Eriogonum* _____ *Oenothera* _____
Camissonia _____ *Eriastrum* _____
Others: _____

Vertebrates

Burrowing owl 9

Date 8-01-06 Time 10:15 to 1:42 Job SCE
Miles 224589
Biologists AVD:RR

Weather: Temp 85-90 Wind 2- Cloud cover 50- Rain 0

Comments:

65-10:16-10:26-224589.6 - *Cotinus texanus*.
5-10:36-~~10:51~~10:51-224590.5 - kicked out by center (truck driving school)
4-10:48-10:58-224591.3 ~~By~~ *Syngia garyphalax*, *Tachyteles*,
Pyronyx foxi, *Bembix melanopis*, *Megachilidae*, *Mischellus*,
atrata, *Triclistus albione*.
3-11:13-11:16-224592 - *Dasyneura coeniaschuta*, *Aschonia*
2-11:23-12:03-224592.4 - *Bembix melanopis*, *Glyceria tridentata*,
Syngia spp., *Bembix conata*, *Circireus femoralis*,
Phylanthus spp., *Chlorion*
1-12:20-12:53-224954 - *Malophora*, *Syrphid* sp., *Pyronyx perkeri*.
9a. - *Dramea ornata*, *Odonate*
9a. - 1:37-1:42-224608.6 - *Amphila* sp., *Villa mator*.

Biological elements:

Rhaphiomidas terminatus? _____ time _____ sex _____ numbers _____

Other arthropods (general) Bombyliids Asilids
Mydids _____ Apiocerids _____ Sphecids
Chrysidids _____ Mutilids Scoliids
Mymereleontids _____ Other insects of note _____

Plants: *Croton* _____ *Telegraph weed* _____ *Eriogonum fasciculatum* _____
Eriogonum thurberi _____ other *Eriogonum* _____ *Oenothera* _____
Camissonia _____ *Eriastrum* _____
Others: _____

Vertebrates

Date 8/01/06 Time 1030 to 1130 Job 8
Miles _____
Biologists Brian Drake

Weather: Temp 73.2 Wind SW @ 1.2/2.3 Cloud cover 60% Rain 0
80.6 calm 50%

Comments:

odonata
mallophaga fungi
primy
chironomus larva
trichoptera
larva
larva
larva
p. proboscidea

Biological elements:

Rhaphiomidas terminatus? _____ time _____ sex _____ numbers _____

Other arthropods (general) Bombyliids _____ Asilids _____
Mydids _____ Apiocerids _____ Sphecids _____
Chrysidids _____ Mutilids _____ Scoliids _____
Mymecleontids _____ Other insects of note _____

Plants: *Croton* _____ Telegraph weed _____ *Eriogonum fasciculatum* _____
Eriogonum thurberi _____ other *Eriogonum* _____ *Oenothera* _____
Camissonia _____ *Eriastrum* _____
Others: _____

Vertebrates

rthd juv coral
hafi bush calypso
rodo cuto modo

Delhi sands flower-loving fly - General Form

Date 8/2/01 Overall Time 36 minutes Jobs SCBSurveyor KHO Survey Partner(s) ØOverall Mileage 17

Weather:

Time (24 hr)	% Cloud	Sky					Winds (mph)	Temp (F)
Start		clear	patchy	overcast	drizzle	shower		
		clear	patchy	overcast	drizzle	shower		
		clear	patchy	overcast	drizzle	shower		
Stop		clear	patchy	overcast	drizzle	shower		

Site #	Time	Mileage on site
<u>5</u>	<u>1154</u> to <u>1230</u>	<u>16005</u>
	to	
	to	
	to	
	to	
	to	
	to	
	to	
	to	
	to	
	to	
	to	
	to	
	to	
	to	
	to	

Biological elements:

Rhaphiomidas terminatus? _____ time _____ sex _____ numbers _____

Other arthropods (general) Bombyliids Asilids
 Mydids _____ Apiocerids _____ Sphecids
 Pompilids _____ Scoliids _____ Chrysidids _____
 Other insects of note _____

Plants: *Croton* Telegraph weed *Eriogonum fasciculatum* _____
Eriogonum thurberi _____ other *Eriogonum* _____ *Oenothera* _____
Camissonia _____ *Eriastrum* _____
 Others: Husk/olefin very good site for DSR

Vertebrates: None collected

Delhi sands flower-loving fly - General Form

Date 8-2-06 Overall Time 10:00-2:00Jobs SCESurveyor AVD/RR Survey Partner(s) _____Overall Mileage 224665.7

Weather:

Time (24 hr)	% Cloud	Sky					Winds (mph)	Temp (F)
Start <u>10:00</u>	<u>10-hazy</u>	clear	patchy	overcast	drizzle	shower	<u>1</u>	<u>91</u>
		clear	patchy	overcast	drizzle	shower		
		clear	patchy	overcast	drizzle	shower		
Stop <u>2:00</u>	<u>0</u>	clear	patchy	overcast	drizzle	shower	<u>4</u>	<u>96</u>

Site #

10R

Time

10:00 to 12:00

Mileage on site

224665.710Wto 12:00 to 2:00

Sheet sweeping on edge of 10W.

Biological elements:

Rhaphiomidas terminatus ? _____ time _____ sex _____ numbers _____Other arthropods (general) Bombyliids Asilids Mydids _____ Apiocerids _____ Sphecids Pompillids Scoliids Chrysidids Other insects of note 10R - *Cercaria bicornuta*, *Philarthrus ventralis*, *multinotatus*
Dasyneura casinia *burka*, *Parnassia* sp. *edwardsi*, *Tachyteresa distinctus*
Lechysphex sp., *Cumacra botti*, *Amphisila alberti*, *Congidae*.
10W - *Nemomydas* 2 ♀Plants: *Croton* _____ *Telegraph weed* _____ *Eriogonum fasciculatum* _____*Eriogonum thurberi* _____ other *Eriogonum* _____ *Oenothera* _____*Camissonia* _____ *Eriastrum* _____

Others: _____

Vertebrates: _____

Delhi sands flower-loving fly - General Form

Date 8/3/01 Overall Time 1318 - 220 Jobs SCBSurveyor KATV Survey Partner(s) _____

Overall Mileage _____

Weather:

Time (24 hr)	% Cloud	Sky					Winds (mph)	Temp (F)
Start 1218	Haze	clear	patchy	overcast	drizzle	shower	<u>calm</u>	82°
		clear	patchy	overcast	drizzle	shower		
		clear	patchy	overcast	drizzle	shower		
Stop 220	light haze	<u>clear</u>	patchy	overcast	drizzle	shower	<u>calm</u>	85

Site #	Time		Mileage on site
<u>1a</u>	<u>1318</u>	to <u>220</u>	<u>181136</u>
_____	_____	to _____	_____
_____	_____	to _____	_____
_____	_____	to _____	_____
_____	_____	to _____	_____
_____	_____	to _____	_____
_____	_____	to _____	_____
_____	_____	to _____	_____
_____	_____	to _____	_____
_____	_____	to _____	_____
_____	_____	to _____	_____

Biological elements:

Rhaphiomidas terminatus? _____ time _____ sex _____ numbers _____

Other arthropods (general) Bombyliids Asilids
 Mydids _____ Apiocerids _____ Sphecids
 Pompillids _____ Scoliids Chrysidids _____
 Other insects of note _____

Plants: *Croton* *Telegraph weed* *Eriogonum fasciculatum* _____
Eriogonum thurberi _____ other *Eriogonum* *Oenothera* _____
Camissonia _____ *Eriastrum* _____
 Others: _____

Vertebrates: u/s

Delhi sands flower-loving fly - General Form

Date 8-03-06 Overall Time 10:00-12:50 Jobs SCESurveyor AVD/RR Survey Partner(s) _____Overall Mileage 224719.7 - 224722

Weather:

Time (24 hr)	% Cloud	Sky	Winds (mph)	Temp (F)
Start <u>10:00</u>	<u>100</u>	clear patchy <u>overcast</u> drizzle shower	<u>1</u>	<u>73</u>
<u>11:00</u>	<u>100</u>	clear patchy <u>overcast</u> drizzle shower	<u>1</u>	<u>78-79</u>
		clear patchy overcast drizzle shower		
Stop		clear patchy overcast drizzle shower		

Site #

Time

Mileage on site

were in the process of ditching the field when we arrived.

<u>9</u>	<u>10:00</u> to <u>11:00</u>	<u>224719.7</u>
<u>12</u>	<u>12:05</u> to <u>12:28</u>	<u>224720.1</u>
<u>11</u>	<u>12:40</u> to <u>12:50</u>	<u>224722.8</u>
	to	
	to	
	to	
	to	
	to	
	to	
	to	
	to	
	to	

Biological elements:

Rhaphiomidas terminatus? _____ time _____ sex _____ numbers _____

Other arthropods (general) Bombyliids _____ Asilids _____

Mydids _____ Apiocerids _____ Sphecids _____

Pompillids _____ Scoliids _____ Chrysidids _____

Other insects of note 9- *Zadypompilus unicolor*, *Dacnusa* sp.*Cotinus verrucosa*, *Agonilla agnilla* sp.12- fiery skipper, *Euclyptus* sp.11- *Melipotis* sp., *Megachilidae* sp., *Chlorion* sp., *Agonilla* sp.Plants: *Croton* _____ Telegraph weed _____ *Eriogonum fasciculatum* _____*Eriogonum thurberi* _____ other *Eriogonum* _____ *Oenothera* _____*Camissonia* _____ *Eriastrum* _____

Others: _____

Vertebrates:

Burrowing owl.

Delhi sands flower-loving fly - General Form

Date 8/4/06 Overall Time _____ Jobs SCBSurveyor KHO Survey Partner(s) [Signature]

Overall Mileage _____

Weather:

Time (24 hr)	% Cloud	Sky	Winds (mph)	Temp (F)
Start 1045	107	clear patchy overcast drizzle shower	✓	~85
1145	52	clear patchy overcast drizzle shower	0	88
		clear patchy overcast drizzle shower		
Stop 1250	0	clear patchy overcast drizzle shower	✓	90

Site #	Time	Mileage on site
<u>SCB 9</u>	1045 to 1245 1250	161294
	to _____	
	to _____	
<u>SCB 10</u>	1020 to 1040 KHO w/ Rogan + V. An	
	to _____	
	to _____	
	to _____	
	to _____	
	to _____	
	to _____	
	to _____	

Biological elements:

Rhaphiomidas terminatus? _____ time _____ sex _____ numbers _____

Other arthropods (general) Bombyliids Asilids
 Mydids Apiocerids _____ Sphecids
 Pompilids Scoliids _____ Chrysidids _____
 Other insects of note Mutillids

Plants: *Croton* _____ Telegraph weed _____ *Eriogonum fasciculatum* _____
Eriogonum thurberi _____ other *Eriogonum* _____ *Oenothera* _____
Camissonia _____ *Eriastrum* _____
 Others: _____

Vertebrates: _____

Western portion of site 9 still undisturbed
 1/2 of area 9 is being disturbed

Delhi sands flower-loving fly - General Form

Date 8-4-06 Overall Time 10:00-2:00 Jobs _____Surveyor AVD/RR Survey Partner(s) _____Overall Mileage 224781.5

Weather:

Time (24 hr)	% Cloud	Sky	Winds (mph)	Temp (F)
Start <u>10:00</u>	<u>10</u>	<u>clear</u> patchy overcast drizzle shower	<u>1-calm</u>	<u>92</u>
		clear patchy overcast drizzle shower		
		clear patchy overcast drizzle shower		
Stop <u>2:00</u>		<u>clear</u> patchy overcast drizzle shower	<u>2-3</u>	<u>95</u>

Site #	Time	Mileage on site
<u>10e</u>	<u>10:00</u> to <u>12:00</u>	<u>224781.5</u>
<u>10w</u>	<u>12:00</u> to <u>2:00</u>	<u>224783.5</u>
	to	
	to	
	to	
	to	
	to	
	to	
	to	
	to	
	to	
	to	
	to	
	to	

Biological elements:

Rhaphiomidas terminatus ? time _____ sex _____ numbers _____Other arthropods (general) Bombyliids Asilids
Mydids Apiocerids _____ Sphecids
Pompillids Scoliids Chrysidids _____Other insects of note ~~Camponotus~~ 10e *Camponotus* folleia,
Circius femorellus, ~~sp.~~ *bicornuta*, *Philonthus* ventilabris,
multinodulata, *Amphibia* sp., alberti, *Tachysphex* sp.,
low - *Nemomyza* pendulous, *Amphibia* alberti, *Philonthus* pacifica,
Circius bicornuta, *Malphora*, *Stenopogon* sp. breviculus,
*Dacnusa*Plants: Croton _____ Telegraph weed _____ *Eriogonum fasciculatum* _____
Eriogonum thurberi _____ other *Eriogonum* _____ *Oenothera* _____
Camissonia _____ *Eriastrum* _____

Others: _____

Vertebrates: _____

Delhi sands flower-loving fly - General Form

Date 8/5/06 Overall Time _____Jobs SCESurveyor KATV Survey Partner(s) _____Overall Mileage 161

Weather:

Time (24 hr)	% Cloud	Sky					Winds (mph)	Temp (F)
Start <u>1134</u>		<u>clear</u>	patchy	overcast	drizzle	shower	<u>—</u>	<u>86</u>
		clear	patchy	overcast	drizzle	shower		
		clear	patchy	overcast	drizzle	shower		
Stop <u>12¹⁵</u>		<u>clear</u>	patchy	overcast	drizzle	shower	<u>—</u>	<u>86</u>

Site #

5

Time

1134

to

12¹⁵

Mileage on site

161945

Biological elements:

Rhaphiomidas terminatus ? _____ time _____ sex _____ numbers _____

Other arthropods (general) Bombyliids Asilids
 Mydids _____ Apiocerids Sphecids
 Pompillids _____ Scoliids Chrysidids _____
 Other insects of note _____

Plants: *Croton* _____ Telegraph weed _____ *Eriogonum fasciculatum* _____
Eriogonum thurberi _____ other *Eriogonum* _____ *Oenothera* _____
Camissonia _____ *Eriastrum* _____
 Others: _____

Vertebrates: _____

Delhi sands flower-loving fly - General Form

Date 8-05-06 Overall Time 10:10-2:00Jobs SCESurveyor AVD Survey Partner(s) _____Overall Mileage 224850.2 - 224854.6

Weather:

Time (24 hr)	% Cloud	Sky	Winds (mph)	Temp (F)
Start <u>10:10</u>	<u>0</u>	<u>clear</u> patchy overcast drizzle shower	<u>calm</u>	<u>87</u>
		<u>clear</u> patchy overcast drizzle shower		
		clear patchy overcast drizzle shower		
Stop		clear patchy overcast drizzle shower		

Site #	Time	Mileage on site
<u>65</u>	<u>10:10</u> to <u>10:30</u>	<u>224850.2</u>
<u>4</u>	<u>10:35</u> to <u>10:45 10:55</u>	<u>224851.5</u>
<u>3</u>	<u>10:57</u> to <u>11:02</u>	<u>224852.3</u>
<u>2</u>	<u>11:05</u> to <u>11:15 11:50</u>	<u>224852.6</u>
<u>1</u>	<u>11:57</u> to <u>12:57</u>	<u>224853.4 224854.4</u>
<u>1a</u>	<u>12:58</u> to <u>1:34</u>	<u>224854.6</u>
	to	
	to	
	to	
	to	
	to	
	to	

Biological elements:

Rhaphiomidas terminatus? _____ time _____ sex _____ numbers _____Other arthropods (general) Bombyliids Asilids Mydids _____ Apiocerids _____ Sphecids Pompillids _____ Scoliids Chrysidids _____Other insects of note 65 - Chlorion sp., H - Campomeria tolteca,
Chlorion sp., Bembix melanops, 3 - Thyroanthrax atrata,
2 - Bembix melanops, 1 - Pyronyx fovea, Pyronyx parkeri
Bombyliid sp., 1a - Villa atrata, Pyronyx fovea,

Plants: Croton _____ Telegraph weed _____ Eriogonum fasciculatum _____

Eriogonum thurberi _____ other Eriogonum _____ Oenothera _____

Camissonia _____ Eriastrum _____

Others: _____

Vertebrates: _____

Delhi sands flower-loving fly - General Form

Date Aug 5 2006 Overall Time _____Jobs SCE.Surveyor Rick Rogers Survey Partner(s) _____

Overall Mileage _____

Weather:

Time (24 hr)	% Cloud	Sky	Winds (mph)	Temp (F)
Start		clear patchy overcast drizzle shower	1 mph.	85°
		clear patchy overcast drizzle shower		
		clear patchy overcast drizzle shower		
Stop		clear patchy overcast drizzle shower		97°

Site #	Time	Mileage on site
<u>11</u>	<u>12:45</u> to <u>1:05</u>	_____
<u>12</u>	<u>1:10</u> to <u>2:00</u>	_____
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____

Biological elements:

Rhaphiomidas terminatus ? _____ time _____ sex _____ numbers _____Other arthropods (general) Bombyliids Asilids Mydids _____ Apiocerids _____ Sphecids

Pomphillids _____ Scoliids _____ Chrysidids _____

Other insects of note Villa molitor / Thyridum thrax atrata / Polistes apachus
Euodynerus sp.

