A	.TTACHMENT D: Q	QUINO CHECKEI	RSPOT BUTTERI	FLY SURVEY RE	PORT

Pipeline Safety & Reliability
Project U.S. Fish and Wildlife
Service Protocol Presence/
Absence 2015 Survey Report for
the Quino Checkerspot Butterfly
(Euphydryas editha quino)





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1. SUMMARY

This report summarizes the surveys conducted by Rocks Biological Consulting (RBC) and Insignia Environmental (Insignia) for the federally-listed endangered Quino checkerspot butterfly (*Euphydryas editha quino*; QCB) for the San Diego Gas & Electric Company (SDG&E) and Southern California Gas Company (SoCalGas) Pipeline Safety & Reliability Project (Proposed Project). Surveys were conducted in accordance with the U.S. Fish and Wildlife Service (USFWS) 2014 QCB survey guidelines (USFWS 2014; QCB survey guidelines) within the recommended Quino Survey Area identified in the QCB survey guidelines between February 15 and May 6, 2015. The QCB host plants dot-seed plantain (*Plantago erecta*) and purple owl's clover (*Castilleja exserta* ssp. *exserta*) were documented within the Quino Survey Area. Survey results were negative for QCB.

2. INTRODUCTION

2.1. PROJECT DESCRIPTION

The Proposed Project involves construction, operation, and maintenance of an approximately 47-mile-long, 36-inch-diameter natural gas transmission pipeline that will carry natural gas from SDG&E's existing Rainbow Metering Station to the pipeline's terminus on Marine Corps Air Station (MCAS) Miramar. The Proposed Project is located in San Diego County, California, and crosses the cities of Escondido, Poway, and San Diego. U.S. Geological Survey (USGS) 7.5-minute series quadrangle maps (quads) that cross the Proposed Project include: the Temecula, Bonsall, San Marcos, Valley Center, Escondido, Poway and La Mesa quads.

2.2. SURVEY LOCATION AND BACKGROUND

Surveys for QCB were conducted exclusively within MCAS Miramar, which is land administered by the U.S. Marine Corps within the La Mesa and Poway U.S. Geological Survey (USGS) 7.5-minute series quadrangle maps (Figure 1).

The portion of the Proposed Project that occurs within the USFWS-recommended Quino Survey Area is 179 acres. The majority of this area is on MCAS Miramar (160 acres) and was surveyed in 2015. The remaining 19 acres occur on the University of California Elliot Field Station, a component of the Eliot Chaparral Reserve; this area was not surveyed during the 2015 surveys due to access restrictions.

There is no QCB USFWS-designated critical habitat within five miles of the Proposed Project. There are four recent California Natural Diversity Database (CNDDB) locations for QCB within five miles of the Proposed Project area. According to the MCAS Miramar Integrated Natural Resources Management Plan (INRMP 2014), no confirmed QCB sightings have been reported on MCAS Miramar. MCAS Miramar commissioned a protocol-level survey for QCB in 2011 within 1,400 acres of suitable habitat in East Miramar. No QCB were detected during the surveys (USMC 2014).

2.3. OUINO CHECKERSPOT BUTTERFLY NATURAL HISTORY

Quino checkerspot butterfly, a member of the brush-footed butterfly family (Nymphalidae), was listed as federally endangered in January 1997. QCB is one of 12 subspecies of the *Euphydryas editha* checkerspot and was formerly known as *E. e. wrightii* (USFWS 2003).

Historically, QCB ranged from Los Angeles and western San Bernardino counties south through Orange, western Riverside, and San Diego counties into northern Baja California, Mexico. Currently, QCB are known to occur in portions of southwestern Riverside County, San Diego County, and northern Baja California (Mattoni et al. 1997). Habitat loss and degradation are considered primary causes of the dramatic decline of the species. Both the larval and adult stages have specific habitat requirements that have been impacted due to development, invasive nonnative vegetation, overgrazing, poorly planned fire management practices, drought conditions, overcollection by butterfly collectors, and off-road vehicles (USFWS 1997).

QCB's distribution is defined primarily by location of its most common primary larval food plant, dot-seed plantain. Other potential larval food plants include purple owl's clover, desert plantain (*Plantago patagonica*), Parish's owl clover (*Castilleja densiflora* ssp. *gracilis*), Southern Chinese houses (*Collinsia concolor*), Chinese houses (*Collinsia heterophylla*), Coulter's snapdragon (*Antirrhinum coulterianum*), and stiff-branched bird's-beak (*Cordylanthus rigidus*) (USFWS 2014).

QCB use a variety of sparsely vegetated habitats including open coastal sage scrub and chaparral, vernal pool complexes, oak woodland, and desert pinyon-juniper woodland. Densely vegetated areas and extensive open grasslands are not known to support QCB (Mattoni et al. 1997, USFWS 2014).

QCB primarily feed on the nectar of small annuals that flower concurrently with the adult flight season. Although most perennials are not in flower during the flight period, some may be used for nectar sources later in the season (Mattoni et al. 1997). QCB have a short tongue and therefore cannot feed on flowers with deep corolla tubes. In addition, they prefer to nectar on flowers that have a platform-like surface, which they use to remain upright while feeding (USFWS 2003). Species that have been documented as nectar sources include goldfields (*Lasthenia* spp.), gilia (*Gilia* spp.), farinose ground pink (*Linanthus dianthiforus*), chia (*Salvia columbariae*), annual lotus (*Acmispon* spp.), yerba santa (*Eriodictyon* spp.), lomatium (*Lomatium* spp.), common muilla (*Muilla* spp.), popcorn flowers (*Plagiobothrys* spp. and *Cryptantha* spp.), yellow pincushion (*Chaenactis glabriuscula var. glabriuscula*), phacelia (*Phacelia* spp.), redmaids (*Calandrinia menziesii*), fiddleneck (*Amsinckia* spp.), yarrow (*Achillea millefolium*), California buckwheat (*Eriogonum fasciculatum* var. *fasciculatum*), onion (*Allium* spp.), blue dicks (*Dichelostemma capitatum*), tidy tips (*Layia* spp.), gumplant (*Grindelia* spp.), tarplants (*Deinandra* spp.), goldenbush (*Isocoma* spp. and *Ericameria* spp.), sugar bush (*Rhus ovata*), and long-stem golden yarrow (*Eriophyllum* spp.) (Mattoni et al. 1997, USFWS 2003, Pratt and Emmel 2009, Preston et al. 2012).

Typically, there is one adult generation of QCB per year, with a four- to six-week flight period beginning in late February and continuing through May (Emmel and Emmel 1973), although the timing of the flight period can vary considerably from year to year depending on rainfall and temperature patterns. Adult life span averages from 10 to 14 days, and emergence is staggered

(USFWS 2002). The full life cycle of a QCB butterfly includes egg, larva, pupa, and adult with larval stages divided into five to seven instars. Adult QCB spend their time searching for mates, feeding on nectar, defending territories, basking in the sun, and, in the case of females, searching for sites to deposit eggs (USFWS 2002).

3. METHODS

3.1. VEGETATION COMMUNITY MAPPING

Insignia biologists mapped vegetation communities within the Quino Survey Area as identified in the QCB survey guidelines (USFWS 2014) during the fall of 2014. Biologists noted vegetation communities and boundaries on a hard-copy field map printed at a 1:200' scale. These boundaries and vegetation community names were later recorded as a Geographic Information System (GIS) shapefile using ArcMap software. Minimum mapping units for upland vegetation communities was generally an acre or less. For wetland/riparian communities, no minimum mapping unit was established so as to ensure that even very small wetland areas were documented. Vegetation classifications conform to Oberbauer et al. (2008).

3.2. HABITAT ASSESSMENT

A habitat assessment was conducted within the Proposed Project areas within the USFWS recommended Quino Survey Area plus a 150-foot buffer on both sides of Proposed Project components (Figure 2). The habitat assessment was conducted by Shirley Innecken (TE-82480A-0) of Insignia in September of 2014 and Lee Ripma (TE-221290-3.1) on February 11, 2015.

Due to access restrictions on the Elliot Field Station, 19 acres that are within the USFWS Survey Area were not included in the habitat assessment or focused surveys. Additional QCB surveys will be conducted within the 19 acres on the Elliot Field Station prior to construction of the Proposed Project. The area comprising the 2015 habitat assessment was 160 acres. Out of the 160 acres within the habitat assessment area for 2015, 19 acres were determined to be "excluded areas". Excluded areas can include orchards, developed areas, in-fill parcels less than one acre dominated by non-native vegetation, active agriculture, and closed-canopy woody vegetation (USFWS 2014). Approximately 141 acres of land exclusively within MCAS Miramar not meeting the excluded areas definition comprise the 2015 Quino Survey Area.

3.3. BUTTERFLY SURVEYS

On January 30, 2015 a 15-day pre-survey notification letter was sent to the USFWS stating the intent to conduct QCB surveys for the Proposed Project. Butterfly surveys were conducted by walking slowly through non-excluded habitat within the Quino Survey Area and identifying butterflies with the aid of close-focus binoculars. Butterfly taxonomy follows Butterflies and Moths of North America (www.butterfliesandmoths.org 2015). The 2015 Quino Survey Areas were visited weekly beginning the third week of February and ending the second Saturday in May in accordance with QCB survey guidelines (USFWS 2014). Surveys were conducted from February 15 to May 6, 2015 by RBC biologists Jim Rocks (TE-063230-4), Melanie Rocks (TE-082908-1), Lee Ripma (TE-221290-3.1), Monica Alfaro (TE-05124-2), Melanie Dicus (TE-049175-3), Garrett

Huffman (TE-20168A-0), and Brian Lohstroh (TE-063608-5). Surveys were conducted on 27 separate days. During the surveys, each biologist surveyed an average of eight acres per hour. The 19 acres that were determined to be excluded areas (as described above) were also surveyed because these areas occur were between areas included in the Quino Survey Area. Survey dates, conditions, and personnel are presented in Table 1, below.

Table 1. Quino Checkerspot Butterfly Survey Dates/Conditions

Survey	Date	Surveyor(s)	Time (Start- End)	Temp F (Start-End)	Cloud Cover (Start-End)	Wind Range in mph (Start-End)
#1a	2/15/15	LR, MA, MR	930-1145	73-84	0-0	0-2; 1-5
#1b	2/16/15	BL, JR	1030-1605	70-66	5-5	1-6; 0-3
#1c	2/18/15	LR, JR	955-1350	67-74	10-100	0-1; 1-6
#2a	2/22/15	LA, MA	1107-1250	70-68	90	3-5; 2-7
#2b	2/24/15	LR	1405-1615	75-71	0	4-7; 1-4
#2c	2/25/15	LR, BL, MD	1010-1330	63-75	0	0-1 to
#3a	3/4/15	GH, MD, BL	0900-1330	62-67	0-0	0-2; 3-7
#3b	3/6/15	GH	0850-1200	66-80	0-0	0-2; 2-4
#4a	3/8/15	GH, MA	0930-1330	68-77	0-0	2-6; 2-4
#4b	3/10/15	GH, MD	0900-1600	61-80	0-25	2-4; 1-5
#5a	3/15/15	GH	0900-1300	78-91	30-30	4-8;4-7
#5b	3/17/15	GH, MD	0830-1545	68-80	40-75	2-7; 2-8
#6a	3/22/15	GH	0930-1245	64-72	25-40	3-7; 1-4
#6b	3/25/15	GH, MD	1000-1630	70-78	0-0	0-1 to 1-7
#7a	3/29/15	GH	0830-1130	66-81	30-40	3-6, 3-5
#7	4/1/15	GH, MD	0845-1630	66-71	0	0-1, 3-7
#8a	4/5/15	GH	0930-1330	70-72	40-30	2-5, 4-6
#8b	4/6/15	GH, MD	0915-1630	64-65	40-10	3-7, 7-10
#9a	4/12/15	GH	1215-1515	77-81	0-0	2-4, 2-5
#9b	4/15/15	GH	0830-1600	67-80	0-0	0-2;4-10
#9c	4/16/15	GH	1100-1830	84-76	0-0	5-7, 5-8
#10a	4/19/15	GH	0900-1245	76-82	0-10	1-3, 2-7
#10b	4/21/15	GH, BL	0830-1445	71-80	100-60	0-2, 3-8
#11a	4/26/15	GH	1145-1445	76-74	30-10	2-5, 3-7
#11b	4/30/15	GH, MR	0830-1500	78-87	5-1	2-4, 4-8
#12a	5/3/15	GH	1200-1445	75-79	30-15	3-6; 4-8
#12b	5/6/15	GH, LR	1000-1630	70-68	100-90	1-4, 3-8

Italics: Indicates surveys of pistol range area, which could only be accessed on Sundays and altered the overall survey schedule.

Surveyors: BL= Brian Lohstroh, GH= Garrett Huffman, LR= Lee Ripma, JR = Jim Rocks, MA= Monica Alfaro, MD= Melanie Dicus, MR = Melanie Rocks

3.4. LARVAL HOST PLANTS AND NECTAR SOURCES

Surveyors recorded the locations of QCB host plants using handheld Geographic Position System (GPS) devices. For each occurrence, surveyors noted the larval host plant species, the diameter of the patch, and the density of the patch. Low density is defined as less than 20% cover (less than 40 plants per square meter), medium density is defined as 20-50% cover (40 to 100 plants per square meter), and high is defined as greater than 50% cover (greater then 100 plants per square meter). Each surveyor noted nectar sources present during the surveys on QCB survey forms. Taxonomy follows Rebman and Simpson (2014).

4. RESULTS

4.1. SUITABLE HABITAT AND VEGETATION COMMUNITIES

As described above, the total area included in the 2015 Quino Survey Area was 141 acres. Dominant vegetation communities within the 2015 Quino Survey Area included three primary vegetation communities:

- 1) Chamise chaparral dominated by chamise (Adenostoma fasciculatum);
- 2) Southern mixed chaparral dominated by Ramona-lilac (*Ceanothus tomentosus*), San Diego mountain-mahogany (*Cercocarpus minutiflorus*) and felt-leaf yerba santa (*Eriodictyon crassifolium* var. *crassifolium*); and
- 3) Coastal sage scrub dominated by California buckwheat (*Eriogonum fasciculatum* var. *fasciculatum*) and deerweed (*Acmispon glaber* var. *glaber*).

Within many of these shrub-dominated habitats, RBC biologists noted the presence of open patches ashy spike-moss (*Selaginella cinerascens*) and a variety of annual plants including common goldfields (*Lasthenia gracilis*), small-flower soap-plant (*Chlorogalum parviflorum*), pygmyweed (*Crassula connata*), dot-seed plantain, and long-beak filaree (*Erodium botrys*). Many of the annuals in these openings are potential QCB nectar sources and have the potential to support QCB.

4.2. BUTTERFLY SURVEYS

No Quino checkerspot butterflies were observed during focused surveys. The 141-acre Quino Survey Area supported a relatively high diversity of butterfly species in 2015 with a total of 32 butterfly species observed during the twelve surveys (Attachment A). Butterflies observed during focused surveys represent 26% of the documented butterflies in San Diego County (Shiraiwa 2010). The number of butterfly species observed during each survey varied widely with a high of 13 species (survey one, seven, and ten) and low of four (survey two). Only one butterfly was observed on all 27 survey days, Behr's metalmark (*Apodemia virgulti*). Other commonly observed species include orange sulphur (*Colias eurytheme*), funereal duskywing (*Erynnis funeralis*) (24 of 27 days), painted lady (*Vanessa cardui*) (20 of 27 days), marine blue (*Leptotes marina*) (19 of 27 days), common buckeye (*Junonia coenia*) (17 of 27 days), and checkered white (*Pontia protodice*) (16 of 27 days). A complete list of butterflies observed during each survey is presented in Attachment A and field notes are included in Attachment B.

4.3. LARVAL HOST PLANTS AND NECTAR SOURCES

Two larval host plants were detected in the Quino Survey Area, dot-seed plantain and purple owl's clover. There were 82 total dot-seed plantain occurrences, 76 with low density and six with medium density. There were 12 total owl's clover occurrences, 10 with low density and two with medium density. These were scattered throughout the Quino Survey Area and tended to be concentrated in the more open areas of shrub-dominated communities.

Nectar sources for butterflies were present throughout the survey duration. In February and March QCB larval host plants and nectar sources were abundant and observed throughout the Quino Survey Area. By late April and May their numbers declined precipitously due to seasonal senescence brought on by dry, warm conditions.

Documented QCB nectar sources observed during the surveys are detailed in Table 2, below.

Table 2. Quino Checkerspot Butterfly Nectar Sources, February-May, 2015

Scientific Name	Common Name	QCB Larval Host Plant	Documented QCB Nectar Source	General Nectar Source
Acmispon glaber var. glaber	deerweed			Х
Allium praecox	early onion		Х	
Amsinckia menziesii var. intermedia	rancher's fiddleneck		Х	
*Anagallis arvensis	scarlet pimpernel			X
Antirrhinum nuttallianum ssp. subsessile	big-gland Nuttall's snapdragon			X
Bloomeria crocea var. crocea	common goldenstar			X
Bloomeria clevelandii	san diego goldenstar			X
Brassica nigra	black mustard			Х
Brodiaea orcuttii	orcutt's brodiaea			X
Calandrinia breweri	brewer's redmaids			Х
Calandrinia ciliata	red maids		Х	
Calochortus splendens	splendid mariposa lily			X
Calochortus weedii var. weedii	weed's mariposa lily			Х
Calystegia macrostegia ssp. tenuifolia	san diego morning-glory			X
Castilleja exserta ssp. exserta	owl's-clover	Х		
Ceanothus tomentosus	Ramona-lilac			Х
Chaenactis glabriuscula var. glabriuscula	yellow pincushion			X
Chlorogalum parviflorum	small-flower soap-plant			Х
Clarkia purpurea ssp. quadrivulnera	four-spot clarkia			Х
Corethrogyne filaginifolia var. filaginifolia	sand-aster			Х
Crocanthemum scoparium	rockrose			Х
Cryptantha intermedia var. intermedia	Nievita's cryptantha		Х	
Deinandra fasciculata	fascicled tarweed		Х	
Dichelostemma capitatum ssp.	blue dicks		X	

capitatum				
Encelia californica	California encelia			X
Emmenanthe penduliflora var. penduliflora	whispering bells			X
Eriodictyon crassifolium var. crassifolium	felt-leaf yerba santa		Х	
Eriogonum fasciculatum var. fasciculatum	coast California buckwheat		X	
*Erodium botrys	long-beak filaree			X
*Erodium cicutarium	red-stem filaree			X
*Erodium moschatum	white-stem filaree			X
Eschscholzia californica	California poppy			Х
Gilia diegensis	gilia		Х	
*Hedypnois cretica	Crete hedypnois			Х
*Hypochaeris glabra	smooth cat's ear			Х
Isocoma menziesii var. menziesii	spreading goldenbush		Х	
Lasthenia gracilis	common goldfields		Х	
Lathyrus vestitus var. alefeldii	san diego sweet pea			Х
Lomatium dasycarpum ssp. dasycarpum	woolly-fruited lomatium		Х	
Lupinus bicolor	miniature lupine			
Marah macrocarpa	chilicothe			Х
*Medicago polymorpha	California burclover			Х
*Melilotus indicus	indian sweetclover			X
Mimulus aurantiacus	monkey flower bush			X
Muilla maritima	common muilla		Х	
Navarretia hamata ssp. hamata	hooked skunkweed			X
Nuttallanthus texanus	blue toadflax			Х
Osmadenia tenella	osmadenia			Х
*Oxalis pes-caprae	Bermuda-buttercup			Х
Pectocarya linearis var. ferocula	slender pectocarya			X
Plagiobothrys collinus var. gracilis	San Diego popcornflower		Х	
Plantago erecta	dot-seed plantain	Х		
Primula clevelandii	padre's shooting star			Х
Pseudognaphalium californicum	California everlasting			
Reseda luteola	dyer's rocket			Х
Rhus integrifolia	lemonadeberry			Х
Sidalcea malviflora ssp. sparsifolia	checker-bloom			Х
*Silene gallica	common catchfly			
Sisyrinchium bellum	blue-eyed-grass			X
*Sisymbrium orientale	eastern rocket			X
Solanum parishii	Parish's nightshade			Х

*Sonchus asper ssp. asper	prickly sow-thistle			X	
*Vicia villosa ssp. varia	hairy vetch			X	
* Non-native species					

5. CERTIFICATION

We certify that the information in this survey report and attached figures fully and accurately represent our work.

