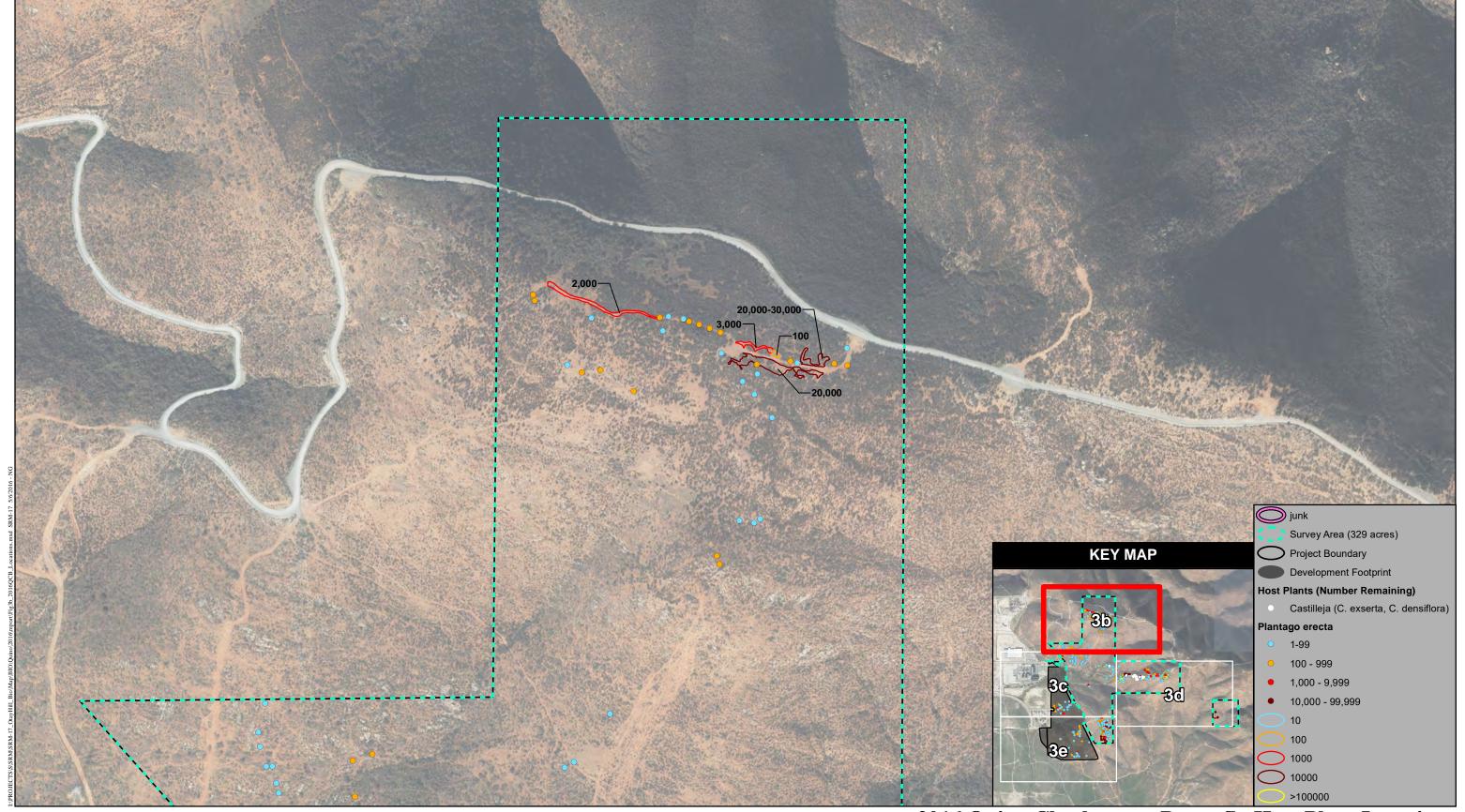
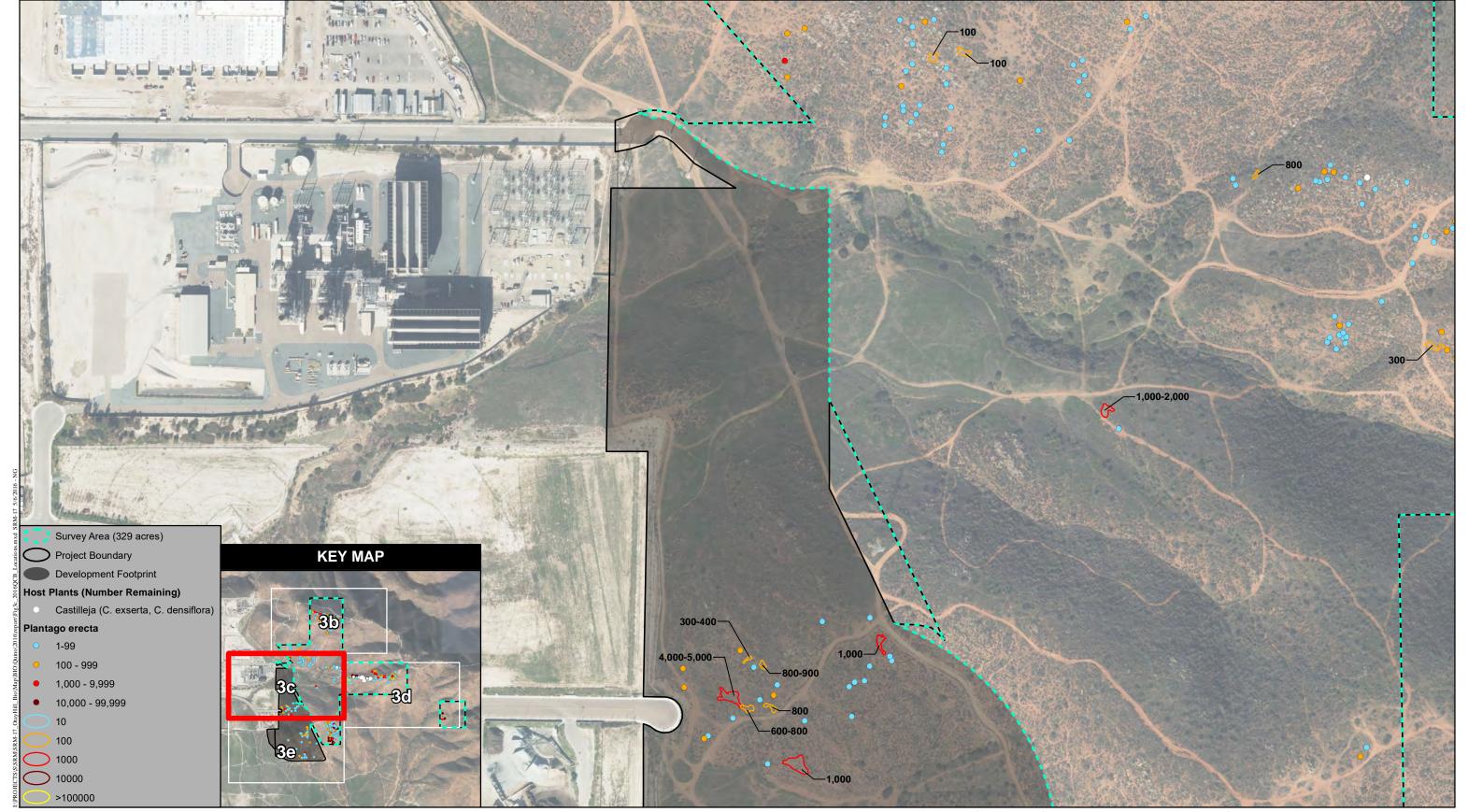


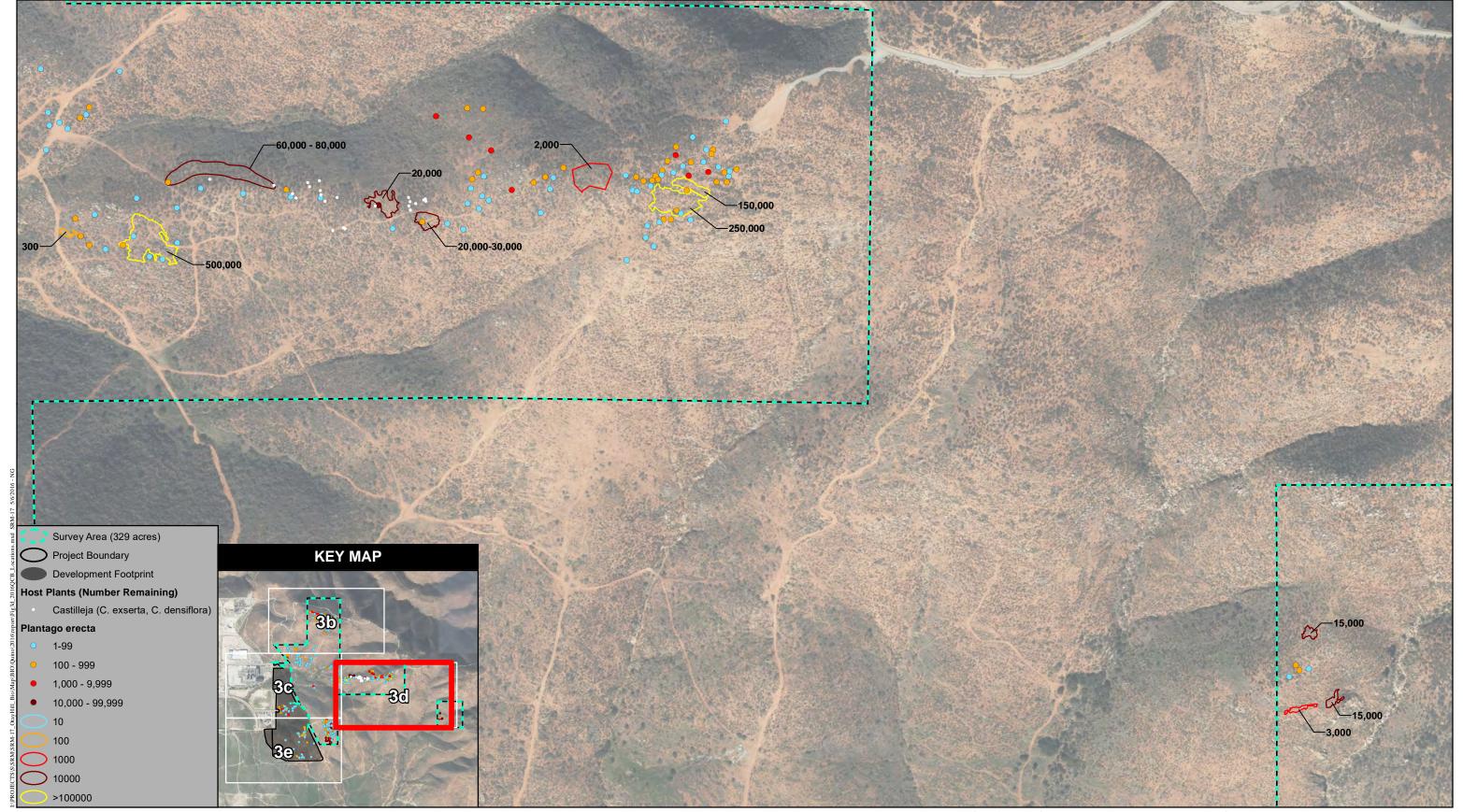
2016 Quino Checkerspot Butterfly Host Plant Locations



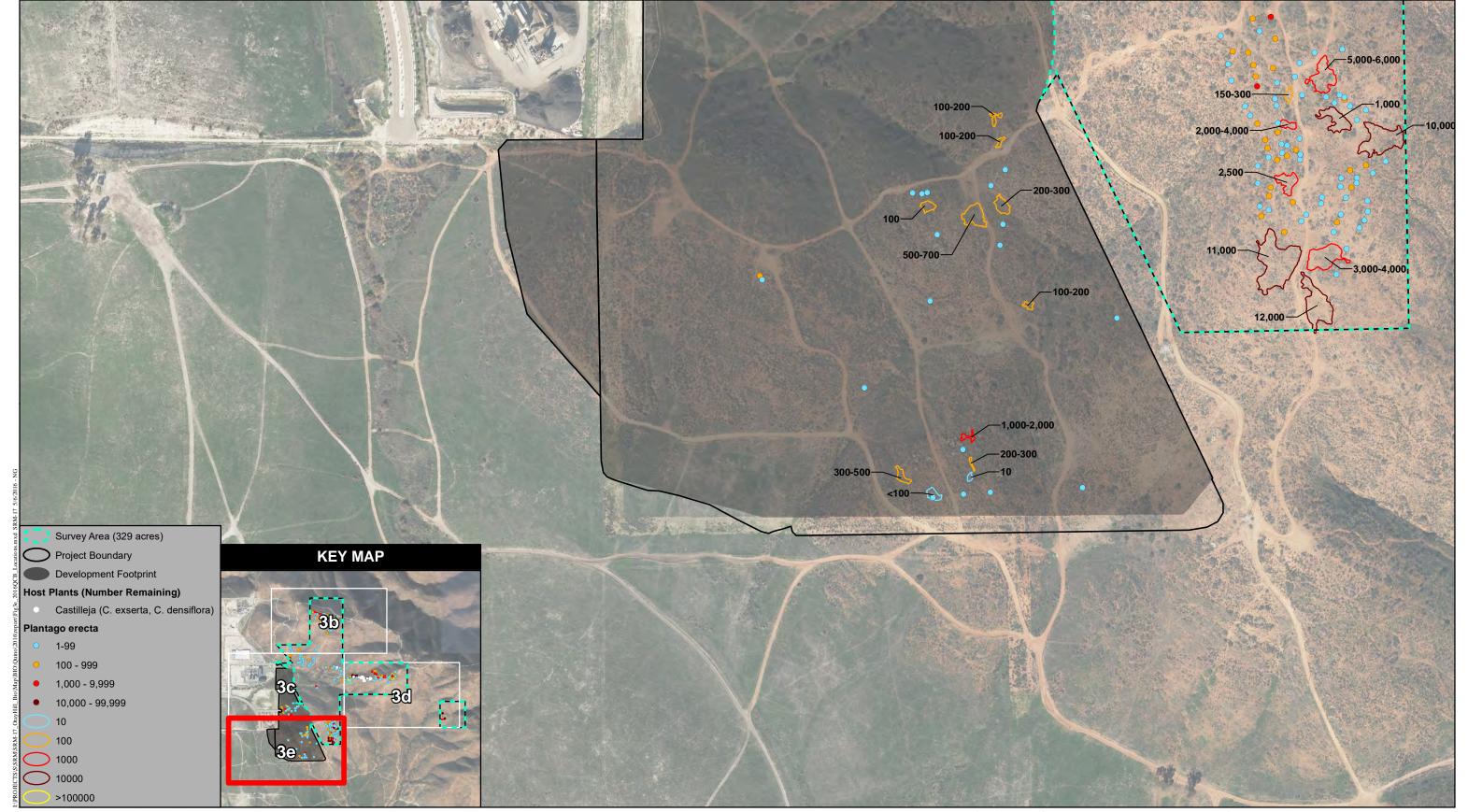
2016 Quino Checkerspot Butterfly Host Plant Locations



2016 Quino Checkerspot Butterfly Host Plant Locations



2016 Quino Checkerspot Butterfly Host Plant Locations



2016 Quino Checkerspot Butterfly Host Plant Locations

Dominant plants within the Otay Hills Project Diegan coastal sage scrub were made up of mostly California sagebrush (*Artemisia californica*), California buckwheat (*Eriogonum fasciculatum*), lemonadeberry (*Rhus integrifolia*), and laurel sumac (*Malosma laurina*). Dominant plant species within the chamise chaparral and southern mixed chaparral were primarily chamise (*Adenostoma fasciculatum*), mission manzanita (*Xylococcus bicolor*), and Ramona lilac (*Ceanothus tomentosus*).

Surveys were discontinued after the fourth survey due to lack of recent QCB sightings at adjacent reference sites and projects within the surrounding area indicating that the 2016 flight season for the coastal regions were completed. Sightings of QCB were reported in low numbers throughout the County between February 22 and March 25, 2016. The last fresh QCB sighting was reported on March 17, 6 days prior to the last survey, when a QCB was observed at San Vicente Reservoir. The last reported QCB sighting was on March 25 representing a single worn individual in Marron Valley.

Despite the low number of QCB sightings within the County in 2016, this survey season was a good habitat year across the region and the 2016 QCB resource mapping for the Otay Hills project survey area is considered representative of QCB resources on site.



4.0 REFERENCES

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Appendix A SURVEY INFORMATION

Appendix A
SURVEY INFORMATION – SAN MIGUEL HABITAT MANAGEMENT AREA

SITE VISIT	BIOLOGIST	TIME	WEATHER	CONDITIONS	RESULTS†
SITE VISIT	DIOLOGIST	(start/end)	Start	End	RESULTS †
1 March 1, 2016	Erica Harris Robert Hogenauer	0730/1340	0% clouds, 60°F, wind 0-2 mph	20% clouds, 76°F, wind 1-6 mph	No QCB Observed
1 March 2, 2016	Jasmine Bakker Amy Mattson	0925/1335	10% clouds, 74°F, wind 0-1 mph	5% clouds, 76°F, wind 1-3 mph	No QCB Observed
2 March 10, 2016	Jasmine Bakker Robert Hogenauer Amy Mattson	0935/1510	35% clouds, 68°F, wind 0-1 mph	45% clouds, 71°F, wind 3-8 mph	No QCB Observed
3	Jasmine Bakker	0935/1510	0% clouds, 70°F, wind 0-1 mph	0% clouds, 75°F, wind 3-5 mph	No QCB observed
	Amy Mattson	1030/1530	0% clouds, 70°F, wind 0 mph	0% clouds, 75°F, wind 4-7 mph	No QCB Observed
March 18, 2015	Sally Trnka	1030/1530	5% clouds, 70°F, wind 0-2 mph	0% clouds, 75°F, wind 5-10 mph	No QCB Observed
4 March 23, 2015	Jasmine Bakker Amy Mattson Robert Hogenauer	0855/1445	0% clouds, 64°F, wind 0-1 mph	0% clouds, 77°F, wind 6-8 mph	No QCB Observed

[†]QCB=Quino checkerspot butterfly

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Appendix B

SURVEY FORMS AND FIELD NOTES

Surveyor:	Erica Harris			Date: 3/1/16	
Site Name:	Otay Hills			Site Visit N	No: 1
Acres Surv	eyed _ north and no	theast Survey Time:	6.2	Acres per Hour:	N/A
Other Surve	eyors Present: Re	obert Hogenauer			

	Field Conditions							
	Time (24 hr) Temperature (°F) Wind Speed (mph) Cloud Cover							
Start	0730	60	0-2	0%				
End	1340	76	1-6	20				
Start								
End								

Vegetation Communities Surveyed (inc. dominant spp.)
CSS

Host Plants	Obs.	Nectar Plants	Obs.
dwarf plantain (Plantago erecta)	х	popcorn flower (Cryptantha/Plagiobothrys spp.)	Х
purple owl's clover (Castilleja exserta)		goldfields (Lasthenia spp.)	Х
snapdragon (Antirrhinum coulterianum)		goldenstar (Muilla spp.)	
birds-beak (Cordylanthus rigidus)		fiddleneck (Amsinckia menziesii var. intermedia)	
woolly plantain (Plantago patagonica)		onion (Allium spp.)	
Chinese houses (Collinsia spp.)		buckwheat (Eriogonum fasciculatum)	
		ground pink (Linanthus dianthiflorus)	Х

Butterfly Species	No.	Butterfly Species	No.
Checkerspots		Hairstreaks	
California patch (Chlosyne californica)		great purple hairstreak (Atlides halesus corcorani)	
Gabb's checkerspot (C. gabbii)		brown elfin (Callophrys augustinus)	
Quino checkerspot (Euphydryas editha quino)		bramble (perplexing) hairstreak (C. dumetorum affinis)	
chalcedon checkerspot (E. chalcedona chalcedona)		gray hairstreak (Strymon melinus pudica)	
Leanira checkerspot (Thessalia leanira wrighti)		Ladies/Admirals	
Mylitta crescent (Phyciodes mylitta)		California sister (Adelpha bredowii californica)	
Blues		Lorquin's admiral (<i>Limenitis Iorquini</i>)	
western pygmy-blue (Brephidium exila)		west coast lady (Vanessa annabella)	1
western tailed blue (Everes amyntula)		red admiral (<i>V. atalanta rubria</i>)	
southern blue (Glaucopsyche lygdamus australis)		painted lady (<i>V. cardui</i>)	
Edward's blue (Hemiargus ceraunus gyas)		American (Virginia) lady (V. virginiensis)	
Acmon blue (Icaricia acmon acmon)		unidentified lady (Vanessa sp.)	
marine blue (Leptotes marina)		Swallowtails	
unidentified blue	1	pale swallowtail (Papilio eurymedon)	
Whites		western tiger swallowtail (<i>P. rutulus</i>)	
Sara orangetip (Anthocharis sara sara)	13	anise swallowtail (<i>P. zelicaon</i>)	11
desert (Felder's) orangetip (A. cethura)		Miscellaneous	
common California ringlet (Coenonympha californica)		monarch (Danaus plexippus)	
cabbage white (Pieris rapae)		common buckeye (Junonia coenia grisea)	
checkered (common) white (Pontia protodice)		mourning cloak (Nymphalis antiopa)	
spring white (P. sisymbrii)		Skippers	
unidentified white		funereal duskywing (Erynnis funeralis)	6
Metalmarks		mournful duskywing (Erynnis tristis)	
Behr's metalmark (Apodemia mormo virgulti)	45	fiery skipper (Hylephila phyleus)	
Wright's metalmark (Calephelis wrighti)		white (common) checkered-skipper (<i>Pyrgus albescens</i>)	1
Sulphurs		Other	
orange sulphur (Colias eurytheme)			
sleepy orange (<i>Eurema nicippe</i>)			
cloudless sulfur (Phoebus sennae marcellina)			
unidentified sulphur	3		
Column Subtotal	62	Column Subtotal	19
		Total	81

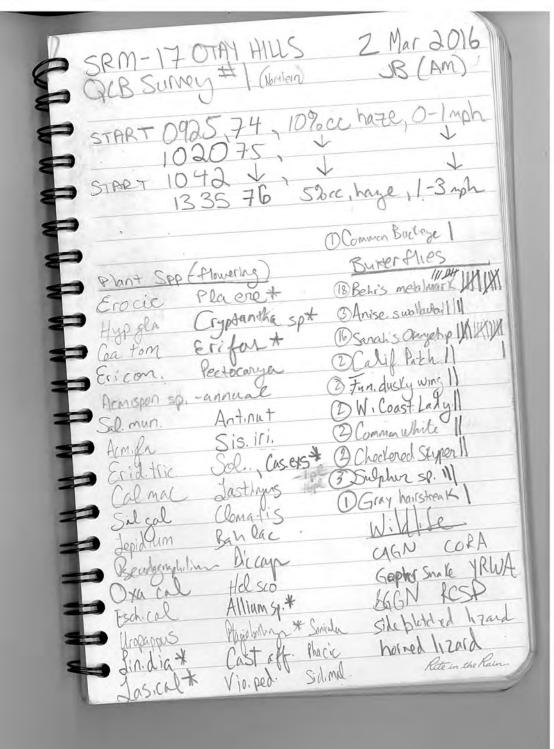
Surveyor:	Jasmine Bakker			Date:	3/2/16		
Site Name:	Otay Hills				Site Visit No:	_1	
Acres Surve	eyed N/A	Survey Time:	3:48 (3.8)	Acre	s per Hour:		
Other Surve	eyors Present:	Amy Mattson					

	Field Conditions							
	Time (24 hr)	Temperature (°F)	Wind Speed (mph)	Cloud Cover				
Start	09:25	74	0-1	10% (haze)				
End	10:20	75	0-1	10% (haze)				
Start	10:42	75	0-1	10% (haze)				
End	13:35	76	1-3	5% (haze)				

Vegetation Communities Surveyed (inc. dominant spp.)
CSS

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

Butterfly Species	No.	Butterfly Species	No.
Checkerspots		Hairstreaks	
California patch (Chlosyne californica)	2	great purple hairstreak (Atlides halesus corcorani)	
Gabb's checkerspot (C. gabbii)		brown elfin (Callophrys augustinus)	
Quino checkerspot (Euphydryas editha quino)		bramble (perplexing) hairstreak (C. dumetorum affinis)	
chalcedon checkerspot (E. chalcedona chalcedona)		gray hairstreak (Strymon melinus pudica)	1
Leanira checkerspot (Thessalia leanira wrighti)		Ladies/Admirals	
Mylitta crescent (Phyciodes mylitta)		California sister (Adelpha bredowii californica)	
Blues		Lorquin's admiral (<i>Limenitis Iorquini</i>)	
western pygmy-blue (Brephidium exila)		west coast lady (Vanessa annabella)	2
western tailed blue (Everes amyntula)		red admiral (V. atalanta rubria)	
southern blue (Glaucopsyche lygdamus australis)		painted lady (<i>V. cardui</i>)	
Edward's blue (Hemiargus ceraunus gyas)		American (Virginia) lady (V. virginiensis)	
Acmon blue (Icaricia acmon acmon)		unidentified lady (Vanessa sp.)	
marine blue (Leptotes marina)		Swallowtails	
unidentified blue		pale swallowtail (Papilio eurymedon)	
Whites		western tiger swallowtail (P. rutulus)	
Sara orangetip (Anthocharis sara sara)	16	anise swallowtail (P. zelicaon)	3
desert (Felder's) orangetip (A. cethura)		Miscellaneous	
common California ringlet (Coenonympha californica)		monarch (Danaus plexippus)	
cabbage white (Pieris rapae)		common buckeye (Junonia coenia grisea)	1
checkered (common) white (Pontia protodice)	2	mourning cloak (Nymphalis antiopa)	
spring white (P. sisymbrii)		Skippers	
unidentified white		funereal duskywing (Erynnis funeralis)	2
Metalmarks		mournful duskywing (<i>Erynnis tristis</i>)	
Behr's metalmark (Apodemia mormo virgulti)	18	fiery skipper (Hylephila phyleus)	
Wright's metalmark (Calephelis wrighti)		white (common) checkered-skipper (<i>Pyrgus albescens</i>)	2
Sulphurs		Other	
orange sulphur (Colias eurytheme)			
sleepy orange (<i>Eurema nicippe</i>)			
cloudless sulfur (Phoebus sennae marcellina)			
unidentified sulphur	3		
Column Subtotal	41	Column Subtotal	11
		Total	52



Surveyor:	Amy Mattson			Date:	3/2/16	
Site Name:	Otay Hills				Site Visit No: 1	
Acres Surv	eyed _ north and northeast	Survey Time:	3:48 (3.8)	Acres	per Hour:	
Other Surve	eyors Present:Jasmine	Bakker				
	-					

	Field Conditions						
Time (24 hr) Temperature (°F) Wind Speed (mph)		Cloud Cover					
Start	09:25	74	0-1	10% (haze)			
End	10:20	75	0-1	10% (haze)			
Start	10:42	75	0-1	10% (haze)			
End	13:35	76	1-3	5% (haze)			

	Vegetation Communities Surveyed (inc. dominant spp.)				
Ī	CSS				
Ī					

Host Plants	Obs.	Nectar Plants	Obs.
dwarf plantain (Plantago erecta)	х	popcorn flower (Cryptantha/Plagiobothrys spp.)	Х
purple owl's clover (Castilleja exserta)	х	goldfields (Lasthenia spp.)	Х
snapdragon (Antirrhinum coulterianum)		goldenstar (Muilla spp.)	
birds-beak (Cordylanthus rigidus)		fiddleneck (Amsinckia menziesii var. intermedia)	
woolly plantain (Plantago patagonica)		onion (Allium spp.)	Х
Chinese houses (Collinsia spp.)		buckwheat (Eriogonum fasciculatum)	Х
		ground pink (Linanthus dianthiflorus)	Х

Butterfly Species	No.	Butterfly Species	No.
Checkerspots		Hairstreaks	
California patch (Chlosyne californica)		great purple hairstreak (Atlides halesus corcorani)	
Gabb's checkerspot (C. gabbii)		brown elfin (Callophrys augustinus)	
Quino checkerspot (Euphydryas editha quino)		bramble (perplexing) hairstreak (C. dumetorum affinis)	
chalcedon checkerspot (E. chalcedona chalcedona)		gray hairstreak (Strymon melinus pudica)	
Leanira checkerspot (Thessalia leanira wrighti)		Ladies/Admirals	
Mylitta crescent (Phyciodes mylitta)		California sister (Adelpha bredowii californica)	
Blues		Lorquin's admiral (<i>Limenitis Iorquini</i>)	
western pygmy-blue (Brephidium exila)		west coast lady (Vanessa annabella)	1
western tailed blue (Everes amyntula)		red admiral (V. atalanta rubria)	
southern blue (Glaucopsyche lygdamus australis)		painted lady (<i>V. cardui</i>)	
Edward's blue (Hemiargus ceraunus gyas)		American (Virginia) lady (V. virginiensis)	
Acmon blue (Icaricia acmon acmon)		unidentified lady (Vanessa sp.)	6
marine blue (Leptotes marina)		Swallowtails	
unidentified blue	1	pale swallowtail (Papilio eurymedon)	
Whites		western tiger swallowtail (<i>P. rutulus</i>)	
Sara orangetip (Anthocharis sara sara)	28	anise swallowtail (<i>P. zelicaon</i>)	6
desert (Felder's) orangetip (A. cethura)		Miscellaneous	
common California ringlet (Coenonympha californica)		monarch (Danaus plexippus)	
cabbage white (Pieris rapae)	3	common buckeye (Junonia coenia grisea)	2
checkered (common) white (Pontia protodice)	1	mourning cloak (Nymphalis antiopa)	
spring white (P. sisymbrii)		Skippers	
unidentified white		funereal duskywing (Erynnis funeralis)	2
Metalmarks		mournful duskywing (Erynnis tristis)	
Behr's metalmark (Apodemia mormo virgulti)	27	fiery skipper (Hylephila phyleus)	
Wright's metalmark (Calephelis wrighti)		white (common) checkered-skipper (<i>Pyrgus albescens</i>)	
Sulphurs		Other	
orange sulphur (Colias eurytheme)			
sleepy orange (Eurema nicippe)			
cloudless sulfur (Phoebus sennae marcellina)			
unidentified sulphur	2		
Column Subtotal	62	Column Subtotal	17
		Total	79

			-	141
	SRM 17 QQ	B#1 NINE	areas 3/2/	16
	Otry Hills		. ^	2 u/Jasmine
short.	09:25 Am	10% cloud cover (h	aze, 0-luph	/1
end	10:20 AM	4	1.	175F
Start	10:42	1	1	75 F
end	13:35	5% cloud covor	hays) 1-3m	ph 7:0°=
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3) Milber	- nakeline 8511 ma	any open gross, Si	me of Pe Lots h	ill topping swallow truls
Shert Are	as w/o abundance	at weeds , sinte	ble habitat w/	nector resources
	t pe parties	3	1	

Surveyor: _	Jasmine Bakker			Date: 3/10/16	
Site Name:	Otay Hills			Site Visit N	lo: 2
Acres Surve	yed N/A	Survey Time:	5 hours 35 minutes	Acres per Hour:	N/A
Other Surveyors Present: Rob Hogenauer; approximately last third of survey also Amy Mattson					
	_				

	Field Conditions						
Time (24 hr) Temperature (°F) Wind Speed (mph)				Cloud Cover			
Start	0935	68	0-1	35% (haze)			
End	1510	71	3-8	45% (haze)			
Start							
End							

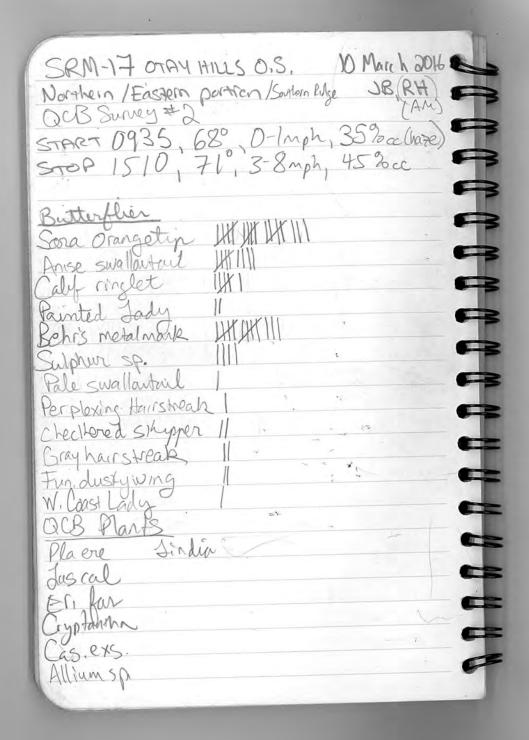
Vegetation Communities Surveyed (inc. dominant spp.)