Plants: Croton _____ Telegraph weed _____ Eriogonum fasciculatum _____

Eriogonum thurberi _____ other Eriogonum _____ Oenothera _____

Camissonia _____ Eriastrum _____

Others: _____

Vertebrates: _____

Date 8/25/26 Time 1230 to 1330 Job 8
Miles _____
Biologists Brian Drake

Weather: Temp 88.7 Wind WC 1.4 12.7 Cloud cover 0% Rain 0
93.9 0%

Comments:

odonata
dyllidae
trichoptera
chironomidae
phlebotomus
chrysididae
cleonus
p. protuberans
scaphomyia

Biological elements:

Rhaphiomidas terminatus? _____ time _____ sex _____ numbers _____

Other arthropods (general) Bombyliids _____ Asilids _____
Mydids _____ Apiocerids _____ Sphecids _____
Chrysidids _____ Mutilids _____ Scoliids _____
Mymecoleontids _____ Other insects of note _____

Plants: *Croton* _____ Telegraph weed _____ *Eriogonum fasciculatum* _____
Eriogonum thurberi _____ other *Eriogonum* _____ *Oenothera* _____
Camissonia _____ *Eriastrum* _____
Others: _____

Vertebrates

calyptorhynchus rodent
sperm. birds bird
etc v. few lizard

Delhi sands flower-loving fly - General Form

Date 8-6-06 Overall Time 10:00-21:00Jobs SLESurveyor AVD/RR Survey Partner(s) _____Overall Mileage 224879.7

Weather:

Time (24 hr)	% Cloud	Sky	Winds (mph)	Temp (F)
Start <u>10:00</u>	100	<u>clear</u> patchy overcast drizzle shower	<u>2</u>	<u>82</u>
		clear patchy overcast drizzle shower		
<u>→ 21:00</u>		clear patchy overcast drizzle shower		
Stop <u>21:00</u>		<u>clear</u> patchy overcast drizzle shower	<u>8</u>	<u>95</u>

Site # 9

Time

Mileage on site

<u>9</u>	<u>10:00</u>	to	<u>12:00</u>	<u>224879.7</u>
<u>9a</u>	<u>12:05</u>	to	<u>12:10</u>	<u>11</u>
<u>10W</u>	<u>12:30</u>	to	<u>1:20</u>	<u>224883.7</u>
<u>6N</u>	<u>1:40</u>	to	<u>2:00</u>	<u>224895.5</u>
		to		
		to		
		to		
		to		
		to		
		to		
		to		

Biological elements:

Rhaphiomidas terminatus? _____ time _____ sex _____ numbers _____

Other arthropods (general) Bombyliids Asilids
 Mydids Apiocerids _____ Sphecids
 Pompillids Scoliids _____ Chrysidids

Other insects of note

9 *Nemomydas*, *Thyroanthra atrata*, *Dasymeris corinchoria*,
Lophyle distincta, *Reginiella* sp., *Eristalis latifrons*,
Syrus sp., 9a - *Lophyle* & *Lophyle ganophyllax*,
~~*Parnopoe edwardsi*~~ ~~*Eristalis*~~ *Parnopoe*, *Eristalis* sp., 6N -

Plants: *Croton* _____ *Telegraph weed* _____ *Eriogonum fasciculatum* _____
Eriogonum thurberi _____ other *Eriogonum* _____ *Oenothera* _____
Camissonia _____ *Eriastrum* _____
 Others: _____
Promecus sp.;
Polideseopachus
Cercerus textilis

Vertebrates: _____

Delhi sands flower-loving fly - General Form

Date Aug 7 06 Overall Time 20 min.Jobs SCE.Surveyor Rick Rogers Survey Partner(s) _____

Overall Mileage _____

Weather:

Time (24 hr)	% Cloud	Sky	Winds (mph)	Temp (F)
Start <u>1:30</u>	<u>0</u>	<u>clear</u> patchy overcast drizzle shower		<u>88°</u>
		clear patchy overcast drizzle shower		
		clear patchy overcast drizzle shower		
Stop <u>1:50</u>	<u>0</u>	<u>clear</u> patchy overcast drizzle shower		<u>89°</u>

Site #	Time	Mileage on site
<u>11</u>	<u>1:30</u> to <u>1:50</u>	<u>00 4.4</u>
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____

Biological elements:

Rhaphiomidas terminatus? _____ time _____ sex _____ numbers _____

Other arthropods (general) Bombyliids Asilids
 Mydids _____ Apiocerids _____ Sphecids
 Pompillids _____ Scoliids Chrysidids _____
 Other insects of note Chlorion ararium / Campsomeris tolteca / Cotinus texana

Plants: *Croton* _____ Telegraph weed _____ *Eriogonum fasciculatum* _____
Eriogonum thurberi _____ other *Eriogonum* _____ *Oenothera* _____
Camissonia _____ *Eriastrum* _____
 Others: _____

Vertebrates: _____

Delhi sands flower-loving fly - General Form

Date 8-7-06 Overall Time 11:00 - 2:00Jobs SCESurveyor AVD Survey Partner(s) _____Overall Mileage 224908.3

Weather:

Time (24 hr)	% Cloud	Sky					Winds (mph)	Temp (F)
Start <u>10:45</u>	<u>80/100</u>	clear	patchy	<u>overcast</u>	drizzle	shower	<u>calm</u>	<u>80</u>
		clear	patchy	overcast	drizzle	shower		
		clear	patchy	overcast	drizzle	shower		
Stop	<u>2:00</u>	<u>clear</u>	patchy	overcast	drizzle	shower	<u>2</u>	<u>90-91</u>

Site #

<u>2</u>	Time <u>11:07</u>	<u>11:52</u>	Mileage on site
<u>3</u>	<u>11:00</u> to <u>11:45</u>		<u>224908.3</u>
<u>4</u>	<u>11:59</u> to <u>12:02</u>		<u>224908.9</u>
<u>5</u>	<u>12:07</u> to <u>12:27</u>		<u>224909.6</u>
<u>6S</u>	<u>12:32</u> to <u>1:02</u>		<u>224910.3</u>
<u>1</u>	<u>1:10</u> to <u>1:30</u>		<u>224913.5</u>
	<u>1:35</u> to <u>2:00</u>		<u>224916.2</u>
	to		
	to		
	to		
	to		
	to		
	to		
	to		

Biological elements:

Rhaphiomidas terminatus? _____ time _____ sex _____ numbers _____Other arthropods (general) Bombyliids Asilids
Mydids _____ Apiocerids Sphecids
Pompillids _____ Scoliids _____ Chrysidids _____Other insects of note 1 - *Pyromyx parkeri*4 - *apiocera* sp.2 - *Dasyneura casina hirta*5 - *Thyreanthus atrata*, *Epheria* sp.6S - *Epheria* sp., *Bembix comata*Plants: Croton _____ Telegraph weed _____ *Eriogonum fasciculatum* _____*Eriogonum thurberi* _____ other *Eriogonum* _____ *Oenothera* _____*Camissonia* _____ *Eriastrum* _____

Others: _____

Vertebrates: _____

Delhi sands flower-loving fly - General Form

Date 8-08-06 Overall Time 10:00-Jobs SCESurveyor RR Survey Partner(s) AVDOverall Mileage 224946.4

Weather:

Time (24 hr)	% Cloud	Sky	Winds (mph)	Temp (F)
Start 10:00	0	<u>clear</u> patchy overcast drizzle shower	2	92
		clear patchy overcast drizzle shower		
		clear patchy overcast drizzle shower		
Stop 11:46		<u>clear</u> patchy overcast drizzle shower	calm	103

Site

Site #	Time	Mileage on site
<u>10e</u>	<u>10:00</u>	<u>224946.4</u>
<u>10w</u>	<u>12:04</u>	<u>224948.4</u>
<u>12</u>	<u>1:25</u>	<u>224951.9</u>

Biological elements:

Rhaphiomidas terminatus ? time sex numbersOther arthropods (general) Bombyliids Asilids Mydids Apiocerids Sphecids Pompillids Scoliids Chrysidids Other insects of note Amphipoda aberti, Melicta sp, Nomata sp,
Agapostomum, Maliphora, Bemix melanopsis,
Conopidae, Plectiscus apachus, 12 - ? fallax exclamans
Epilobus sp, Philonthus mentidorsal, Copistulum marginatum.Plants: Croton Telegraph weed Eriogonum fasciculatum Eriogonum thurberi other Eriogonum Oenothera Camissonia Eriastrum Others: Vertebrates:

Date 8/08/06 Time 1030 to 1130

Job 8

Miles _____

Biologists Brian Drake

Weather: Temp 82.7 Wind WE 2.1/1.7 Cloud cover 10% Rain 0
90.4 SW @ 2.2/4.1 10%

Comments:

- obnate
- stings mutabilis
- formicidae
- polistes
- syrphidae
- p. protuberans
- trilobate
- papilio rutulus
- prunus coenice
- clodes
- apis mellifera

Biological elements:

Rhaphiomidas terminatus ? _____ time _____ sex _____ numbers _____

Other arthropods (general) Bombyliids _____ Asilids _____
 Mydids _____ Apiocerids _____ Sphecids _____
 Chrysidids _____ Mutilids _____ Scoliids _____
 Mymerleontids _____ Other insects of note _____

Plants: *Croton* _____ *Telegraph weed* _____ *Eriogonum fasciculatum* _____
Eriogonum thurberi _____ other *Eriogonum* _____ *Oenothera* _____
Camissonia _____ *Eriastrum* _____
 Others: _____

Vertebrates

uw syl. awd. amku
hafi rodo sperm. beach.
wuki tuvu

Delhi sands flower-loving fly - General Form

Date 8-9-06 Overall Time 10:00-1:20Jobs SCESurveyor AVD Survey Partner(s) RROverall Mileage 224991.0 - 225004.8

Weather:

Time (24 hr)	% Cloud	Sky	Winds (mph)	Temp (F)
Start <u>10:00</u>	<u>0</u>	<u>clear</u> patchy overcast drizzle shower	<u>calm</u>	<u>89</u>
		clear patchy overcast drizzle shower		
		clear patchy overcast drizzle shower		
Stop <u>1:15</u>	<u>0</u>	clear patchy overcast drizzle shower	<u>2-calm</u>	<u>101</u>

Site

Site #	Time	Mileage on site
<u>9</u>	<u>10:00</u> to <u>12:00</u>	<u>224991.0</u>
<u>6N</u>	<u>12:30</u> to <u>12:50</u>	<u>225002.4</u>
<u>1</u>	<u>1:00</u> to <u>1:15-1:20</u>	<u>225009.8</u>
	to	
	to	
	to	
	to	
	to	
	to	
	to	
	to	
	to	

Biological elements:

Rhaphiomidas terminatus ? ___ time ___ sex ___ numbers ___.Other arthropods (general) Bombyliids Asilids ___Mydids ___ Apiocerids ___ Sphecids Pompillids Scoliids ___ Chrysidids ___

Other insects of note

Cerceris bicornuta, *Cerceris femoralis*, *Cerceris multimaculata*, *ventilabris*,
Epilobus sp., *Hoplosaikera diversus*, *Doynuzilla*,
Chlorion, *Villa molitor*, *6N Melicobea*, *Cerceris septidens*,
Sachydes, *Pyronyx foxi*, *Exoprosopa divisa*

Plants: *Croton* ___ Telegraph weed ___ *Eriogonum fasciculatum* ___*Eriogonum thurberi* ___ other *Eriogonum* ___ *Oenothera* ___*Camissonia* ___ *Eriastrum* ___

Others: ___

Vertebrates: ground squirrel, burrowing owl on 9

Delhi sands flower-loving fly - General Form

Date 8-10-06 Overall Time 10:00 - 2:00 Jobs SCESurveyor AVD/RR Survey Partner(s) _____Overall Mileage 225025.7 - 225027.7

Weather:

Time (24 hr)	% Cloud	Sky	Winds (mph)	Temp (F)
Start <u>10:00</u>	<u>0</u>	<u>clear</u> patchy overcast drizzle shower	<u>calm</u>	<u>100</u>
		clear patchy overcast drizzle shower		
<u>12:00</u>		clear patchy overcast drizzle shower	<u>4</u>	
Stop <u>2:00</u>		clear patchy overcast drizzle shower	<u>4</u>	<u>96</u>

Site #	Time	Mileage on site
<u>10E</u>	<u>10:00</u> to <u>12:00</u>	<u>225025.7</u>
<u>10W</u>	<u>12:05</u> to <u>2:00</u>	<u>225027.7</u>
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____

Biological elements:

Rhaphiomidas terminatus? _____ time _____ sex _____ numbers _____

Other arthropods (general) Bombyliids Asilids
 Mydids _____ Apiocerids _____ Sphecids
 Pompillids _____ Scoliids _____ Chrysidids
 Other insects of note Parnopse edwardsi, Ephraia albolinea,
~~Conopidae~~ Conopidae, Menthus bicornuta,
Amophila aberti, idl - Coppery Lycenidae, yellow
band winged grasshopper.

Plants: Croton _____ Telegraph weed _____ Eriogonum fasciculatum _____
 Eriogonum thurberi _____ other Eriogonum _____ Oenothera _____
 Camissonia _____ Eriastrum _____
 Others: _____

Vertebrates: _____

Date 8/11/05 Time 1115 to 1210 Job SCE
Miles 191899 Location Hagen Marsh 19
Biologists KAD
Survey for: DSP
Habitat Assessment for: _____

Weather: Temp 92-93 Wind 0 Cloud cover 0 Rain 0

Biological elements:

Vegetative communities:

Soil type _____

Plant species:

Vertebrates

Arthropods

Oak Woodlands _____ Riparian Veg _____ type _____

Vernal Pools _____

Comments:

DSP ♂ & ♀ nesting

Date 8/12/06 Time 1148 to 1159 Job SCE
Miles 162091 Location _____
Biologists WHD
Survey for: DSP
Habitat Assessment for: _____

Weather: Temp 87°/° Wind 0 Cloud cover 0 Rain 0

Biological elements:

Vegetative communities:

87°/° 2N 1148 1148-1159
6N 1207-1255 162073-

Soil type _____

Plant species:

Vertebrates

Arthropods

Oak Woodlands _____ Riparian Veg. _____ type _____
Vernal Pools _____

Comments:

Delhi sands flower-loving fly - General Form

Date 8-12-06 Overall Time 10:00-1:42Jobs SCESurveyor AVD Survey Partner(s) _____Overall Mileage 225057.3 - 225064.7

Weather:

Time (24 hr)	% Cloud	Sky	Winds (mph)	Temp (F)
Start 10:00	0	<u>clear</u> patchy overcast drizzle shower	<u>Calm</u>	81
		clear patchy overcast drizzle shower		
		clear patchy overcast drizzle shower		
Stop 1:39	0	<u>clear</u> patchy overcast drizzle shower	1-2	100

Site #	Time	Mileage on site
1	10:00 to 11:00	225057.3
2	11:10 to 11:55	225058.6
5	12:02 to 12:32	225060.1
4	12:44 to 1:06	225062.0
65	1:12 to 1:32	225063.3
3	1:34 to 1:39	225064.7
	to	
	to	
	to	
	to	
	to	
	to	

Biological elements:

Rhaphiomidas terminatus? ___ time ___ sex ___ numbers ___

Other arthropods (general) Bombyliids Asilids
 Mydids ___ Apiocerids ___ Sphecids
 Pompilids ___ Scoliids ___ Chrysidids ___

Other insects of note ~~to~~ 1- *Pyronyx fonsi*, *Sceloporus carmentarium*.

2- *Pyronyx puberi*, 5- *Philonothus ventilatrix*, *multinotata*
~~*Pyronyx fonsi*~~ *Cerceris ferruginea*, *Myrshonthus albata* ~~to~~ *Promecus* sp., *P. fonsi*
 51- Various *Bombyliids*, 65- *Pyronyx puberi* 3- *Musca domestica*.

Plants: *Croton* ___ Telegraph weed ___ *Eriogonum fasciculatum* ___
Eriogonum thurberi ___ other *Eriogonum* ___ *Oenothera* ___
Camissonia ___ *Eriastrum* ___

Others: _____

Vertebrates: _____

Date 8/12/06 Time 1230 to 1330 Job 8

Miles _____
Biologists Brian Drake

Weather: Temp 91.9 Wind NW 1.6/40 Cloud cover 0% Rain 0
97.8 0%

Comments:

obovate
p. protuber
pyllidic
exis lentic
pupilla rotund
catina mutabilis
villa

Biological elements:

Rhaphiomidas terminatus? _____ time _____ sex _____ numbers _____

Other arthropods (general) Bombyliids _____ Asilids _____
Mydids _____ Apiocerids _____ Sphecids _____
Chrysidids _____ Mutilids _____ Scoliids _____
Mymerleontids _____ Other insects of note _____

Plants: *Croton* _____ *Telegraph weed* _____ *Eriogonum fasciculatum* _____
Eriogonum thurberi _____ other *Eriogonum* _____ *Oenothera* _____
Camissonia _____ *Eriastrum* _____
Others: _____

Vertebrates

calypso rod amhu cat
turn spum. bush. wchi
uta rshel rod

Delhi sands flower-loving fly - General Form

Date Aug 13, 2006 Overall Time _____ Jobs _____Surveyor Rick Rogers Survey Partner(s) Alex Vandam

Overall Mileage _____

Weather:

Time (24 hr)	% Cloud	Sky	Winds (mph)	Temp (F)
Start <u>10:30 am.</u>	<u>0</u>	<u>clear</u> patchy overcast drizzle shower	<u>1 mph.</u>	<u>82°</u>
		clear patchy overcast drizzle shower		
		clear patchy overcast drizzle shower		
Stop <u>2:00 pm</u>	<u>0</u>	<u>clear</u> patchy overcast drizzle shower	<u>1 mph.</u>	<u>93°</u>

Site #	Time	Mileage on site
<u>9</u>	<u>10:30 am</u> to <u>1:30 am</u>	<u>143774</u>
<u>10 E</u>	<u>1:35 pm</u> to <u>2:00 pm.</u>	<u>143776</u>
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____

Biological elements:

Rhaphiomidas terminatus ? _____ time _____ sex _____ numbers _____

Other arthropods (general) Bombyliids Asilids
 Mydids Apiocerids _____ Sphecids
 Pompillids Scoliids _____ Chrysidids
 Other insects of note Chlorion araxium / Evodynerus sp. / Agriella sp.
Dasymutilla coccinea hirta / Thyridanthrax atrata / Mallophora fauaria
Vermomydas pantherinus / Tachytes distincta

Plants: *Croton* _____ Telegraph weed _____ *Eriogonum fasciculatum* _____
Eriogonum thurberi _____ other *Eriogonum* _____ *Oenothera* _____
Camissonia _____ *Eriastrum* _____
 Others: _____

Vertebrates: Turkey Vulture

Delhi sands flower-loving fly - General Form

Date 8-13-06 Overall Time 11:30-12:06Jobs SCESurveyor AVD Survey Partner(s) _____Overall Mileage 225081.

Weather:

Time (24 hr)	% Cloud	Sky	Winds (mph)	Temp (F)
Start <u>11:30</u>	<u>0</u>	<u>clear</u> patchy overcast drizzle shower	<u>calm</u>	<u>87</u>
		clear patchy overcast drizzle shower		
		clear patchy overcast drizzle shower		
Stop		clear patchy overcast drizzle shower		

Site #

la

Time

11:30to 12:06

Mileage on site

225081.