Jim Rocks TE-063230-4

Melanie Rocks TE-082908-2

Lee Ripma TE-221290-3.1

Monica Alfaro TE-05124-2

Marin M. Din

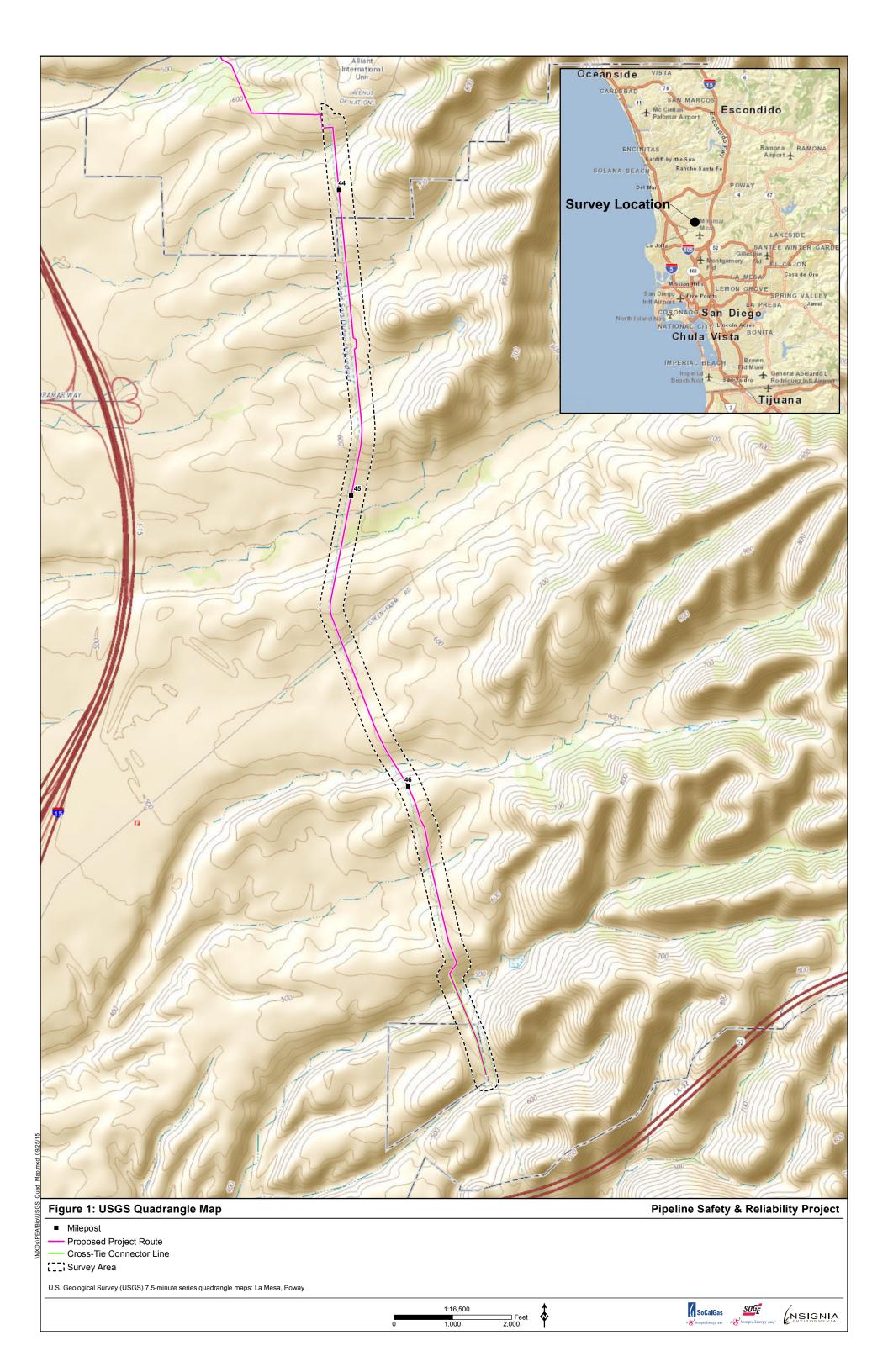
Melanie Dicus TE-049175-3

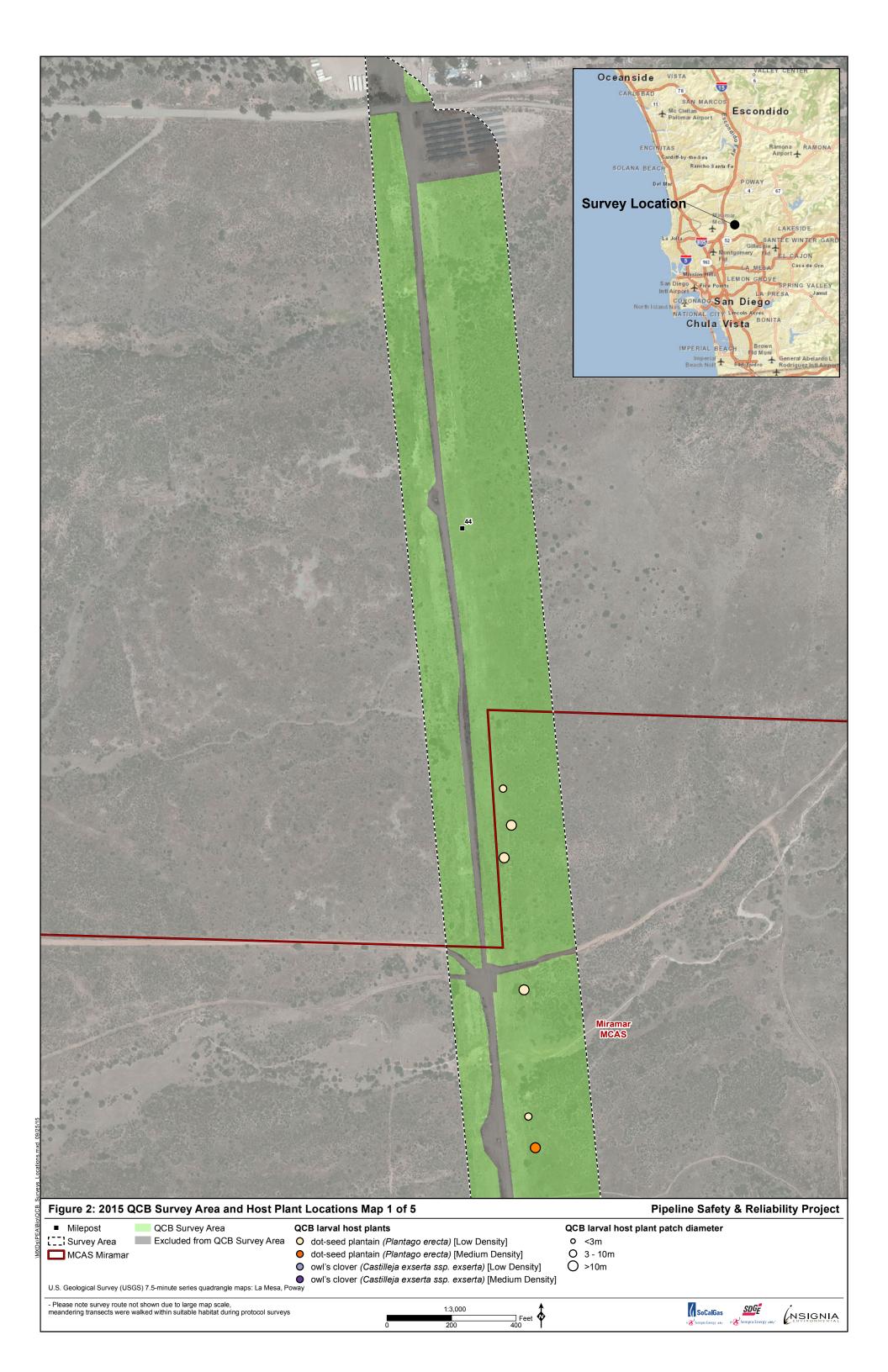
Garrett Huffman TE-20168A-0

Brian Lohstroh TE-063608-5

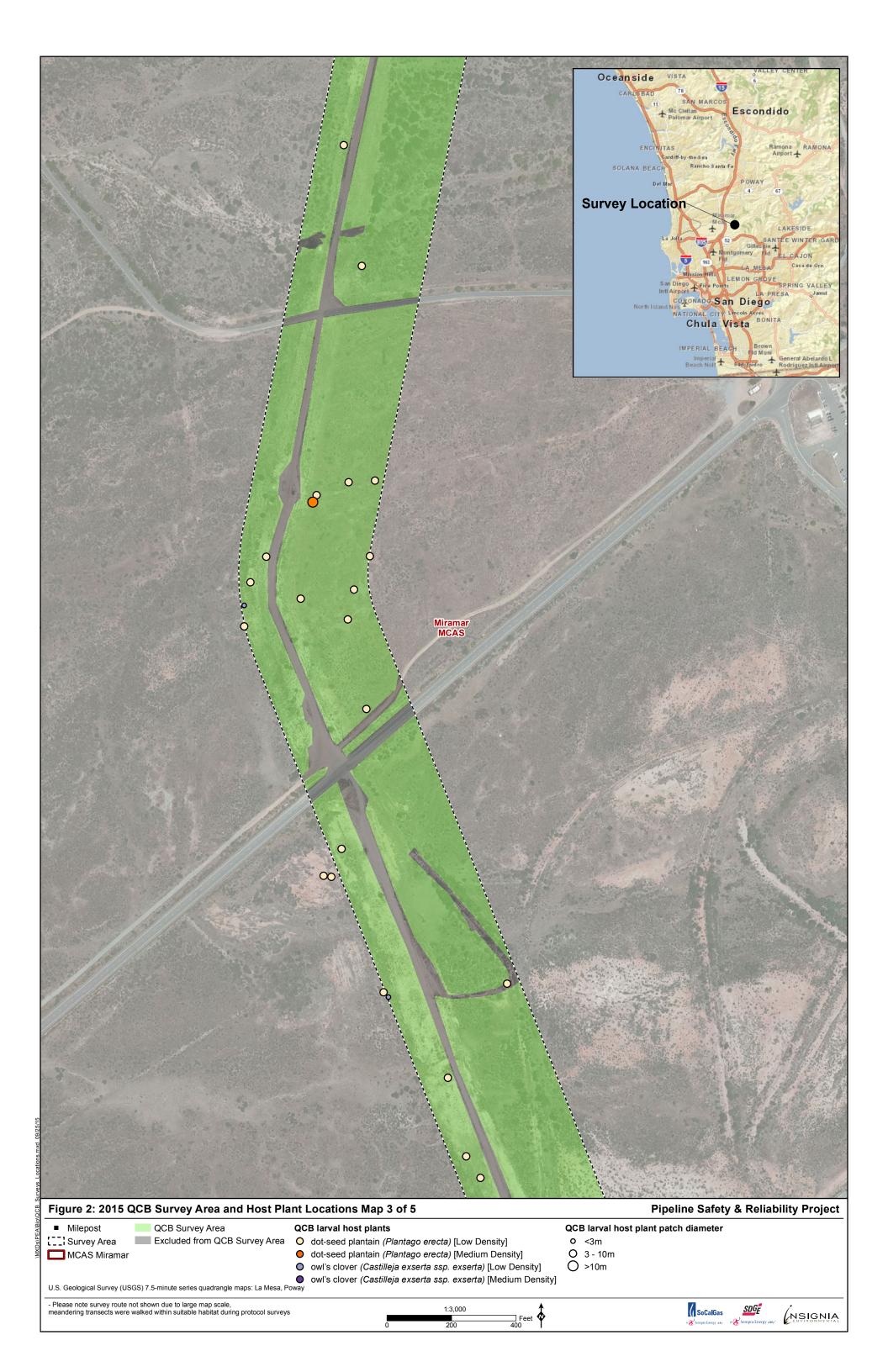
6. REFERENCES

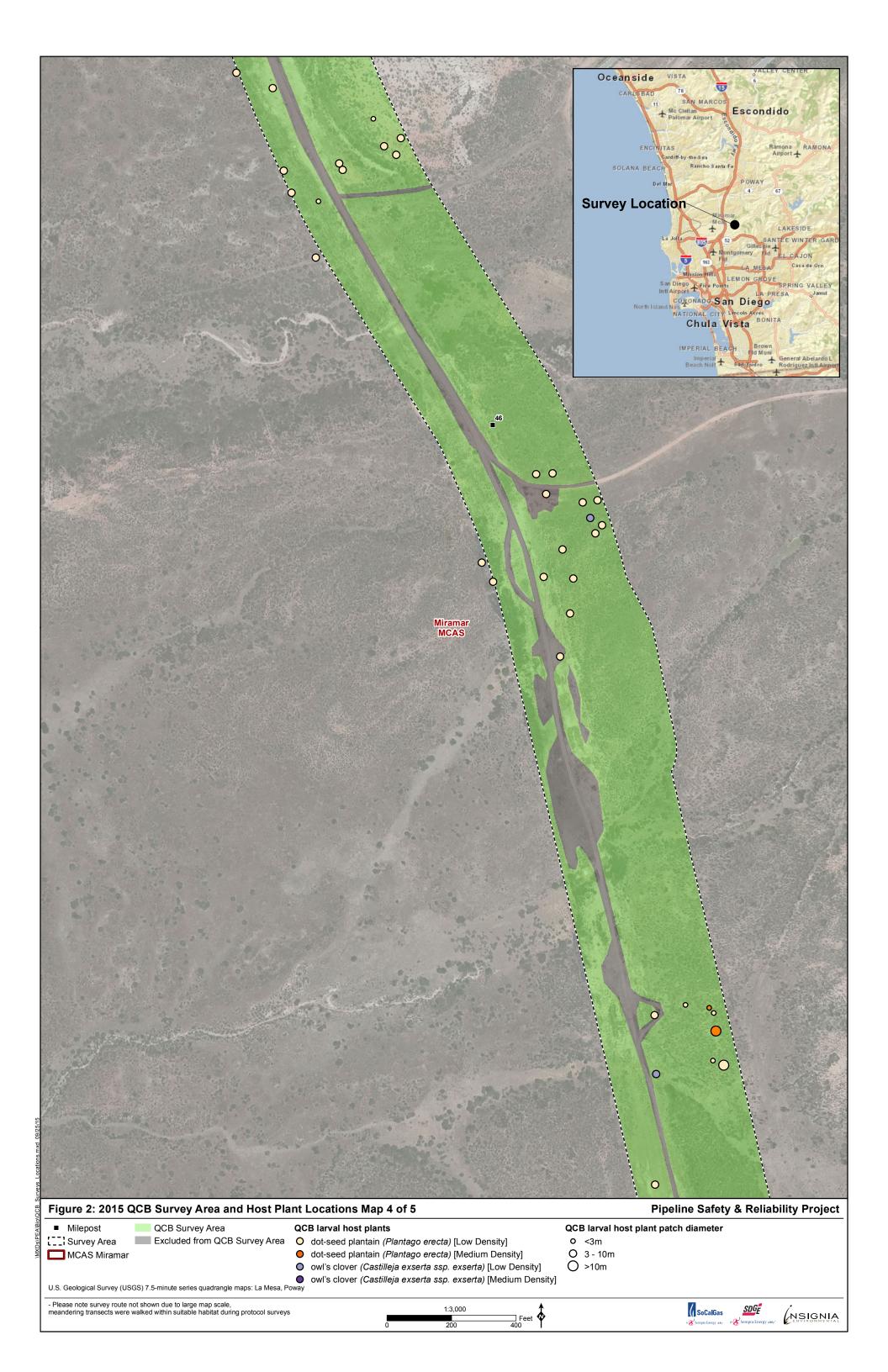
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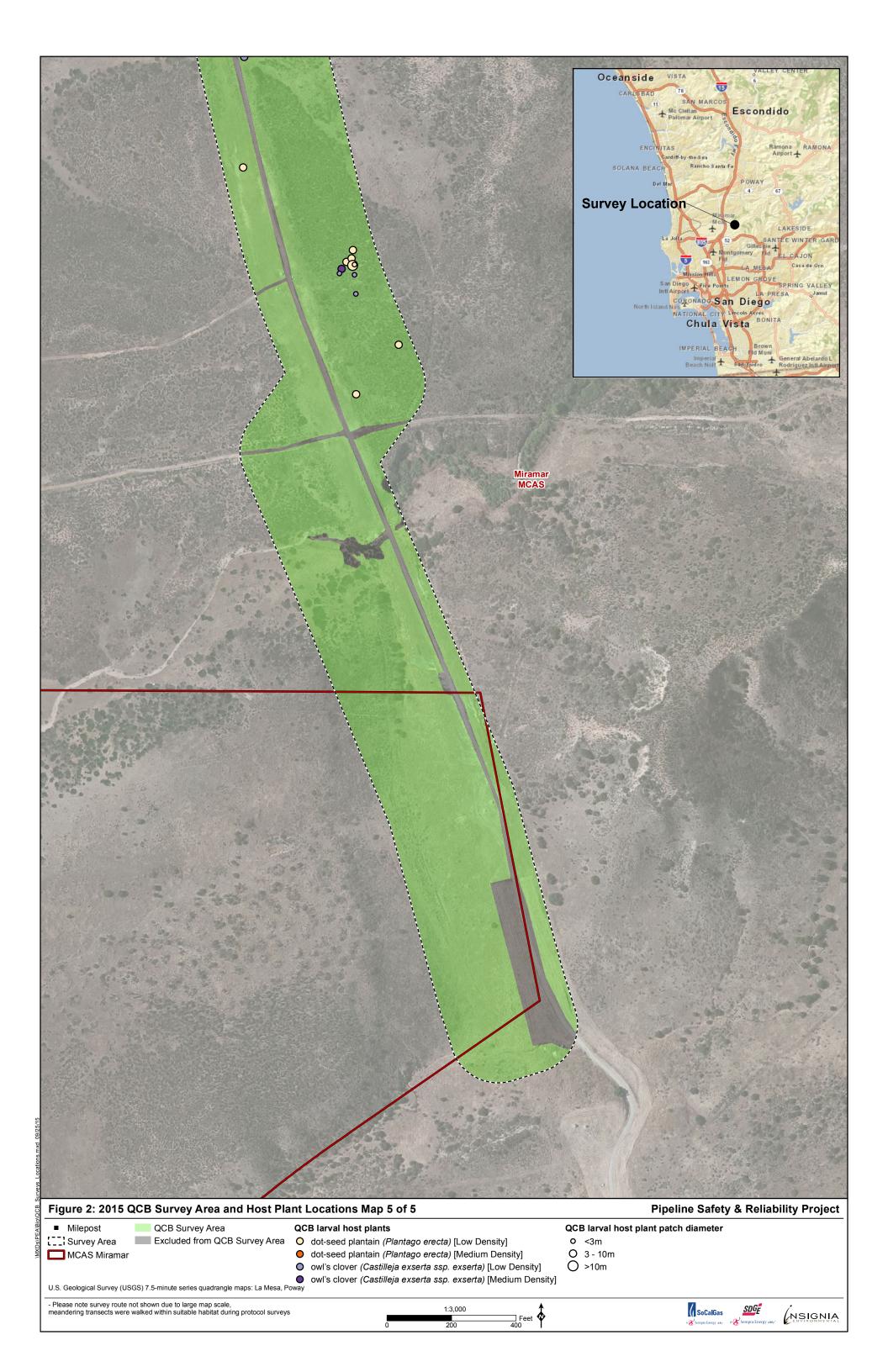












Attachment A:

All Butterflies Observed

	Survey Number	#1 PR	#1	#1	#2 PR	#2	#2	#3	#3 PR	#4 PR	#4	#5 PR	#5	#6 PR	#6	#7 PR
	Date	2/15/15	2/16/15	2/18/15	2/22/15	2/24/15	2/25/15	3/4/15	3/6/15	3/8/15	3/10/15	3/15/15	3/17/15	3/22/15	3/25/15	3/29/15
	Surveyor(s)	LR, MA, MR	BL, JR	LR, JR	LA, MA	LR	LR, BL, MD	GH, MD, BL	GH	GH, MA	GH, MD	GH	GH, MD	GH	GH, MD	GH
Nymphal	idae (Brush Footed Butterflies)															
	Adelpha californica (California Sister)															
	Chlosyne gabbii (Gabb's Checkerspot)								Χ			Χ		X		Χ
	Junonia coenia (Common Buckeye)		Χ	Χ			X	X	Χ				Χ		Χ	Χ
	Speyeria callippe comstocki (Comstock's Fritillary)															
	Vanessa annabella (West Coast Lady)		Χ				X								Χ	
	Vanessa cardui (Painted Lady)	Х	Χ	Χ	Χ	Χ	X	X	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ
	Vanessa atalanta (Red Admiral)		Χ					Χ				Χ				
Danaidae																
	Danaus gilippus (Queen)														Χ	
	Danaus plexippus (Monarch)						X									
Hesperio																
,	Erynnis funeralis (Funereal Duskywing)	X	Χ	Χ	Χ	Χ	X	X	Χ	Χ	Χ	Χ	Χ	Χ	Χ	
	Hylephila phyleus (Fiery Skipper)															
	Pyrgus albescens (White Checkered-Skipper)															
Lycaenia	ae (Hairstreaks)															
	Brephidium exilia (Western Pygmy-Blue)															
	Callophrys perplexa (Perplexing Hairstreak)		Χ				X				Χ					
	Euphilotes bernardino (Bernardino Dotted-Blue)															
	Glaucopsyche lygdamus (Silvery Blue)	Х	Χ	Χ	Χ	Χ	X	X	Χ	Χ	Χ	Χ	Χ	Χ		
	Hemiargus ceraunus (Ceraunus (Edward's) Blue)		Χ													
	Leptotes marina (Marine Blue)	Х	Χ	Χ			X	X			Χ		Χ	Χ	Χ	Χ
	Plebejus acmon (Acmon Blue)															
	Strymon melinus (Gray Hairstreak)		Χ	Χ									Χ			Χ
	Satyrium saepium (Hedgerow Hairstreak)															
Riodinida	e (Metalmarks)															
	Apodemia virgulti (Behr's Metalmark)	Χ	Χ	Χ	Χ	Χ	X	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ
Papilionio	dae (Swallowtails)															
	Papilio zelicaon (Anise Swallowtail)															
Pieridae	Whites and Orangetips)															
	Anthocharis sara (Sara's Orangetip)								Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ
	Colias eurytheme (Orange Sulphur)		Χ	Χ			X	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ
	Colias harfordii (Harford's Sulphur)	Χ									Χ	Χ	Χ			
	Pieris rapae (Cabbage White)													Χ	Χ	
	Phoebis sennae marcellina (Southwest Cloudless Sulphur)		X	X												
	Pontia protodice (Checkered White)											Χ	Χ	Χ	Χ	Χ
	Zerene cesonia (Southern Dogface)										Χ					
	Unidentifed Sulphur	Χ														
Satyridae	(Satyrids)															
	Coenonympha tullia californica (Common California Ringlet)															
	Total Butterfly Species Observed	7	13	9	4	4	10	8	8	6	10	10	11	10	11	9

Survey Number	er	#7	#8 PR	#8	#9 PR	#9	#9	#10 PR	#10	#11 PR	#11	#12 PR	#12
Date		4/1/15	4/5/15	4/6/15	4/12/15	4/15/15	4/16/15	4/19/15	4/21/15	4/26/15	4/30/15	5/3/15	5/6/15
Surveyor(s)		GH, MD	GH	GH, MD	GH	GH	GH	GH	GH, BL	GH	GH, MR	GH	GH, LR
Nymphalidae (Brush Foote	d Butterflies)												
Adelpha califor	mica (California Sister)										X		
Chlosyne gabl	oii (Gabb's Checkerspot)	X	Χ		X					X	X		
Junonia coenia	(Common Buckeye)	X		Χ	X	X	X	X	X	X	X		
Speyeria callip	pe comstocki (Comstock's Fritillary)	X		Χ					X	X	X	Χ	
Vanessa annai	bella (West Coast Lady)					X			X				
Vanessa cardu	ui (Painted Lady)	X		Χ					X	X			Χ
Vanessa atalar	nta (Red Admiral)												Χ
Danaidae													
Danaus gilippu	s (Queen)												
Danaus plexip	ous (Monarch)												
Hesperidae													
Erynnis funeral	is (Funereal Duskywing)	Χ		Χ		Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ
Hylephila phyle	eus (Fiery Skipper)		Χ		X		X	X	X	X	X		
Pyrgus albesce	ens (White Checkered-Skipper)			Χ									
Lycaenidae (Hairstreaks)													
Brephidium ex	ilia (Western Pygmy-Blue)						X			X		Χ	
Callophrys per	plexa (Perplexing Hairstreak)												
Euphilotes ben	nardino (Bernardino Dotted-Blue)								X		X	Χ	Χ
Glaucopsyche	lygdamus (Silvery Blue)												
Hemiargus cer	aunus (Ceraunus (Edward's) Blue)												
Leptotes marin	na (Marine Blue)	X		Χ		X	X		X	X	X	Χ	Χ
Plebejus acmo	on (Acmon Blue)							X	X				
Strymon melini	us (Gray Hairstreak)	X		Χ	X		X	X	X				
Satyrium saepi	ium (Hedgerow Hairstreak)	X		Χ									
Riodinidae (Metalmarks)													
Apodemia virgi	ulti (Behr's Metalmark)	X	Χ	Χ	X	X	X	X	X	X	X	Χ	Χ
Papilionidae (Swallowtails)													
Papilio zelicaor	n (Anise Swallowtail)						X						
Pieridae (Whites and Orang	getips)												
Anthocharis sa	ara (Sara's Orangetip)	Χ		Χ	X								
Colias eurythei	me (Orange Sulphur)	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ
Colias harfordi	i (Harford's Sulphur)												
Pieris rapae (C	abbage White)	Χ											
Phoebis senna	ae marcellina (Southwest Cloudless Sulphur)												
Pontia protodio	ce (Checkered White)	Χ		Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ	Χ
Zerene cesonia	a (Southern Dogface)												
Unidentifed Su	ulphur												
Satyridae (Satyrids)													
Coenonympha	a tullia californica (Common California Ringlet)										Χ		
Total Butterfly	Species Observed	13	4	12	8	7	10	8	13	11	12	8	8

Attachment B:

All Surveyor Field Notes

22- Lee work in Mariera nowice 1 - Movica & Charret)

GPS all potential host plant locations (Plantago

erecta, Plantago patagonica, Antirrhinum

coulterianum,

Cordylanthus rigidus, Castilleja exserta, and

Collinsia heterophylla)

occurrence_density (low, medium, Format: plant name_diameter of

high)_date_observer

List notes and GPS point names here, please

write UTMs or Lat/Longs as backup:

GPS all QCB occurrences

n pushected range コープトントルカタ System Potential Upgrades

Surveyor Name: Lee Pip Myan Melanic Ricks

11.	nymphandao (phash) corea parrellines)
	Euphydras editha quino (Quino Checkerspot)
	Euphydras chalcedona (Chalcedon Checkspot)
	Charidryas gabbii (Gabb's Checkerspot)
	Phycoides mylitta (Mylitta Crescent)
	Thessalia leanira (Leanira Checkerspot)
	Nymphalis antiopa (Mourning Cloak)
	Basilarchia forquini (Lorquin's Admiral)
	Junonia coenia (Common Buckeye)
6	Vanessa annabella (West Coast Lady)
1	Vanessa cardui (Painted Lady) My
	Vanessa virginiensis (American Lady)
	Vanessa atalanta (Red Admiral)
Danaidae	dae
	Danaus gilippus (Queen)
	Danaus plexippus (Monarch)
Hesp	Hesperidae
	Heliopetes ericetorum (Northern White-Skipper)
	Hylephila phyleus (Fiery Skipper)
,	Pyrgus albescens (White Checkered-Skipper)
>	Erynnis funeralis (Funereal Duskywing) (
	Erynnis tristis (Mournful Duskywing)
	Erynnis propertius (Propertius Duskywing)
	Ochlodes agricola (Rural Skipper)

Lycae	Lycaenidae (Hairstreaks)
	Atlides halesus (Great Purple Hairstreak)
	Incisalia augustinus (Western Brown Elfin)
	Callophrys perplexa (Perplexing Hairstreak)
,	Strymon melinus (Gray Hairstreak)
1	Glaucopsyche lygdamus (Silvery Blue)
	Icarcia aemon (Acmon Blue)
	Celastrina ladon (Echo Blue)
	Leptotes marina (Marine Blue)
	Philotes sonorensis (Sonoran Blue)
	Plebejus melissa (Melissa Blue)
	Everes amyntula (Western Tailed-Blue)
	Brephidium exilis (Western Pygmy-Blue)
Riodi	Riodinidae (Metalmarks)
1	Apodemia mormo virgulti (Behr's Metalmark)
Papilli	Papilionidae (Swallowtalls)
	Papilio eurymedon (Pale Swallowtail)
	Papilio rutulus (Western Tiger Swallowtail)
	Papilio zelicaon (Anise Swallowtail)
Pierio	Pieridae (Whites and Orangetips)
	Anthocharis cethura (Desert Orangetip)
	Anthocharis sara (Sara's Orangetip)
	Pieris rapae (Cabbage White)
	Pontia protodice (Checkered White)
	Colias eurytheme (Orange Sulphur)
	Colias harfordii (Harford's Sulphur)
	Eurema nicippe (Sleepy Orange)
	Nathalis iole (Dainty Sulphur)
Satyri	Satyridae (Satyrids)
	Coenonympha californica (Common California
	Ringlet)
Others	
	15 Chours to me
	Sulfer (unknown from a frak)

Nuttalanthus texans Chamise Charp List nectar sources and plant communities Erodium botys Sparce 2655 Dich lushman Cap Encelia Cal. Latharus LACTURIA CA. March Washeren Ac micion glabal Plango collins Solanum cartii observed

ow the par cas front in 2010 work por symilars ined 20-50 90 ciner, myen sq. foot

MILLY SURE

Consisting yellow Els, dir (-coms) dosy conjum



SDG&E Natural Gas System Potential Upgrades
Surveyor Name: Monice Alfaro
Date Alis[15

	Time	Temp (°F)	Cover (%)	Wind Speed (avg. mph)
Start	9:31	73M	0 %	7-0
End	チニニ	-44 84.5	0,0	5-1

ymb	Nymphalidae (Brush Footed Butterflies)
	Euphydras editha quino (Quino Checkerspot)
	Euphydras chalcedona (Chalcedon Checkspot)
	Charidryas gabbii (Gabb's Checkerspot)
	Phycoides mylitta (Mylitta Crescent)
	Thessalia leanira (Leanira Checkerspot)
	Nymphalis antiopa (Mourning Cloak)
	Basilarchia Iorquini (Lorquin's Admiral)
	Junonia coenía (Common Buckeye)
	Vanessa annabella (West Coast Lady)
×	Vanessa cardui (Painted Lady)
	Vanessa virginiensis (American Lady)
	Vanessa atalanta (Red Admiral)
Danaidae	dae
	Danaus gilippus (Queen)
	Danaus plexippus (Monarch)
Hespe	Hesperidae
	Heliopetes ericetorum (Northern White-Skipper)
	Hylephila phyleus (Fiery Skipper)
	Pyrgus albescens (White Checkered-Skipper)
_	Erynnis funeralis (Funereal Duskywing)
	Erynnis tristis (Mournful Duskywing)
	Erynnis propertius (Propertius Duskywing)

Lycae	Lycaenidae (Hairstreaks)
	Attides halesus (Great Purple Hairstreak)
	Incisalia augustinus (Western Brown Elfin)
	Callophrys perplexa (Perplexing Hairstreak)
	Strymon melinus (Gray Hairstreak)
	Glaucopsyche lygdamus (Silvery Blue)
	Icarcia acmon (Acmon Blue)
	Celastrina ladon (Echo Blue)
	Leptotes marina (Marine Blue)
	Philotes sonorensis (Sonoran Blue)
	Plebejus melissa (Melissa Blue)
	Everes amyntula (Western Tailed-Blue)
	Brephidium exilis (Western Pygmy-Blue)
Riodir	Riodinidae (Metalmarks)
	Apodemia mormo virgulti (Behr's Metalmark
Papille	Papilionidae (Swallowfails)
	Papilio eurymedon (Pale Swallowtail)
	Papilio rutulus (Western Tiger Swallowtail)
	Papilio zelicaon (Anise Swallowtail)
Pierid	Pieridae (Whites and Orangetips)
	Anthocharis cethura (Desert Orangetip)
	Anthocharis sara (Sara's Orangetip)
	Pieris rapae (Cabbage White)
	Pontia protodice (Checkered White)
	Colias eurytheme (Orange Sulphur)
X	Colias harfordii (Harford's Sulphur)
	Eurema nicippe (Sleepy Orange)
	Nathalis iole (Dainty Sulphur)
Satyrie	Satyridae (Satyrids)
	Coenonympha californica (Common Califor Binglet)
Others	and the second

List nectar sources and plant communities observed Wild hove on the Deem each

Ochlodes agricola (Rural Skipper)



SDG&E Natural Gas System Potential Upgrades Surveyor Name: Melanie KollS Date 2/15/2015

Survey #

	Time	Temp (°F)	Cloud Cover (%)	Wind Speed (avg. mph)
Start	0630	73.1	e	1~0
End	277	8H.S	0	1-5

Nym	Nymphalidae (Brush Footed Butterflies)
	Euphydras editha quino (Quino Checkerspot)
	Euphydras chalcedona (Chalcedon Checkspot)
	Charidryas gabbii (Gabb's Checkerspot)
	Phycoides mylitta (Mylitta Crescent)
	Thessalia leanira (Leanira Checkerspot)
	Nymphalis antiopa (Mourning Cloak)
	Basilarchia lorquini (Lorquin's Admiral)
	Junonia coenia (Common Buckeye)
	Vanessa annabella (West Coast Lady)
Ŧ	Vanessa cardui (Painted Lady)
	Vanessa virginiensis (American Lady)
	Vanessa atalanta (Red Admiral)
Danaidae	idae
	Danaus gilippus (Queen)
	Danaus plexippus (Monarch)
Hesp	Hesperidae
	Heliopetes ericetorum (Northern White-Skipper)
	Hylephila phyleus (Fiery Skipper)
	7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7

Lvcae	Lycaenidae (Hairstreaks)
	Atlides halesus (Great Purple Hairstreak)
	Incisalia augustinus (Western Brown Elfin)
	Callophrys perplexa (Perplexing Hairstreak)
	Strymon melinus (Gray Hairstreak)
	Glaucopsyche lygdamus (Silvery Blue)
	Icarcia acmon (Acmon Blue)
	Celastrina ladon (Echo Blue)
	Leptotes marina (Marine Blue)
	Philotes sonorensis (Sonoran Blue)
	Plebejus melissa (Melissa Blue)
	Everes amyntula (Western Tailed-Blue)
	Brephidium exilis (Western Pygmy-Blue)
Riodi	Riodinidae (Metalmarks)
	Apodemia mormo virgulti (Behr's Metalmark)
Papil	Papilionidae (Swallowtails)
	Papilio eurymedon (Pale Swallowtail)
	Papilio rutulus (Western Tiger Swallowtail)
	Papilio zelicaon (Anise Swallowtail)
Pieric	Pieridae (Whites and Orangetips)
	Anthocharis cethura (Desert Orangetip)
	Anthocharis sara (Sara's Orangetip)
	Pieris rapae (Cabbage White)
	Pontia protodice (Checkered White)
	Colias eurytheme (Orange Sulphur)
(1	Colias harfordii (Harford's Sulphur)
	Eurema nicippe (Sleepy Orange)
	Nathalis iole (Dainty Sulphur)
Satyr	Satyridae (Satyrids)
	Coenonympha californica (Common California Ringlet)
Others	

List nectar sources and plant communities Acmission glober, Eri Fasc Pla ere, Dier observed

Pyrgus albescens (White Checkered-Skipper)

Erynnis funeralis (Funereal Duskywing) Erynnis tristis (Mournful Duskywing) Erynnis propertius (Propertius Duskywing)

Ochlodes agricola (Rural Skipper)

GPS all potential host plant locations (Plantago List notes and GPS point names here, please Cordylanthus rigidus, Castilleja exserta, and erecta, Plantago patagonica, Antirrhinum write UTMs or Lat/Longs as backup: occurrence_density (low, medium, Format: plant name_diameter of GPS all QCB occurrences Collinsia heterophylla) high)_date_observer coulterianum,

Pla ere - los dens (point) of access rd on Small hilltop



Project Name: Manage 3602 project

Surveyor Name: B. Lohstvola

o Munge	water J	いをから	のかいから	idsection
	Time	Temp (°F)	Cloud Cover (%)	Wind Speed (avg. mph)
Start	1030	10	5	1-6 (4)
End	(605	,99	2	5-0

Nectar Sources Present: Chyparthy, Untermed.
Acuishous Scop.
Secondary & Pectocoly Colours of Pectocolours of Pectoco

Nymphalidae (Brush Footed Butterflies)

	Euphydras editha quino (Quino Checkerspot)
	Euphydras chalcedona (Chalcedon
	Checkerspot)
	Charidryas gabbii (Gabb's Checkerspot)
	Phycoides mylitta (Mylitta Crescent)
	Thessalia leanira (Leanira Checkerspot)
	Nymphalis antiopa (Mourning Cloak)
	Basilarchia lorquini (Lorquin's Admiral)
_	Junonia coenia (Common Buckeye)
	Vanessa annabella (West Coast Lady)
-/	Vanessa cardui (Painted Lady)
	Vanessa virginiensis (American Lady)
	Vanessa atalanta (Red Admiral)
Danaidae	dae
	Danaus gilippus (Queen)
	Danaus plexippus (Monarch)

Heliopetes ericetorum (Northern White-Skipper Hylephila phyleus (Fiery Skipper) Pyrgus albescens (White Checkered-Skipper) Erynnis tristis (Mournful Duskywing) Erynnis propertius (Funereal Duskywing) Erynnis propertius (Propertius Duskywing) Cohlodes agricola (Rural Skipper) Atifides halesus (Great Purple Hairstreak) Incisalia augustinus (Western Brown Elfin) Callophrys perplexa (Perplexing Hairstreak) Incisalia augustinus (Mestern Blue) Callophrys perplexa (Perplexing Hairstreak) Callophrys perplexa (Perplexing Blue) Callophrys perplexa (Perplexing Blue) Callophrys perplexa (Merice Blue) Callophrys perplexa (Merice Blue) Plebejus melissa (Mestern Tailed-Blue) Plebejus melissa (Mestern Tailed-Blue) Riodemia wigulti (Behr's Metalmark) Papilio rutulus (Western Tiger Swallowtail) Papilio rutulus (Calloge White) Anthocharis sara (Sara's Orangetip) Pieris rapae (Cabbage White) Pontia protodice (Checkered White) Pontia protodice (Checkered Satyridae (Satyridae) Colias eurytheme (Canage Sulphur) Colias eurytheme (Canage Sulphur) Colias eurytheme (Cabage White) Colias eurytheme (Canage Sulphur) Ringlet)		Hesperidae	ridae
is de los la	1		Heliopetes ericetorum (Northern White-Skipper)
is de los la			Hylephila phyleus (Fiery Skipper)
is de los la			Pyrgus albescens (White Checkered-Skipper)
S dd da	gas July July Sale	1	Erynnis funeralis (Funereal Duskywing)
S dds day	in air ou sign in		Erynnis tristis (Mournful Duskywing)
g g g			Erynnis propertius (Propertius Duskywing)
			Ochlodes agricola (Rural Skipper)
		Lycae	nidae (Hairstreaks)
			Attides halesus (Great Purple Hairstreak)
φ <u>σ</u> ο σ σ σ σ σ σ σ σ σ σ σ σ σ σ σ σ σ σ			Incisalia augustinus (Western Brown Elfin)
\$ 5 5 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	2	11	Callophrys perplexa (Perplexing Hairstreak)
			Strymon melinus (Gray Hairstreak)
	9	アオ	Aglaucopsyche lygdamus (Silvery Blue)
φ <u>σ</u> σ σ σ σ σ σ σ σ σ σ σ σ σ σ σ σ σ σ		100	Icarcia acmon (Acmon Blue)
	9 9 9 9		Celastrina ladon (Echo Blue)
φ <u>σ</u>	9 9		Leptotes marina (Marine Blue)
φ <u>σ</u> σ σ σ σ σ σ σ σ σ σ σ σ σ σ σ σ σ σ	2 2 2		Philotes sonorensis (Schoran Blue)
φ <u>σ</u>	9 9 9		Plebejus melissa (Melissa Blue)
2 5 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	2 5 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8		Everes amyntula (Western Tailed-Blue)
2			Brephidium exilis (Western Pygmy-Blue)
<u>δ</u> <u>δ</u> <u>δ</u> <u>δ</u>	5 8 8 8	Riodir	iidae (Metalmarks)
0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		Apodemia mormo (Mormon Metalmark)
0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	<u>5</u> <u>8</u> <u>9</u> <u>9</u>	-	Apodemia virgulti (Behr's Metalmark)
g <u><u><u><u>o</u></u> <u>o</u> <u>o</u></u></u>	2	Papilic	onidae (Swallowtails)
2 <u>0</u> <u>0</u>	1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2		Papilio eurymedon (Pale Swallowtail)
2 <u>2</u> 2	- <u>0</u> 0		Papilio rutulus (Western Tiger Swallowtail)
g <u> </u>	8 S		Papilio zelicaon (Anise Swallowtail)
<u> </u>	2 0	Pierid	ae (Whites and Orangetips)
<u>β</u>	2 0		Anthocharis cethura (Desert Orangetip)
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	9 9		Anthocharis sara (Sara's Orangetip)
<u>5</u> 6	20 0		Pieris rapae (Cabbage White)
<u>0</u> 0	20 0		Pontia protodice (Checkered White)
10	100	產	Colias eurytherne (Orange Sulphur)
10	100		Colias harfordii (Harford's Sulphur)
to	- 010		Eurema nicippe (Sleepy Orange)
100	- 0.10	Satyri	dae (Satyrids)
	- 40.10		Coenonympha californica (Common California
100	- 4010		Ringlet)
	を一大きれる。	Other	10.1
	The same of the sa		