Northern and Northeastern ridgelines; Southern Ridge; central hilltops

Chaparral (chamise and southern mixed) and Diegan Coastal Sage Scrub (buckwheat)

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

Butterfly Species	No.	Butterfly Species	No.
Checkerspots		Hairstreaks	
California patch (Chlosyne californica)		great purple hairstreak (Atlides halesus corcorani)	
Gabb's checkerspot (C. gabbii)		brown elfin (Callophrys augustinus)	
Quino checkerspot (Euphydryas editha quino)		bramble (perplexing) hairstreak (C. dumetorum affinis)	1
chalcedon checkerspot (E. chalcedona chalcedona)		gray hairstreak (Strymon melinus pudica)	2
Leanira checkerspot (Thessalia leanira wrighti)		Ladies/Admirals	
Mylitta crescent (Phyciodes mylitta)		California sister (Adelpha bredowii californica)	
Blues		Lorquin's admiral (<i>Limenitis Iorquini</i>)	
western pygmy-blue (Brephidium exila)		west coast lady (Vanessa annabella)	1
western tailed blue (Everes amyntula)		red admiral (V. atalanta rubria)	
southern blue (Glaucopsyche lygdamus australis)		painted lady (<i>V. cardui</i>)	2
Edward's blue (Hemiargus ceraunus gyas)		American (Virginia) lady (V. virginiensis)	
Acmon blue (Icaricia acmon acmon)		unidentified lady (Vanessa sp.)	
marine blue (Leptotes marina)		Swallowtails	
unidentified blue		pale swallowtail (Papilio eurymedon)	1
Whites		western tiger swallowtail (P. rutulus)	
Sara orangetip (Anthocharis sara sara)	18	anise swallowtail (<i>P. zelicaon</i>)	9
desert (Felder's) orangetip (A. cethura)		Miscellaneous	
common California ringlet (Coenonympha californica)	6	monarch (Danaus plexippus)	
cabbage white (Pieris rapae)		common buckeye (Junonia coenia grisea)	
checkered (common) white (Pontia protodice)		mourning cloak (Nymphalis antiopa)	
spring white (P. sisymbrii)		Skippers	
unidentified white		funereal duskywing (Erynnis funeralis)	2
Metalmarks		mournful duskywing (Erynnis tristis)	
Behr's metalmark (Apodemia mormo virgulti)	13	fiery skipper (Hylephila phyleus)	
Wright's metalmark (Calephelis wrighti)		white (common) checkered-skipper (<i>Pyrgus albescens</i>)	2
Sulphurs		Other	
orange sulphur (Colias eurytheme)			
sleepy orange (<i>Eurema nicippe</i>)			
cloudless sulfur (<i>Phoebus sennae marcellina</i>)			
unidentified sulphur	4		
Column Subtotal	41		20
		Total	61



Surveyor:	Amy Mattson			Date:	3/10/16
Site Name:	Otay Hills				Site Visit No: 2
Acres Surve	southeast via	Survey Time:	5:55 (5.9)	Acres	per Hour:
Other Surveyors Present: Approximately last third of survey also Jasmine Bakker and Rob Hogenauer				Hogenauer	

	Field Conditions						
	Time (24 hr) Temperature (°F) Wind Speed (mph) Cloud Co						
Start	09:15	73	0-1	5% (haze)			
End	15:10	71	3-8	45% (haze)			
Start							
End							

Vegetation Communities Surveyed (inc. dominant spp.)				
CSS, NNG				

Host Plants	Obs.	Nectar Plants	Obs.
dwarf plantain (Plantago erecta)	х	popcorn flower (Cryptantha/Plagiobothrys spp.)	Х
purple owl's clover (Castilleja exserta)	х	goldfields (Lasthenia spp.)	Х
snapdragon (Antirrhinum coulterianum)		goldenstar (Muilla spp.)	
birds-beak (Cordylanthus rigidus)		fiddleneck (Amsinckia menziesii var. intermedia)	
woolly plantain (Plantago patagonica)		onion (Allium spp.)	Х
Chinese houses (Collinsia spp.)		buckwheat (Eriogonum fasciculatum)	Х
		ground pink (Linanthus dianthiflorus)	Х

Butterfly Species	No.	Butterfly Species	No.
Checkerspots		Hairstreaks	
California patch (Chlosyne californica)		great purple hairstreak (Atlides halesus corcorani)	
Gabb's checkerspot (C. gabbii)		brown elfin (Callophrys augustinus)	
Quino checkerspot (Euphydryas editha quino)		bramble (perplexing) hairstreak (C. dumetorum affinis)	
chalcedon checkerspot (E. chalcedona chalcedona)		gray hairstreak (Strymon melinus pudica)	1
Leanira checkerspot (Thessalia leanira wrighti)		Ladies/Admirals	
Mylitta crescent (Phyciodes mylitta)		California sister (Adelpha bredowii californica)	
Blues		Lorquin's admiral (<i>Limenitis Iorquini</i>)	
western pygmy-blue (Brephidium exila)		west coast lady (Vanessa annabella)	
western tailed blue (Everes amyntula)		red admiral (V. atalanta rubria)	
southern blue (Glaucopsyche lygdamus australis)	1	painted lady (<i>V. cardui</i>)	
Edward's blue (Hemiargus ceraunus gyas)		American (Virginia) lady (V. virginiensis)	1
Acmon blue (Icaricia acmon acmon)		unidentified lady (Vanessa sp.)	8
marine blue (Leptotes marina)		Swallowtails	
unidentified blue		pale swallowtail (Papilio eurymedon)	1
Whites		western tiger swallowtail (<i>P. rutulus</i>)	
Sara orangetip (Anthocharis sara sara)	17	anise swallowtail (P. zelicaon)	24
desert (Felder's) orangetip (A. cethura)		Miscellaneous	
common California ringlet (Coenonympha californica)	4	monarch (Danaus plexippus)	
cabbage white (Pieris rapae)	2	common buckeye (Junonia coenia grisea)	
checkered (common) white (Pontia protodice)	1	mourning cloak (Nymphalis antiopa)	
spring white (<i>P. sisymbrii</i>)		Skippers	
unidentified white	11	funereal duskywing (Erynnis funeralis)	4
Metalmarks		mournful duskywing (<i>Erynnis tristis</i>)	
Behr's metalmark (Apodemia mormo virgulti)	90	fiery skipper (Hylephila phyleus)	
Wright's metalmark (Calephelis wrighti)		white (common) checkered-skipper (<i>Pyrgus albescens</i>)	2
Sulphurs		Other	
orange sulphur (Colias eurytheme)			
sleepy orange (Eurema nicippe)			
cloudless sulfur (Phoebus sennae marcellina)			
unidentified sulphur	12		
Column Subtotal	138		41
		Total	179

3/10/16 SRM 17 QCB 2 SE ara, via central site, Amy 915, 73 p 0-1 mph, 5% douds (house) Start end 1510 45 % cloude (haze) (4) ringlet 11/1 Dic Cop For Hy ail Api mel Sah be (90) Beham IH HTHH IH LAT Hed are Saw Jada to P Osteri alle azigel) Acon de RTHA THE THE HE WE ARE THE WAY Bank COBY Stzymbrium 州州州州 Svalshoppi Sonole Lugles Sulphur HT WI En lag - fowin Sil gal bees gents Cenmel allying (1) Virg. bady fle Lepidium Mille BIJR - Alium - not on million dragnifly (ady iff 11 Cal mae MODO spaceable Vio ged 3 San OTIP HT HT HT high O'xa al HOLK Phacelia cocardis (4) fundaste 1/1 Casexs Cla ere) - dying (1) white 141 144 1 - Las cal - spartes () Sees barstrak · Cryptantle - jungland. anise ST HT MITH HY - Linden (dog) - wentow Acmispon so. commonwit 1 Cal 901. Ex col Dealthy my 1 En con Solanum de pople ·) pule ST / alina maesye Ant-nut (2) al al al Mar 11

2016 Quino Checkerspot Butterfly Survey Form

Surveyor: Date: 3/0/6

Site Name: Site Visit No: 2

Acres Surveyed N/A Survey Time: 5.6 Acres per Hour: N/A

Other Surveyors Present: Jasmine Bakker, Amy Mattson

		Field Condit	ions	
	Time (24 hr)	Temperature (°F)	Wind Speed (mph)	Cloud Cover
Start	0935	68		35%
End	1510	71	3-8	45%
Start				
End				

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

Butterfly Species	No.	Butterfly Species	No.
Checkerspots		Hairstreaks	
California patch (Chlosyne californica)		great purple hairstreak (Atlides halesus corcorani)	
Gabb's checkerspot (C. gabbii)		brown elfin (Callophrys augustinus)	
Quino checkerspot (Euphydryas editha quino)		bramble (perplexing) hairstreak (C. dumetorum affinis)	2
chalcedon checkerspot (E. chalcedona chalcedona)		gray hairstreak (Strymon melinus pudica)	11 -
Leanira checkerspot (Thessalia leanira wrighti)		Ladies/Admirals	
Mylitta crescent (Phyciodes mylitta)		California sister (Adelpha bredowii californica)	
Blues		Lorquin's admiral (Limenitis lorquini)	
western pygmy-blue (Brephidium exila)		west coast lady (Vanessa annabella)	
western tailed blue (Everes amyntula)		red admiral (V. atalanta rubria)	
southern blue (Glaucopsyche lygdamus australis)		painted lady (V. cardui)	1
Edward's blue (Hemiargus ceraunus gyas)		American (Virginia) lady (V. virginiensis)	
Acmon blue (Icaricia acmon acmon)		unidentified lady (Vanessa sp.)	2
marine blue (Leptotes marina)		Swallowtails	
unidentified blue		pale swallowtail (Papilio eurymedon)	
Whites		western tiger swallowtail (P. rutulus)	
Sara orangetip (Anthocharis sara sara)	30	anise swallowtail (P. zelicaon)	12
desert (Felder's) orangetip (A. cethura)		Miscellaneous	
common California ringlet (Coenonympha californica)		monarch (Danaus plexippus)	
cabbage white (Pieris rapae)		common buckeye (Junonia coenia grisea)	
checkered (common) white (Pontia protodice)	2	mourning cloak (Nymphalis antiopa)	
spring white (P. sisymbrii)		Skippers	1
unidentified white		funereal duskywing (Erynnis funeralis)	1
Metalmarks		mournful duskywing (Erynnis tristis)	
Behr's metalmark (Apodemia mormo virgulti)	28	fiery skipper (Hylephila phyleus)	
Wright's metalmark (Calephelis wrighti)		white (common) checkered-skipper (Pyrgus albescens)	
Sulphurs		Other	
orange sulphur (Colias eurytheme)			
sleepy orange (Eurema nicippe)			
cloudless sulfur (Phoebus sennae marcellina)			
unidentified sulphur	2		
Column Subtotal	62	Column Subtotal	18
		Total	80

Surveyor:	Jasmine Bakker	•		Date:	3/18/16		
Site Name:	Otay Hills				Site Visit N	lo: 3	
Acres Surve	eyed N/A	Survey Time:	4 hours 40 minutes	Acres	per Hour:	N/A	
Other Surve	eyors Present:	Amy Mattson; Sally Trnka		•			

	Field Conditions					
	Time (24 hr) Temperature (°F) Wind Speed (mph) Cloud Cover					
Start	0935	70	0-1	0%		
End	1510	75	3-5	0%		
Start						
End						

Vegetation Communities Surveyed (inc. dominant spp.)	
Northern ridgeline and Far Eastern "Square"	
Chaparral (chamise and southern mixed) and Diegan Coastal Sage Scrub (buckwheat	

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

Butterfly Species	No.	Butterfly Species	No.
Checkerspots		Hairstreaks	
California patch (Chlosyne californica)		great purple hairstreak (Atlides halesus corcorani)	
Gabb's checkerspot (C. gabbii)		brown elfin (Callophrys augustinus)	
Quino checkerspot (Euphydryas editha quino)		bramble (perplexing) hairstreak (C. dumetorum affinis)	
chalcedon checkerspot (E. chalcedona chalcedona)		gray hairstreak (Strymon melinus pudica)	1
Leanira checkerspot (Thessalia leanira wrighti)		Ladies/Admirals	
Mylitta crescent (Phyciodes mylitta)		California sister (Adelpha bredowii californica)	
Blues		Lorquin's admiral (<i>Limenitis Iorquini</i>)	
western pygmy-blue (Brephidium exila)		west coast lady (Vanessa annabella)	
western tailed blue (Everes amyntula)		red admiral (V. atalanta rubria)	
southern blue (Glaucopsyche lygdamus australis)	1	painted lady (<i>V. cardui</i>)	3
Edward's blue (Hemiargus ceraunus gyas)		American (Virginia) lady (V. virginiensis)	
Acmon blue (Icaricia acmon acmon)		unidentified lady (Vanessa sp.)	
marine blue (Leptotes marina)		Swallowtails	
unidentified blue		pale swallowtail (Papilio eurymedon)	1
Whites		western tiger swallowtail (P. rutulus)	
Sara orangetip (Anthocharis sara sara)	50	anise swallowtail (<i>P. zelicaon</i>)	6
desert (Felder's) orangetip (A. cethura)		Miscellaneous	
common California ringlet (Coenonympha californica)	4	monarch (Danaus plexippus)	
cabbage white (Pieris rapae)		common buckeye (Junonia coenia grisea)	
checkered (common) white (Pontia protodice)		mourning cloak (Nymphalis antiopa)	
spring white (P. sisymbrii)		Skippers	
unidentified white	4	funereal duskywing (Erynnis funeralis)	5
Metalmarks		mournful duskywing (Erynnis tristis)	1
Behr's metalmark (Apodemia mormo virgulti)	42	fiery skipper (Hylephila phyleus)	
Wright's metalmark (Calephelis wrighti)		white (common) checkered-skipper (<i>Pyrgus albescens</i>)	
Sulphurs		northern white skipper	2
orange sulphur (Colias eurytheme)		Other	
sleepy orange (<i>Eurema nicippe</i>)			
cloudless sulfur (Phoebus sennae marcellina)			
unidentified sulphur	1		
Column Subtotal	102		19
	_	Total	121

SRM-17 OTAY HILLS O.S. 18 Mar 2016 JB (AMST) Northern + Far East QCB Survey #3 START 1030, 70°, 0%cc, Omph STOP 1510, 75, 0%cc, 3-Smph BUTTERFLIES W HIMM WWW WIND IN THE WAR Sara orangetip Anse swallowfeil WI H Fun. dustywing Behr's metalmank Painted Lady Southern blue White sp. Calif singlet Sulphur Sp. North white stepper Marnful dusting Pale swallow teril Gray hairstreak QCB Plants in far Pla ere Las cal rypanthe

Surveyor: Amy Mattson		Date: 3/18/16
Site Name: Otay Hills		Site Visit No: 3
Acres Surveyednorth and northeast Surv	ey Time: _ 5:00 (5.0)	Acres per Hour:
Other Surveyors Present: Jasmine Bakker	and Sally Trnka (in different areas)	

	Field Conditions							
	Time (24 hr) Temperature (°F) Wind Speed (mph) Cloud Cover							
Start	10:30	70	0	0%				
End	15:30	75	4-7, with gusts	0%				
Start								
End								

Vegetation Communities Surveyed (inc. dominant spp.)					
CSS, CC, NNG					

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

Butterfly Species	No.	Butterfly Species	No.
Checkerspots		Hairstreaks	
California patch (Chlosyne californica)		great purple hairstreak (Atlides halesus corcorani)	
Gabb's checkerspot (C. gabbii)		brown elfin (Callophrys augustinus)	
Quino checkerspot (Euphydryas editha quino)		bramble (perplexing) hairstreak (C. dumetorum affinis)	
chalcedon checkerspot (E. chalcedona chalcedona)		gray hairstreak (Strymon melinus pudica)	
Leanira checkerspot (Thessalia leanira wrighti)		Ladies/Admirals	
Mylitta crescent (Phyciodes mylitta)		California sister (Adelpha bredowii californica)	
Blues		Lorquin's admiral (<i>Limenitis Iorquini</i>)	
western pygmy-blue (Brephidium exila)		west coast lady (Vanessa annabella)	
western tailed blue (Everes amyntula)		red admiral (V. atalanta rubria)	1
southern blue (Glaucopsyche lygdamus australis)		painted lady (<i>V. cardui</i>)	
Edward's blue (Hemiargus ceraunus gyas)		American (Virginia) lady (V. virginiensis)	
Acmon blue (Icaricia acmon acmon)		unidentified lady (Vanessa sp.)	1
marine blue (Leptotes marina)		Swallowtails	
unidentified blue	2	pale swallowtail (Papilio eurymedon)	1
Whites		western tiger swallowtail (P. rutulus)	
Sara orangetip (Anthocharis sara sara)	112	anise swallowtail (P. zelicaon)	3
desert (Felder's) orangetip (A. cethura)		Miscellaneous	
common California ringlet (Coenonympha californica)	1	monarch (Danaus plexippus)	
cabbage white (Pieris rapae)	4	common buckeye (Junonia coenia grisea)	
checkered (common) white (Pontia protodice)	1	mourning cloak (Nymphalis antiopa)	
spring white (P. sisymbrii)		Skippers	
unidentified white		funereal duskywing (Erynnis funeralis)	4
Metalmarks		mournful duskywing (Erynnis tristis)	
Behr's metalmark (Apodemia mormo virgulti)	22	fiery skipper (Hylephila phyleus)	
Wright's metalmark (Calephelis wrighti)		white (common) checkered-skipper (<i>Pyrgus albescens</i>)	20
Sulphurs		Other	
orange sulphur (Colias eurytheme)			
sleepy orange (<i>Eurema nicippe</i>)			
cloudless sulfur (<i>Phoebus sennae marcellina</i>)			
unidentified sulphur	2		
Column Subtotal	144		30
		Total	174

3.18.16 SRM17 Otay Hills WB#3 also ensite Jasmines Sally 10:30 O'holand, Omph 70'F Sterre 15:30 O/ cloud, 4-7mph 75°F end flowering (C, DUG- C88 Behr WHHAHAH 11 (22) 1 + Bahlae Ceardins Pla ere Hypsler Enac Er Fas Ballac Banis +Ade by Rá fal mallan Sarole. almac Skymbrium Silmun At cal Sanotion Hi HH HH HI HT Hed are Salund izri com HI 44 LITATE BY HE HE HE Mallan Pseudographala Gayas lin AH WHE WHITH HIT WILL Hesuli MUGS Dan pro agrantius anist 11 Sil gal More visible (e flor Tridhodenna last week. Acmisponse white With the (20) Beldic Op Hemola ·Mal Fas Pale ST 1 1 Calspl Solamien - Sleppe lady 0 Colors Chamaerice Laseynie Gilia sp. Callage WH III Cost aff Cascel Esc ca Ale ho Ant hud Common WH 1 Cas ex - Allium sp. Helsep Lup bic Fundadezuring 1171 Oxacal Lup bic red admiral 1 Phacelin disorcis 0 - Lin dia Conglet 1 Les fil blue 11 No ped sulphur 11 Silmal

Surveyor:	Sally Tnrka			Date: 3/18/2	16
Site Name:	Otay Hills			Site Vis	sit No: 3
Acres Surv	eyed N/A	Survey Time:	4 hours 40 minutes	Acres per Ho	ur: N/A
Other Surve	eyors Present:	Amy Mattson; Jasmine Bakl	ker		

	Field Conditions							
	Time (24 hr) Temperature (°F) Wind Speed (mph) Cloud Cover							
Start	1030	70	0-2	5%				
End	1530	75	5-10	0%				
Start								
End								

Vegetation Communities Surveyed (inc. dominant spp.)	
Northern ridgeline and Far Eastern "Square"	
Chaparral (chamise and southern mixed) and Diegan Coastal Sage Scrub (buckwhea	(1)

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

Butterfly Species	No.	Butterfly Species	No.
Checkerspots		Hairstreaks	
California patch (Chlosyne californica)		great purple hairstreak (Atlides halesus corcorani)	
Gabb's checkerspot (C. gabbii)		brown elfin (Callophrys augustinus)	
Quino checkerspot (Euphydryas editha quino)		bramble (perplexing) hairstreak (C. dumetorum affinis)	
chalcedon checkerspot (E. chalcedona chalcedona)		gray hairstreak (Strymon melinus pudica)	
Leanira checkerspot (Thessalia leanira wrighti)		Ladies/Admirals	
Mylitta crescent (Phyciodes mylitta)		California sister (Adelpha bredowii californica)	
Blues		Lorquin's admiral (<i>Limenitis lorquini</i>)	
western pygmy-blue (Brephidium exila)		west coast lady (Vanessa annabella)	1
western tailed blue (Everes amyntula)		red admiral (V. atalanta rubria)	
southern blue (Glaucopsyche lygdamus australis)		painted lady (<i>V. cardui</i>)	1
Edward's blue (Hemiargus ceraunus gyas)		American (Virginia) lady (V. virginiensis)	
Acmon blue (Icaricia acmon acmon)		unidentified lady (Vanessa sp.)	
marine blue (Leptotes marina)		Swallowtails	
unidentified blue		pale swallowtail (Papilio eurymedon)	2
Whites		western tiger swallowtail (P. rutulus)	
Sara orangetip (Anthocharis sara sara)	16	anise swallowtail (<i>P. zelicaon</i>)	7
desert (Felder's) orangetip (A. cethura)		Miscellaneous	
common California ringlet (Coenonympha californica)	6	monarch (Danaus plexippus)	
cabbage white (Pieris rapae)		common buckeye (Junonia coenia grisea)	1
checkered (common) white (Pontia protodice)		mourning cloak (Nymphalis antiopa)	
spring white (P. sisymbrii)		Skippers	
unidentified white	13	funereal duskywing (Erynnis funeralis)	4
Metalmarks		mournful duskywing (<i>Erynnis tristis</i>)	
Behr's metalmark (Apodemia mormo virgulti)	48	fiery skipper (Hylephila phyleus)	
Wright's metalmark (Calephelis wrighti)		white (common) checkered-skipper (<i>Pyrgus albescens</i>)	1
Sulphurs		northern white skipper	
orange sulphur (Colias eurytheme)		Other	
sleepy orange (<i>Eurema nicippe</i>)			
cloudless sulfur (Phoebus sennae marcellina)			
unidentified sulphur	3		
Column Subtotal	86		17
		Total	103

other surveyors - other areas: Art; IW

SRM-01	03/18/16
start: 10:30 am.; clear 5%; 70°F; C	5-2mph Sally T
	lowering phots
crow vaven	Itedy are
arise swowed IM 11	Ero
chk skipper 1	Chrys cor
buckeye 1	Lash vest
On One to A	2
Bohr's willowk HM HM HM HM	It Acm gla
Sulphur III	Fri fas
white 1991 WM (11	And root (sml pupi)
CATO	Vig lac
w Fence liz	Caly mac
w force lize for clusky moundly that III	Dic cap
grant mili peale	Mir cal
Sara's 0-tip IM IM IM 1	Pha cic
Pale Swhitl 11	Sil gal
LEGO	Cal Spl
Annas	Cry sp. (Few)
hansk	Pla ene (very few)
whiptail	Lin die (Lew)
	Lin dia (few)
TOVU long hill	by Esch minal
NOHA	Ana and
golden eegte!	Sis bel
Adol ledy 1 Oxa	
Adol ledy 1 Osc Eri	Con
d: 3:30pm; 5-10mph + gusts	

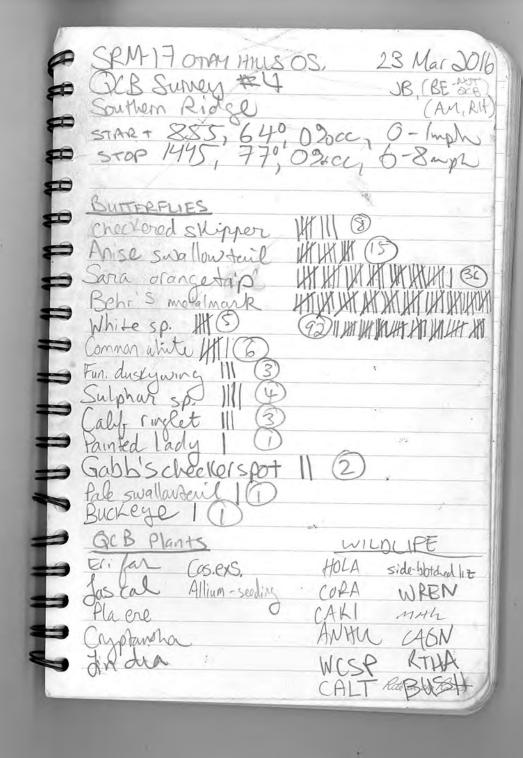
Surveyor:	Jasmine Bakker			Date: 3/23/16		
Site Name:	Otay Hills			Site V	/isit No: 4	
Acres Surv	eyed N/A	Survey Time:	5 hours 50 minutes	Acres per H	lour: N/A	
Other Surve	eyors Present:	Rob Hogenauer , Amy Matts	son			
						-

	Field Conditions						
	Time (24 hr) Temperature (°F) Wind Speed (mph) Cloud Cover						
Start	0855	64	0-1	0%			
End	1445	77	6-8	0%			
Start							
End							

Vegetation Communities Surveyed (inc. dominant spp.)
Southern Ridge; central hilltops
Chaparral (chamise and southern mixed) and Diegan Coastal Sage Scrub (buckwheat)

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

Butterfly Species	No.	Butterfly Species	No.
Checkerspots		Hairstreaks	
California patch (Chlosyne californica)		great purple hairstreak (Atlides halesus corcorani)	
Gabb's checkerspot (C. gabbii)	2	brown elfin (Callophrys augustinus)	
Quino checkerspot (Euphydryas editha quino)		bramble (perplexing) hairstreak (C. dumetorum affinis)	
chalcedon checkerspot (E. chalcedona chalcedona)		gray hairstreak (Strymon melinus pudica)	
Leanira checkerspot (Thessalia leanira wrighti)		Ladies/Admirals	
Mylitta crescent (Phyciodes mylitta)		California sister (Adelpha bredowii californica)	
Blues		Lorquin's admiral (<i>Limenitis Iorquini</i>)	
western pygmy-blue (Brephidium exila)		west coast lady (Vanessa annabella)	
western tailed blue (Everes amyntula)		red admiral (V. atalanta rubria)	
southern blue (Glaucopsyche lygdamus australis)		painted lady (<i>V. cardui</i>)	1
Edward's blue (Hemiargus ceraunus gyas)		American (Virginia) lady (V. virginiensis)	
Acmon blue (Icaricia acmon acmon)		unidentified lady (Vanessa sp.)	
marine blue (Leptotes marina)		Swallowtails	
unidentified blue		pale swallowtail (Papilio eurymedon)	1
Whites		western tiger swallowtail (P. rutulus)	
Sara orangetip (Anthocharis sara sara)	36	anise swallowtail (<i>P. zelicaon</i>)	15
desert (Felder's) orangetip (A. cethura)		Miscellaneous	
common California ringlet (Coenonympha californica)	3	monarch (Danaus plexippus)	
cabbage white (Pieris rapae)		common buckeye (Junonia coenia grisea)	1
checkered (common) white (Pontia protodice)	6	mourning cloak (Nymphalis antiopa)	
spring white (<i>P. sisymbrii</i>)		Skippers	
unidentified white	5	funereal duskywing (Erynnis funeralis)	3
Metalmarks		mournful duskywing (Erynnis tristis)	
Behr's metalmark (Apodemia mormo virgulti)	92	fiery skipper (Hylephila phyleus)	
Wright's metalmark (Calephelis wrighti)		white (common) checkered-skipper (<i>Pyrgus albescens</i>)	8
Sulphurs		Other	
orange sulphur (Colias eurytheme)			
sleepy orange (Eurema nicippe)			
cloudless sulfur (<i>Phoebus sennae marcellina</i>)			
unidentified sulphur	4		
Column Subtotal	148		29
		Total	177



Surveyor:	Amy Mattson				Date:	3/23/16	
Site Name:	Otay Hills				;	Site Visit No:	4
Acres Surve	eyed north and	I northeast	Survey Time:	4:50 (5.8)	Acres	per Hour:	
Other Surve	eyors Present:	Jasmine Bal	ker and Rob H	ogenauer (in different areas))		
							•

	Field Conditions						
	Time (24 hr)	Temperature (°F)	Wind Speed (mph)	Cloud Cover			
Start	8:55	64	0-1	0%			
End	14:45	77	6-8	0%			
Start							
End							

Vegetation Communities Surveyed (inc. dominant spp.)
CSS, CC, NNG

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

Butterfly Species	No.	Butterfly Species	No.
Checkerspots		Hairstreaks	
California patch (Chlosyne californica)		great purple hairstreak (Atlides halesus corcorani)	
Gabb's checkerspot (C. gabbii)		brown elfin (Callophrys augustinus)	
Quino checkerspot (Euphydryas editha quino)		bramble (perplexing) hairstreak (C. dumetorum affinis)	
chalcedon checkerspot (E. chalcedona chalcedona)		gray hairstreak (Strymon melinus pudica)	
Leanira checkerspot (Thessalia leanira wrighti)		Ladies/Admirals	
Mylitta crescent (Phyciodes mylitta)		California sister (Adelpha bredowii californica)	
Blues		Lorquin's admiral (Limenitis Iorquini)	
western pygmy-blue (Brephidium exila)		west coast lady (Vanessa annabella)	
western tailed blue (Everes amyntula)		red admiral (V. atalanta rubria)	1
southern blue (Glaucopsyche lygdamus australis)		painted lady (<i>V. cardui</i>)	
Edward's blue (Hemiargus ceraunus gyas)		American (Virginia) lady (V. virginiensis)	
Acmon blue (Icaricia acmon acmon)		unidentified lady (Vanessa sp.)	4
marine blue (Leptotes marina)		Swallowtails	
unidentified blue	2	pale swallowtail (Papilio eurymedon)	1
Whites		western tiger swallowtail (P. rutulus)	
Sara orangetip (Anthocharis sara sara)	158	anise swallowtail (P. zelicaon)	1
desert (Felder's) orangetip (A. cethura)		Miscellaneous	
common California ringlet (Coenonympha californica)	1	monarch (Danaus plexippus)	
cabbage white (Pieris rapae)	7	common buckeye (Junonia coenia grisea)	
checkered (common) white (Pontia protodice)	1	mourning cloak (Nymphalis antiopa)	
spring white (P. sisymbrii)		Skippers	
unidentified white	27	funereal duskywing (Erynnis funeralis)	1
Metalmarks		mournful duskywing (Erynnis tristis)	
Behr's metalmark (Apodemia mormo virgulti)	40	fiery skipper (Hylephila phyleus)	
Wright's metalmark (Calephelis wrighti)		white (common) checkered-skipper (<i>Pyrgus albescens</i>)	2
Sulphurs		Other	
orange sulphur (Colias eurytheme)		fritillary	1
sleepy orange (Eurema nicippe)			
cloudless sulfur (Phoebus sennae marcellina)			
unidentified sulphur	4		
Column Subtotal	240		11
			251

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Surveyo	or: Kob A	ot Butterfly Survey Fo	- 12 Y 1 1 1	
Acres S	ne: OTAY ANS urveyed N/A urveyors Present: Amy W			Site Visit No: 4
	<u> </u>		Conditions	
	Time (24 hr)	Temperature (°F	Wind Speed (mp	oh) Cloud Cover
Start	0910 - 0920	61	1- 7	0 %
				0%

egetation Communities	Surveyed (inc. dominant spp.)	
April 1987 Prophysical Control		

75

Start

End

1245-1436

2-4

0%

Host Plants	Obs.	Nectar Plants	Obs
dwarf plantain (Plantago erecta)		popcorn flower (Cryptantha/Plagiobothrys spp.)	1
purple owl's clover (Castilleja exserta)		goldfields (Lasthenia spp.)	4
snapdragon (Antirrhinum coulterianum)		goldenstar (Muilla spp.)	
birds-beak (Cordylanthus rigidus)		fiddleneck (Amsinckia intermedia)	
woolly plantain (Plantago patagonica)		onion (Allium spp.)	
Chinese houses (Collinsia spp.)		buckwheat (Eriogonum fasciculatum)	V
		ground pink (Linanthus dianthiflorus)	

Butterfly Species	No.	Butterfly Species	No.
Checkerspots		Hairstreaks	
California patch (Chlosyne californica)		great purple hairstreak (Atlides halesus corcorani)	
Gabb's checkerspot (C. gabbii)		brown elfin (Callophrys augustinus)	
Quino checkerspot (Euphydryas editha quino)		bramble (perplexing) hairstreak (C. dumetorum affinis)	
chalcedon checkerspot (E. chalcedona chalcedona)		gray hairstreak (Strymon melinus pudica)	
Leanira checkerspot (Thessalia leanira wrighti)		Ladies/Admirals	
Mylitta crescent (Phyciodes mylitta)		California sister (Adelpha bredowii californica)	
Blues		Lorquin's admiral (Limenitis lorquini)	
western pygmy-blue (Brephidium exila)		west coast lady (Vanessa annabella)	
western tailed blue (Everes amyntula)		red admiral (V. atalanta rubria)	
southern blue (Glaucopsyche lygdamus australis)		painted lady (V. cardui)	
Edward's blue (Hemiargus ceraunus gyas)		American (Virginia) lady (V. virginiensis)	
Acmon blue (Icaricia acmon acmon)		unidentified lady (Vanessa sp.)	2
marine blue (Leptotes marina)		Swallowtails	
unidentified blue		pale swallowtail (Papilio eurymedon)	3
Whites		western tiger swallowtail (P. rutulus)	
Sara orangetip (<i>Anthocharis sara sara</i>) 💢 💢 💥 💢	对 69	anise swallowtail (P. zelicaon)	13
desert (Felder's) orangetip (A. cethura)		Miscellaneous	
common California ringlet (Coenonympha californica)		monarch (Danaus plexippus)	
cabbage white (Pieris rapae)		common buckeye (Junonia coenia grisea)	
checkered (common) white (Pontia protodice)		mourning cloak (Nymphalis antiopa) * *	2
spring white (P. sisymbrii)		Skippers	
unidentified white 🔯 !	12	funereal duskywing (Erynnis funeralis)	
Metalmarks		mournful duskywing (Erynnis tristis)	
Behr's metalmark (<i>Apodemia mormo virgulti</i>) 🔀 😡 🔯	M. 41	fiery skipper (Hylephila phyleus)	
Wright's metalmark (Calephelis wrighti)		white (common) checkered-skipper (Pyrgus albescens)	
Sulphurs		Other	
orange sulphur (Colias eurytheme)			
sleepy orange (Eurema nicippe)			
cloudless sulfur (Phoebus sennae marcellina)			
unidentified sulphur			
Column Subtotal	122	Column Subtotal	20
		Total	14

Appendix C BUTTERFLY CHECKLIST

2016 Quino Checkerspot Butterfly Surveys BUTTERFLY CHECKLIST

Site Name: Otay Hills

Dates: March 1 - March 23, 2016

Survey Numbers: 1-4

Surveyors: Erica, Harris, Robert Hogenauer, Jasmine Bakker, Amy Mattson

Butterfly Species	No.	Butterfly Species	No.
Checkerspots		Hairstreaks	
California patch (Chlosyne californica)	2	great purple hairstreak (Atlides halesus corcorani)	
Gabb's checkerspot (C. gabbii)	2	brown elfin (Callophrys augustinus)	
Quino checkerspot (Euphydryas editha quino)		bramble (perplexing) hairstreak (C. dumetorum affinis)	3
chalcedon checkerspot (E. chalcedona chalcedona)		gray hairstreak (Strymon melinus pudica)	5
Leanira checkerspot (Thessalia leanira wrighti)		Ladies/Admirals	
Mylitta crescent (Phyciodes mylitta)		California sister (Adelpha bredowii californica)	
Blues		Lorquin's admiral (Limenitis lorquini)	
western pygmy-blue (Brephidium exila)		west coast lady (Vanessa annabella)	6
western tailed blue (Everes amyntula)		red admiral (V. atalanta rubria)	2
southern blue (Glaucopsyche lygdamus australis)	2	painted lady (V. cardui)	8
Edward's blue (Hemiargus ceraunus gyas)		American (Virginia) lady (V. virginiensis)	1
Acmon blue (Icaricia acmon acmon)		unidentified lady (Vanessa sp.)	23
marine blue (Leptotes marina)		Swallowtails	
unidentified blue	6	pale swallowtail (Papilio eurymedon)	11
Whites		western tiger swallowtail (P. rutulus)	
Sara orangetip (Anthocharis sara sara)	563	anise swallowtail (P. zelicaon)	110
desert (Felder's) orangetip (A. cethura)		Miscellaneous	
common California ringlet (Coenonympha californica)	25	monarch (Danaus plexippus)	
cabbage white (Pieris rapae)	16	common buckeye (Junonia coenia grisea)	5
checkered (common) white (Pontia protodice)	14	Comstock's fritillary (Speyeria callippe comstocki)	
spring white (P. sisymbrii)		mourning cloak (Nymphalis antiopa)	2
unidentified white	72	Skippers	
Metalmarks		funereal duskywing (Erynnis funeralis)	34
Behr's metalmark (Apodemia mormo virgulti)	506	mournful duskywing (<i>Erynnis tristis</i>)	1
Wright's metalmark (Calephelis wrighti)		fiery skipper (Hylephila phyleus)	
Sulphurs		white (common) checkered-skipper (<i>Pyrgus albescens</i>)	38
orange sulphur (Colias eurytheme)		northern white skipper (Heliopetes ericetorum)	2
sleepy orange (<i>Eurema nicippe</i>)		Other	
cloudless sulfur (Phoebus sennae marcellina)		fritillary (Speyeria sp.)	1
unidentified sulphur	40		
Column Subtotal	1,248	Column Subtotal	252
Total Butterflies Observed			



Appendix C

COASTAL CALIFORNIA GNATCATCHER SURVEY REPORTS

2000 COASTAL CALIFORNIA GNAT CATCHER SURVEY REPORT

APPENDIX C

2000 COASTAL CALIFORNIA GNATCATCHER SURVEY REPORT



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La Mesa, CA 91941-6476

e-mail:admin@helixepi.com

fax (619) 462-0552

phone (619) 462-1515

October 20, 2000

SRM-01

Mr. Severo Chavez 7850 Mission Center Court, Suite 104 San Diego, CA 92108

Subject: Gnatcatcher survey report for the East Otay Project Site

Dear Mr. Chavez:

This letter presents a U.S. Fish and Wildlife Service protocol survey report for the proposed East Otay Project Site in eastern Otay Mesa in the County of San Diego (Figure 1). The site is located on and around a hill approximately two miles east of the intersection of Alta and East Otay Mesa Roads (Figure 2).

INTRODUCTION

HELIX performed U.S. Fish and Wildlife Service protocol surveys for the coastal California gnatcatcher (*Polioptila californica californica*) on the 360-acre project site. There are approximately 292.1 acres of Diegan coastal sage scrub on site. However, the entire site was burned within the last five years and much of the habitat, including the Diegan coastal sage scrub, is not fully mature in scattered patches and having shrubs 2-feet or less in height. Regardless, we surveyed all of the Diegan coastal sage scrub on site to ensure adequate coverage. A copy of this report will be submitted to the U.S. Fish and Wildlife Service (USFWS) as a condition of HELIX's Threatened and Endangered Species Permit TE778195-5 under which these surveys were performed.

METHODS

Scott Taylor, Deborah Pudoff, and Peter Allen of HELIX conducted three complete surveys every seven to ten days for the gnatcatcher. Survey information is provided in Table 1. The surveys were conducted according to the latest (1997) USFWS protocol for presence/absence of the species.

Appropriate gnatcatcher habitat (292.1 acres of coastal sage scrub) was surveyed. In addition, appropriate habitat immediately adjacent to the impact areas was surveyed as best as possible. These auxiliary habitats included chaparral, grassland, and mule fat scrub habitats. Surveys routes consisted of dirt roads and trails that could be found within and surrounding the habitat areas. Since the Diegan coastal sage scrub was practically continuous across the site, in many areas transects were walked through the habitat to ensure maximum coverage. Taped vocalizations were played four or five times per hour during the survey.



Letter to Mr. Severo Chavez October 20, 2000

Table 1 SURVEY INFORMATION

Date of Survey	Personnel*	Start/Stop Times	Acres Surveyed/ Coverage Rate	Weather Conditions
June 13, 2000	DP, PA	0600/1200	192.1 acres/16 acres per biologist per hour	Overcast, clearing by 0800, 59-80°F, wind 0-5 mph
June 14, 2000	ST	0600/1200	100 acres/16.6 acres per biologist per hour	Overcast, clearing by 1000, 63-75°F, wind 0-5 mph
June 21, 2000	ST, DP, PA	0600/1200	292.1 acres/16.2 acres per biologist per hour	Mostly clear, 62-80°F, wind 0-5 mph
June 28, 2000	ST, DP, PA	0600/1200	292.1 acres/16.2 acres per biologist per hour	Foggy, clearing by 1000, 63-84°F, wind 0-5 mph

^{*}DP=Deborah Pudoff, PA=Peter Allen, ST=Scott Taylor

PLANT COMMUNITY DESCRIPTIONS

Diegan coastal sage scrub (including disturbed Diegan coastal sage scrub) dominates over 80 percent of the project site. Plant species observed on site include California sagebrush (Artemisia californica), lemonadeberry (Rhus integrifolia), California buckwheat (Eriogonum fasciculatum), and laurel sumac (Malosma laurina). Disturbed Diegan coastal sage scrub contains many of the same shrub species as undisturbed habitat, but has a higher proportion of non-native annual species. This habitat occurs throughout the site (Attached foldout map) and likely coincides with areas where post-fire regrowth occurred at a relatively slow rate, allowing for more non-native species to become established.

Additional habitats on site include mule fat scrub, native grassland, non-native grassland, southern mixed chaparral, chamise chaparral, and disturbed habitat types.

Mulefat scrub is dominated by mulefat (*Baccharis salicifolia*). Other species present include willow (*Salix lasiolepis*), tamarisk (*Tamarix* sp.), and (*Baccharis sarothroides*). This habitat occurs along a drainage in the northwest corner of the site.