Biological elements:

Rhaphiomidas terminatus? _____ time _____ sex _____ numbers _____

Other arthropods (general) Bombyliids _____ Asilids _____

Mydids _____ Apiocerids _____ Sphecids _____

Pompillids _____ Scoliids _____ Chrysidids _____

Other insects of note _____

Plants: *Croton* _____ Telegraph weed _____ *Eriogonum fasciculatum* _____*Eriogonum thurberi* _____ other *Eriogonum* _____ *Oenothera* _____*Camissonia* _____ *Eriastrum* _____

Others: _____

Vertebrates: _____

Date 8/14/06 Time 1130 to 1230

Job SCB area 8

Miles - from home

Biologists KWD

Weather: Temp 85-90 Wind 0 Cloud cover 0 Rain 0
hot humid

Comments:

Biological elements:

Rhaphiomidas terminatus ? _____ time _____ sex _____ numbers _____

Other arthropods (general) Bombyliids Asilids
Mydids _____ Apiocerids _____ Sphecids
Chrysidids _____ Mutilids 1 Scoliids _____
Mymerleontids Other insects of note _____

Plants: *Croton* _____ *Telegraph weed* _____ *Eriogonum fasciculatum* _____
Eriogonum thurberi _____ other *Eriogonum* _____ *Oenothera* _____
Camissonia _____ *Eriastrum* _____
Others: _____

Vertebrates

Delhi sands flower-loving fly - General Form

Date Aug 14, 2006 Overall Time _____ Jobs _____Surveyor Rick Rogers Survey Partner(s) _____

Overall Mileage _____

Weather:

Time (24 hr)	% Cloud	Sky	Winds (mph)	Temp (F)
Start <u>10:15 am</u>	<u>0</u>	<u>clear</u> patchy overcast drizzle shower	<u>1-2 mph</u>	<u>87°</u>
		clear patchy overcast drizzle shower		
		clear patchy overcast drizzle shower		
Stop	<u>0</u>	<u>clear</u> patchy overcast drizzle shower	<u>1 mph</u>	<u>88°</u>

Site #	Time	Mileage on site
<u>11</u>	<u>10:15 am</u> to <u>10:35</u>	<u>143935</u>
<u>12</u>	<u>10:40 am</u> to <u>12:05</u>	<u>143938</u>
<u>9A</u>	<u>12:05 pm</u> to <u>12:15 pm.</u>	<u>143938</u>
	to	
	to	
	to	
	to	
	to	
	to	
	to	
	to	
	to	

Biological elements:

Rhaphiomidas terminatus? _____ time _____ sex _____ numbers _____Other arthropods (general) Bombyliids _____ Asilids _____
Mydids _____ Apiocerids _____ Sphecids
Pompillids _____ Scoliids _____ Chrysidids _____Other insects of note Anthophora urbana / Strigomon melinus / Polistes gallicus
Chlorion araricum / roceris bicornuta / Polistes apachus / Philanthus multimaculatus /
Polistes exclamans / Villa molitor /Plants: Croton _____ Telegraph weed _____ Eriogonum fasciculatum _____
Eriogonum thurberi _____ other Eriogonum _____ Oenothera _____
Camissonia _____ Eriastrum _____

Others: _____

Vertebrates: _____

Delhi sands flower-loving fly - General Form

Date 8-14-06 Overall Time 10:00-1:39Jobs SCESurveyor AVP Survey Partner(s) _____Overall Mileage 225 | 22,8

Weather:

Time (24 hr)	% Cloud	Sky	Winds (mph)	Temp (F)
Start <u>10:00</u>	<u>0</u>	<u>clear</u> patchy overcast drizzle shower	<u>calm</u>	<u>87</u>
		clear patchy overcast drizzle shower		
		clear patchy overcast drizzle shower		
Stop <u>1:39</u>	<u>0</u>	<u>clear</u> patchy overcast drizzle shower	<u>1-2</u>	<u>95</u>

Site #	Time	Mileage on site
<u>1</u>	<u>10:00</u> to <u>11:00</u>	<u>225 22,0</u>
<u>2</u>	<u>11:04</u> to <u>11:49</u>	<u>225 23,3</u>
<u>3</u>	<u>11:58</u> to <u>12:03</u>	<u>225 23,8</u>
<u>4</u>	<u>12:09</u> to <u>12:29</u>	<u>225 24,3</u>
<u>5</u>	<u>12:36</u> to <u>1:06</u>	<u>225 27,9</u>
<u>6s</u>	<u>1:19</u> to <u>1:39</u>	<u>225 27,9</u>
	to	
	to	
	to	
	to	
	to	
	to	

Biological elements:

Rhaphiomidas terminatus? time 11:15 sex ♂ and ♀ numbers 3-4

they were flying around in a remnant habitat on site 2 that has not been disturbed. It is a sloping hillside ~~area~~ running parallel to aqueduct Blvd. They are most active when there is full sun and no wind.

Other arthropods (general) Bombyliids Asilids Mydids Apiocerids Sphecids Pompillids Scoliids Chrysidids Wind picks up to only 1-2 mph and they were very scarce.

Other insects of note 1 - Syrph sp., Chalabron sp. Also a picture can't be taken since they were not seen landing.

2 - Exoprosopa sp., Syrph sp., Thysanotus

3 - Black fly, 4 - Exoprosopa, Promecur, Tachyura 5 - Myriophthalma alata

Plants: Croton Telegraph weed Eriogonum fasciculatumEriogonum thurberi other Eriogonum OenotheraCamissonia Eriastrum

Others: _____

Vertebrates: 5 - red croaker snake

→ homeless man off of market street on curb, called in RCF to help him.

Delhi sands flower-loving fly - General Form

Date 8-15-06 Overall Time 10:00-1:30Jobs SCESurveyor AKD Survey Partner(s) RROverall Mileage 225148.8

Weather:

Time (24 hr)	% Cloud	Sky	Winds (mph)	Temp (F)
Start <u>10:00</u>	<u>50</u>	clear <u>patchy</u> <u>overcast</u> drizzle shower	<u>1</u>	<u>90</u>
		clear patchy overcast drizzle shower		
		clear patchy overcast drizzle shower		
Stop <u>1:30</u>	<u>0</u>	<u>clear</u> patchy overcast drizzle shower	<u>calm - 1</u>	<u>93</u>

Site #

10e

Time

10:00to 11:30

Mileage on site

225148.810w11:35to 2:00 1:35225151.6

Biological elements:

Rhaphiomidas terminatus ? ___ time ___ sex ___ numbers ___Other arthropods (general) Bombyliids Asilids Mydids Apiocerids ___ Sphecids Pompillids ___ Scoliids ___ Chrysidids Other insects of note Nemomyza, Godyphus, Lyria, Anopta
Cheerax bicornuta, Stenopogon, Villa halstoni,
Aphis bantia sp.Plants: *Croton* ___ Telegraph weed ___ *Eriogonum fasciculatum* ___*Eriogonum thurberi* ___ other *Eriogonum* ___ *Oenothera* ___*Camissonia* ___ *Eriastrum* ___

Others: _____

Vertebrates: _____

Delhi sands flower-loving fly - General Form

Date Aug 16, 2006 Overall Time _____Jobs SCESurveyor Rick Rogers Survey Partner(s) _____

Overall Mileage _____

Weather:

Time (24 hr)	% Cloud	Sky	Winds (mph)	Temp (F)
Start <u>10:05 am</u>	<u>0</u>	<u>clear</u> patchy overcast drizzle shower	<u>1 mph</u>	<u>84</u>
		clear patchy overcast drizzle shower		
		clear patchy overcast drizzle shower		
Stop <u>12:45 pm</u>	<u>0</u>	<u>clear</u> patchy overcast drizzle shower	<u>2-3 mph.</u>	<u>84</u>

Site #

Time

Mileage on site

<u>9</u>	<u>10:15</u> to <u>12:45</u>	<u>144278</u>
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____

Biological elements:

Rhaphiomidas terminatus? _____ time _____ sex _____ numbers _____

Other arthropods (general) Bombyliids Asilids _____
 Mydids Apiocerids _____ Sphecids
 Pompillids Scoliids Chrysidids _____
 Other insects of note Chlorion aratum, Campsomeris tolteca

Plants: *Croton* _____ Telegraph weed _____ *Eriogonum fasciculatum* _____
Eriogonum thurberi _____ other *Eriogonum* _____ *Oenothera* _____
Camissonia _____ *Eriastrum* _____

Others: _____

Vertebrates: _____

Date 8/17/06 Time 8¹⁵ to 11⁵⁵ Job SC12 1a
Miles 162671 Location _____
Biologists CLAW
Survey for: NSP
Habitat Assessment for: _____

Weather: Temp 85 Wind 0 Cloud cover 0 Rain 0

Biological elements:

Vegetative communities:

Soil type _____

Plant species:

Vertebrates

Arthropods

Oak Woodlands _____ Riparian Veg _____ type _____

Vernal Pools _____

Comments:

Delhi sands flower-loving fly - General Form

Date Aug 19, 2006 Overall Time 20 min.Jobs SCESurveyor Rick Rogers Survey Partner(s) _____

Overall Mileage _____

Weather:

Time (24 hr)	% Cloud	Sky	Winds (mph)	Temp (F)
Start <u>12:50 pm</u>	<u>0</u>	<u>clear</u> patchy overcast drizzle shower	<u>3-4</u>	<u>90°</u>
		clear patchy overcast drizzle shower		
		clear patchy overcast drizzle shower		
Stop <u>1:10 pm</u>	<u>0</u>	<u>clear</u> patchy overcast drizzle shower	<u>3-4</u>	<u>95°</u>

Site #

Time

Mileage on site

<u>11</u>	<u>12:50 pm.</u> to <u>1:10 pm</u>	<u>144785</u>
_____	to _____	_____
_____	to _____	_____
_____	to _____	_____
_____	to _____	_____
_____	to _____	_____
_____	to _____	_____
_____	to _____	_____
_____	to _____	_____
_____	to _____	_____
_____	to _____	_____
_____	to _____	_____

Biological elements:

Rhaphiomidas terminatus ? _____ time _____ sex _____ numbers _____

Other arthropods (general) Bombyliids _____ Asilids _____
 Mydids _____ Apicerids _____ Sphecids
 Pompillids _____ Scoliids _____ Chrysidids _____
 Other insects of note Amnophila sp. Evodynerus sp. Agapostemon texana

Plants: *Croton* _____ Telegraph weed _____ *Eriogonum fasciculatum* _____
Eriogonum thurberi _____ other *Eriogonum* _____ *Oenothera* _____
Camissonia _____ *Eriastrum* _____
 Others: _____

Vertebrates: _____

Delhi sands flower-loving fly - General Form

Date 8-19-06 Overall Time 10:00-1:28 Jobs SCESurveyor AVD Survey Partner(s) _____Overall Mileage 225260.0 - 225263.9

Weather:

Time (24 hr)	% Cloud	Sky	Winds (mph)	Temp (F)
Start <u>10:00</u>	<u>0</u>	<u>clear</u> patchy overcast drizzle shower	<u>calm</u>	<u>89</u>
		clear patchy overcast drizzle shower		
		clear patchy overcast drizzle shower		
Stop <u>1:28</u>	<u>0</u>	<u>clear</u> patchy overcast drizzle shower	<u>1-2</u>	<u>95</u>

Site #	Time	Mileage on site
<u>1</u>	<u>10:00</u> to <u>11:00</u>	<u>225260.0</u>
<u>2</u>	<u>11:05</u> to <u>11:50</u>	<u>225261.4</u>
<u>3</u>	<u>12:00</u> to <u>12:05</u>	<u>225262.6</u>
<u>4</u>	<u>12:08</u> to <u>12:28</u>	<u>225262.2</u>
<u>5</u>	<u>12:30</u> to <u>1:00</u>	<u>225262.8</u>
<u>65</u>	<u>1:08</u> to <u>1:28</u>	<u>225263.9</u>
	to	
	to	
	to	
	to	
	to	
	to	

Biological elements:

Rhaphiomidas terminatus ? _____ time _____ sex _____ numbers _____

Other arthropods (general) Bombyliids Asilids
 Mydids _____ Apiocerids Sphecids
 Pompillids _____ Scoliids _____ Chrysidids _____
 Other insects of note 1 - *Pyronyx polkensis* 2 - *Bombix melanocarpa*
3 - *Ephesia abolaris* 4 - *Exoprosopa*
5 - *Aphosora* ♀ 6 - *Zyridanthrax atrata*

Plants: *Croton* _____ Telegraph weed _____ *Eriogonum fasciculatum* _____
Eriogonum thurberi _____ other *Eriogonum* _____ *Oenothera* _____
Camissonia _____ *Eriastrum* _____
 Others: _____

Vertebrates: _____

Date 8/19/06 Time 1230 to 1330

Job 8

Miles _____

Biologists Brian Drake

Weather: Temp 86.2 Wind calm Cloud cover 0% Rain 0
90.8 SW @ 1.6/2.5 0%

Comments:

odonata
colletes mutabilis
gryllidae
villid
crucis
prelis bonie
formicidae
trichoptera
pacilanthrax affinis
chironomus

Biological elements:

Rhaphiomidas terminatus? _____ time _____ sex _____ numbers _____

Other arthropods (general) Bombyliids _____ Asilids _____
Mydids _____ Apiocerids _____ Sphecids _____
Chrysidids _____ Mutilids _____ Scoliids _____
Mymecleontids _____ Other insects of note _____

Plants: *Croton* _____ Telegraph weed _____ *Eriogonum fasciculatum* _____
Eriogonum thurberi _____ other *Eriogonum* _____ *Oenothera* _____
Camissonia _____ *Eriastrum* _____
Others: _____

Vertebrates

sperm. beach. utd rod
rthel rod calypso
hafi basw

Delhi sands flower-loving fly - General Form

Date Aug 20, 2006 Overall Time _____ Jobs _____Surveyor Pick Rogers Survey Partner(s) Alex VanDum (site 9 only)

Overall Mileage _____

Weather:

Time (24 hr)	% Cloud	clear	patchy	overcast	drizzle	shower	Winds (mph)	Temp (F)
Start <u>10:30</u>	<u>0</u>	<u>clear</u>	patchy	overcast	drizzle	shower	<u>1 mph</u>	<u>85°</u>
		clear	patchy	overcast	drizzle	shower		
		clear	patchy	overcast	drizzle	shower		
Stop <u>2:45</u>	<u>0</u>	<u>clear</u>	patchy	overcast	drizzle	shower	<u>2-3</u>	<u>10.3°</u>

Site #	Time	Mileage on site
<u>9A</u>	<u>10:30</u> to <u>10:40</u>	_____
<u>12</u>	<u>10:40</u> to <u>10:55</u>	_____
<u>9</u>	<u>11:45</u> to <u>1:45</u>	_____
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____

Biological elements:

Rhaphiomidas terminatus ? _____ time _____ sex _____ numbers _____Other arthropods (general) Bombyliids Asilids Mydids Apiocerids _____ Sphecids Pomphiliids Scoliids _____ Chrysidids _____Other insects of note Villa molitor / Microanthophora sp. (Sm. D. 22)Nemomydas pantherinus / Cerceris bicornuta / Campsomeris tolteca / pepsis mexicana
polistes exclamans / Thridanthrax atrata / Tachypompilus unicolor / Hoplisoides diversus
Haplomalinus albotomentosus /

Plants: Croton _____ Telegraph weed _____ Eriogonum fasciculatum _____

Eriogonum thurberi _____ other Eriogonum _____ Oenothera _____

Camissonia _____ Eriastrum _____

Others: _____

Vertebrates: _____

Delhi sands flower-loving fly - General Form

Date 8-20-06 Overall Time 10:00-1:45 Jobs SCESurveyor AVD Survey Partner(s) RR on 9Overall Mileage 225279 - 225295.8

Weather:

Time (24 hr)	% Cloud	Sky	Winds (mph)	Temp (F)
Start <u>10:00</u>	<u>0</u>	<u>clear</u> patchy overcast drizzle shower	<u>alm</u>	<u>85</u>
		clear patchy overcast drizzle shower		
		clear patchy overcast drizzle shower		
Stop <u>1:45</u>	<u>0</u>	<u>clear</u> patchy overcast drizzle shower	<u>3</u>	<u>103</u>

Site #	Time	Mileage on site
<u>6N</u>	<u>10:00</u> to <u>10:40</u>	<u>225279</u>
<u>1a</u>	<u>10:47</u> to <u>10:58</u>	<u>225281.7</u>
<u>9</u>	<u>11:45</u> to <u>1:45</u>	<u>225295.8</u>
	to	
	to	
	to	
	to	
	to	
	to	
	to	
	to	
	to	
	to	

Biological elements:

2 x 3
1.
Rhaphiomidas terminatus? ___ time ___ sex ___ numbers ___

Other arthropods (general) Bombyliids ___ Asilids ___
 Mydids ___ Apiocerids ___ Sphecids ___
 Pompillids ___ Scoliids ___ Chrysidids ___

Other insects of note

9 - *Compsoemerus tolteca*, *Pepsia mexicana*,
Cerurus bicornuta, *Pelidnota palomana*, *Dasympilar*
Nicolor, *Hoplodidius diversus*, *Hoplometopus albiventris*

Plants: *Croton* ___ Telegraph weed ___ *Eriogonum fasciculatum* ___
Eriogonum thurberi ___ other *Eriogonum* ___ *Oenothera* ___
Camissonia ___ *Eriastrum* ___

Others: 6N - *Copisylum mexicana*, 1a - *Pyronyx fosi*

Vertebrates: _____

Delhi sands flower-loving fly - General Form

Date 8-21-06 Overall Time 10:00-1:26Jobs SCESurveyor AVD Survey Partner(s) _____Overall Mileage 2253160.