Notes (host plant locations, QCB occurrences, etc):



Project Name: 3602

Surveyor Name: J. ROCKS

Date 2/16/15 Survey#

	Time	Temp (°F)	Cloud Cover (%)	Wind Speed (avg. mph)
Start	aso)	70	0	9-1
End	1605	99	0	

Nectar Sources Present: Acmeda Callil Evo Mas Dictap, Speng boc, Cal Mac, Cal Brow, Rectiner Cryp lat, Eriod Crass, Silbal, Mim Aur, Cor Fil All prat, Dodlle Hel Sco, Rhulut

	Nymph	Nymphalidae (Brush Footed Butterflies)
		Euphydras editha quino (Quino Checkerspot)
		Euphydras chalcedona (Chalcedon Checkerspot)
		Charidryas gabbii (Gabb's Checkerspot)
		Phycoides mylitta (Mylitta Crescent)
		Thessalia leanira (Leanira Checkerspot)
		Nymphalis antiopa (Mourning Cloak)
		Basilarchia lorquini (Lorquin's Admiral)
-	/	Junonia coenia (Common Buckeye)
-		Vanessa annabella (West Coast Lady)
7	芝芽	Vanessa cardui (Painted Lady)
		Vanessa virginiensis (American Lady)
-	,	Vanessa atalanta (Red Admiral) (nettle Freiled
	Danaidae	ae
		Danaus gilippus (Queen)
		Danaus plexippus (Monarch)

Heliopetes ericetorum (Northern White-Skipper) Hylephila phyleus (Fiery Skipper) Hylephila phyleus (Fiery Skipper) Hylephila phyleus (Fiery Skipper) Pyrgus albescens (White Checkered-Skipper) Erynnis tristis (Mournful Duskywing) Erynnis propertius (Propertius Duskywing) Erynnis propertius (Propertius Duskywing) Cochlodes agricola (Rural Skipper) Atlides halesus (Great Purple Hairstreak) Incisalia augustinus (Western Brown Elfin) Callophrys perplexa (Perplexing Hairstreak) Incisalia augustinus (Western Brown Elfin) Callophrys perplexa (Perplexing Hairstreak) Italia Strymon melinus (Gray Hairstreak) Italia Strymon melinus (Mestern Tailed-Blue) Breptotes marina (Mestern Pygmy-Blue) Breptotes marina (Mestern Pygmy-Blue) Breptotes marina (Mestern Tiger Swallowtail) Papilio eurymelova (Mestern Tiger Swallowtail) Papilio eurymelova (Anise Swallowtail) Papilio eurymelova (Anise Swallowtail) Papilio eurymelova (Sara's Orangetip) Prieria rapae (Cabbage White) Colias eurytheme (Orange Sulphur) Colias eurytheme (Orange Sulphur) Colias harfordii (Harford's Sulphur) Bringlet) Colias harfordii (Harford's Sulphur) Bringlet) Others Italia Swallowalia Bringlet) Others		
		Heliopetes ericetorum (Northern White-Skipper)
		Hylephila phyleus (Fiery Skipper)
		Pyrgus albescens (White Checkered-Skipper)
	1441	Erynnis funeralis (Funereal Duskywing)
		Erynnis tristis (Mournful Duskywing)
		Erynnis propertius (Propertius Duskywing)
		Ochlodes agricola (Rural Skipper)
	Lycae	nidae (Hairstreaks)
P S G G G G G G G G G G G G G G G G G G		Atlides halesus (Great Purple Hairstreak)
		Incisalia augustinus (Western Brown Elfin)
	1/1	Callophrys perplexa (Perplexing Hairstreak)
	1//1	Strymon melinus (Gray Hairstreak)
Riodinic Papilior Papilior Pleridae Pieridae Others	三美王	
Riodinic Papilior Papilior Papilior Pleridae Pieridae Pie		Icarcia acmon (Acmon Blue)
Riodinic Papilior Papilior Papilior Pleridae Pieridae Pie		Celastrina ladon (Echo Blue)
Ricdinic Papilion Papilion Papilion Pleridae Others	-	Leptotes marina (Marine Blue)
Ricdinic Papilior Pieridae Others		Philotes sonorensis (Sonoran Blue)
Pieridae Pieridae Others		Plebejus melissa (Melissa Blue)
Pieridae Pieridae Others		Everes amyntula (Western Tailed-Blue)
Papilior Papilior Papilior (I)		Brephidium exilis (Western Pygmy-Blue)
Papilior Pap	Riodir	nidae (Metalmarks)
Papilior Papilior Papilior Cl		Apodemia mormo (Mormon Metalmark)
apilior	11/1	Apodemia virgulti (Behr's Metalmark)
Pieridae Satyrida	Papili	onidae (Swallowtails)
Pieridae Satyrida		Papilio eurymedon (Pale Swallowtail)
satyrida Satyrida Satyrida		Papilio rutulus (Westerr Tiger Swallowtail)
atyrida Satyrida Satyrida		Papilio zelicaon (Anise Swallowtail)
Satyrida	Pierid	ae (Whites and Orangetips)
Satyrida		Anthocharis cethura (Desert Orangetip)
Satyrida Others		Anthocharis sara (Sara's Orangetip)
Satyrida		Pieris rapae (Cabbage White)
Satyrida		Pontia protodice (Checkered White)
Satyridae (Satyrids) Satyridae (Satyrids) Coenonympha californica (Common California Ringlet) Others Sw Cloyd ess Sulohur	1)	Colias eurytheme (Orange Sulphur)
Satyridae (Satyrids) Coenonympha californica (Common California Ringlet) Others SW Cloyd ess Sulphur Sward Sure		Colias harfordii (Harford's Sulphur)
Satyridae (Satyrids) Coenonympha californica (Common California Ringlet) Others SW Cloyd [ess 5010hu r Edward's (reanny)		Eurema nicippe (Sleepy Orange)
1000	Satyri	dae (Satyrids)
SW Cloydless Sul Edward's (Ceraum Blue		Coenonympha californica (Common California Ringlet)
Cloydles Sul wards (Ceraum Blue	Other	144
3156	1	SN Cloudless Sul
Blue	1	d's (Ceraum
		Blue

Notes (host plant locations, QCB occurrences, etc):

Plustago erecta

Custilleja exserta



Project 3662

Surveyor Name. J. Rocks

Date 2/18/15

Survey #

	Time	Temp (°F)	Cover (%)	Wind Speed (avg. mph)
Start	0360	63	0	1
End	2581	44	100	0

	Embridge of the pring Origina Charlestort
	cupriyalas editila dalito (dalito dilecketspat)
	Euphydras chalcedona (Chalcedon Checkspot)
	Charidryas gabbii (Gabb's Checkerspot)
	Phycoides mylitta (Mylitta Crescent)
	Thessalia leanira (Leanira Checkerspot)
	Nymphalis antiopa (Mourning Cloak)
	Basilarchia lorquini (Lorquin's Admiral)
	Junonia coenia (Common Buckeye)
	Vanessa annabella (West Coast Lady)
11/11	Vanessa cardui (Painted Lady)
	Vanessa virginiensis (American Lady)
	Vanessa atalanta (Red Admiral)
Danaidae	96
	Danaus gilippus (Queen)
	Danaus plexippus (Monarch)
Hesperidae	dae
	Heliopetes ericetorum (Northern White-Skipper)
	Hylephila phyleus (Fiery Skipper)
	Pyrgus albescens (White Checkered-Skipper)
=	Erynnis funeralis (Funereal Duskywing)
	Erynnis tristis (Mournful Duskywing)
	Erynnis propertius (Propertius Duskywing)
	Ochlodes agricola (Rural Skipper)

Starting of north end near UC reserve, walking south

Lycae	Lycaenidae (Hairstreaks) Lycaenidae (Hairstreak) Attides halesus (Great Purple Hairstreak)
	Incisalia augustinus (Western Brown Elfin)
	Callophrys perplexa (Perplexing Hairstreak)
	Strymon melinus (Gray Hairstreak)
= #	Glaucopsyche lygdamus (Silvery Blue)
11	Icarcia acmon (Acmon Blue)
	Celastrina ladon (Echo Blue)
_	Leptotes marina (Marine Blue)
	Philotes sonorensis (Sonoran Blue)
	Plebejus melissa (Melissa Blue)
	Everes amyntula (Western Tailed-Blue)
	Brephidium exilis (Western Pygmy-Blue)
Riodir	Riodinidae (Metalmarks)
7	Apodemia mormo virgulti (Behr's Metalmark)
Papilli	Papilionidae (Swallowtails)
	Papilio eurymedon (Pale Swallowtail)
	Papilio rutulus (Western Tiger Swallowtail)
	Papilio zelicaon (Anise Swallowtail)
Pierid	Pieridae (Whites and Orangetips)
	Anthocharis cethura (Desert Orangetip)
	Anthocharis sara (Sara's Orangetip)
	Pieris rapae (Cabbage White)
	Pontia protodice (Checkered White)
	Colias eurytheme (Orange Sulphur)
	Colias harfordii (Harford's Sulphur)
	Eurema nicippe (Sleepy Orange)
	Nathalis iole (Dainty Sulphur)
Satyri	Satyridae (Satyrids)
	Coenonympha californica (Common California
	Ringlet)
Others	1.23
_	SW Cloudless Sulphur

List nectar sources and plant communities observed Fro Mos, Acm 6 la Bra Nig, Viciasp., Eri Fas Mui Man, Cal Cil, Dic Cap

List notes and GPS point names here, please write UTMs or Lat/Longs as backup:

GPS all QCB occurrences

GPS all potential host plant locations (*Plantago* erecta, *Plantago* patagonica, Antirrhinum coulterianum,

Format: plant name_diameter of occurrence_density (low >20% cover per sq foot, medium 20-50%, high >50%)_date_observer

Cordylanthus rigidus, Castilleja exserta, and

Collinsia heterophylla)

Plantage erecta-found numerous particles, some in the 1000s but spread out a low density

(astilles exserta-found 1 individual world a couple of fls. Looking dry)

062908-1 221290-3.1

Tentacheth over - small imultivated of plantyso (particular viewer - fire follower 103 borades

(1) ROCKS GAMEN BIOLOGICAL CONSULTING

Project SDGNE

Surveyor Name: Lee (h. 1 mg

Date 2 18 15 Survey #

	Time	Temp (°F)	Cover (%)	Wind Speed (avg. mph)
Start	Z dis	87.1	1090 Susay	0-1
End	138	34.0	(00 %	9-

10 -11 -11	Control of the contro
	Euphydras editna quino (Quino Checkerspot)
	Euphydras chalcedona (Chalcedon Checkspot)
	Charidryas gabbii (Gabb's Checkerspot)
	Phycoides mylitta (Mylitta Crescent)
	Thessalia leanira (Leanira Checkerspot)
	Nymphalis antiopa (Mourning Cloak)
1	Basilarchia lorquini (Lorquin's Admiral)
5	Junonia coenia (Common Buckeye)
1	Vanessa annabella (West Coast Lady)
>	Vanessa cardui (Painted Lady) 1(
	Vanessa virginiensis (American Lady)
	Vanessa atalanta (Red Admiral)
Danaidae	dae
	Danaus gilippus (Queen)
	Danaus plexippus (Monarch)
Hesperidae	ridae
	Heliopetes ericetorum (Northern White-Skipper)
	Hylephila phyleus (Fiery Skipper)
1	Pyrgus albescens (White Checkered-Skipper)
>	Erynnis funeralis (Funereal Duskywing) 1111
	Erynnis tristis (Mournful Duskywing)
	Erynnis propertius (Propertius Duskywing)
	Ontrade and and all office and

ycae	Lycaenidae (Hairstreaks)
	Atlides halesus (Great Purple Hairstreak)
	Incisalia augustinus (Western Brown Elfin)
1	Callophrys perplexa (Perplexing Hairstreak)
>	Strymon melinus (Gray Hairstreak)
>	Glaucopsyche lygdamus (Silvery Blue)
	Icarcia acmon (Acmon Blue)
	Celastrina ladon (Echo Blue)
	Leptotes marina (Marine Blue)
	Philotes sonorensis (Sonoran Blue)
	Plebejus melissa (Melissa Blue)
	Everes amyntula (Western Tailed-Blue)
	Brephidium exilis (Western Pygmy-Blue)
iodi	Riodinidae (Metalmarks)
>	Apodemia mormo virgulti (Behr's Metalmark)
apilli	Papilionidae (Swallowtails)
	Papilio eurymedon (Pale Swallowtail)
	Papilio rutulus (Western Tiger Swallowtail)
	Papilio zelicaon (Anise Swallowtail)
ierid	Pieridae (Whites and Orangetips)
	Anthocharis cethura (Desert Orangetip)
	Anthocharis sara (Sara's Orangetip)
	Pieris rapae (Cabbage White)
	Pontia protodice (Checkered White)
>	Colias eurytheme (Orange Sulphur) //
	Colias harfordii (Harford's Sulphur)
	Eurema nicippe (Sleepy Orange)
	Nathalis iole (Dainty Sulphur)
atyr	Satyridae (Satyrids)
	Coenonympha californica (Common California
	Ringlet)
Others	S

List nectar sources and plant communities observed

Remis from School Channis Chapt Channis from School Channis Chapt Chairm procest

Rium procest

Pichushana cop

Minita manima

List notes and GPS point names here, please write UTMs or Lat/Longs as backup:

GPS all QCB occurrences GPS all potential host plant locations (*Plantago* erecta, *Plantago patagonica*, *Antirrhinum*

coulterianum,

Cordylanthus rigidus, Castilleja exserta, and Collinsia heterophylla)
Format: plant name_diameter of occurrence_density (low >20% cover per sq foot,

medium 20-50%, high >50%)_date_observer

31190-5



SDG&E Natural Gas System Potential Upgrades

Surveyor Name: Let Wilma

Date 3 13 15 Survey # 2 pishok

Temp Cloud (°F) Cover (%) 70.5 90% 66.0					
1107 70.5 90% 1250 66.0 90%		Time	Temp (°F)	Cover (%)	Wind Speed (avg. mph)
1250 66.0 90%	Start	1(07		90%	3.5
	End	1250	0.39	90%	2-7

Nymphalidae (Brush Footed Butterflies)

Euphydras editha quino (Quino Checkerspot)

Euphydras chalcedona (Chalcedon Checkspot)

Euphydras gabbii (Gabb's Checkerspot)

Charidryas gabbii (Gabb's Checkerspot)

Phycoides mylitta (Mylitta Crescent)

Thessalia leanira (Leanira Checkerspot)

Nymphalis antiopa (Mourning Cloak)

Basilarchia lorquini (Lorquin's Admiral)

Junonia coenia (Common Buckeye)

Vanessa annabella (West Coast Lady)

Vanessa cardui (Painted Lady)

Vanessa atalanta (Red Admiral)

Danaidae

	Danaus gilippus (Queen)
	Danaus plexippus (Monarch)
Hesperidae	aridae
	Heliopetes ericetorum (Northern White-Skipper
	Hylephila phyleus (Fiery Skipper)
,	Pyrgus albescens (White Checkered-Skipper)
>	Erynnis funeralis (Funereal Duskywing)
	Erynnis tristis (Mournful Duskywing)
	Erynnis propertius (Propertius Duskywing)
	Ochlodes agricola (Rural Skipper)

	, , , , , , , , , , , , , , , , , , , ,
	Atlides halesus (Great Purple Hairstreak)
	Incisalia augustinus (Western Brown Elfin)
	Callophrys perplexa (Perplexing Hairstreak)
1	Strymon melinus (Gray Hairstreak)
>	Glaucopsyche lygdamus (Silvery Blue)
	Icarcia acmon (Acmon Blue)
	Celastrina ladon (Echo Blue)
	Leptotes marina (Marine Blue)
	Philotes sonorensis (Sonoran Blue)
	Plebejus melissa (Melissa Blue)
	Everes amyntula (Western Tailed-Blue)
	Brephidium exilis (Western Pygmy-Blue)
Riodir	Riodinidae (Metalmarks)
1	Apodemia mormo virgulti (Behr's Metalmark)
Papilic	Papilionidae (Swallowtails)
	Papilio eurymedon (Pale Swallowtail)
	Papilio rutulus (Western Tiger Swallowtail)
	Papilio zelicaon (Anise Swallowtail)
Pierid	Pieridae (Whites and Orangetips)
	Anthocharis cethura (Desert Orangetip)
	Anthocharis sara (Sara's Orangetip)
	Pieris rapae (Cabbage White)
	Pontia protodice (Checkered White)
	Colias eurytheme (Orange Sulphur)
	Colias harfordii (Harford's Sulphur)
	Eurema nicippe (Sleepy Orange)
	Nathalis iole (Dainty Sulphur)
Satyri	Satyridae (Satyrids)
	Coenonympha californica (Common California
	Ringlet)
Others	8

List nectar sources and plant communities observed

Dish les Arma (ap.

Last Anterhianum authorium m

Les Anterhianum authorium m

Devachechecter aurer (morted, list 4)

Nuttenthus terantle armson glaber lasturia col.

Calaman santi

List notes and GPS point names here, please write UTMs or Lat/Longs as backup:

GPS all QCB occurrences

GPS all potential host plant locations (*Plantago erecta*, *Plantago patagonica*, *Antirrhinum* coulterianum.

Cordylanthus rigidus, Castilleja exserta, and

Collinsia heterophylla)
Format: plant name_diameter of occurrence_density (low, medium,

high)_date_observer

Monitor - acts SD Vinnon Eri. Prs, Letharys



Surveyor Name: Monice Alfano

Date 2/22 115 Survey #

	Lime	Temp (°F)	Cloud Cover (%)	Wind Speed (avg. mph)	
Start	FO:11	7.0f fo:11	61.06	3-5 mph	
End	12:50	0.89 05:61	:106		
1		No.	11.11	Andrew Andrew Contracts of the contracts	See le

Appeal per Low Control and Nymphalidae (Brush Footed Butterflies)

	Euphydras editha quino (Quino Checkerspot)
	Euphydras chalcedona (Chalcedon Checkspot)
	Charidryas gabbii (Gabb's Checkerspot)
	Phycoides mylitta (Mylitta Crescent)
	Thessalia leanira (Leanira Checkerspot)
	Nymphalis antiopa (Mourning Cloak)
	Basilarchia lorquini (Lorquin's Admiral)
	Junonia coenia (Common Buckeye)
	Vanessa annabella (West Coast Lady)
X	Vanessa cardui (Painted Lady)
	Vanessa virginiensis (American Lady)
	Vanessa atalanta (Red Admiral)
Danaidae	dae

Danaus gilippus (Queen)
Danaus plexippus (Monarch)

nespellase	aridae
	Heliopetes ericetorum (Northern White-Skipp
	Hylephila phyleus (Fiery Skipper)
	Pyrgus albescens (White Checkered-Skipper
,	Erynnis funeralis (Funereal Duskywing)
	Erynnis tristis (Mournful Duskywing)
	Erynnis propertius (Propertius Duskywing)
	Ochlodes agricola (Rural Skipper)

(Jac

Lycae	Lycaenidae (Hairstreaks)
	Atlides halesus (Great Purple Hairstreak)
	Incisalia augustinus (Western Brown Elfin)
	Callophrys perplexa (Perplexing Hairstreak)
	Strymon melinus (Gray Hairstreak)
	Glaucopsyche lygdamus (Silvery Blue)
	Icarcia acmon (Acmon Blue)
	Celastrina ladon (Echo Blue)
	Leptotes marina (Marine Blue)
	Philotes sonorensis (Sonoran Blue)
	Plebejus melissa (Melissa Blue)
	Everes amyntula (Western Tailed-Blue)
	Brephidium exilis (Western Pygmy-Blue)
Riodir	Riodinidae (Metalmarks)
	Apodemia mormo virgulti (Behr's Metalmark)
Papille	Papilionidae (Swallowtails)
	Papilio eurymedon (Pale Swallowtail)
	Papilio rutulus (Western Tiger Swallowtail)
	Papilio zelicaon (Anise Swallowtail)
Pierid	Pieridae (Whites and Orangetips)
	Anthocharis cethura (Desert Orangetip)
	Anthocharis sara (Sara's Orangetip)
	Pieris rapae (Cabbage White)
	Pontia protodice (Checkered White)
	Colias eurytheme (Orange Sulphur)
	Colias harfordii (Harford's Sulphur)
	Eurema nicippe (Sleepy Orange)
	Nathalis iole (Dainty Sulphur)
Satyri	Satyridae (Satyrlds)
	Coenonympha californica (Common California Binglet)
Others	

List nectar sources and plant communities observed wild hyman had followed from from from from from from

3435257 414 d.am 10d



Surveyor Name: Lee Pipma Date 2 24 15 Survey # 2 Main arter

	Time	Temp (°F)	Cover (%)	Wind Speed (avg. mph)
Start	4409	75.5	0%	4-4
End	5191	41.3	0%	1-1

Z III	Nympriandae (brush rooted buttermes)
	Euphydras editha quino (Quino Checkerspot)
	Euphydras chalcedona (Chalcedon Checkspot)
	Charidryas gabbii (Gabb's Checkerspot)
	Phycoides mylitta (Mylitta Crescent)
	Thessalia leanira (Leanira Checkerspot)
	Nymphalis antiopa (Mourning Cloak)
	Basilarchia Iorquini (Lorquin's Admiral)
	Junonia coenia (Common Buckeye)
1	Vanessa annabella (West Coast Lady)
>	Vanessa cardui (Painted Lady)
	Vanessa virginiensis (American Lady)
	Vanessa atalanta (Red Admiral)
Danaidae	ае
	Danaus gilippus (Queen)
	Danaus plexippus (Monarch)
Hesperidae	ridae
	Heliopetes ericetorum (Northern White-Skipper)
	Hylephila phyleus (Fiery Skipper)
1	Pyrgus albescens (White Checkered-Skipper)
>	Erynnis funeralis (Funereal Duskywing)
	Erynnis tristis (Mournful Duskywing)
	Erynnis propertius (Propertius Duskywing)
	Ochlodos agricola (Bural Chipper)

Lycae	Lycaenidae (Hairstreaks)
	Attides halesus (Great Purple Hairstreak)
	Incisalia augustinus (Western Brown Elfin)
	Callophrys perplexa (Perplexing Hairstreak)
/	Strymon melinus (Gray Hairstreak)
>	Glaucopsyche lygdamus (Silvery Blue) 1111
	Icarcia acmon (Acmon Blue)
	Celastrina ladon (Echo Blue)
	Leptotes marina (Marine Blue)
	Philotes sonorensis (Sonoran Blue)
	Plebejus melissa (Melissa Blue)
	Everes amyntula (Western Tailed-Blue)
	Brephidium exilis (Western Pygmy-Blue)
Riodir	Riodinidae (Metalmarks)
>	Apodemia mormo virgulti (Behr's Metalmark) (
Papille	Papilionidae (Swallowtails)
	Papilio eurymedon (Pale Swallowtail)
	Papilio rutulus (Western Tiger Swallowtail)
	Papilio zelicaon (Anise Swallowtail)
Pierid	Pieridae (Whites and Orangetips)
	Anthocharis cethura (Desert Orangetip)
	Anthocharis sara (Sara's Orangetip)
	Pieris rapae (Cabbage White)
	Pontia protodice (Checkered White)
	Colias eurytheme (Orange Sulphur)
	Colias harfordii (Harford's Sulphur)
	Eurema nicippe (Sleepy Orange)
	Nathalis iole (Dainty Sulphur)
Satyri	Satyridae (Satyrids)
	Coenonympha californica (Common California Ringlet)
Others	

List nectar sources and plant communities observed

Eri. Fas.

Allium pracet

Dicholoshina cnp.

Remispin glober

Psendognat. (ne.

Psendognat. (ne.

List notes and GPS point names here, please write UTMs or Lat/Longs as backup: GPS all QCB occurrences GPS all potential host plant locations (Plantago

4631 Mttorde 2 sets

GPS all OCD occurrences
GPS all potential host plant locations (*Plantago* erecta, *Plantago patagonica*, *Antirrhinum* coulterianum,
Cordylanthus rigidus, Castilleja exserta, and

Collinsia heterophylla)
Format: plant name_diameter of occurrence_density (low, medium, high)_date_observer

One additione pt. of castillega exute mapped, all other thethe poctplants mapped alreading



Project PIPELINE 3602

Surveyor Name: MELAJIE DICUS

Survey # Date 62-25-2015

	Time	Temp (°F)	Cover (%)	Wind Speed (avg. mph)
Start	01:01	63.9	7	1-0
End	13:30	75	Ø	4-2

Sing	Manual Color Date III
	Euphydras editha quino (Quino Checkerspot)
	Euphydras chalcedona (Chalcedon Checkspot)
	Charidryas gabbii (Gabb's Checkerspot)
	Phycoides mylitta (Mylitta Crescent)
	Thessalia leanira (Leanira Checkerspot)
	Nymphalis antiopa (Mourning Cloak)
	Basilarchia forquini (Lorquin's Admiral)
	Junonia coenia (Common Buckeye)
	Vanessa annabella (West Coast Lady)
×	Vanessa cardui (Painted Lady)
	Vanessa virginiensis (American Lady)
	Vanessa atalanta (Red Admiral)
Danaidae	dae
	Danaus gilippus (Queen)
×	Danaus plexippus (Monarch)
Hespe	Hesperidae
	Heliopetes ericetorum (Northern White-Skipper)
	Hylephila phyleus (Fiery Skipper)
	Pyrgus albescens (White Checkered-Skipper)
×	Erynnis funeralis (Funereal Duskywing)
	Erynnis tristis (Mournful Duskywing)
	Erynnis propertius (Propertius Duskywing)
	Ochlodoc gariooto (Bural Climpar)

ycae	Lycaenidae (Hairstreaks)
	Attides halesus (Great Purple Hairstreak)
	Incisalia augustinus (Western Brown Elfin)
X	Callophrys perplexa (Perplexing Hairstreak)
	Strymon melinus (Gray Hairstreak)
×	Glaucopsyche lygdamus (Silvery Blue)
	Icarcia acmon (Acmon Blue)
	Celastrina ladon (Echo Blue)
	Leptotes marina (Marine Blue)
	Philotes sonorensis (Sonoran Blue)
	Plebejus melissa (Melissa Blue)
	Everes amyntula (Western Tailed-Blue)
	Brephidium exilis (Western Pygmy-Blue)
lodi	Riodinidae (Metalmarks)
+	Apodemia mormo virguiti (Behr's Metalmark)
apilli	Papilionidae (Swallowtails)
	Papilio eurymedon (Pale Swallowtail)
	Papilio rutulus (Western Tiger Swallowtail)
	Papilio zelicaon (Anise Swallowtail)
ieria	Pieridae (Whites and Orangetips)
	Anthocharis cethura (Desert Orangetip)
	Anthocharis sara (Sara's Orangetip)
	Pieris rapae (Cabbage White)
	Pontia protodice (Checkered White)
×	Colias eurytherne (Orange Sulphur)
	Colias harfordii (Harford's Sulphur)
	Eurema nicippe (Sleepy Orange)
	Nathalis iole (Dainty Sulphur)
atyr	Satyridae (Satyrids)
	Coenonympha californica (Common California Ringlet)
Others	100

ISOCONA MENZIESII, SISTRAMICAIN SELLA DICUTEL OSTEMMA CAPITATA, ACMISPON GOLABOL, Oleobraman FASCICULATUR PLALMO BORNINGS SP, HELANTHEMM List nectar sources and plant communities CRYPTANTHA SP, AMSINCEIA SP, CHAMISE CHAPARRAL, CSS observed

List notes and GPS point names here, please write UTMs or Lat/Longs as backup:

GPS all potential host plant locations (Plantago GPS all QCB occurrences

erecta, Plantago patagonica, Antirrhinum coulterianum,

Cordylanthus rigidus, Castilleja exserta, and

Collinsia heterophylla)

occurrence_density (low >20% cover per sq foot, medium 20-50%, high >50%)_date_observer Format: plant name_diameter of



Project 5065 3602 propering Surveyor Name: B. Lahstabh Date 2/25/15 Survey # 2

Time Temp (°F)	1010 63.9	1330 75
cover (%)	1 CLR%	= CLRd.
Wind Speed (avg. mph)	0-9	400/1-2

Tay in the	(a) in the same of
	Euphydras editha quino (Quino Checkerspot)
	Euphydras chalcedona (Chalcedon Checkspot)
	Charidryas gabbii (Gabb's Checkerspot)
	Phycoides mylitta (Mylitta Crescent)
	Thessalia leanira (Leanira Checkerspot)
	Nymphalis antiopa (Mourning Cloak)
	Basilarchia Iorquini (Lorquin's Admiral)
	Junonia coenia (Common Buckeye)
	Vanessa annabella (West Coast Lady)
-	Vanessa cardui (Painted Lady)
	Vanessa virginiensis (American Lady)
	Vanessa atalanta (Red Admiral)
Danaidae	lae
	Danaus gilippus (Queen)
-	Danaus plexippus (Monarch)
Hesperidae	ridae
	Heliopetes ericetorum (Northern White-Skipper)
	Hylephila phyleus (Fiery Skipper)
	Pyrgus albescens (White Checkered-Skipper)
1917	Erynnis funeralis (Funereal Duskywing)
	Erynnis tristis (Mournful Duskywing)
	Erynnis propertius (Propertius Duskywing)
	Control of the contro

Lycae	Lycaenidae (Hairstreaks)
	Atlides halesus (Great Purple Hairstreak)
	Incisalia augustinus (Western Brown Elfin)
_	Callophrys perplexa (Perplexing Hairstreak)
	Strymon melinus (Gray Hairstreak)
Z	Glaucopsyche lygdamus (Silvery Blue)
	Icarcia acmon (Acmon Blue)
	Celastrina ladon (Echo Blue)
_	Leptotes marina (Marine Blue)
	Philotes sonorensis (Sonoran Blue)
	Plebejus melissa (Melissa Blue)
	Everes amyntula (Western Tailed-Blue)
	Brephidium exilis (Western Pygmy-Blue)
Riodi	Riodinidae (Metalmarks)
美	Apodemia mormo virgulti (Behr's Metalmark)
Papili	Papilionidae (Swallowtails)
	Papilio eurymedon (Pale Swallowtail)
	Papilio rutulus (Western Tiger Swallowtail)
	Papilio zelicaon (Anise Swallowtail)
Pierio	Pieridae (Whites and Orangetips)
	Anthocharis cethura (Desert Orangetip)
	Anthocharis sara (Sara's Orangetip)
	Pieris rapae (Cabbage White)
	Pontia protodice (Checkered White)
是工	Colias eurytheme (Orange Sulphur)
	Colias harfordii (Inarford's Sulphur)
	Eurema nicippe (Sleepy Orange)
	Nathalis iole (Dainty Sulphur)
Satyr	Satyridae (Satyrids)
	Coenonympha californica (Common California
	Ringlet)
Others	8

ties	Mintelless Liveran Coll. Silve God Dochectle
plant communit	Ceanofficers. Minnolessemmidenia del Levano con felloum silvan silvan silvan silvan silvan silvan sedathum silvan prochesilvan prochesi
List nectar sources and plant communities	Achiston sup Eister pontobein Dien ent Los out (150 light (150 light Spayinin