Native grassland on site is a community dominated by perennial bunchgrasses such as purple needle grass (*Achnatherum pulchra*) with associated annual and perennial forbs such as common golden stars (*Bloomeria crocea* ssp. *crocea*) and California blue-eyed grass (*Sisyrinchium bellum*). Native grassland occurs in two patches on north-facing slopes in the center of the project site. Additional habitat occurs in smaller patches within Diegan coastal sage scrub habitat on these same slopes.

Southern mixed chaparral occurs in two small patches in the northern portion of the site at the base of a north-facing slope. Dominant plant species observed within this habitat include chamise (*Adenostoma fasciculatum*), spiny redberry (*Rhamnus crocea*), laurel sumac, and California sagebrush.



Letter to Mr. Severo Chavez October 20, 2000

Chamise chaparral occurs in one small patch on a ridgeline along the southern project boundary. This habitat is dominated by chamise and contains a sparse cover of peak rush rose (*Helianthemum scoparium*).

Non-native grassland occurs in the western portion of the site. Characteristic species within this habitat on site include oats (*Avena* sp.), red brome (*Bromus madritensis* ssp. *rubens*), and wild mustard (*Brassica* sp.).

Disturbed habitat occurs just outside of the southern site boundary. This area contains a few annual forbes such as mustard, and filaree (*Erodium* spp.) and appears to have been previously cleared as a road.

SURVEY RESULTS AND CONCLUSION

The coastal California gnatcatcher was not detected during the protocol surveys for the species. Due to the overall habitat quality at present, the negative survey results were expected. Gnatcatchers are typically known from the Otay Mesa area, and likely have occurred on site in the past, but with the relatively recent fire, populations may now be missing from many former territorial locations. As the habitat on site develops into a more mature community gnatcatchers may be expected to move onto the site after a few years.

Please contact Scott Taylor or myself if you have any questions about the surveys or the contents of this letter.

Sincerely,

Scott Taylor

Wildlife Biologist

Enclosures: Figure 1

Regional Location Map

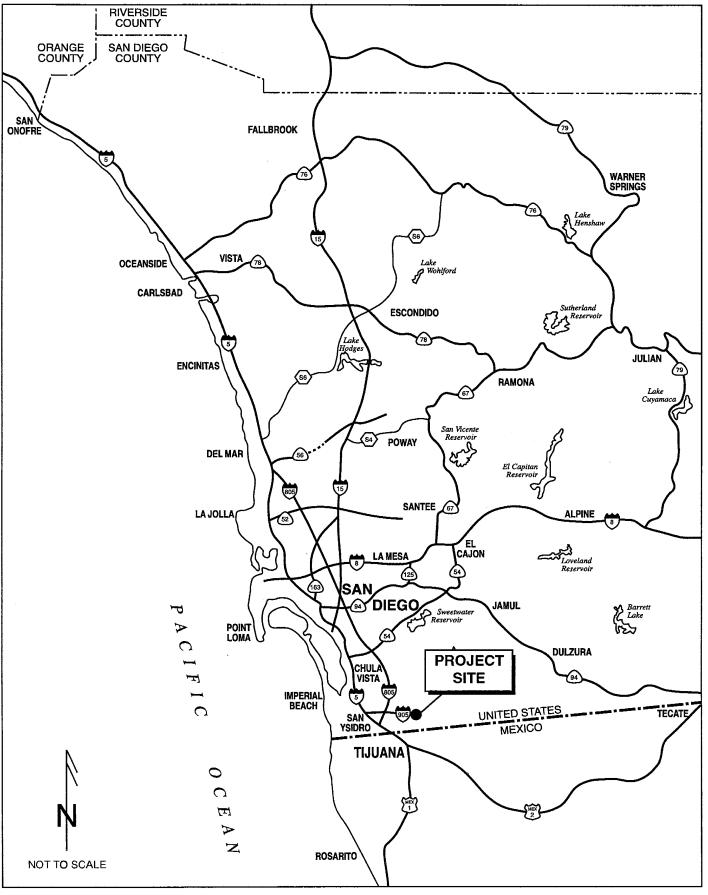
Figure 2

Vicinity Map

Foldout map

Vegetation

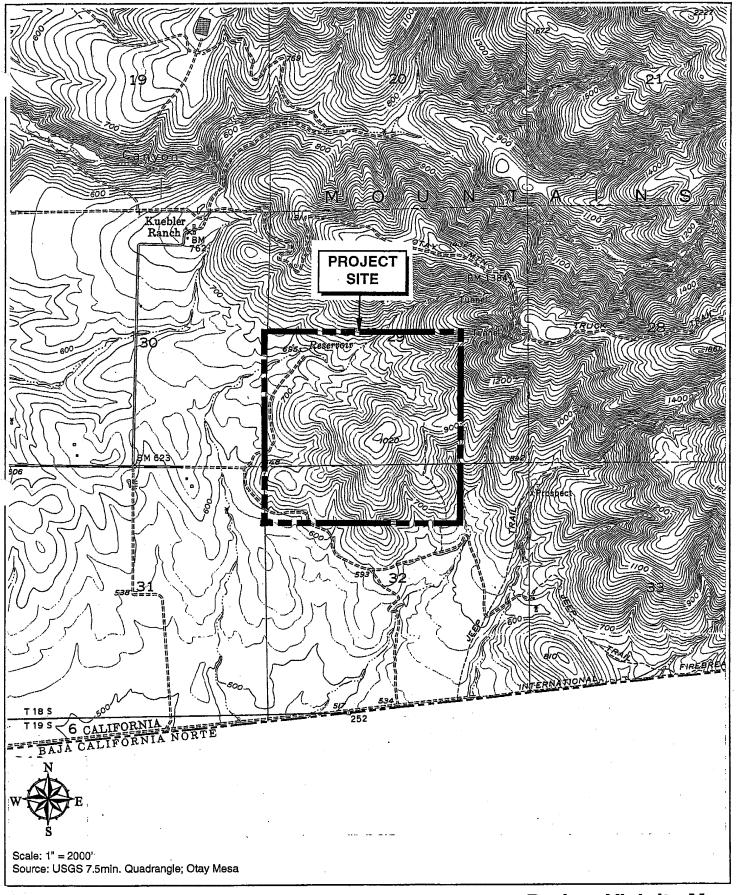
cc: U.S. Fish and Wildlife Service



Regional Location Map

EAST OTAY PROJECT SITE

Figure 1



Project Vicinity Map

EAST OTAY PROJECT SITE Figure 2

2011 COASTAL CALIFORNIA GNAT CATCHER SURVEY REPORT

HELIX Environmental Planning, Inc.

7578 El Cajon Boulevard Suite 200 La Mesa, CA 91942 619.462.1515 tel 619.462.0552 fax www.helixepi.com



June 15, 2011 SRM-12

Ms. Erin McCarthy U.S. Fish and Wildlife Service 6010 Hidden Valley Road Carlsbad, California 92011

Subject: Year 2011 Coastal California Gnatcatcher Survey Report for the Otay Hills

Aggregate Extraction Project

Dear Ms. McCarthy:

This letter presents the results of HELIX Environmental Planning, Inc.'s (HELIX's) 2011 survey for the coastal California gnatcatcher (*Polioptila californica californica* [CAGN]) for the Otay Hills Aggregate Extraction Project. This letter describes the survey methods and results and is being submitted to the U.S. Fish and Wildlife Service (USFWS) as a condition of HELIX's Threatened and Endangered Species Permit TE778195.

The project site consists of 2 areas of vacant land located in southwestern San Diego County at the edge of Otay Mesa, approximately one mile north of the U.S. border with Baja California, Mexico, one mile east of the Otay Mesa border crossing, and east of the intersection of Otay Mesa and Alta roads. It is within Township 18 south, Range 1 west on the U.S. Geological Survey 7.5-minute Otay Mesa quadrangle map (Figure 1).

METHODS

The survey consisted of 3 site visits that were performed in accordance with the current (1997) USFWS protocol by Deborah Leonard and Erik LaCoste within the larger, western area of the project site. The smaller eastern area was not surveyed (Figure 1). The CAGN survey area encompassed approximately 301 acres of potential CAGN habitat, including Diegan coastal sage scrub, Diegan coastal sage scrub-disturbed, and coastal sage-chaparral scrub (Figure 2), which

last burned in 1997 and appears to have recovered from that fire. Due to the size of the CAGN survey area, 2 days were needed to complete one site visit (Table 1).

The survey was conducted by walking through potential CAGN habitat and infrequently playing recorded CAGN vocalizations to elicit a response from any potentially present, non-vocal CAGN. Binoculars were used to aid in the identification of birds when necessary. The approximate survey routes followed are depicted on Figure 2.

Table 1 SURVEY INFORMATION					
Site Visit	Date	Biologist	Time (Start/Stop)	Acres (ac) Covered/ Survey Rate	Weather Conditions (Start/Stop)
1 (part 1 of 2)	4/14/11	D. Leonard E. LaCoste	0730/1200	150.5 ac/ 16.7 ac per hour	Clear, 55 degrees Fahrenheit (°F), wind 0-2 miles per hour (mph)/ Clear, 70°F, wind 4-8 mph
1 (part 2 of 2)	4/15/11	D. Leonard E. LaCoste	0730/1200	150.5 ac/ 16.7 ac per hour	Clear, 59 °F, wind 0-2 mph/ Clear, 79°F, wind 2-5 mph
2 (part 1 of 2)	4/26/11	D. Leonard E. LaCoste	0800/1200	150.5 ac/ 18.8 ac per hour	Overcast, 62 °F, wind 0 mph/Clear, 74°F, wind 2-4 mph
2 (part 2 of 2)	4/27/11	D. Leonard E. LaCoste	0800/1200	150.5 ac/ 18.8 ac per hour	Clear, 64 °F, wind 0-2 mph/Clear, 82°F, wind 2-4 mph
3 (part 1 of 2)	5/05/11	D. Leonard E. LaCoste	0800/1200	150.5 ac/ 18.8 ac per hour	Clear, 67 °F, wind 0-2 mph/Clear, 78°F, wind 7-10 mph
3 (part 2 of 2)	5/06/11	D. Leonard E. LaCoste	0800/1200	150.5 ac/ 18.8 ac per hour	Overcast, 60 °F, wind 0-3 mph/Clear, 74°F, wind 2-4 mph

VEGETATION COMMUNITY DESCRIPTIONS

In addition to developed land, 11 vegetation communities occur on the project site: mule fat scrub, cismontane alkali marsh, southern interior cypress forest, tamarisk scrub, native grassland, Diegan coastal sage scrub (including disturbed), coastal sage-chaparral scrub, chamise chaparral, southern mixed chaparral, non-native grassland, and disturbed habitat. A brief description of each vegetation community is provided below.



Mule Fat Scrub

Mule fat scrub is a depauperate, shrubby riparian scrub community dominated by mule fat (*Baccharis salicifolia*) interspersed with shrubby willows (*Salix* spp.). This vegetation community occurs along intermittent stream channels with a coarse substrate and moderate depth to the water table. Mule fat scrub is maintained by frequent flooding, the absence of which would lead to riparian woodland or forest (Holland 1986). On the project site, mule fat scrub is dominated by mule fat; other species include arroyo willow (*S. lasiolepis*), tamarisk (*Tamarix* sp.), and broom baccharis (*B. sarothroides*).

Cismontane Alkali Marsh

Cismontane alkali marsh is characterized by wet or inundated areas dominated by emergent plant species, but often with an understory of grasses or sedges. Standing water or saturated soil is present during all or most of the year. High evaporation rates and low input of freshwater result in high salinity levels, especially during the summer (Holland 1986). Characteristic species include yerba mansa (*Anemopsis californica*), saltgrass (*Distichlis spicata* var. *stricta*), cattails (*Typha* spp.), and rush (*Juncus* sp.). On the project site, cismontane alkali marsh is dominated by San Diego marsh-elder (*Iva hayesiana*) and southwestern spiny rush (*Juncus acutus* ssp. leopoldii).

Southern Interior Cypress Forest

Southern interior cypress forest is a fairly dense, fire-maintained, low forest dominated by Piute cypress (*Cupressus nevadensis*), Tecate cypress (*C. forbesii*), or Arizona cypress (*C. stephensonii*). This forest often occurs as isolated groves within a matrix of chaparral or piñon-juniper woodland (Holland 1986).

Tamarisk Scrub

Tamarisk scrub is a weedy stand of tamarisk species, which are non-native plants that displace native vegetation subsequent to a major disturbance. It occurs along intermittent streams where high evaporation rates increase the salinity level of the soil. Because of its deep root system and high transpiration rates, tamarisk can substantially lower the water table to below the root zone of native species, thereby competitively excluding them. As a prolific seeder, it is able to rapidly replace the native species that it displaces within drainages (Holland 1986).

Native Grassland

Native grassland is a vegetation community dominated by perennial bunchgrasses such as purple needlegrass (*Nassella pulchra*) with annual and perennial forbs, such as common golden stars (*Bloomeria crocea* ssp. *crocea*) and California blue-eyed grass (*Sisyrinchium bellum*). Native grasslands generally occur on fine-textured soils that generally exclude annual, exotic grasses. Almost all of the native grasslands in California have been displaced by non-native grassland dominated by introduced annual species. Native grasslands occur throughout California as small



isolated islands. Native grass species that occur within this vegetation community include purple needlegrass and San Diego needlegrass (*Achnatherum diegoense*).

<u>Diegan Coastal Sage Scrub (including disturbed)</u>

Coastal sage scrub is one of two major shrub types that occur in southern California, occupying xeric sites characterized by shallow soils. Dominated by drought-deciduous shrub species with relatively shallow root systems and open canopies, coastal sage scrub communities often contain a substantial herbaceous component. Four distinct coastal sage scrub geographical associations (northern, central, Venturan, and Diegan) are recognized along the California coast. Despite being greatly reduced from its historical distribution (Oberbauer and Vanderwier 1991), the Diegan association is the dominant coastal sage scrub in coastal southern California from Los Angeles to Baja California, Mexico (Holland 1986) and supports a number of rare, threatened, or endangered species.

Plant species observed within the Diegan coastal sage scrub on the project site include California sagebrush (*Artemisia californica*), lemonadeberry (*Rhus integrifolia*), California buckwheat (*Eriogonum fasciculatum*), and laurel sumac (*Malosma laurina*).

Diegan coastal sage scrub-disturbed contains many of the same shrub species as undisturbed habitat but is sparser and has a higher proportion of non-native, annual species. Disturbed Diegan coastal sage scrub may have developed in areas with a slower post-fire revegetation rate that allowed for more non-native species to become established.

Coastal Sage-Chaparral Scrub

Coastal sage-chaparral scrub is a mixture of sclerophyllous chaparral shrubs and drought-deciduous sage scrub species regarded as an ecotone, or transition, between the 2 vegetation communities. This vegetation community often contains floristic elements of both communities, including California sagebrush, California buckwheat, laurel sumac, Nuttall's scrub oak (*Quercus dumosa*), chamise (*Adenostoma fasciculatum*), and ceanothus (*Ceanothus* spp.).

Chamise Chaparral

The most widely distributed chaparral shrub is chamise, which occurs from Baja California, Mexico to northern California in pure stands or in mixed stands. Chamise's ubiquitous distribution may be the result of it being the only chaparral species that regenerates from fire from both an underground root crown and the production of seeds (Rundel 1986). It often dominates at low elevations and on xeric south-facing slopes with 60 to 90 percent canopy cover. Along its lower elevation limit, chamise intergrades with coastal sage scrub (Rundel 1986). Mission manzanita (*Xylococcus bicolor*) and black sage (*Salvia mellifera*) are minor associates within this vegetation community.



Southern Mixed Chaparral

Southern mixed chaparral is composed of broad-leaved sclerophyllous shrubs that reach between 6 and 10 feet in height and form dense, often nearly impenetrable stands. The plants of this association are typically deep-rooted. In southern mixed chaparral there is a well developed soil litter layer, high canopy coverage (greater than 100 percent), low light level within the canopy, and lower soil temperatures (Keeley and Keeley 1988). This vegetation community occurs on dry, rocky, often steep north-facing slopes with little soil. As conditions become more mesic, broad-leaved sclerophyllous shrubs that resprout from underground root crowns become dominant. Depending upon relative proximity to the coast, southern mixed chaparral is dominated by chamise, mission manzanita, wart-stemmed ceanothus (*Ceanothus verrucosus*), Ramona ceanothus (*C. tomentosus*), white-stem wild-lilac (*C. leucodermis*), big-berry manzanita (*Arctostaphylos glauca*), and scrub oak (*Quercus berberidifolia*).

Non-native Grassland

Non-native grassland is a dense-to-sparse cover of annual grasses, often associated with native annual forbs. This association occurs on gradual slopes with deep, fine-textured, usually clay soils. Most of the introduced annual species that comprise non-native grassland originated from the Mediterranean region of Europe, an area with a climate similar to that of California and a long history of agriculture. These 2 factors have contributed to the successful invasion and establishment of these species and the replacement of native grasslands with an annual dominated, non-native grassland (Jackson 1985).

Characteristic species within this vegetation community on the project site include oats (*Avena* spp.), red brome (*Bromus madritensis* ssp. *rubens*), and wild mustard (*Brassica* sp.).

Disturbed Habitat

Disturbed habitat includes land that has been cleared of vegetation (e.g., dirt roads), contains a preponderance of non-native plant species (such as ornamentals or ruderal, exotic species) that take advantage of disturbance (previously cleared land or abandoned landscaping), or shows signs of past or present animal usage which has removed any capability of providing viable habitat.

On the project site, disturbed habitat includes dirt roads criss-crossing the area that have been carved out of native vegetation and non-native grassland by off-road vehicles. In addition, San Diego Gas and Electric (SDG&E) maintains access roads and transmission facilities on the project site.

Developed Land

Developed land exists where permanent structures and/or pavement has been placed (preventing the growth of vegetation) or where landscaping is clearly tended and maintained.



SURVEY RESULTS

Five pairs of CAGN were found during the survey (Figures 1 and 2). Two pairs were in the northern portion, 2 pairs were in the eastern portion, and one pair was in the southern portion of the survey area. All but the northernmost pair, which was found in southern mixed chaparral, was found in Diegan coastal sage scrub.

CERTIFICATION

We certify that the information in this survey report and attached exhibits fully and accurately represent our work. Please contact us at (619) 462-1515 should you have any questions.

Sincerely,

Deborah Leonard Senior Scientist

TE778195

Erik LaCoste **Biologist**

TE027736

Enclosures: Figure 1 Project Location Map

Figure 2 Coastal California Gnatcatchers, Survey Routes, and Vegetation

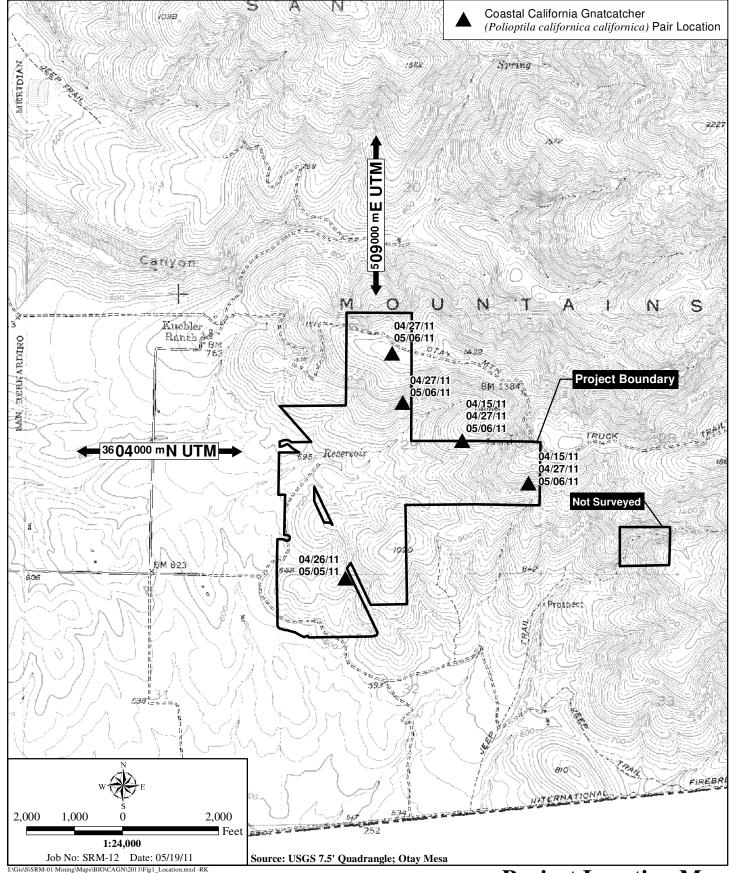
Communities



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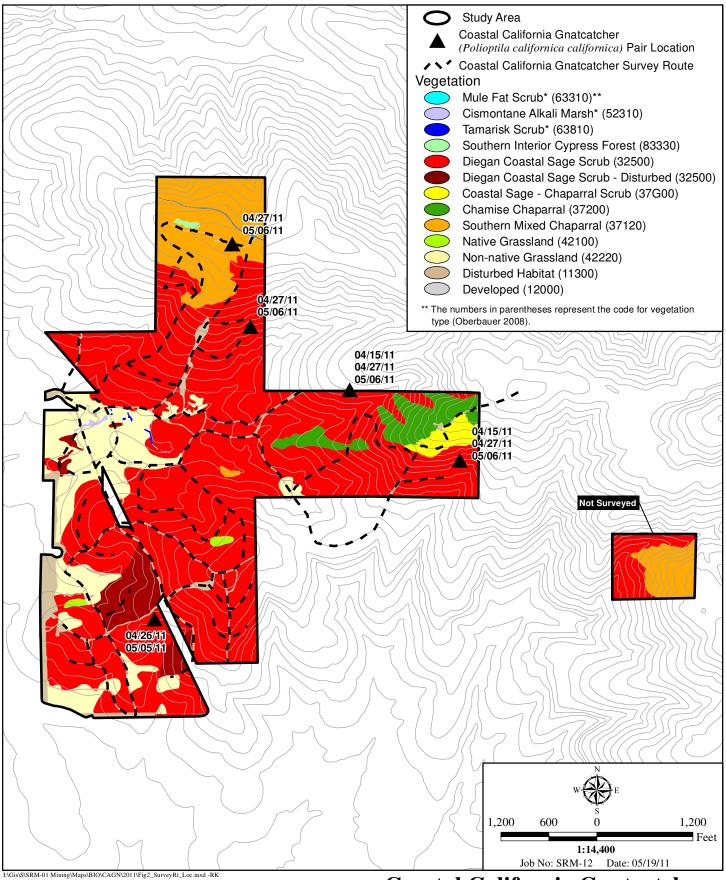




Project Location Map

OTAY HILLS

HELIX
Environmental Planning



Coastal California Gnatcatchers, Survey Routes, and Vegetation Communities



Appendix D BURROWING OWL SURVEY REPORTS

BURROWING OWL SURVEY REPORT APRIL 4, 2012

HELIX Environmental Planning, Inc.

7578 El Cajon Boulevard Suite 200 La Mesa, CA 91942 619.462.1515 tel 619.462.0552 fax www.helixepi.com



April 4, 2012

Arnie Veldkamp Superior Ready Mix Concrete, L.P. 1508 W. Mission Road Escondido, CA 92029 SRM-12

Subject: Burrowing Owl Survey Report for the Otay Hills Aggregate Extraction Project

Dear Mr. Veldkamp:

This letter presents the results of the 2012 wintering presence/absence survey for the burrowing owl (*Athene cunicularia*) conducted by HELIX Environmental Planning, Inc. (HELIX) for the Otay Hills Aggregate Extraction Project.

LOCATION AND SITE DESCRIPTION

The survey was conducted in an approximately 433.9-acre biological study area (BSA) for the potential impacts associated with the proposed construction of the Otay Hills Aggregate Extraction Project located in San Diego County, California (Figures 1 and 2). The BSA consists of two areas of vacant land located in the foothills immediately east of Otay Mesa, approximately one mile north of the U.S. border with Baja California, Mexico, one mile east of the Otay Mesa border crossing, and east of the intersection of Otay Mesa and Alta roads. It is within Township 18 south, Range 1 west on the U.S. Geological Survey 7.5-minute Otay Mesa quadrangle map (Figures 1 and 2). Development within the study area would be required to go through the Multiple Species Conservation Program (MSCP) Subarea Plan Amendment process to receive take authorization for MSCP-covered species.

Land use along and adjacent to the BSA generally includes commercial/industrial and undeveloped. In addition to developed land, 11 vegetation communities occur on the project site: mule fat scrub, cismontane alkali marsh, southern interior cypress forest, tamarisk scrub, native grassland, Diegan coastal sage scrub (including disturbed), coastal sage-chaparral scrub, chamise chaparral, southern mixed chaparral, non-native grassland, and disturbed habitat (Figure 3). In addition to natural habitat, numerous dirt roads cross the study area. These roads are frequently used illegally by off-highway vehicles (OHVs), especially dirt bikes. The Border

Patrol traverses the study area in vehicles and OHVs during daily patrols. In addition, San Diego Gas & Electric (SDG&E) maintains access roads and transmission facilities within the study area.

METHODS

HELIX biologists Erica Harris, George Aldridge, and Tara Baxter conducted a focused survey for burrowing owls, as well as for burrows and burrowing owl sign, within the 433.9 -acre BSA including a 500-foot buffer in areas containing suitable burrowing owl habitat. A total of 4 survey visits, at approximately 7 days apart, were conducted following survey guidelines (County 2010, CDFG 1995). Surveys were conducted during hours when burrowing owls are typically most active. Two of the visits occurred in the morning (1 hour before sunrise until 2 hours after sunrise) and two visits occurred in the evening (2 hours before sunset to 1 hours after sunset; Table 1) in accordance with County guidelines. These surveys were conducted in January during the portion of the burrowing owl wintering season when owls are most likely to be present, which is defined by the California Department of Fish and Game (CDFG) as December 1 to January 31 (CDFG 1995). Biologists walked slowly and methodically in areas of suitable habitat, closely examining any fence posts, rocks, or other possible perching locations as well as mammal burrows (especially those of California ground squirrel [Spermophilus beechevi]). Potential burrows were checked for signs of recent owl occupation, which include pellets (e.g., regurgitated fur, bones, and insect parts), white wash (excrement), and feathers. In addition, man-made structures such as concrete culverts/piles, wood debris piles, trash piles, and openings beneath cement or asphalt pavement were checked carefully for owl sign.

A list of all animal species observed or detected during the survey is provided in Attachment A.

Table 1 BURROWING OWL SURVEY INFORMATION						
SURVEY DATE		BIOLOGISTS	TIME	WEATHER CONDITIONS		
SORVET	DAIL	DIOLOGISTS	1 114117	Start	Stop	
1	1/9/12	E. Harris T. Baxter	0620/0850	54° F, wind 0-1 mph, 0% cloud cover	67° F, wind 0-1 mph, 0% cloud cover	
2	1/16/12	E. Harris T. Baxter	1506/1715	58° F, wind 2-4 mph, 100% cloud cover	53° F, wind 2-4 mph, 100% cloud cover	
3	1/23/12	E. Harris T. Baxter	0615/0905	50° F, wind 1-3 mph, 99% cloud cover	59° F, wind 1-3 mph, 100% cloud cover	
4	1/30/12	G. Aldridge T. Baxter	1505/1720	66° F, wind 4-7 mph, 30% cloud cover	58° F, wind 0-1 mph, 100% cloud cover	



SURVEY RESULTS

The results of the 2012 presence/absence burrowing owl survey for the Otay Hills Aggregate Extraction Project were negative. No burrowing owls or sign of burrowing owls such as pellets, whitewash, or burrows were observed within the project site.

Please contact me at 619-462-1515 if you have any questions.

Sineerely,

Erica Harris Biologist

Enclosures:

Figure 1 Regional Location Map

Figure 2 Project Location Map

Figure 3 Vegetation Communities

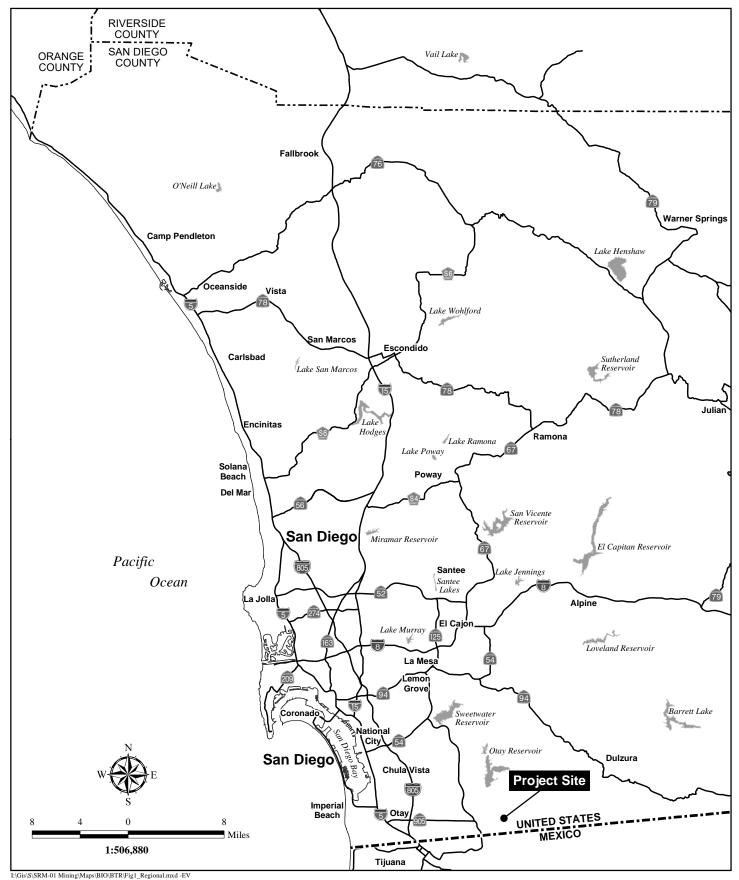
Attachment A Animal Species Observed or Detected



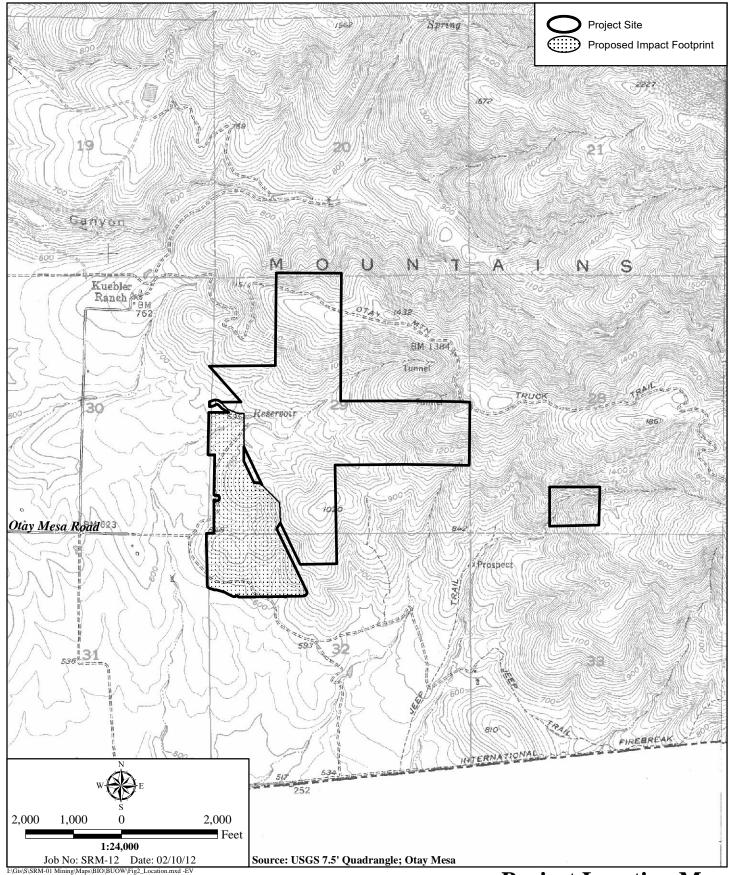
REFERENCES

- California Burrowing Owl Consortium. 1993. Burrowing Owl Survey Protocol and Mitigation Guidelines. April.
- California Department of Fish and Game (CDFG). 1995. Staff Report on Burrowing Owl Mitigation. October 17. 8 pp. plus attachments
- County of San Diego (County). 2010. Report Format and Content Requirements Biological Resources. Land Use and Environmental Group, Department of Planning and Land Use and Department of Public Works. Fourth Revision. September 15.

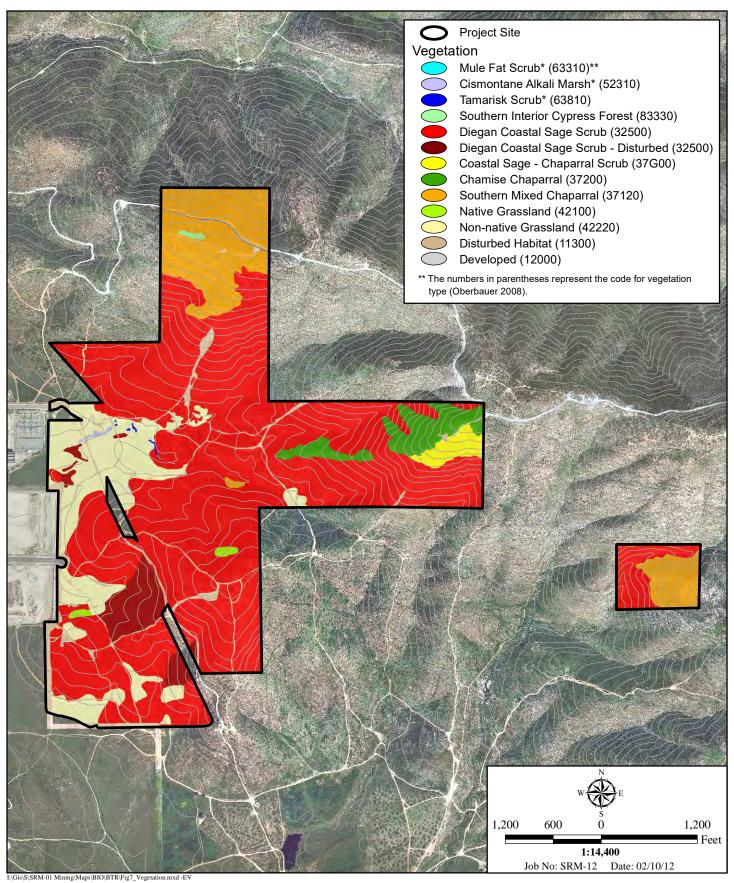




Regional Location Map



Project Location Map



Vegetation Communities

Attachment A ANIMAL SPECIES OBSERVED OR DETECTED OTAY HILLS AGGREGRATE EXTRACTION PROJECT

TAXON	SCIENTIFC NAME	COMMON NAME

INVERTEBRATES

<u>Order</u> <u>Family</u>

Lepidoptera Nymphalidae Vanessa cardui Painted Lady

VERTEBRATES

Amphibians

<u>Order</u> <u>Family</u>

Anura Bufonidae Bufo boreas Western Toad

Birds

<u>Order</u> <u>Family</u>

Aphodiformes Trochilidae Calypte anna Anna's Hummingbird Columbiformes Columbidae Zenaida macroura Mourning Dove

Falconiformes Accipitridae Accipter cooperii† Cooper's Hawk

Buteo jamaicensis Red-tailed Hawk
Circus cyaneus† Northern Harrier

Falconidae Falco sp. unidentified falcon

Falco sparverius American Kestrel
Passeriformes Aegithalidae Psaltriparus minimus Bushtit

Passeriformes Aegithalidae Psaltriparus minimus Bushtit
Corvidae Corvus brachyrhynchos American Crow

Corvus corax Common Raven

Emberizidae Chondestes grammacus Lark Sparrow

Melospiza melodia Song Sparrow

Passerculus sandwichensisSavannah SparrowPipilo crissalisCalifornia Towhee

Pipilo maculatus Spotted Towhee Pooecetes gramineus Vesper Sparrow

Zonotrichia leucophrys White-crowned Sparrow

Fringillidae Carduelis psaltria Lesser Goldfinch

Attachment A (cont.) ANIMAL SPECIES OBSERVED OR DETECTED OTAY HILLS AGGREGRATE EXTRACTION PROJECT

TAXON		SCIENTIFC NAME	COMMON NAME
<u>Birds</u>			
<u>Order</u>	<u>Family</u>		
	Fringillidae Hiruninidae Icteridae Laniidae Parulidae Sturnidae Troglodytidae	Carpodacus mexicanus Stelgidopteryx sp. Sturnella neglecta Lanius ludovicianus† Setophaga coronata Sturnus vulgaris Salpinctes obsoletus Thryomanes bewickii	House Finch unidentified swallow Western Meadowlark Loggerhead Shrike Yellow-rumped Warbler European Starling Rock Wren Bewick's Wren
Pelecaniformes	Tyrannidae Phalacrocoracidae	Troglodytes aedon Sayornis nigricans Sayornis saya Tyrannus sp. Phalacrocorax auritus	House Wren Black Phoebe Say's Phoebe unidentified kingbird Double-crested Cormorant
Mammals			
<u>Order</u>	<u>Family</u>		
Artiodactyla Carnivora	Cervidae Canidae Felidae Procynoidaee	Odocoileus hemionus Canis latrans Lynx rufus Procyon lotor	mule deer coyote bobcat caccoon
Lagomorpha Rodentia	Leporidae Leporidae Geomyidae Muridae Sciuridae	Lepus californicus Sylvilagus audubonii Thomomy bottae Neotoma sp. Spermophilus beecheyi	black-tailed jackrabbit desert cottontail pocket gopher unidentified woodrat California ground squirrel

[†]Listed or sensitive species

BURROWING OWL SURVEY REPORT JUNE 15, 2012

HELIX Environmental Planning, Inc.