Weather:

Time (24 hr)	% Cloud	Sky	Winds (mph)	Temp (F)
Start <u>10:00</u>	<u>0</u>	<u>clear</u> patchy overcast drizzle shower	<u>1</u>	<u>86</u>
		clear patchy overcast drizzle shower		
		clear patchy overcast drizzle shower		
Stop <u>1:26</u>	<u>0</u>	clear patchy overcast drizzle shower	<u>Calm</u>	<u>100</u>

Site #	Time	Mileage on site
<u>1</u>	<u>10:00</u> to <u>11:00</u>	<u>225316.0</u>
<u>2</u>	<u>11:05</u> to <u>11:50</u>	<u>225317.3</u>
<u>3</u>	<u>11:55</u> to <u>12:06</u>	<u>225317.5</u>
<u>4</u>	<u>12:04</u> to <u>12:24</u>	<u>225318.2</u>
<u>5</u>	<u>12:30</u> <u>12:29</u> to <u>1:00</u>	<u>225318.9</u>
<u>6</u>	<u>1:06</u> to <u>1:26</u>	<u>225319.9</u>
	to	
	to	
	to	
	to	
	to	
	to	

Biological elements:

Rhaphiomidas terminatus ? _____ time _____ sex _____ numbers _____Other arthropods (general) Bombyliids Asilids
Mydids _____ Apiocerids _____ Sphecids
Pompillids _____ Scoliids _____ Chrysidids _____Other insects of note Villa molitor, Pyronyx parkai, foxi, Megribulosa atanta
2 - Bemlis melomopsis, Ephie albocinctus,3 - Villa molitor 4 - Exoprosopa sp.; Bemlis amata
Pyronyx parkeri 5 - Pyronyx sp. Promecus sp.6 - Melastomaceae Ragnitilla sp.Plants: Croton _____ Telegraph weed _____ Eriogonum fasciculatum _____
Eriogonum thurberi _____ other Eriogonum _____ Oenothera _____
Camissonia _____ Eriastrum _____

Others: _____

Vertebrates: _____

Delhi sands flower-loving fly - General Form

Date 8-22-06 Overall Time 10:00-2:00Jobs SCESurveyor AVD Survey Partner(s) RROverall Mileage ~~225354~~ 225352.0-225354.0

Weather:

Time (24 hr)	% Cloud	Sky	Winds (mph)	Temp (F)
Start <u>10:00</u>	<u>0</u>	<u>clear</u> patchy overcast drizzle shower	<u>Calm</u>	<u>101</u>
		clear patchy overcast drizzle shower		
		clear patchy overcast drizzle shower		
Stop <u>2:00</u>		<u>clear</u> patchy overcast drizzle shower	<u>1-2</u>	<u>103</u>

Site #

10e
10w

Time

10:00 to 12:0012:00 to 2:00

Mileage on site

225352.0225354.0

Biological elements:

Rhaphiomidas terminatus? _____ time _____ sex _____ numbers _____Other arthropods (general) Bombyliids Asilids Mydids Apiocerids _____ Sphecids Pompillids Scoliids _____ Chrysidids Other insects of note 10e - Melisodpe sp., Megachile sp., Hictibae
Parnopese edwardsi, Anophila sp., Tachypompilus conicolor
Villa molitor, Thyridanthrax atrata, 10w -Ephesia albobarbus, Melicta californica, Nesomydas
melisodpe, Parnopese edwardsi, Conurus bicinctusPlants: Croton _____ Telegraph weed _____ Eriogonum fasciculatum _____ Philonthus multispicatus
Eriogonum thurberi _____ other Eriogonum _____ Oenothera _____

Camissonia _____ Eriastrum _____

Others: _____

Vertebrates: _____

Date 8/22/06 Time 1030 to 1130 Job 8
Miles _____
Biologists Brian Drake

Weather: Temp 89.6 Wind WC 4.1/5.7 Cloud cover 10% Rain 0
94.8 swe 3.3/5.2 10%

Comments:

tabanus
gryllidae
jill
brachidum exilis
odonata
formicidae
p. protuberans
colletes caryocolum

Biological elements:

Rhaphiomidas terminatus? _____ time _____ sex _____ numbers _____

Other arthropods (general) Bombyliids _____ Asilids _____
Mydids _____ Apiocerids _____ Sphecids _____
Chrysidids _____ Mutilids _____ Scoliids _____
Mymecleontids _____ Other insects of note _____

Plants: *Croton* _____ Telegraph weed _____ *Eriogonum fasciculatum* _____
Eriogonum thurberi _____ other *Eriogonum* _____ *Oenothera* _____
Camissonia _____ *Eriastrum* _____
Others: _____

Vertebrates

hosp hafi rodo w. few lizard
sperm. buch. rshal cato
calypso utal mado

Delhi sands flower-loving fly - General Form

Date Aug 23, 2006 Overall Time 3 hrs. Jobs _____Surveyor Rick Rogers Survey Partner(s) Alex VanDam (9 only)

Overall Mileage _____

Weather:

Time (24 hr)	% Cloud	Sky				Winds (mph)	Temp (F)	
Start <u>10:00 am</u>	<u>0</u>	<u>clear</u>	<u>patchy</u>	<u>overcast</u>	<u>drizzle</u>	<u>shower</u>	<u>calm</u>	<u>98°</u>
		clear	patchy	overcast	drizzle	shower		
		clear	patchy	overcast	drizzle	shower		
Stop <u>1:00 pm</u>	<u>0</u>	<u>clear</u>	<u>patchy</u>	<u>overcast</u>	<u>drizzle</u>	<u>shower</u>	<u>calm/1 mph</u>	<u>100°</u>

Site #	Time	Mileage on site
<u>12</u>	<u>10:00</u> to <u>10:45</u>	<u>145408</u>
<u>9A</u>	<u>10:45</u> to <u>10:55</u>	<u>145408</u>
<u>9</u>	<u>11:00</u> to <u>1:00</u>	<u>145408</u>
	to	
	to	
	to	
	to	
	to	
	to	
	to	
	to	
	to	

Biological elements:

Rhaphiomidas terminatus? _____ time _____ sex _____ numbers _____Other arthropods (general) Bombyliids Asilids
Mydids Apiocerids _____ Sphecids
Pompillids Scoliids Chrysidids _____Other insects of note Cerceris bicornuta / Cerceris femerubrum / Eudodynerus sp.
Polistes apachus / Liris sp. / Nemomydas pantherinus / Philanthus gibbosus /
Sphex ichneumonius / Campomeris talleyi / Tachytes distincta / Speolus sp.!
Diadasia sp.Plants: *Croton* _____ *Telegraph weed* _____ *Eriogonum fasciculatum* _____
Eriogonum thurberi _____ other *Eriogonum* _____ *Oenothera* _____
Camissonia _____ *Eriastrum* _____
Others: _____

Vertebrates: _____

Delhi sands flower-loving fly - General Form

Date 8-23-06 Overall Time 10:00-1:15 Jobs SLESurveyor AVD Survey Partner(s) RR on site 9Overall Mileage 225382.1 - 225396.4

Weather:

Time (24 hr)	% Cloud	Sky	Winds (mph)	Temp (F)
Start <u>10:00</u>	<u>0</u>	<u>clear</u> patchy overcast drizzle shower	<u>1 calm</u>	<u>95</u>
		clear patchy overcast drizzle shower		
		clear patchy overcast drizzle shower		
Stop <u>1:15</u>	<u>0</u>	<u>clear</u> patchy overcast drizzle shower	<u>1-2, calm</u>	<u>106</u>

Site

1a
6N
9

Time

10:00 to 10:36
10:45 to 10:35
11:45 to 1:15
to _____
to _____
to _____
to _____
to _____
to _____
to _____
to _____
to _____

Mileage on site

225382.1
225384.7
225396.4

Biological elements:

Rhaphiomidas terminatus? _____ time _____ sex _____ numbers _____

Other arthropods (general) Bombyliids Asilids
Mydids Apiocerids _____ Sphecids
Pompillids _____ Scoliids Chrysidids _____

Other insects of note 1a - Nemonyx pantherinus, common brown ant.
6N - Meloidae, Megachilidae, Cerceris femorata, Philonthus ventralis,
9 - Villa molitor, Philonthus gilvipes, Spheg ischnurinus, Diabasis sp., Anthophora wilsoni,
Dorymytila, Cerceris browni, Campoplex telia

Plants: Croton _____ Telegraph weed _____ Eriogonum fasciculatum _____ Nemonyx
Eriogonum thurberi _____ other Eriogonum _____ Oenothera _____
Camissonia _____ Eriastrum _____

Others: _____

Vertebrates: _____

Delhi sands flower-loving fly - General Form

Date 8-24-06 Overall Time 10:00-2:00Jobs SCESurveyor AVD Survey Partner(s) KROverall Mileage 139715.7 - 139717.6

Weather:

Time (24 hr)	% Cloud	Sky	Winds (mph)	Temp (F)
Start <u>10:00</u>	<u>0</u>	<u>clear</u> patchy overcast drizzle shower	<u>calm</u>	<u>94</u>
		clear patchy overcast drizzle shower		
		clear patchy overcast drizzle shower		
Stop <u>2:00</u>	<u>0</u>	<u>clear</u> patchy overcast drizzle shower	<u>1-2</u>	<u>100</u>

Site #

10e

Time

10:00 to 12:00

Mileage on site

139715.710w12:10 to 2:00139717.6

Biological elements:

Rhaphiomidas terminatus ? time sex numbersOther arthropods (general) Bombyliids Asilids Mydids Apiocerids Sphecids Pompillids Scoliids Chrysidids Other insects of note 10e - Neodiplocampla mira, Stenopogon, Tachysphex, Nomata sp., Bristle & clamer, Paropse, Delphacids, Dasyneura10w - Pygmy blue, Nemomyza pantherinus, Villa molitor, Dember, Camata, Thyridanthra atrata.Plants: Croton Telegraph weed Eriogonum fasciculatum Eriogonum thurberi other Eriogonum Oenothera Camissonia Eriastrum

Others: _____

Vertebrates: _____

Date 8-25-06 Time 10:00 to 2:00
Miles 24325
Biologists AVD

Job SLE 9

Weather: Temp 95-106 Wind 3-10 Cloud cover 0 Rain 0

Comments:

Cotinus texana Bembie sp.
Buprestidae sp. various species
Pyronyx pyperi
large black Bombyliidae.

Biological elements:

Rhaphiomidas terminatus ? _____ time _____ sex _____ numbers _____

Other arthropods (general) Bombyliids Asilids _____
Mydids _____ Apocerids _____ Sphecids
Chrysidids _____ Mutilids _____ Scoliids _____
Mymmerleontids _____ Other insects of note _____

Plants: *Croton* _____ *Telegraph weed* _____ *Eriogonum fasciculatum* _____
Eriogonum thurberi _____ other *Eriogonum* _____ *Oenothera* _____
Camissonia _____ *Eriastrum* _____
Others: _____

Vertebrates

Delhi sands flower-loving fly - General Form

Date Aug 26, 2006 Overall Time 20 min.Jobs site 11 EdisonSurveyor Rick Rogers Survey Partner(s) _____Overall Mileage 145929

Weather:

Time (24 hr)	% Cloud	Sky	Winds (mph)	Temp (F)
Start <u>12:50</u>	<u>0</u>	<u>clear</u> patchy overcast drizzle shower	<u>2-3</u>	<u>95°</u>
		clear patchy overcast drizzle shower		
		clear patchy overcast drizzle shower		
Stop <u>1:15</u>	<u>0</u>	<u>clear</u> patchy overcast drizzle shower	<u>3 mph.</u>	<u>95°</u>

Site

11

Time

12:50 to 1:15
to _____
to _____
to _____
to _____
to _____
to _____
to _____
to _____
to _____
to _____
to _____
to _____
to _____

Mileage on site

145929

Biological elements:

Rhaphiomidas terminatus? _____ time _____ sex _____ numbers _____

Other arthropods (general) Bombyliids _____ Asilids _____
Mydids _____, Apiocerids _____ Sphecids
Pompillids _____ Scoliids _____ Chrysidids _____

Other insects of note Cerceris bicornuta / Eudynerus sp. / Ammophila aberti /
Chlorion aravenum

Plants: *Croton* _____ Telegraph weed _____ *Eriogonum fasciculatum* _____
Eriogonum thurberi _____ other *Eriogonum* _____ *Oenothera* _____
Camissonia _____ *Eriastrum* _____
Others: _____

Vertebrates: _____

Delhi sands flower-loving fly - General Form

Date 8-26-06 Overall Time 10:00-1:50Jobs SCESurveyor AVD Survey Partner(s) _____Overall Mileage 139748.5 - 139753.5

Weather:

Time (24 hr)	% Cloud	Sky	Winds (mph)	Temp (F)
Start 10:00	0	<input checked="" type="radio"/> clear patchy overcast drizzle shower	calm	87
		clear patchy overcast drizzle shower		
		clear patchy overcast drizzle shower		
Stop 1:50	0	<input checked="" type="radio"/> clear patchy overcast drizzle shower	1-2	98

Site #	Time	Mileage on site
65	10:00 to 10:20	139748.5
5	10:27 to 10:57	139749.5
4	11:13 to 11:23	139750.5
3	11:39 to 11:44	139751.7
2	11:47 to 12:30	139752.0
1	12:50 to 1:50	139753.5
	to	
	to	
	to	
	to	
	to	
	to	

Biological elements:

Rhaphiomidas terminatus? _____ time _____ sex _____ numbers _____

Other arthropods (general) Bombyliids Asilids
 Mydids Apiocerids _____ Sphecids
 Pompillids _____ Scoliids Chrysidids _____

Other insects of note 65 - *Meloboris* sp. 5 - *Bembix* sp. *Thyrionothax celerata*
4 - *Bembix melanocephala*, *Nodiplocampa* sp., *Compsocheilus talleco*,
Proneurus sp. 3 - *Lyra* sp. 1 - *Pezomyza parvula*
Villa molitor, *Oremomyza pontheimeis*,

Plants: *Croton* _____ *Telegraph weed* _____ *Eriogonum fasciculatum* _____
Eriogonum thurberi _____ other *Eriogonum* _____ *Oenothera* _____
Camissonia _____ *Eriastrum* _____

Others: _____

Vertebrates: Homeless people dogs on site 5 tried to bite me!

Date 8/26/06 Time 1230 to 1330

Job 8

Miles _____

Biologists Brian Drake

Weather: Temp 89.2 Wind SW 0.5/6.0 Cloud cover 0%
91.9 SW 2.2/4.7 0.6 Rain 0

Comments:

melissodes
brephidium exilis
obscure
stigma mites
formilidae

Biological elements:

Rhaphiomidas terminatus ? _____ time _____ sex _____ numbers _____

Other arthropods (general) Bombyliids _____ Asilids _____
Mydids _____ Apiocerids _____ Sphecids _____
Chrysidids _____ Mutilids _____ Scoliids _____
Mymarleontids _____ Other insects of note _____

Plants: *Croton* _____ Telegraph weed _____ *Eriogonum fasciculatum* _____
Eriogonum thurberi _____ other *Eriogonum* _____ *Oenothera* _____
Camissonia _____ *Eriastrum* _____
Others: _____

Vertebrates

culpeu sw made
sperm. birds not
etc etc

Delhi sands flower-loving fly - General Form

Date Aug 27, 2006 Overall Time 10:30-1:50 Jobs SCE

Surveyor Rick Rogers Survey Partner(s) Alex Vandam (site 9 only)

Overall Mileage 46069

Weather:

Time (24 hr)	% Cloud	Sky	Winds (mph)	Temp (F)
Start <u>10:30 am</u>	<u>0</u>	<u>clear</u> patchy overcast drizzle shower	<u>1 mph</u>	<u>92°</u>
		clear patchy overcast drizzle shower		
		clear patchy overcast drizzle shower		
Stop <u>1:25 am</u>	<u>0</u>	<u>clear</u> patchy overcast drizzle shower	<u>1-2 mph</u>	<u>103°</u>

Site #	Time	Mileage on site
<u>12</u>	<u>10:30 am to 11:15 am.</u>	<u>46068</u>
<u>9</u>	<u>11:15 am to 1:30 pm</u>	<u>46069</u>
<u>9A</u>	<u>1:30 pm to 1:50 pm.</u>	<u>46069</u>
	to	
	to	
	to	
	to	
	to	
	to	
	to	
	to	
	to	

Biological elements:

Rhaphiomidas terminatus ? time sex numbers .

Other arthropods (general) Bombyliids Asilids
 Mydids Apiocerids Sphecids
 Pompillids Scoliids Chrysidids

Other insects of note Villa molitor / Thyridanthrax atrata / Nemomydas pantherinus /
Plobejus acmon / Prionyx foxi / Agapostemon melliventris / Eucerceris insignis /
Phalanthus ventralis / Celeris bicornuta / Campsomeris tolteca / Dasymeris rorcinotrix
physocéphala texana / Xyliscopa varifuncta

Plants: Croton Telegraph weed Eriogonum fasciculatum
 Eriogonum thurberi other Eriogonum Oenothera
 Camissonia Eriastrum
 Others:

Vertebrates: Burrowing Owl

Delhi sands flower-loving fly - General Form

Date 8-27-06 Overall Time 10:00-1:30 Jobs SCESurveyor AVD Survey Partner(s) RR on site 9 onlyOverall Mileage 139772.8 - 139788.8

Weather:

Time (24 hr)	% Cloud	Sky	Winds (mph)	Temp (F)
Start 10:00	0	clear patchy overcast drizzle shower	calm	90
		clear patchy overcast drizzle shower		
		clear patchy overcast drizzle shower		
Stop 1:30	0	clear patchy overcast drizzle shower	1-2	103

Site #

Time

Mileage on site

10 1a	10:00 to 10:36	139772.8
6N	10:46 to 11:26	139775.3
9	11:45 to 1:30	139788.8
	to	
	to	
	to	
	to	
	to	
	to	
	to	
	to	
	to	
	to	
	to	

Biological elements:

Rhaphiomidas terminatus ? time ___ sex ___ numbers ___Other arthropods (general) Bombyliids Asilids
Mydids Apiocerids Sphecids
Pompillids Scoliids ChrysididsOther insects of note 1a - *Apiocera* sp., *Stenopogon*, *Vella* sp.,
6N - *Dasyneura*, *Cosinoburda*, *Ephraim*, *Tygilla* *guyanaensis*
9 - *Eublererus insignis*, *Cercera bicornata*, *Phibothus*
mentilabris, *Dasyneura*, *Pepsis mexicana*, *Campocneme holca*
Conopidae, *Agathidium*, *Xylocopa* *albipuncta*Plants: *Croton* ___ Telegraph weed ___ *Eriogonum fasciculatum* ___
Eriogonum thurberi ___ other *Eriogonum* ___ *Oenothera* ___
Camissonia ___ *Eriastrum* ___

Others: _____

Vertebrates:

Burnrowing owl along road head north on
or undisturbed portion. Burnrowing owls.