List notes and GPS point names here, please write UTMs or Lat/Longs as backup: GPS all QCB occurrences GPS all potential host plant locations (Plantago erecta, Plantago patagonica, Antirrhinum coulterianum, Cordylanthus rigidus, Castilleja exserta, and

Collinsia heterophylla)
Format: plant name_diameter of occurrence_density (low >20% cover per sq foot, medium 20-50%, high >50%)_date_observer



Project Pipeline 3602

Surveyor Name: LCL Pipmy

Survey # Date 2 25 115

6

	Time	Temp (°F)	Cloud Cover (%)	Wind Speed (avg. mph)
Start	000	63.9	0	
End	1330	X	0	Co

2	(c)
	Euphydras editha quino (Quino Checkerspot)
	Euphydras chalcedona (Chalcedon Checkspot)
	Charidryas gabbii (Gabb's Checkerspot)
	Phycoides mylitta (Mylitta Crescent)
	Thessalia leanira (Leanira Checkerspot)
	Nymphalis antiopa (Mourning Cloak)
	Basilarchia Iorquini (Lorquin's Admiral)
	Junonia coenia (Common Buckeye)
	Vanessa annabella (West Coast Lady)
>	Vanessa cardui (Painted Lady)
	Vanessa virginiensis (American Lady)
	Vanessa atalanta (Red Admiral)
Danaidae	lae
	Danaus gilippus (Queen)
>	Danaus plexippus (Monarch)
Hesperidae	ridae
	Heliopetes ericetorum (Northern White-Skipper)
	Hylephila phyleus (Fiery Skipper)
1	Pyrgus albescens (White Checkered-Skipper)
>	Erynnis funeralis (Funereal Duskywing) 👭 📗
	Erynnis tristis (Mournful Duskywing)
	Erynnis propertius (Propertius Duskywing)
	Ochlodoc pariools (Dural Okianor)

	Alicha halacita (Groot Directook)
	Amaes natesus (Great Purple Hallstreak)
	Incisalia augustinus (Western Brown Elfin)
>	Callophrys perplexa (Perplexing Hairstreak)
1	Strymon melinus (Gray Hairstreak)
1	Glaucopsyche lygdamus (Silvery Blue) 144 M
	Icarcia acmon (Acmon Blue)
7	Celastrina ladon (Echo Blue)
1	Leptotes marina (Marine Blue)
	Philotes sonorensis (Sonoran Blue)
	Plebejus melissa (Melissa Blue)
	Everes amyntula (Western Tailed-Blue)
	Brephidium exilis (Western Pygmy-Blue)
Riodini	Riodinidae (Metalmarks)
1	Apodemia mormo virgulti (Behr's Metalmark) 141
apillo	Papilionidae (Swallowtails)
	Papilio eurymedon (Pale Swallowtail)
	Papilio rutulus (Western Tiger Swallowtail)
	Papilio zelicaon (Anise Swallowtail)
)ierida	Pieridae (Whites and Orangetips)
	Anthocharis cethura (Desert Orangetip)
	Anthocharis sara (Sara's Orangetip)
	Pieris rapae (Cabbage White)
1	Pontia protodice (Checkered White)
,	Colias eurytheme (Orange Sulphur) 11
	Colias harfordii (Harford's Sulphur)
	Eurema nicippe (Sleepy Orange)
	Nathalis iole (Dainty Sulphur)
Satyrid	Satyridae (Satyrids)
	Coenonympha californica (Common California
	Ringlet)
Others	
	Water of Tileto Channels Williams
1	

List nectar sources and plant communities LASTARNIA CAL Dicklestona S Allian DIRECTO observed

List notes and GPS point names here, please write UTMs or Lat/Longs as backup:

Lycaenidae (Hairstreaks)

GPS all potential host plant locations (Plantago erecta, Plantago patagonica, Antirrhinum GPS all QCB occurrences coulterianum,

Cordylanthus rigidus, Castilleja exserta, and Collinsia heterophylla)

occurrence_density (low >20% cover per sq foot, medium 20-50%, high >50%)_date_observer Format: plant name_diameter of

Marked Char. poly lagispin pop so sop



Surveyor Name: (SARCETT HUFF MAN)
Date 3 4 15 Survey # 3

	Time	Temp	Cloud	Wind Speed
		(°F)	Cover (%)	(avg. mph)
Start	0060	62	Ø	7-0
End	1330	49	150	3-7

Nym	Nymphalidae (Brush Footed Butterflies)
	Euphydras editha quino (Quino Checkerspot)
	Euphydras chalcedona (Chalcedon Checkspot)
	Charidryas gabbii (Gabb's Checkerspot)
	Phycoides mylitta (Mylitta Crescent)
	Thessalia leanira (Leanira Checkerspot)
	Nymphalis antiopa (Mourning Cloak)
	Basilarchia lorquini (Lorquin's Admiral)
	Junonia coenia (Common Buckeye)
	Vanessa annabella (West Coast Lady)
20	Vanessa cardui (Painted Lady)
	Vanessa virginiensis (American Lady)
	Vanessa atalanta (Red Admiral)
Danaidae	dae
	Danaus gilippus (Queen)
	Danaus plexippus (Monarch)
Hesp	Mesperidae
	Heliopetes ericetorum (Northern White-Skipper)
	Hylephila phyleus (Fiery Skipper)
	Pyrgus albescens (White Checkered-Skipper)
60	Erynnis funeralis (Funereal Duskywing)
	Erynnis tristis (Mournful Duskywing)
	Erynnis propertius (Propertius Duskywing)
	Ochlodes agricola (Rural Skipper)
	Collictes agricula (nuiai onippei)

Lycaer	Lycaenidae (Hairstreaks)
	Atlides halesus (Great Purple Hairstreak)
	Incisalia augustinus (Western Brown Elfin)
	Callophrys perplexa (Perplexing Hairstreak)
	Strymon melinus (Gray Hairstreak)
0	Glaucopsyche lygdamus (Silvery Blue)
	Icarcia acmon (Acmon Blue)
	Celastrina ladon (Echo Blue)
	Leptotes marina (Marine Blue)
	Philotes soncrensis (Sonoran Blue)
	Flebejus.melissa (Melissa Blue)
	Everes amyntula (Western Tailed-Blue)
	Brephidium exilis (Western Pygrny-Blue)
Riodin	Riodinidae (Metalmarks)
ū	Apodemia monno virgulti (Behr's Metalmark)
Papilic	Papilionidae (Swallowtails)
	Fapilio eurymedon (Pale Swallowtail)
	Papilio rutulus (Western Tiger Swallowtail)
	Fapilio zelicaon (Anise Swallowtail)
Pisrida	Pieridae (Whites and Orangetips)
	Anthocharis cethura (Desert Orangetip)
	Anthocharis sara (Sara's Orangetip)
	Pieris rapae (Cabbage White)
	Pontia protodice (Checkered White)
30	Colias eurytherne (Orange Sulphur)
	Colias harfordii (Harford's Sulphur)
	Eureima nicipoe (Sleepy Orange)
	Nathalis iole (Dainty Sulphur)
Satyric	Satyridae (Satyrids)
	Coerronympha californica (Common California
	Ringlet)
Others	3 754

List nectar sources and plant communities observed Chanise CNA preade, CSS: Earlo communities observed Chanise CNA preade, CSS: Earlo commo contrara, Allum Almises Chanea, Catalante Canas fust itus, Catalante Canas fust itus, Catalante Canas fusi s, minuus Canas fusi s, minuus

List notes and GPS point names here, pleasewrite UTMs or Lat/Longs as backup:
GPS all QCB occurrences
GPS all QCB occurrences
GPS all potential host plant locations (*Plantago erecta*, *Plantago patagonica*, *Antirrhinum* coulterianum, *Cordylanthus rigidus*, *Castilleja exserta*, and *Collinsia heterophylla*)
Format: plant name_diameter of occurrence_density (low >20% cover per sq foot, medium 20-50%, high >50%)_date_observer



Project Manuar 3602

Surveyor Name: B. Lolystroly

Date 2/4/15 Survey #___

	Time	Temp (°F)	Cloud Cover (%)	Wind Speed (avg. mph)
Start	Tho	20	0	0-2.10
End	1330	6 7	0	t-2

	Nvmp	Nymphalidae (Brush Footed Butterflies)
		Euphydras editha quino (Quino Checkerspot)
		Euphydras chalcedona (Chalcedon Checkspot)
		Charidryas gabbii (Gabb's Checkerspot)
		Phycoides mylitta (Mylitta Crescent)
		Thessalia leanira (Leanira Checkerspot)
		Nymphalis antiopa (Mourning Cloak)
		Basilarchia Iorquini (Lorquin's Admiral)
ı	-	Junonia coenia (Common Buckeye)
		Vanessa annabella (West Coast Lady)
	Ī	Vanessa cardui (Painted Lady)
		Vanessa virginiensis (American Lady)
	_	Vanessa atalanta (Red Admiral)
	Danaidae	lae
		Danaus gilippus (Queen)
		Danaus plexippus (Monarch)
	Hesperidae	ridae
		Heliopetes ericetorum (Northern White-Skipper)
•		Hylephila phyleus (Fiery Skipper)
A 187		Pyrqus albescens (White Checkered-Skipper)
建	7	Erynnis funeralis (Funereal Duskywing)
しまた		Erynnis tristis (Mournful Duskywing)
		Erynnis propertius (Propertius Duskywing)
		Ochlodes agricola (Rural Skipper)

Lycaeni	Lycaenidae (Hairstreaks)
	Atlides halesus (Great Purple Hairstreak)
	Incisalia augustinus (Western Brown Elfin)
	Callophrys perplexa (Perplexing Hairstreak)
	Strymon melinus (Gray Hairstreak)
W W W	Glaucopsyche lygdamus (Silvery Blue)
1	Icarcia acmon (Acmon Blue)
	Celastrina ladon (Echo Blue)
建美	Leptotes marina (Marine Blue)
	Philotes sonorensis (Sonoran Blue)
	Plebejus melissa (Melissa Blue)
	Everes amyntula (Western Tailed-Blue)
	Brephidium exilis (Western Pygmy-Blue)
Riodini	Riodinidae (Metalmarks)
THINK!	Apodemia mormo virgulti (Behr's Metalmark)
۵	_
	Papilio eurymedon (Pale Swallowtail)
	Papilio rutulus (Western Tiger Swallowtail)
	Papilio zelicaon (Anise Swallowtail)
Pierida	Pieridae (Whites and Orangetips)
	Anthocharis cethura (Desert Orangetip)
	Anthocharis sara (Sara's Orangetip)
	Pieris rapae (Cabbage White)
	Pontia protodice (Checkered White)
£	Colias eurytheme (Orange Sulphur)
	Colias harfordii (Harford's Sulphur)
	Eurema nicippe (Sleepy Orange)
	Nathalis iole (Dainty Sulphur)
Satyric	atyridae (Satyrids)
	Coenonympha californica (Common California
	Ringlet)
Others	

List nectar sources and plant communities Dich cop observed endum Achistophic Solonium Dich cop observed endum Achistophic Solonium Picia, Explanding Achistophic Explanding Colling Poly Hill glab, colling the colling poly for plant property of colling pen colling pen colling pen colling pen colling pending pe

List notes and GPS point names here, please write UTMs or Lat/Longs as backup: GPS all QCB occurrences GPS all potential host plant locations (Plantago erecta, Plantago patagonica, Antirrhinum

coulterianum, Cordylanthus rigidus, Castilleja exserta, and

Collinsia heterophylla)
Format: plant name_diameter of
occurrence_density (low >20% cover per sq foot,
medium 20-50%, high >50%)_date_observer



Surveyor Name: MEANIE DICUS

03-04-2015 Survey # Date

	Time	Temp	Clond	Wind Speed
		(°F)	Cover (%)	(avg. mph)
Start	0060	729	Ø	7-8
End	1330	19	Ø	3-7

Euphydras editha quino (Quino Checkerspot) Euphydras chalcedona (Chalcedon Checkspot) Charidryas gabbii (Gabb's Checkerspot) Phycoides mylitta (Mylitta Crescent) Thessalia leanira (Leanira Checkerspot) Nymphalis antiopa (Mourning Cloak) Basilarchia lorquini (Lorquin's Admiral) Junonia coenia (Common Buckeye) Vanessa annabella (West Coast Lady) Vanessa annabella (West Coast Lady) Vanessa aradanta (Red Admiral) Danaus gliippus (Queen) Danaus gliippus (Queen) Heliopetes ericetorum (Northern White-Skipper) Hylephila phyleus (Fiery Skipper) Pyrgus albescens (White Checkered-Skipper) Erynnis tuneralis (Funereal Duskywing) Erynnis tristis (Mournful Duskywing) Erynnis propertius (Popertius Duskywing)	Nvmot	Nymphalidae (Brush Footed Butterflies)
Euphydras chalcedona (Chalcedon Checkerspot) Charidryas gabbii (Gabb's Checkerspot) Phycoides mylitata (Mylitta Crescent) Thessalia leanira (Leanira Checkerspot) Thessalia leanira (Leanira Checkerspot) Nymphalis antiopa (Mourning Cloak) Basilarchia lorquini (Lorquin's Admiral) Junonia coenia (Common Buckeye) Vanessa annabella (West Coast Lady) Vanessa annabella (West Coast Lady) Vanessa aradui (Painted Lady) Vanessa atalanta (Red Admiral) Danaus glippus (Queen) Danaus plexippus (Monarch) Hesperidae Heliopetes ericetorum (Northern White: Heliopetes ericetorum (Northern White: Heliopetes ericetorum (Northern White: Hylephila phyleus (Fiery Skipper) Pyrgus albescens (White Checkered-Sk Erynnis funeralis (Funereal Duskywing) Erynnis tristis (Mournful Duskywing) Erynnis propertius (Propertius Duskywin		Euphydras editha quino (Quino Checkerspot)
Charidryas gabbii (Gabb's Checkerspot) Phycoides mylitta (Mylitta Crescent) Thessalia leanira (Leanira Checkerspot) Nymphalis antiopa (Mourning Cloak) Basilarchia lorquini (Lorquin's Admira) Junonia coenia (Common Buckeye) Vanessa annabella (West Coast Lady) Vanessa aradui (Painted Lady) Vanessa virginiensis (American Lady) Vanessa virginiensis (American Lady) Danaus gilippus (Queen) Danaus gilippus (Queen) Danaus plexippus (Monarch) Hylephila phyleus (Fiery Skipper) Hylephila phyleus (Fiery Skipper) Erynnis funeralis (Funereal Duskywing) Erynnis tristis (Mournful Duskywing) Erynnis propertius (Propertius Duskywing		Euphydras chalcedona (Chalcedon Checkspot)
Phycoides mylitta (Mylitta Crescent) Thessalia leanira (Leanira Checkerspot) Nymphalis antiopa (Mourning Cloak) Basilarchia lorquini (Lorquin's Admiral) Junonia coenia (Common Buckeye) Vanessa annabella (West Coast Lady) Vanessa aradui (Painted Lady) Vanessa virginiensis (American Lady) Vanessa atalanta (Red Admiral) Danaus gilippus (Queen) Danaus plexippus (Monarch) Hylephila phyleus (Fiery Skipper) Hylephila phyleus (Fiery Skipper) Hylephila phyleus (Fiery Skipper) Erynnis tuneralis (Funereal Duskywing) Erynnis propertius (Propertius Duskywing)		Charidryas gabbii (Gabb's Checkerspot)
Thessalia leanira (Leanira Checkerspol) Nymphalis antiopa (Mourning Cloak) Basilarchia lorquini (Lorquin's Admiral) Junonia coenia (Common Buckeye) Vanessa annabella (West Coast Lady) Vanessa annabella (West Coast Lady) Vanessa virginiensis (American Lady) Vanessa virginiensis (American Lady) Vanessa atalanta (Red Admiral) Danaus gilippus (Queen) Danaus gilippus (Queen) Danaus gilippus (Queen) Hesperidae Heliopetes ericetorum (Northern White-Shigh Byrgus albescens (White Checkered-Skangus albescens (White Checkered-Skangus Erynnis funeralis (Funereal Duskywing) Erynnis propertius (Propertius Duskywing Skipper)		Phycoides mylitta (Mylitta Crescent)
Nymphalis antiopa (Mourning Cloak) Basilarchia lorquini (Lorquin's Admiral) Junonia coenia (Common Buckeye) Vanessa annabella (West Coast Lady) Vanessa annabella (West Coast Lady) Vanessa analanta (Painted Lady) Vanessa atalanta (Red Admiral) Vanessa atalanta (Red Admiral) Danaus glippus (Queen) Danaus glippus (Queen) Danaus glippus (Gueen) Hesperidae Hylephila phyleus (Fiery Skipper) Hylephila phyleus (Fiery Skipper) Hylephila phyleus (Fiery Skipper) Fyrgus albescens (White Checkered-Skippus Erynnis funeralis (Funereal Duskywing) Erynnis propertius (Propertius Duskywing) Erynnis propertius (Propertius Buskywing) Cohindes anticola (Rural Skipper)		Thessalia leanira (Leanira Checkerspot)
Basilarchia lorquini (Lorquin's Admira) Junonia coenia (Common Buckeye) Vanessa annabella (West Coast Lady) Vanessa cardui (Painted Lady) Vanessa virginiensis (American Lady) Vanessa virginiensis (American Lady) Vanessa virginiensis (American Lady) Vanessa atalanta (Red Admiral) Danaus glippus (Queen) Danaus glippus (Queen) Hylephila phyleus (Fiery Skipper) Hylephila phyleus (Fiery Skipper) Hylephila phyleus (Fiery Skipper) Erynnis funeralis (Funereal Duskywing) Erynnis propertius (Propertius Duskywing Cerhades anricola (Rural Skipper) Cerhades anricola (Rural Skipper)		Nymphalis antiopa (Mourning Cloak)
Junonia coenia (Common Buckeye) Junonia coenia (Common Buckeye) Vanessa annabella (West Coast Lady) Vanessa aradiniensis (American Lady) Vanessa virginiensis (American Lady) Vanessa atalanta (Red Admiral) Danaus glippus (Queen) Danaus glippus (Queen) Danaus plexippus (Monarch) Heliopetes ericetorum (Northern White: Heliopetes ericetorum (Northern White: Hylephila phyleus (Fiery Skipper) Pyrgus albescens (White Checkered-Skippus albescens (White Checkered-Skippus tristis (Mountul Duskywing) Erynnis tristis (Mountul Duskywing) Erynnis propertius (Propertius Duskywing) Erynnis propertius (Propertius Buskywing) Erynnis propertius (Rural Skipper) Ochiodes anricola (Bural Skipper		Basilarchia lorquini (Lorquin's Admiral)
Vanessa annabella (West Coast Lady) Vanessa cardui (Painted Lady) Vanessa virginiensis (American Lady) Vanessa atalanta (Red Admiral) Danals glippus (Queen) Danaus glippus (Queen) Danaus plexippus (Monarch) Heliopetes ericetorum (Northern White-Heliopetes ericetorum (Northern White-Yrygus albescens (White Checkered-Sk Pyrgus albescens (White Checkered-Sk Erynnis funeralis (Funereal Duskywing) Erynnis propertius (Propertius Duskywing) Erynnis propertius (Propertius Duskywing)		Junonia coenia (Common Buckeye)
Vanessa cardui (Painted Lady) Vanessa virginiensis (American Lady) Vanessa virginiensis (American Lady) Vanessa atalanta (Red Admiral) Danaus glippus (Queen) Danaus glippus (Queen) Danaus plexippus (Monarch) Heliopetes ericetorum (Northern White-\text{Hophila phyleus (Fiery Skipper)} Hylephila phyleus (Fiery Skipper) Pyrgus albescens (White Checkered-Skippus albestywing) Erynnis tristis (Mountul Duskywing) Erynnis propertius (Propertius Duskywing)		Vanessa annabella (West Coast Lady)
Vanessa virginiensis (American Lady) Vanessa atalanta (Red Admiral) Danalo gilippus (Queen) Danaus plexippus (Monarch) Hesperidae Heliopetes ericetorum (Northern White: Hylephila phyleus (Fiery Skipper) Pyrgus albescens (White Checkered-Sk Pyrgus albescens (White Checkered-Sk Erynnis funeralis (Funereal Duskywing) Erynnis propertius (Propertius Duskywing) Erynnis propertius (Propertius Duskywing)	11	Vanessa cardui (Painted Lady)
Danaidae Danaus gilippus (Queen) Danaus plexippus (Monarch) Hesperidae Heliopetes ericetorum (Northern White: Hylephila phyleus (Fiery Skipper) Pyrgus albescens (White Checkered-Skippus albescens (Municipus albescens albes		Vanessa virginiensis (American Lady)
Hesperidae Danaus gilippus (Queen) Danaus gilippus (Monarch) Hesperidae Heliopetes ericetorum (Northern White-Stygus albescens (White Checkered-Sk Pyrgus albescens (White Checkered-Sk Erynnis funeralis (Funereal Duskywing) Erynnis propertius (Propertius Duskywing) Erynnis propertius (Propertius Duskywing)	1	Vanessa atalanta (Red Admiral)
Hesperidae Hesperidae Hesperidae Heliopetes ericetorum (Northern White-Shippus (Hornis phyleus (Fiery Skipper) Hylephila phyleus (Fiery Skipper) Pyrgus albescens (White Checkered-Skippus Erynnis tristis (Mournful Duskywing) Erynnis propertius (Propertius Duskywing)	Danaic	lae
Hesperidae Hesperidae Heliopetes ericetorum (Northern White-Strate) Hylephila phyleus (Fiery Skipper) Hydephila phyleus (Fiery Skipper) Hydephila phyleus (Fiery Skipper) Hygus albescens (White Checkered-Skipper) Erynnis funeralis (Funereal Duskywing) Erynnis propertius (Mournful Duskywing) Erynnis propertius (Propertius Duskywing)		Danaus gilippus (Queen)
Hesperidae Heliopetes ericetorum (Northern White-State Pyrgus albescens (White Checkered-Sk Pyrgus albescens (White Checkered-Sk Erynnis tuneralis (Funereal Duskywing) Erynnis propertius (Propertius Duskywing) Erynnis propertius (Propertius Duskywing)		Danaus plexippus (Monarch)
Heliopetes ericetorum (Northern White-Stage) Hylephila phyleus (Flery Skipper) Pyrgus albescens (White Checkered-Sk Erynnis funeralis (Funereal Duskywing) Erynnis propertius (Mournful Duskywing) Erynnis propertius (Propertius Duskywing)	Hespe	ridae
Hylephila phyleus (Fiery Skipper) Pyrgus albescens (White Checkered-Sk Erynnis funeralis (Funereal Duskywing) Erynnis tristis (Mournful Duskywing) Erynnis propertius (Propertius Duskywing)		Heliopetes ericetorum (Northern White-Skipper)
HO Erynnis funeralis (Funereal Duskywing) Erynnis tristis (Mournful Duskywing) Erynnis propertius (Propertius Duskywing) Chindes anticola (Bural Skipper)		Hylephila phyleus (Fiery Skipper)
Erynnis funeralis (Funereal Duskywing) Erynnis tristis (Mournful Duskywing) Erynnis propertius (Propertius Duskywing) Cochodes arricola (Bural Skipper)		Pyrqus albescens (White Checkered-Skipper)
Erynnis tristis (Mournful Duskywing) Erynnis propertius (Propertius Duskywin	On	Erynnis funeralis (Funereal Duskywing)
Erynnis propertius (Propertius Duskywin	K	Erynnis tristis (Mournful Duskywing)
Controdes agricola (Rural Skipper)		Erynnis propertius (Propertius Duskywing)
Colloges agricon ()		Ochlodes agricola (Rural Skipper)

Lycaen	Lycaenidae (Hairstreaks)
	Attides halesus (Great Purple Hairstreak)
	Incisalia augustinus (Western Brown Elfin)
	Callophrys perplexa (Perplexing Hairstreak)
	Strymon melinus (Gray Hairstreak)
7	Glaucopsyche iygdamus (Silvery Blue)
	Icarcia acmon (Acmon Blue)
	Celastrina ladon (Echo Blue)
4	Leptotes marina (Marine Blue)
	Philotes sonorensis (Sonoran Blue)
	Flebejus melissa (Melissa Blue)
	Everes amyntula (Western Tailed-Blue)
	Brephidium exilis (Western Pygrny-Blue)
Riodin	Riodinidae (Metalmarks)
01	Apodemia menno virgulti (Behr's Metalmark)
Papilio	Papilionidae (Swallowtails)
	Papilio eurymedon (Pale Swallowtail)
	Fapilio rutulus (Western Tiger Swallowtail)
	Fapilio zelicaon (Anise Swallowtail)
Pierid	Pigridae (Whites and Orangetips)
	Anthocharis cethura (Desert Orangetip)
	Anthocharis sara (Sara's Orangetip)
	Fieris rapae (Cabbage White)
	Pontia protodice (Checkered White)
2	Colias eurytherne (Orange Sulphur)
	Colias harfordii (Harford's Sulphur)
	Eurema nicippe (Sleepy Orange)
	Nathalis iole (Dainty Sulphur)
Satyri	Satyridae (Satyrids)
	Coenonympha californica (Common California
	Ringlet)
Others	10.00

SASSIGN SIPA SIS YMS ALM DALDITALE DICHELOSTEMMA CAPITATA LASTHELIA GENCULS
ALZIUM SP. DUMANDRA FASBOLATA SISYRAYNONIUM BEELIN HEOMPHOUS COUPIEUS escusionelan ea NYPOCHAEUS SI. List nectar sources and plant communities observed (55, CHAN'St CHAR ERISTONIM EASORULATION PLADIOBOTHRYS SP. Acmisport GLABER SILENE browned CRUPTANTHASP. AMSMCKIA SP.

List notes and GPS point names here, please write UTMs or Lat/Longs as backup:

GPS all potential host plant locations (Plantago GPS all QCB occurrences

Cordylanthus rigidus. Castilleja exserta, and erecta, Plantago patagonica, Antirrhinum coulterianum,

Collinsia heterophylla)

occurrence_density (low >20% cover per sq foot, Format: plant name_diameter of

medium 20-50%, high >50%)_clate_observer



Project MIRAMAR PISTOR RANDER Surveyor Name: CARRETT HYGORD Survey # Date 3 Lo

	Time	Temp (°F)	Cover (%)	Wind Speed (avg. rnph)
Start	258	و (د	2	0-2
End	120000	०६	0	2-4

Nemo	Nymphalidae (Brush Footed Butterflies)
	Euphydras editha quino (Quino Checkerspot)
	Euphydras chalcedona (Chalcedon Checkspot)
-	Charidryas gabbii (Gabb's Checkerspot)
	Phycoides mylitta (Mylitta Crescent)
-	Thessalia leanira (Leanira Checkerspot)
	Nymphalis antiopa (Mourning Cloak)
	Basilarchia lorquini (Lorquin's Admiral)
1	Junonia coenia (Common Buckeye)
+	Vanessa annabella (West Coast Lady)
4	Vanessa cardui (Painted Lady)
2	Vanessa virginiensis (American Lady)
	Vanessa atalanta (Red Admiral)
Danaidae	98
	Daparis gilippus (Queen)
	Varians guippes

	Danaus gilippus (Queen)
	Danaus plexippus (Monarch)
Hesp	Hesperidae
	Heliopetes ericetorum (Northern Wille-Shipper)
	Hylephila phyleus (Fiery Skipper)
	Pyrgus albescens (White Checkered-Skipper)
40	Erynnis funeralis (Funereal Duskywing)
1	Erynnis tristis (Mournful Duskywing)
	Erynnis propertius (Propertius Duskywing)
	Ochlodes agricola (Rural Skipper)
-	

	(Heiretreaks)
- Acae	Atlides halesus (Great Purple Hairstreak)
	Incisalia augustinus (Western Brown Elfin)
	Callophys perplexa (Perplexing Hairstreak)
	Strymon melinus (Gray Hairstreak)
15	Glaucopsyche lygdamus (Silvery Blue)
	Icarcia acmon (Acmon Blue)
	Celastrina ladon (Echo Blue)
	Leptotes marina (Marine Blue)
	Philotes sonorensis (Sonoran Blue)
	Plebejus melissa (Melissa Blue)
	Everes amyntula (Western Tailed-Blue)
	Brephidium exilis (Western Pygmy-Blue)
Riod	Riodinidae (Metalmarks)
30	Apodemia mormo virgulti (Behr's Metalmark)
Papi	Papilionidae (Swallowtails)
	Papilio eurymedon (Pale Swallowtail)
	Papilio rutulus (Western Tiger Swallowfail)
	Papilio zelicaon (Anise Swallowtail)
Pier	Pieridae (Whites and Orangetips)
	Anthocharis cethura (Desert Orangetip)
a	Anthocharis sara (Sara's Orangetip)
>	Pieris rapae (Cabbage White)
	Pontia protodice (Checkered White)
c	Colias eurytherne (Orange Sulphur)
	Colias harfordii (Harford's Sulphur)
	Eurema nicippe (Sleepy Grange)
	Nathalis iole (Dainty Sulphur)
Sat	Satyridae (Satyrids)
	Coenonympha californica (Common California
	Ringlet)
Others	ers

DICTELL STEMMA CAPITATUM, PSEUDOGNACHAHUM Aunistria Chargel , Caternania e, , Row or un CALIFORNIUM. PSCHOLEIA CALIFORNIA CHAMMSE CHAPPEARE , CSS, GASSLAND BRIDGER MY FASCICULATUM, PRIMAMI ALLEN SOLA CATHLENS LESTINS. List nectar sources and plant communities AURANTIA CAS observed

List notes and GPS point names here, please write UTMs or Lat/Longs as backup: GPS all QCB occurrences

GPS all potential host plant locations (Plantago Cordylanthus ngidus, Castilleja exserta, and erecta, Plantago patagonica, Antirrhinum coulterianum,

Collinsia heterophylla,

occurrence_density (low >20% cover per sq foot, medium 20-50%, high >50%)_date_observer Format: plant name_diameter of

WISE, ANTHU, COVE, LAST CATO, BELLE, SAGS, BGGN, nomo (RUSO, CAGIA, CELO SAPH, WRA, WEER, HOLA, MUIAN SEE LIES BASERUED



Surveyor Name: ONCE HUFFMAN Survey # 4

		Time	Temp (°F)	Cloud Cover (%)	Wind Speed (avg. mph)
*	Start	% bQ	89	Ø	9-Z
34	MA End	1230	34	a e	75-16