7578 El Cajon Boulevard Suite 200 La Mesa, CA 91942 619.462.1515 tel 619.462.0552 fax www.helixepi.com



June 15, 2012

Arnold Veldkamp Superior Ready Mix Concrete 1508 West Mission Road Escondido, California 92029 SRM-12

Subject: Burrowing Owl Survey Report for the Otay Hills Aggregate Extraction Project

Dear Mr. Veldkamp:

This letter presents the results of the 2012 nesting season presence/absence survey for the burrowing owl (*Athene cunicularia*) conducted by HELIX Environmental Planning, Inc. (HELIX) for the Otay Hills Aggregate Extraction Project.

LOCATION AND SITE DESCRIPTION

The survey was conducted in an approximately 433.9-acre biological study area (BSA) of the Otay Hills Aggregate Extraction Project located in San Diego County, California (Figures 1 and 2). The BSA consists of two areas of vacant land located in the foothills immediately east of Otay Mesa, approximately one mile north of the U.S. border with Baja California, Mexico, one mile east of the Otay Mesa border crossing, and east of the intersection of Otay Mesa and Alta roads. It is within Township 18 south, Range 1 west on the U.S. Geological Survey 7.5-minute Otay Mesa quadrangle map (Figures 1 and 2). Development within the study area would be required to go through the Multiple Species Conservation Program (MSCP) Subarea Plan Amendment process to receive take authorization for MSCP-covered species.

Land use along and adjacent to the BSA generally includes commercial/industrial to the west and undeveloped land to the north, east, and south. In addition to developed land, 11 vegetation communities occur on the project site: mule fat scrub, cismontane alkali marsh, southern interior cypress forest, tamarisk scrub, native grassland, Diegan coastal sage scrub (including disturbed), coastal sage-chaparral scrub, chamise chaparral, southern mixed chaparral, non-native grassland, and disturbed habitat (Figure 3). In addition to natural habitat, numerous dirt roads cross the study area. The Border Patrol traverses the study area in vehicles and off highway vehicles

(OHV) during daily patrols, and unauthorized OHVs periodically use these trails. In addition, San Diego Gas & Electric (SDG&E) maintains access roads and transmission facilities within the study area.

METHODS

HELIX biologists Amy Mattson, Laura Moreton, and George Aldridge conducted a focused survey for burrowing owls within suitable habitat, as well as for burrows and burrowing owl sign, within the 433.9 -acre BSA. Suitable habitat included non-native grassland, open Diegan coastal sage scrub, and disturbed areas. A total of 4 survey visits, approximately 7 days apart, were conducted following survey guidelines set forth by the County of San Diego (County; 2010) and California Department of Fish and Game (CDFG; 1995). Surveys were conducted during hours when burrowing owls are typically most active. Two of the visits occurred in the morning (1 hour before sunrise until 2 hours after sunrise) and two visits occurred in the evening (2 hours before sunset to 1 hour after sunset; Table 1). These surveys were conducted in April and May during the burrowing owl nesting season, which is defined by CDFG as April 15 to July 15 (CDFG 1995). Biologists walked slowly and methodically in areas of suitable habitat, closely examining any fence posts, rocks, or other possible perching locations as well as mammal burrows (especially those of the California ground squirrel [Spermophilus beechevi]). Potential burrows were checked for signs of recent owl occupation which include pellets (e.g., regurgitated fur, bones, and insect parts), white wash (excrement), and feathers. In addition, man-made structures such as concrete culverts/piles, wood debris piles, trash piles, and openings beneath cement or asphalt pavement were checked carefully for owl sign.

A list of all animal species observed or detected during the survey is provided in Attachment A.

Table 1 BURROWING OWL SURVEY INFORMATION						
SURVEY DATE	DATE	BIOLOGISTS	TIME	WEATHER CONDITIONS		
	Dille	DIOLOGISTS		Start	Stop	
1	4/18/12	L. Moreton G. Aldridge	1720/1930	64° F, wind 5-10 mph, 10% cloud cover	64° F, wind 0-1 mph, 0% cloud cover	
2	4/25/12	L. Moreton G. Aldridge	0600/0800	60° F, wind 0-2 mph, 100% cloud cover	60° F, wind 2-5 mph, 100% cloud cover	
3	5/4/12	A. Mattson G. Aldridge	1737/1930	65° F, wind 2-5 mph, 0% cloud cover	58° F, wind 0-1 mph, 5% cloud cover	
4	5/11/12	A. Mattson S. Rodriguez	0550/0750	59° F, wind 0-2 mph, 100% cloud cover	68° F, wind 0-2 mph, 95% cloud cover	



SURVEY RESULTS

The results of the spring 2012 presence/absence burrowing owl survey for the Otay Hills Aggregate Extraction Project were negative. No burrowing owls or sign of burrowing owls such as pellets, whitewash, or burrows were observed within the project site.

Please contact me at 619-462-1515 if you have any questions.

Sincerely,

George Aldridge

Biologist

Enclosures:

Figure 1 Regional Location Map

Figure 2 Project Location Map

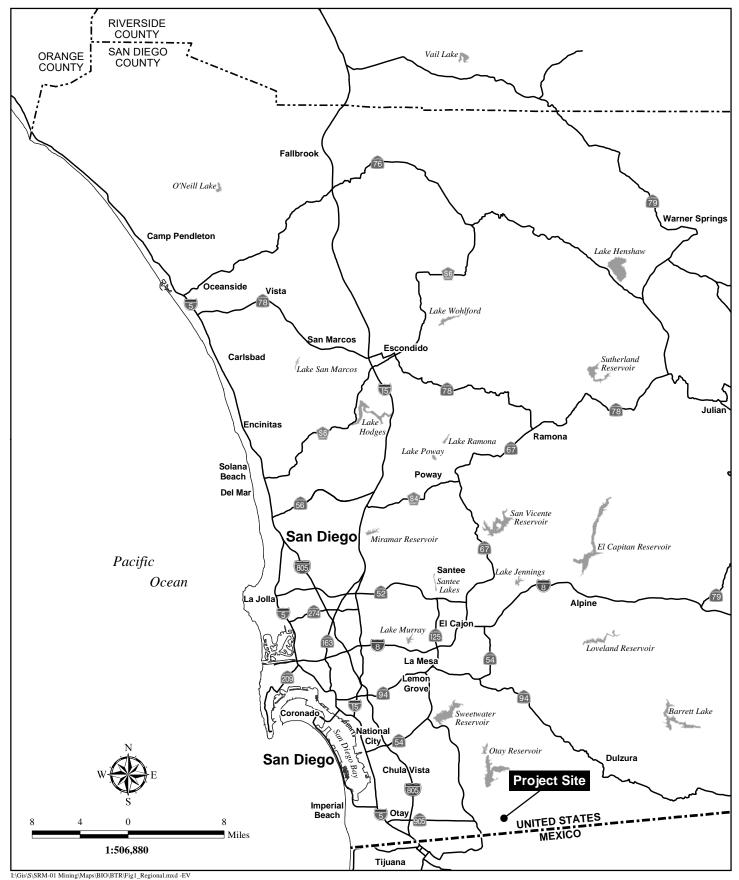
Figure 3 Vegetation Communities

Attachment A Animal Species Observed or Detected

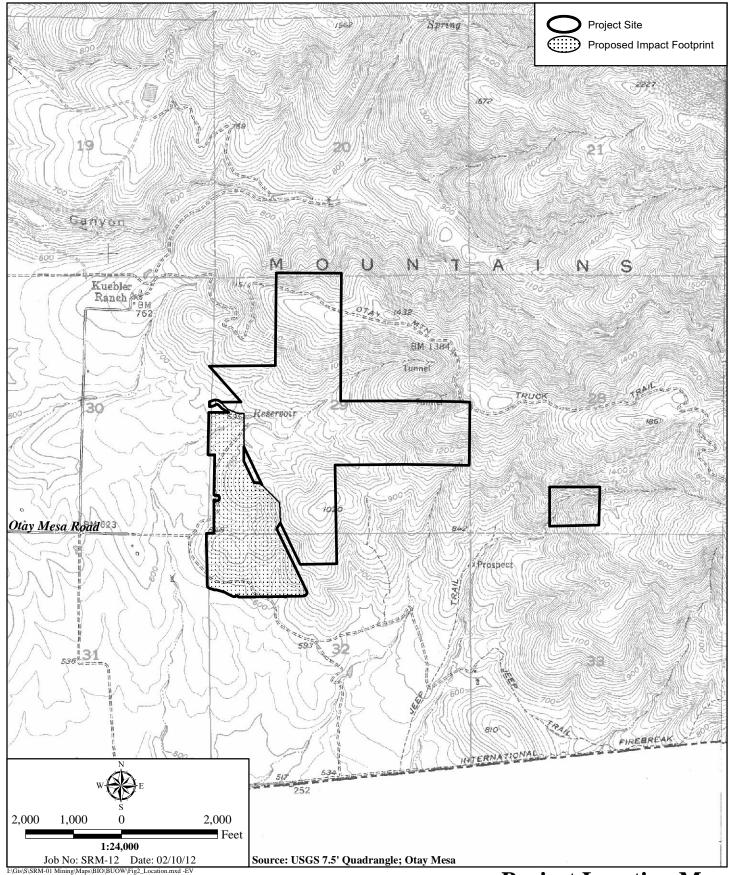
REFERENCES

- California Burrowing Owl Consortium. 1993. Burrowing Owl Survey Protocol and Mitigation Guidelines. April.
- California Department of Fish and Game (CDFG). 1995. Staff Report on Burrowing Owl Mitigation. October 17. 8 pp. plus attachments
- County of San Diego (County). 2010. Report Format and Content Requirements Biological Resources. Land Use and Environmental Group, Department of Planning and Land Use and Department of Public Works. Fourth Revision. September 15.

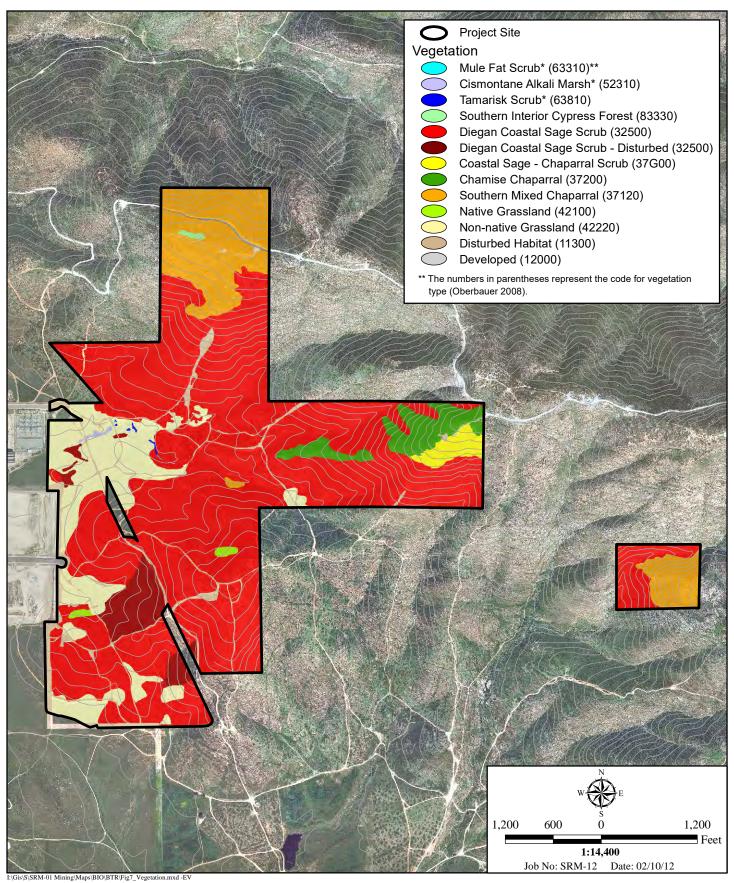




Regional Location Map



Project Location Map



Vegetation Communities

Attachment A ANIMAL SPECIES OBSERVED OR DETECTED OTAY HILLS AGGREGRATE EXTRACTION PROJECT

<u>TAXON</u> <u>SCIENTIFC NAME</u> <u>COMMON NAME</u>

INVERTEBRATES

Order Family

Lepidoptera Nymphalidae Vanessa cardui Painted Lady

VERTEBRATES

Amphibians

<u>Order</u> <u>Family</u>

Anura Bufonidae Bufo boreas Western Toad

Birds

<u>Order</u> <u>Family</u>

Aphodiformes Trochilidae Calypte anna Anna's Hummingbird Caprimulgidae Caprimulgiformes Chrodeiles minor Common Nighthawk Charadriiformes Charadriidae Chrardrius vociferus Killdeer Columbiformes Columbidae Zenaida macroura Mourning Dove

Falconiformes Accipitridae Accipter cooperii† Cooper's Hawk

Buteo jamaicensis Red-tailed Hawk

Circus cyaneus† Northern Harrier

Falco sp.

Pandion haliaetus Osprey

Panaion nailaetus Osprey

Falco sparverius American Kestrel

unidentified falcon

Galliformes Odontophoridae *Callipepla californica* California Quail Passeriformes Aegithalidae *Psaltriparus minimus* Bushtit

Falconidae

Alaudidae Eremophila alpestris Horned Lark
Cardinalidae Cyanocompsa caerulea Blue Grosbeak

Passerina amoena Lazuli Bunting

Attachment A (cont.) ANIMAL SPECIES OBSERVED OR DETECTED OTAY HILLS AGGREGRATE EXTRACTION PROJECT

|--|

VERTEBRATES (cont.)

Birds (cont.)

<u>Order</u> <u>Family</u>

Laniidae

Mimidae

Parulidae

Tyrannidae

Passeriformes (cont.) Corvidae Corvus brachyrhynchos American Crow

Corvus corax Common Raven

Emberizidae Aimophila ruficeps Rufous-crowned Sparrow

Chondestes grammacusLark SparrowMelospiza melodiaSong SparrowPasserculus sandwichensisSavannah SparrowPipilo crissalisCalifornia TowheePipilo maculatusSpotted Towhee

Pooecetes gramineus Vesper Sparrow

Zonotrichia leucophrys White-crowned Sparrow

Fringillidae Carduelis psaltria Lesser Goldfinch

Carpodacus mexicanus House Finch

Northern Rough-winged

Hiruninidae Stelgidopteryx serripennis Swallow

Icteridae Agelaius phoeniceus Red-winged Blackbird

Sturnella neglectaWestern MeadowlarkLanius ludovicianus†Loggerhead ShrikeMimus polyglottosNorthern MockingbirdGeothlypis trichasCommon Yellowthroat

Setophaga coronata Yellow-rumped Warbler

Sturnidae Sturnus vulgaris European Starling

Troglodytidae Salpinctes obsoletus Rock Wren

Thryomanes bewickii Bewick's Wren
Troglodytes aedon House Wren
Sayornis nigricans Black Phoebe
Sayornis saya Say's Phoebe

Tyrannus vociferans Cassin's Kingbird

Attachment A (cont.) ANIMAL SPECIES OBSERVED OR DETECTED OTAY HILLS AGGREGRATE EXTRACTION PROJECT

<u>TAXON</u> <u>SCIENTIFC NAME</u> <u>COMMON NAME</u>

VERTEBRATES (cont.)

Birds (cont.)

<u>Order</u> <u>Family</u>

Pelecaniformes Phalacrocoracidae Phalacrocorax auritus Double-crested Cormorant

Threskiornithidae Plegadis chihi White-faced Ibis

Mammals

<u>Order</u> <u>Family</u>

Carnivora Canidae Canis latrans coyote

Lagomorpha Leporidae Lepus californicus black-tailed jackrabbit

Leporidae Sylvilagus audubonii desert cottontail

Rodentia Sciuridae Spermophilus beecheyi California ground squirrel

†Listed or sensitive species

Appendix E PLANT SPECIES OBSERVED

FAMILY	SCIENTIFIC NAME	COMMON NAME	<u>HABITAT</u> ‡
DICOTS			
Anacardiaceae	Malosma laurina	laurel sumac	DCSS, DCSS-D, CSCS
Apiaceae	Rhus integrifolia Apiastrum angustifolium Daucus carota Daucus pusillus Foeniculum vulgare* Sanicula arguta	lemonadeberry mock parsley Queen Anne's lace rattlesnake weed fennel sharp-tooth sanicle	DCSS, DCSS-D DCSS DCSS, DCSS-D DCSS DCSS DCSS
Asteraceae	Achillea millefolium Ambrosia psilostachya Anthemis cotula* Artemisia californica	Pacific yarrow western ragweed mayweed California sagebrush mule fat	DCSS DCSS DCSS DCSS, DCSS-D, CSCS MFS
	Baccharis salicifolia Baccharis sarothroides Brickellia californica Centaurea melitensis* Chaenactis artemisiifolia	broom baccharis brickellbrush star thistle artemisia pincushion	MFS, DCSS DCSS DCSS, DCSS-D, SMC DCSS
	Chaenactis glabriuscula var. glabriuscula Cirsium vulgare*	yellow pinchusion bull thistle	DCSS DCSS-D
	Cotula australis* Deinandra conjugens† Deinandra fasciculata Encelia californica	Australian brass-buttons Otay tarplant fascicled tarplant California encelia	DCSS NNG DCSS, DCSS-D, NNG DCSS
	Encena canjormica Erigeron foliosus var. foliosus Eriophyllum confertiflorum Filago californica Gnaphalium bicolor	leafy daisy golden-yarrow California filago bicolor cudweed	DCSS CHP, DCSS-D, SMC DCSS DCSS-D, DCSS
	Grindelia camporum var. bracteosum Gutierrezia californica Gutierrezia sarothrae	gum plant California matchweed San Joaquin matchweed	DCSS DCSS DCSS DCSS
	Hazardia squarrosa var. grindelioides Hedypnois cretica* Hypochaeris glabra*	saw-toothed goldenbush Crete hedypnois smooth cat's-ear	DCSS-D, DCSS DCSS DCSS, NNG
	Isocoma menziesii var. menziesii Iva hayesiana† Lasthenia californica Lessingia sp.		MFS CAM, DCSS, DCSS-D DCSS DCSS, DCSS-D

FAMILY	SCIENTIFIC NAME	COMMON NAME	<u>HABITAT</u> ‡	
DICOTS (cont.)				
Asteraceae	Osmadenia tenella Palafoxia arida var. arida Porophyllum gracile	osmadenia Spanish-needle odora	DCSS, DCSS-D DCSS DCSS	
	Silybum marianum* Sonchus oleraceus* Stephanomeria exigua ssp. exigua Stephanomeria virgata ssp.	milk thistle common sow thistle small wreath-plant	DCSS DCSS DCSS	
	Stephanomeria virgata ssp. virgata Stylocline gnaphaloides Uropappus lindleyi Viguiera laciniata†	virgate wreath-plant everlasting nest straw silver puffs San Diego County sunflower	DCSS DCSS DCSS DCSS, DCSS-D	
Boraginaceae	Cryptantha intermedia Harpagonella palmeri Pectocarya linearis ssp. ferocula Plagiobothrys sp.	common cryptantha Palmer's grapplinghook slender pectocarya popcorn flower	DCSS DCSS DCSS DCSS	
Brassicaceae	Brassica nigra* Hirschfeldia incana* Lepidium lasiocarpum var.	black mustard perennial mustard	DCSS-D DCSS	
Cactaceae	lasiocarpum Thysanocarpus curvipes Sisymbrium altissimum* Ferocactus viridescens†	sand peppergrass lacepod tumble mustard San Diego barrel cactus	DCSS, DCSS-D CHP DCSS, DCSS-D DCSS-D	
	Mammillaria dioica Opuntia littoralis Opuntia proliferia	fishhook cactus coastal prickly pear coastal cholla	DCSS DCSS DCSS	
Capparaceae Caryophyllaceae Chenopodiaceae	Isomeris arborea Silene gallica* Atriplex semibaccata* Chenopodium album* Salsola soda* Salsola tragus*	bladderpod common catchfly Australian saltbush pigweed alkali Russian thistle Russian thistle	DCSS DCSS, NNG DCSS DCSS CAM DCSS-D	
Cistaceae Convolvulaceae Crassulaceae	Helianthemum scoparium Calystegia macrostegia Dichondra occidentalis† Dudleya edulis Dudleya pulverulenta	peak rush rose morning-glory western dichondra ladies-fingers chalk-lettuce	SMC DCSS, DCSS-D DCSS-D DCSS-D, DCSS DCSS, DCSS-D	
	Dudleya variegata†	variegated dudleya	DCSS	

FAMILY	SCIENTIFIC NAME	COMMON NAME	<u>HABITAT</u> ‡
DICOTS (cont.))		
Cucurbitaceae	Marah macrocarpus	wild cucumber	DCSS
Cuscutaceae	Cuscuta sp.*	dodder	DCSS-D
Ericaceae	Xylococcus bicolor	Mission manzanita	CC, DCSS-D, SMC
Euphorbiaceae	Chamaesyce maculata	spotted spurge	DCSS
	Eremocarpus setigerus	dove weed	DCSS
Fabaceae	Lupinus bicolor ssp. microphyllus	miniature lupine	NNG
	Lathyrus latifolius	sweet pea	DCSS, DCSS-D
	Lotus scoparius var. scoparius	coastal deer weed	DCSS, DCSS-D
	Lupinus sp.	lupine	DCSS
	Trifolium sp.	clover	DCSS
Gentianaceae	Centaurium venustum	canchalagua	DCSS-D
Geraniaceae	Erodium botrys*	long-beak filaree	DCSS-D, NNG
	Erodium cicutarium*	red-stem filaree	DCSS-D
	Erodium moschatum*	green-stem filaree	DCSS
Hydrophyllacea	e <i>Eriodictyon trichocalyx</i> var.		
	trichocalyx	yerba santa	DCSS
	Emmenanthe penduliflora	whispering bells	DCSS
	Pholistoma racemosum	filaree-leaf nemophila	DCSS
	Phacelia cicutaria var. hispida	caterpillar phacelia	DCSS, DCSS-D
	Phacelia grandiflora	large-flowered phacelia	DCSS
Lamiaceae	Salvia apiana	white sage	DCSS, DCSS-D
	Stachys ajugoides var. rigida	hedge-nettle	DCSS
	Salvia columbariae	chia	DCSS
	Salvia munzii†	Munz's sage	DCSS, CC, SMC
	Trichostema parishii	mountain blue-curls	SMC
Lythraceae	Lythrum hyssopifolium*	grass poly	CAM
Malvaceae	Malacothamnus fasciculatus	chaparral mallow	DCSS, DCSS-D
	Sidalcea malvaeflora ssp.		
	sparsifolia	checker-bloom	DCSS-D
Myoporaceae	Myoporum laetum	myoporum	DCSS
Nyctaginaceae	Mirabilis californica	wishbone bush	DCSS
Oleaceae	Olea europaea*	olive	DCSS-D
Onagraceae	Clarkia purpurea ssp.		
	quadrivulnera	four-spot clarkia	DCSS
Oxalidaceae	Oxalis albicans ssp. californica*	wood sorrel	DCSS
	Oxalis corniculata*	yellow sorrel	DCSS
	Oxalis pes-caprae*	Bermuda-buttercup	DCSS
Papaveraceae	Romneya coulteri†	Coulter's matilija poppy	SMC
	Romneya trichocalyx	hairy matilija poppy	DCSS-D
	Eschscholzia californica	California poppy	DCSS, DCSS-D

FAMILY	SCIENTIFIC NAME	COMMON NAME	<u>HABITAT</u> ‡
DICOTS (cont.)			
Plantaginaceae Polemoniaceae	Plantago erecta Eriastrum sapphirinum Gilia sp. Linanthus liniflorus	California plantain wool-star gilia great basin linanthus	DCSS DCSS DCSS DCSS
Polygonaceae	Chorizanthe fimbriata Eriogonum fasciculatum ssp. fasciculatum Rumex crispus* Pterostegia drymarioides	fringed spineflower California buckwheat curly dock California thread-stem	DCSS DCSS, DCSS-D, CSCS DCSS-D DCSS
Portulacaceae	Claytonia perfoliata var. perfoliata	miner's lettuce	DCSS
Primulaceae	Anagallis arvensis* Dodecatheon clevelandii ssp.	scarlet pimpernel	DCSS
Ranunculaceae	clevelandii Clematis pauciflora Thalictrum fendleri var.	Cleveland's shooting star ropevine	DCSS DCSS
	polycarpum Clematis lasiantha Delphinium cardinale Delphinium parryi	meadow rue pipestems cardinal, scarlet larkspur blue larkspur	DCSS DCSS DCSS, DCSS-D DCSS, DCSS-D
Rhamnaceae	Ceanothus oliganthus Ceanothus tomentosus Rhamnus crocea	Orcutt ceanothus Ramona ceanothus spiny redberry	SMC CSCS, SMC CHP, DCSS, DCSS-D
Rosaceae	Adenostoma fasciculatum Heteromeles arbutifolia	chamise toyon	CSCS, SMC DCSS
Rubiaceae	Galium sp. Galium angustifolium ssp. angustifolium	bedstraw narrow-leaved bedstraw	DCSS DCSS-D
Salicaceae	Salix lasiolepis Salix sp.	arroyo willow willow	MFS MFS
Scrophulariaceae	Antirrĥinum kelloggii Antirrhinum nuttallianum	climbing snapdragon Nuttall's snapdragon	DCSS DCSS-D, DCSS
	Cordylanthus rigidus ssp. setigerus	bird's beak	DCSS
	Cordylanthus orcuttianus† Castilleja affinis ssp. affinis Castilleja exserta Collinsia heterophylla	Orcutt's bird's beak coast paint-brush purple owl's clover Chinese houses	DCSS DCSS, DCSS-D DCSS, DCSS-D DCSS
	Mimulus aurantiacus Mimulus brevipes Mimulus guttatus	monkey-flower hillside monkey-flower common monkey-flower	DCSS DCSS DCSS

FAMILY	SCIENTIFIC NAME	COMMON NAME	<u>HABITAT</u> ‡
DICOTS (cont.))		
Solanaceae	Lycium californicum Solanum parishii Solanum xanti	California box-thorn Parish's nightshade purple nightshade	DCSS DCSS-D
Tamaricaceae	Tamarix sp.*	tamarisk	MFS, DCSS, TS
Urticaceae	Parietaria hespera var. californica	pellitory	DCSS
Violaceae	Voila pedunculata	Johnny jump-up	DCSS-D
MONOCOTS			
Cyperaceae	Carex spissa Eleocharis macrostachys Eleocharis sp.	San Diego sedge pale spike-rush spike-rush	DCSS CAM DCSS
Iridaceae	Sisyrinchium bellum	blue-eyed grass	DCSS
Juncaceae	Juncus acutus ssp. leopoldii†	southwestern spiny rush	CAM, DCSS-D
Liliaceae	Allium haematochiton	wild garlic, red-skinned onion	DCSS
	Allium peninsulare	red-flowered onion	DCSS-D
	Bloomeria crocea var. crocea	golden star	DCSS
	Calochortus dunnii†	Dunn's mariposa lily	DCSS
	Calochortus splendens	splendid mariposa lily	DCSS, DCSS-D
	Calochortus weedii var. weedii	Weed's mariposa lily	DCSS
	Chlorogalum parviflorum	small-flower soap-plant	DCSS
	Dichelostemma capitatum	blue dicks	DCSS, DCSS-D
	Muilla clevelandii†	San Diego goldenstar	DCSS
	Yucca whipplei	Our Lord's candle	DCSS, DCSS-D, SMC
Poaceae	Achnatherum coronatum	giant stipa	DCSS
	Achnatherum diegoensis†	San Diego County needlegrass	
	Agrostis pallens	thingrass	DCSS-D
	Avena barbata*	slender wild oat	DCSS, NNG, DH
	Avena fatua*	wild oat	DCSS, NNG, DH
	Bromus diandrus*	common ripgut grass	DCSS, NNG, DH
	Bromus hordeaceus*	soft chess	DCSS, NNG, DH
	Bromus madritensis ssp. rubens*	TOXIALI CHESS	DCSS, DCSS-D, NNG, SMC, DH
	Gastridium ventricosum*	nit grass	DCSS
	Hordeum sp.*	barley	NNG
	Lamarckia aurea*	goldentop	DCSS, DCSS-D
	Lolium multiflorum*	Italian ryegrass	DCSS, DCSS-D, NNG, DH

FAMILY	SCIENTIFIC NAME	COMMON NAME	<u>HABITAT</u> ‡	
MONOCOTS (cont.)			
Poaceae (cont.)	Melica frutescens Melica imperfecta Muhlenbergia microsperma Muhlenbergia rigens Nassella lepida Nassella pulchra Poa secunda Polypogon monspeliensis* Sporobolus airoides Vulpia microstachys	tall melic melic littleseed muhly deergrass foothill needlegrass purple needlegrass Malpais bluegrass annual beard grass alkali sacaton fescue	DCSS DCSS, DCSS-D DCSS MFS DCSS, DCSS-D NG, DCSS DCSS-D DCSS CAM DCSS	
PTERIDOPHY	TES			
Polypodiaceae Pteridaceae	Polypodium californicum Pellaea andromedifolia Pellaea mucronata var.	California polypody coffee fern	DCSS DCSS	
	mucronata	bird's foot fern	DCSS	
	Pentagamma triangularis var. triangularis Pentagamma triangularis var.	goldenback fern	DCSS	
Selaginellaceae	viscosa Selaginella bigelovii Selaginella cinerascens†	silverback fern Bigelow's mossfern ashy spike-moss	DCSS DCSS, DCSS-D DCSS, DCSS-D	
GYMNOSPER	M			
Cupressaceae	Cupressus forbesii†	Tecate cypress	SICF, DCSS	

[†]Sensitive species

^{*}Non-native species

[‡]Habitat acronyms: CAM=cismontane alkali marsh; CC=chamise chaparral; CHP=chaparral; CSCS=coastal sage-chaparral scrub; DCSS=Diegan coastal sage scrub; DCSS-D=disturbed Diegan coastal sage scrub; DH=disturbed habitat; MFS=mule fat scrub; NG=native grassland; NNG=non-native grassland; SICF=southern interior cypress forest; SMC=southern mixed chaparral; TS=tamarisk scrub



Appendix F

ANIMALS SPECIES OBSERVED OR DETECTED

FAMILY

SCIENTIFIC NAME COMMON NAME

INVERTEBRATES

Agelenidae – Spiders and Other Chelicerates

Ctenizidae – Trapdoor Spiders

Bothriocyrtum californicum California trapdoor spider

funnel-web spider

tarantula hawk

Hesperiidae – Skippers

Hylephila phyleus fiery skipper

Pyrgus albescens white (common) skipper

Hymenoptera – Ants, Wasps, and Bees

Apis mellifera honeybee
Bombus terricola occidentalis bumblebee

Pepsis formosa

Lepidoptera – Butterflies

Anthocharis saraSara orangetipApodemia mormo virgultiBehr's metalmarkArtogeia rapaecabbage white

Brephidium exilis western pygmy blue

Callophrys dumetorum bramble (perplexing) hairstreak

Callophrys perplexa perplexing hairstreak

Celastrina argiolus echo blue

Charydryas gabbiiGabb's checkerspotCoenonympha californiaCalifornia ringletColias harfordiiHarford's sulfurErynnis funeralisfunereal dusky-wingEuphilotes bernardino bernardinoBernardino blue

Euphydryas chalcedona chalcedona Chalcedon checkerspot Euphydryas editha quino† Quino checkerspot butterfly

Everes amyntula western tailed blue Glaucopsyche lygdamus australis southern blue

Hyles lineata white-lined sphinx moth

Incisalia augustinusbrown elfinJunonia coeniabuckeyeLeptotes marinamarine bluePapilio erymedonpale swallowtail

Paplio rutulus western tiger swallowtail

Papilio zelicaonanise swallowtailPhyciodes mylittamylitta crescentPlebejus acmonacmon bluePontia protodicecommon white

FAMILY

SCIENTIFIC NAME COMMON NAME

INVERTEBRATES (cont.)

Lepidoptera – Butterflies (cont.)

Comstock's fritillary Speyeria callippe comstocki Strymon melinus gray hairstreak Vanessa annabella west coast lady Vanessa cardui painted lady

VERTEBRATES

Reptiles and Amphibians

Bufonidae - Toads

Bufo boreas western toad

Phrynosomatidae – Lizards

Phrynosoma coronatum blainvillii† San Diego horned lizard

western fence lizard Sceloporus occidentalis Uta stansburiana side-blotched lizard

Teiidae – Whiptails and Relatives

Aspidoscelis tigris stejnegeri† coastal whiptail

Viperidea – Vipers

Crotalus ruber† red-diamond rattlesnake Crotalus viridis western rattlesnake

Birds

Accipitridae - Hawks, Old World Vultures, and Harriers

Aquila chrysaetos† (nesting and golden eagle

wintering)

Buteo jamaicensis red-tailed hawk Circus cyaneus† northern harrier

Aegithalidae – Bushtit

Psaltriparus minimus bushtit

Alaudidae – Larks

California horned lark Eremophila alpestris actia†

Cathartidae – American Vultures

Cathartes aura† turkey vulture

Columbidae – Pigeons and Doves

Zenaida macroura mourning dove

FAMILY

SCIENTIFIC NAME COMMON NAME

VERTEBRATES (cont.)

Birds (cont.)

Corvidae – Jays, Magpies, and Crows

Aphelocoma californica western scrub jay
Corvus brachyrhynchos American crow
Corvus corax common raven

Cuculidae – Cuckoos and Relatives

Geococcyx californianus greater roadrunner

Emberizidae – Warblers, Sparrows, Blackbirds, and Relatives

Aimophila ruficeps canescens† southern California rufous-

crowned sparrow

Ammodramus savannarum† grasshopper sparrow

Amphispiza belli† Bell's sage sparrow

Amphispiza belli†Bell's sage spannedChondestes grammacuslark sparrowGuiraca caeruleablue grosbeakMelospiza melodiasong sparrow

Passerina amoena lazuli bunting
Passerculus sandwichensis savannah sparrow

Pipilo crissalisCalifornia towheePipilo maculatusspotted towheePipilo erythropthaimusrufous sided towheeZonotrichia leucophryswhite-crowned sparrow

Falconidae – Falcons

Falco sparverius American kestrel

Fringillidae – Finches

Carpodacus mexicanus house finch Carduelis psaltria lesser goldfinch

Hirundinidae – Swallows

Hirundo rusticabarn swallowHirundo pyrrhonotacliff swallow

Stelgidopteryx serripennis northern rough-winged swallow

Tachycineta bicolor tree swallow

Icteridae – Blackbirds and Orioles

Icterus bullockii Bullock's oriole Icterus galbula northern oriole

Laniidae – Shrikes

Lanius ludovicianus† loggerhead shrike

Mimidae – Mockingbirds and Thrashers

Mimus polyglottosnorthern mockingbirdToxostoma redivivumCalifornia thrasher

FAMILY

SCIENTIFIC NAME

COMMON NAME

VERTEBRATES (cont.)

Birds (cont.)

Muscicapidae - Old World Warblers, Gnatcatchers, Kinglets, Thrushes, Bluebirds, and Wrentit

Chamaea fasciata wrentit

Polioptila californica californica† coastal California gnatcatcher

Odontophoridae – New World Quails

Callipepla californica California quail

Parulidae – Songbirds and Warblers

Dendroica coronata yellow-rumped warbler Sturnella neglecta western meadowlark

Picidae – Woodpeckers

Colaptes auratus northern flicker

Ptilogonatidae – Silky Flycatchers

Phainopepla nitens phainopepla

Strigidae – Owls

Athene cunicularia† burrowing owl Bubo virginianus great horned owl

Trochilidae – Hummingbirds

Calypte anna Anna's hummingbird Calypte costae Costa's hummingbird

Troglodytidae – Wrens

Salpinctes obsoletus rock wren
Thryomanes bewickii Bewick's wren

Tyrannidae – Tyrant Flycatchers

Myiarchus cinerascens ash-throated flycatcher

Sayornis saya Say's Phoebe
Tyrannus verticalis Western kingbird

Tytonidae – Owls

Tyto alba† barn owl

Mammals

Canidae – Foxes, Wolves, and Relatives

Canis latrans coyote (track, scat and carcass)

Cervidae – Deer

Odocoileus hemionus† mule deer (including scat)

Cricetidae – Cricetine Mice and Rats

Neotoma sp. wood rat

Felidae – Cats

Lynx rufus bobcat (scat, carcass)

FAMILY

SCIENTIFIC NAME COMMON NAME

VERTEBRATES (cont.)

Mammals (cont.)

Geomyidae – Pocket gophers

Thomomys bottae Botta's pocket gopher (mounds)

Heteromyidae – Pocket Mice and Kangaroo Rat

kangaroo rat

Leporidae – Hares and Rabbits

Lepus californicus bennettii† San Diego black-tailed jackrabbit

Sylvilagus audubonii desert cottontail (including scat)

Mustelidae - Weasels, Martens, Otters, Badgers, and Skunks

Mephitis mephitis striped skunk

Sciuridae - Squirrels, Chipmunks, and Marmots

Spermophilus beecheyi California ground squirrel

Introduced Species

Bovine

Bos taurus cow (observed)

Equine

Equus caballus horse (track)

†Sensitive species

Appendix G

EXPLANATION OF STATUS CODES FOR PLANT AND ANIMAL SPECIES

Appendix G EXPLANATION OF STATUS CODES FOR PLANT AND ANIMAL SPECIES

FEDERAL, STATE, AND COUNTY CODES

U.S. Fish and Wildlife Service (USFWS)

FE Federally listed endangered FT Federally listed threatened

BGEPA Bald and Golden Eagle Protection Act (see more information below)

BCC Birds of Conservation Concern (see more information below)

USFWS Bald and Golden Eagle Protection Act (BGEPA)

In 1782, Continental Congress adopted the bald eagle as a national symbol. During the next one and a half centuries, the bald eagle was heavily hunted by sportsmen, taxidermists, fisherman, and farmers. To prevent the species from becoming extinct, Congress passed the Bald Eagle Protection Act in 1940. The Act was extremely comprehensive, prohibiting the take, possession, sale, purchase, barter, or offer to sell, purchase, or barter, export or import of the bald eagle "at any time or in any manner."