Delhi sands flower-loving fly - General Form

Date 8-28-06 Overall Time 10:00-1:30Jobs SCESurveyor AVD Survey Partner(s) _____Overall Mileage 139810.9 - 139816.9

Weather:

Time (24 hr)	% Cloud	Sky	Winds (mph)	Temp (F)
Start 10:00	0	clear patchy overcast drizzle shower	calm	90
		clear patchy overcast drizzle shower		
		clear patchy overcast drizzle shower		
Stop 1:30	0	clear patchy overcast drizzle shower	2-3 ^{1/2} calm	

Site # 65

Time

Mileage on site

<u>5</u>	<u>10:00</u> to <u>10:20</u>	<u>139810.9</u>
<u>4</u>	<u>10:28</u> to <u>10:58</u>	<u>139812.3</u>
<u>3</u>	<u>11:08</u> to <u>11:28</u>	<u>139814.2</u>
<u>2</u>	<u>11:32</u> to <u>11:37</u>	<u>139815.0</u>
<u>1</u>	<u>11:40</u> to <u>12:25</u>	<u>139815.2</u>
	<u>12:30</u> to <u>1:30</u>	<u>139816.9</u>
	to	
	to	
	to	
	to	
	to	
	to	

Biological elements:

Rhaphiomidas terminatus? _____ time _____ sex _____ numbers _____

Other arthropods (general) Bombyliids Asilids
 Mydids _____ Apiocerids Sphecids
 Pompilids _____ Scoliids _____ Chrysidids _____

Other insects of note 65 - Meloidae, Thyridanthus alternatus, 5 - Aphaera sp.,
Bembix melanopsis, Tyroneus foxi, 4 - Tachyura sp., Tachyura sp.,
Eropasopa sp., 3 - Pagonomerus, 2 - Thyridanthus alternatus
Tyroneus sp., 1 -

Plants: Croton _____ Telegraph weed _____ Eriogonum fasciculatum _____
 Eriogonum thurberi _____ other Eriogonum _____ Oenothera _____
 Camissonia _____ Eriastrum _____

Others: _____

Vertebrates: _____

Delhi sands flower-loving fly - General Form

Date 8-29-06 Overall Time 10:00-2:00 Jobs SCE

Surveyor AVD Survey Partner(s) RR

Overall Mileage 139841.8

Weather:

Time (24 hr)	% Cloud	Sky	Winds (mph)	Temp (F)
Start <u>10:00</u>	<u>0</u>	<u>clear</u> patchy overcast drizzle shower	<u>calm</u>	<u>94</u>
		clear patchy overcast drizzle shower		
		clear patchy overcast drizzle shower		
Stop		clear patchy overcast drizzle shower	<u>1-2</u>	<u>104</u>

Site #	Time	Mileage on site
<u>10e</u>	<u>10:00 to 12:00</u>	<u>139841.8</u>
<u>10W</u>	<u>to 2:00</u>	<u>139843.9</u>
	to	
	to	
	to	
	to	
	to	
	to	
	to	
	to	
	to	
	to	

Biological elements:

Rhaphiomidas terminatus ? time _____ sex _____ numbers _____

Other arthropods (general) Bombyliids Asilids
 Mydids _____ Apiocerids _____ Sphecids
 Pompillids Scoliids _____ Chrysidids *Baccha clavata*, *Saca clavata*
 Other insects of note *Melicta* sp., *Bombix ornata*, *Parnopse thurberi*, *Conopidae*, *Philanthus pacificus*, *Philanthus multimaculatus*, *Meloboris* sp., *Ageniella* sp., *Neodyplacampa mira*, *Stenopogon* sp., *Gyrinogeton* sp., *Pliginskia*, *Sylindrorhina* sp., *Iris oratoria*, *Parnopse thurberi*

Plants: *Croton* _____ *Telegraph weed* _____ *Eriogonum fasciculatum* _____
Eriogonum thurberi _____ other *Eriogonum* _____ *Oenothera* _____
Camissonia _____ *Eriastrum* _____
 Others: _____

Vertebrates: _____

Date 9/29/06 Time 1030 to 1130

Job 8

Miles _____

Biologists Brian Dr. MU

Weather: Temp 88.9 Wind NW @ 0.9/1.1 Cloud cover 10% Rain

98.1 SW @ 2.1/3.7 10%

Comments:

- p. protuberans
- olontar
- gynostoma mutabilis
- ryllidae
- bimbi X
- formicidae
- musca domestica
- trichoptera
- prasinota venia

Biological elements:

Rhaphiomidas terminatus ? _____ time _____ sex _____ numbers _____

Other arthropods (general) Bombyliids _____ Asilids _____
 Mydids _____ Apiocerids _____ Sphecids _____
 Chrysidids _____ Mutilids _____ Scoliids _____
 Mymerleontids _____ Other insects of note _____

Plants: *Croton* _____ *Telegraph weed* _____ *Eriogonum fasciculatum* _____
Eriogonum thurberi _____ other *Eriogonum* _____ *Oenothera* _____
Camissonia _____ *Eriastrum* _____
 Others: _____

Vertebrates

sperm. birds hops rshw
w. fly lizard alyptu
ute arto

Delhi sands flower-loving fly - General Form

Date Aug 30 Overall Time _____ Jobs SCESurveyor Rick Rogers Survey Partner(s) Alex VanDam (site 9 only)

Overall Mileage _____

Weather:

Time (24 hr)	% Cloud	Sky	Winds (mph)	Temp (F)
Start <u>10:30</u>	<u>0</u>	<u>clear</u> patchy overcast drizzle shower	<u>1 mph</u>	<u>90°</u>
		clear patchy overcast drizzle shower		
		clear patchy overcast drizzle shower		
Stop <u>2:00</u>	<u>0</u>	<u>clear</u> patchy overcast drizzle shower	<u>1-2 mph</u>	<u>105°</u>

Site #	Time	Mileage on site
<u>12</u>	<u>10:35</u> to <u>11:20</u>	<u>146581</u>
<u>9A</u>	<u>11:20</u> to <u>11:30</u>	
<u>9</u>	<u>11:35</u> to <u>1:35</u>	
	to	
	to	
	to	
	to	
	to	
	to	
	to	
	to	
	to	

Biological elements:

Rhaphiomidas terminatus ? _____ time _____ sex _____ numbers _____

Other arthropods (general) Bombyliids Asilids
 Mydids _____ Apiocerids _____ Sphecids
 Pompilids Scoliids Chrysidids _____
 Other insects of note Tachytes distincta / Hoplisoides diversus / Euclyptus sp.
Polistes exclamans / Polistes apachus / Ceropales sp. / Anoplus sp.
Cerceris bicornuta / Campsomeris feltera / Phalanthus ventralis / Conopids

Plants: Croton _____ Telegraph weed _____ Eriogonum fasciculatum _____
 Eriogonum thurberi _____ other Eriogonum _____ Oenothera _____
 Camissonia _____ Eriastrum _____
 Others: _____

Vertebrates: _____

Delhi sands flower-loving fly - General Form

Date 8-30-06 Overall Time 1000 - 1100 Jobs SCESurveyor AVD Survey Partner(s) RR on 9 onlyOverall Mileage 139865.9 - 139878.5

Weather:

Time (24 hr)	% Cloud	Sky	Winds (mph)	Temp (F)
Start <u>10:00</u>	<u>0</u>	<u>clear</u> patchy overcast drizzle shower	<u>calm</u>	<u>89</u>
		clear patchy overcast drizzle shower		
		clear patchy overcast drizzle shower		
Stop <u>1:00</u>	<u>0</u>	<u>clear</u> patchy overcast drizzle shower	<u>1-2</u>	<u>105</u>

Site #

6N

Time

10:00 to 10:40

Mileage on site

139865.9
139878.5911:00 to 1:00

to

to

to

to

to

to

to

to

to

Biological elements:

Rhaphiomidas terminatus? ___ time ___ sex ___ numbers ___Other arthropods (general) Bombyliids Asilids
Mydids ___ Apiocerids ___ Sphecids
Pompilids Scoliids Chrysidids ___Other insects of note 6N - Comptosia toluca, Philonthus
mentilalis, Myrmelanthrax atrata, Meloboris sp., Epheria albiventris
9 - 2 Pompilid sp., Comptosia toluca, Philonthus mentilalis
1 Ceropala sp., Anoplus sp., Cercus bicornutus,
Enopidae,Plants: Croton ___ Telegraph weed ___ Eriogonum fasciculatum ___
Eriogonum thurberi ___ other Eriogonum ___ Oenothera ___
Camissonia ___ Eriastrum ___

Others: ___

Vertebrates: ___

Delhi sands flower-loving fly - General Form

Date 8-31-06 Overall Time 10:00-2:00Jobs SCESurveyor AVD Survey Partner(s) RROverall Mileage 225610.1 - 225612.1

Weather:

Time (24 hr)	% Cloud	Sky	Winds (mph)	Temp (F)
Start <u>10:00</u>	<u>0</u>	<u>clear</u> patchy overcast drizzle shower	<u>calm</u>	<u>90</u>
		clear patchy overcast drizzle shower		
		clear patchy overcast drizzle shower		
Stop <u>2:00</u>	<u>0</u>	<u>clear</u> patchy overcast drizzle shower	<u>1-2</u>	<u>99</u>

Site #

Time

Mileage on site

<u>10E</u>	<u>10:00</u> to <u>12:00</u>	<u>225610.1</u>
<u>12W</u>	<u>12:10</u> to <u>2:00</u>	<u>225612.1</u>
	to	
	to	
	to	
	to	
	to	
	to	
	to	
	to	
	to	
	to	
	to	

Biological elements:

Rhaphiomidas terminatus? time sex numbersOther arthropods (general) Bombyliids Asilids Mydids Apiocerids Sphecids Pompillids Scoliids Chrysidids Other insects of note 10E - Lachypompilus senicolor, Stenopogon sp.12W - Parnopese edwardsi, Pterochilus merandrus,Pygmy blue, Melic taff., Melicidese, Haplomatenusabotoman tosus, Cerceris bicornutaPlants: Croton Telegraph weed Eriogonum fasciculatum Eriogonum thurberi other Eriogonum Oenothera Camissonia Eriastrum

Others: _____

Vertebrates: _____

Delhi sands flower-loving fly - General Form

Date Sept 2, 2006 Overall Time 1 1/2 hrs.Jobs SCESurveyor Pick Rogers Survey Partner(s) _____Overall Mileage 147035

Weather:

Time (24 hr)	% Cloud	Sky	Winds (mph)	Temp (F)
Start <u>12:00</u>	<u>0</u>	<u>clear</u> patchy overcast drizzle shower	<u>1-2 mph.</u>	<u>100</u>
		clear patchy overcast drizzle shower		
		clear patchy overcast drizzle shower		
Stop <u>1:30</u>	<u>0</u>	<u>clear</u> patchy overcast drizzle shower	<u>1-2 mph</u>	<u>102</u>

Site #	Time	Mileage on site
<u>11</u>	<u>12:00</u> to <u>12:20</u>	<u>147032</u>
<u>12</u>	<u>12:30</u> to <u>1:20</u>	<u>147034</u>
<u>9A</u>	<u>1:20</u> to <u>1:30</u>	<u>147035</u>
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____

Biological elements:

Rhaphiomidas terminatus ? _____ time _____ sex _____ numbers _____

Other arthropods (general) Bombyliids _____ Asilids
 Mydids _____ Apiocerids _____ Sphecids
 Pompillids _____ Scoliids _____ Chrysidids _____
 Other insects of note Ammophila uberti / polistes apachus / Stenopogon brevisculus
Evodynerus sp. / Philanthus pacificus

Plants: *Croton* _____ Telegraph weed _____ *Eriogonum fasciculatum* _____
Eriogonum thurberi _____ other *Eriogonum* _____ *Oenothera* _____
Camissonia _____ *Eriastrum* _____

Others: _____

Vertebrates: _____

Delhi sands flower-loving fly - General Form

Date 9-2-06 Overall Time 10:45-1:25Jobs SCESurveyor AVD Survey Partner(s) _____Overall Mileage 225654.3-225658.3

Weather:

Time (24 hr)	% Cloud	Sky	Winds (mph)	Temp (F)
Start 10:45	0	<u>clear</u> patchy overcast drizzle shower	<u>calm</u>	100
		clear patchy overcast drizzle shower		
		clear patchy overcast drizzle shower		
Stop 1:25	0	<u>clear</u> patchy overcast drizzle shower	<u>1-2</u>	104

Site #	Time	Mileage on site
<u>1</u>	<u>10:45</u> to <u>11:45</u>	<u>225654.3</u>
<u>3</u>	<u>10:50</u> to <u>10:55</u>	<u>225655.9</u>
<u>4</u>	<u>12:00</u> to <u>12:20</u>	<u>225656.0</u>
<u>5</u>	<u>12:30</u> to <u>1:00</u>	<u>225657.3</u>
<u>65</u>	<u>1:05</u> to <u>1:25</u>	<u>225658.3</u>
	to	
	to	
	to	
	to	
	to	
	to	
	to	

Biological elements:

Rhaphiomidas terminatus? _____ time _____ sex _____ numbers _____Other arthropods (general) Bombyliids Asilids
Mydids _____ Apocerids _____ Sphecids
Pompillids _____ Scoliids _____ Chrysidids _____Other insects of note 1 - Glyptotendipes atrata, several sphecid spp.Pyromysia parkeri, 3 - Melisodese, 4 - Sigura sp, Neobiplocampa
Mymerulionidae, 5 - Glyptotendipes atrata, Boreix melanopsis
65 - Mymerulionidae, Johnny Blue,Plants: Croton _____ Telegraph weed _____ Eriogonum fasciculatum _____
Eriogonum thurberi _____ other Eriogonum _____ Oenothera _____
Camissonia _____ Eriastrum _____

Others: _____

Vertebrates: _____

Date 9/2/06 Time 1230 to 1330

Job 8

Miles _____
Biologists Brian Drant

Weather: Temp 98.6 Wind NW @ 1.8/3.3 Cloud cover 20% Rain 0
101.9 NW @ 2.1/4.0 20%

Comments:

adonate
brephidum exilis
trichostepus
oryllidae
formicidae
villed
pruss wensia

Biological elements:

Rhaphiomidas terminatus? _____ time _____ sex _____ numbers _____

Other arthropods (general) Bombyliids _____ Asilids _____
Mydids _____ Apiocerids _____ Sphecids _____
Chrysidids _____ Mutilids _____ Scoliids _____
Mymmerleontids _____ Other insects of note _____

Plants: *Croton* _____ *Telegraph weed* _____ *Eriogonum fasciculatum* _____
Eriogonum thurberi _____ other *Eriogonum* _____ *Oenothera* _____
Camissonia _____ *Eriastrum* _____
Others: _____

Vertebrates

hoaf rshel sperm. buwh.
uta basw calyph
hofi mydo

Delhi sands flower-loving fly - General Form

Date Sept 3, 2006 Overall Time _____Jobs S.C.E.Surveyor Rick Rogers Survey Partner(s) Alex Van Dam (site 9 only)

Overall Mileage _____

Weather:

Time (24 hr)	% Cloud	Sky					Winds (mph)	Temp (F)
Start 10:00	5	clear	patchy	overcast	drizzle	shower	calm	99°
		clear	patchy	overcast	drizzle	shower		
		clear	patchy	overcast	drizzle	shower		
Stop 2:00	5	clear	patchy	overcast	drizzle	shower	calm	107°

Site #	Time	Mileage on site
<u>9</u>	<u>10:00</u> to <u>12:55</u>	<u>147183</u>
<u>10W</u>	<u>1:00</u> to <u>2:00</u>	<u>147184</u>
	to	
	to	
	to	
	to	
	to	
	to	
	to	
	to	
	to	
	to	
	to	
	to	
	to	

Biological elements:

Rhaphiomidas terminatus? _____ time _____ sex _____ numbers _____

Other arthropods (general) Bombyliids Asilids _____
 Mydids _____ Apiocerids _____ Sphecids
 Pompillids Scoliids _____ Chrysidids _____
 Other insects of note Cerceris bicornuta / Cerceris femerubrun / Anomophila aberti
Agonistella sp.

Plants: *Croton* _____ Telegraph weed _____ *Eriogonum fasciculatum* _____
Eriogonum thurberi _____ other *Eriogonum* _____ *Oenothera* _____
Camissonia _____ *Eriastrum* _____
 Others: _____

Vertebrates: _____

Delhi sands flower-loving fly - General Form

Date 9-03-06 Overall Time 10:00-2:00 Jobs SCE
 Surveyor AVD Survey Partner(s) RR on 9 only and 10e
 Overall Mileage 225670.2 - 225689.5

Weather:

Time (24 hr)	% Cloud	Sky	Winds (mph)	Temp (F)
Start 10:00	0	clear patchy overcast drizzle shower	calm	99
		clear patchy overcast drizzle shower		
		clear patchy overcast drizzle shower		
Stop 2:00	0	clear patchy overcast drizzle shower	calm	107

Site #	Time	Mileage on site
<u>6N</u>	<u>10:00 to 10:40</u>	<u>225670.2</u>
<u>1a</u>	<u>10:50 to 11:26</u>	<u>225673</u>
<u>9</u>	<u>11:45 to 12:55</u>	<u>225688.1</u>
<u>10e</u>	<u>1:00 to 2:00</u>	<u>225689.5</u>
	to	
	to	
	to	
	to	
	to	
	to	
	to	
	to	
	to	

Biological elements:
Rhaphiomidas terminatus ? time _____ sex _____ numbers _____

Other arthropods (general) Bombyliids Asilids
 Mydids _____ Apiocerids Sphecids
 Pompillids _____ Scoliids _____ Chrysidids
 Other insects of note 6N - melaoid beetle, meliobese Philanthus
ventilabrus, Eucosmovera sp. 1a - Cerceris trigonata
Apiocera sp., Haplomalinus albomaculatus, Pyromyza foxi, and portoi;
9 - Philanthus multicolor, Stenopogon sp., Chrysis
tridentata, 10e - Philanthus multicolor, Pyromyza, Amphibia aberti
 Plants: Croton _____ Telegraph weed _____ Eriogonum fasciculatum _____
 Eriogonum thurberi _____ other Eriogonum _____ Oenothera _____
 Camissonia _____ Eriastrum _____
 Others: _____

Vertebrates: _____

Delhi sands flower-loving fly - General Form

Date Sept 4, 2006 Overall Time 2 hrs.Jobs SCESurveyor Rick Pogue Survey Partner(s) _____Overall Mileage 147328

Weather:

Time (24 hr)	% Cloud	Sky	Winds (mph)	Temp (F)
Start <u>11:00</u>	<u>0</u>	<u>clear</u> patchy overcast drizzle shower	<u>calm</u>	<u>90°</u>
		clear patchy overcast drizzle shower		
		clear patchy overcast drizzle shower		
Stop <u>1:00</u>	<u>5</u>	clear <u>patchy</u> overcast drizzle shower	<u>1 mph.</u>	<u>100°</u>

Site #	Time	Mileage on site
<u>11</u>	<u>11:00</u> to <u>11:20</u>	<u>147328</u>
<u>10E</u>	<u>11:25</u> to <u>11:55</u>	<u>147325</u>
<u>12</u>	<u>12:00</u> to <u>12:45</u>	<u>147327</u>
<u>9A</u>	<u>12:50</u> to <u>1:00</u>	<u>147328</u>
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____

Biological elements:

Rhaphiomidas terminatus ? _____ time _____ sex _____ numbers _____Other arthropods (general) Bombyliids Asilids Mydids _____ Apicerids _____ Sphecids Pompillids _____ Scoliids _____ Chrysidids Other insects of note Epeolus sp. / Stenopogon brevisculus / Eristalis aerea
Schistocera nitens / Cerceis bicornuta / Ammophila aberti / Parnopes edwardsi

Plants: Croton _____ Telegraph weed _____ Eriogonum fasciculatum _____

Eriogonum thurberi _____ other Eriogonum _____ Oenothera _____

Camissonia _____ Eriastrum _____

Others: _____

Vertebrates: _____

Delhi sands flower-loving fly - General Form

Date 9-4-06 Overall Time 10:00 - 12:45 Jobs SCESurveyor AVD Survey Partner(s) ~~AVD~~Overall Mileage 225715.0 - 225718.9

Weather:

Time (24 hr)	% Cloud	Sky	Winds (mph)	Temp (F)
Start <u>10:00</u>	<u>0</u>	<u>clear</u> patchy overcast drizzle shower	<u>Calm</u>	<u>96</u>
		clear patchy overcast drizzle shower		
		clear patchy overcast drizzle shower		
Stop <u>12:45</u>	<u>0</u>	<u>clear</u> patchy overcast drizzle shower	<u>1</u>	<u>107</u>

Site #	Time	Mileage on site
<u>1</u>	<u>10:00</u> to <u>11:00</u>	<u>225715.0</u>
<u>3</u>	<u>11:08</u> to <u>11:13</u>	<u>225716.3</u>
<u>4</u>	<u>11:18</u> to <u>11:38</u>	<u>22577.2</u>
<u>5</u>	<u>11:43</u> to <u>12:17</u>	<u>22577.8</u>
<u>65</u>	<u>12:25</u> to <u>12:45</u>	<u>225718.9</u>
	to	
	to	
	to	
	to	
	to	
	to	
	to	

Biological elements:

Rhaphiomidas terminatus ? time _____ sex _____ numbers _____

Other arthropods (general) Bombyliids _____ Asilids _____

Mydids _____ Apiocerids _____ Sphecids _____

Pompillids _____ Scolijds _____ Chrysidids _____

Other insects of note 1 - Pyromyza foxi; Lyria sp.; Villa modesta.3 - Pyromyza blue; 4 - Pyromyza foxi; Pyromyza parkeriChembix cornata; 5 - Hedioplasma rhira; Pyromyza foxi65 - Hedioplasma sp.; Anophila sp.