N	Numbralidae (Bruch Englad Butterfliae)
	Euphydras editha quino (Quino Checkerspot)
	Euphydras chalcedona (Chalcedon Checkspot)
	Charidryas gabbii (Gabb's Checkerspot)
	Phycoides mylitta (Mylitta Crescent)
	Thessalia leanira (Leanira Checkerspot)
	Nymphalis antiopa (Mourning Cloak)
	Basilarchia lorquini (Lorquin's Admiral)
	Junonia coenia (Common Buckeye)
	Vanessa annabella (West Coast Lady)
K	Vanessa cardui (Painted Lady)
	Vanessa virginiensis (American Lady)
	Vanessa atalanta (Red Admiral)
Danaidae	dae
	Danaus gilippus (Queen)
	Danaus plexippus (Monarch)
Hesperidae	ridae
	Heliopetes ericetorum (Northern White-Skipper)
	Hylephila phyleus (Fiery Skipper)
	Pyrqus albescens (White Checkered-Skipper)
Ā	Erynnis funeralis (Funereal Duskywing)
	Erynnis tristis (Mournful Duskywing)
	Erynnis propertius (Propertius Duskywing)
	Ochlodes apricola (Rural Skipper)

Lycaer	Lycaenidae (Hairstreaks)
	Atlides halesus (Great Purple Hairstreak)
	Incisalia augustinus (Western Brown Ellin)
	Callophrys perplexa (Perplexing Hairstreak)
	Strymon melinus (Gray Hairstreak)
0	Glauccpsyche lygdamus (Silvery Blue)
	Icarcia acmon (Acmon Blue)
	Celastrina ladon (Echo Blue)
	Leptotes marina (Marine Blue)
	Philotes sonorensis (Sonoran Blue)
	Plebejus melissa (Melissa Blue)
	Everes amyntula (Western Tailed-Blue)
	Brephidium exilis (Western Pygmy-Blue)
Riodir	Riodinidae (Wetalmarks)
15	Apodemia mormo virgulti (Behr's Metalmark)
Papili	Papilionidae (Swallowtails)
	Papilio eurymedon (Pale Swallowtail)
	Papilio rutulus (Western Tiger Swallowfail)
	Papilio zelicaon (Anise Swallowtail)
Pierid	Pieridae (Whites and Orangetips)
	Anthocharis cethura (Desert Orangetip)
0	Anthocharis sara (Sara's Orangetip)
	Pieris rapae (Cabbaçie White)
	Pontia protodice (Checkered White)
<i>,</i> 1	Colias eurytheme (Orange Sulphur)
	Colias harfordii (Harford's Sulphur)
	Eurema nicippe (Sleepy Orange)
	Nathalis iofe (Dainty Sulphur)
Satyr	Satyridae (Satyrids)
	Coenonympha californica (Common California
	Ringlet)
Others	0

ESCHSCHOLZIA CALIFORNIA, ALLINA SA. Superiton, some transfer women YESTIUS, ALMISON GUBER, observed CHAMISE CHAPPIRATU, CSS DICHELOSTERMA CAPITATUM, List nectar sources and plant communities NON - NATIVE GRASS LAND. あるのいな

List notes and GPS point names here, please write UTMs or Lat/Longs as backup:

GPS all QCB occurrences

GPS all potential host plant locations (Plantago erecta, Plantago patagonica, Antirrhinum coulterianum,

Cordylanthus rigidus, Castilleja exserta, and Collinsia heterophylla)

occurrence_density (low >20% cover per sq foot, medium 20-50%, high >50%)_date_observer Format: plant name_diameter of

ANIAN CIST: RUSP, GORD CATO, WENTE, CASO, SPTO, maso, your, gass, caking, thus, with core, ween, Bush

32.85713 - 117.08994 CASTILLETA - SP1 - 10 W. 03082015-64

32,85533 -117,08896 Unstilles 19 - 10th - med -03082015 - GH



NUM - 01570 C RAMUC SDG&E Natural Gas System Potential Upgrades

Surveyor Name: (7ARRET HURMAN)
Date 3 10 15 Survey # 4

	Time	Temp (°F)	Cloud Cover (%)	Wind Speed (avg. mph)
Start	COURS	او	Ø	2-4
E nd	08 0091	90	57	5-1

Mym	Nymphalidae (Brush Footed Butterflies)
	Euphydras editha quino (Quino Checkerspot)
	Euphydras chalcedona (Chalcedon Checkspot)
	Charidryas gabbii (Gabb's Checkerspot)
	Phycoides mylitta (Mylitta Crescent)
	Thessalia leanira (Leanira Checkerspo:)
	Nymphalis antiopa (Mourning Cloak)
	Basilarchia lorquini (Lorquin's Admiral)
	Junonia coenia (Common Buckeye)
	Vanessa annabella (West Coast Lady)
77	Vanessa cardui (Painted Lady)
+	Vanessa virginiensis (American Lady)
	Vanessa atalanta (Red Admiral)
Danaidae	86
	Openie gilinous (Queen)
	Dallaus gillippus (accom

Lycaer	Lycaenidae (Hairstreaks)
	Atlicles halesus (Great Purple Hairstreak)
	Incisalia augustinus (Western Brown Elfin)
	Callophrys perplexa (Perplexing Hairstreak)
	Strymon melinus (Gray Hairstreak)
٩١	Glaucopsyche lygdamus (Silvery Blue)
	Icarcia acmon (Acmon Blue)
	Celastrina ladon (Echo Blue)
V	Leptotes marina (Marine Blue)
	Philotes sonorensis (Sonorar Blue)
	Plebejus melissa (Melissa Blue)
	Everes amyntula (Western Tailed-Blue)
	Brephidium exilis (Western Pygrny-Blue)
Riodin	Riodiniciae (Metalmarks)
닌	.4podemia mormo virgulti (Behr's Metalmark)
Papilic	Papilionidae (Swallowtails)
	Papilio eurymedon (Pale Swallowtail)
	Papilio rutulus (Western Tiger Swallowtail)
	Papilio zelicach (Anise Swallowtail)
Pierid	Pieridae (Whites and Orangetips)
	Anthocharis cethura (Desert Orangetip)
5	Anthocharis sara (Sara's Orangetip)
	Pieris rapae (Cabbage White)
	Pontia protodice (Checkered White)
0	Colias eurytherne (Orange Sulphur)
7	Colias harfordii (Harford's Sulphur)
	Eurema nicippe (Sleepy Orarige)
	Nathalis iole (Dainty Sulphur)
Satyri	Satyridse (Satyrids)
	Coenonympha californica (Common California
	Ringlet)
Others	

List nectar sources and plant communities
observed CHANICE CHANACAL 1 CSS
ACMISCON CHARCAL ALLIVM SP.,
DICTOLOSTEMMT CALTATA 1
VICITA, CLARKIA, ELIVENMT
FASCICULATUM, PSEMOU CLARPHANCALOR NIA, ERSOIUM,
FILACIANTO UA, ERSOIUM,
FILACIANTO UA, ERSOIUM,

6

List notes and GPS point names here, please write UTMs or Lat/Longs as backup: GPS all QCB occurrences

GPS all QCB occurrences
GPS all potential host plant locations (Plantago
erecta, Plantago patagonica, Antirrhinum
coulterianum,

Cordylanthus rigidus, Castilleja exserta, and Collinsia helerophylla)
Format: plant name_diarneter of occurrence_density (low >20% cover per sq foot,

medium 20-50%, high >50%)_date_observer

Arian Species: Hola; Lose, Lase, Arwa, Sales, Wese, Cope, Arian Hola; Week, Arian, Cole, Chour, Bell, Wish, Relse, Laws, Namo, moso, Weel, Roma, Arian.



Surveyor Name: MELANIE DICUS

Date 03-10 - 2015 Survey # 4

Cloud Wind Speed Cover (%) (avg. mph)

N	Nymphalidae (Brush Footed Butterflies)
	Euphydras editha quino (Quino Checkerspot)
	Euphydras chalcedona (Chalcedon Checkspot)
	Charidryas gabbii (Gabb's Checkerspot)
,	Phycoides mylitta (Mylitta Crescent)
4	Thessalia leanira (Leanira Checkerspo:)
	Nymphalis antiopa (Mourning Cloak)
	Basilarchia Iorquini (Lorquin's Admiral)
	Junonia coenia (Common Buckeye)
	Vanessa annabella (West Coast Lady)
14	-
	Vanessa virginiensis (American Lady)
	Vanessa atalanta (Red Admiral)
Danaidae	dae
	Danaus gilippus (Queen)
	Danaus plexippus (Monarch)
Hesp	Hesperidae
	Heliopetes ericetorum (Northern White-Skipper)
	Hylephila phyleus (Fiery Skipper)
	Pyraus albescens (White Checkered-Skipper)
59	Erynnis funeralis (Funereal Duskywing)
	Erynnis tristis (Mournful Duskywing)
	Erynnis propertius (Propertius Duskywing)
	Ochlodes agricola (Rural Skipper)
	CONTROL OF THE PARTY OF THE PAR

Lycaen	Lycaenidae (Hairstreaks)
	Atticles halesus (Great Purple Hairstreak)
	Incisalia augustinus (Westerr Brown Elfin)
3	Callophrys perplexa (Perplexing Hairstreak)
	Strymon melinus (Gray Hairstreak)
25	Glaucopsyche lygdamus (Silvery Blue)
	Icarcia acmon (Acrnon Blue)
	Celastrina ladon (Echo Blue)
//	Lepiotes marina (Marine Blue)
	Philotes sonorensis (Sonorari Blue)
	Plebejus melissa (Melissa Blue)
	Everes amyntula (Western Tailed-Blue)
	Erephidium exilis (Western Pygrny-Blue)
Riodin	Riodinidae (Metalmarks)
57	Apodemia mormo virguiti (Behr's Metalmark)
Papilic	Papilionidae (Swallowtails)
	Papilio eurymedon (Pale Swallowtail)
	Papilio rutulus (Western Tiger Swallowtail)
d a	Papilio zelicaon (Anise Swallowtail)
Pierid	Pieridae (Whites and Orangetips)
	Anthocharis cethura (Desert Orangetip)
4	Anthocharis sara (Sara's Orangetip)
	Pieris rapae (Cabbage White)
	Pontia protodice (Checkered White)
6	Colias eurytherne (Orange Sulphur)
3	Colias harfordii (Harford's Sulphur)
	Eurema nicippe (Sleepy Orange)
	Mathalis jole (Dainty Sulphur)
Satyric	Satyridae (Satyrids)
	Coenonympha californica (Common California
	Ringlet)
Others	
1	COURS ZORENE CESONIA

observed CSS, CHANISE CHAPADAL, DICKNOSIEMAN ESCHEMOLEIA くとうでんどう SMSSI 4 NOWISPON mericans SONCANS CURAL List nectar sources and plant communities, HYDOCHAERS HELIANTHENON PUSTANETA ELOOIA? DENANDRA KERYPNAS ALLINA SILENE PULLO BOPATES CERTIFIE LANDAN S LASTABUA Eucloout ANSINGAR PROLLA ACMISPON

GPS all potential host plant locations (Plantago List notes and GPS point names here, please erecta, Plantago patagonica, Antirrhinum write UTMs or Lat/Longs as backup: GPS all QCB occurrences

Cordylanthus rigidus, Castilleja exserta, and cculterianum,

Collinsia heterophylla)

occurrence_density (low >20% cover per sq foot, medium 20-50%, high >50%)_date_observer Format: plant name_diameter of



Surveyor Name: ARKET HUEFMAN Date 3 15 15 Survey # 5 Date 3 15

	Time	Temp (°F)	Cover (%)	Wind Speed (avg. mph)
Start	0060	348°	30%	8-17
End	1300	.16	30%	t-h

Nymp	Nymphalidae (Brush Footed Butterflies)
	Euphydras editha quino (Quino Checkerspot)
	Euphydras chalcedona (Chalcedon Checkspot)
4	Charidryas gabbii (Gabb's Checkerspot)
	Phycoides mylitta (Mylitta Crescent)
	Thessalia leanira (Leanira Checkerspot)
	Nymphalis antiopa (Mourning Cloak)
	Basilarchia lorquini (Lorquin's Admiral)
	Junonia coenia (Common Buckeye)
	Vanessa annabella (West Coast Lady)
2	Vanessa cardui (Painted Lady)
	Vanessa virginiensis (American Lady)
L	Vanessa atalanta (Red Admiral)
Danaidae	lae
	Danaus gilippus (Queen)
	Danaus plexippus (Monarch)
Hesperidae	ridae
	Heliopetes ericetorum (Northern White-Skipper)
	Hylephila phyleus (Fiery Skipper)
	Pyrqus albescens (White Checkered-Skipper)
K	Erynnis funeralis (Funereal Duskywing)
	Erynnis tristis (Mournful Duskywing)
	Erynnis propertius (Propertius Duskywing)
	Ochlodes agricola (Rural Skipper)

1000	Midne (11-1-4)
LYCOR	Lycaciiidae (nairstreaks)
	Atildes halesus (Great Purple Hairstreak)
	Incisalia augustinus (Western Brown Elfin)
	Callophrys perplexa (Perplexing Hairstreak)
	Strymon melinus (Gray Hairstreak)
śΥ	Glaucopsyche lygdamus (Silvery Blue)
	Icarcia acmon (Acmon Blue)
	Celastrina ladon (Echo Blue)
	Leptotes marina (Marine Blue)
	Philotes sonorensis (Sonoran Blue)
	Plebejus melissa (Melissa Blue)
	Everes amyntula (Western Tailed-Blue)
	Brephidium exilis (Western Pygmy-Blue)
Riodir	Riodinidae (Wetalmarks)
D	Apodemia mormo virgulti (Behr's Metalmark)
Papilie	Papilionidae (Swallowtails)
	Papilio eurymedor (Pale Swallowtail)
	Papilio rutulus (Western Tiger Swallowtail)
	Papilio zelicaon (Anise Swallowtail)
Pieridae	ae (Whites and Orangetips)
	Anthocharis cethura (Desert Orangetip)
10	Anthocharis sara (Sara's Orangetip)
_	Pieris rapae (Cabbage White)
	Pontia protodice (Checkered White)
4	Colias eurytheme (Orange Sulphur)
ς	Colias harfordii (Harford's Sulphur)
	Eurema nicippe (Sleepy Orange)
	Nathalis iole (Dainty Sulphur)
Satyric	Satyridae (Satyrids)
	Coenonympha californica (Common California
	Ringlet)
Others	- 01

BILOLOR, RSCHSCHOLZIA CALLFORNICA pasciculation, Of Chrospania observed Claminse CHAMARRAL, CSS Acmispon GLABER . RAIDERS AND CAP MATUM, VESTITUS, LUPINUS List nectar sources and plant communities NON-NATIVE GRASSLAM ANAGUS ALVENSIS

GPS all potential host plant locations (Plantago List notes and GPS point names here, please write UTMs or Lat/Longs as backup: GPS all QCB occurrences

erecta, Plantago patagonica, Antirrhinum

coulterianum,

occurrence_density (low >20% cover per sq foot, medium 20-50%, high >50%)_date_observer Cordylanthus rigidus, Castilleja exserta, and Format: plant name_diameter of Collinsia heterophylla)

AVIDED SPECIES: RATE, WAA. BUSH, were, to be, But, CAGIN, SOTO, CATO, WCSP. RUSP, MODO, ANTHU, SALAS.



Surveyor Name: (2) 672.667 Hustone Date 03/ 17/15 Survey # 5

	Time	Temp (°F)	Cloud Cover (%)	Wind Speed (avg. mph)
Start	0836	કુવ	2	2-7
End	5451	28 5	35	2-8

	Euphydras editha quino (Quino Checkerspot)
	Euphydras chalcedona (Chalcedon Checkspot)
	Charidryas gabbii (Gabb's Checkerspol)
	Phycoides mylitta (Mylitta Crescent)
	Thessalia leanira (Leanira Checkerspo:)
	Nymphalis antiopa (Mourning Cloak)
	Basilarchia Iorquini (Lorquin's Admiral)
	Junonia coenia (Common Buckeye)
	Vanessa annabella (West Coast Lady)
-	Vanessa cardui (Painted Lady)
	Vanessa virginiensis (American Lady)
	Vanessa atalanta (Red Admiral)
Danaidae	ae
	Danaus gilippus (Queen)
	Danaus plexippus (Monarch)
Hesperidae	ridae
	Heliopetes ericetorum (Northern White-Skipper)
	Hylephila phyleus (Fiery Skipper)
	Pyrgus albescens (White Checkered-Skipper)
26	Erynnis funeralis (Funereal Duskywing)
	Erynnis tristis (Mournful Duskywing)
	Erynnis propertius (Propertius Duskywing)
	Outlander action (Dural Chinner)

-vcaer	vcaenidae (Hairstreaks)
	eat Purple Hairstr
	Incisalia augustinus (Westerri Brown Eilin)
	Callophrys perplexa (Perplexing Hairstreak)
-	Strymon melinus (Gray Hairstreak)
2	Glaucopsyche lygclamus (Silvery Blue)
	Icarcia açmon (Acmon Blue)
	Celastrina ladon (Echo Blue)
9	Leptotes marina (Marine Blue)
	Philotes sonorensis (Sonoran Blue)
	Plebejus melissa (Melissa Blue)
	Erephidium exilis (Western Pygrny-Blue)
Riodin	Riodinidae (Metalmarks)
13	Apodemia monno virgulti (Behr's Metalmark)
Papilic	Papilionidae (Swallowtails)
	Papilio eurymedon (Pale Swallowtail)
	Papilio rutulus (Western Tiger Swallowtail)
	Papilio zelicaor (Anise Swallowtail)
Pierid	Pieridae (Whites and Orangetips)
	Anthocharis cethura (Desert Orangetip)
01	Anthocharis sara (Sara's Orangetip)
	Fieris rapae (Cabbage White)
-	Pontia protodice (Checkered White)
5	Colias eurytherne (Orange Sulphur)
_	Colias harfordii (Harford's Sulphur)
	Eurema nicippe (Sleepy Orarige)
	Nathalis jole (Dainty Sulphur)
Satyrie	Satyridae (Satyrids)
	Coenonympha californica (Common California
	Ringlet)
Others	18630

List notes and GPS point names here, please write UTMs or Lat/Longs as backup: GPS all QCB occurrences

Lycaenidae (Hairstreaks)

GPS all potential host plant locations (Plantago

erecta, Plantago patagonica, Antirrhinum

coulterianum, Cordylanthus rigidus, Castilleja exserta, and Collinsia heterophylla)

Format: plant name_diameter of occurrence_density (low >20% cover per sq foot, medium 20-50%, high >50%)_date_observer

ALISE, SOMS, WELL,
CORD, LASE, HOW, UCS,
CORD, CATE, BELR, CATE,
BLOW, CATE,
BLOW, CATE,
BLOW, CATE,
BLOW, CATE,
BLOW, CATE,
BLOW, CATE,
COTE, COST



SDG&E Natural Gas System Potential Upgrades

Surveyor Name: MLANIE DICUS

Date 03-17-2015 Survey # 5

		(°F)	Cover (%)	Wind Speed (avg. mph)
Start	0880	89	B	2-7
End	1545	80	22	8-2

	Euphydras editha quino (Quino Checkerspot)
	Euphydras chalcedona (Chalcedon Checkspot)
	Charidryas gabbii (Gabb's Checkerspot)
	Phycoides mylitta (Mylitta Crescent)
	Thessalia leanira (Leanira Checkerspot)
	Nymphalis antiopa (Mourning Cloak)
	Basilarchia lorquini (Lorquin's Admiral)
/	Junonia coenia (Common Buckeye)
	Vanessa annabella (West Coast Lady)
~	Vanessa cardui (Painted Lady)
	Vanessa virginiensis (American Lady)
	Vanessa atalanta (Red Admiral)
Danaidae	dae
	Danaus gilippus (Queen)
	Danaus plexippus (Monarch)
Hesp	Hesperidae
	Heliopetes ericetorum (Northern White-Skipper)
	Hylephila phyleus (Fiery Skipper)
	Pyrgus albescens (White Checkered-Skipper)
17	Erynnis funeralis (Funereal Duskywing)
	Erynnis tristis (Mournful Duskywing)
	Erynnis propertius (Propertius Duskywing)
	Ochłodes agricola (Rural Skipper)

Atlides halesus (Great Purple Hairst Incisalia augustinus (Western Brown Callophrys perplexa (Perplexing Hastrone Strymon melinus (Gray Hairstreak) 3 Glaucopsyche lygdamus (Silvery Bit Celastrina ladon (Echo Blue) 1 Leptotes marina (Marine Blue) 2 Plebejus melissa (Melissa Blue) 3 Plebejus melissa (Melissa Blue) 4 Philotes sonorensis (Sonoran Blue) 4 Philotes sonorensis (Sonoran Blue) 5 Prebejus melissa (Melissa Blue) 6 Prebejus melissa (Melissa Blue) 7 Apodemia mormo virgulti (Behr's Mappilio eurymedon (Pale Swallowtai) 7 Papilio rutulus (Western Tiger Swall Papilio rutulus (Western Tiger Swallowtai) 8 Papilio rutulus (Western Tiger Swallowtai) 9 Pretias and Orangetips) 7 Anthocharis cethura (Desert Orange Sulphur) 7 Colias eurytheme (Change Sulphur) 8 Prieris rapae (Cabbage White) 7 Colias eurytheme (Change Sulphur) 8 Colias eurytheme (Steepy Orange) 7 Colias eurytheme (Steepy Orange) 8 Ringlet) Others Others	
Incisalia augustinus (Western Callophrys perplexa (Perplexi Strymon melinus (Gray Hairs) Glaucopsyche lygdamus (Silve) Icarcia acmon (Acmon Blue) Celastrina ladon (Echo Blue) Philotes sonorensis (Sonoran Plebejus marina (Mestern Telebejus melissa (Melissa Blue) Philotes sonorensis (Sonoran Plebejus melissa (Melissa Blue) Philotes sonorensis (Western Telebejus melissa (Mestern Tige) Brephidium exilis (Western Tige) Papilionidae (Swallowtalis) Papilio aurymedon (Pale Swall) Papilio rutulus (Western Tige) Papilio seurymedon (Pale Swall)	Atlides halesus (Great Purple Hairstreak)
Callophrys perplexa (Perplexi Strymon melinus (Gray Hairs) Glaucopsyche lygdamus (Silv Carcia acmon (Acmon Blue) Celastrina ladon (Echo Blue) Celastrina ladon (Echo Blue) Philotes sonorensis (Sonoran Plebejus melissa (Melissa Blue Everes amyntula (Western Ta Brephidium exilis (Western Ta Brephidium exilis (Western Ta Brephidium exilis (Western Tige Papilio ourymedon (Pale Swall Papilio rutulus (Western Tige Papilio ourymedon (Pale Swall Papilio seurymedon (Pale Swall Papilio seurymedon (Pale Swall Papilio seurymedon (Pale Swall Papilio seurymedon (Anise Swall Papilio seurymedon (Anise Swall Papilio seurytheme (Ocence of Cabbage White Jeris rapae (Cabbage White Jeris rapae (Cabbage White Satyridae (Satyrida) Colias harfordii (Harford's Suphur Satyridae (Satyrids) Coenonympha californica (C Riens	Incisalia augustinus (Western Brown Elfin)
Stymon melinus (Gray Hairs) Glaucopsyche lygdamus (Silv toarcia acmon (Acmon Blue) Celastrina ladon (Echo Blue) Philotes sonorensis (Sonoran Philotes sonorensis (Sonoran Plebejus melissa (Melissa Blue Everes amyntula (Western Tabephidium exilis (Western Tabephilo eurymedon (Pale Swall Papilio eurymedon (Pale Swall Papilio eurymedon (Pale Swall Papilio selicaon (Anise Swall Pleridae (Whites and Orangetips) Anthocharis cethura (Desert Pieris rapae (Cabbage White Suphur Colias eurytheme (Orange Suphur Satyridae (Satyrids) Colias harfordii (Harford's Subhur Satyridae (Satyrids) Coenonympha californica (C Ringlet) Athalis iole (Dainty Sulphur Ringlet)	Callophrys perplexa (Perplexing Hairstreak)
Glaucopsyche lygdamus (Silv Icarcia acmon (Acmon Blue) Celastrina ladon (Echo Blue) Leptotes marina (Marine Blue Philotes sonorensis (Sonoran Plebejus melissa (Melissa Blue Prephidium exilis (Western Tage Everes amyntula (Western Tage Apodemia mormo virgulti (Be Papilionidae (Metalmarks) VO Apodemia mormo virgulti (Be Papilionidae (Swallowtalis) Papilio curymedon (Pale Swall Papilio rutulus (Western Tige Papilio rutulus (Western Tige Papilio rutulus (Western Tige Papilio surymedon (Pale Swall Pleridae (Whites and Orangetips) Anthocharis cethura (Desert Pieris rapae (Cabbage White Pontia protodice (Checkered Colias eurytheme (Orange Satyridae (Satyrids) Colias harfordii (Harford's Sulphur Satyridae (Satyrids) Ringlet) Others	n melinus (Gray Hairstreak)
Icarcia acmon (Acmon Blue) Celastrina ladon (Echo Blue) Leptotes marina (Marine Blue) Philotes sonorensis (Sonoran Plebejus melissa (Melissa Blue) Everes amyntula (Western Tage) Everes amyntula (Western Tage) Everes amyntula (Western Tage) Apodeminate (Metalmarks) Papilio rutulus (Western Tige) Papilio rutulus (Western Tige) Papilio rutulus (Mestern Tige) Papilio rutulus (Aestern Tige) Papilio rutulus (Cabbage White) Pontia protodice (Checkered Colias eurytheme (Orange Site) Colias eurytheme (Orange Site) Colias eurytheme (Saepy Orange (Satyridae (Satyrids)) Coenonympha califomica (Cheres	Glaucopsyche lygdamus (Silvery Blue)
Celastrina ladon (Echo Blue) Leptotes marina (Marine Blue) Philotes sonorensis (Sonoran Plebejus melissa (Melissa Blue) Everes amyntula (Western Tage) Brephidium exilis (Western Tage) Apodemia mormo virgulti (Be Papilio cutulus (Western Tige) Papilio rutulus (Western Tige) Papilio surymedales) Anthocharis sara (Sara's Ora Anthocharis sara (Sara's Ora Pieris rapae (Cabbage White) Pieris rapae (Cabbage White) Pieris rapae (Cabbage White) Colias eurytheme (Orange Sige) Colias eurytheme (Orange Sige) Colias eurytheme (Sara's Ora Colias eurytheme (Sarytidae (Satyridae (Satyridae (Satyridae (Satyridae (Satyridae)))	a <i>cmon</i> (Acmon Blue)
Philotes marina (Marine Blue Philotes sonorensis (Sonoran Plebejus melissa (Melissa Blue Everes amyntula (Western Ta Brephidium exilis (Western Ta Brephidium exilis (Western P Papilio anymedon (Pale Swallowtalls) Papilio rutulus (Western Tige Papilio rutulus (Western Tige Papilio rutulus (Western Tige Papilio rutulus (Sasal Swallowtalls) Anthocharis cethura (Desert P Papilio self Sara (Sara's Ora P Pieris rapae (Cabbage White P P Pieris rapae (Cabbage White P P Pieris rapae (Cabbage White P P P P P P P P P P P P P P P P P P P	na ladon (Echo Blue)
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Plebejus melissa (Melissa Blt Everes amyntula (Western Ta Brephidium exilis (Western Ta Brephidium exilis (Western Ta HO Apodemia mormo virgulti (Be Papilio rutulus (Western Tige Papilio celicaon (Maise Swalla Papilio zelicaon (Maise Swalla Papilio zelicaon (Anise Swalla Papilio zelicaon (Anise Swalla Papilio zelicaon (Anise Swalla Papilio zelicaon (Anise Swalla Anthocharis cartulas (Sara' Orange Syalla Pieris rapae (Cabbage White I Pontia protodice (Checkered Colias harfordii (Harford's Su Colias harfordii (Harford's Su Eurema nicippe (Sleepy Orange Syallaee (Satyrlds) Coenonympha califomica (C Roenonympha califomica (C Ringlet) Others	s sonorensis (Sonoran Blue)
Riodinidae (Metalmarks) Holinidae (Metalmarks) HO Apodemia mormo virgulti (Be Papilionidae (Swallowtalis) Papilionidae (Swallowtalis) Papilio curulus (Mestern Tige Papilio zelicaon (Anise Swallise Papilio zelicaon (Anise Swallise Anthocharis certura (Desert Anthocharis sard Orangetips) Heria (Whites and Orangetips) Pieris rapae (Cabbage White Jeris rapae (Cabbage White Jeris rapae (Checkered Jeris Pontia protodice (Checkered Jeris Pontia protodice (Checkered Jerismanicippe (Sleepy Orange Styridae (Satyrids) Coenonympha califomica (Chers	s melissa (Melissa Blue)
Riodinidae (Metalmarks) 4/O Apodemia mormo virgulti (Be Papilionidae (Swallowtalls) Papilionidae (Swallowtalls) Papilio eurymedon (Pale Swall Papilio rutulus (Western Tige Papilio zelicaon (Anise Swall) Pleridae (Whites and Orangetips) Pleridae (Whites and Orangetips) Anthocharis cethura (Desert Anthocharis sara (Sara's Ora Pieris rapae (Cabbage White Johnta protodice (Checkered Pontia protodice (Checkered Pontia protodice (Checkered Colias harfordii (Harford's Syridae (Satyrids) Colias harfordii (Harford's Syridae (Satyrids) Coenonympha califomica (Coenonympha califo	Everes amyntula (Western Tailed-Blue)
Riodinidae (Metalmarks) 4/O Apodemia mormo virgulti (Be Papillonidae (Swallowtalls) Papillo eurymedon (Pale Swall Papilio rutulus (Western Tige Papilio zelicaon (Anise Swall Papilio zelicaon (Anise Swall Anthocharis cethura (Desert Anthocharis sara (Sara's Ora Pierris rapae (Cabbage White Johnta protodice (Checkered Colias eurytheme (Orange Signal Pontia protodice (Checkered Colias harfordii (Harford's Sufferma nicippe (Sleepy Orange Satyridae (Satyrida) Colias harfordii (Harford's Sufferma nicippe (Sleepy Orange Satyridae (Satyrida) Coenonympha californica (Cohers	Brephidium exilis (Western Pygmy-Blue)
Papilionidae (Swallowtalis) Papilionidae (Swallowtalis) Papilio eurymedon (Pale Swalle Papilio rutulus (Western Tige Papilio zelicano (Anise Swalle Papilio zelicano (Anise Swalle Papilio zelicano (Anise Swalle Perita and Orangetips) Anthocharis cethura (Desert Anthocharis sara (Sara's Ora Pieris rapae (Cabbage White Pontia protodice (Checkered Pontia protodice (Checkered Colias harfordii (Harford's Safyridae (Satyridae)) Satyridae (Satyrids) Coenonympha californica (Cabers) Ringlet) Others	stalmarks)
Papilionidae (Swallowtalls) Papilio eurymedon (Pale Swalle Papilio seurymedon (Pale Swalle Papilio zelicaon (Anise Swalle Pleridae (Whites and Orangetips) Pleridae (Whites and Orangetips) Anthocharis sara (Sara's Ora Pieris rapae (Cabbage White Pontia protodice (Checkered Pontia protodice (Checkered Colias harfordii (Harford's Satyridae (Satyrids) Colias harfordii (Harford's Satyridae (Satyrids) Coenonympha californica (Coenonympha californic	Apodemia mormo virgulti (Behr's Metalmark)
Papilio eurymedon (Pale Swellio Papilio rutulus (Western Tige Papilio zelicaon (Anise Swallio Zelicaon (Anitocharis sara (Sara's Ora Pieris rapae (Cabbage White Pontia protodice (Checkered Colias eurytheme (Orange Sigent Colias harfordii (Harford's Suzyridae (Satyridae (Satyridae)) Satyridae (Satyrids) Coenonympha californica (Caben) Ringlet)	Swallowtalls)
Papilio rutulus (Western Tige Papilio zelicaon (Anise Swalls Pleridae (Whites and Orangetips) Anthocharis cethura (Desert Anthocharis sara (Sara's Ora Pieris rapae (Cabbage White Pontia protodice (Checkered Colias eurytheme (Orange Si Colias harfordii (Harford's Su Anthalis iole (Dainty Sulphur' Satyridae (Satyrids) Coenonympha californica (C Ringlet) Others	Papilio eurymedon (Pale Swallowtail)
Pleridae (Whites and Orangetips) Pleridae (Whites and Orangetips) Anthocharis cethura (Desert Anthocharis sara (Sara's Ora Pieris rapae (Cabbage White Pontia protodice (Checkered Colias eurytheme (Orange Signature) Colias eurytheme (Orange Signature) Colias harfordii (Harford's Su Eurema nicippe (Sleepy Oran Nathalis iole (Dainty Sulphur Satyridae (Satyrids) Coenonympha californica (Cabers) Ringlet) Others	Papilio rutulus (Western Tiger Swallowtail)
Pleridae (Whites and Orangetips) Anthocharis cethura (Desert Anthocharis sara (Sara's Ora Pieris rapae (Cabbage White Pontia protodice (Checkered Colias eurytheme (Orange Si Colias harfordii (Harford's Su Eurema nicippe (Sleepy Oran Nathalis iole (Dainty Sulphur) Satyridae (Satyrids) Coenonympha californica (C Ringlet) Others	zelicaon (Anise Swallowtail)
Anthocharis cethura (Desert Anthocharis sara (Sara's Ora Pieris rapae (Cabbage White Pontia protodice (Checkered Colias eurytheme (Orange Signature) (Colias harfordii (Harford's Su Eurema nicippe (Sleepy Oran Nathalis iole (Dainty Sulphur) Satyridae (Satyrids) Coenonympha californica (Coenonympha californica (Coenonymph	es and Orangetips)
Anthocharis sara (Sara's Ora Pieris rapae (Cabbage White Pontia protodice (Checkered Colias eurytheme (Orange Si Colias harfordii (Harford's Su Eurema nicippe (Sleepy Oran Nathalis iole (Dainty Sulphur) Satyridae (Satyrids) Coenonympha californica (C Ringlet) Others	Anthocharis cethura (Desert Orangetip)
Pieris rapae (Cabbage White Pontia protodice (Checkered Colias eurytheme (Orange Si Colias harfordii (Harford's Su Eurema nicippe (Sleepy Orai Nathalis iole (Dainty Sulphur) Satyridae (Satyrids) Coenonympha californica (C Ringlet) Others	Anthocharis sara (Sara's Orangetip)
Pontia protodice (Checkered Colias eurytheme (Orange Signature) Colias harfordii (Harford's Su Eurema nicippe (Sleepy Oran Nathalis iole (Dainty Sulphur Satyridae (Satyrida) Coenonympha californica (Coenonympha cali	apae (Cabbage White)
Colias eurytheme (Orange Si Colias harfordii (Harford's Su Eurema nicippe (Sleepy Oral Nathalis iole (Dainty Sulphur) Satyrldae (Satyrids) Coenonympha californica (Cleners) Ringlet) Others	protodice (Checkered White)
/ Colias harfordii (Harford's Su Eurema nicippe (Sleepy Orai Nathalis iole (Dainty Sulphur' Satyrldae (Satyrids) Coenonympha californica (Cl Ringlet)	eurytheme (Orange Sulphur)
Eurema nicippe (Sleepy Ora: Nathalis iole (Dainty Sulphur) Satyridae (Satyrids) Coenonympha californica (Ciners) Ringlet) Others	harfordii (Harford's Sulphur)
Satyridae (Satyrids) Coenonympha californica (Control Ringlet) Others	a nicippe (Sleepy Orange)
Satyridae (Satyrids) Coenonympha californica (C. Ringlet) Others	is iole (Dainty Sulphur)
	yrids)
	Coenonympha californica (Common California
The second of the second of	