In 1962, Congress amended the Eagle Act to cover golden eagles, a move that was partially an attempt to strengthen protection of bald eagles, since the latter were often killed by people mistaking them for golden eagles. The golden eagle, however, is accorded somewhat lighter protection under the Act than the bald eagle. Another 1962 amendment authorizes the Secretary of the Interior to grant permits to Native Americans for traditional religious use of eagles and eagle parts and feathers.

USFWS Birds of Conservation Concern (BCC)

The primary legal authority for Birds of Conservation Concern (2002) is the Fish and Wildlife Conservation Act of 1980 (FWCA), as amended. Other authorities include the Endangered Species Act, Fish and Wildlife Act (1956) and 16 USC §701. A FWCA 1988 amendment (Public Law 100-653, Title VIII) requires the Secretary of the Interior through the USFWS to "identify species, subspecies, and populations of all migratory non-game birds that, without additional conservation actions, are likely to become candidates for listing under the Endangered Species Act of 1973." The BCC report is the most recent effort by the USFWS to carry out this proactive conservation mandate.

The BCC report aims to identify accurately the migratory and non-migratory bird species (beyond those already designated as federally threatened or endangered) that represent the USFWS' highest conservation priorities and draw attention to species in need of conservation action. The USFWS hopes that by focusing attention on these highest priority species, the report will promote greater study and protection of the habitats and ecological communities upon which these species depend, thereby ensuring the future of healthy avian populations and communities. The report is available online at http://www.fws.gov/migratorybirds/reports/BCC2002.pdf.

Appendix G (cont.) EXPLANATION OF STATUS CODES FOR PLANT AND ANIMAL SPECIES

FEDERAL, STATE, AND COUNTY CODES (cont.)

California Department of Fish and Wildlife (CDFW)

SE	State listed endangered
ST	State listed threatened
CD	Ctata listad nama

SR State listed rare

SSC State species of special concern

WL Watch list

Fully Protected Species may not be taken or possessed without a permit from the Fish and Game Commission and/or CDFG.

County of San Diego

Plant Sensitivity

List A	Plants rare, threatened or endangered in California or elsewhere
List B	Plants rare, threatened or endangered in California but more common elsewhere
List C	Plants that may be quite rare, but more information is needed to determine rarity
	status
List D	Plants of limited distribution and are uncommon, but not presently rare or endangered

Animal Sensitivity

- Group 1 Animals that have a very high level of sensitivity, either because they are listed as threatened or endangered or because they have very specific natural history requirements.
- Group 2 Animal species that are becoming less common, but are not yet so rare that extirpation or extinction is imminent without immediate action. These species tend to be prolific within their suitable habitat types.

OTHER CODES AND ABBREVIATIONS

Multiple Species Conservation Program (MSCP) Covered

MSCP covered species for which County and City have take authorization within the MSCP area.

MSCP Narrow Endemic (NE) Species

Some native species (primarily plants with restricted geographic distributions, soil affinities, and/or habitats) are referred to as a narrow endemic species. For vernal pools and identified narrow endemic species, the jurisdictions will specify measures in their respective subarea plans to ensure that impacts to these resources are avoided to the maximum extent practicable.

Appendix G (cont.) EXPLANATION OF STATUS CODES FOR PLANT AND ANIMAL SPECIES

California Native Plant Society (CNPS) Codes

California Rare Plant Rank

- 1A = Presumed extirpated in California and either rare or extinct elsewhere.
- 1B = Rare, threatened, or endangered in California and elsewhere.
- 2A= Presumed extirpated in California but more common elsewhere.
- 2B= Rare, threatened, or endangered in California but more common elsewhere.
- 3 = More information is needed.
- 4 = A watch list for species of limited distribution.

Threat Rank

- .1 = Seriously endangered in California (over 80 percent of occurrences threatened/high degree and immediacy of threat)
- .2 = Moderately endangered in California (20 to 80 percent occurrences threatened/moderate degree and immediacy of threat)
- .3 = Not very threatened in California (less than 20 percent of occurrences threatened/ low degree and immediacy of threat or no current threats known)

Appendix H CNDDB FORMS

PLANT SPECIES

Mail to: California Natural Diversity Database Department of Fish and Game

Date of Field Work mm/dd/yyyy:			
Tax. (010) 0210110 Official. VIII.D. Degalg.od.got	EO Index No.	Map Index No.	
Sacramento, CA 95814 Fax: (916) 324-0475 email: WHDAB@dfg.ca.gov	Elm Code	Occ. No	
California Natural Diversity Database Department of Fish and Game 1807 13 th Street, Suite 202	Source Code	For Office Use Only Quad Code	
Wall to.	//		

	EO Index No Map Index No				
Date of Field Work mm/dd/yyyy:					
Reset California Nati	ve Specie	s Field	Survey Form	Send Form	
Scientific Name: Achnathrerum diegoensis	5				
Common Name: San Diego County Needle	Security of the control of the contr	per en			
Species Found? Yes No If not, why? Total No. Individuals Subsequent Visit? Is this an existing NDDB occurrence? Yes, Occ. # Collection? If yes: Number Museum / Herbaria	o □unk.	Address:	Heather Haney of HEI 8100 La Mesa Blvd., S La Mesa, CA 91941-6 Idress: heatherh@helix (619) 462-1515	476	
Plant Information An	imal Informatio	on .	······································	•	
Phenology:%%%		# juveniles	# larvae # d	egg masses # unknown in in in in in in in in in i	
Location Description (please attach map AN	<u>ID/OR</u> fill ou	ıt your c	hoice of coordina	ites, below)	
County: San Diego Quad Name: Otay Mesa	Lando	wner / Mgr.:	Elevati	ion:	
T 18 S R 1E Sec 29 , 1/4 of 1/4, Meridian			f Coordinates (GPS, topo	o. map & type): USGS map	
	TR Sec ,1/4 of1/4, Meridian: HD MD SD GPS Make & Model				
Datum: NAD27 NAD83 WGS84 Horizontal Accuracy meters/feet Coordinate System: UTM Zone 10 UTM Zone 11 OR Geographic (Latitude & Longitude) □					
Coordinates: Easting/Longitude		-	titude		
Habitat Description (plant communities, dominants, associates, substrates/soils, aspects/slope): Undeveloped area at the western foothills to the San Ysidro Mountains. The site has a diverse topography consisting of multiple canyons and ridge lines. Soils on site are almost entirely of San Miguel-Exchequer rocky silt loam. The site was burned during a fire that swept through the area in the late 1990's. Vegetation is still in recovery phase with small shrubs and sparse to moderate cover by perennial species. The San Diego Needlegrass was observed in the Diegan Coastal Sage Scrub habitat on site. Dominant plant species include California sagebrush, lemonadeberry, California buckwheat, and laurel sumac. Other rare taxa seen at THIS site on THIS date: Tecate Cypress, Western Dichondra, Variegated Dudleya, SD Barrel Cactus, SD Marsh Elder, SD Goldenstar, Rush-like Bristleweed, Ashy Spike-moss, Munz's Sage, SD Sunflower					
Site Information Overall site quality: Excellent Current / surrounding land use: Site is undeveloped open space, West and South to the United St	crisscrossed with di	Good	Fair	Poor	
west and South to the Office Si	tates border is agricu	ılture fields.	to Horar and Dasi of the site is	indeveloped open space. To the	
Visible disturbances: Dirt roads					
Threats: Proposed establishment of a construction aggregates extraction operation operation and associated end-products.					
Comments: PLEASE SEE ATTACHED TABLE FOR COMPLETE	LIST OF DATES C	BSERVED A	ND BIOLOGISTS REPORTIN	G THEIR OBSERVATIONS.	
Determination: (check one or more, and fill in blanks) ☐ Keyed (cite reference):	ed Sproul, Brian Par	rker,	Photographs: (check one Plant / animal Habitat Diagnostic feature May we obtain duplicates at our expense?	e or more) Slide Print Digital	

California Natural Diversity Database Department of Fish and Game 1807 13 th Street, Suite 202 Sacramento, CA 95814 Fax: (916) 324-0475 email: WHDAB@dfg.ca.gov	Elm Code	e		Fice Use Or Quad (Occ. N Map In	Code lo idex No.		
California Native	Specie	s Field	Survey	Form			
Scientific Name: Cupressus forbesii			5.60				
Common Name: Tecate Cypress		100 mg					
Species Found? Yes No If not, why? Total No. Individuals Subsequent Visit?	□ no □ unk.	Address: E-mail Ad	La Mesa,	Haney of HE Mesa Blvd., CA 91941- atherh@heli	Suite 150 6476 xepi.com		al Plannir
Plant Information Anima	al Informatio	n					
Phenology: % % % % # a # a # a breed			# lar	vae #	# egg masses	l	# unknown
Location Description (please attach map AND	/ <u>OR</u> fill o	ıt your d	hoice of	coordin	ates, be	elow)	
County: San Diego Landowner / Mgr.: Quad Name: Otay Mesa Elevation: T_18 S R 1E Sec 29 ,							
Habitat Description (plant communities, dominants, associates	s, substrates/so	oils, aspects/s	slope):				
Undeveloped area at the western foothills to the San Ysidro Mountains. The site has a diverse topography consisting of multiple canyons and ridge lines. Soils on site are almost entirely of San Miguel-Exchequer rocky silt loam. The site was burned during a fire that swept through the area in the late 1990's. Vegetation is still in recovery phase with small shrubs and sparse to moderate cover by perennial species. The Tecate Cypress were observed in the Southern Interior Cypress Forest habitat (dominated by piute cypress, Tecate cypress, or Arizona cypress) and the Coastal Sage-Chaparral Scrub transition habitat. Other rare taxa seen at THIS site on THIS date: SC County Needlegrass, Western Dichondra, Variegated Dudleya, SD Barrel Cactus, SD Marsh Elder, SD Goldenstar, Ashy Spike-moss, Munz's Sage, SD Sunflower							
Site Information Overall site quality:		Good		Fair		Poor	
Current / surrounding land use: Site is undeveloped open space, crisscrossed with dirt roads. To the North and East of the site is undeveloped open space. To the West and South to the United States border is agriculture fields.							
Visible disturbances: Dirt roads							
Threats: Proposed establishment of a construction aggregates extraction operation operation and associated end-products.							
Comments: PLEASE SEE ATTACHED TABLE FOR COMPLETE LIS	T OF DATES O	BSERVED A	ND BIOLOGI	STS REPORTI	NG THEIR C)BSERVA	ATIONS.
Determination: (check one or more, and fill in blanks) ☐ Keyed (cite reference): ☐ Compared with specimen housed at: ☐ Compared with photo / drawing in: ☐ By another person (name): ☐ Other:	Sproul, Brian Pa	ker	Plant / Habita Diagno	ostic feature tain duplicates		Slide	Print Digital

□no FG/WHDAB/1747 Rev.10/20/03

ges

Mail to: California Natural Diversity Database Department of Fish and Game 1807 13th Street, Suite 202

For Office Use Only
Source Code _____ Quad Code _____

Sacramento, CA 95814 Fax: (916) 324-0475 email: WHDAB@dfg.ca.gov	Elm Code	Occ. No	
	EO Index No	Map Index No.	*
Date of Field Work mm/dd/yyyy:			
California Nativ	e Species Field	l Survey Form	Send Form
Scientific Name: Deinandra conjugens			
Common Name: Otay Tarplant			
Species Found?	Reporte	Heather Haney of HELIX Envir	
Total No. Individuals20+ Subsequent Visit? ☑ yes	. ! !	s: 8100 La Mesa Blvd., Suite 150 La Mesa, CA 91941-6476	
Is this an existing NDDB occurrence? no		Address: heatherh@helixepi.com	
Collection? If yes:	Bhono:	(619) 462-1515	
Number Museum / Herbarium			•
Plant Information Anim	nal Information		,
Phenology:%%%	adults # juveniles	# larvae # egg masses	# unknown
1			
		purrow site rookery nesting	other
Location Description (please attach map ANL	<u>)/OR</u> fill out your	choice of coordinates, be	∌low)
County: San Diego	Landowner / Mg	r.:	
Quad Name: Otay Mesa T 18 S R 1E Sec 29 , ½ of ½, Meridian:	UD ND CD Course	Elevation:	
T R Sec , ½ of ¼, Meridian: T R Sec , ½ of ½, Meridian: T R Sec , ½ of ½, Meridian: T X = 1		ake & Model	
Datum: NAD27 NAD83 WGS		ntal Accuracy	meters/feet
Coordinate System: UTM Zone 10 UTM Zone 11	☐ OR Geograph	ic (Latitude & Longitude) 🔲	
Coordinates: Easting/Longitude	Northing/l	_atitude	
Habitat Description (plant communities, dominants, associate			
Undeveloped area at the western foothills to the San Ysidra and ridge lines. Soils on site are almost entirely of San Mi			
through the area in the late 1990's. Vegetation is still in re-	covery phase with small	shrubs and sparse to moderate cove	r by perennial
species. All Otay tarplant individuals were observed in th	e Non-Native Grassland	on 05/18/2000, 05/22/2000, and 03	/08/2003.
Other rare taxa seen at THIS site on THIS date: Various barrel cactus, southwestern spiny rus	egated dudleya, San Dieg	go goldenstar, San Diego marsh elde	er, San Diego
barrer cactus, southwestern spiny ru	sn, san Diego sunnower	, and asny spike moss.	
Site Information Overall site quality:	☑ Good		Poor
Current / surrounding land use: Site is undeveloped open space, or West and South to the United State	asscrossed with diff roads. To es border is agriculture fields.	the North and East of the site is undevelope	d open space. To the
Visible disturbances: Dirt roads			
Threats: Proposed establishment of a construction aggregates extraction	operation operation and assoc	iated end-products.	
Comments: PLEASE SEE ATTACHED TABLE FOR COMPLETE L	IST OF DATES OBSERVED	AND BIOLOGISTS REPORTING THEIR (DBSERVATIONS.
		Photographs: (check one or more)	Slide Print Digital
Determination: (check one or more, and fill in blanks) Plant / animal			
Compared with specimen housed at: Compared with photo / drawing in:	<u></u>	Diagnostic feature	
By another person (name): Larry Sward, Sally Trnka, Dere	ek Langsford, Greg Mason,	May we obtain duplicates	
Other: Amy Bridgeman, and Pa	HIGH IMICHAIGHOIMS	at our expense?	☐yes ☐no

California Natural Diversity Database Department of Fish and Game 1807 13th Street, Suite 202 Sacramento, CA 95814 Fax: (916) 324-0475 email: WHDAB@dfg.ca.gov Date of Field Work mm/dd/yyyy: California Native Scientific Name: Dichondra occidentalis Common Name: Western Dichondra Species Found?	Elm Code EO Index No	Occ. Map I	Only Code No. Index No. Send Form ELIX Environmental Plannir
Total No. Individuals Subsequent Visit? yes Is this an existing NDDB occurrence? Is this an existing NDDB occurrence? Number Museum / Herbarium	□ no □ unk.	La Mesa, CA 91941 Address: heatherh@hel (619) 462-1515	1-6476
Phenology: wegetative flowering fruiting ##		urrow site rookery	# egg masses # unknown nesting other mates, below)
County: San Diego Quad Name: Otay Mesa T 18 S R 1E Sec 29 , 1/4 of 1/4, Meridian: H T 18S R 1E Sec 32 , 1/4 of 1/4, Meridian: H Datum: NAD27 NAD83 WGS8 Coordinate System: UTM Zone 10 UTM Zone 11 [Coordinates: Easting/Longitude	Source GPS Ma	of Coordinates (GPS, to ake & Model tal Accuracy ic (Latitude & Longitude	ration: opo. map & type): <u>USGS map</u> meters/fee
Habitat Description (plant communities, dominants, associates, substrates/soils, aspects/slope): Undeveloped area at the western foothills to the San Ysidro Mountains. The site has a diverse topography consisting of multiple canyons and ridge lines. Soils on site are almost entirely of San Miguel-Exchequer rocky silt loam. The site was burned during a fire that swept through the area in the late 1990's. Vegetation is still in recovery phase with small shrubs and sparse to moderate cover by perennial species. The Western Dichondra was observed in the Diegan Coastal Sage Scrub habitat on site. Dominant plant species include California sagebrush, lemonadeberry, California buckwheat, and laurel sumac. Other rare taxa seen at THIS site on THIS date: Tecate Cypress, SD County Needlegrass, Variegated Dudleya, SD Barrel Cactus, SD Marsh Elder, SD Goldenstar, Rush-like Bristleweed, Ashy Spike-moss, Munz's Sage, SD Sunflower			
Site Information Overall site quality: Excellent Current / surrounding land use: Site is undeveloped open space, cri West and South to the United State Visible disturbances: Dirt roads Threats: Proposed establishment of a construction aggregates extraction of Comments: PLEASE SEE ATTACHED TABLE FOR COMPLETE LIST	operation operation and associ	ated end-products.	
Determination: (check one or more, and fill in blanks) ☐ Keyed (cite reference): ☐ Compared with specimen housed at: ☐ Compared with photo / drawing in:		Photographs: (check Plant / animal Habitat Diagnostic feature	

Compared with photo / drawing in:

By another person (name): Larry Sward, Sally Trnka, Fred Sproul, Brian Parker,

and Greg Mason

Other: _

yes no FG/WHDAB/1747 Rev.10/20/03

at our expense?

May we obtain duplicates

Reset L California Natio	ve Species Field Su	Send F	Oim :
Date of Field Work mm/dd/yyyy:			
	EO Index No.	Map Index No	· · ·
Sacramento, CA 95814 Fax: (916) 324-0475 email: WHDAB@dfg.ca.gov	Elm Code	Occ. No	· .
Department of Fish and Game 1807 13 th Street, Suite 202	Source Code	Quad Code	· ·
Mail to: California Natural Diversity Database		For Office Use Only	

	x No Map Index No			
Date of Field Work mm/dd/yyyy:	Send Form			
California Native Specie	es Field Survey Form			
Scientific Name: Dudleya variegata				
Common Name: Variegated Dudleya				
Species Found? Yes No If not, why? Total No. Individuals Subsequent Visit? yes no Is this an existing NDDB occurrence? Yes, Occ. # Collection? If yes:	Reporter: Heather Haney of HELIX Environmental Plannir Address: 8100 La Mesa Blvd., Suite 150 La Mesa, CA 91941-6476 E-mail Address: heatherh@helixepi.com			
Number Museum / Herbarium	Phone: (619) 462-1515			
Plant Information Animal Information	on			
ı	# juveniles # larvae # egg masses # unknown			
Location Description (please attach map AND/OR fill o	ut your choice of coordinates, below)			
County: San Diego Lando Quad Name: Otay Mesa	owner / Mgr.:Elevation:			
T_18 S R 1E Sec 29 , ¼ of ¼, Meridian: H□ M□ S□				
T R Sec , ¼ of ¼, Meridian: H□ M□ S□ Datum: NAD27□ NAD83□ WGS84□	GPS Make & Model meters/feet			
Coordinate System: UTM Zone 10 UTM Zone 11 OR	Geographic (Latitude & Longitude) □			
Coordinates: Easting/LongitudeNorthing/Latitude				
Habitat Description (plant communities, dominants, associates, substrates/soils, aspects/slope): Undeveloped area at the western foothills to the San Ysidro Mountains. The site has a diverse topography consisting of multiple canyons and ridge lines. Soils on site are almost entirely of San Miguel-Exchequer rocky silt loam. The site was burned during a fire that swept through the area in the late 1990's. Vegetation is still in recovery phase with small shrubs and sparse to moderate cover by perennial species. The Variegated Dudleya was observed in the Diegan Coastal Sage Scrub habitat and Coastal Sage-Chaparral transition habitat on site. Dominant plant species include CA sagebrush, lemonadeberry, CA buckwheat, laurel sumac, scrub oak, and chamise. Other rare taxa seen at THIS site on THIS date: Tecate Cypress, Western Dichondra, SD County Needlegrass, SD Barrel Cactus, SD Marsh Elder, SD Goldenstar, Ashy Spike-moss, Munz's Sage, SD Sunflower				
<u> </u>	Good ☐ Fair ☐ Poor			
Current / surrounding land use: Site is undeveloped open space, crisscrossed with d West and South to the United States border is agric	lirt roads. To the North and East of the site is undeveloped open space. To the ulture fields.			
Visible disturbances: Dirt roads				
Threats: Proposed establishment of a construction aggregates extraction operation operat	ion and associated end-products.			
Comments: PLEASE SEE ATTACHED TABLE FOR COMPLETE LIST OF DATES OBSERVED AND BIOLOGISTS REPORTING THEIR OBSERVATIONS.				
Determination: (check one or more, and fill in blanks) ☐ Keyed (cite reference): Plant / animal ☐ Print Digital ☐ Compared with specimen housed at: ☐ Diagnostic feature ☐ Diagnostic feature ☐ By another person (name): Larry Sward, Sally Trnka, Fred Sproul, Brian Parker May we obtain duplicates at our expense? ☐ yes ☐ no				

California Natural Diversity Database Department of Fish and Game 1807 13 th Street, Suite 202 Sacramento, CA 95814 Fax: (916) 324-0475 email: WHDAB@dfg.ca.gov	Elm Code	For Office Use Qui	ad Code c. No	
Date of Field Work mm/dd/yyyy:				
California Native	e Species Field	l Survey For	m læs	entel Rønm 🙃
Scientific Name: Ferocactus viridescens				
Common Name: San Diego Barrel Cactus				
Species Found?		er: Heather Haney o s: 8100 La Mesa Bl		mental Plannir
Total No. Individuals Subsequent Visit?	□ no □ unk.	La Mesa, CA 919 Address: heatherh@	941-6476	
Number Museum / Herbarium	Phone:	(619) 462-1515		
Phenology: % % % #	adults # juveniles	# larvae	# egg masses	# unknown
County: San Diego Quad Name: Otay Mesa T 18 S R 1E Sec 29 , 4 of 4, Meridian: H T 18S R 1E Sec 32 , 4 of 4, Meridian: H Datum: NAD27 NAD83 WGS8 Coordinate System: UTM Zone 10 UTM Zone 11 [Coordinates: Easting/Longitude	Landowner / Mg I M S Source I M S GPS M Horizor OR Geograph	r.;	levation: , topo. map & typ	e): <u>USGS map</u>
Undeveloped area at the western foothills to the San Ysidro and ridge lines. Soils on site are almost entirely of San Mig through the area in the late 1990's. Vegetation is still in rec species. The San Diego barrel cactus was observed in the lother rare taxa seen at THIS site on THIS date: Tecate SD Marsh Elder, SD Goldenstar, Rus Southawardson Saint Buch	Mountains. The site has used-Exchequer rocky since your phase with small Diegan Coastal Sage Score Cypress, Western Dic	as a diverse topograph It loam. The site was shrubs and sparse to rub and Non-Native (hondra, Variegated D	s burned during a moderate cover b Grassland habitate budleya, SD Coun	fire that swept y perennial s on site. Ity Needlegrass
Site Information Overall site quality:	operation operation and assoc	nated end-products.	site is undeveloped op	
Determination: (check one or more, and fill in blanks) ☐ Keyed (cite reference): ☐ Compared with specimen housed at: ☐ Compared with photo / drawing in: Roger Ditrick, Brian Parence of the compared with photo / drawing in: Roger Ditrick, Brian Parence of the compared with photo / drawing in: Roger Ditrick, Brian Parence of the compared with photo / drawing in: Roger Ditrick, Brian Parence of the compared with photo / drawing in: Roger Ditrick, Brian Parence of the compared with photo / drawing in: Roger Ditrick, Brian Parence of the compared with photo / drawing in: Roger Ditrick, Brian Parence of the compared with photo / drawing in: Roger Ditrick, Brian Parence of the compared with photo / drawing in: Roger Ditrick, Brian Parence of the compared with photo / drawing in: Roger Ditrick, Brian Parence of the compared with photo / drawing in: Roger Ditrick, Brian Parence of the compared with photo / drawing in: Roger Ditrick, Brian Parence of the compared with photo / drawing in: Roger Ditrick, Brian Parence of the compared with photo / drawing in: Roger Ditrick, Brian Parence of the compared with photo / drawing in: Roger Ditrick, Brian Parence of the compared with photo / drawing in: Roger Ditrick, Brian Parence of the compared with photo / drawing in: Roger Ditrick, Brian Parence of the compared with photo / drawing in: Roger Ditrick, Brian Parence of the compared with photo / drawing in: Roger Ditrick, Brian Parence of the compared with photo / drawing in: Roger Ditrick, Brian Parence of the compared with photo / drawing in: Roger Ditrick, Brian Parence of the compared with photo / drawing in: Roger Ditrick, Brian Parence of the compared with photo / drawing in: Roger Ditrick of the compared with photo / drawing in: Roger Ditrick of the compared with photo / drawing in: Roger Ditrick of the compared with photo / drawing in: Roger Ditrick of the compared with photo / drawing in: Roger Ditrick of the compared with photo / drawing in: Roger Ditrick of the compared with photo / drawing in: Roger Ditrick of the	arker, Sally Trnka	Photographs: (che Plant / animal Habitat Diagnostic feat	•	lide Print Digital

Keyed (cite reference):

Compared with specimen housed at:

Compared with photo / drawing in:

Roger Ditrick, Brian Parker, Sally Trnka,

By another person (name):

Peter Allen, Ted Grantham, Amy Bridgeman,

Other:

Greg Mason, Patrick McNicholas, Larry Sward, Fred Sproul, Justin Fishbeck

yes □no FG/WHDAB/1747 Rev.10/20/03

May we obtain duplicates at our expense?

Mail to: California Natural Diversity Database Department of Fish and Game 1807 13th Street. Suite 202

F	For Office Use Only
Source Code	Quad Code
Elm Code	Occ. No
EO Index No	Map Index No
	· · · · · · · · · · · · · · · · · · ·

Sacramento, CA 95814 Fax: (916) 324-0475 email: WHDAB@dfg.ca.gov	1	Occ. No Map Index	
Date of Field Work mm/dd/yyyy:		· · · · · · · · · · · · · · · · · · ·	
Reset California Native	e Species Field	Survey Form	Send Form
Scientific Name: Iva hayesiana			
Common Name: San Diego Marsh Elder	The state of the		
Species Found?	Reporter	: Heather Haney of HELIX	Environmental Plannir
Species Found?	Address	: 8100 La Mesa Blvd., Suite	: 150
Total No. Individuals 20+ Subsequent Visit? yes		La Mesa, CA 91941-6476	
Is this an existing NDDB occurrence? no Yes, Occ. #	unk. E-mail A	ddress: heatherh@helixepi.c	com
Collection? If yes: Museum / Herbarium	Phone:	(619) 462-1515	
Plant Information Anim	nal Information		
vegetative flowering fruiting	adults # juveniles	# larvae # egg n	
	eding wintering bu		sting other
Location Description (please attach map AND			s, below)
	<u> </u>		
Q 4 San Diago	Landauman / Nóm		
County: San Diego Quad Name: Otay Mesa	Landowner / Mgr.		
T 18 S R 1E Sec 29 , ¼ of ¼, Meridian: F	I□ M□ S□ Source (of Coordinates (GPS, topo. ma	
TR Sec , ¼ of ¼, Meridian: H		ike & Model	
Datum: NAD27 NAD83 ✓ WGS8		al Accuracy	meters/feet
Coordinate System: UTM Zone 10 UTM Zone 11 OR Geographic (Latitude & Longitude)			
Coordinates: Easting/Longitude		atitude	
Habitat Description (plant communities, dominants, associate			
Undeveloped area at the western foothills to the San Ysidro and ridge lines. Soils on site are almost entirely of San Mig through the area in the late 1990's. Vegetation is still in rec species. The San Diego Marsh Elder was observed in the l California sagebrush, lemonadeberry, California buckwhear	guel-Exchequer rocky silt covery phase with small s Diegan Coastal Sage Scru	t loam. The site was burned of thrubs and sparse to moderate	luring a fire that swept cover by perennial
Other rare taxa seen at THIS site on THIS date: Tecate County Needlegrass, SD Goldenstar,	Cypress, Western Dicho, Southwestern Spiny Rus	ondra, Variegated Dudleya, SI sh, Ashy Spike-moss, Munz's	D Barrel Cactus, SD Sage, SD Sunflower
Site Information Overall site quality:	☑ Good	□Fair	Poor
Current / surrounding land use: Site is undeveloped open space, cr West and South to the United State	isscrossed with dirt roads. To t es border is agriculture fields.	the North and East of the site is unde	veloped open space. To the
Visible disturbances: Dirt roads			
Threats: Proposed establishment of a construction aggregates extraction	operation operation and associa	ated end-products.	
Comments: PLEASE SEE ATTACHED TABLE FOR COMPLETE LI	ST OF DATES OBSERVED A	AND BIOLOGISTS REPORTING TI	HEIR OBSERVATIONS.
		Photographs: (check one or n	more) Slide Print Digital
Determination: (check one or more, and fill in blanks) Plant / animal			
Compared with specimen housed at:		Habitat Diagnostic feature	
By another person (name): Sally Trnka, Peter Allen, Larry	Sward, Derek Langsford,	May we obtain duplicates	
Other: Amy Bridegman, Fred Sproul, Brian F	arker, and Dale Ritenour	at our expense?	∏yes ∏no

yes

May we obtain duplicates at our expense?

California Natural Diversity Database Department of Fish and Game	0	For Office Use Only			
1807 13 th Street, Suite 202		Quad Code			
Sacramento, CA 95814 Fax: (916) 324-0475 email: WHDAB@dfg.ca.gov	Elm Code	Occ. No	· · · · · · · · · · · · · · · · · · ·		
	EO Index No	Map Index No.			
Date of Field Work mm/dd/yyyy:					
California Native	Species Field	l Survey Form	Send Form		
Scientific Name: Juncas acutus ssp. leopold	ii				
Common Name: Southwestern Spiny Rush					
Species Found?	Reporte	r: Heather Haney of HELIX Envi	ronmental Plannir		
	i i	s: 8100 La Mesa Blvd., Suite 150			
Total No. Individuals $334+$ Subsequent Visit? Jyes Is this an existing NDDB occurrence?		La Mesa, CA 91941-6476			
Yes, Occ. #	E-mail A	Address: heatherh@helixepi.com			
Collection? If yes: Number Museum / Herbarium	Phone:	(619) 462-1515	-		
	al Information				
Plant information	ai illioilliauoli				
Phenology: % % % # a # a # a	adults # juveniles	# larvae # egg masses	# unknown		
, , , , , , , , , , , , , , , , , , ,]	Durrow site rookery nesting	✓ other		
Location Description (please attach map AND	ding wintering b				
Location Description (please attach map AND	<u>OK</u> IIII OUL YOUI	choice of coordinates, of	eiow)		
County: San Diego	Landowner / Mgr	r.:			
Quad Name: Otay Mesa Elevation:					
T_18SR_1E_Sec,14 of14, Meridian: HI		of Coordinates (GPS, topo. map &			
T R Sec , ½ of ½, Meridian: H□ M□ S□ GPS Make & Model Datum: NAD27□ NAD83□ WGS84□ Horizontal Accuracy meters/fee					
Coordinate System: UTM Zone 10 UTM Zone 11 OR Geographic (Latitude & Longitude)					
Coordinates: Easting/Longitude Northing/Latitude					
Habitat Description (plant communities, dominants, associates		s/slope):			
Undeveloped area at the western foothills to the San Ysidro Mountains. The site has a diverse topography consisting of multiple canyons and ridge lines. Soils on site are almost entirely of San Miguel-Exchequer rocky silt loam. The site was burned during a fire that swept through the area in the late 1990's. Vegetation is still in recovery phase with small shrubs and sparse to moderate cover by perennial species. The Southwestern Spiny Rush was observed in the Diegan Coastal Sage Scrub habitat on site. Dominant plant species include California sagebrush, lemonadeberry, California buckwheat, and laurel sumac.					
Other rare taxa seen at THIS site on THIS date: San Diego Marsh Elder, San Diego Needlegrass, Ashy Spike-moss, Munz's Sage, and San Diego sunflower.					
Site Information Overall site quality:	☑ Good		Poor		
Current / surrounding land use: Site is undeveloped open space, cris	sscrossed with dirt roads. To				
Current / surrounding land use: Site is undeveloped open space, crisscrossed with dirt roads. To the North and East of the site is undeveloped open space. To the West and South to the United States border is agriculture fields. Visible disturbances: Dirt roads					
Threats: Proposed establishment of a construction aggregates extraction of	peration operation and assoc	nated end-products.			
Comments: PLEASE SEE ATTACHED TABLE FOR COMPLETE LIS	T OF DATES OBSERVED A	AND BIOLOGISTS REPORTING THEIR	OBSERVATIONS.		
Determination: (check one or more, and fill in blanks)		Photographs: (check one or more)	Slide Print Digital		
Keyed (cite reference):		Plant / animal Habitat			
Compared with photo / drawing in:		Diagnostic feature			
By another person (name): Sally Timka, Peter Allen, Larry S	ward, Derek Langsford	May we obtain duplicates			
Other: Amy Bridgeman, Dale Ritenour		at our expense?	□ves □no		

□no FG/WHDAB/1747 Rev.10/20/03

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Mail to: California Natural Diversity Database Department of Fish and Game

	For Office Use Only
Source Code	Quad Code
Elm Code	Occ. No
EO Index No	Map Index No

1807 13"' Street, Suite 202 Sacramento, CA 95814 Fax: (916) 324-0475 email: WHDAB@dfg.ca.gov	Elm Code	Oc	c. No	
	EO Index No	Map Index No		
Date of Field Work mm/dd/yyyy:				
Reset California Native	e Species Field	Survey For	m	Send Form:
Scientific Name: Muilla clevelandii				
Common Name: San Diego Goldenstar	And the state of t			
Species Found?	Reporte	r: Heather Haney o	of HELIX Envir	onmental Plannir
	1 1	s: 8100 La Mesa B		
Total No. Individuals $7,000+$ Subsequent Visit? \square yes Is this an existing NDDB occurrence? \square no		La Mesa, CA 91		
Yes, Occ. #	1 1	Address: heatherh@	gnenxepi.com	
Number Museum / Herbarium	Phone:	(619) 462-1515		
Plant Information Anim	nal Information			
Phenology: % %				<u> </u>
vegetative flowering fruiting	adults # juveniles	# larvae	# egg masses	# unknown
; I		ourrow site rookery		other
County: San Diego	Landowner / Mgr			<u> </u>
Quad Name: Otay Mesa	17 NF CF 0	•	Elevation:	
T 18S R 1E Sec 29 , 14 of 14, Meridian: F T 18S R 1E Sec 32 , 14 of 14, Meridian: F		of Coordinates (GP) ake & Model		
Datum: NAD27 NAD83 WGS8		ital Accuracy		meters/feet
Coordinate System: UTM Zone 10 UTM Zone 11 OR Geographic (Latitude & Longitude)				
Coordinates: Easting/Longitude	Northing/L	_atitude		
Habitat Description (plant communities, dominants, associate	es, substrates/soils, aspects	/slope):		
Undeveloped area at the western foothills to the San Ysidro and ridge lines. Soils on site are almost entirely of San Mig through the area in the late 1990's. Vegetation is still in rec species. The San Diego Goldenstar was observed in the D Native Grassland habitats on site.	guel-Exchequer rocky si covery phase with small Diegan Coastal Sage Scru	It loam. The site washrubs and sparse to ib, Disturbed Diegar	s burned during moderate cover a Coastal Sage S	a fire that swept r by perennial Scrub, and Non-
Other rare taxa seen at THIS site on THIS date: Tecate County Needlegrass, Otay Tarplant,	Cypress, Western Dicho SD Marsh Elder, Southy	ondra, Variegated D western Spiny Rush,	udleya, SD Barr Ashy Spike-mo	el Cactus, SD ss, Munz's Sage,
Site Information Overall site quality:	☑ Good	□Fair	_	☐ Poor
Current / surrounding land use: Site is undeveloped open space, crisscrossed with dirt roads. To the North and East of the site is undeveloped open space. To the West and South to the United States border is agriculture fields.				
Visible disturbances: Dirt roads				
Threats: Proposed establishment of a construction aggregates extraction	operation operation and associ	iated end-products.		
Comments: PLEASE SEE ATTACHED TABLE FOR COMPLETE LIS	ST OF DATES OBSERVED A	AND BIOLOGISTS REP	ORTING THEIR O	BSERVATIONS.
Determination: (check one or more, and fill in blanks) ☐ Keyed (cite reference): ☐ Compared with specimen housed at: ☐ Compared with photo / drawing in: ☐ By another person (name): Sally Trnka, Scott Taylor, Dered ☐ Other: Amy Bridgeman, Larry Sward, Free		Photographs: (che Plant / animal Habitat Diagnostic feat May we obtain duple at our expense?	ture	Slide Print Digital

☐yes no FG/WHDAB/1747 Rev.10/20/03

May we obtain duplicates at our expense?