Plants: Croton _____ Telegraph weed _____ Eriogonum fasciculatum _____

Eriogonum thurberi _____ other Eriogonum _____ Oenothera _____

Camissonia _____ Eriastrum _____

Others: _____

Vertebrates: _____

Delhi sands flower-loving fly - General Form

Date 9-05-06 Overall Time 10:00-1:00 Jobs SCESurveyor AVD Survey Partner(s) RROverall Mileage 225738.7 - 225740.7

Weather:

Time (24 hr)	% Cloud	Sky	Winds (mph)	Temp (F)
Start <u>10:00</u>	<u>0</u>	<u>clear</u> patchy overcast drizzle shower	<u>calm-1</u>	<u>102</u>
		clear patchy overcast drizzle shower		
		clear patchy overcast drizzle shower		
Stop <u>12:00 12:45/0</u>	<u>0</u>	<u>clear</u> patchy overcast drizzle shower	<u>calm</u>	<u>103</u>

Site

10E
10W

Time

10:00 to 11:00
11:00 to ~~12:00~~ 12:45
 to _____
 to _____
 to _____
 to _____
 to _____
 to _____
 to _____
 to _____
 to _____

Mileage on site

225738.7
225740.7

Biological elements:

Rhaphiomidas terminatus? _____ time _____ sex _____ numbers _____

Other arthropods (general) Bombyliids Asilids
 Mydids _____ Apiocerids _____ Sphecids
 Pompillids _____ Scoliids _____ Chrysidids

Other insects of note 10E - *Euroleon* sp., *Amphila aberti*,
Amphila sp. ~~*fulviventris*~~ *Philanthes ventila* (New),
Villa molitor, *Camponotus* ~~*sp.*~~
10W - young blue, *Villa molitor*, *Sachiridae*.

Plants: *Croton* _____ Telegraph weed _____ *Eriogonum fasciculatum* _____
Eriogonum thurberi _____ other *Eriogonum* _____ *Oenothera* _____
Camissonia _____ *Eriastrum* _____

Others: _____

Vertebrates: _____

Date 9/05/06 Time 1030 to 1130

Job 8

Miles _____

Biologists Brian Drake

Weather: Temp 93.4 Wind calm Cloud cover 20% Rain 0

101.3

NE 0.5/1.6

20%

Comments:

brachianm exilis

scutiphon cuneaturnm

gryllidae

formicidae

sarcophagidae

villid

oderatv

Biological elements:

Rhaphiomidas terminatus ? _____ time _____ sex _____ numbers _____

Other arthropods (general) Bombyliids _____ Asilids _____

Mydids _____ Apiocerids _____ Sphecids _____

Chrysidids _____ Mutilids _____ Scoliids _____

Mymerleontids _____ Other insects of note _____

Plants: *Croton* _____ Telegraph weed _____ *Eriogonum fasciculatum* _____

Eriogonum thurberi _____ other *Eriogonum* _____ *Oenothera* _____

Camissonia _____ *Eriastrum* _____

Others: _____

Vertebrates

rod hsp hafi bwh

uta calyptu rshcl

sperm. buwh. and mod

Delhi sands flower-loving fly - General Form

Date Sept 6, 2006 Overall Time 2 hrs.Jobs SCESurveyor Rick Rogers Survey Partner(s) Alex Van Dam (site 9 only)

Overall Mileage _____

Weather:

Time (24 hr)	% Cloud	Sky					Winds (mph)	Temp (F)
Start <u>10=30</u>	<u>5</u>	clear	<u>patchy</u>	overcast	drizzle	shower	<u>calm</u>	<u>100°</u>
		clear	patchy	overcast	drizzle	shower		
		clear	patchy	overcast	drizzle	shower		
Stop <u>12=30</u>	<u>5</u>	clear	<u>patchy</u>	overcast	drizzle	shower	<u>1+2</u>	<u>108°</u>

Site #

Time

Mileage on site

<u>9</u>	<u>10=30 am to 12=30 pm.</u>	
_____	to _____	_____
_____	to _____	_____
_____	to _____	_____
_____	to _____	_____
_____	to _____	_____
_____	to _____	_____
_____	to _____	_____
_____	to _____	_____
_____	to _____	_____
_____	to _____	_____
_____	to _____	_____
_____	to _____	_____

Biological elements:

Rhaphiomidas terminatus ? _____ time _____ sex _____ numbers _____Other arthropods (general) Bombyliids Asilids _____
Mydids _____ Apocerids _____ Sphecids
Pompillids _____ Scoliids Chrysidids _____Other insects of note Eumenes bollii / Campsomeris talteae / Chalcidid /
A monophila aberti / Cercevis bicornuta / Cercevis femerubrum /Plants: Croton _____ Telegraph weed _____ *Eriogonum fasciculatum* _____
Eriogonum thurberi _____ other *Eriogonum* _____ *Oenothera* _____
Camissonia _____ *Eriastrum* _____Others: _____
_____Vertebrates: _____

Delhi sands flower-loving fly - General Form

Date 9-06-06 Overall Time 10:15-12:15Jobs SCESurveyor AVD Survey Partner(s) RROverall Mileage 225779.0 #1

Weather:

Time (24 hr)	% Cloud	Sky	Winds (mph)	Temp (F)
Start <u>10:15</u>	<u>0</u>	<u>clear</u> patchy overcast drizzle shower	<u>1</u>	<u>94</u>
		clear patchy overcast drizzle shower		
		clear patchy overcast drizzle shower		
Stop <u>12:15</u>	<u>0</u>	<u>clear</u> patchy overcast drizzle shower	<u>1-2</u>	<u>100</u>

Site #

9

Time

10:15 to 12:15

Mileage on site

225779.0

Biological elements:

Rhaphiomidas terminatus ? _____ time _____ sex _____ numbers _____Other arthropods (general) Bombyliids Asilids
Mydids _____ Apiocerids _____ Sphecids
Pompillids _____ Scoliids Chrysidids _____Other insects of note Gilia molitor, Gypidanthrax alterata,
Eumenes felle, Philonthus ventilobrus,
Cerceris femerulorum.Plants: *Croton* _____ Telegraph weed _____ *Eriogonum fasciculatum* _____
Eriogonum thurberi _____ other *Eriogonum* _____ *Oenothera* _____
Camissonia _____ *Eriastrum* _____
Others: _____

Vertebrates: _____

Delhi sands flower-loving fly - General Form

Date 9/7/66 Overall Time 1047 - 1220Jobs SC15 19Surveyor LCW Survey Partner(s) POverall Mileage 192518

Weather:

Time (24 hr)	% Cloud	Sky	Winds (mph)	Temp (F)
Start <u>1047</u>	<u>0</u>	<u>clear</u> patchy overcast drizzle shower	<u>0</u>	
		clear patchy overcast drizzle shower		
		clear patchy overcast drizzle shower		
Stop <u>1220</u>		clear patchy overcast drizzle shower		

Site #	Time		Mileage on site
<u>SC15</u>	<u>1047</u>	to <u>1133</u>	<u>192518</u>
<u>SC15N</u>	<u>1138</u>	to <u>1220</u>	<u>192520</u>
		to	
		to	
		to	
		to	
		to	
		to	
		to	
		to	
		to	
		to	

Biological elements:

Rhaphiomidas terminatus? ___ time ___ sex ___ numbers ___.

Other arthropods (general) Bombyliids ___ Asilids ___
 Mydids ___ Apiocerids ___ Sphecids ___
 Pompillids ___ Scoliids ___ Chrysidids ___
 Other insects of note _____

Plants: *Croton* ___ Telegraph weed ___ *Eriogonum fasciculatum* ___
Eriogonum thurberi ___ other *Eriogonum* ___ *Oenothera* ___
Camissonia ___ *Eriastrum* ___
 Others: _____

Vertebrates: _____

Delhi sands flower-loving fly - General Form

Date 9-07-06 Overall Time 10:00-2:00 ~~12:00~~ Jobs SCESurveyor AVD Survey Partner(s) RROverall Mileage 225807.8

Weather:

Time (24 hr)	% Cloud	Sky	Winds (mph)	Temp (F)
Start <u>10:00</u>	<u>0</u>	<u>clear</u> patchy overcast drizzle shower	<u>calm</u>	<u>94</u>
		clear patchy overcast drizzle shower		
		clear patchy overcast drizzle shower		
Stop <u>2:00</u>	<u>0</u>	<u>clear</u> patchy overcast drizzle shower	<u>calm</u>	<u>96</u>

Site #

10e

Time

10:00 to 12:00

Mileage on site

225807.8 → got

10:00 to 12:00
~~12:00~~ to ~~2:00~~
 _____ to _____
 _____ to _____
 _____ to _____
 _____ to _____
 _____ to _____
 _____ to _____
 _____ to _____
 _____ to _____
 _____ to _____
 _____ to _____

_____ pick
 _____ off site
 _____ by land
 _____ overall
 _____ clear sharp
 _____ sharply
 _____ after 12:00
 _____ noon,

Biological elements:

Rhaphiomidas terminatus ? _____ time _____ sex _____ numbers _____Other arthropods (general) Bombyliids Asilids Mydids _____ Apiocerids _____ Sphecids Pompillids _____ Scoliids _____ Chrysidids Other insects of note Villa meditor, Pyronyx parkeri, Sachinatha abusta,
Philonthus multicolor, Amphibia laberti, sp.,
Dermatila cosiniaburta

Plants: Croton _____ Telegraph weed _____ Eriogonum fasciculatum _____

Eriogonum thurberi _____ other Eriogonum _____ Oenothera _____

Camissonia _____ Eriastrum _____

Others: _____

Vertebrates: _____

Delhi sands flower-loving fly - General Form

Date 9/8/06 Overall Time 20 min Jobs SCIE
 Surveyor KHU Survey Partner(s) (Enclosed portion surveyed)

Overall Mileage _____

Weather:

Time (24 hr)	% Cloud	Sky	Winds (mph)	Temp (F)
Start <u>1116</u>	<u>0</u>	<u>clear</u> patchy overcast drizzle shower	<u>0-5</u>	<u>82</u>
		clear patchy overcast drizzle shower		
		clear patchy overcast drizzle shower		
Stop <u>1136</u>		clear patchy overcast drizzle shower		

Site #	Time	Mileage on site
<u>SCIE 6N part.</u>	<u>1116</u> to <u>1136</u>	<u>192562</u> <u>Enclosed</u>
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____

Biological elements:

Rhaphiomidas terminatus ? _____ time _____ sex _____ numbers _____

Other arthropods (general) Bombyliids _____ Asilids _____
 Mydids _____ Apicerids Sphecids _____
 Pompillids _____ Scoliids _____ Chrysidids _____
 Other insects of note fluted
A. chrysalis 3

Plants: *Croton* _____ Telegraph weed _____ *Eriogonum fasciculatum* _____
Eriogonum thurberi _____ other *Eriogonum* _____ *Oenothera* _____
Camissonia _____ *Eriastrum* _____
 Others: _____

Vertebrates: _____

Delhi sands flower-loving fly - General Form

Date ~~8-7-86~~ 7-86 Overall Time 10:00-12:00

Jobs SCE

Surveyor AVD Survey Partner(s) RR

Overall Mileage 225858.8

Weather:

Time (24 hr)	% Cloud	Sky	Winds (mph)	Temp (F)
Start 10:00	0	<u>clear</u> patchy overcast drizzle shower	Wim	93
		clear patchy overcast drizzle shower		
		clear patchy overcast drizzle shower		
Stop 12:00	0	<u>clear</u> patchy overcast drizzle shower	Wim	94

Site

10W

Time

10:00 to 12:00

Mileage on site

225858.8

Biological elements:

Rhaphiomidas terminatus? time sex numbersOther arthropods (general) Bombyliids Asilids Mydids _____ Apiocerids _____ Sphecids Pompillids _____ Scoliids _____ Chrysidids

Other insects of note

Stenopogon sp., *Vella molitor*,
Tyrus sp., *Pyronex Bakeri*, *Amogpila* sp., *I. alberti*,
Pallopora edwardsi, *Cicrus biannulata*Plants: *Croton* _____ Telegraph weed _____ *Eriogonum fasciculatum* _____*Eriogonum thurberi* _____ other *Eriogonum* _____ *Oenothera* _____*Camissonia* _____ *Eriastrum* _____

Others: _____

Vertebrates: _____

Delhi sands flower-loving fly - General Form

Date Sept. 10, 2006 Overall Time 4 hours

Jobs SCE

Surveyor Rick Rogers Survey Partner(s) _____

Overall Mileage 148545

Weather:

Time (24 hr)	% Cloud	Sky	Winds (mph)	Temp (F)
Start <u>10:00</u>	<u>0</u>	<u>clear</u> patchy overcast drizzle shower	<u>2 mph</u>	<u>84°</u>
		clear patchy overcast drizzle shower		
		clear patchy overcast drizzle shower		
Stop <u>2:00</u>	<u>0</u>	<u>clear</u> patchy overcast drizzle shower	<u>1 mph</u>	<u>92°</u>

Site #	Time	Mileage on site
<u>9</u>	<u>10:00</u> to <u>2:00</u>	<u>148545</u>
	to	
	to	
	to	
	to	
	to	
	to	
	to	
	to	
	to	
	to	
	to	
	to	

Biological elements:

Rhaphiomidas terminatus ? _____ time _____ sex _____ numbers _____

Other arthropods (general) Bombyliids _____ Asilids _____
 Mydids _____ Apiocerids _____ Sphecids
 Pompillids Scoliids Chrysidids _____

Other insects of note Tachinid = Trichopoda penipes / Tachinosmyia sp. / Archytas sp. /
Tiptia sp. / Physocephala texana 2 sm, one G.M.N.T size specimen / Cerceris bicornuta
Cerceris lamellata / Philanthus venulabris / Anomophila aberti / Chlorion arearum /
Chalybion californicum / Coelyoxes sp. / Chalicodoma sp. / Paragus tibialis / Baccha clavata /
Copastylum mexicana / Eumenes belli / Evodynerus sp. / Polistes exclamans / Tachypompilus
 Plants: Croton _____ Telegraph weed _____ Eriogonum fasciculatum _____ Agave sp. viticolor /
Eriogonum thurberi _____ other Eriogonum _____ Oenothera _____ Dasymotilla coarctata /
Camissonia _____ Eriastrum _____ Tachytes distincta
 Others: _____

Vertebrates: _____

Green lynx spiders / Thomasid sp. /

Delhi sands flower-loving fly - General Form

Date Sept. 11, 2006 Overall Time 1 hr. 25 min.Jobs SCESurveyor Rick Rogers Survey Partner(s) _____Overall Mileage 148725

Weather:

Time (24 hr)	% Cloud	Sky	Winds (mph)	Temp (F)
Start <u>11:15</u>	<u>0</u>	<u>clear</u> patchy overcast drizzle shower	<u>2-3</u>	<u>90°</u>
		clear patchy overcast drizzle shower		
		clear patchy overcast drizzle shower		
Stop <u>12:35</u>	<u>0</u>	<u>clear</u> patchy overcast drizzle shower	<u>2-3</u>	<u>92°</u>

Site #	Time	Mileage on site
<u>11</u>	<u>11:15 am - to 11:35 am</u>	<u>148722</u>
<u>12</u>	<u>11:40 am to 12:25</u>	<u>148724</u>
<u>9A</u>	<u>12:25 to 12:35</u>	<u>148725</u>
	to	
	to	
	to	
	to	
	to	
	to	
	to	
	to	
	to	

Biological elements:

Rhaphiomidas terminatus ? _____ time _____ sex _____ numbers _____

Other arthropods (general) Bombyliids Asilids Mydids _____ Apiocerids _____ Sphecids

Pompillids _____ Scoliids _____ Chrysidids _____

Other insects of note Ammophila aberti / Prionyx parkeri / stenopogon brevisculus
Evodynerus sp. / polistes apachus / polistes exclamans / Cerceris bicornuta
Alexia albibarbis / Villa molitor / Braconid wasps / Megachile sp. (sm.)