List nectar sources and plant communities
observed LSS, CHAMISE
PULVO BSTANCES, CATOTONITHA, ANSWILLIA, ALLUM,
LINELA, HEBYONOIS, HELIANISEN W., MICH
MELLONS, HYPOCLAREL, RAINCHATA,
ARENOSTONA, CHULENA ANSSICK,
SISYMMEN, IXALS, ENDENAL, WARRERA,
SISYMMENA, IXALS, ENDENALINE, CHANDRAINA

List notes and GPS point names here, please write UTMs or Lat/Longs as backup: GPS all QCB occurrences GPS all potential host plant locations (Plantago erecta, Plantago patagonica, Antirrhinum coulterianum,

Cordylanthus rigidus, Castilleja exserta, and Collinsia heterophylla)

Format: plant name_diameter of occurrence_density (low >20% cover per sq foot, medium 20-50%, high >50%)_date_observer



SDG&E Natural Gas System Potential Upgrades
Surveyor Name: (ARLET HUMFMAN
Date 03 | 22 | 15 Survey #

Wind Speed (avg. rnph)	3-7	7 -
Cloud Cover (%)	25	oh
Temp (°F)	79	75
Time	0860	Zt 5421
	Start	End

Mymor	Nymphalidae (Brush Footed Butterflies)
,	Euphydras editha quino (Quino Checkerspot)
	Euphydras chalcedona (Chalcedon Checkspot)
2	Charidryas gabbii (Gabb's Checkerspot)
1	Phycoides mylitta (Mylitta Crescent)
	Thessalia leanira (Leanira Checkerspot)
	Nymohalis antiopa (Mourning Cloak)
	Basilarchia forquini (Lorquin's Admiral)
	Junonia coenia (Common Buckeye)
	Vanessa annabella (West Coast Lady)
7	Vanessa cardui (Painted Lady)
1	Vanessa virginiensis (American Lady)
	Vanessa atalanta (Red Admiral)
Danaidae	dae
	Danaus gilippus (Queen)
	Danaus plexippus (Monarch)
Hesperidae	ridae
	Heliopetes ericetorum (Northern White-Skipper)
	Hylephila phyleus (Fiery Skipper)
	Pyraus albescens (White Checkered-Skipper)
7	Erynnis funeralis (Funereal Duskywing)
+	Erynnis tristis (Mournful Duskywing)
	Erynnis propertius (Propertius Duskywing)
	Ochlodes agricola (Rural Skipper)
	CONTRACTOR OF THE PROPERTY OF

Caen	vcaenidae (Hairstreaks)
	Atlides halesus (Great Purple Hairstreak)
	Incisalia augustinus (Western Brown Ellin)
	Callophrys perplexa (Perplexing Hairs reak)
	Strymon melinus (Gray Hairstreak)
2	Glaucopsyche lygdamus (Silvery Dilue)
	carcia acmon (Acmon Blue)
	Celastrina ladon (Echo Blue)
	Leptotes marina (Marine Blue)
	Philotes sonorensis (Sonoran Blue)
	Plebejus melissa (Malissa Blue)
	Everes arriyntula (Western Tailed-Blue)
	Brephidium exilis (Western Pygmy-Blue)
?iocli	Riocliniciae (Metalmarks)
þ	Apodemia mormo virgulti (Behr's Metalmark)
apil	Papilionidae (Swallowfails)
	Papilio eurymedon (Pale Swallowtail)
	Papilio rutulus (Western Tiger Swallowtall)
	Papilio zelicaon (Anise Swallowtail)
Dier	Pieridae (Whites and Orangetips)
	Anthocharis cethura (Desert Orangetip)
0	Anthocharis sara (Sara's Orangetip)
1	Pieris rapae (Cabbage White)
-	Pontia protodice (Checkered White)
6	Colias eurytheme (Crange Sulphur)
	Colias harfordii (Harford's Sulphur)
	Eurema nicippe (Sleepy Orange)
	Nathails icle (Dainty Sulphur)
Sat	Satyridae (Satyrids)
	Coencnympha californica (Common California
	Ringlet)
Others	1000

List nectar scurces and plant communities observed CSS, CHAMSE CHAPARRAL ACMISSON, ERIOSONUM, CROSINM, USSTITUS, DICHELUSTEMM, ASCHSCHUZIA

KITA, POE Has, 2000 CAICI GANGE CATE , WORE occurrence_density (low >20% cover per sq foot, GPS all potential host plant locations (Plantago medium 20-50%, high >50%)_date_observer List notes and GPS point names here, please Cordylanthus rigidus, Castilleja exserta, and erecta, Plantago patagonica. Antirrhinurn write UTMs or Lat/Longs as backup. (53) Format: plant name_diameter of . می なな GPS all QCB occurrences Collinsia heterophylla) るせっせ · 23 cculterianum, 多 Sep.



Surveyor Name: CARRATT HUFFMM Date 3 25 15 Survey # Lo

	Time	Temp (°F)	Cover (%)	Wind Speed (avg. mph)
Start	1000	ct 0001	B	1-8
End	الهجما	78	D	4.

Ź	E/	Nymphalidae (Brush Footed Butterflies)
		Euphydras editha quino (Quino Checkerspot)
		Euphydras chalcedona (Chalcedon Checkspot)
		Charidryas gabbii (Gabb's Checkerspot)
		Phycoides mylitta (Mylitta Crescent)
		Thessalia leanira (Leanira Checkerspot)
		Nymphalis antiopa (Mourning Cloak)
		Basilarchia lorquini (Lorquin's Admiral)
7)	5	Junonia coenia (Common Buckeye)
	_	Vanessa annabella (West Coast Lady)
u'	n	Vanessa cardui (Painted Lady)
		Vanessa virginiensis (American Lady)
		Vanessa atalanta (Red Admiral)
Danaidae	aid	9
-		Danaus gilippus (Queen)
	_	Danaus plexippus (Monarch)
Hesperidae	eric	20
	*	Heliopetes ericetorum (Northern White-Skipper)
	7	Hylephila phyleus (Fiery Skipper)
	0	Pyrgus albescens (White Checkered-Skipper)
77	E	Erynnis funeralis (Funereal Duskywing)
	E	Erynnis tristis (Mournful Duskywing)
	E	Erynnis propertius (Propertius Duskywing)
F	100	Ochlodes agricola (Rural Skipper)

Lycae	Lycaenidae (Hairstreaks)
	Atlides halesus (Great Purple Hairstreak)
	Incisalia augustinus (Western Brown Elfin)
	Callophrys perplexa (Perplexing Hairstreak)
	Strymon melinus (Gray Hairstreak)
	Glaucopsyche lygdamus (Silvery Blue)
	Icarcia acmon (Acmon Blue)
	Celastrina ladon (Echo Blue)
32	Leptotes marina (Marine Blue)
	Philotes sonorensis (Sonoran Blue)
	Plebejus melissa (Melissa Blue)
	Everes amyntula (Western Tailed-Blue)
i	Brephidium exilis (Western Pygmy-Blue)
Hodi	Riodinidae (Metalmarks)
2	Apodemia mormo virgulti (Behr's Metalmark)
Papill	Papilionidae (Swallowtalls)
	Papilio eurymedon (Pale Swallowtail)
100	Papilio rutulus (Western Tiger Swallowtail)
	Papilio zelicaon (Anise Swallowtail)
Pierid	Pieridae (Whites and Orangetips)
	Anthocharis cethura (Desert Orangetip)
3	Anthocharis sara (Sara's Orangetip)
	Pieris rapae (Cabbage White)
4	Pontia protodice (Checkered White)
	Colias eurytheme (Orange Sulphur)
	Colias harfordii (Harford's Sulphur)
	Eurema nicippe (Sleepy Orange)
	Nathalis iole (Dainty Sulphur)
Satyric	Satyridae (Satyrids)
	Coenonympha californica (Common California
	Ringlet)
Others	

List nectar sources and plant communities observed (55, CHarnse CHAP)
ALMISPON, RAID GONUM,
OFINANCHA, RAD DIUM,
DICHO LOSENMA, VICA,
CASTARVIA, CASPIANTHA, ALM

List notes and GPS point names here, please write UTMs or Lat/Longs as backup: GPS all QCB occurrences GPS all potential host plant locations (Plantago erecta, Plantago patagonica, Antirrhinum coulterianum,

Cordylanthus rigidus, Castilleja exserta, and Collinsia heterophylla)

Format: plant name_diameter of occurrence_density (low >20% cover per sq foot, medium 20-50%, high >50%)_date_observer

AUMA UST: BLEN.,
WARD, HOLSO, SALS,
MUOD, SALS, LARCH, LEVO,
SALLS, LARCH, CLUO, WEA,
CATH, SOR, BUSH, MOND
WENT, USSE, LUCK)



SDG&E Natural Gas System Potential Upgrades Surveyor Name: MELA NIE DICUS

Date	03-53	03-25-2015	Survey #	e
	Time	Temp (°F)	Cover (%)	Wind Speed (avg. mph)
Start	0001	70	Ø	1-0
End	1630	8	Ø	1-7

	Euphydras editha quino (Quino Checkerspot)
	Euphydras chalcedona (Chalcedon Checkspot)
	Charidryas gabbii (Gabb's Checkerspot)
	Phycoides mylitta (Mylitta Crescent)
	Thessalia leanira (Leanira Checkerspot)
	Nymphalis antiopa (Mourning Cloak)
	Basilarchia lorquini (Lorquin's Admiral)
01	Junonia coenia (Common Buckeye)
	Vanessa annabella (West Coast Lady)
1	Vanessa cardui (Painted Lady)
	Vanessa virginiensis (American Lady)
	Vanessa atalanta (Red Admiral)
Danaidae	dae
`	Danaus gilippus (Queen)
	Danaus plexippus (Monarch)
Hesperidae	ridae
	Heliopetes ericetorum (Northern White-Skipper)
	Hylephila phyleus (Fiery Skipper)
	Pyrqus albescens (White Checkered-Skipper)
8	Erynnis funeralis (Funereal Duskywing)
,	Erynnis tristis (Mournful Duskywing)
	Erynnis propertius (Propertius Duskywing)
	Ochlodes agricola (Rural Skipper)

	Atlides halesus (Great Purple Hairstreak)
	Incisalia augustinus (Western Brown Elfin)
	Callophrys perplexa (Perplexing Hairstreak)
	Strymon melinus (Gray Hairstreak)
	Glaucopsyche lygdamus (Silvery Blue)
	Icarcia acmon (Acmon Blue)
	Celastrina ladon (Echo Blue)
28	Leptotes marina (Marine Blue)
	Philotes sonorensis (Sonoran Blue)
	Plebejus melissa (Melissa Blue)
	Everes amyntula (Western Tailed-Blue)
	Brephidium exilis (Western Pygmy-Blue)
Riodln	Riodinidae (Metalmarks)
26	Apodemia mormo virgulti (Behr's Metalmark)
Papilic	Papilionidae (Swallowtails)
	Papilio eurymedon (Pale Swallowtail)
	Papilio rutulus (Western Tiger Swallowtail)
	Papilio zelicaon (Anise Swallowtail)
Pierid	Pieridae (Whites and Orangetips)
	Anthocharis cethura (Desert Orangetip)
h	Anthocharis sara (Sara's Orangetip)
7	Pieris rapae (Cabbage White)
ū	Pontia protodice (Checkered White)
17	Colias eurytheme (Orange Sulphur)
	Colias harfordii (Harford's Sulphur)
	Eurema nicippe (Sleepy Orange)
	Nathalis iole (Dainty Sulphur)
Satyri	Satyridae (Satyrids)
	Coenonympha californica (Common California
	Ringlet)
Others	9

List nectar sources and plant communities observed (55, E HANCE CHAP PLAT-1907A ELS, CLTPTANTH A, LINANTHUS, PLLLANTENNY, PENTHUN PENTHUS DELVANDAMENTA, PENTHUM PENTHUMBURA, AUNSPON, ELLANDENNANDAMENTA, PUNCHERA, AUNSPON, ELLANDAMENTA, PUNCHERA, AUNSPON, ELLANDAMENTA, PUNCHERA, AUNSPON, ELLANDAMENTA, PUNCHERA, AUCHIGNAMENTA, AUCHIGNAMENTA, AUCHIGNAMENTA, PUNCHERA, AUCH

List notes and GPS point names here, please write UTMs or Lat/Longs as backup:
GPS all QCB occurrences
GPS all potential host plant locations (Plantago erecta, Plantago patagonica, Antirrhinum coulterianum,
Cordylanthus rigidus, Castilleja exserta, and Collinsia heterophylla)
Format: plant name_diameter of occurrence_density (low >20% cover per sq foot,

medium 20-50%, high >50%)_date_observer



り(らか) しんんらら SDG&E Natural Gas System Potential Upgrades

Surveyor Name: The cert Hilliam

Date 3/29/15 Starres Survey # 7

Wind Speed (avg. rnph)	3-6	3-5
Cover (%)	30	40
Temp (°F)	79	8)
Time	0830	1130
	Start	End

+	Euphydras editha quino (Quino Checkerspot)
	Euphydras chalcedona (Chalcedon Checkspot)
-	Charidryas gabbii (Gabb's Checkerspot)
	Phycoides mylitta (Mylitta Crescent)
	Thessalia leanira (Leanira Checkerspot)
	Nymphalis antiopa (Mourning Cloak)
	Basilarchia Iorquini (Lorquin's Admiral)
2	Junonia coenia (Common Buckeye)
	Vanessa armabella (West Coast Lady)
-	Vanessa cardui (Painted Lady)
+	Vanessa virginiensis (American Lady)
	Vanessa atalanta (Red Admiral)
Danaldae	9
	Danaus gilippus (Oueen)
	Danaus plexippus (Monarch)
Hesperidae	dae
	Heliopetes encetorum (Northern White-Skipper)
	Hylephila phyleus (Fiery Skipper)
	Pyrqus albescens (White Checkered-Skipper)
	Erynnis funeralis (Funereal Duskywing)
	Enmnis tristis (Moumful Duskywing)
	Erynnis propertius (Propertius Duskywing)
1	Ochlodes agricola (Rural Skipper)

-ycaen	Lycuenidae (Hairstreaks)
	Attides haiesus (Great Purple Hairstreak)
	Incisalia augustinus (Western Brown Elfin)
	Callophrys perplexa (Perplexing Hairstreak)
-	Strymon melinus (Gray Hairstreak)
	Glaucopsyche lygdamus (Silvery Blue)
	carcis acmon (Acmon Blue)
	Celastrina ladon (Echo Blue)
m	Leptotes marina (Marine Blue)
	Philotes sonorensis (Sonoran Blue)
	Plebejus melissa (Malissa Blue)
	Everes amyntula (Western Tailed-Blue)
	Brephidium exilis (Western Pygmy-Blue)
Riodin	Rioclinidae (Metalmarks)
2	Apodemia mormo virgulti (Behr's Metalmark)
Papilic	Papilionidae (Swallowtails)
-	Papilio eurymedon (Pale Swallowtail)
	Papilio rutulus (Western Tiger Swallowtail)
	Papilio zelicaon (Anise Swallowtail)
Pierid	Pieridae (Whites and Orangetips)
	Anthocharis cethura (Desert Orangetip)
0	Anthocharis sara (Sara's Orangetip)
	Pieris rapae (Cabbage White)
-	Pontia protodice (Checkared White)
_	Colias eurytheme (Crange Sulphur)
	Colias harfordii (Harford's Sulphur)
	Eurema nicippe (Sleepy Orange)
	Nathails icle (Dainty Sulphur)
Satyri	Satyridae (Satyrids)
-	Coencnympha californica (Common California
	Ringlet)
Others	1

List nectar scurces and plant communities
observed (SS

DEINAN PRA . ACMING .

VICIA , ERIO GON MM . GRODI W

SOLUM , DICHOL STOMM?

CRAPIANTHA . MUILLA

List notes and GPS point names here, please write UTMs or Lat/Longs as backup:

GPS all QCB occurrences
GPS all potential host plant locations (Pkintago
GPS all potential host plant locations

coulterianum, Cordylanthus rigidus, Castilleja exserta, and Collinsia heterophylla) Format: plant name_diameter of

occurrence_density (low >20% cover per sq foot, medium 20-50%, high >50%)_date_observer

Aline CIST; LASE, ween, correspondents, sous, were, spert, spers, correspondents, spert, spers, correspondents



Surveyor Name: CARREA Hiffman Survey #_

E	
	Euphydras editha quino (Quino Checkerspot)
N.	Euphydras chalcedona (Chalcedon Checkspot)
	Charidryas gabbii (Gabb's Checkerspot)
	Phycoides mylitta (Mylitta Crescent)
	Thessalia leanira (Leanira Checkerspot)
	Nymphalis antiopa (Mourning Cloak)
	Basilarchia forquini (Lorquin's Admiral)
7	Junonia coenia (Common Buckeye)
	Vanessa annabella (West Coast Lady)
7	Vanessa cardui (Painted Lady)
	Vanessa virginiensis (American Lady)
	Vanessa atalanta (Red Admiral)
Danaidae	dae
	Danaus gilippus (Queen)
3	Danaus plexippus (Monarch)
Hespe	Hesperidae
+	Heliopetes ericetorum (Northern White-Skipper)
	Hylephila phyleus (Fiery Skipper)
	Pyrgus albescens (White Checkered-Skipper)
41	Erynnis funeralis (Funereal Duskywing)
	Erynnis tristis (Mournful Duskywing)
4	Erynnis propertius (Propertius Duskywing)
	Ochlodes agricola (Rural Skipper)

L.ycae	Lycaenidae (Hairstreaks)
	Atlides halesus (Great Purple Hairstreak)
	Incisalia augustinus (Western Brown Elfin)
	Callophrys perplexa (Perplexing Hairstreak)
7	Strymon melinus (Gray Hairstreak)
	Glaucopsyche lygdamus (Silvery Blue)
	Icarcia acmon (Acmon Blue)
	Celastrina ladon (Echo Blue)
17	Leptotes marina (Marine Blue)
	Philotes sonorensis (Sonoran Blue)
	Plebejus melissa (Melissa Blue)
	Everes amyntula (Western Tailed-Blue)
	Srephidium exilis (Western Pygmy-Blue)
Riodii	Riocliniciae (Metalmarks)
(3	Apodemia mormo virgulii (Behr's Metalmark)
Papili	Papilionidae (Swallowtails)
	Papilio eurymedon (Pale Swallowtail)
	Papilio rutulus (Western Tiger Swallowtail)
	Papilio zelicaon (Anise Swallowtail)
Pierid	Pieridae (Whites and Orangetips)
	Anthocharis cethura (Desert Orangetip)
3	Anthocharis sara (Sara's Orangetip)
	Pieris rapae (Cabbage White)
-	Pontia protodice (Checkered White)
2	Colias eurytheme (Crange Sulphur)
	Colias harfordii (Harford's Sulphur)
	Eurema nicippe (Sleepy Orange)
	Nathalis icle (Dainty Sulphur)
Satyric	Satyridae (Satyrids)
	Coencnympha californica (Common California
	Ringlet)
Others	

Deinarona, Carobonum, Ronropa observed CSS, CHAMISE CHAMBLAND CHUR OCHUM : CASTHAMIA, SILEM DICHELO STEMMA, CRUPTANTA, List nectar sources and plant communities SALJA, ESCHSCHOLZIA

GPS all potential host plant locations (Plantago List notes and GPS point names here, please write UTMs or Lat/Longs as backup: GPS all QCB occurrences

Cordylanthus rigidus, Castilleja exserta, and coulterianum,

erecta, Plantago patagonica, Antirrhinum

Collinsia heterophylla)

Format: plant name_diameter of

occurrence_density (low >20% cover per sq foot, medium 20-50%, high >50%)_date_observer

copa, chan, wess, wess, Baur, Resp, Cone, Ance, SUR, OTAS, NUDS, OTAD, ALIAN UST: WARN, HUG. COHM, ECO, USS, NOMO, wome, RUSH, CATH



Surveyor Name: MEANIE DICUS

Date 04-01- 2015 Survey # 1

	Time	Temp (°F)	Cloud Cover (%)	Wind Speed (avg. rnph)
Start	S480	99	Ø	1-0
End	/430	11	Ø	2-2

	Euphydras editha quino (Quino Checkerspot)
,	Euphydras chalcedona (Chalcedon Checkspot)
•	Charidryas gabbii (Gabb's Checkerspot)
	Phycoides mylitta (Mylitta Crescent)
	Thessalia leanira (Leanira Checkerspot)
	Nymphalis antiopa (Mourning Cloak)
	Basilarchia forquini (Lorquin's Admiral)
00	Junonia coenia (Common Buckeye)
	Vanessa armabella (West Coast Lady)
2	Vanessa cardui (Painted Lady)
	Vanessa virginiensis (American Lady)
	Vanessa atalanta (Red Admiral)
Danaidae	ae
	Danaus gilippus (Queen)
	Danaus plexippus (Monarch)
Hesperidae	ridae
	Heliopetes ericetorum (Northern White-Skipper)
	Hylephika phyleus (Fiery Skipper)
	Pyrqus albescens (White Checkered-Skipper)
"	Erynnis funeralis (Funereal Duskywing)
	Erynnis tristis (Mournful Duskywing)
	Erynnis propertius (Propertius Duskywing)
	Ochlodes agricola (Rural Skipper)

L.Vcae	Lycaenidae (Hairstreaks)
	Attides halesus (Great Purple Hairstreak)
	Incisalia augustinus (Western Brown Elfin)
	Callophrys perplexa (Perplexing Hairstreak)
/	Strymon melinus (Gray Hairstreak)
	Glaucopsyche lygdamus (Silvery Blue)
	Icarcia acmon (Acmon Blue)
	Celastrina ladon (Echo Blue)
30	Leptotes marina (Marine Blue)
	Philotes sonorensis (Sonoran Blue)
	Plebejus melissa (Malissa Blue)
	Everes arriyntula (Western Tailed-Blue)
	Brephidium exilis (Western Pygmy-Blue)
Riodir	
/5/	Apodemia mormo virgulti (Behr's Metalmark)
Papilic	Papilionidae (Swallowtails)
	Papilio eurymedon (Pale Swallowtail)
	Papilio rutulus (Western Tiger Swallowtail)
	Papilio zelicaon (Anise Swallowtail)
Pierid	Pieridae (Whites and Orangetips)
	Anthocharis cethura (Desert Orangetip)
7	Anthocharis sara (Sara's Orangetip)
	Pieris rapae (Cabbage White)
'n	Pontia protodice (Checkered White)
17	Colias eurytheme (Orange Sulphur)
	Colias harfordii (Harford's Sulphur)
	Eurema nicippe (Sleepy Orange)
	Nathaiis icle (Dainty Sulphur)
Satyric	Satyridae (Satyrids)
	Coencnynipha californica (Common California
	Ringlet)
Others	
3	SPENCIA CALLIPPE CONSTRUCT
/	SATYRUM SAEDIUM

List nectar sources and plant communities observed (55, CHAN SE CHAP become (55, CHAN SE CHAP becover, Acm stral brober, Beisanda freculary, Acm stral brober, Orrepartha, Advisor Strat, Savil & meustell, Architect, Architect, Association freculation freculations.

List notes and GPS point names here, please write UTMs or Lat/Longs as backup:

Lycaenidae (Hairstreaks)

GPS all QCB occurrences
GPS all potential host plant locations (Pkantago erecta, Plantago patagónica, Antirrhinum coulterianum,

Cordylanthus rigidus, Castilleja exserta, and Collinsia heterophylla)

Format: plant name_diameter of occurrence_density (low >20% cover per sq foot, occurrence_density (low >50%)_date_observer medium 20-50%, high >50%)_date_observer



ROCKS
BIOLOGICAL CONSULTING
SDG&E Natural Gas System Potential Upgrades

Surveyor Name: (SMIRLH HERMAN)

Survey #_ Date

		Ŷ		
	Firme	Temp (°F)	Cloud Cover (%)	Wind Speed (avg. mph)
				\
Start	0930 70	2	207	r_2
				-
End	1220	7	2	e 7 5
•	177			

	Range (Brush Footed Butterflies)
NYMP	Talidae (Checkerspot)
	Euphydias commended (Chalcedon Checkspot)
	Euphydras Charcedona (heckerspot)
_	Charidryas gabbil (Jabus Sincons)
	Phycoides mylitta (Mylilla Checkerspot)
	Thessalia leanira (Leanira Cloak)
	Nymphalis antiopa (Moulling Admiral)
	Basilarchia forquini (Loldall 3
	Junonia coenia (Common Coast Lady)
	Vanessa annabella (West October)
	Vanessa cardui (Palmied Edgy)
	Vanessa virginiensis (Americal)
	Vanessa atalanta (Red Admissy
Danaidae	ae
	Danaus gilippus (Queer)
	Danaus plexippus (Mollaron)
Hesperidae	ridae (Northern White-Skipper)
	Heliopetes encerorum (Scient Skinger)
-	Hylephila phyleus (Fiery Checkered-Skipper)
	Pyrgus albescens (verme)
	Erynnis funeralis (Turisty Wing)
	Erynnis tristis (Mouling) Duskywing)

	Lycaenidae (Hairstreaks)
	Atlides halesus (Great Purple Hairstreak)
	Incisalia augustinus (Western Brown Elfin)
	Callophrys perplexa (Perplexing Hairstreak)
	Strymon melinus (Gray Hairstreak)
	Glaucopsyche lygdamus (Silvery Blue)
	Icarcia acmon (Acmon Blue)
<u> </u>	Celastrina ladon (Echo Blue)
	Leptotes marina (Marine Blue)
	Philotes sonorensis (Sonoran Blue)
	Plebejus melissa (Malissa Blue)
	Everes amyntula (Western Tailed-Blue)
	Brephidium exilis (Western Pygmy-Blue)
Rio	Riocliniciae (Metalmarks)
1	Apodemia mormo virgulii (Benr's Metallina N
Pap	Papilionidae (Swallowfails)
	Papilio eurymedon (Pale Swallowtall)
	Papilio rutulus (Western Tiger Swallowran)
	Papilio zelicaon (Anise Swallowfall)
Dier	Pieridae (Whites and Orangetips)
	Anthocharis cethura (Desert Orangelly)
	Anthocharis sara (Sara's Orangeup)
	Pieris rapae (Cabbage White)
	Pontia protodice (Checkered Willie)
h	Colias eurytheme (Orange Sulphur)
	Colias harfordii (Hariolus Supris)
	Eurema nicippe (Slisely City Ba
	Nathails icle (Dainty Surprier)
Satyr	Satyridae (Satyrids)
	Coencrympha callicities (Coencrympha)
	Kinglist
Others	8
	9.5

CSS, CHAMISE CARPORCED sawia, VICIA, chocholoms List nectar sources and plant communities Amison, approxima, Derranda George observed

Ochlodes agricola (Rural Skipper,

GPS all potential host plant locations (Pantago erecta, Plantago patagonica, Antirrhinum List notes and GPS point names here, please write UTMs or Lat/Longs as backup: GPS all QCB occurrences coulterianum,

occurrence_density (low >20% cover per sq foot, Cordylanthus rigidus, Castilleja exserta, and medium 20-50%, high >50%)_date_obsэrver Format: plant name_diameter of Collinsia heterophylla)

CUSU, WAR, CAKI, WENE, wise, savs, croso, wor Asim ust: weer, enough your grow, part, save, esto, zieur.