California Natural Diversity Database Department of Fish and Game 1807 13th Street, Suite 202

เพลแ เบ. California Natural Diversity Database Department of Fish and Game 1807 13 th Street, Suite 202	Source Code	For Office Use Only Quad Code
Sacramento, CA 95814 Fax: (916) 324-0475 email: WHDAB@dfg.ca.gov	Elm Code EO Index No.	Occ. No Map Index No.
Date of Field Work mm/dd/yyyy: 05/24/2004		

Fax: (916) 324-0475 email: WHDAB@dfg.ca.gov EO Index	No Map Index No			
Date of Field Work mm/dd/yyyy: 05/24/2004				
California Native Species	Field Survey Form			
Scientific Name: Machaeranthera juncea				
Common Name: Rush-like Bristleweed				
Total No. Individuals Subsequent Visit? yes no Is this an existing NDDB occurrence? no unk.	Reporter: Heather Haney of HELIX Environmental Plannir Address: 8100 La Mesa Blvd., Suite 150 La Mesa, CA 91941-6476 E-mail Address: heatherh@helixepi.com Phone: (619) 462-1515			
Plant Information Animal Information				
Phenology:% # adults	# juveniles # larvae # egg masses # unknown \[\begin{array}{cccccccccccccccccccccccccccccccccccc			
Location Description (please attach map AND/OR fill out	your choice of coordinates, below)			
County: San Diego Landowner / Mgr.: Quad Name: Otay Mesa Elevation: T 18 S R 1E Sec 29 ,				
Habitat Description (plant communities, dominants, associates, substrates/soils, aspects/slope): Undeveloped area at the western foothills to the San Ysidro Mountains. The site has a diverse topography consisting of multiple canyons and ridge lines. Soils on site are almost entirely of San Miguel-Exchequer rocky silt loam. The site was burned during a fire that swept through the area in the late 1990's. Vegetation is still in recovery phase with small shrubs and sparse to moderate cover by perennial species. The Rush-like Bristleweed was observed in the Diegan Coastal Sage Scrub habitat on site. Dominant plant species include California sagebrush, lemonadeberry, California buckwheat, and laurel sumac. Other rare taxa seen at THIS site on THIS date: Ashy Spike-moss, San Diego Needlegrass, Western Dichondra, San Diego Barrel Cactus, and San Diego Sunflower				
Site Information Overall site quality:				
Determination: (check one or more, and fill in blanks) ☐ Keyed (cite reference):	Photographs: (check one or more) Slide Print Digital Plant / animal			

FG/WHDAB/1747 Rev.10/20/03

Mail to: California Natural Diversity Database Department of Fish and Game 1807 13th Street, Suite 202 Sacramento, CA 95814

F	For Office Use Only	1
Source Code	Quad Code	_
Elm Code	Occ. No	_
EO Index No.	Map Index No.	-
		1

Sacramento, CA 95674 Fax: (916) 324-0475 email: WHDAB@dfg.ca.gov	Elm Code	Occ. No
	EO Index No	Map Index No.
Date of Field Work mm/dd/yyyy: California Native	e Species Fiel	d Survey Form
Scientific Name: Selaginella cinerascens		
Common Name: Ashy Spike-moss		
Species Found?	Addre	ter: Heather Haney of HELIX Environmental Plannir ss: 8100 La Mesa Blvd., Suite 150
Total No. Individuals 45+ Subsequent Visit? ☐ yes Is this an existing NDDB occurrence? ☐ no Collection? If yes: Number Museum / Herbarium	Unk. E-mail	La Mesa, CA 91941-6476 Address: heatherh@helixepi.com : (619) 462-1515
Plant Information Anim	nal Information	
vegetative flowering fruiting	adults # juvenik	es # larvae # egg masses # unknown burrow site rookery nesting other
Location Description (please attach map ANL	D/ <u>OR</u> fill out you	r choice of coordinates, below)
County: San Diego	Landowner / M	gr.:
Quad Name: Otay Mesa T 18 S R 1E Sec 29 , ¼ of ¼, Meridian:	HD MD SD Source	Elevation:e of Coordinates (GPS, topo. map & type): <u>USGS map</u>
T_18S R_1E_Sec_32_,1/4 of1/4, Meridian: I		Make & Model
Datum: NAD27 NAD83 WGS8		ontal Accuracy meters/fee
Coordinate System: UTM Zone 10 UTM Zone 11 Coordinates: Easting/Longitude		hic (Latitude & Longitude) /Latitude
Habitat Description (plant communities, dominants, associate	es, substrates/soils, aspec	ts/slope):
Undeveloped area at the western foothills to the San Ysidro and ridge lines. Soils on site are almost entirely of San Mighrough the area in the late 1990's. Vegetation is still in respecies. The Ashy Spike-moss was observed in the Diega California sagebrush, lemonadeberry, California buckwhea	o Mountains. The site guel-Exchequer rocky covery phase with smal n Coastal Sage Scrub hat, and laurel sumac.	has a diverse topography consisting of multiple canyons silt loam. The site was burned during a fire that swept I shrubs and sparse to moderate cover by perennial abitat on site. Dominant plant species include
Other rare taxa seen at THIS site on THIS date: Tecate County Needlegrass, SD Goldenstar Otov Tamient, SD Morek Elder, Bud	, Southwestern Spiny F	hondra, Variegated Dudleya, SD Barrel Cactus, SD Rush, Ashy Spike-moss, Munz's Sage, SD Sunflower,
Site Information Overall site quality:	☑ Good	☐ Fair ☐ Poor
Current / surrounding land use: Site is undeveloped open space, cr West and South to the United State	isserossed with dirt roads. The source fields	to the North and East of the site is undeveloped open space. To the
Visible disturbances: Dirt roads		
Threats: Proposed establishment of a construction aggregates extraction	operation operation and asse	ociated end-products.
Comments: PLEASE SEE ATTACHED TABLE FOR COMPLETE LI	ST OF DATES OBSERVE	AND BIOLOGISTS REPORTING THEIR OBSERVATIONS.
Determination: (check one or more, and fill in blanks) ☐ Keyed (cite reference): ☐ Compared with specimen housed at: ☐ Compared with photo / drawing in: ☐ By another person (name): Sally Trnka, Peter Allen, Larry ☐ Other: Amy Bridegman, Fred Sproul, Brian Parker, Greg Max	Sward, Derek Langsford	Photographs: (check one or more) Slide Print Digite Plant / animal
Other: Amy Bridegman, Fred Sproul, Brian Parker, Greg Ma	ason, and Dale Ritenour	at our expense?

☐ yes

May we obtain duplicates at our expense?

California Natural Diversity Database Department of Fish and Game 1807 13 th Street, Suite 202 Sacramento, CA 95814	Source Code	For Office Use Only Quad Code Occ. No.
Pax: (916) 324-0475 email: WHDAB@dfg Date of Field Work mm/dd/yyyy:	EO Index No.	Map Index No.
Reset Californ	ia Native Species Field Su	rvey Form
cientific Name; Salvia munzii		

	EO Index N	lo	Map Index No.	· <u>} </u>
Date of Field Work mm/dd/yyyy:				
California Nativ	ve Species	Field	Survey Form	Send Form
Scientific Name: Salvia munzii				
Common Name: Munz's Sage				
Species Found? Yes No If not, why? Total No. Individuals Subsequent Visit? Yes Is this an existing NDDB occurrence? Yes, Occ. # Collection? If yes: Number Museum / Herbarium	es 🗆 no	Address: E-mail Ad	Heather Haney of HELIX Env. 8100 La Mesa Blvd., Suite 150 La Mesa, CA 91941-6476 Idress: heatherh@helixepi.com (619) 462-1515	
Plant Information Ani	imal Information			
vegetative flowering fruiting	# adults # reeding wintering	juveniles ng bu	# larvae # egg masse	s # unknown other
Location Description (please attach map AN	<u>ID/OR</u> fill out	your c	hoice of coordinates, b	elow)
County: San Diego Quad Name: Otay Mesa T 18 S R 1E Sec 29 ,	: H	Source o GPS Mak Horizonta eographic	Elevation: f Coordinates (GPS, topo. map & ke & Model al Accuracy t (Latitude & Longitude) □	type): USGS map meters/feet
Undeveloped area at the western foothills to the San Yside and ridge lines. Soils on site are almost entirely of San M through the area in the late 1990's. Vegetation is still in respecies. The Munz's Sage was observed in the Chamise County Needlegrass, SD Goldensta	ro Mountains. The liguel-Exchequer recovery phase with Chaparral and Coate Cypress, Wester	e site has ocky silt h small shastal Sage	a diverse topography consisting loam. The site was burned during the sand sparse to moderate cove-Chaparral Transition habitats.	g a fire that swept er by perennial rrel Cactus, SD
Site Information Overall site quality: Excellent Current / surrounding land use: Site is undeveloped open space, West and South to the United State Visible disturbances: Dirt roads Threats: Proposed establishment of a construction aggregates extraction Comments: PLEASE SEE ATTACHED TABLE FOR COMPLETE I	crisscrossed with dirt rates border is agricultu	oads. To the re fields.	ted end-products.	
Determination: (check one or more, and fill in blanks) ☐ Keyed (cite reference): ☐ Compared with specimen housed at: ☐ Compared with photo / drawing in: Patrick McNicholas, F ☐ By another person (name): Sally Trnka, Scott Taylor, Lar ☐ Other: Amy Bridegman, Fred Sproul, Brian Parker, Greg M	rry Sward, Justin Fisch	beck ur	Photographs: (check one or more) Plant / animal Habitat Diagnostic feature May we obtain duplicates at our expense?	Slide Print Digital

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Mail to: California Natural Diversity Database Department of Fish and Game

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Source Code	Quad Code
Elm Code	Occ. No
EO Index No	Map Index No.

1807 13 th Street, Suite 202	Source	Code	Quad Code		
Sacramento, CA 95814 Fax: (916) 324-0475 email: WHDAB@dfg.ca.gov	Elm Co	de	Occ. No		
. ax. (010) 027-0710 Gillall. WilDhD@dig.oa.gov	EO Inde	ex No.	Map Index No.		
Date of Field Work mm/dd/yyyy:					
Reset California Na	_ tive Specie	es Field Su	rvey Form	end Form	
Scientific Name: Viguiera laciniata			The second secon		
Common Name: San Diego Sunflower	All Market States and Control of the			Section 1 and 1 an	
Species Found?	· .	Reporter: <u>He</u>	ather Haney of HELIX Enviror	mental Plannir	
•	ŀ	Address: 81	00 La Mesa Blvd., Suite 150		
Total No. Individuals 8,000+ Subsequent Visit?]yes □no]no □unk.	La	Mesa, CA 91941-6476		
Yes, Occ. #	ilo Liulik.	E-mail Address: heatherh@helixepi.com			
Collection? If yes: Number Museum / Herb	arium	Phone: <u>(619)</u>) 462-1515		
Plant Information	Animal Informati	ion		***************************************	
Phenology: % % % lowering fruiting	# adults	# juveniles	# larvae # egg masses	# unknown	
Phenology:%%				✓	
		ntering burrow si		other	
Location Description (please attach map A	AND/OR till o	out your choi	ce of coordinates, belo	ow)	
			•		
County: San Diego	Land	owner / Mgr.:			
Quad Name: Otay Mesa			Elevation:		
T_18SR_1E_Sec_29_,14 of14, Merid	an: H M M S	Source of Coo	ordinates (GPS, topo. map & typ	e): USGS map	
T_18S_R_1E_Sec32_,14 of14, Meridi	an: H□ M□ S□	GPS Make &	Model	·	
	VGS84 □	Horizontai Acc	curacy	meters/feet	
Coordinate System: UTM Zone 10 UTM Zone	:11 🔲 OR	= -	tude & Longitude)		
Coordinates: Easting/Longitude		Northing/Latitude)		
Habitat Description (plant communities, dominants, asso					
Undeveloped area at the western foothills to the San Y and ridge lines. Soils on site are almost entirely of Sar through the area in the late 1990's. Vegetation is still i species. The San Diego Sunflower was observed in the Sage Scrub, Chamise Chaparral, and Non-Native Gras	n Miguel-Exchequen n recovery phase ne Diegan Coastal	uer rocky silt loam with small shrubs I Sage Scrub, Coas	The site was burned during a and sparse to moderate cover b	fire that swept- by perennial	
Other rare taxa seen at THIS site on THIS date: To County Needlegrass, SD Golder	nstar, Southwester	rn Spiny Rush, As	Variegated Dudleya, SD Barrel hy Spike-moss, Munz's Sage, S	Cactus, SD D Sunflower,	
Site Information Overall site quality:		Good		Poor	
Current / surrounding land use: Site is undeveloped open spa West and South to the United	ice, crisscrossed with d States border is agri-	dirt roads. To the Nor culture fields.	th and East of the site is undeveloped o	pen space. To the	
Visible disturbances: Dirt roads		•			
Threats: Proposed establishment of a construction aggregates extra	action operation opera	tion and associated en	d-products.		
Comments: PLEASE SEE ATTACHED TABLE FOR COMPLE	TE LIST OF DATES	OBSERVED AND BI	OLOGISTS REPORTING THEIR OB	SERVATIONS.	
- H444		Pho	otographs: (check one or more)	lide Print Digital	

Determination: (check one or more, and fill in blanks) Plant / animal Keyed (cite reference): _ Habitat Diagnostic feature

Compared with specimen housed at:

Compared with photo / drawing in: Scott Taylor, Ted Grantham, Greg Mason,

By another person (name): Sally Trnka, Larry Sward, Derek Langsford,

Other: Amy Bridegman, Fred Sproul, Brian Parker, Roger Ditrick, Patrick McNicholas

May we obtain duplicates at our expense?

ANIMAL SPECIES

Mail to: California Natural Diversity Database Department of Fish and Game 1807 13th Street, Suite 202 Sacramento, CA 95814 Fax: (916) 324-0475 email: WHDAB@dfg.ca.gov

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Source Code	Quad Code
Elm Code	Occ. No
EO Index No.	Map Index No
•	

Date of Field Work mm/dd/yyyy: 06/13/2000	Map Index No				
California Native Species Field	d Survey Form				
Scientific Name: Tyto alba					
Common Name: Barn Owl					
Total No. Individuals 1 Subsequent Visit? yes no ls this an existing NDDB occurrence? no ls this are existing NDDB occurrence?	er: Heather Haney of HELIX Environmental Plannir s: 8100 La Mesa Blvd., Suite 150 La Mesa, CA 91941-6476 Address: heatherh@helixepi.com (619) 462-1515				
	burrow site rookery nesting other				
Location Description (please attach map <u>AND/OR</u> fill out your	choice of coordinates, below)				
Quad Name: Otay Mesa T _ 18 S R _ 1E _ Sec _ 29 _ ,	as a diverse topography consisting of multiple canyons ilt loam. The site was burned during a fire that swept shrubs and sparse to moderate cover by perennial				
Other rare taxa seen at THIS site on THIS date: 1 Southern California Rufo California Horned Lark, Mountain lion (tracks), and two Sar	ous-crowned Sparrow, 1 Grasshopper Sparrow, 1 n Diego Black-tailed Jackrabbits.				
Site Information Overall site quality:					
Determination: (check one or more, and fill in blanks) ☐ Keyed (cite reference):	Photographs: (check one or more) Slide Print Digital Plant / animal				

California Natural Diversity Database Department of Fish and Game 1807 13 th Street, Suite 202 Sacramento, CA 95814 Fax: (916) 324-0475 email: WHDAB@dfg.ca.gov	Elm Code	ode No	Occ.	l Code No	
California Native	e Species	Field Surv	ev Form	St	InidAZOInii s
cientific Name: Athene cunicularia					
Common Name: Burrowing Owl					Control of the Contro
Species Found? Yes No If not, why? Total No. Individuals 6 Subsequent Visit? yes sethis an existing NDDB occurrence?	□ unk.	Reporter: Heath	La Mesa Blvo lesa, CA 9194 heatherh@he	l., Suite 150 1-6476	mental Plannir
Phenology: % % % % #	nal Information 6 adults	# juveniles	# larvae	# egg masses	# unknown
County: San Diego Quad Name: Otay Mesa T 18 S R 1E Sec,¼ of¼, Meridian: H Coatum: NAD27 NAD83 \rightarrow WGS8 Coordinate System: UTM Zone 10 UTM Zone 11 [Coordinates: Easting/Longitude	Landow H	vner / Mgr.: Source of Coordi GPS Make & Mo Horizontal Accur Geographic (Latitude	Ele inates (GPS, t del acy	vation: opo. map & type	e): USGS map
Habitat Description (plant communities, dominants, associated Undeveloped area at the western foothills to the San Ysidro and ridge lines. The site was burned during a fire that swep The Western Burrowing Owls were observed in the Diegan observed. On 5/24/2004, three individuals were observed a species include California sagebrush, lemonadeberry, California rare taxa seen at THIS site on THIS date: On O Diego Black-tailed Jackrabbit and a positive of the same at the sam	o Mountains. To the through the an Coastal Sage Sat one burrow a fornia buckwhea 25/24/2004 and	the site has a diver- trea in the late 1990 Scrub habitat on si and the fourth was at, and laurel suma Coastal Whiptail v	0's. Vegetation te. On two occless than 200 cc.	n is still in record casions a single feet away. Dom	very phase. bird was inant plant
Current / surrounding land use: Site is undeveloped open space, cri West and South to the United State //isible disturbances: Dirt roads Threats: Proposed establishment of a construction aggregates extraction of the Comments: PLEASE SEE ATTACHED TABLE FOR COMPLETE LIS	operation operation	t roads. To the North a ture fields. n and associated end-pr	oducts.	e is undeveloped op	

Determination: (check one or more, and fill in blanks)

☐ Keyed (cite reference): _____

☐ Compared with specimen housed at: ____

Compared with photo / drawing in:

By another person (name): Greg Mason, Sally Trnka, Brian Parker, and Fred Sproul

Other: _

yes __no __no ___

Print Digital

Slide

Photographs: (check one or more)

Plant / animal Habitat

May we obtain duplicates

at our expense?

Diagnostic feature

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Elm Code	Occ. No
EO Index No.	Map Index No
•	

	EC	Index No		
Date of Field Work mm/dd/yyyy: 03/22/2002				
Reset Califor	nia Native Sp	ecies Field	Survey Form	Sendiform
Scientific Name: Polioptila califo	rnica californi	ca		
Common Name: Coastal California	a Gnatcatcher			
Species Found? Yes No Total No. Individuals Is this an existing NDDB occurrence? Yes Collection? If yes: Number Number	it Visit?	o Address:	Heather Haney of HELIX Envi 8100 La Mesa Blvd., Suite 150 La Mesa, CA 91941-6476 Idress: heatherh@helixepi.com (619) 462-1515	
Plant Information	Animal Info	ormation		
Phenology: % % % flowering fru	# adults iting breeding		# larvae # egg masses rrow site rookery nesting	# unknown other
Location Description (please attac	h map <u>AND/OR</u>	fill out your o	choice of coordinates, b	elow)
Quad Name: Otay Mesa T_18SR 1E Sec,1/4 of TR Sec,1/4 of Datum: NAD27	_ 1/4, Meridian: H□ M□ WGS84 □ UTM Zone 11 □ minants, associates, substitute of San Wiguel-Extension is still in recovery er was observed in the ty, California buckwhets distribute is still in the ty, california buckwhets dis	Source of GPS Ma Horizonta OR Geographic Northing/La trates/soils, aspects/stains. The site has schequer rocky silt phase with small si Diegan Coastal Sa at, and laurel suma	a diverse topography consisting of loam. The site was burned during thrubs and sparse to moderate covering Scrub habitat on site. Dominate.	meters/feet of multiple canyons g a fire that swept er by perennial
Site Information Overall site quality: Current / surrounding land use: Site is undeveloped west and South Visible disturbances: Dirt roads Threats: Proposed establishment of a construction age Comments:				
Determination: (check one or more, and fill in blank			Photographs: (check one or more) Plant / animal Habitat Diagnostic feature May we obtain duplicates at our expense?	Slide Print Digital

se	For Offic	For Office Use Only					
	^Source Code	Quad Code					
)dfg.ca.gov	Elm Code	Occ. No					
	EO Index No.	Map Index No.					

California Natural Diversity Database Department of Fish and Game	^Source C	For Office Code	<i>Use Only</i> Quad Code			
1807 13 th Street, Suite 202 Sacramento, CA 95814			Occ. No			
Fax: (916) 324-0475 email: WHDAB@dfg.ca.gov	I		Map Index No			
Date of Field Work mm/dd/yyyy:		(NO	wap index No			
Reset California Nativ	∕e Specie	s Field Survey F	form	end Form		
Scientific Name: Lichanura trivirgata rose	ofusca					
Common Name: Coastal Rosy Boa						
Species Found?		Reporter: Heather Har	ey of HELIX Environ	mental Plannir		
Yes No If not, why?		Address: 8100 La Me	sa Blyd., Suite 150			
Total No. Individuals 1 Subsequent Visit?		La Mesa, C.	A 91941-6476			
Is this an existing NDDB occurrence?	o □unk.	E-mail Address: heath	erh@helixepi.com			
Collection? If yes:	m	Phone: <u>(619) 462-151</u>	15			
Plant Information Ani	imal Informatio	7				
	ima, imormado 1	n				
Phenology: % % % — % — % — % vegetative flowering fruiting	# adults	# juveniles # larvae	# egg masses	# unknown		
Location Description (please attach map AN						
Location Description (please attach map Air	<u>D/OK</u> IIII 00	n your choice or c	ooramates, pero	(44)		
County: San Diego	Landov	wner / Mgr.:				
Quad Name: Otay Mesa	-		Elevation:1,500 t			
T_18SR_1E Sec_29_,14 of14, Meridian:						
T R Sec , ¼ of ¼, Meridian: Datum: NAD27 \(\text{NAD27} \) NAD83 \(\text{V} \) WGS	384 □	GPS Make & Model Horizontal Accuracy				
Coordinate System: UTM Zone 10 UTM Zone 11	_	Geographic (Latitude & Lo	•	meters/leer		
Coordinates: Easting/Longitude		Northing/Latitude	ingitado) 🗖			
Habitat Description (plant communities, dominants, associa	tes, substrates/so	ils, aspects/slope):				
Undeveloped area at the western foothills to the San Ysidi and ridge lines. Soils on site are almost entirely of San M through the area in the late 1990's. Vegetation is still in respecies. The Coastal Rosy Boa was observed in the Diega California sagebrush, lemonadeberry, California buckwhe	iguel-Excheque ecovery phase w an Coastal Sage	or rocky silt loam. The site with small shrubs and spars Scrub habitat on site. Do	e was burned during a se to moderate cover by	fire that swept y perennial		
Other rare taxa seen at THIS site on THIS date:						
Site Information Overall site quality:		Good	···	Poor		
Current / surrounding land use: Site is undeveloped open space, of West and South to the United Sta	crisscrossed with di	rt roads. To the North and East	of the site is undeveloped op	en space. To the		
Visible disturbances: Dirt roads	ico cordor is agrica	,				
Threats: Proposed establishment of a construction aggregates extraction	n operation operation	on and associated end-products.				
Comments:						

C Print Digital Photographs: (check one or more) Slide Determination: (check one or more, and fill in blanks)

☐ Keyed (cite reference): _____

☐ Compared with specimen housed at: ____ Plant / animal Habitat Diagnostic feature Compared with photo / drawing in: _____ By another person (name): _____ May we obtain duplicates Other: _ at our expense? ☐ yes □no FG/WHDAB/1747 Rev.10/20/03

Mail to: California Natural Diversity Database Department of Fish and Game

Determination: (check one or more, and fill in blanks)

Compared with specimen housed at:

By another person (name): Scott Taylor, Debbie Leonard, Peter Allen, Greg Mason,
Other: Sally Trnka, Fred Sproul, Brian Parker, Dale Ritenour, Larry Sward

Compared with photo / drawing in: _

Keyed (cite reference): _

For Off Source Code	fice Use Only Quad Code
Elm Code	Occ. No.
EO Index No.	Map Index No

1807 13 th Street, Suite 202	Source 0	Lode Quad C	_ Quad Code		
Sacramento, CA 95814 Fax: (916) 324-0475 email: WHDAB@dfg.ca.gov	Elm Cod	le Occ. No	0		
Tax. (810) 327-0710 Gillall. WITDAD@dig.ca.guv	ì		Map Index No		
Date of Field Work mm/dd/yyyy:					
California Nativ	ve Specie	s Field Survey Form	Send Form		
scientific Name: Cnemidophorus tigris ste	jnegeri				
Common Name: Coastal Whiptail					
Species Found?	<u> </u>	Reporter: <u>Heather Haney of HE</u> Address: 8100 La Mesa Blvd.,			
Total No. Individuals5 Subsequent Visit?ye		La Mesa, CA 91941-6	5476		
Is this an existing NDDB occurrence? Yes, Occ. #	o □unk.	E-mail Address: heatherh@helix	kepi.com		
Collection? If yes: Number Museum / Herbariu	ım	Phone: (619) 462-1515			
Plant Information An	imal Information	on .			
Phenology:%%%	5 # adulta	# juveniles # larvae #	egg masses # unknown		
vegetative flowering fruiting		# juveniles # larvae # tering burrow site rookery	egg masses # unknown nesting other		
Location Description (please attach map AN	ID/QR fill o	ut your choice of coordina	ates, below)		
		,	, ,		
O Car Diago					
County: San Diego Quad Name: Otay Mesa	Lando	owner / Mgr.:	tion:		
T_18SR 1E Sec 29 , 1/4 of 1/4, Meridian	: H				
T 18S R 1E Sec 32 , 1/4 of 1/4, Meridian		GPS Make & Model			
Datum: NAD27 NAD83 WG		Horizontal Accuracy	meters/feet		
Coordinate System: UTM Zone 10 UTM Zone 11	1 🔲 OR	Geographic (Latitude & Longitude)	-		
Coordinates: Easting/Longitude		Northing/Latitude			
Habitat Description (plant communities, dominants, associa					
Undeveloped area at the western foothills to the San Ysid and ridge lines. Soils on site are almost entirely of San M through the area in the late 1990's. Vegetation is still in r species. The Coastal Whiptails were observed in the Die California sagebrush, lemonadeberry, California buckwho	Aiguel-Exchequ ecovery phase egan Coastal Sa	er rocky silt loam. The site was burn with small shrubs and sparse to mode ge Scrub habitat on site. Dominant	ned during a fire that swept erate cover by perennial		
Other rare taxa seen at THIS site on THIS date:		03/08/2003 and 05/24/2003 Western cularia) were also observed.	Burrowing Owls		
Site Information Overall site quality:		Good □Fair	Poor		
Current / surrounding land use: Site is undeveloped open space, West and South to the United St	crisscrossed with d tates border is agric	lirt roads. To the North and East of the site is ulture fields.	undeveloped open space. To the		
Visible disturbances: Dirt roads					
Threats: Proposed establishment of a construction aggregates extraction	on operation operat	ion and associated end-products.	•		
Comments: PLEASE SEE ATTACHED TABLE FOR COMPLETE	LIST OF DATES (DBSERVED AND BIOLOGISTS REPORTIN	NG THEIR OBSERVATIONS.		
Determination ()		Photographs: (check on	ne or more) Slide Print Digital		

Habitat Diagnostic feature May we obtain duplicates

yes

Plant / animal

at our expense?

California Natural Diversity Database Department of Fish and Game	6	For Office Use Only	
1807 13 th Street, Suite 202 Sacramento, CA 95814		Quad Code	
Fax: (916) 324-0475 email: WHDAB@dfg.ca.gov		Occ. No	
Date of Field Work mm/dd/yyyy:	EO Index No	Map Index No.	
Reset California Native	e Species Fiel	d Survey Form	Send Form
Scientific Name: Aquila chrysaetos			
Common Name: Golden Eagle			
Species Found?		Heather Haney of HELIX Environments: 8100 La Mesa Blvd., Suite 150	
Total No. Individuals 3 Subsequent Visit? ☑ yes	□no	La Mesa, CA 91941-6476	
Is this an existing NDDB occurrence?	□ unk. E-mail	Address: heatherh@helixepi.com	
Collection? If yes: Museum / Herbarium	Phone	: (619) 462-1515	<u>-</u>
Plant Information Anin	nal Information		
Phonology: W W W	3		
vegetative flowering fruiting		s # larvae # egg masses	# unknown
I I		burrow site rookery nesting	other
Location Description (please attach map AND	<u> </u>	r choice of coordinates, be	∍low)
C. (Can Diago			
County: San Diego Quad Name: Otay Mesa	Landowner / Mg	gr.: Elevation:	
T 18 S R 1E Sec , ¼ of ¼, Meridian: F	I□ M□ S□ Source		
TR sec, ¼ of ¼, Meridian: I		Make & Model	
Datum: NAD27 NAD83 WGS8 Coordinate System: UTM Zone 10 UTM Zone 11 ₽		ntal Accuracyhic (Latitude & Longitude) □	meters/feet
Coordinates: Easting/Longitude		/Latitude	
Habitat Description (plant communities, dominants, associate			
Undeveloped area at the western foothills to the San Ysidro and ridge lines. Soils on site are almost entirely of San Mig through the area in the late 1990's. Vegetation is still in rec species. A single Golden Eagle was seen flying overhead	Mountains. The site h guel-Exchequer rocky s covery phase with small	nas a diverse topography consisting of silt loam. The site was burned during a shrubs and sparse to moderate cover	g a fire that swept or by perennial
Other rare taxa seen at THIS site on THIS date: On 04 Burrowing Owl and Mule Deer were	1/10/2003 a San Diego also observed.	Horned Lizard was observed and 5/2	25/2004 a
Site Information Overall site quality:	☑ Good		Poor
Current / surrounding land use: Site is undeveloped open space, or West and South to the United State	isscrossed with dirt roads. To	o the North and East of the site is undevelope	d open space. To the
Visible disturbances: Dirt roads			
Threats: Proposed establishment of a construction aggregates extraction	operation operation and asso	ciated end-products.	
Comments: PLEASE SEE ATTACHED TABLE FOR COMPLETE LIS	ST OF DATES OBSERVED	AND BIOLOGISTS REPORTING THEIR (OBSERVATIONS.
Determination: (check one or more, and fill in blanks)	<u>.</u>	Photographs: (check one or more)	Slide Print Digital
☐ Keyed (cite reference):		Plant / animal Habitat	
Compared with specimen housed at: Compared with photo / drawing in:	+1	Diagnostic feature	
Compared with photo / drawing in: By another person (name): Sally Trnka and Fred Sproul Other:		May we obtain duplicates	□ves □no

FG/WHDAB/1747 Rev.10/20/03

☐yes ☐no

May we obtain duplicates at our expense?

Mail to: California Natural Diversity Database Department of Fish and Game

F	For Office Use Only
Source Code	Quad Code
Elm Code	Occ. No
EO Index No.	Map Index No
	· · · · · · · · · · · · · · · · · · ·

at our expense?

1807 13 ^m Street, Suite 202	.	000,00								
Sacramento, CA 95814 Fax: (916) 324-0475 email: WHDAB@dfg.ca.gov		Elm Code			Occ.	No				
		EO Index No			Map Index No					
Date of Field Work mm/dd/yyyy:	(
Reset California N	lative	Speci	es Field	t	Surve	ey Form		Seno	dF⊙rm	
Scientific Name: Ammodramus savann	arum									
Common Name: Grasshopper Sparrow										
Species Found?			Reporte	ЭГ:	Heathe	er Haney of H	IELIX Envi	ronmen	tal Plannir	
	·		Address	s:	8100 I	La Mesa Blvd	., Suite 150			
Total No. Individuals 7 Subsequent Visit?	☑ yes ☑ no	□ no □ unk.				esa, CA 9194				
Is this an existing NDDB occurrence? Yes, Occ. #	E 110	□ unk.	E-mail A	Ad	dress: _	heatherh@he	lixepi.com			
Collection? If yes: Mumber Museum / H	lerbarium	<u> </u>	Phone:		(619) 46	2-1515		_		
Plant Information	Anima	l Informa	tion				-			
1		7								
Phenology: % % % flowering fruiting %	# ac	lults	# juveniles	5	#	larvae	# egg masses	3 ,	# unknown	
·	breed	•	intering t	hu	Tow site	rookery	nesting		other	
Location Description (please attach map	AND	<u>UK</u> IIII (out your	C	noice	oi coorai	riates, D	elow)		
County: San Diego		Land	downer / Mg	r.:			•			
Quad Name: Otay Mesa		_					/ation:			
T_18 S R 1E Sec 29 , 1/4 of 1/4, Me	ridian: H ⊑	M S	Source	of	f Coordir	nates (GPS, t	opo. map &	type): <u>I</u>	JSGS map	
T 18 S R 1 E Sec 32 , 14 of 14, Mer	ridian: H ⊏	M□ S□	GPS M	lak	e & Mod	lel				
Datum: NAD27 NAD83	WGS84		Horizor	nta	ıl Accura	су			_ meters/feet	
Coordinate System: UTM Zone 10 UTM Zo	one 11 🔲	OR	Geograph	nic	(Latitud	e & Longitude	e) 🗆			
Coordinates: Easting/Longitude			Northing/l	La	titude					
Habitat Description (plant communities, dominants, a	associates,	substrates	/soils, aspects	s/s	lope):					
Undeveloped area at the western foothills to the San and ridge lines. Soils on site are almost entirely of Sthrough the area in the late 1990's. Vegetation is sti species. Grasshopper Sparrows were observed in the observations may have been the same individuals. Other rare taxa seen at THIS site on THIS dates pellets), Mountain Lion track.	San Migu Ill in recorne Diegar Only the Corner on Only	el-Exchequery phase n Coastal Sobservation (13/2000 1	uer rocky si with small Sage Scrub ans thought to Horned Lar	ilt sh and to l	loam. Turbs and the near the separate	The site was but sparse to most by Non-Nata individual as-crowned S	urned during oderate coverive Grasslands s are record	g a fire er by pends. Son the	that swept rennial ne of the he map.	
* //	<u> </u>	-								
Site Information Overall site quality: Exc			Good	s th	e North ar	Fair	is undevelope	Pool		
Current / surrounding land use: Site is undeveloped open West and South to the Un	nited States	border is agr	iculture fields.	J (11	C INOIGH an	tu Last of the site	is undevelope	a open sp	acc. To the	
Visible disturbances: Dirt roads										
Threats: Proposed establishment of a construction aggregates ex	xtraction op	eration oper	ation and assoc	ciat	ed end-pro	oducts.				
Comments: PLEASE SEE ATTACHED TABLE FOR COMP	LETE LIST	OF DATES	OBSERVED .	Αľ	ND BIOLO	GISTS REPOR	TING THEIR	OBSERV	'ATIONS.	
Determination: (check one or more, and fill in blanks) ☐ Keyed (cite reference): ☐ Compared with specimen housed at: ☐ Compared with photo / drawing in: ☐ By another person (name): Debbie Leonard, Peter		Sally Trnka			Pla Ha Dia	graphs: (check ant / animal bitat agnostic feature	•	Slide	Print Digital	
Other:					, ,	obtain duplicat	5 3	□ves	□no	

yes

California Natural Diversity Database

California Natural Diversity Database	·	For Office Use Only	
Department of Fish and Game 1807 13 th Street, Suite 202	Source Code	Quad Code	
Sacramento, CA 95814 Fax: (916) 324-0475 email: WHDAB@dfg.ca.gov	Elm Code	Occ. No	
	EO Index No	Map Index No.	
Date of Field Work mm/dd/yyyy:			
Reset California Native	Species Field	Survey Form	Send Form
Scientific Name: Eremophila alpestris actia			And the second s
Common Name: California Horned Lark			
Species Found?		er: Heather Haney of HELIX Envi	
Total No. Individuals6 Subsequent Visit? ☑ yes		s: 8100 La Mesa Blvd., Suite 150 La Mesa, CA 91941-6476	<u> </u>
Is this an existing NDDB occurrence? □ no	Zlunk	Address: heatherh@helixepi.com	
Collection? If yes:	1 1	(619) 462-1515	
Number Museum / Herbarium			-
Plant Information Anim	al Information		
Phenology: % % flowering % fruiting # a	6 # juveniles	# larvae # egg masse:	s # unknown
vegetative flowering fruiting			
		purrow site rookery nesting	other
Location Description (please attach map AND	/ <u>OR</u> fill out your	choice of coordinates, b	elow)
County: San Diego	Landowner / Mgi	r.:	
Quad Name: Otay Mesa		Elevation:	
T 18 S R 1E Sec 29 , ¼ of ¼, Meridian: H		of Coordinates (GPS, topo. map &	
T 18 S R 1 E Sec 32 , 4 of 4, Meridian: HI		ake & Model	
Datum: NAD27 NAD83 WGS8- Coordinate System: UTM Zone 10 UTM Zone 11 □		ntal Accuracy nic (Latitude & Longitude) □	meters/leet
Coordinates: Easting/Longitude	-	Latitude & Longitude)	
Habitat Description (plant communities, dominants, associates			
Undeveloped area at the western foothills to the San Ysidro and ridge lines. Soils on site are almost entirely of San Mig through the area in the late 1990's. Vegetation is still in recesspecies. The California Horned Larks were all observed in may have been the same individuals. Only the observations Other rare taxa seen at THIS site on THIS date: On 06 Sparrow, 1 Barn Owl (and owl pellet)	Mountains. The site hauel-Exchequer rocky since yeary phase with small the Diegan Coastal Sathought to be separate in 13/2000 1 Southern Ca	as a diverse topography consisting of It loam. The site was burned durin shrubs and sparse to moderate cover ge Scrub habitat on site. Some of to individuals are recorded on the map alifornia Rufous-crowned Sparrow,	g a fire that swept er by perennial he observations o. 1 Grasshopper
Site Information Overall site quality:	☑ Good	□Fair	Poor
Current / surrounding land use: Site is undeveloped open space, cris West and South to the United States	sscrossed with dirt roads. To	the North and East of the site is undeveloped	ed open space. To the
Visible disturbances: Dirt roads			
Threats: Proposed establishment of a construction aggregates extraction of	peration operation and assoc	iated end-products.	
Comments: PLEASE SEE ATTACHED TABLE FOR COMPLETE LIS			OBSERVATIONS.
Determination: (check one or more, and fill in blanks)		Photographs: (check one or more)	Slide Print Digital
Keyed (cite reference):		Plant / animal Habitat	
Compared with specimen housed at: Compared with photo / drawing in:		Diagnostic feature	
 ✓ By another person (name): Debbie Leonard, Peter Allen, Sal ✓ Other: Scott Tayler 	lly Trnka, and	May we obtain duplicates	_
		at our expense?	Dves Dno

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Mail to:

California Natural Diversity Database Department of Fish and Game	Source Code	For Office Use Only
1807 13 th Street, Suite 202 Sacramento, CA 95814		Quad Code
Fax: (916) 324-0475 email: WHDAB@dfg.ca.gov		Occ. No
Date of Field Work mm/dd/yyyy:	EO Index No	Map Index No
California Native	e Species Field	Survey Form
Scientific Name: Lanius Iudovisianus		
Common Name: Loggerhead Shrike		
Species Found?	Reporte	er: Heather Haney of HELIX Environmental Plannir
	1 1	s: 8100 La Mesa Blvd., Suite 150
Fotal No. Individuals 9 Subsequent Visit?	□unk □	La Mesa, CA 91941-6476
Yes, Occ. #	E-mail /	Address: heatherh@helixepi.com
Number Museum / Herbarium	Phone:	(619) 462-1515
Plant Information Anim	nal Information	
Phenology: % %	9 adults # juveniles	# larvae # egg masses # unknown
vegetative flowering fruiting		
		ourrow site rookery nesting other
Location Description (please attach map <u>AND</u>	<u>∀OR</u> fill out your	choice of coordinates, below)
	Landowner / Mg	r.:
Quad Name: Otay Mesa	ID MD SD Source	ef Coordinates (CDS, tone, man, 8, tone). USGS man
$\frac{185}{185}$ R $\frac{1}{16}$ Sec $\frac{25}{32}$, $\frac{1}{16}$ of $\frac{1}{16}$, Meridian: H		of Coordinates (GPS, topo. map & type): <u>USGS map</u> ake & Model
Datum: NAD27 NAD83 WGS84 Horizontal Accuracy mete		
Coordinate System: UTM Zone 10 UTM Zone 11 [
Coordinates: Easting/Longitude		_atitude
Habitat Description (plant communities, dominants, associate		
Undeveloped area at the western foothills to the San Ysidro and ridge lines. A fire swept through the area in the late 19 moderate cover by perennial species. Loggerhead Shrikes Native Grasslands. On 4/25/2000 a pair was seen flying tog observations may have been the same individuals. Only the	990's. Vegetation is still were observed in Diega gether, but all other obse	In recovery phase with small shrubs and sparse to an Coastal Sage Scrub, Chamise Chaparral, and Non- ervations are of single individuals. Some of the
Other rare taxa seen at THIS site on THIS date:		
Site Information Overall site quality:	☑ Good	☐ Fair ☐ Poor
Current / surrounding land use: Site is undeveloped open space, cri West and South to the United State	sscrossed with dirt roads. To s border is agriculture fields.	the North and East of the site is undeveloped open space. To the
Visible disturbances: Dirt roads		
Threats: Proposed establishment of a construction aggregates extraction	operation operation and assoc	iated end-products.
Comments: PLEASE SEE ATTACHED TABLE FOR COMPLETE LIS	ST OF DATES OBSERVED	AND BIOLOGISTS REPORTING THEIR OBSERVATIONS.
Determination: (check one or more, and fill in blanks) Keyed (cite reference): Compared with specimen housed at: Compared with photo / drawing in: By another person (name): Scott Tayler	eter Allen, and	Photographs: (check one or more) Slide Print Digital Plant / animal
		1

□no FG/WHDAB/1747 Rev.10/20/03

California Natural Diversity Database Department of Fish and Game 1807 13th Street, Suite 202 Sacramento, CA 95814 Fax: (916) 324-0475 email: WHDAB@dfg.ca.gov

F	or Office Use Only
Source Code	Quad Code
Elm Code	Occ. No
EO Index No.	Map Index No.