Plants: Croton _____ Telegraph weed _____ Eriogonum fasciculatum _____

Eriogonum thurberi _____ other Eriogonum _____ Oenothera _____

Camissonia _____ Eriastrum _____

Others: _____

Vertebrates: _____

Delhi sands flower-loving fly - General Form

Date 9-11-06 Overall Time 10:15-Jobs SCESurveyor AVD Survey Partner(s) _____Overall Mileage 226235.7 - 226239.5

Weather:

Time (24 hr)	% Cloud	Sky	Winds (mph)	Temp (F)
Start 10:15	0	<u>clear</u> patchy overcast drizzle shower	<u>calm</u>	87
		clear patchy overcast drizzle shower		
		clear patchy overcast drizzle shower		
Stop 12:33	0	<u>clear</u> patchy overcast drizzle shower	<u>calm</u>	87 95

Site #	Time	Mileage on site
<u>6S</u>	<u>10:15</u> to <u>10:35</u>	<u>226235.7</u>
<u>6N</u>	<u>10:36</u> to <u>11:17</u>	<u>226238.0</u>
<u>5</u>	<u>11:26</u> to <u>11:56</u>	<u>226238.7</u>
<u>4</u>	<u>12:00</u> to <u>12:20</u>	<u>226239.5</u>
<u>3</u>	<u>12:28</u> to <u>12:33</u>	
	to	
	to	
	to	
	to	
	to	
	to	

Biological elements:

Rhaphiomidas terminatus? _____ time _____ sex _____ numbers _____

Other arthropods (general) Bombyliids _____ Asilids _____

Mydids _____ Apiocerids _____ Sphecids _____

Pompillids _____ Scoliids _____ Chrysidids _____

Other insects of note 6S - *Villa natalis* 6N - *Pezomyza parkeri*Meloid *beccarii* sp. 5 - *Philaethus ventila* *Drus*, *Pezomyza* max4 - *Meloboris* *nirra*, *Pezomyza parkeri*3 - *Opi* *melifera*Plants: *Croton* _____ Telegraph weed _____ *Eriogonum fasciculatum* _____*Eriogonum thurberi* _____ other *Eriogonum* _____ *Oenothera* _____*Camissonia* _____ *Eriastrum* _____

Others: _____

Vertebrates: _____

Delhi sands flower-loving fly - General Form

Date 9-13-06 Overall Time 10:10- Jobs SCESurveyor AVD Survey Partner(s) KO on 10W onlyOverall Mileage 226260.8

Weather:

Time (24 hr)	% Cloud	Sky	Winds (mph)	Temp (F)
Start 10:10	0	clear patchy overcast drizzle shower	1	87
		clear patchy overcast drizzle shower		
		clear patchy overcast drizzle shower		
Stop 2:00	0	clear patchy overcast drizzle shower	2	93

Site #	Time	Mileage on site
<u>6S</u>	<u>10:10</u> to <u>10:30</u>	<u>226260.8</u>
<u>6N</u>	<u>10:36</u> to <u>11:16</u>	<u>226261.6</u>
<u>4</u>	<u>11:17</u> to <u>11:37</u>	<u>226262.2</u>
<u>10W</u>	<u>12:10</u> to <u>2:08</u>	<u>226274.2</u>
	to	
	to	
	to	
	to	
	to	
	to	
	to	
	to	
	to	

Biological elements:

Rhaphiomidas terminatus? ___ time ___ sex ___ numbers ___Other arthropods (general) Bombyliids Asilids
Mydids ___ Apocerids ___ Sphecids
Pompillids ___ Scoliids ___ Chrysidids ___Other insects of note Pygmy blue on 10W
6S - white malar, 6N - Euclyptus
4 - Neodiplosynsira
10W - Pygmy blue, saltmarsh caterpillarPlants: *Croton* ___ *Telegraph weed* ___ *Eriogonum fasciculatum* ___
Eriogonum thurberi ___ other *Eriogonum* ___ *Oenothera* ___
Camissonia ___ *Eriastrum* ___

Others: _____

Vertebrates: _____

Delhi sands flower-loving fly - General Form

Date Sept 14, 2006 Overall Time _____Jobs SCESurveyor Rick Rogers Survey Partner(s) _____

Overall Mileage _____

Weather:

Time (24 hr)	% Cloud	Sky					Winds (mph)	Temp (F)
Start <u>11:00</u>	<u>overcast</u>	clear	patchy	<u>overcast</u>	drizzle	shower	<u>2-3 mph</u>	<u>80°</u>
		clear	patchy	overcast	drizzle	shower		
		clear	patchy	overcast	drizzle	shower		
Stop <u>12:25</u>	<u>100</u>	clear	patchy	<u>overcast</u>	drizzle	shower	<u>1 mph</u>	<u>81°</u>

Site #	Time	Mileage on site
<u>11</u>	<u>11:00</u> to <u>11:20</u>	<u>149111</u>
<u>12</u>	<u>11:25</u> to <u>12:10</u>	<u>149113</u>
<u>9A</u>	<u>12:15</u> to <u>12:25</u>	<u>149114</u>
	to	
	to	
	to	
	to	
	to	
	to	
	to	
	to	
	to	

Biological elements:

Rhaphiomidas terminatus ? _____ time _____ sex _____ numbers _____

Other arthropods (general) Bombyliids Asilids _____
 Mydids _____ Apiocerids _____ Sphecids
 Pompillids _____ Scoliids _____ Chrysidids _____
 Other insects of note Melesodes sp. / Zelius sp. (Reduviid) / Condylostyus sp. (Dolich.)
Tiphia sp. / Villa molitor / Ammophila sp.

Plants: *Croton* _____ *Telegraph weed* _____ *Eriogonum fasciculatum* _____
Eriogonum thurberi _____ other *Eriogonum* _____ *Oenothera* _____
Camissonia _____ *Eriastrum* _____
 Others: _____

Vertebrates: _____

Delhi sands flower-loving fly - General Form

Date 9-14-06 Overall Time 10:44 -Jobs SCESurveyor AVD Survey Partner(s) _____Overall Mileage 226301.3

Weather:

Time (24 hr)	% Cloud	Sky	Winds (mph)	Temp (F)
Start <u>10:44</u>	<u>100</u>	clear patchy <u>overcast</u> drizzle shower	<u>calm</u>	<u>80°F</u>
		clear patchy overcast drizzle shower		
		clear patchy overcast drizzle shower		
Stop <u>1:15</u>	<u>460</u> <u>595</u>	clear patchy <u>overcast</u> drizzle shower	<u>1-2, calm</u>	<u>83</u>

Site #	Time	Mileage on site
<u>1a</u>	<u>10:44</u> to <u>11:22</u>	<u>226301.3</u>
<u>1</u>	<u>11:20</u> to <u>12:30</u>	<u>226301.7</u>
<u>3</u>	<u>12:34</u> to <u>12:39</u>	<u>226303.2</u>
<u>5</u>	<u>12:42</u> to <u>1:15</u>	<u>226304.5</u>
	to	
	to	
	to	
	to	
	to	
	to	
	to	
	to	
	to	

Biological elements:

Rhaphiomidas terminatus? _____ time _____ sex _____ numbers _____Other arthropods (general) Bombyliids Asilids _____
Mydids _____ Apiocerids Sphecids
Pompilids _____ Scoliids _____ Chrysidids _____Other insects of note 1a - Amophila sp., Peribita sp.
1 - Pyronyx parkeri, Lyria sp., Apioctera sp., Villa sp., Dasymutilla
3 - Lyria sp., Lyria sp., Lyria sp.
5 - Dasymutilla crinitaPlants: Croton _____ Telegraph weed _____ Eriogonum fasciculatum _____
Eriogonum thurberi _____ other Eriogonum _____ Oenothera _____
Camissonia _____ Eriastrum _____

Others: _____

Vertebrates: _____

Delhi sands flower-loving fly - General Form

Date 9/16/06 Overall Time _____ Jobs SCFSurveyor KAO Survey Partner(s) (R. Rogers Parks)

Overall Mileage _____

Weather:

Time (24 hr)	% Cloud	Sky	Winds (mph)	Temp (F)
Start <u>8010</u>	<u>0</u>	<u>clear</u> patchy overcast drizzle shower	<u>0</u>	<u>70</u>
<u>1030</u>	<u>0</u>	<u>clear</u> patchy overcast drizzle shower	<u>0</u>	<u>80</u>
<u>1200</u>	<u>0</u>	<u>clear</u> patchy overcast drizzle shower	<u>0-2</u>	<u>84</u>
Stop		clear patchy overcast drizzle shower		

Site

Time

Mileage on site

<u>SCF 3</u>	<u>1010</u>	to <u>1015</u>	<u>192958</u> KAO only
<u>SCF 5</u>	<u>1028</u>	to <u>1050</u>	<u>192960</u> KAO+RR
<u>SCF 6N</u>	<u>1102</u>	to <u>1136</u>	RR
<u>" SCF 6N</u>	<u>1136</u>	to <u>1150</u>	KAO+RR
<u>SCF 6S</u>	<u>1102</u>	to <u>1130</u>	<u>192961</u> KAO
<u>SCF 4</u>	<u>1157</u>	to <u>1202</u>	<u>192965</u> KAO/RR
_____	_____	to _____	_____
_____	_____	to _____	_____
_____	_____	to _____	_____
_____	_____	to _____	_____
_____	_____	to _____	_____
_____	_____	to _____	_____

Biological elements:

Rhaphiomidas terminatus ? _____ time _____ sex _____ numbers _____

Other arthropods (general) Bombyliids _____ Asilids
 Mydids _____ Apicerids _____ Sphecids
 Pompillids _____ Scoliids _____ Chrysidids _____
 Other insects of note _____

Plants: *Croton* _____ Telegraph weed _____ *Eriogonum fasciculatum* _____
Eriogonum thurberi _____ other *Eriogonum* _____ *Oenothera* _____
Camissonia _____ *Eriastrum* _____
 Others: _____

Vertebrates: _____

Delhi sands flower-loving fly - General Form

Date 9/16/06 Overall Time 1 hr. 40 min.Jobs SC1ESurveyor R. Rogers Survey Partner(s) _____Overall Mileage 149390

Weather:

Time (24 hr)	% Cloud	Sky	Winds (mph)	Temp (F)
Start <u>1220</u>	<u>0</u>	<u>clear</u> patchy overcast drizzle shower	<u>1-2</u>	<u>84</u>
		clear patchy overcast drizzle shower		
		clear patchy overcast drizzle shower		
Stop <u>2:00</u>	<u>0</u>	<u>clear</u> patchy overcast drizzle shower	<u>1-2</u>	<u>8</u>

Site #	Time	Mileage on site
<u>SC1E</u>	<u>1220</u> to <u>120</u>	<u>149390</u>
<u>SC1EA</u>	<u>1:20</u> to <u>2:00</u>	<u>149390</u>
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____

Biological elements:

Rhaphiomidas terminatus? _____ time _____ sex _____ numbers _____.

Other arthropods (general) Bombyliids Asilids _____
 Mydids _____ Apiocerids _____ Sphecids
 Pompillids _____ Scoliids _____ Chrysidids _____
 Other insects of note Eusessia rubens (new bombyliid!) / Neodiphxanta mira /
Aphobantus sp. (v. small) / Rhynchantax caprea / Xylocopa varipuncta /
Liris oratoria (Med. Mantis) / Philanthus ventilabris / Hoplisoidea diversus / Ammophila sp.
Philanthus multianacanthus / Liris sp.

Plants: Croton _____ Telegraph weed _____ Eriogonum fasciculatum _____
Eriogonum thurberi _____ other Eriogonum gracile Oenothera _____
Camissonia _____ Eriastrum _____
 Others: _____

Vertebrates: _____

Date 9/16/56 Time 1230 to 1330 Job 8
Miles _____
Biologists Brian Drake

Weather: Temp 86.8 Wind NE 6.2/11.0 Cloud cover 0% Rain 0
89.2 NE 5.1/9.0 0%

Comments:

melissoides
brephidium exilis
formicidae
sarcophagidae
obrate
papilio rutulus
catinaria mutabilis
syrphidae
bombix comata
sceliphron caementarium

Biological elements:

Rhaphiomidas terminatus? _____ time _____ sex _____ numbers _____

Other arthropods (general) Bombyliids _____ Asilids _____
Mydids _____ Apiocerids _____ Sphecids _____
Chrysidids _____ Mutilids _____ Scoliids _____
Mymerleontids _____ Other insects of note _____

Plants: *Croton* _____ Telegraph weed _____ *Eriogonum fasciculatum* _____
Eriogonum thurberi _____ other *Eriogonum* _____ *Oenothera* _____
Camissonia _____ *Eriastrum* _____
Others: _____

Vertebrates

tuv culpeu cat
lego bush
hosp amku

Delhi sands flower-loving fly - General Form

Date Sept 17, 06 Overall Time 3 1/2 hrs. (+ travel 5 1/2 hrs.) Jobs SCESurveyor Rick Rogers Survey Partner(s) _____Overall Mileage 149540

Weather:

Time (24 hr)	% Cloud	Sky	Winds (mph)	Temp (F)
Start <u>10:00 am</u>	<u>0</u>	<u>clear</u> patchy overcast drizzle shower	<u>8-10</u>	<u>88°</u>
		clear patchy overcast drizzle shower		
		clear patchy overcast drizzle shower		
Stop	<u>0</u>	<u>clear</u> patchy overcast drizzle shower	<u>5-7</u>	<u>95°</u>

Site #	Time	Mileage on site
<u>SCE 11</u>	<u>10:00 am to 10:20 am</u>	<u>149532</u>
<u>SCE 12</u>	<u>10:25 am to 11:10 am</u>	<u>149535</u>
<u>SCE 9 A</u>	<u>11:10 am to 11:20 am</u>	<u>149535</u>
<u>SCE 10 W</u>	<u>11:30 am to 1:30 pm</u>	<u>149540</u>
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____

Biological elements:

Rhaphiomidas terminatus ? _____ time _____ sex _____ numbers _____Other arthropods (general) Bombyliids Asilids Mydids Apiocerids _____ Sphecids Pompillids _____ Scoliids _____ Chrysidids Other insects of note Polistes californicus / Ammophila aberti / oxybellus uniglumis /
Evodynerus sp. / Eristalis obsolita / Agapostemon texana / Spangogon brevisulus /
Philanthus multinaculata / Polistes exclamans / Nemomydas pantherinus large ♀ !!!
Villa molitor / Parrnopes edwardsi / Iris crateria (mantis) / Myrmeco sp. (large Antlion)
Archytas sp. / Trimerotropis californica

Plants: Croton _____ Telegraph weed _____ Eriogonum fasciculatum _____

Eriogonum thurberi _____ other Eriogonum _____ Oenothera _____

Camissonia _____ Eriastrum _____

Others: _____

Vertebrates: _____

Delhi sands flower-loving fly - General Form

Date 9-7-06 Overall Time 10:00-2:00 Jobs SLESurveyor AVD Survey Partner(s) _____Overall Mileage 226712.2

Weather:

Time (24 hr)	% Cloud	Sky	Winds (mph)	Temp (F)
Start 10:00	0	<u>clear</u> patchy overcast drizzle shower	2-3 mph.	88
		clear patchy overcast drizzle shower		
		clear patchy overcast drizzle shower		
Stop 2:00	0	<u>clear</u> patchy overcast drizzle shower	5-10	99

Site #	Time	Mileage on site
<u>9</u>	<u>10:00</u> to <u>2:00</u>	<u>226712.2</u>
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____

Biological elements:

Rhaphiomidas terminatus ? _____ time _____ sex _____ numbers _____

Other arthropods (general) Bombyliids Asilids _____
 Mydids _____ Apiocerids _____ Sphecids
 Pompillids _____ Scoliids _____ Chrysidids _____

Other insects of note Eudonorus sp., Philanthus mentidarius
other sphecids sp., Bombylix cornuta,
Despite windy conditions many other usual insects
seen here, were in great numbers.

Plants: Croton _____ Telegraph weed _____ Eriogonum fasciculatum _____
 Eriogonum thurberi _____ other Eriogonum _____ Oenothera _____
 Camissonia _____ Eriastrum _____
 Others: _____

Vertebrates: Burrowing owls along fence of western side of
property also east of the road that runs along the
western fence.

Delhi sands flower-loving fly - General Form

Date 9-18-06 Overall Time 10:00-2:00 Jobs SCESurveyor AJD Survey Partner(s) _____Overall Mileage 226730.3-226735.4

Weather:

Time (24 hr)	% Cloud	Sky	Winds (mph)	Temp (F)
Start 10:00	0	<u>clear</u> patchy overcast drizzle shower	<u>calm</u>	85
		clear patchy overcast drizzle shower		
		clear patchy overcast drizzle shower		
Stop 2:00	0	<u>clear</u> patchy overcast drizzle shower	<u>calm</u>	97

Site #	Time	Mileage on site
<u>6S</u>	<u>10:00</u> to <u>10:20</u>	<u>226730.3</u>
<u>6N</u>	<u>10:26</u> to <u>11:05</u>	<u>226730.6</u>
<u>4</u>	<u>11:10</u> to <u>11:30</u>	<u>226731.1</u>
<u>5</u>	<u>11:40</u> to <u>12:10</u>	<u>226732.3</u>
<u>3</u>	<u>12:19</u> to <u>12:24</u>	<u>226732.6</u>
<u>1</u>	<u>12:29</u> to <u>1:29</u>	<u>226735.4</u>
<u>1a</u>	<u>1:30</u> to <u>2:00</u>	<u>226735.4</u>
	to	
	to	
	to	
	to	

Biological elements:

Rhaphiomidas terminatus? _____ time _____ sex _____ numbers _____Other arthropods (general) Bombyliids Asilids
Mydids _____ Apiocerids _____ Sphecids
Pompillids _____ Scoliids _____ Chrysidids _____Other insects of note 6S - Meloid beetle, 6N - Pyronyx parkeri
Arthropoda sp., 4 - Pyronyx sp., 3 - grey skipper
5 - Philanthus sp., Pyronyx parkeri, 1 - Stenopogon sp., 1 - Lyria sp., Pyronyx parkeri sp
1 - Stenopogon sp., 1 - Lyria sp., Pyronyx parkeri sp
Arthropoda sp.Plants: Croton _____ Telegraph weed _____ Eriogonum fasciculatum _____
Eriogonum thurberi _____ other Eriogonum _____ Oenothera _____
Camissonia _____ Eriastrum _____

Others: _____

Vertebrates: _____

Date 9/19/06 Time 1300 to 1400 Job 10 W
Miles _____
Biologists _____

Weather: Temp 89.8 Wind SW @ 5.3/6.9 Cloud cover 0% Rain Ø
94.2 W @ 3.8/4.7 0%

Comments:

villid
bombix comate
brachium exilis
formilidid
chrysidid
obovate
amphiphilid

Biological elements:

Rhaphiomidas terminatus ? _____ time _____ sex _____ numbers _____

Other arthropods (general) Bombyliids _____ Asilids _____
Mydids _____ Apiocerids _____ Sphecids _____
Chrysidids _____ Mutilids _____ Scoliids _____
Mymerleontids _____ Other insects of note _____

Plants: *Croton* _____ *Telegraph weed* _____ *Eriogonum fasciculatum* _____
Eriogonum thurberi _____ other *Eriogonum* _____ *Oenothera* _____
Camissonia _____ *Eriastrum* _____
Others: _____