Surveyor Name: MELANIE DICUS

Date 04-06-2015 Survey # 8

	Time	Temp (°F)	Cover (%)	Wind Speed (avg. mph)
Start	2160	49	204	3-7
End	1/6	59	10%	7-10

	Parished Mary Pooled During
11111	Funhydras editha quino (Quino Checkerspot)
	Euphydras chalcedona (Chalcedon Checkspot)
	Charidryas gabbii (Gabb's Checkerspot)
	Phycoides mylitta (Mylitta Crescent)
	Thessalia leanira (Leanira Checkerspot)
	Nymphalis antiopa (Mourning Cloak)
	Basilarchia lorquini (Lorquin's Admiral)
10	Junonia coenia (Common Buckeye)
	Vanessa annabella (West Coast Lady)
1	Vanessa cardui (Painted Lady)
	Vanessa virginiensis (American Lady)
	Vanessa atalanta (Red Admiral)
Danaidae	dae
	Danaus gilippus (Queen)
	Danaus plexippus (Monarch)
Hesperidae	ridae
	Heliopetes ericetorum (Northern White-Skipper)
	Hylephila phyleus (Fiery Skipper)
-	Pyrgus albescens (White Checkered-Skipper)
4	Erynnis funeralis (Funereal Duskywing)
	Erynnis tristis (Mournful Duskywing)
	Erynnis propertius (Propertius Duskywing)
	Ochlodes agricola (Rural Skipper)

Lycae	Lycaenidae (nairstreaks)
	Atlides halesus (Great Purple Hairstrean)
	Incisalia augustinus (Western Brown Ellin)
	Callophrys perplexa (Perplexing Hairstreak)
/	Strymon melinus (Gray Hairstreak)
	Glaucopsyche lygdamus (Silvery Blue)
	Icarcia acmon (Acmon Blue)
	Celastrina ladon (Echo Blue)
1	Leptotes marina (Marine Blue)
	Philotes sonorensis (Sonoran Blue)
	Plebejus melissa (Melissa Blue)
	Everes amyntula (Western Tailed-Blue)
	Brephidium exilis (Western Pygmy-Blue)
Riodir	Riodinidae (Metalmarks)
7	Apodemia mormo virgulti (Behr's Metalmark)
Papill	apilionidae (Swallowtalis)
	Papilio eurymedon (Pale Swallowtail)
	Papilio rutulus (Western Tiger Swallowfail)
	Papilio zelicaon (Anise Swallowtail)
Plerid	Pieridae (Whites and Orangetips)
	Anthocharis cethura (Desert Orangetip)
	Anthocharis sara (Sara's Orangetip)
	Pieris rapae (Cabbage White)
/	Pontia protodice (Checkered White)
21	Colias eurytheme (Orange Sulphur)
	Colias harfordii (Harford's Sulphur)
	Eurema nicippe (Sleepy Orange)
	Nathalis iole (Dainty Sulphur)
Satyri	Satyridae (Satyrids)
	Coenonympha californica (Common California
	Ringlet)
Others	
1	SPENEUR CALLIPPE CONSTANT
-	SOTHRIOM SAEDIUM

List nectar sources and plant communities observed 65% CHAPAREAL—
OLISANOLA, GLESIMA, SILENE, SALVIA)
CLOSTANOLA, ALMISPON, SONCHUS,
CLOSTANOLA, JICHELOSTEMMA, MACHAPANS,
mmvLUS, OSMADENIA, NAVAREETIA,
HELMITHEMMA, CRAPTANTA, SIMILEA
SISYRANCHUM, GRAPTANTA, SIMILEA
HEOVENOLS, ANTIBUTUMA

List notes and GPS point names here, please write UTMs or Lat/Longs as backup: GPS all QCB occurrences GPS all potential host plant locations (*Plantago erecta*, *Plantago patagonica*, *Antirrhinum coulterianum*, *Cordylanthus rigidus*, *Castilleja exserta*, and *Collinsia heterophylla*)
Format: plant name_diameter of eccurrence_density (low >20% cover per sq foot, medium 20-50%, high >50%)_date_observer



NOM アパケンと SDG&E Natural Gas System Potential Upgrades

Surveyor Name: (TRERETT HURGARY)

Date 4/6/15 Survey # 8

	Time	Temp (°F)	Cloud Cover (%)	Wind Speed (avg. mph)
Start	200	5	40	3-7
End	054	B	10	01-6

Nymp	Nymphalidae (Brush Footed Butterflies)
	Euphydras editha quino (Quino Checkerspot)
	Euphydras chalcedorra (Chalcedon Checkspot)
	Charidryas gabbii (Gabb's Checkerspot)
	Phycoides mylitta (Mylitta Crescent)
	Thessalia leanira (Leanira Checkerspot)
	'Nymohalis antiopa (Mourning Cloak)
	Basilarchia forquini (Lorquin's Admiral)
el	Junonia coenia (Common Buckeye)
	Vanèssa armabella (West Coast Lady)
	Vanessa cardui (Painted Lady)
	Vanessa virginiensis (American Lady)
	Vanessa atalanta (Red Admiral)
Danaidae	1ae
	Danaus gilippus (Queen)
	Danaus plexippus (Monarch)
Hesperidae	ridae
	Heliopetes ericetorum (Northern White-Skipper)
	Hylephila phyleus (Flery Skipper)
	Pyraus albascens (White Checkered-Skipper)
-	Erwinis funeralis (Funereal Duskywing)
	Fransis tristis (Mournful Duskywing)
	Erwinis propertius (Propertius Duskywing)
	Ochtodos agricola (Rural Skipper)

	Atlides halesus (Great Purple Hairstreak)
	Incisalia augustinus (Western Brown Elfin)
	Callophrys perplexa (Perplexing Hairstreak)
4	Strymon melinus (Gray Hairstreak)
•	Glaucopsyche lygdamus (Silvery Blue)
	Icarcia acmon (Acmon Blue)
	Celastrina ladon (Echo Blue)
. 15	Leptotes marina (Marine Blue)
	Philotes sonorensis (Sonoran Blue)
	Plebejus melissa (Malissa Blue)
	Everes arriyntula (Western Tailed-Blue)
	Brephidium exilis (Western Pygmy-Blue)
Riodin	Riodinidae (Metalmarks)
20	Apodemia mormo virgulti (Behr's Metalmark)
Papilic	Papilionidae (Swallowtails)
	Papilio eurymedon (Pale Swallowtail)
	Papilio rutulus (Western Tiger Swallowtail)
	Papilio zelicaon (Arise Swallowtail)
Pierid	Pieridae (Whites and Orangetips)
	Anthocharis cethura (Desert Orangetip)
-	Anthocharis sara (Sara's Orangetip)
	Pieris rapae (Cabbage White)
	Pontia protodice (Checkered White)
25	Coliàs eurytheme (Crange Sulphur)
	Colias harfordii (Harford's Sulphur)
h	Eurema nicippe (Sleepy Orange)
	Nathalis icle (Dainty Sulphur)
Satyri	Satyridae (Śatyrids)
	Coencnympha californica (Common California
	Ringlet)
Others	56

List nectar sources and plant communities observed CSS, CHAMISE CHAPARAL NICLA, ERIOLIONIUM, ACMISPONDELLANDER, CALDERA, CRYPTANDER CALDCHORMS, COLUIA, MINIMUMS

List notes and GPS point names here, please write UTMs or Lat/Longs as backup: GPS all QCB occurrences GPS all potential host plant locations (*Plantago erecta*, *Plantago patagonica*, *Antirrhinum coulterianum*,

Cordylanthus rigidus, Castilleja exserta, and Collinsia heterophylla)
Format: plant name_diameter of occurrence_density (low >20% cover per sq foot, medium 20-50%, high >50%)_date_observer

Bruin UST: CATO, SOTO, PLSP, CASO, 366~ HOLA, CUSW, LEME, Momo, SAPH, COBA, WTSW, CAOU, CAF!, Bruin, HOLE, CATH, Bruin, Julia, 2015 H.



Apaca Hovernay Survey # Surveyor Name: (Date 04/12

-	_	Start		End		
[me Ime		1215	1	1512	
	Temp (°F)		££		8	
	Cloud Cover (%)		B		79.	
	Wind Speed (avg. rnnh)	(7-4	-	5-2	

EX	Nymphalidae (Brush Footed Butterflies)
	Euphydras editha quino (Quino Checkerspot)
	Euphydras chalcedona (Chalcedon Checkspot)
7	Charidry as gabbii (Gabb's Checkerspot)
	Phycoides mylitta (Mylitta Crescent)
	Thessalia leanira (Leanira Checkerspot)
	Nymphalis antiopa (Mourning Cloak)
	Basilarchia forquini (Lorquin's Admiral)
_	Junonia coenia (Common Buckeye)
	Vanessa armabella (West Coast Lady)
	Vanessa cardui (Painted Lady)
	Vanessa virginiensis (American Lady)
	Vanessa atalanta (Red Admiral)
Danaldae	dae
	Danaus gilippus (Queen)
	Danaus plexippus (Monarch)
Hesperidae	ridae
	Heliopetes ericetorum (Northern Wnie-Skilyber)
-	Hylephila phyleus (Flery Skipper)
	Pyrgus albescens (White Checkered-Skipper)
	Erynnis funeralis (Funereal Duskywing)
	Erynnis tristis (Mournful Duskywing)
	Erynnis propertius (Propertius Duskywing)
	Ochlodes agricula (Rural Skipper)

Lycae	-ycaenidae (Hairat
	Atlides halesus (Crost Purole Hairstreak)
	Incisalia augustinus (Western Brown Elfin)
-	Callophrys perplexa (Perplexing Hairstreak)
-	Strymon melinus (Grav Hairstreak)
	Glaucopsyche lygdamus (Silvery Blue)
	Icarcia acmon (Acmon Blue)
	Celastrina ladon (Echo Blue)
	Leptotes marina (Marine Blue)
	Philotes sonorensis (Sonoran Blue)
	Plebejus melissa (Melissa Blue)
	Everes amyntula (Western Tailed-Blue)
	Brephidium exilis (Western Pygmy-Blue)
Riocir	Riodinidae (Meta⊪marks)
2	Apodemia mormo virgulti (Behr's Metalmark)
Papilie	Papilionidae (Swallowtails)
	Papilio eurymedon (Pale Swallowtail)
	Papilio rutulus (Western Tiger Swallowtail)
	Papilio zelicaon (Anise Swallowtail)
Pierid	Pieridae (Whites and Orangetips)
	Anthocharis cethura (Desert Orangetip)
-	Anthocharis sara (Sara's Orangetip)
	Pieris rapae (Cabbage White)
-	Pontia protodice (Checkered White)
3	Colias eurytherne (Orange Sulphur)
	Colias harfordii (Harford's Sulphur)
	Eurerra nicippe (Sleepy Orange)
	Nathalis icle (Dainty Sulphur)
Satyric	Satyridae (Satyrids)
	Coencnympha californica (Common California
	Ringlet)
Others	

observed CSS, CHAMISE CHARACOC List nectar sources and plant communities

psinos GNAPPALIUM, RADODUM, CLIOTANTHA, Almispun, Characonatus, Dicharastram SALVIA, MIMMUMS, BUDUNCONA DEING NORA, ARIOLOGNUM,

List notes and GPS point names here, please write UTMs or Lat/Longs as backup:

GPS all QCB occurrences

GPS all potential host plant locations (Plantago erecta, Plantago patagonica, Antirrhinum coulterianum,

Cordylanthus rigidus, Castilleja exserta, and Collinsia heterophylla)

Format: plant name_diameter of

occurrence_density (low >20% cover per sq foot, medium 20-50%, high >50%)_date_observer AVIAN SPEUCS: HOLA, SOB, CATO, SAGS, CLOTTO, LACA CATH, NOMO, SOSP, CEGO, CLSW, CORD, COVE, WELLI



Surveyor Name: CARLET HUMMAN Date 4 15 15 Survey # Q

	Time	Temp (°F)	Cover (%)	Wind Speed (avg. mph)
Start	2830	to	Ø	0-2
End	1/900	900	Ø	4-10

decida	Name (British Footed Butterflies)
id iliku	Euphydras editha quino (Quino Checkerspot)
	Euphydras chalcedona (Chalcedon Checkspot)
	Charidryas gabbii (Gabb's Checkerspot)
	Phycoides mylitta (Mylitta Crescent)
	Thessalia leanira (Leanira Checkerspot)
	Nymphalls antiopa (Mourning Cloak)
	Basilarchia lorquini (Lorquin's Admiral)
2	Junonia coenia (Common Buckeye)
-	Vanessa annabella (West Coast Lauy)
	Vanessa cardui (Painted Lady)
	Vanessa virginiensis (American Lady)
	Vanessa atalanta (Red Admiral)
Danaidae	dae
	Danaus gilippus (Queen)
	Danaus plexippus (Monarch)
Hesp	Hesperidae
	Heliopetes ericetorum (Northern Willie-Shipper)
	Hylephila phyleus (Flery Skipper)
	Pyrqus albescens (White Checkered-Shipper)
0	Erynnis funeralis (Funereal Duskywing)
	Erynnis tristis (Mournful Duskywing)
	Erynnis propertius (Propertius Duskyming)
	Ochlodes agricola (Rural Skipper)

	O
	Atlides halesus (Great Purple Hallstream)
	Incisalia augustinus (Western Brown Limit
	Callophrys perplexa (Perplexing Hallsuear)
	Strymon melinus (Gray Hairstreak)
	Glaucopsyche lygdamus (Silvery Blue)
	carcia acmon (Acmon Blue)
	Celastrina ladon (Echo Blue)
2	0
	Philotes sonorensis (Sonoran Blue)
	Plebejus melissa (Melissa Blue)
	Everes amyntula (Western Tailed-Blue)
	Brephidium exilis (Western Pygmy-Blue)
iodi	Riocliniclae (Metalmarks)
6	Apodemia mormo virgulti (Behr's Metalmark)
apil	Papilionidae (Swallowtails)
	Papilio eurymedon (Pale Swallowtail)
	Papilio rutulus (Western Tiger Swallowtail)
	Papilio zelicaon (Anise Swallowtail)
Pier	Pieridae (Whites and Orangetips)
	Anthocharis cethura (Desert Orangetip)
	Anthocharis sara (Sara's Orangetip)
	Pieris rapae (Cabbage White)
7	Pontia protodice (Checkered White)
10	Colias eurytheme (Orange Sulphur)
1	Colias harfordii (Harford's Sulphur)
	Eurema nicippe (Sleepy Orange)
	Nathalis icle (Dainty Sulphur)
Sa	Satyridae (Satyrids)
_	Coenonympha californica (Common California
	Ringlet)
ō	Others
_	
L	

List nectar sources and plant communities observed (SS), CHAMISE CHAP PARALL DRIN AND PLA, REIOCONUM, GROOMMAIN SPON, DICHOLOSTEMMA, VICHA, CALORINS

List notes and GPS point name write UTMs or Lat/Longs as bac GPS all QCB occurrences GPS all potential host plant loca erecta, Plantago patagonica, Ar coulterianum,

Cordylanthus rigidus, Castilleja (Collinsia heterophylla)
Format: plant name_diameter of occurrence_density (low >20% cmedium 20-50%, high >50%)_di

SACS, PUFI, BLEN.
CATO, HOLA, SOSP,
COSA, WELV. LEGO,
MOOD, LASE, ROTH,

SDG&E Natural Gas System Potential Upgrades
Surveyor Name: (SMCLT)

List notes and GPS

write UTMs or Lat/I

GPS all QCB occur GPS all potential ho

erecta, Plantago pa

Cordylanthus rigidu Collinsia heterophy Format: plant name occurrence_density medium 20-50%, hit

coulterianum,

# d	Wind Speed (avg. mph)	4-5	2-5	
Survey #	Cloud Cover (%)	B	B	•
6 3	(°F)	78	76	
 		1100 94	97 OEBI	
Date	Start		End	

Nymp	Nymphalidae (Brush Footed Butterflies)
	Euphydras editha quino (Quino Checkerspot)
	Euphydras chalcedona (Chalcedon Checkspot)
	Charidryas gabbii (Gabb's Checkerspot)
	Phycoides mylitta (Mylitta Crescent)
	Thessalia leanira (Leanira Checkerspot)
	Nymphalis antiopa (Mourning Cloak)
	Basilarchia Iorquini (Lorquin's Admiral)
9	Junonia coenia (Common Buckeye)
	Vanessa annabella (West Coast Lady)
	Vanessa cardui (Painted Lady)
	Vanessa virginiensis (American Lady)
	Vanessa atalanta (Red Admiral)
Danaidae	ae
	Danaus gilippus (Queen)
	Danaus plexippus (Moriace)
Hesperidae	ridae (Northern White-Skipper)
	Heliopetes ericeluluin Skipper)
-	Hylephila phyleus (I los) White Checkered-Skipper)
	Pyrgus albescens (Finereal Duskywing)
6	Erynnis funeralis (1 cm Duskywing)
	Erynnis tristis (Michaelius Duskywing)
	Erynnis propertius (Rural Skipper)
	Ochlodes agricola

725

Bush

213

250

127

Lyca	Lycaenidae (Hairstreaks)
	Atlides halesus (Great Purple Hairstreak)
	Incisalia augustinus (Western Brown Elfin)
	Callophrys perplexa (Perplexing Hairstreak)
M	Strymon melinus (Gray Hairstreak)
	Glaucopsyche lygdamus (Silvery Blue)
	Icarcia acmon (Acmon Blue)
	Celastrina ladon (Echo Blue)
W	i-eptotes marina (Marine Blue)
	Philotes sonorensis (Sonoran Blue)
	Plebejus melissa (Melissa Blue)
	Everes amyntula (Western Tailed-Blue)
-	Brephidium exilis (Western Pyamy-Blue)
Riocli	Riodinidae (Metalmarks)
9	Apodemia mormo virgulii (Behr's Metalmark)
Papili	Papilionidae (Swallowtails)
	Papilio eurymedon (Pale Swallowtail)
	Papilio rutulus (Western Tiger Swallowtail)
4	Papilio zelicaon (Anise Swallowtail)
Pieridae	ae (Whites and Orangetips)
	Anthocharis cethura (Desert Orangetip)
	Anthocharis sara (Sara's Orangetip)
	Pieris rapae (Cabbage White)
e	Pontia protodice (Checkered White)
0	Colias eurytheme (Orange Sulphur)
	Colias harfordii (Harford's Sulphur)
	Eurema nicippe (Sleepy Orange)
	Nathalis icle (Dainty Sulphur)
Satyric	Satyridae (Satyrids)
	Coenonympha californica (Common California
	- 1
Others	

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2020

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As in

List nectar sources and plant communities observed (55, CHAM 1) & CHARPARAL (55, CHAM 1) & CHARPARAL (56, CHARPARAL (56, CMM), WILLIAM 1, 1950, CONDOUND (50, M) (100, M) (100



Callophrys perplexa (Perplexing Hairstreak)

Strymon melinus (Gray Hairstreak)

Glaucopsyche lygdamus (Silvery Blue)

Icarcia acmon (Acmon Blue) Celastrina ladon (Echo Blue)

Incisalia augustinus (Western Brown Elfin)

Atlides halesus (Great Purple Hairstreak)

Lycaenidae (Hairstreaks)

Cloud Wind Speed Cover (%) (avg. mph)	1-3	4-6
Temp CI (°F) Cov	76	82 10
Time	0830	1245 82
i	Start	End

Apodemia mormo virgulti (Behr's Metalmark)

Brephidium exilis (Western Pygmy-Blue)

Riodinidae (Metalmarks)

Everes amyntula (Western Tailed-Blue)

Philotes sonorensis (Sonoran Blue)

Plebejus melissa (Melissa Blue) Leptotes marina (Marine Blue)

Papilio rutulus (Western Tiger Swallowtail)

Papilio zelicaon (Anise Swallowtail)

Papilio eurymedon (Pale Swallowtail)

Papilionidae (Swallowtails)

0

Anthocharis cethura (Desert Orangetip)

Pieridae (Whites and Orangetips)

Nym	Nymphalidae (Brush Footed Butterflies)
	Euphydras editha quino (Quino Checkerspot)
	Euphydras chalcedona (Chalcedon Checkspot)
	Charidryas gabbii (Gabb's Checkerspot)
	Phycoides mylitta (Mylitta Crescent)
	Thessalia leanira (Leanira Checkerspot)
	Nymphalis antiopa (Mourning Cloak)
	Basilarchia torquini (Lorquin's Admiral)
-	Junonia coenia (Common Buckeye)
	Vanessa armabella (West Coast Lady)
	Vanessa cardui (Painted Lady)
	Vanessa virginiensis (American Lady)
	Vanessa atalanta (Red Admiral)
Danaidae	ae
	Danaus gilippus (Queen)
	Danaus plexippus (Monarch)
1	

Salifornia

DEMANDER , Kalo Gorum, ERUAU SALUIA, CRYOTANTHA, VICIA observed (SS, CAST-15E (ASPARACE List nectar sources and plant communities

Heliopetes ericetorum (Northern White-Skipper)

Hesperidae

Pyrgus albescens (White Checkered-Skipper)

Hylephila phyleus (Fiery Skipper)

Erynnis funeralis (Funereal Duskywing) Erynnis tristis (Mournful Duskywing) Erynnis propertius (Propertius Duskywing)

Ochlodes agricola (Rural Skipper)

SAUS, momo, Hoti. CLSW, CATO, CEGO, 18 CSC, 1200, 1000 ANHY, JEWR, CORA MOOD occurrence_density (low >20% cover per sq foot, medium 20-50%, high >50%)_date_observer GPS all potential host plant locations (Plantago Cordylanthus rigidus, Castilleja exserta, and List notes and GPS point names here, please Avor species: SAGS, erecta, Plantago patagonica. Antirrhinum write UTMs or Lat/Longs as backup: Format: plant name_diameter of GPS all QCB occurrences Collinsia heterophylla)



SDG&E Natural Gas System Potential Upgrades $3\zeta_{02}$

Surveyor Name: B. Lohstoh

Date Apr. 1 21, 2015 Survey # 10

	Time	Temp (°F)	Cloud Cover (%)	Wind Speed (avg. rnph)
Start	0830	F	101	0-2
End	Shhi	80	09	3-8

Nymph	Nymphalidae (Brush Footed Butterflies)
	Euphydras editha quino (Quino Checkerspot)
	Euphydras chalcedona (Chalcedon Checkspot)
	Charidryas gabbii (Gabb's Checkerspot)
	Phycoides mylitta (Mylitta Crescent)
	Thessalia leanira (Leanira Checkerspot)
	Nymphalis antiopa (Mourning Cloak)
	Basilarchia forquini (Lorquin's Admiral)
~	Junonia coenia (Common Buckeye)
_	Vanessa annabella (West Coast Lady)
П	Vanessa cardui (Painted Lady)
	Vanessa virginiensis (American Lady)
	Vanessa atalanta (Red Admiral)
Danaldae	dae
	Danaus gilippus (Queen)
	Danaus plexippus (Monarch)
Hesp	Hesperidae
	Heliopetes ericetorum (Northern White-Skipper)
	Hylephika phyleus (Fiery Skipper)
	Pyrgus albescens (White Checkered-Skipper)
 	Erynnis funeralis (Funereal Duskywing)
	Erynnis tristis (Mournful Duskywing)
	Erymnis propertius (Propertius Duskywing)
	Ochlodes agricola (Rural Skipper)

Lycaen	Lycaenidae (Hairstreaks)
	Atlides halesus (Great Purple Hairstreak)
	Incisalia augustinus (Western Brown Elfin)
	Callophrys perplexa (Perplexing Hairstreak)
4	Strymon melinus (Gray Hairstreak)
	Glaucopsyche lygdamus (Silvery Blue)
	carcia acinon (Acmon Blue)
	Celastrina ladon (Echo Blue)
7	Leptotes marina (Marine Blue)
	Philotes sonorensis (Sonoran Blue)
	Plebejus melissa (Melissa Blue)
	Everes amyntula (Western Tailed-Blue)
	Brephidium exilis (Western Pygmy-Blue)
Riodin	Riodinidae (Metalmarks)
5	Apodemia mormo virgulti (Behr's Metalmark)
Papilio	
	Papilio eurymedon (Pale Swallowtail)
	Papilio rutulus (Western Tiger Swallowtail)
	Papilio zelicaon (Anise Swallowtail)
Pierid	Pieridae (Whites and Orangetips)
	Anthocharis cethura (Desert Orangetip)
	Anthocharis sara (Sara's Orangetip)
ŀ	Pieris rapae (Cabbage White)
80	Pontia protodice (Checkered White)
12	Colias eurytheme (Crange Sulphur)
	Colias harfordii (Harford's Sulphur)
	Eurema nicippe (Sleepy Orange)
	Nathalis icle (Dainty Sulphur)
Satyr	Satyridae (Satyrids)
	Coencnympha californica (Common California
	Ringlet)
Others	S
\exists	Beenading blue
-	~
	6

Blowneria cleve, cirsium vul vicia sauthui cel mac, solaviam paf, Eruph cert, Bradinea acrouffit sid mal, Hel sca circulatis H.P.glap Escholz cal mez Had Cominch ctachys, solavines List nectar sources and plant communities observed Ev. fre her Erdinnspp. Acmispon glabor, stephenomeria, osmiten, Ant Not, Cryp int, Chalogalum, Dou-ham

GPS all potential host plant locations (Plantago List notes and GPS point names here, please write UTMs or Lat/Longs as backup: GPS all QCB occurrences

Cordylanthus rigidus, Castilleja exserta, and coulterianum,

erecta, Plantago patagonica, Antirrhinum

Collinsia heterophylla)

occurrence_density (low >20% cover per sq foot, Format: plant name_diameter of

medium 20-50%, high >50%)_date_observer

pariney 26 108 and



SDG&E Natural Gas System Potential Upgrades
Surveyor Name: CAPPRENT HUFFMM
Date 4 2/0 15 Survey # 11

	Time	Temp (°F)	Cloud Cover (%)	Wind Speed (avg. m.sh)
Start	175	7	2	5-2
End	1445	ht	01	3-7

Euphydra: Euphydra: Charidrya Phycoidee Thessalia Nymphalii Basilarchi S Junonia c Vanessa j Vanessa j Vanessa Vanessa Danaidae Danaus g	Euphydras editha quinc (Quino Checkerspc') Euphydras chalcedona (Chalcedon Checks: ot) Charidryas gabbii (Gab')'s Checkerspot) Phycoides mylitta (Naylitta Crescent) Thessalia (eanira (Leanira Checkerspot) Nymphalis antiopa (Mourning Cloak) Besilarchia lorquini (Lorquin's Admiral) Junonia coenia (Common Buckeye)
Euphydra Charidrya Phycoidee Thessaila Nymphalli Basilarchi 5 Junonia c Vanessa j Vanessa j Vanessa Vanessa Danaidae Danaus g	ss chakcedona (Chalcedon Checks: ot) as gabbii (Gab 3's Checkerspot) s myiitta (Myllita Crescent) is eanira (Leanira Checkerspot) is antiopa (Mourning Cloak) its lorquini (Lorquin's Admiral) coenia (Common Buckeye) annabella (West Coast Lady)
Prycoidee Thessalia Thessalia Nymphalis Basilarch Sunonia o Vanessa i Vanessa Vanessa Vanessa Danaldae Danaus g	ss gabbii (Gab3's Checkerspot) s myilta (Mylita Crescent) is eanira (Leanira Checkerspot) is antiopa (Mourning Cloak) iis lorquini (Lorquin's Admiral) coenia (Common Buckeye) annabella (West Coast Lady)
Phycoidea Thessalia Nymphalia Besilarch Junonia o Vanessa Vanessa Vanessa Vanessa Vanessa Danaldae Danaus g	s mylitta (Nylitta Crescent) I leanira (Leanira Checkerspot) Is antispa (Mourning Cloak) Itis lorquini (Lorquin's Admiral) coenia (Common Buckeye) annabella (West Coast Lady)
Thessalia Nymphalis Basilarch S Junonia o Vanessa j Vanessa Vanessa Vanessa Danaldae Danaus g	a leanira (Leanira Checkerspot) is antiopa (Mourning Cloak) iis lorquini (Lorquin's Admiral) coenia (Common Buckeye) annabella (West Coast Lady)
Nymphali Basilarch Junonia o Venessa Venessa Venessa Venessa Venessa Danaidae Danaus g	is antiopa (Mourning Cloak) iis lorquini (Lorquin's Admiral) coenia (Common Buckeye) annabella (West Coast Lady)
Sasilarch Junonia c Venessa i Venessa Venessa Venessa Denaidae Denaus g	iia <i>lorquini</i> (Lorquin's Admiral) soenia (Common Buckeye) annabella (West Coast Lady)
Junonia c Vanessa junessa junessa Vanessa Vanessa Vanessa Danaidae Danaus g	coenia (Common Buckeye) annabella (West Coast Lady)
Vanessa Vanessa Vanessa Vanessa Vanessa Danaidae Danaus g	annabella (West Coast Lady)
i Vanessa Vanessa Vanessa Danaidae Danaus g	
Vanessa Vanessa Danaidae Danaus g	Vanessa cardui (Painted Lady)
Danaidae Danaidae Danaus g Danaus p	Vanessa virginiensis (American Lady)
Danaidae Danaus g Danaus p	Vanessa atalanta (Red Admiral)
Danaus g Danaus p	
Danaus p	Danaus gilippus (Queen)
Heart and dear	Danaus plexippus (Monarch)
nesperidae	
Heliopate	Heliopates ericetorum (Northern White-Skipper)
Hylephila	Hylephila phyleus (Fiery Skipper)
Pyrgus all	Pyrgus albescens (White Checkered-Skipper)
C Erynnis fu	Erynnis funeralis (Funereal Duskywing)
Erynnis tri	Erynnis tristis (Mournful Duskywing)
Erynnis pr	Erynnis propertius (Propertius Dusk/wing)
Ochlodee	Ochlodes agricola (Bural Chippen)

List nectar scurces and plant corn nuri ties observed (55 · CHAOLS & CHA BARA OKL MANNER (540 CONVIL)

List notes and GIPS point names here, please write UTMs or Lat/Longs as backup:

GP € all QCB oc: urrences

GPE all potential host plant locations (Plantago erecta, Plantago patagonica, Antirrhinum coulterianum,

Contylanthus rigidus, Castilleja exserta, s.nd Coll.nsia hererophylla) Forrnat: plant name_diameter of occ. rrence_density (lov/>20% cover per aq foot,

medium 20-50%, high >50%,_date_observer

ALLEN SOCUES.

CALI, NOMO, PHO.

RECENTATO, ACH.

RECENTATO, ACH.