	EO Index No	Map Index No.	
Date of Field Work mm/dd/yyyy: 06/13/2000			
Rèset California Native	Species Field	Survey Form	Send Form
Scientific Name: Felis concolor			
Common Name: Mountain Lion			
Species Found? Yes No If not, why? Total No. Individuals 1 Subsequent Visit? yes Is this an existing NDDB occurrence? Yes, Occ. # Collection? If yes: Number Museum / Herbarium	☐ no ☐ unk. ☐ E-mail A	r: Heather Haney of HELIX Envi s: 8100 La Mesa Blvd., Suite 150 La Mesa, CA 91941-6476 Address: heatherh@helixepi.com (619) 462-1515)
Plant Information Anim	al Information		
vegetative flowering fruiting	adults # juveniles	# larvae # egg masse:	s # unknown other
Location Description (please attach map AND	<u>/OR</u> fill out your	choice of coordinates, b	elow)
County: San Diego Quad Name: Otay Mesa T_18 S R 1E Sec 29 ,	Source Source GPS Ma GPS Ma GPS Ma Geographi Northing/L S, substrates/soils, aspects,		type): <u>USGS map</u> meters/feet
and ridge lines. Soils on site are almost entirely of San Mighthrough the area in the late 1990's. Vegetation is still in recesspecies. The Mountain Lion tracks were observed in the Di California sagebrush, lemonadeberry, California buckwheat, Other rare taxa seen at THIS site on THIS date: 1 Ruff Barn Owl (and owl pellets), 1 Red-dia	uel-Exchequer rocky silovery phase with small silogan Coastal Sage Scrugand laurel sumac.	t loam. The site was burned during shrubs and sparse to moderate cove b habitat on site. Dominant plant I Grasshopper Sparrow, 1 Californ	g a fire that swept or by perennial species include ia Horned Lark, 1
Site Information Overall site quality:		the North and East of the site is undevelope	☐ Poor d open space. To the
Determination: (check one or more, and fill in blanks) ☐ Keyed (cite reference): ☐ Compared with specimen housed at: ☐ Compared with photo / drawing in: ☐ By another person (name): Debbie Leonard and Peter Allen ☐ Other:		Photographs: (check one or more) Plant / animal Habitat Diagnostic feature May we obtain duplicates at our expense?	Slide Print Digital

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Source Code	Quad Code
Elm Code	Occ. No
EO Index No	Map Index No

Date of Field Work mm/dd/yyyy: 05/25/2004	x No Map Index No		
California Native Specie	es Field Survey Form		
Scientific Name: Odocoileus hemionus fuliginata			
Common Name: Southern Mule Deer			
Species Found? Yes No If not, why? Total No. Individuals 1 Subsequent Visit? yes no Is this an existing NDDB occurrence? 7 no unk. Collection? If yes: Number Museum / Herbarium	Reporter: Heather Haney of HELIX Environmental Plannir Address: 8100 La Mesa Blvd., Suite 150 La Mesa, CA 91941-6476 E-mail Address: heatherh@helixepi.com Phone: (619) 462-1515		
	# juveniles # larvae # egg masses # unknown tering burrow site rookery nesting other		
County: San Diego Lando Quad Name: Otay Mesa T 18 S R 1E Sec 29 , 1/4 of 1/4, Meridian: H M S T R Sec , 1/4 of 1/4, Meridian: H M S Datum: NAD27 NAD83 WGS84 Coordinate System: UTM Zone 10 UTM Zone 11 OR Coordinates: Easting/Longitude	Source of Coordinates (GPS, topo. map & type): USGS map GPS Make & Model Horizontal Accuracy meters/feet Geographic (Latitude & Longitude) Northing/Latitude		
Habitat Description (plant communities, dominants, associates, substrates/soils, aspects/slope): Undeveloped area at the western foothills to the San Ysidro Mountains. The site has a diverse topography consisting of multiple canyons and ridge lines. Soils on site are almost entirely of San Miguel-Exchequer rocky silt loam. The site was burned during a fire that swept through the area in the late 1990's. Vegetation is still in recovery phase with small shrubs and sparse to moderate cover by perennial species. The Southern Mule Deer was observed in the Diegan Coastal Sage Scrub habitat on site. Dominant plant species include California sagebrush, lemonadeberry, California buckwheat, and laurel sumac. Other rare taxa seen at THIS site on THIS date:			
Site Information Overall site quality:			
Determination: (check one or more, and fill in blanks) ☐ Keyed (cite reference): Compared with specimen housed at: ☐ Compared with photo / drawing in: By another person (name): Sally Trnka, Fred Sproul, and Brian Parker ☐ Other: Other:	Photographs: (check one or more) Slide Print Digital Plant / animal Habitat Diagnostic feature May we obtain duplicates at our expense? yesno		

California Natural Diversity Database
Department of Fish and Game
1807 13th Street, Suite 202
Sacramento, CA 95814
Fax: (916) 324-0475 email: WHDAB@dfg.ca.gov

7 dx. (810) 324-0473	emaii. WhibAb@dig.ca.gov	_ EO Index No.
Date of Field Work mm	n/dd/yyyy:03/08/2003	
		-

. <i>F</i>	For Office Use Only	1
Source Code Quad Code		
Elm Code Occ. No		
EO Index No.	Map Index No	

Tax. (0.0) 024 0470 Chiai. Wi DAD@dig.oa.gov	EO Index	No	N	lap Index No.			<u> </u>
Date of Field Work mm/dd/yyyy: 03/08/2003							
California Nativ	e Species	Field	Survey Fo	rm	Send	Form	
Scientific Name: Circus cyaneus							
Common Name: Northern Harrier							
Species Found? Yes No If not, why? Total No. Individuals 3 Subsequent Visit? ✓ yes Is this an existing NDDB occurrence? Yes, Occ. # Collection? If yes: Number Museum / Herbarium	□ unk.	Address: E-mail Ad	Heather Haney 8100 La Mesa La Mesa, CA 9 Idress: heatherh (619) 462-1515	Blvd., Suite 150 1941-6476		tal Pla	nnir
Phenology: % % % %	nal Information 3 adults	# juveniles	# larvae	# egg masses		# unkno	own
	eding winter		Tow site rooker	ry nesting	(☑ other	
Location Description (please attach map ANE	D <u>/OR</u> fill ou	t your c	hoice of coo	ordinates, b	elow)		
County: San Diego	Landow	ner / Mgr.:					
Quad Name: Otay Mesa T_18 S R_1E Sec_29 , ¼ of ¼, Meridian: H		Source	Coordinates (GF	Elevation:	•		
T R _ Sec , ¼ of ¼, Meridian: H			e & Model				
Datum: NAD27 NAD83 WGS8			Accuracy				rs/feet
Coordinate System: UTM Zone 10 UTM Zone 11 [OR G		(Latitude & Longi			-	
Coordinates: Easting/Longitude	N	lorthing/La	titude				
Habitat Description (plant communities, dominants, associate	es, substrates/soil	s, aspects/s	lope):			·	
Undeveloped area at the western foothills to the San Ysidro Mountains. The site has a diverse topography consisting of multiple canyons and ridge lines. Soils on site are almost entirely of San Miguel-Exchequer rocky silt loam. The site was burned during a fire that swept through the area in the late 1990's. Vegetation is still in recovery phase with small shrubs and sparse to moderate cover by perennial species. A single Northern Harrier was observed multiple times in March and April of 2000. In 2003 a pair of Northern Harriers were observed in flight over the Diegan Coastal Sage Scrub habitat on site. Other rare taxa seen at THIS site on THIS date: 1 Coastal Whiptail (Cnemidophorus tigris stejnegeri) on 03/08/2003							
Site Information Overall site quality:							
Site Information Overall site quality: ☑ Excellent Current / surrounding land use: Site is undeveloped open space, or West and South to the United State	Go isscrossed with dirt		☐ Fair e North and East of th		☐ Poor d open sp		the
Visible disturbances: Dirt roads	es dorder is agricuit	ure neids.		ŧ			
Threats: Proposed establishment of a construction aggregates extraction	operation operation	and associate	ed end-products.				
Comments:			• • • • • • • • • • • • • • • • • • •				
Determination: (check one or more, and fill in blanks) ☐ Keyed (cite reference): ☐ Compared with specimen housed at: ☐ Compared with photo / drawing in: ☐ By another person (name): Greg Mason and Sally Tmka ☐ Other:			Photographs: (c Plant / animal Habitat Diagnostic fea May we obtain dup at our expense?	ature	Slide	Print	
					<u> </u>		-

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California Natural Diversity Database Department of Fish and Game	0	For Office Use Only	·
1807 13 th Street, Suite 202 Sacramento, CA 95814		Quad Cod	
Fax: (916) 324-0475 email: WHDAB@dfg.ca.gov	,	Occ. No	
Date of Field Work mm/dd/yyyy:	EO Index No	Map Index	(No
California Native	Species Field	Survey Form	Send Form
Scientific Name: Euphydryas editha quino			A property of the control of the con
Common Name: Quino Checkerspot Butterfly			The second secon
Species Found?	Reporte	r: Heather Haney of HELIX	Environmental Plannir
		: 8100 La Mesa Blvd., Suit	e 150
Total No. Individuals 28 Subsequent Visit? yes is this an existing NDDB occurrence?	Dunk	La Mesa, CA 91941-6470	
Yes, Occ. #	E-mail A	Address: heatherh@helixepi	com
Number Museum / Herbarium	Phone:	(619) 462-1515	
Plant Information Anim	nal Information		
Phenology: % %	28		
vegetative flowering fruiting	adults # juveniles		masses # unknown
I 1 =	eding wintering b		esting other
Location Description (please attach map AND	OR fill out your	choice of coordinate	s, below)
County: San Diego	Landowner / Mgr		
Quad Name: Otay Mesa		Elevation:	
T $\underline{18}$ R $\underline{1E}$ Sec $\underline{29}$, $\underline{}$ ¼ of $\underline{}$ ¼, Meridian: H		of Coordinates (GPS, topo. m	ap & type): USGS map
T 18S R 1E Sec 32 , 1/4 of 1/4, Meridian: H			
Datum: NAD27☐ NAD83☑ WGS84☐ Horizontal Accuracy meters/ Coordinate System: UTM Zone 10 ☐ UTM Zone 11 ☐ OR Geographic (Latitude & Longitude) ☐			meters/feet
Coordinates: Easting/Longitude Northing/Latitude			
Habitat Description (plant communities, dominants, associate		-	
Undeveloped area at the western foothills to the San Ysidro and ridge lines. Soils on site are almost entirely of San Mig through the area in the late 1990's. Vegetation is still in recespecies. Quino were observed on two hilltops, along two many	guel-Exchequer rocky sil overy phase with small s	t loam. The site was burned shrubs and sparse to moderate	during a fire that swept
Other rare taxa seen at THIS site on THIS date: PLE SEEN ON ALL DATES.	ASE SEE ATTACHED	TABLE FOR COMPLETE	LIST OF RARE TAXA
Site Information Overall site quality:	☑ Good	□Fair	Poor
Current / surrounding land use: Site is undeveloped open space, cri. West and South to the United State	sscrossed with dirt roads. To s border is agriculture fields.	the North and East of the site is unde	veloped open space. To the
Visible disturbances: Dirt roads			
Threats: Proposed establishment of a construction aggregates extraction of	operation operation and associ	ated end-products.	
Comments: PLEASE SEE ATTACHED TABLE FOR COMPLETE LIS	T OF DATES OBSERVED A	AND BIOLOGISTS REPORTING T	HEIR OBSERVATIONS.
Determination: (check one or more, and fill in blanks)		Photographs: (check one or	
☐ Keved (cite reference):		Plant / animal Habitat	
☐ Compared with specimen housed at: ☐ Compared with photo / drawing in: ☐ By another person (name): Sally Tmka, Ted Grantham, Am		Diagnostic feature	
 ✓ By another person (name): <u>Sally Tinka, Ted Grantham, Am</u> ✓ Other: <u>Roger Ditrick</u> 	y Bridgeman, and	May we obtain duplicates	□ □
		at our expense?	∏yes ∏no

no FG/WHDAB/1747 Rev.10/20/03

California Natural Diversity Database Department of Fish and Game	Source Code	For Office Use Only Quad Code		
1807 13 th Street, Suite 202 Sacramento, CA 95814		Occ. No		
Fax: (916) 324-0475 email: WHDAB@dfg.ca.gov				
Date of Field Work mm/dd/yyyy:	EO Index No	Map Index No.		
Reset California Nativa	Species Field	Send Form		
Scientific Name: Aimophila ruficeps canesce		1 Survey Form		
Common Name: Southern California Rufous-		W		
Species Found?	I I	er: _Heather Haney of HELIX Environmental Plannir		
Yes No If not, why?	Address	s: _8100 La Mesa Blvd., Suite 150		
Total No. Individuals 16 Subsequent Visit?		La Mesa, CA 91941-6476		
Is this an existing NDDB occurrence? Yes, Occ. #	☑ unk. E-mail A	Address: heatherh@helixepi.com		
Collection? If yes: Number Museum / Herbarium	Phone:	(619) 462-1515		
Plant Information Anima	al Information			
	16			
vegetative flowering fruiting # a	dults # juveniles			
breed		ourrow site rookery nesting other		
Location Description (please attach map AND	OR fill out your	choice of coordinates, below)		
County: San Diego	Landowner / Mgr			
Quad Name: Otay Mesa	Landowner / Mgr	Elevation:		
$T_{\underline{18S}}R \underline{1E}$ Sec $\underline{29}$, $\underline{\hspace{1cm}}$ % of $\underline{\hspace{1cm}}$ %, Meridian: HE	☐ M☐ S☐ Source	of Coordinates (GPS, topo. map & type): USGS map		
T 18 S R 1 E Sec 32 , 4 of 4 MC SC GPS Make & Model 4				
Datum: NAD27 NAD83 WGS84 Coordinate System: UTM Zone 10 UTM Zone 11 UTM Zone 1	_	tal Accuracy meters/feet ic (Latitude & Longitude) □		
Coordinates: Easting/Longitude		atitude		
Habitat Description (plant communities, dominants, associates,				
Undeveloped area at the western foothills to the San Ysidro I and ridge lines. Soils on site are almost entirely of San Miguthrough the area in the late 1990's. Vegetation is still in reco species. The Southern California Rufus-crowned Sparrows the observations may have been the same individuals. Only	Mountains. The site ha nel-Exchequer rocky sil- overy phase with small s were all observed in the	is a diverse topography consisting of multiple canyons at loam. The site was burned during a fire that swept shrubs and sparse to moderate cover by perennial e Diegan Coastal Sage Scrub habitat on site. Some of		
Other rare taxa seen at THIS site on THIS date: On 06/1 pellets), Mountain Lion tracks, and 2 S	3/2000 1 Horned Lark San Diego Black-tailed	, 1 Grasshopper Sparrow, 1 Barn Owl (and owl Jackrabbits		
Site Information Overall site quality: ☐ Excellent	☑ Good	☐ Fair ☐ Poor		
Current / surrounding land use: Site is undeveloped open space, criss West and South to the United States	scrossed with dirt roads. To the border is agriculture fields.	the North and East of the site is undeveloped open space. To the		
Visible disturbances: Dirt roads				
Threats: Proposed establishment of a construction aggregates extraction or	peration operation and associ-	ated end-products.		
Comments: PLEASE SEE ATTACHED TABLE FOR COMPLETE LIST	OF DATES OBSERVED A	AND BIOLOGISTS REPORTING THEIR OBSERVATIONS.		
Determination: (check one or more, and fill in blanks)		Photographs: (check one or more) Slide Print Digital Plant / animal		
☐ Keyed (cite reference): ☐ Compared with specimen housed at:		Habitat 🔲 🗎		
 ☐ Keyed (cite reference): ☐ Compared with specimen housed at: ☐ Compared with photo / drawing in: ☐ By another person (name): <u>Debbie Leonard, Peter Allen, Scot</u> 	tt Taylor, Sally Tmka			
Other: Fred Sproul, and Bria	an Parker	May we obtain duplicates at our expense?		

yes no FG/WHDAB/1747 Rev.10/20/03

Mail to: California Natural Diversity Database Department of Fish and Game 1807 13th Street, Suite 202 Sacramento, CA 95814

	For Office Use Only
Source Code	Quad Code
Elm Code	Occ. No
EO Index No.	Map Index No

Fax: (916) 324-0475 email: WHDAB@dfg.ca.gov	Elm Code	Occ. No	
	EO Index No	Map Index No.	
Date of Field Work mm/dd/yyyy: California Native	Species Field	d Survey Form	Siene Form
Scientific Name: Crotalus ruber			
Common Name: Red-diamond Rattlesnake			
Species Found? Yes No If not, why? Total No. Individuals 4 Subsequent Visit? yes Is this an existing NDDB occurrence?	☐ no ☐ unk. ☐ E-mail A	er: Heather Haney of HELIX Environces: 8100 La Mesa Blvd., Suite 150 La Mesa, CA 91941-6476 Address: heatherh@helixepi.com (619) 462-1515	onmental Plannir
Plant Information Anima	al Information		
Phenology: % % % % #ar wegetative flowering fruiting breed	- -	s # larvae # egg masses	# unknown other
Location Description (please attach map AND)	<u>OR</u> fill out your	choice of coordinates, be	low)
County: San Diego Quad Name: Otay Mesa T_18SR_1E Sec _32 ,	Source MSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSS	as a diverse topography consisting of ilt loam. The site was burned during shrubs and sparse to moderate cover in Coastal Sage Scrub habitat on site.	meters/feet multiple canyons a fire that swept by perennial Some of the
Other rare taxa seen at THIS site on THIS date: On 06/1 Horned Lark, 1 Barn Owl (and owl pe	13/2000, 1 Rufous-cro	wned Sparrow, 1 Grasshopper Sparro	ow, 1 California
Site Information Overall site quality: Excellent Current / surrounding land use: Site is undeveloped open space, criss West and South to the United States Visible disturbances: Dirt roads Threats: Proposed establishment of a construction aggregates extraction of Comments: PLEASE SEE ATTACHED TABLE FOR COMPLETE LIST	peration operation and assoc	the North and East of the site is undeveloped	
Determination: (check one or more, and fill in blanks) ☐ Keyed (cite reference): ☐ Compared with specimen housed at: ☐ Compared with photo / drawing in: ☐ By another person (name): Sally Trnka and Peter Allen ☐ Other:		Plant / animal Habitat Diagnostic feature May we obtain duplicates	Slide Print Digital

California Natural Diversity Database Department of Fish and Game	Source Code	For Office Use Only	
1807 13 th Street, Suite 202 Sacramento, CA 95814		Quad Code Occ. No	
Fax: (916) 324-0475 email: WHDAB@dfg.ca.gov		Map Index No.	
Date of Field Work mm/dd/yyyy:	Lo index No.	wap mdex No.	
California Native	e Species Field	Survey Form	Sand Form
Scientific Name: Amphispiza belli			
Common Name: Bell's Sage Sparrow		Basic Mexicons State Control of the	
Species Found? Yes No If not, why? Total No. Individuals 3 Subsequent Visit? yes Is this an existing NDDB occurrence? Collection? If yes: Number Museum / Herbanum	Address unk. E-mail A	Heather Haney of HELIX Envi 8: 8100 La Mesa Blvd., Suite 150 La Mesa, CA 91941-6476 Address: heatherh@helixepi.com (619) 462-1515	
Plant Information Anim	nal Information		
vegetative flowering fruiting	3 # juveniles	# larvae # egg masses	s # unknown
Location Description (please attach map AND	·	·	
County: San Diego Quad Name: Otay Mesa T 18 S R 1E Sec 29 , 1/4 of 1/4, Meridian: H T R Sec , 1/4 of 1/4, Meridian: H Datum: NAD27 NAD83 WGS8 Coordinate System: UTM Zone 10 UTM Zone 11 [Coordinates: Easting/Longitude	H□ M□ S□ Source H□ M□ S□ GPS Ma 34 □ Horizon □ OR Geographi □ Northing/L	Elevation: of Coordinates (GPS, topo. map & ake & Model tal Accuracy ic (Latitude & Longitude) □ atitude	type): USGS map
Habitat Description (plant communities, dominants, associate	•	• •	
Undeveloped area at the western foothills to the San Ysidro and ridge lines. Soils on site are almost entirely of San Mig through the area in the late 1990's. Vegetation is still in rec species. The Bell's Sage Sparrows were observed in the Dic California sagebrush, lemonadeberry, California buckwheat Other rare taxa seen at THIS site on THIS date: 1 Lo	guel-Exchequer rocky sill overy phase with small segan Coastal Sage Scrub t, and laurel sumac.	t loam. The site was burned during shrubs and sparse to moderate cover	g a fire that swept or by perennial pecies include
Site Information Overall site quality:	☑ Good		Poor
Current / surrounding land use: Site is undeveloped open space, cri West and South to the United State	sscrossed with dirt roads. To t s border is agriculture fields.	the North and East of the site is undevelope	d open space. To the
Visible disturbances: Dirt roads			
Threats: Proposed establishment of a construction aggregates extraction of Comments:	operation operation and associa	ated end-products.	
	· · · · · · · · · · · · · · · · · · ·	T	
Determination: (check one or more, and fill in blanks) ☐ Keyed (cite reference): ☐ Compared with specimen housed at: ☐ Compared with photo / drawing in: ☐ By another person (name): Scott Taylor, Debbie Leonard, P. ☐ Other: ☐ Other:	eter Allen	Photographs: (check one or more) Plant / animal Habitat Diagnostic feature May we obtain duplicates	Slide Print Digital

□no FG/WHDAB/1747 Rev.10/20/03

yes

May we obtain duplicates at our expense?

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Sacramento, CA 95814

- 1		For Office Use Only
	Source Code	Quad Code
	Elm Code	Occ. No
-	EO Index No	Map Index No

Fax: (916) 324-0475 email: WHDAB@dfg.ca.gov			
Date of Field Work mm/dd/yyyy:	EO Index No	Map Index No	
Reset California Native	e Species Field	d Survey Form	Send Form
Scientific Name: Lepus californicus bennett			
Common Name: San Diego Black-tailed Jack			
Species Found?	□ no □ unk. E-mail A	Heather Haney of HELIX Env s: 8100 La Mesa Blvd., Suite 150 La Mesa, CA 91941-6476 Address: heatherh@helixepi.com (619) 462-1515	0
Plant Information Anim	nal Information		
vegetative flowering fruiting	20 adults # juveniles deling wintering to	# larvae # egg masse	es #unknown other
Location Description (please attach map AND	<u>/OR</u> fill out your	choice of coordinates, b	elow)
County: San Diego Quad Name: Otay Mesa T_18S R 1E Sec 29 , 1/4 of 1/4, Meridian: H T_18S R 1E Sec 32 , 1/4 of 1/4, Meridian: H Datum: NAD27 NAD83 WGS8 Coordinate System: UTM Zone 10 UTM Zone 11 [Coordinates: Easting/Longitude	Source GPS M Horizon	ake & Model ital Accuracy ic (Latitude & Longitude) 🏻	type): USGS map
Habitat Description (plant communities, dominants, associate		• •	
Undeveloped area at the western foothills to the San Ysidro and ridge lines. The site was burned during a fire that swep small shrubs and sparse to moderate cover by perennial specage Scrub and Non-Native Grasslands. Some of the obser to be separate individuals are recorded on the map. Other rare taxa seen at THIS site on THIS date:	t through the area in the cies. San Diego Black-	e late 1990's. Vegetation is still in tailed Jackrabbits were observed in	recovery phase with n Diegan Coastal
Site Information Overall site quality: Excellent	☑ Good	☐ Fair	Poor
Current / surrounding land use: Site is undeveloped open space, cri West and South to the United State	sscrossed with dirt roads. To s border is agriculture fields.	the North and East of the site is undevelop	ed open space. To the
Visible disturbances: Dirt roads			•
Threats: Proposed establishment of a construction aggregates extraction of	operation operation and associ	iated end-products.	
Comments: PLEASE SEE ATTACHED TABLE FOR COMPLETE LIS	ST OF DATES OBSERVED A	AND BIOLOGISTS REPORTING THEIR	OBSERVATIONS.
Determination: (check one or more, and fill in blanks) ☐ Keyed (cite reference): Compared with specimen housed at: ☐ Compared with photo / drawing in: By another person (name): ☐ By another person (name): Sally Trnka, Scott Taylor, Debbing Ted Grantham, Fred Sproul, and Ted Grantham.	ie Leonard, Peter Allen, d Brian Parker	Photographs: (check one or more) Plant / animal Habitat Diagnostic feature May we obtain duplicates at our expense?	Slide Print Digital

California Natural Diversity Database

California Natural Diversity Database Department of Fish and Game	Source Code	For Office Use On				
1807 13 th Street, Suite 202 Sacramento, CA 95814	H '	Occ. No				
Fax: (916) 324-0475 email: WHDAB@dfg.ca.gov		Map Index No.				
Date of Field Work mm/dd/yyyy:	LO Index No	wap m	uex No			
Reset California Nativ	e Species Fiel	d Survey Form	Sen	d Homm		
Scientific Name: Phrynosoma coronatum b	Commence and the second second second					
Common Name: San Diego Horned Lizard			The second secon			
Species Found?		ter: Heather Haney of HE ss: 8100 La Mesa Blvd.,		ntal Plannir_		
Total No. Individuals3 Subsequent Visit? ☑ yes		La Mesa, CA 91941-0				
s this an existing NDDB occurrence? no	☑ unk. E-mail	Address: heatherh@helix				
Collection? If yes: Museum / Herbarium	phana	: (619) 462-1515				
	mal Information 3					
Phenology: %		es # larvae #	egg masses	# unknown		
	eding wintering	burrow site rookery				
Location Description (please attach map ANE			nesting	other		
-season seconpaion (proude attach map <u>ANE</u>	<u>» On</u> IIII Out you!	choice of coolumn	ites, below	,		
0 B		•				
County: San Diego Quad Name: Otay Mesa	Landowner / Mo					
T 18 S R 1E Sec 29 , 4 of 4, Meridian: I	HD MD SD Source	e of Coordinates (GPS, topo	ion:	USGS map		
ΓR Sec , ¼ of ¼, Meridian: I		Make & Model				
Datum: NAD27☐ NAD83☑ WGS8	34 ☐ Horizo	ntal Accuracy				
Coordinate System: UTM Zone 10 UTM Zone 11 [• • •				
Coordinates: Easting/Longitude		/Latitude	<u> </u>	<u> </u>		
Habitat Description (plant communities, dominants, associate						
Undeveloped area at the western foothills to the San Ysidro and ridge lines. Soils on site are almost entirely of San Mig through the area in the late 1990's. Vegetation is still in rec species. San Diego Horned Lizards were observed in Diego Lizard was found dead on a dirt road and is not recorded in	guel-Exchequer rocky s covery phase with smal gan Coastal Sage Scrub	ilt loam. The site was burn I shrubs and sparse to mod	ned during a fire erate cover by p	that swept perennial		
Other rare taxa seen at THIS site on THIS date:						
Site Information Overall site quality: Excellent	Good	Fair	Pod			
Current / surrounding land use: Site is undeveloped open space, or West and South to the United State	s border is agriculture fields	o the North and East of the site is	indeveloped open s	pace. To the		
Visible disturbances: Dirt roads						
Threats: Proposed establishment of a construction aggregates extraction	operation operation and asso	ciated end-products.				
Comments:						
Determination: (check one or more, and fill in blanks) Keyed (cite reference): Compared with specimen housed at: Compared with photo / drawing in: By another person (name): Sally Trnka, Scott Taylor, and T	ed Grantham	Photographs: (check one Plant / animal Habitat Diagnostic feature May we obtain duplicates	e or more) Slide	Print Digital		

no FG/WHDAB/1747 Rev.10/20/03

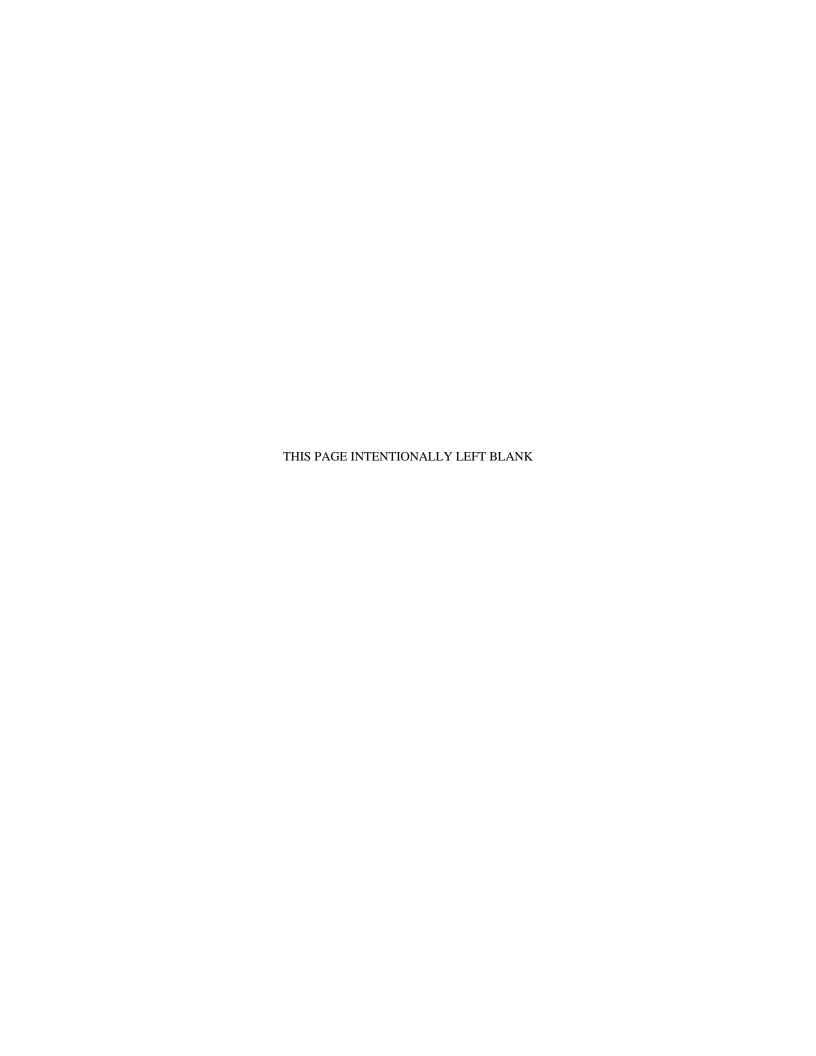
☐ yes

at our expense?

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Sacramento, CA 95814
Fax: (916) 324-0475 email: WHDAB@dfg.ca.gov

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Date of Field Work mm/dd/yyyy: 04/16/2000						
Reset in California Nati	ive Species	Field	Survey Form	Se	nd Form:	1
Scientific Name: Accipiter striatus				Addition of the second of the		
Common Name: Sharp-shinned Hawk		Turkeyar Sa				
Species Found? Yes No If not, why? Total No. Individuals 1 Subsequent Visit? Yes, Occ. # Collection? If yes: Number Museum / Herbari	no 🗆 unk.	Address: E-mail Ad	Heather Haney of H 8100 La Mesa Blvd La Mesa, CA 91941 Idress: heatherh@he (619) 462-1515	., Suite 150 1-6476	nental Plannii	
Plant Information Ar	nimal Information	7				
Phenology: % % % flowering fruiting	# adults breeding winte		# larvae	# egg masses nesting	# unknown V other	_
Location Description (please attach map Al	ND/OR fill ou	t your c	hoice of coordi	nates, belo	w)	
County: San Diego	Landov	ner / Mgr.:				
Quad Name: Otay Mesa			=	ation:		
T_18 S R 1E Sec , 1/4 of 1/4, Meridian			f Coordinates (GPS, to			
T R Sec , ¼ of ¼, Meridian			ce & Model			
Datum: NAD27 NAD83 WG			A Accuracy		meters/fe	eet
Coordinate System: UTM Zone 10 UTM Zone 1 Coordinates: Easting/Longitude			: (Latitude & Longitude	-		
Habitat Description (plant communities, dominants, associ	'		titude		·····	=-
Undeveloped area at the western foothills to the San Ysic and ridge lines. Soils on site are almost entirely of San M through the area in the late 1990's. Vegetation is still in species.	dro Mountains. T Miguel-Excheque	he site has rocky silt	a diverse topography loam. The site was bu	irned during a f	ire that swept	
Other rare taxa seen at THIS site on THIS date:						
Site Information Overall site quality:	t 🕜 G	ood	∏Fair	□P	oor	
Current / surrounding land use: Site is undeveloped open space. West and South to the United S	, crisscrossed with dir	t roads. To th	e North and East of the site	is undeveloped ope	n space. To the	
Visible disturbances: Dirt roads	varies border is acried	iure meias.				
Threats: Proposed establishment of a construction aggregates extracti	ion operation operation	n and associat	ted end-products.			
Comments:			-			
Determination: (check one or more, and fill in blanks) ☐ Keyed (cite reference): ☐ Compared with specimen housed at: ☐ Compared with photo / drawing in: ☐ ☐ By another person (name): Sally Trnka ☐ Other: ☐			Photographs: (check Plant / animal Habitat Diagnostic feature May we obtain duplicate]
			at our expense?	<u></u> }	∕es ∐no	



Appendix I

Species	Sensitivity Codes and Status*	Habitat Preference/ Requirements	Verified on Site	Potential to Occur on Site	Factual Basis for Determination of Occurrence Potential
San Diego thorn-mint (Acanthomintha ilicifolia)	FT/SE CNPS RPR 1B.1 County List A MSCP Narrow Endemic (NE)	Ranges form San Diego County to Baja California, Mexico (Baja). Prefers heavy clay soils near vernal pools, in grasslands, and in chaparral and coastal sage scrub.	No	Very low	No vernal pools found on site, but suitable soils are present.
San Diego needlegrass (Achnatherum diegoense)	/ CNPS RPR 4.2 County List D	Ranges from south San Diego County into northern Baja. Found along vernal streams and on clay slopes within chaparral and coastal sage scrub.	Yes	Observed	
California adolphia (Adolphia californica)	/ CNPS RPR 2.1 County List B	Found in coastal San Diego County south to Baja. Generally occurs in coastal sage scrub but also found in chaparral.	No	Low	Shrub that would have been observed if present.
Shaw's agave (Agave shawii)	/ CNPS RPR 2.1 County List B MSCP NE	Found in San Diego County and Baja. Occurs in coastal sage scrub and maritime succulent scrub, often on volcanic soils.	No	Low	Site may be too far inland for species.
San Diego bur-sage (Ambrosia chenopodiifolia)	/ CNPS RPR 2.1 County List B	Found in southern San Diego County south into Baja. Found in low, open coastal sage scrub.	No	Low	Shrub known from several sites in Otay Mesa; would have been observed if present.
San Diego ambrosia (Ambrosia pumila)	FE/ CNPS RPR 1B.1 County List A MSCP NE	Ranges from coastal San Diego County, western Riverside County, and Baja. Occurs along riparian scrub, or open riparian forest.	No	Low	Riparian habitat on site extremely limited.
Otay manzanita (Arctostaphylos otayensis)	/ CNPS RPR 1B.2 CA Endemic County List A MSCP Covered	Occurs in San Diego County. Grows in chaparral on metavolcanic peaks. On San Miguel and Otay Mountain, soil is mapped as San Miguel-Exchequer rocky silt loam. Typically, the xeric chaparral is a dense tangle of shrubs with a height of perhaps 5 to 6 feet.	No	Low	Populations found on adjacent parcels. Shrub that would have been observed if present.