Vertebrates

UTW
WSP

Delhi sands flower-loving fly - General Form

Date 9/20/06 Overall Time _____ Jobs _____

Surveyor KHD Survey Partner(s) _____

Overall Mileage _____

Weather:

Time (24 hr)	% Cloud	Sky	Winds (mph)	Temp (F)
Start <u>1213</u>	<u>5</u>	<u>clear</u> patchy overcast drizzle shower	<u>4</u>	<u>86</u>
		clear patchy overcast drizzle shower		
		clear patchy overcast drizzle shower		
Stop		clear patchy overcast drizzle shower		

Site #	Time	Mileage on site
<u>4</u>	<u>1213</u> to <u>1233</u>	<u>19.3061</u>
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____

Biological elements:

Rhaphiomidas terminatus ? _____ time _____ sex _____ numbers _____

Other arthropods (general) Bombyliids Asilids _____
 Mydids _____ Apiocerids _____ Sphecids _____
 Pompillids _____ Scoliids Chrysidids _____
 Other insects of note _____

Plants: *Croton* _____ *Telegraph weed* _____ *Eriogonum fasciculatum* _____
Eriogonum thurberi _____ other *Eriogonum* _____ *Oenothera* _____
Camissonia _____ *Eriastrum* _____
 Others: _____

Vertebrates: _____

Delhi sands flower-loving fly - General Form

Date Sept 20, 2006 Overall Time 4 hoursJobs SCESurveyor Rick Rogers Survey Partner(s) _____Overall Mileage 150068

Weather:

Time (24 hr)	% Cloud	Sky	Winds (mph)	Temp (F)
Start <u>10:00 am</u>	<u>0</u>	<u>clear</u> patchy overcast drizzle shower	<u>1-2</u>	<u>89°</u>
		clear patchy overcast drizzle shower		
		clear patchy overcast drizzle shower		
Stop <u>2:00 pm</u>	<u>0</u>	<u>clear</u> patchy overcast drizzle shower	<u>2-4</u>	<u>90°</u>

Site #	Time	Mileage on site
<u>SCE 12</u>	<u>10:00 am to 10:45</u>	<u>150062</u>
<u>SCE 9A</u>	<u>10:45 am to 10:55</u>	<u>150063</u>
<u>SCE 11</u>	<u>11:00 am to 11:20</u>	<u>150066</u>
<u>SCE 10W</u>	<u>11:30 am to 2:00</u>	<u>150068</u>
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____
_____	_____ to _____	_____

Biological elements:

Rhaphiomidas terminatus ? _____ time _____ sex _____ numbers _____

Other arthropods (general) Bombyliids Asilids
 Mydids _____ Apiocerids _____ Sphecids
 Pompillids _____ Scoliids _____ Chrysidids _____
 Other insects of note Mallophaga !! / Villa molitor / Ammophila aberti / Polistes apachus
Philaethus multimaculata / Carceris femerulorum / Eodynerus sp. / Prionyx parleyi
Stenopogon brevisurus / Chlorion arerarium (Giant?) / Baccha clavata

Plants: Croton _____ Telegraph weed _____ Eriogonum fasciculatum _____
 Eriogonum thurberi _____ other Eriogonum _____ Oenothera _____
 Camissonia _____ Eriastrum _____
 Others: _____

Vertebrates: _____

6 8 9 80

Hymeno	68		<i>Cerceris</i>						
Hymeno	69								
Hymeno	70	pompillid	<i>Aporinellus</i>						
Hymeno	71	pomillid red wings							
Hymeno	72	brown sphecid	<i>Astrata</i>						
Hymeno	73		<i>Cerceris femurubrum</i>						
Hymeno	74		<i>Tachysphex</i>						
Hymeno	75		<i>Tachysphex</i>						
Hymeno	76	Gortine sphecid, small rust w	<i>Hoplisoides diversus</i>						
Hymeno	77	red pompillid	<i>Ageniella</i>						
Hymeno	78	Goyrline specid							
Hymeno	79		<i>Nomada</i>						
Hymeno	80	bee	<i>Megachile</i>						
Hymeno	81	bee	<i>Colletes (male)</i>						
Hymeno	82	bee	<i>Colletes (female)</i>						
Hymeno	83		<i>Isodontiaelegans</i>						
Hymeno	84	bee	<i>Lasioglossum (Dialictus)</i>						
Hymeno	85	small chrysididae green	<i>Argochrysis sp</i>						
Hymeno	86	bee	<i>Halictus ligatus</i>						
Hymeno	87								
Hymeno	88	cicadellid killer	<i>Hapalomellinus</i>						
Hymeno	89								
Hymeno	90								
Hymeno	91								
Hymeno	92		<i>Cerceris</i>						
Hymeno	93		<i>Cerceris</i>						
Hymeno	94		<i>Centris (female)</i>						
Hymeno	95		<i>Nomada</i>						
Hymeno	96		<i>Colletes (male)</i>						
Hymeno	97		<i>Xeromelecta californica</i>						
Hymeno	98		<i>Triepeolus (male)</i>						
Hymeno	99								
Hymeno	100		<i>Halictus ligatus</i>						
Hymeno	101		<i>Melissodes (male)</i>						
Hymeno	102		<i>Xylocopa veripuncta</i>						
Hymeno	103		<i>Anthidium (male)</i>						
Hymeno	104		<i>Lasioglossum</i>						
Hymeno	105								
Hymeno	106								
Hymeno	107	Tiphiid							
Hymeno	108		<i>Cerceris</i>						
Hymeno	109								
Hymeno	110								
Hymeno	111								
Hymeno	112		<i>Cerceris</i>						
Hymeno	113		<i>Cerceris</i>						
Hymeno	114								
Hymeno	115		<i>Megachile</i>						
Hymeno	116								
Hymeno	117		<i>Anthophora</i>						
Hymeno	118		<i>Halictus farinosus (male)</i>						
Hymeno	119	Anomalinae							

		6	8	10
California filago	<i>Filago californica</i>			
narrow-leaved filago	<i>Filago gallica</i>			
California everlasting	<i>Gnaphalium californicum</i>			
	<i>Gnaphalium canescens</i>			
matchweed	<i>Gutierrezia</i>			
	<i>Haplopappus palmeri</i>			
sunflower	<i>Helianthus annua</i>	✓	✓	✓
slender sunflower	<i>Helianthus gracilentus</i>	✓	✓	✓
telegraphweed	<i>Heterotheca grandiflora</i>	✓	✓	✓
goldenaster	<i>Heterotheca sessiliflora</i>	✓	✓	✓
goldenbush	<i>Isocoma menziesii</i>			
western poverty weed	<i>Iva axillaris</i>			
prickly lettuce	<i>Lactuca serriola</i>		✓	✓
southern goldfields	<i>Lasthenia coronaria</i>			✓
Scalebroom	<i>Lepidospartum squamatum</i>			
cudweed aster	<i>Lessingia filaginifolia</i>	✓		
fall vinegar weed	<i>Lessingia glandulifera</i>			
chicoree	<i>Malacothrix californica</i>			
chicoree	<i>Malacothrix saxatilis</i>			
woolly marbles	<i>Psilocarpus brevissimus</i>			
round woolly marbles	<i>Psilocarpus tenellus</i>			
	<i>Rafinesquia neomexicana</i>			
Senecio	<i>Senecio douglasii</i>	✓		
prickly sow-thistle	<i>Sonchus asper</i>			
common sow-thistle	<i>Sonchus oleraceus</i>		✓	✓
short wreath plant	<i>Stephanomeria exigua</i>			✓
tall wreath plant	<i>Stephanomeria virgata</i>	✓		
dandelion	<i>Taraxacum officinale</i>			
	<i>Verbesinia encelioides</i>		✓	✓
spiny cocklebur.	<i>Xanthium spinosum</i>		✓	✓
cocklebur	<i>Xanthium strumarium</i>			✓
BORAGINACEAE				
ranchers fiddleneck	<i>Amsinkia menziesii</i>	✓	✓	✓
cryptantha	<i>Cryptantha</i>			
Cleveland's cryptantha	<i>Cryptantha clevelandii</i>			
common cryptantha	<i>Cryptantha intermedia</i>			
Guadalupe cryptantha	<i>Cryptantha maritima</i>			
heliotrope	<i>Heliotropium crassavicum</i>			✓
slender pectocarya	<i>Pectocarya linearis</i>			
wire-stemmed popcorn flow	<i>Plagiobothrys leptoladus</i>			
BRASSICACEAE				
elegant rock-cress	<i>Arabis sparsiflora</i>			
Sahara mustard	<i>Brassica toumfortii</i>			
black mustard	<i>Brassica nigra</i>			
shortpod mustard	<i>Hirschfeldia incana</i>	✓	✓	✓
peppergrass	<i>Lepidium nitidum</i>			✓
	<i>Lepidium virginicum</i>			✓
tall tumbledustard	<i>Sisymbrium altissimum</i>			
	<i>Sisymbrium erisimoides</i>			
London rocket	<i>Sisymbrium irio</i>	✓		✓
wild radish	<i>Raphanus sativus</i>		✓	✓
CACTACEAE				
California barrel cactus	<i>Ferocactus cylindraceus</i>			
common beavertail	<i>Opuntia basilaris</i>			
	<i>Opuntia ficus-indica</i>			

southern Chinese houses	<i>Collinsia concolor</i>								
dark-tipped bird's beak	<i>Cordylanthus rigidus</i>								
yellow bush-penstemon	<i>Keckiella antirrhinoides</i>								
heart-leaved bush-penstemo	<i>Keckiella cordifolia</i>								
bush monkey flower	<i>Mimulus aurantiacus</i>								
seep monkey flower	<i>Mimulus guttatus</i>								
California figwort	<i>Scrophularia californica</i>								
SIMAROUBACEAE									
tree of heaven	<i>Ailanthus altissima</i>					✓		✓	✓
SIMMONDSIACEAE									
Jojoba	<i>Simmondsia chinensis</i>								
SOLANACEAE									
small firs Jimson	<i>Datura stramonium</i>								
Jimson weed	<i>Datura wrightii</i>	✓	✓						
Nightshade	<i>Solanum douglasii</i>							✓	✓
chaparral nightshade	<i>Solanum xanti</i>								
Wallace's Tobacco	<i>Nicotiana bigelovii</i>								
tree tobacco	<i>Nicotiana glauca</i>	✓		✓	✓	✓		✓	✓
tomato	<i>Lycopersicon esculentum</i>							✓	✓
TAMARICACEAE									
Mediterranean tamarisk	<i>Tamarix ramosissima</i>	✓						✓	
THEMIDACEAE									
blue-dicks	<i>Dichelostemma pulchellum</i>							✓	
URTICACEAE									
Fig	<i>Ficus</i>								
VIOLACEAE									
yellow Johnny Jump-ups	<i>Viola pedunculata</i>								
VITACEAE									
Grape	<i>Vitis vinifera</i>								
ZYGOPHYLLACEAE									
Creosote bush	<i>Larrea tridentata</i>								
Puncture vine	<i>Tribulus terrestris</i>	✓							✓
POACEAE									
near Lolium	<i>Agropyron sp.</i>								
Giant cane	<i>Arundo donax</i>								
slender oat	<i>Avena barbata</i>			✓		✓			✓
wild oats	<i>Avena fatua</i>								✓
purple false-brome	<i>Brachypodium distachyon</i>								
rescue grassx	<i>Bromus catharticus</i>								
ripgut	<i>Bromus diandrus</i>	✓	✓	✓		✓		✓	✓
Brome	<i>Bromus hordiaceus</i>							✓	✓
Foxtail chess/red brome	<i>Bromus madritensis</i>	✓	✓	✓	✓	✓		✓	✓
Bermuda grass	<i>Cynodon dactylon</i>	✓		✓	✓	✓		✓	✓
salt grass	<i>Distichlis spicata</i>							✓	✓
jungle-rice	<i>Echinochloa colona</i>								
Mediterranean barley	<i>Hordeum murinum</i>								
Common Barley	<i>Hordeum vulgare</i>							✓	
goldentop	<i>Lamarckia aurea</i>								
	<i>Leptochloa sp.</i>								
Ryegrass	<i>Lolium multiflorum</i>								
littleseed canary grass	<i>Phalaris minor</i>								
paradox canary grass	<i>Phalaris paradoxa</i>								
	<i>Polypogon aviculare</i>								
rabbits foot grass	<i>Polypogon monspeliensis</i>								
Schismus	<i>Schismus barbatus</i>	✓	✓		✓	✓		✓	✓

foothill stipa	<i>Stipa lepida</i>																		
purple stipa	<i>Stipa pulcra</i>																		
foxtail fescue	<i>Vulpia myuros</i>																		
TYPHACEAE																			
cat-tail	<i>Typha</i>																		

Sorghum



Appendix E: Notification Letters to the U. S. Fish and Wildlife Service

Ken H. Osborne
6675 Avenue Juan Diaz,
Riverside, CA 92509
(951) 360-6461
Euproserpinus@msn.com

July 6, 2006

Attn: Mr. Daniel Marquez,
USFWS Carlsbad Field Office
6010 Hidden Valley Road
Carlsbad, CA 92009
Facsimile (760) 431-9624

RE: Notification for survey of Delhi Sands Flower-loving fly for the Southern California Edison, Riverside Reliability Project.

To Whom It May Concern:

I write again to notify you of intent to conduct adult surveys for Delhi Sands Flower-loving fly (DSF, *Rhaphiomidas terminatus abdominalis*) on an additional large series of sites for this year 2006 season. All surveys commenced on the week of July 1. The surveys are being undertaken for Essex Environmental, 1903 Wright Place, Suite 190, Carlsbad, CA 92008, phone (760) 603-1740. The request from my client to undertake this survey – a proposed Southern California Edison, Riverside Reliability Project, running for many miles across San Bernardino and Riverside Counties - came only a couple of days before the DSF season, and consequently, due to the large size, linear and fragmented nature, many initial questions regarding acreages involved with various components of this survey, ongoing preparation of contracts and logistics of last minute scrambling of a team of biologists to cover this first week, my notification is coming to you only now.

The survey sites were identified wherever any proposed length of the project intersected appropriate habitat or soil types. A buffer zone is added. For the purposes of scheduling surveys and determining appropriate survey durations for each habitat patch within the survey, survey areas have been numbered and acreages calculated. These acreages are presented in a table (below) and the numbered survey areas presented on associated maps. Overall, the extent of acreage on this project may be as high as 210 acres. Survey areas extend from just north of the Agua Mansa Cemetery on Agua Mansa Road and south along the Santa Ana River through Riverside. Habitat is again acquired along Van Buren Blvd around Bellegrave and extends along Galena as far east as Wineville Rd. These areas appear on the San Bernardino South, Fontana, Guasti, Riverside West, and Corona, California USGS 7.5' quadrangles.

Aerial photographs with the project and survey areas will be subsequently mailed to you with a hard copy of this letter of notification.

If you have any questions or comments regarding these several surveys, please feel free to contact me.

Respectfully submitted,



Ken H. Osborne

cc: Essex Environmental

List of Areas indicated on maps and associated estimated acreages.

area	approximate acres
1	12
2	17
3	0.5
4	2
5	5
6	10.5
7	25
8	12
9	52
10	100
11	3.2
12	10
13	5

Osborne Biological Consulting
6675 Avenue Juan Diaz
Riverside, CA 92509

August 12, 2006

Attn: Daniel Marquez and Eric Porter
USFWS Carlsbad Field Office
6010 Hidden Valley Road
Carlsbad, CA 92009
Facsimile (760) 918-0638

RE: Delhi Sands Flower-loving fly (DSF, *Rhaphiomidas terminatus abdominalis*)
observations near the Agua Mansa Cemetery, Rialto.


Dear Mr. Marquez:

In accordance with the Interim General Guidelines for the Delhi Sands flower-loving Fly survey, and pursuant to conditions of recovery (survey) 10(a) USFWS Permit TE-837760-6, I write to inform you of an observation of one male Delhi Sands Flower-loving fly (*Rhaphiomidas terminatus abdominalis*) leading to discovery of a female DSF (and subsequent mating) on August 11, 2006. The observations were made during the course of normal survey hours when work was being undertaken on the northern edge of a survey area located in the vicinity of the Agua Mansa Cemetery, Rialto. The observations were made by myself while conducting the DSF survey work.

My initial observation of a cruising male DSF was made at 1150 am. This male was seen at a distance of approximately 20 meters (just outside of our survey area). I followed this cruising male around while it made random flights through vegetation in a searching mode. During approximately 5 minutes, the DSF traveled through an area of some 40 meters by 40 meters (all just outside of my survey area). Finally, the male landed on the top of a dry *Heterotheca* stalk and I observed that it had found a general female (1154 am) and quickly manipulated its abdomen to begin copulation. Copulation lasted approximately 3 minutes. The unmolested pair broke up, the male flying two to three meters to the north and the female flying approximately 10 meters to the southeast (ending up approximately 8 meters from the northern fence line of the Agua Mansa Cemetery. My observations lasted to approximately noon. Photographs were taken throughout the observations.

A map showing this location is provided (San Bernardino South, California USGS 7.5' quadrangle at 200%). The coordinates of yesterday's observation are 34° 02' 34.2" N, 117° 21' 49.8" W.

Respectfully submitted,


Ken H. Osborne

Osborne Biological Consulting
6675 Avenue Juan Diaz
Riverside, CA 92509

August 14, 2006

Attn: Daniel Marquez and Eric Porter
USFWS Carlsbad Field Office
6010 Hidden Valley Road
Carlsbad, CA 92009
Facsimile (760) 431-9624

RE: Delhi Sands Flower-loving fly (DSF, *Rhaphiomidas terminatus abdominalis*)
observations on Agua Mansa Rd., Rialto.

Dear Mr. Marquez:

In accordance with the Interim General Guidelines for the Delhi Sands flower-loving Fly survey, and pursuant to conditions of recovery (survey) 10(a) USFWS Permit TE-837760-6, I write to inform you of observations of approximately two male and one female Delhi Sands Flower-loving flies (*Rhaphiomidas terminatus abdominalis*) made between approximately 1115 hours and 1130 hours on August 14, 2006 (these DSF too active to be photographed). The observations were made during the course of normal survey hours when work was being undertaken on a survey site located north of Agua Mansa Rd. and south of Hall Avenue, Rialto. The observations were made by Mr. Alex Van Dam (listed on the recovery 10(a) Permit of Osborne [indicated above]). This work is being undertaken for Southern California Edison.

A map showing this location is provided (Fontana, California USGS 7.5' quadrangle at 200%). The coordinates of these observations are approximately 34° 01' 42" N, 117° 22' 31" W. It is noted that the DSF observations were made only on the very small fraction of area not recently disked.

Respectfully submitted,



Ken H. Osborne