SUCCE Natural Gas System Potential Upgrades
Surveyor Name (2000000)
Date 4 21 No Survey 10

	E	Temp (F)	Cover (%)	Wind Speed (ang. mph)
Start	1 0000	7	001	7-0
T.	3	00	3	3-6

	Mymphalidae (Brush Fooled Butterflies)
	Ruphydras actific quero (Ouric Chackerspot)
	Euphy seas chalcedona (Chalcedon Chockspol)
	Charichyes galder (Sabbs Checketspot)
	Phycodes mylita (Mytta Crescent)
	Thessalls earling Lea in Checkerspol)
	Ayruptians antiopa (Mouning Cloak)
	Basicarchia forgan (Lorquin's Admiral)
~	Junonia cuenta (Common Buckeye)
	Vancusa arrabone (West Coast Lady)
4	Vanessa cardui (Punted Lady)
	Vanessa vigitions's American Lady
	Vanesse stationta (Red Admiral)
Danei	*
	"Denaus gillopus (Queen)
	Canaus piexipous (Monarch)
Hespe	ridae
-	Contract of the Contract of th

3	Ase (Is	- Mainstre BKS
-	Atliday	Atides, haresus (Great Purple Hairstreak)
+	Total Street	Projective a constitute (Western Brown Elfin)
+	CSE	Augustina John Maire Maire
-1	Calloph	Callophys perplexa (Perplexing namous and
	Strymo	Strymon melinus (Gray Hairstreak)
	Slauco	Glaucopsyche iygdamus (Silvery Blue)
	Carcie	carcis acinon (Acmon Elue)
	Celasi	Celastrina ladon (Echo Blue)
5	Leptor	eptotes marine (Marine Blue)
	Philoles.	es sonorensis (Sonoran Blue)
	Stebe	Plebejus melissa (Melissa Biue)
	Ever	Sveres amyntula (Western Tailed-Blue)
	Srepi	Srephidium exitis (Western Pygmy-Blue)
0	nidae (Nodinidae (Metaimarks)
O	Ap.	Apodemia mo.mo virgulii (Behr's Metalmark)
9	lionidae	e (Swallowtails)
1	OBC.	Papific eurymodon (Pale Swallowtail)
1	Pac	Papilio rutulus (Western Tiger Swallowtail)
	Jec.	
1	Pleridae (N	e (Whites and Orangelips)
	Anl	Anthocharis cethura (Desert Orangelip)
	A.	Anthocharis sara (Sara's Orangetip)
	Ġ.	Pieris rapue (Cabbage White)
₹,	Po Po	Pontia protodice (Checkared White)
	2	Coffas eurytheme (Orange Sulptiur)
	2	Colias har fordir (Harford's Sulphur)
	ιij	Euren.a nicippe (Sleepy Orange)
	7	Nathairs icie (Dainty Sulphur)
S	Tyrida	Selyridae (Salyrids)
	-	Coercnympha californica (Common California
	-	Hingiell
	Ochers	the second secon
	S	ENCETATES TECHTOINE
	+	
سل		
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List nectar scurces and plant communities observed CSS, CHAMISK CHAMINGRAPH DELINGATION OF SCURCE OF TRIOBUNIAN, BASENT PSCURO (AND HALLUM, JSM.) DEMINGRAPH OF SCURO (AND HALLUM, (RATHERM) VILLA

Pyrgus albescens . White Checkered Shaper

Eryanis funerails (Funereal Duskywing)

Eryanis trists (Mountly Duskywing

Egmn's propertius (Propertius Dusk/wing)

List notes and GPS point names here, please write UTMs or Lat/Longs as backup; GPS all QCB occurrences GPS all QCB occurrences GPS all potential hoist plant locations (Plantago erecta, Plantago palagonica, Antirchimum coulterianum,

Cordylanthus rigidus, Castilloja exserta, and Collinsia heterophylla)
Format: plant name_diameter of occurrence_density (low >20% cover per sq tool,

medium 20-50%, high >50%)_date_observer

MIAN: WEKI, WENT, RESP.,
ANHU, CATO, SOTO, SOLOS,
CORE, BUSH, WAY,
HOFI, MUDU BUSH, WAY,
HOFI, MUDU



Start 0630 78 5 7 1 4-8					
(%) Cover (%) (%) (%) (%) (%) (%) (%) (%) (%) (%)		Time	Temp	Cloud	Wind Speed
1 23 asi			(F)	Cover (%)	(avg. rnph)
1 28 051		0830	P8	8	h-2
	End	150	48)	4-8

N	Nymphalidae (Brush Footed Butterflies)
	Funhydras editha quino (Quino Checkerspot)
	Euphydras chalcedona (Chalcedon Checkspot)
1	Charidryas gabbii (Gabb's Checkerspot)
	Phycoides mylitta (Mylitta Crescent)
	Thessalia leanira (Leanira Checkerspot)
	Nymphalis antiopa (Mourning Cloak)
	Basilarchia lorquini (Lorquin's Admiral)
1	Junonia coenia (Common Buckeye)
1	Vanessa annabella (West Coast Lady)
	Vanessa cardui (Painted Lady)
	Vanessa virginiensis (American Lady)
	Vanessa atalanta (Red Admiral)
Danaidae	9
-	(Door)
_	Danaus dillopus (Queen)

Ca	Danaidae
	Danaus oilippus (Queen)
	Danaus plexippus (Monarch)
Hest	Hesperidae
	Heliopetes ericetorum (Northern White-Skipper)
•	Hylephila phyleus (Fiery Skipper)
-	Pyrqus albescens (White Checkered-Skipper)
7	Erynnis funeralis (Funereal Duskywing)
-	Erynnis tristis (Mournful Duskywing)
<u> </u>	Erynnis propertius (Propertius Duskywing)
1	Ochlodes agricola (Rural Skipper)

1	do (Universale)
Lycaellit	Address Association (Great Purple Hairstreak)
7	Allides naiesus (dieat Fulpie Hallstoom)
	Incisalia augustinus (Western Brown Ellin)
)	Callophrys perplexa (Perplexing Hairstreak)
-	Strymon melinus (Gray Hairstreak)
	Glaucopsyche lygdamus (Silvery Blue)
	Icarcia acmon (Acmon Blue)
	Celastrina ladon (Echo Blue)
-	Leptotes marina (Marine Blue)
	Philotes sonorensis (Sonoran Blue)
	Plebejus melissa (Melissa Blue)
	Everes amyntula (Western Tailed-Blue)
	Brephidium exilis (Western Pygmy-Blue)
Riodini	Riodinidae (Metalmarks)
2	Apodemia mormo virgulii (Behr's Metalmark)
Papilio	Papilionidae (Swallowtails)
	Papilio eurymedon (Pale Swallowtail)
	Papilio rutulus (Western Tiger Swallowtail)
	Papilio zelicaon (Ariise Swallowtail)
Pierida	ieridae (Whites and Orangetips)
	Anthocharis cethura (Desert Orangetip)
	Anthocharis sara (Sara's Orangetip)
	Pieris rapae (Cabbage White)
+	Pontia protodice (Checkered White)
2	Colias eurytheme (Orange Sulphur)
	Colias harfordii (Harford's Sulphur)
	Eurema nicippe (Sleepy Orange)
	Nathalis icle (Dainty Sulphur)
Satyri	Satyridae (Satyrids)
	Coenonympha californica (Common California
-	Ringlet)
Others	
~	LECONOR
-	780
6	CONSTOCK FRITHING

List nectar sources and plant communities observed $CSS \rightarrow CHAPPUSC$ CHAPPAGA , REDDIUM,
OKUNDAMA, REDDIUM,
SALVIA, CESCANTHEMUM,
SALVIA, CESCANTHEMUM,

List notes and GPS point names here, please write UTMs or Lat/Longs as backup:

GPS all QCB occurrences GPS all potential host plant locations (*Plantago*

erecta, Plantago patagonica, Antirrhinum coulterianum, Cordylanthus rigidus, Castilleja exserta, and

Cordylanthus rigidus, Castilleja exserta, and Collinsia heterophylla)
Format: plant name_diameter of occurrence_density (low >20% cover per sq foot,

medium 20-50%, high >50%)_date_observer

ANIAN SPECIES:
(SATO, CORA, HOLD, CADA,
SPTO, MUSO, CONFE, WASEN)
SPTO, MUSO, CONFE, WASEN,
SPTO, MUSO, CANA, CATA,
Nomo, SALS, CATA, RTHP,
SPTO, SAPH, ANTHON, DISENT,



SDG&E Natural Gas System Potential Upgrades Surveyor Name: Melanie Rocks Survey # // Date 4/30/2015

	Time	Temp	Cloud	Wind Speed
		(1)	Cover (%)	(avg. mpn)
Start	0830	20	in a	# 3-4
End				0 17
	500	500	10/0	0-6

Nymp	Nymphalidae (Brush Footed Butterflies)
	Euphydras editha quino (Quino Checkerspot)
	Euphydras chalcedona (Chalcedon Checkspot)
=	Charidryas gabbii (Gabb's Checkerspot)
	Phycoides mylitta (Mylitta Crescent)
	Thessalia leanira (Leanira Checkerspot)
	Nymphalis antiopa (Mourning Cloak)
- 1	Basilarchia lorquini (Lorquin's Admiral)
-	Junonia coenia (Common Buckeye)
	Vanessa annabella (West Coast Lady)
	Vanessa cardui (Painted Lady)
	Vanessa virginiensis (American Lady)
	Vanessa atalanta (Red Admiral)
Danaidae	dae
	Danaus gilippus (Queen)
	Danaus plexippus (Monarch)
Hesp	Hesperidae
	Heliopetes ericetorum (Northern White-Skipper)
	Hylephila phyleus (Fiery Skipper)
	Pyrgus albescens (White Checkered-Skipper)
17	Erynnis funeralis (Funereal Duskywing)
	Erynnis tristis (Mournful Duskywing)
	Erynnis propertius (Propertius Duskywing)
	Ochlodes agricola (Rural Skipper)

Atlides halesus (Great Purple Hairstreak) Incisalia augustinus (Western Brown Elfin) Callophrys perplexa (Perplexing Hairstreak) Glaucopsyche lygdamus (Silvery Blue) Glaucopsyche lygdamus (Silvery Blue) Icarcia acmon (Acmon Blue) Celastrina ladon (Echo Blue) Leptotes marina (Marine Blue) Philotes scnorensis (Sonoran Blue) Philotes scnorensis (Sonoran Blue) Phebejus melissa (Melissa Blue) Brephidium exilis (Western Tailed-Blue) Brephidium exilis (Western Tailed-Blue) Appilio eurymadon (Pale Swallowtail) Papilio eurymadon (Pale Swallowtail) Papilio curymadon (Pale Swallowtail) Papilio scelicaon (Anise Swallowtail) Pheridae (Whites and Orangetips) Anthochans cathura (Desert Orangetip) Pieris rapae (Cabbage White) Colias harlordii (Harford's Sulphur) Eurema nicippe (Sleepy Orange) Nathalis icle (Dainty, Sulphur) Satyridae (Satyrids) Coenonympha californica (Common Californi Coenonympha californica (Common Californi Coenonympha californica (Common Californi Coenonympha californica (Common Californi	Atlides haiasus (Great Purple Hairstreak) Incisalia augustinus (Western Brown Effin) Callophrys perplexa (Perplexing Hairstreak) Glaucopsyche lygdamus (Silvery Blue) Icarcia acmon (Acmon Blue) Celastrina ladon (Echo Blue) Leptotes marina (Marine Blue) Philotes sonorensis (Sonoran Blue) Philotes sonorensis (Sonoran Blue) Philotes amyntula (Western Tailed-Blue) Brephidium exilis (Western Pygmy-Elua) Apodemia mormo vigulti (Behr's Metalmark) Papi lionidae (Swallowtails) Papi lionidae (Swallowtails) Papi ionidae (Swallowtails) Papilio zelicaon (Anise Swallowtail) Anthochans cethura (Desert Orangetip) Anthochans sara (Sara's Orangetip) Pieris rapae (Cabbage White) Colias harlordii (Harford's Sulphur) Eurema nicippe (Sleepy Orange) Nathalis icle (Dainty Sulphur) Satyridae (Satyrids) Coenonympha californica (Common California Ringlet) Nathalis icle (Dainty Sulphur) Ringlet)	-	
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Rioclinidae (Metalmarks) 2	Rioclinidae (Metalmarks) 2. Apodemia mormo vigulti (Behr's Metalmark) Papi Itonidae (Swallowtails) Papilio eurymedon (Pale Swallowtail) Papilio rutulus (Western Tiger Swallowtail) Papilio zelicaon (Arise Swallowtail) Pieridae (Whites and Orangetips) Anthocharis sara (Sara's Orangetip) Pieris rapae (Cabbage White) Colias harlordii (Harlord's Sulphur) Eurema nicippe (Sleepy Orange) Nathalis icle (Dainty Sulphur) Satyridae (Satyrids) Coenonympha californica (Common California Coenonympha californica (Common California Lo Vm · 1D WASPE I phaera icle Pha		Brephidium exilis (Western Pygmy-Ellue)
Apodemia mormo virgulti (Behr's Metalmark) Papi lionidae (Swallowtails) Papilio eurymedon (Pale Swallowtail) Papilio rutulus (Western Tiger Swallowtail) Papilio zelicaon (Anise Swallowtail) Pieridae (Whites and Orangetips) Anthocharis cathura (Desert Orangetip) Anthocharis sara (Sara's Orangetip) Pieris rapae (Cabbage White) Pieris rapae (Cabbage White) Pieris rapae (Cabbage White) Pontia protodice (Checkered White) Colias eurytheme (Orange Sulphur) Colias harfordii (Harford's Sulphur) Eurema nicippe (Sleepy Orange) Nathalis icle (Dainty Sulphur) Satyridae (Satyrids) Coenonympha californica (Common Californi Coenonympha californica (Common Californi Coenonympha californica (Common Californi Coenonympha californica (Common Californi	A Apodemia mormo vigulti (Behr's Metalmark) Papi lionidae (Swallowtails) Papilio eurymedon (Pale Swallowtail) Papilio rutulus (Western Tiger Swallowtail) Papilio zelicaon (Anise Swallowtail) Pleridae (Whites and Orangetips) Anthocharis cathura (Desert Orangetip) Pieris rapae (Cabbage White) Pieris rapae (Cabbage White) Pieris rapae (Cabbage White) Pieris rapae (Cabbage White) Colias hartordii (Harford's Sulphur) Eurema nicippe (Sleepy Orange) Nathalis icle (Dainty Sulphur) Coenonympha californica (Common California Coenonympha californica (Common California Lo Vm 1) VM 1: H	Riodir	nidae (Metalmarks)
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Papilio eurymedon (Pale Swallowtail) Papilio zelicaon (Anise Swallowtail) Pleridae (Whites and Orangetips) Anthocharis cathura (Desert Orangetip) Anthocharis sara (Sara's Orangetip) Pieris rapae (Cabbage White) Pontia protodice (Checkered White) Colias eurytheme (Orange Sulphur) Colias harfordii (Harford's Sulphur) Eurema nicippe (Sleepy Orange) Nathalis icle (Dainty Sulphur) Satyridae (Satyrids) Coenorympha californica (Common Californi Coenorympha californica (Common Californi Coenorympha californica (Common Californi Coenorympha californica (Common Californi	Papilio eurymedon (Pale Swallowtail) Papilio rutulus (Western Tiger Swallowtail) Pleridae (Whites and Orangetips) Anthocharis cethura (Desert Orangetip) Anthocharis sara (Sara's Orangetip) Pieris rapae (Cabbage White) Pieris rapae (Cabbage White) Pontia protodice (Checkered White) Colias eurytheme (Orange Sulphur) Colias harfordii (Harford's Sulphur) Eurema nicippe (Sleepy Orange) Nathalis icle (Dainty Sulphur) Satyridae (Satyrids) Coenonympha californica (Common California Ringlet) Others Control Markite Coenonymipha Californica (Common California	Papilie	onidae (Swallowtails)
Peptilio zelicaon (Anise Swallowtail) Pieridae (Whites and Orangetips) Anthocharis cethura (Desert Orangetip) Anthocharis sara (Sara's Orangetip) Pieris rapae (Cabbage White) Colias eurytheme (Orange Sulphur) Colias harfordii (Harford's Sulphur) Eurema nicippe (Sleepy Orange) Nathalis icle (Dainty Sulphur) Satyridae (Satyrids) Coenorympha californica (Common Californi Coenorympha californica (Common Californi Coenorympha californica (Common Californi Coenorympha californica (Common Californi	Papilio rutulus (Western Tiger Swallowtail) Pieridae (Whites and Orangetips) Anthocharis cethura (Desert Orangetip) Anthocharis sara (Sara's Orangetip) Pieris rapae (Cabbage White) Pieris rapae (Cabbage White) Pontia protodice (Checkered White) Colias eurytheme (Orange Sulphur) Colias harfordii (Harford's Sulphur) Eurema nicippe (Sleepy Orange) Nathalis icle (Dainty Sulphur) Satyridae (Satyrids) Coenonympha californica (Common California Coenonympha californica (Common California Lo Vm · ID VJK; H.		Papilio eurymedon (Pale Swallowtail)
Pleridae (Whites and Orangetips) Anthochans cethura (Desert Orangetip) Anthochans sara (Sara's Orangetip) Pieris rapae (Cabbage White) Pieris rapae (Cabbage White) Pieris rapae (Cabbage White) Pontia protodice (Checkered White) Colias eurytheme (Orange Sulphur) Colias harfordii (Harford's Sulphur) Eurema nicippe (Sleepy Orange) Nathalis icle (Dainty Sulphur) Coenonympha californica (Common Californi	Pieridae (Whites and Orangetips) Anthochans cethura (Desert Orangetip) Anthochans sara (Sara's Orangetip) Pieris rapae (Cabbage White) Pieris rapae (Cabbage White) Pontia protodice (Checkered White) Colias eurytheme (Orange Sulphur) Colias harfordii (Harford's Sulphur) Eurema nicippe (Sleepy Orange) Nathalis icle (Dainty Sulphur) Satyridae (Satyrids) Coenonympha californica (Common California		Papilio rutulus (Western Tiger Swallowtail)
Pieridae (Whites and Orangetips) Anthochans cethura (Desert Orangetip) Anthochans sara (Sara's Orangetip) Pieris rapae (Cabbage White) Pieris rapae (Cabbage White) Pieris rapae (Cabbage White) Pieris rapae (Cabbage White) Colias eurytheme (Orange Sulphur) Colias harfordii (Harford's Sulphur) Eurema nicippe (Sleepy Orange) Nathalis icle (Dainty Sulphur) Satyridae (Satyrids) Coenonympha californica (Common Californi Binglet) Others Coenonympha californica (Common Californi Coenonympha californica (Common Californi	Pieridae (Whites and Orangetips) Anthochans cethura (Desert Orangetip) Anthochans sara (Sara's Orangetip) Pieris rapae (Cabbage White) Pieris rapae (Cabbage White) Pontia protodice (Checkered White) Colias eurytheme (Orange Sulphur) Colias harfordii (Harford's Sulphur) Eurema nicippe (Sleepy Orange) Nathalis icle (Dainty Sulphur) Satyridae (Satyrids) Coenonympha californica (Common California Coenonympha californica (Common California Lo Vm · ID WKî H. I Maer h · A · A		Papilio zelicaon (Anise Swallowtail)
		Pierid	ae (Whites and Orangetips)
			Anthochans cethura (Desert Orangetip)
			Anthochans sara (Sara's Orangetip)
			Pieris rapae (Cabbage White)
1 20		9	Pontia protodice (Checkered White)
1 1 1 1	1 10	14	Colias eurytheme (Orange Sulphur)
1.0	1 10		Colias harfordii (Harford's Sulphur)
1 10	1.0		Eurema nicippe (Sleepy Orange)
70	70		Nathalis icle (Dainty Sulphur)
		Satyri	dae (Satyrids)
May D White	MAND WAIR	7	Coenonympha californica (Common California
Maring Cla	Marring Cla	0	- 1
Mouraing Clas	Marching Cla	Other	
2	2	0	j
`		1	2

List nectar sources and plant communities Dess, Charice Chy Dei fase, osmodenia Eri fase, Crocanthamon NNG, DISTIBEN

GPS all potential host plant locations (Plantago List notes and GPS point names here, please write UTMs or Lat/Longs as backup: GPS all QCB occurrences

Cordylanthus rigidus, Castilleja exserta, and coulterianum,

erecta, Plantago patagonica, Antirrhinum

Collinsia heterophylla)

occurrence_density (low >20% cover per sq foot, medium 20-50%, high >50%)_date_observer Format: plant name_diameter of



SDG&E Natural Gas System Potential Upgrades
Surveyor Name: 1 ARGAI HOFMA

Date 5 3 15 Survey # 12

Wind Speed (avg. mph) $3 - 4$ $4 - 6$

Nyma	Nymnhalidae (Brush Footed Butterflies)
	Euphydras editha quino (Quino Checkerspot)
	Euphydras chalcedona (Chalcedon Checkspot)
	Charidryas gabbii (Gabb's Checkerspot)
	Phycoides mylitta (Mylitta Crescent)
	Thessalia leanira (Leanira Checkerspot)
	Nymphalis antiopa (Mourning Cloak)
	Basilarchia lorquini (Lorquin's Admiral)
	Junonia coenia (Common Buckeye)
	Vanessa annabella (West Coast Lady)
	Vanessa cardui (Painted Lady)
	Vanessa virginiensis (American Lady)
	Vanessa atalanta (Red Admiral)
Danaidae	dae
	Danaus gilippus (Queen)
	Danaus plexippus (Monarch)
Hesperidae	ridae (Alethern White-Skipper)
	Heliopetes ericetorum (Notutien)
	Hylephila phyleus (Fiery Shipper)
	Pyrgus albescens (Writte Criccon)
7	Erynnis funeralis (Fullelear Erynnis funerali
	Erynnis tristis (Mourrilla Duskywing)
	Erynnis propertius (Flubous)
	Ochlodes agricola Indian Company

	Atlides haloming (Carata Carata Carat
T	Incicolio guardia (Great Purpie Hairstreak)
1	
	Callophrys perplexa (Perplexing Hairstreak)
	Strymon melinus (Gray Hairstreak)
	Glaucopsyche lygdamus (Silvery Blue)
	Icarcia acmon (Acmon Blue)
	Celastrina ladon (Echo Blue)
3	Leptotes marina (Marine Blue)
,	Philotes sonorensis (Sonoran Blue)
	Plebejus melissa (Melissa Blue)
	Everes amyntula (Western Tailed-Blue)
0	Brephidium exilis (Western Pygmy-Blue)
Riodir	Riodinidae (Metalmarks)
c	Apodemia mormo virgulti (Behr's Metalmark)
Papille	Papillonidae (Swallowtails)
	Papilio eurymedon (Pale Swallowtail)
	Papilio rutulus (Western Tiger Swallowtail)
	Papilio zelicaon (Anise Swallowtail)
Pierid	Pieridae (Whites and Orangetips)
	Anthocharis cethura (Desert Orangetip)
	Anthocharis sara (Sara's Orangetip)
	Pieris rapae (Cabbage White)
7	Pontia protodice (Checkered White)
~	Colias eurytheme (Orange Sulphur)
1	Colias harfordii (Harford's Sulphur)
	Eurema nicippe (Sleepy Orange)
	Nathalis iole (Dainty Sulphur)
Saty	Satyridae (Satyrids)
	Coenonympha californica (Common California
	Ringlet)
Others	
6	4
C	BELLOPEDING BUTH

List nectar sources and plant communities

Observed (55, Chamis & Chamber

Of IN ANDOR I RUNCIOLAND

List notes and GPS point names here, please write UTMs or Lat/Longs as backup:
GPS all QCB occurrences
GPS all QCB occurrences
GPS all potential host plant locations (*Plantago erecta*, *Plantago patagonica*, *Antirrhinum coulterianum*,
Cordylanthus rigidus, Castilleja exsérta, and Collinsia heterophylla)
Format: plant name_diameter of occurrence_density (low >20% cover per sq foot, medlum 20-50%, high >50%)_date_observer

Asia Sacrás, Bota, RCS, CLSM, Coma, Soto, Cush, Hori



Surveyor Name: Lee Prip mg

Date 6 (6 | 15 Survey # 12

	Time	Temp (°F)	Cover (%)	Wind Speed (avg. mph)
Start	00:01	4.06 00:01	1000	h ~)
End	1320 71.	7	1001	5-6

MAN	Nymphalidae (Brush Footed Butterflies)
	Euphydras editha quino (Quino Checkerspot)
	Euphydras chalcedona (Chalcedon Checkspot)
	Charidryas gabbii (Gabb's Checkerspot)
	Phycoides mylitta (Mylitta Crescent)
	Thessalia leanira (Leanira Checkerspot)
	Nymphalis antiopa (Mourning Cloak)
	Basilarchia forquini (Lorquin's Admiral)
	Junonia coenia (Common Buckeye)
	Vanessa annabella (West Coast Lady)
	Vanessa cardui (Painted Lady)
	Vanessa virginiensis (American Lady)
	Vanessa atalanta (Red Admiral)
Danaidae	dae
	Danaus gilippus (Queen)
	Danaus plexippus (Monarch)
lespe	Hesperidae
	Heliopetes ericetorum (Northern White-Skipper)
	Hylephila phyleus (Fiery Skipper)
1	Pyrgus albescens (White Checkered-Skipper)
>	Erynnis funeralis (Funereal Duskywing)
	Erynnis tristis (Mournful Duskywing)
	Erynnis propertius (Propertius Duskywing)
	Ochlodes acricola (Rural Skipper)

-ycae	Lycaenidae (Hairstreaks)
	Allides nalesus (Great Purple Hairstreak)
	Incisalia augustinus (Western Brown Effin)
	Callophrys perplexa (Perplexing Hairstreak)
	Strymon melinus (Gray Hairstreak)
	Glaucopsyche lygdamus (Silvery Blue)
	Icarcia acmon (Acmon Blue)
	Celastrina ladon (Echo Blue)
>	Leptotes marina (Marine Blue)
	Philotes sonorensis (Sonoran Blue)
	Plebejus melissa (Mellssa Blue)
	Everes amyntula (Western Tailed-Blue)
	Brephidium exilis (Western Pygmy-Blue)
Riod	Riodinidae (Metalmarks)
>	Apodemia mormo virgulti (Behr's Metalmark)
Papil	Papilionidae (Swallowtalls)
	Papilio eurymedon (Pale Swallowtall)
	Papillo rutulus (Western Tiger Swallowtail)
	Papillo zelicaon (Anise Swallowtall)
Pieric	Pieridae (Whites and Orangetips)
	Anthocharis cethura (Desert Orangetip)
	Anthocharis sara (Sara's Orangettp)
	Pieris rapae (Cabbage White)
	Pontia protodice (Checkered White)
	Colias eurytherne (Orange Sulphur)
	Collas harfordii (Harford's Sulphur)
	Eurema nicippe (Sleepy Orange)
	Nathalis iole (Dainty Sulphur)
Satyr	Satyridae (Satyrids)
	Coenonympha californica (Common California
Ciners	8

List nectar sources and plant communities observed

() List nand va FAS.

List notes and GPS point names here, please write UTMs or Lat/Longs as backup: GPS all QCB occurrences GPS all potential host plant locations (*Plantago erecta*, *Plantago patagonica*, *Antirrhinum coulterianum*, *Cordylanthus rigidus*, *Castilleja exserta*, and *Collinsia heterophylla*)

Format: plant name_diameter of occurrence_density (low >20% cover per sq foot, medium 20-50%, high >50%)_date_observer



SDG&E Natural Gas System Potential Upgrades
Surveyor Name: Child Survey # 12

	Time	(4°)	Cloud Cover (%)	Wind Speed (avg. mph)
Start	301	hat aco	00/	h-1
End	o£ 9 €	89	06	3-8

Nymp	Nymphalidae (Brush Footed Butterflies)
	Euphydras editha quino (Quino Checkerspot)
	Euphydras chalcedona (Chalcedon Checkspot)
	Charidryas gabbii (Gabb's Checkerspot)
	Phycoides mylitta (Mylitta Crescent)
	Thessalia leanira (Leanira Checkerspot)
	Nymphalis antiopa (Mourning Cloak)
	Basilarchia lorquini (Lorquin's Admiral)
	Junonia coenia (Common Buckeye)
	Vanessa annabella (West Coast Lady)
-	Vanessa cardui (Painted Lady)
	Vanessa virginiensis (American Lady)
-	Vanessa atalanta (Red Admiral)
Danaidae	186
	Danaus gilippus (Queen)
	Danaus plexippus (Monarch)
Hesperidae	ridae
	Heliopetes ericetorum (Northern White-Skipper)
	Hylephila phyleus (Fiery Skipper)
	Pyrgus albescens (White Checkered-Skipper)
5	Erynnis funeralis (Funereal Duskywing)
	Erynnis tristis (Mournful Duskywing)
	Erynnis propertius (Propertius Duskywing)
	Ochlodes agricola (Rural Skipper)
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	(
	Atlides halesus (Great Purple Hairstreak)
	Incisalia augustinus (Western Brown Elfin)
	Callophrys perplexa (Perplexing Hairstreak)
	Strymon melinus (Gray Hairstreak)
	Glaucopsyche lygdamus (Silvery Blue)
	Icarcia acmon (Acmon Blue)
	Celastrina ladon (Echo Blue)
ב	Leptotes marina (Marine Blue)
	Philotes sonorensis (Sonoran Blue)
	Plebejus melissa (Melissa Blue)
	Everes amyntula (Western Tailed-Blue)
	Brephidium exilis (Western Pygmy-Blue)
Riodi	Riodinidae (Metalmarks)
_	Apodemia mormo virgulti (Behr's Metalmark)
Papilli	Papilionidae (Swallowtalls)
	Papilio eurymedon (Pale Swallowtail)
	Papilio rutulus (Western Tiger Swallowtail)
	Papilio zelicaon (Anise Swallowtail)
Pierid	Pieridae (Whites and Orangetips)
	Anthocharis cethura (Desert Orangetip)
	Anthocharis sara (Sara's Orangetip)
	Pieris rapae (Cabbage White)
_	Pontia protodice (Checkered White)
W	Colias eurytheme (Orange Sulphur)
	Colias harfordii (Harford's Sulphur)
	Eurema nicippe (Sleepy Orange)
	Nathalis iole (Dainty Sulphur)
Satyri	Satyridae (Satyrids)
	Coenonympha californica (Common California
	Ringlet)
Others	
C	RECENARIONO RUE

List nectar sources and plant communities observed (SS, CHAM) CHAM

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List notes and GPS point names here, please write UTMs or Lat/Longs as backup: GPS all QCB occurrences GPS all QCB occurrences GPS all potential host plant locations (*Plantago erecta, Plantago patagonica, Antirrhinum coulterianum, Cordylanthus rigidus, Castilleja exserta, and Collinsia heterophylla)*Format: plant name_diameter of occurrence_density (low >20% cover per sq foot, medium 20-50%, high >50%)_date_observer

ALMAN SPECIES:
SALOS, RCIP, CARD, BLOW.
HAID, LEGO, UCMI, SPD,
LASO, BUSH, WISLU, BUSK,
RATHA.