Species	Sensitivity Codes and Status*	Habitat Preference/ Requirements	Verified on Site	Potential to Occur on Site	Factual Basis for Determination of Occurrence Potential
Golden-spined cereus (Bergerocactus emoryi)	/ CNPS RPR 2.2 County List B	Found on San Clemente and Santa Catalina islands and in southern San Diego County. Maritime succulent scrub is primary habitat of this coastal cactus. Moist ocean breezes may be key to habitat requirements. In Baja, this is sometimes a dominant shrub of ocean-facing slopes overlooking the coastal strand. <i>Euphorbia misera</i> and <i>Agave shawii</i> may be plant associates.	No	Low	Known from the vicinity of the site; would have been observed if present.
Orcutt's brodiaea (Brodiaea orcuttii)	/ CNPS RPR 1B.1 County List A	Found in Riverside, San Bernardino, Orange, and San Diego counties and Baja. Vernally moist grasslands, mima-mound topography, and the periphery of vernal pools are all preferred habitat for this corm.	No	Low	Known from the vicinity of the site; however, no vernal pools or mima-mound topography occur on site. Never observed on site.
Dunn's mariposa lily (Calochortus dunnii)	/SR CNPS RPR 1B.2 County List A County MSCP NE	Found in San Diego County and Baja. Rocky openings in chaparral or grassland/chaparral ecotone are preferred habitat of this species, which seems restricted to metavolcanic- and gabbroic-derived soils.	Yes	Observed	
Wart-stemmed ceanothus (Ceanothus verrucosus)	/ CNPS RPR 2.2 County List B MSCP Covered	Found in San Diego County and Baja. Occurs largely in coastal chaparral communities.	No	Low	Would have been observed if present.
Summer holly (Comarostaphylis diversifolia ssp. diversifolia)	/ CNPS RPR 1B.2 County List A	Found in San Diego, Riverside, and Orange counties and Baja. Southern mixed chaparral (usually on mesic north-facing slopes) is preferred habitat.	Yes	Observed	
Orcutt's bird's beak (Cordylanthus orcuttianus)	/ CNPS RPR 2.1 County List B MSCP Covered	Found in seasonal drainages, riparian areas, and often in adjacent upland scrub habitats.	Yes	Observed	
Tecate cypress (Hesperocyparis [Cupressus] forbesii)	/ CNPS RPR 1B.1 County List A MSCP Covered	Found from southern San Diego County south to Baja. Occurs in chaparral along foothills or in canyons and valleys along drainages or on north-facing slopes.	Yes	Observed	

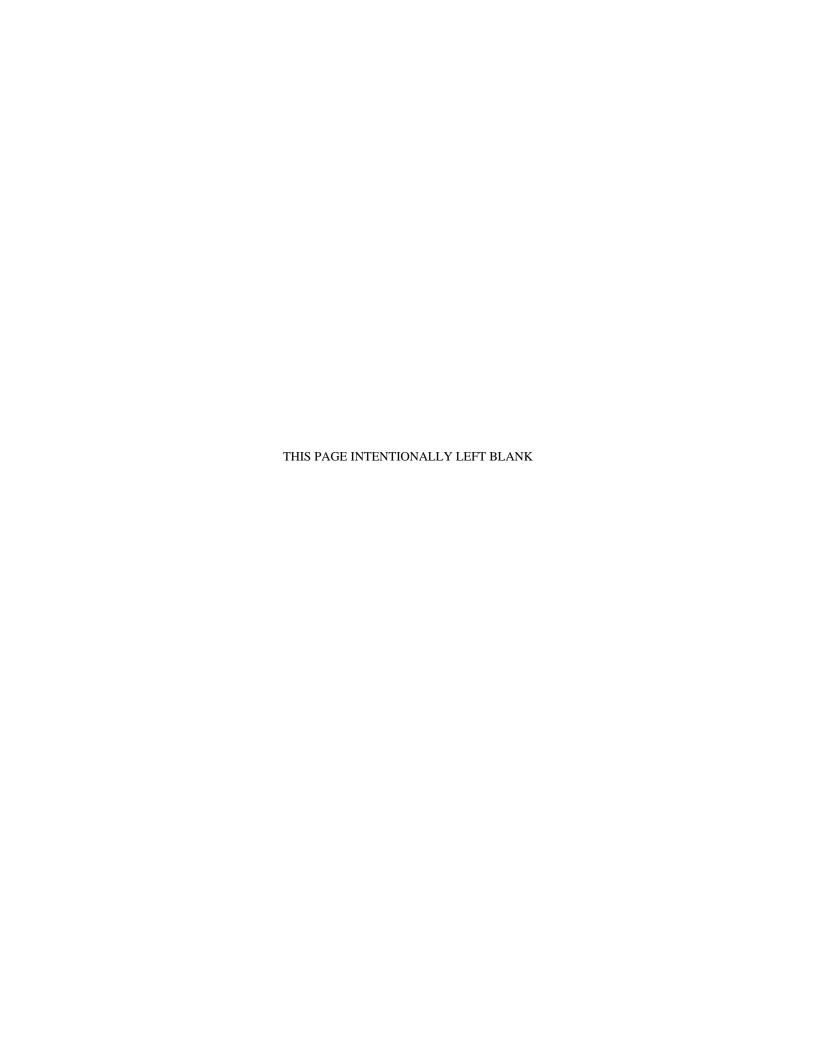
Species	Sensitivity Codes and Status*	Habitat Preference/ Requirements	Verified on Site	Potential to Occur on Site	Factual Basis for Determination of Occurrence Potential
Snake cholla (Cylindropuntia californica var. californica)	/ CNPS RPR 1B.1 County List A MSCP NE	Occurs in chaparral and coastal sage scrub from Point Loma south to Chula Vista and Baja.	No	Low to moderate	Would likely have been observed if present.
Otay tarplant (Deinandra conjugens)	FT/SE CNPS RPR 1B.1 County List A County MSCP NE	Found in San Diego County and Baja. Prefers clay slopes and mesas.	Yes	Observed	
Western dichondra (Dichondra occidentalis)	/ CNPS RPR 4.2 County List D	Ranges from Sonoma and Marin counties (questionable) disjunct to San Barbara County south and along the coast to Baja. Found in understory of chaparral and other shaded places, along foothills and coastal areas.	Yes	Observed	
Orcutt's dudleya (Dudleya attenuata ssp. orcuttii)	/ CNPS RPR 2.1 County List B	Found only in San Diego County and Baja. Occurs in coastal bluff scrub, chaparral, and sage scrub communities near the coast.	No	Low	Site is likely too far inland.
Variegated dudleya (Dudleya variegata)	/ CNPS RPR 1B.2 County List A County MSCP NE	Found in San Diego County and Baja. Occurs on dry hillsides and mesas in both foothill and coastal areas.	Yes	Observed	
Palmer's goldenbush (Ericameria palmeri)	/ CNPS RPR 2.2 County List B MSCP NE	Found along drainages through chaparral and coastal sage scrub vegetation.	No	Very low	Known in California from only three sites.
San Diego button- celery (Eryngium artistultum)	FE/SE CNPS RPR 1B.1 County List A MSCP Covered	Occurs in Riverside and San Diego Counties as well as Baja. Vernal pools or mima mound areas with vernally moist conditions are species' preferred habitat.	No	Very low	Appropriate habitat does not occur on site.
San Diego barrel cactus (Ferocactus viridescens)	/ CNPS RPR 2.1 County List B County MSCP Covered	Ranges from San Diego County into Baja. Prefers dry slopes in coastal sage scrub.	Yes	Observed	

Species	Sensitivity Codes and Status*	Habitat Preference/ Requirements	Verified on Site	Potential to Occur on Site	Factual Basis for Determination of Occurrence Potential
Palmer's grapplinghook (Harpagonella palmeri)	/ CNPS RPR 4.2 County List B	Ranges from Arizona and New Mexico to southern California. Annual herb that occurs on clay soils in chaparral, coastal sage scrub, and grasslands.	Yes	Observed	
Graceful tarplant (Holocarpha virgata ssp. elongata)	/ CNPS RPR 4.2 CA Endemic County List D	Found in San Diego, Riverside, and Orange counties in grasslands and open areas.	Yes	Observed	
San Diego marsh- elder (Iva hayesiana)	/ CNPS RPR 2.2 County List B	Found in San Diego County and Baja. Prefers moist or alkaline places areas along the coast, typically along drainages.	Yes	Observed	
Southwestern spiny rush (Juncus acutus ssp. leopoldii)	/ CNPS RPR 4.2 County List D	Ranges from Los Angeles, San Bernardino, San Luis Obispo, Ventura, and San Diego counties into Baja. Prefers moist, saline, or alkaline soils.	Yes	Observed	
Heart-leaved pitcher sage (Lepechinia cardiophylla)	/ CNPS RPR 1B.2 County List A MSCP NE	Found in Riverside, Orange, and San Diego counties and Baja. Generally found in cismontane woodland, coniferous forest, and dry chaparral areas.	No	Low	Habitat on site marginally suitable.
Gander's pitcher sage (Lepechinia ganderi)	/ CNPS RPR 1B.3 County List A MSCP NE	Occurs in San Diego County and Baja. Grows in low-growing but relatively dense chaparral, typically on gabbro or metavolcanic soils.	No	Low to moderate	Not observed during surveys.
Willowy monardella (Monardella viminea)	FE/SE CNPS RPR 1B.1 CA Endemic County List A MSCP NE	Found only in San Diego County and possibly Baja. Generally found in riparian scrub with sandy soils.	No	Low	Habitat on site only marginally suitable.
San Diego goldenstar (Muilla clevelandii)	/ CNPS RPR 1B.1 County List A County MSCP Covered	Found from southwestern San Diego County to northwestern Baja. Prefers clay soils on dry mesas and hillsides in coastal sage scrub or chaparral.	Yes	Observed	

Species	Sensitivity Codes and Status*	Habitat Preference/ Requirements	Verified on Site	Potential to Occur on Site	Factual Basis for Determination of Occurrence Potential
Little mousetail (Myosurus minimus ssp. apus)	/ CNPS RPR 3.1 County List A	Ranges from Oregon south through San Diego County into Baja. Found in vernal pools and alkaline marshes.	No	Very low	Vernal pools do not occur on site; alkali marsh is limited.
Spreading navarretia (Navarretia fossalis)	FT/ CNPS RPR 1B.1 County List A	Range from western Riverside through southwestern San Diego counties into Baja. Vernal pools and vernal swales preferred habitat of this small annual. Population size strongly correlated with rainfall; during drought years, numbers may be drastically reduced.	No	Very low	Vernal pools do not occur on site.
Dehesa bear grass (Nolina interrata)	/SE CNPS RPR 1B.1 County List A MSCP NE	Occurs in open chaparral habitats in San Diego County and Baja.	No	Low	Not reported for the project vicinity.
California Orcutt grass (Orcuttia californica)	FE/SE CNPS RPR 1B.1 County List A MSCP Covered	Ranges from Riverside County south into Baja. Generally associated with vernal pools.	No	Very low	No vernal pools occur on site.
Otay Mesa mint (Pogogyne nudiuscula)	FE/SE CNPS RPR 1B.1 County List A MSCP Covered	This small annual is restricted to vernal pools. Found nearby during a 1991 rare plant study.	No	Low	No vernal pools occur on site.
Nuttall's scrub oak (Quercus dumosa)	/ CNPS RPR 1B.1 County List A	Generally found in open chaparral communities in coastal areas of San Diego, Orange, and Santa Barbara counties and Baja.	No	Very low	Not known from project site, which is likely too far inland. Would have been observed if present.
Coulter's matilija poppy (Romneya coulteri)	/ CNPS RPR 4.2 CA Endemic County List D	Found in San Diego, Orange, Los Angeles, and Riverside counties. This suffruticose perennial is a fire follower, which may occur in areas of sage scrub or more typically in chaparral or along rocky watercourses.	Yes	Observed	
Munz's sage (Salvia munzii)	/ CNPS RPR 2.2 County List B	Ranges from the San Miguel Mountains to northern Baja. Prefers sage scrub and chaparral along southern foothills and coastal areas.	Yes	Observed	
Ashy spike-moss (Selaginella cinerascens)	/ County List D	Ranges from Orange and San Diego counties into northwestern Baja. Found on flat mesas in coastal sage scrub and chaparral.	Yes	Observed	

Species	Sensitivity Codes and Status*	Habitat Preference/ Requirements	Verified on Site	Potential to Occur on Site	Factual Basis for Determination of Occurrence Potential
Parry's tetracoccus	/	Mostly found in northern San Diego County.	No	Very low	Site may be too far south for
(Tetracoccus dioicus)	CNPS RPR 1B.2	Species is a deciduous shrub occurring in low-			species.
	County List A	growing chaparral and coastal sage scrub.			
	MSCP Covered				
San Diego viguiera	/	Found in San Diego County and Baja. Generally	Yes	Observed	
(Viguiera laciniata)	CNPS RPR 4.2	occurs between approximately below 4,000 feet			
	County List D	within chaparral and rocky slopes.			
Rush-like bristleweed	/	Occurs in San Diego County and Baja. A xeric,	No	Low	Not known from project vicinity.
(Xanthisma junceum)	CNPS RPR 4.3	low-growing chamise chaparral or Diegan coastal			Perennial species never observed
	County List D	sage scrub is preferred habitat of this			on site.
		inconspicuous subshrub (Reiser 2001).			

^{*}Refer to Appendix G for an explanation of status codes.



Appendix J

SENSITIVE ANIMAL SPECIES WITH POTENTIAL TO OCCUR

Species	Sensitivity Codes and Status*	Habitat Preference/Requirements	Verified on Site	Potential to Occur on Site	Factual Basis for Determination of Occurrence Potential
		INVERT	EBRATES		
Quino checkerspot butterfly (Euphydryas editha quino)	FE/ County Group 1 MSCP Rare, Narrow Endemic (NE)	Currently, populations are known to exist only as several (probably isolated) colonies in southwestern Riverside and southern San Diego counties as well as northern Baja. The principal larval host plant of this species in San Diego is dwarf plantain. Potential QCB habitat in the region includes vegetation communities with relatively open areas that typically include patches of dwarf plantain, purple owl's clover, and nectaring plants. These habitats include open coastal sage scrub, vernal pools, lake margins (Emmel and Emmel 1973), non-native grassland, perennial grassland, disturbed habitat, disturbed wetlands, and open areas within shrub communities.	Yes	Observed/ Detected	
Harbison's dun skipper (Euphyes vestris harbisoni)	/ MSCP Covered MSCP Rare, NE County Group 1	Typically not found within 10 miles of the coast. Restricted to chaparral and oak riparian areas with narrow drainages, particularly where the larval host plant (San Diego sedge [Carex spissa]) occurs.	No	Very low	Although San Diego sedge was observed on site, site likely too far inland for species.

Appendix J (cont.) SENSITIVE ANIMAL SPECIES WITH POTENTIAL TO OCCUR								
Species	Sensitivity Codes and Status*	Habitat Preference/Requirements	Verified on Site	Potential to Occur on Site	Factual Basis for Determination of Occurrence Potential			
	INVERTEBRATES							
Hermes copper (Lycaena hermes)	MSCP Rare, NE County Group 1	Distribution is from approximately 18 miles south of Santo Tomas in Baja California, Mexico north to Fallbrook in San Diego County and from the coast to about 40 miles inland. Hermes copper butterfly larvae utilize spiny redberry (<i>Rhamnus crocea</i>) as a food plant.	No	Very low	Spiny redberry was observed on site; however, species was not observed during many surveys.			
Thorne's hairstreak butterfly (Mitoura thornei)	MSCP Covered County Group 1	Closely tied with larval host plant Tecate cypress (<i>Cupressus forbesii</i>).	No	Very low	Tecate cypress was observed on site; however, species was not observed during many surveys.			
	VERTEBRATES							
Amphibians								
Arroyo toad (Anaxyrus californicus)	FE/SSC MSCP Covered MSCP Rare, NE County Group 1	Breeds in slow-moving streams within open-canopy riparian habitats. May also be found in upland scrub habitats adjacent to these areas.	No	None	Appropriate habitat not found on site.			
Western spadefoot (Spea hammondii)	/SSC County Group 2	Prefers floodplains, washes, and low hills. Southern California habitats include coastal sage scrub, chaparral, and grassland. Important habitat components include temporary pools (which form during winter and spring rains) for breeding and friable soils for burrowing.	No	Low	Appropriate habitat does not occur on site. Would have been observed/detected if present.			

Appendix J (cont.) SENSITIVE ANIMAL SPECIES WITH POTENTIAL TO OCCUR Potential to Verified **Sensitivity Codes Factual Basis for Determination of Occurrence Habitat Preference/Requirements** Occur on **Species** and Status* on Site **Potential** Site **VERTEBRATES** (cont.) **Reptiles** --/SSC Burrows in loose soils, sandy washes, California legless No Low Appropriate habitat limited on site. or leaf litter. Occurs in moist areas of County Group 2 lizard chaparral, pine, and oak woodlands, (Anniella pulchra and riparian streamside growth. pulchra) --/SSC Occurs in coastal sage scrub and Belding's orange-No High Abundant suitable habitat is found on site. chaparral, particularly washes and throated whiptail MSCP Covered other sandy areas with patches of (Aspidoscelis County Group 2 brush and rocks for cover. hyperythra) Open coastal sage scrub, chaparral, Coastal whiptail --/--Yes Observed/ and woodlands. Frequently found (Aspidoscelis County Group 2 Detected along edges of dirt roads traversing its tigris stejnegeri) habitats. Important habitat components include open, sunny areas, shrub cover with accumulated leaf litter and an abundance of invertebrate prey, particularly termites (*Reticulitermes* sp.). Red-diamond --/SSC Favors rocky outcrops in coastal sage Yes Observed/ scrub, chaparral, creosote bush scrub, rattlesnake County Group 2 Detected (Crotalus ruber and areas dominated by cactus. Also encountered along rocky canyon ruber) bottoms and on the flats adjacent to rocky, desert foothills. Prefers coastal sage scrub, grassland, --/SSC Habitat on site is marginally suitable. Coronado skink No Moderate and ruderal habitats, particularly near (Eumeces County Group 2 skiltonianus streams. *interparietalis*) Coastal rosy boa Found in dry, rocky brushlands and --/--No High Known from project vicinity. arid habitats, usually near County Group 2 (Lichanura intermittent streams but does not trivirgata

require permanent water.

roseofusca)

Appendix J (cont.) SENSITIVE ANIMAL SPECIES WITH POTENTIAL TO OCCUR Potential to **Sensitivity Codes** Verified **Factual Basis for Determination of Occurrence Habitat Preference/Requirements Species** Occur on and Status* on Site **Potential** Site **VERTEBRATES** (cont.) **Reptiles** Frequents a variety of habitats from --/SSC Observed/ Coast horned Yes MSCP Covered sage scrub and chaparral to coniferous lizard Detected and broadleaf woodlands. Habitat (Phrynosoma County Group 2 requirements include open areas for blainvillii) sunning, bushes for cover, fine loose soil for rapid burial, and native ant species such as harvester ants (Pogonomyrmex sp.). This species prefers brushy or --/SSC Coast patch-nosed No High Known from project vicinity. County Group 2 shrubby vegetation, such as chaparral snake with low shrub structure of minimum (Salvadora hexalepis density. virgultea) **Birds** Cooper's hawk --/WL Nests in open woodlands or riparian Would likely have been observed if present. No Low to (Accipiter MSCP Covered areas. moderate cooperi) County Group 1 Tricolored BCC/SSC Highly colonial species occurring No No open water sources on site, and colony would have Low MSCP Rare, NE mostly in coastal lowland grasslands been detected during surveys if present. blackbird (Agelaius near open water sources for foraging. County Group 1 tricolor) Southern --/WL Coastal sage scrub where it occurs on Yes Observed/ rocky hillsides and in canyons but California rufous-MSCP Covered Detected also may be found in open sage crowned sparrow County Group 1 (Aimophila scrub/grassy areas of successional ruficeps growth (i.e., after a fire). canescens)

Appendix J (cont.) SENSITIVE ANIMAL SPECIES WITH POTENTIAL TO OCCUR Potential to **Sensitivity Codes** Verified **Factual Basis for Determination of Occurrence Habitat Preference/Requirements Species** Occur on and Status* on Site **Potential** Site **VERTEBRATES** (cont.) Birds (cont.) --/SSC Grassland with sparse brush. Grasshopper Yes Observed/ County Group 1 sparrow Detected (Ammodramus savannarum) BCC/WL County Bell's sage sparrow Occurs in sunny, dry stands of Yes Observed/ coastal sage scrub and chaparral. (Amphispiza belli Group 1 Detected belli) Golden eagle Forage in grassy and open, shrubby Yes Nesting and Observed/ habitats. Nest most often on cliffs, wintering; (Aquila Detected BCC, BGEPA/ less often in trees. Tend to require chrysaetos) WL, Fully places of solitude and are usually Protected found at a distance from human MSCP Rare, NE habitation. County Group 1 Open areas such as grasslands, Burrowing owl BCC/SSC Yes Observed/ (Athene (burrow sites) pastures, coastal dunes, desert scrub, Detected and edges of agriculture fields. MSCP Rare, NE cunicularia) County Group 1 Occurs in coastal sage scrub with Coastal cactus BCC/SSC No Low Would have been observed if present. MSCP Rare, NE large stands of cactus. Preferred wren (Campylorhynchus County Group 1 habitat not present. brunneicapillus couesi) Foraging habitat includes most open Yes Turkey vulture --/--Observed/ (Cathartes aura) County Group 1 habitats with breeding occurring in Detected crevices among boulders. --/SSC Marshes and open grasslands but Northern harrier Yes Observed/ MSCP Covered often seen flying over shrub-covered (Circus cyaneus) Detected

County Group 1

hillsides

Appendix J (cont.) SENSITIVE ANIMAL SPECIES WITH POTENTIAL TO OCCUR Potential to **Sensitivity Codes** Verified **Factual Basis for Determination of Occurrence Habitat Preference/Requirements** Occur on **Species** and Status* on Site **Potential** Site **VERTEBRATES** (cont.) Birds (cont.) White-tailed kite Nesting: --/Fully Resident in coastal and interior No Moderate Suitable habitat occurs on site. (Elanus leucurus) Protected California, Arizona, and southern Texas. Prefers open country and County Group 1 farmlands with scattered trees; forages over grasslands or marshes. FE/SE Breeds within thickets of willows or Southwestern No None Suitable habitat does not occur on site. MSCP Covered other riparian understory, usually willow flycatcher (Empidonax MSCP Rare, NE along streams, ponds, lakes, or in traillii extimus) canyon drainage bottoms. County Group 1 California horned --/WL Sandy beaches, agricultural fields, Yes Observed/ County Group 2 grasslands, and open areas lark Detected (Eremophila alpestris actia) BCC/SSC Loggerhead shrike Found in open habitats including Yes Observed/ grasslands, shrublands, and ruderal (Lanius ludovicianu County Group 1 Detected vegetation with adequate perching locations. Coastal sage scrub in the coastal belt FT/SSC Coastal California Yes Observed/ of southern California. gnatcatcher County Group 1 Detected MSCP Covered (Polioptila californica californica) Common barn --/--Open country, forest edges and Yes Observed/ clearings, cultivated areas, and cities owl County Group 2 Detected (Tyto alba) FE. BCC/SE Prefers riparian woodland and is No Least Bell's vireo None Habitat on site insufficient to support vireos. frequent in areas that combine an (Vireo bellii MSCP Covered MSCP Rare, NE understory of willows (*Salix* spp.) pusillus)

County Group 1

and mule fat.

Appendix J (cont.) SENSITIVE ANIMAL SPECIES WITH POTENTIAL TO OCCUR

Species	Sensitivity Codes and Status*	Habitat Preference/Requirements	Verified on Site	Potential to Occur on Site	Factual Basis for Determination of Occurrence Potential
		VERTEBRA	ATES (cont.))	
Mammals					
Pallid bat (Antrozous pallidus pacificus)	/SSC County Group 2	Roosts in caves, mines, bridges, crevices, abandoned buildings, and trees.	No	Low	Could forage throughout study area, but few potential roosting sites.
Greater western mastiff bat (Eumops perotis californicus)	/SSC County Group 2	Occurs in chaparral and oak woodland with coast live oaks and arid, rocky areas. Roosts in buildings, crevices in cliffs, in trees, and in tunnels.	No	Low	Suitable roosting areas not found on site.
Mountain lion (Puma concolor)	MSCP Covered County Group 2	Originally varied; now generally mountainous, semi-arid terrain and subtropical and tropical forests and swamps.	No	High	Known from project vicinity.
San Diego black- tailed jackrabbit (Lepus californicus bennettii)	/SSC County Group 2	Occurs primarily in open habitats including open coastal sage scrub, chaparral, grasslands, croplands, and disturbed areas (if at least some shrub cover present).	Yes	Observed/ Detected	
California leaf- nosed bat (Macrotus californicus)	/SSC County Group 2	Found in arid scrub communities, often near streams or drainages. Roosts in caves or mines.	No	Low	Suitable roosting areas not found on site.
Long-eared myotis bat (Myotis evotis)	/SSC County Group 2	Prefers thinly forested areas and is found around buildings or trees, but is occasionally found in caves. Found from Mexico to Canada.	No	Low	Not reported for the project vicinity.
Fringed myotis bat (Myotis thysanodes)	/SSC County Group 2	Generally in pinyon-juniper or conifer woodlands. Within San Diego County, known from Cleveland National Forest.	No	Low	No appropriate habitat occurs on site.
Yuma myotis bat (Myotis yumanensis)	/SSC County Group 2	Occurs in arid areas. Roosts in buildings, mines, caves, and crevices.	No	Very low	Site is likely outside species' range.

Appendix J (cont.) SENSITIVE ANIMAL SPECIES WITH POTENTIAL TO OCCUR

Species	Sensitivity Codes and Status*	Habitat Preference/Requirements	Verified on Site	Potential to Occur on Site	Factual Basis for Determination of Occurrence Potential		
VERTEBRATES (cont.)							
Mammals (cont.)							
San Diego desert woodrat (Neotoma lepida intermedia)	/SSC County Group 2	Trapping necessary for detection but not warranted due to the species low sensitivity.	No	Low	Nests are usually observed if present, but may have escaped view in thicker vegetated areas.		
Southern mule deer (Odocoileus hemionus fuliginata)	/ MSCP Covered County Group 2	Coastal sage scrub, riparian and montane forests, chaparral, grasslands, croplands, and open areas if some scrub cover present. Crepuscular activity and movements along routes with greatest amount of protective cover.	Yes	Observed/ Detected			
Southern grasshopper mouse (Onychomys torridus ramona)	/SSC County Group 2	Occurs in open, arid habitats, including coastal sage scrub and chaparral, particularly in sandy soils.	No	Low	Not reported in project vicinity.		
Dulzura California pocket mouse (Perognathus californicus femoralis)	/SSC County Group 2	Occurs in chaparral and coastal sage scrub, often adjacent to grassland. Suitable habitat is found on site.	No	Low	Not reported for project vicinity.		
San Diego pocket mouse (Perognathus fallax fallax)	/SSC County Group 2	Inhabits sandy, herbaceous areas, usually in association with rocks or coarse gravel.	No	Very low	Not reported near the project vicinity.		

Appendix J (cont.) SENSITIVE ANIMAL SPECIES WITH POTENTIAL TO OCCUR Potential to Verified **Sensitivity Codes Factual Basis for Determination of Occurrence Species Habitat Preference/Requirements** Occur on and Status* on Site **Potential** Site **VERTEBRATES** (cont.) Mammals (cont.) Pacific pocket FE/SSC Found in coastal sage scrub, but No Site outside of known range. Low MSCP Rare, NE more often in sandy washes. Known mouse currently from one location in (Perognathus County Group 1 Orange County and one on Camp longimembris Pendleton. pacificus) Townsend's big---/SSC Roosts in caves, mines, and Appropriate habitat absent. No Very low eared bat County Group 2 buildings. (Plecotus townsendii pallescens)

^{*}Refer to Appendix G for an explanation of status codes



Appendix K HABITAT CONSERVATION PLAN



Otay Hills Project

Habitat Conservation Plan

June 2020

Prepared for: **Superior Ready Mix**1508 West Mission Road
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Habitat Conservation Plan for the Otay Hills Project: A Major Amendment to the Multiple Species Conservation Program County of San Diego Subarea Plan

TABLE OF CONTENTS

Section	<u>Title</u>	Page
1.0 INTR	ODUCTION	1
	1.1 Overview and Background	
	1.2 Purpose and Need of the Proposed Action	
	1.3 Permit Holder and Permit Duration	
	1.4 Permit Boundary	
	1.5 Species Covered by Major Amendment	
	1.6 Regulatory Framework	
	1.6.1 Federal Endangered Species Act	
	1.6.2 Natural Community Conservation Planning Act	
	1.6.3 County Multiple Species Conservation Program Subarea Plan	
	1.6.4 National Environmental Policy Act	
	1.6.5 California Environmental Quality Act	
2.0 PROI	ECT DESCRIPTION/ACTIVITIES COVERED BY THE PROPOSED ACTIO)N 11
2.0 1103	2.1 Project Description	
	2.2 Activities Covered by the Permit	
30 AFFF	CTED ENVIRONMENT	18
J.U AITE	3.1 Location	
	3.2 Geographic Setting.	
	3.3 Land Use	
	3.4 Geology, Soils, Climate, and Hydrology	
	3.5 Vegetation Communities/habitats	
	3.6 Proposed Covered Species	
40 POTE	ENTIAL BIOLOGICAL IMPACTS/TAKE ASSESSMENT	25
7.0 TOTE	4.1 Direct and Indirect Impacts	
	4.1.1 Vegetation Communities/Habitats	
	4.1.2 Regional Context, Wildlife Movement, and Nursery Sites	
	4.2 Anticipated Take of Covered Wildlife Species	
	4.3 Anticipated Impacts on Covered Plant Species	
	4.4 Effects on Critical Habitat	
	4.5 Cumulative Impacts	
	4.6 Anticipated Impacts of the Taking	
	4.6.1 Proposed Covered Wildlife Species	
	4.6.2 Proposed Covered Plant Species	

TABLE OF CONTENTS (cont.)

Section	<u>Title</u>	<u>Page</u>
5.0 CON	SERVATION PROGRAM/ MEASURES TO MINIMIZE AND MITIGA	
	IMPACTS	
	5.1 Biological Goals	
	5.2 Biological Objectives	
	5.3 Avoidance, Minimization, and Conservation Measures	
	5.3.1 Measures to Avoid Impacts	
	5.3.2 Conservation Measures to Minimize Impacts	
	5.3.3 Conservation Measures to Mitigate Unavoidable Impacts	
	5.4 Monitoring	
	5.5 Performance and Success Criteria	
	5.5.1 Covered Wildlife Species	
	5.5.2 Covered Plant Species	
	5.6 Adaptive Management Strategy	
	5.7 Reporting	84
6.0 PLAN	I IMPLEMENTATION	85
	6.1 Plan Implementation	85
	6.2 Unforeseen and Changed Circumstances	
	6.2.1 Unforeseen Circumstances	86
	6.2.2 Changed Circumstances	87
	6.3 Amendments	93
	6.4 Suspensions/Revocations	93
	6.4.1 Suspension	93
	6.4.2 Permit Revocation or Termination	
	6.5 Permit Renewal	94
	6.6 Third Party Beneficiary	94
	6.7 Permit Transfer	94
7.0 FUNI	DING	95
,,,,	7.1 Costs of HCP Implementation	
	7.2 Funding Source(S)	
	7.3 Funding Mechanism and Management	
80 ALTE	ERNATIVES	90
O.O ALIL	8.1 Summary	
	8.2 Reduced Footprint Alternative	
	8.3 No Action Alternative	
90 REFE	RENCES	100
J.U KLIT		100

TABLE OF CONTENTS (cont.)

LIST OF APPENDICES

- Proposed Covered Species Conservation Analysis Resource Management Plan Sensitive Plant Translocation Plan A
- В
- C

LIST OF FIGURES

<u>No.</u>	<u>Title</u> <u>Fol</u>	lows Page
1	Regional Location	6
2	Project Vicinity Map	6
3	Project Location – Aerial	6
4	Proposed Project Components	6
5	MSCP Subarea Plan	8
6a	Existing Land Use	12
6b	Proposed Land Use	12
7	Proposed Facilities Layout	12
8	Phasing	14
9	Soils Map	
10	Existing Vegetation Communities	
11a	Quino Checkerspot Butterfly (QCB) Survey Limits and Sightings	
11b	2016 Quino Checkerspot Butterfly Host Plant Locations	26
12	Sensitive Animal Species (except QCB)	26
13	Federal, State, and County (List A and B) Sensitive Plant Species	26
14	Vegetation Communities/Impacts	
15	Regional Context	
16	Quino Checkerspot Butterfly Sightings and Host Plant Locations/Impacts	28
17	Sensitive Animal Species (except QCB)/Impacts	
18a	Plant and Excavation North Indirect Impacts to Coastal California Gnatcatcher	
18b	Plant and Excavation East Indirect Impacts to Coastal California Gnatcatcher H	
18c	Plant and Excavation South Indirect Impacts to Coastal California Gnatcatcher	
18d	Plant Only Indirect Impacts to Coastal California Gnatcatcher Habitat	30
19	Federal, State, and County (List A and B) Sensitive Plant Species/Impacts	40
20a	Otay Tarplant (Deinandra conjugens) Likely Limits of Occurrence	40
20b	Variegated Dudleya (Dudleya variegata) Likely Limits of Occurrence	
20c	San Diego Goldenstar (Bloomeria [Muilla] clevelandii) Likely Limits of Occur	rence40
21	Critical Habitats	40

TABLE OF CONTENTS (cont.)

LIST OF FIGURES (cont.)

Follows Page

<u>No.</u>

Title

22 23	Original Proposed Project	
	LIST OF TABLES	
<u>No.</u>	<u>Title</u> P	age
1	Proposed Covered Species	4
2	Vegetation Communities/Habitats On and Off Site	
3	Direct Impacts to Vegetation Communities/Habitats	
4	Direct Impacts to Vegetation Communities by Phase	
5	Impacts to Wildlife Species that are Proposed for Coverage	
6	MSCP Covered Plant Species Impacts	
7	Direct Impacts to Covered Plant Species by Phase	41
8	Vegetation Community Acreages Impacted and Preserved	
9	Comparison of Species Impacts Between Original and Current	
	Development Footprints	64
10	Summary of Impacts, Minimization, and Conservation Measures, and Corresponding	
	Results	75

LIST OF ACRONYMS AND DEFINITIONS

AMA Additional Management Area

AMSL Above Mean Sea Level

APCD Air Pollution Control District

BACT Best Available Control Technology
BLM Bureau of Land Management
BMO Biological Mitigation Ordinance
BRCA Biological Resource Core Area

CDFG California Department of Fish and Game
CDFW California Department of Fish and Wildlife
CEQA California Environmental Quality Act

CFR Code of Federal Regulations

City of San Diego

CNDDB California Natural Diversity Database

CNPS California Native Plant Society

County County of San Diego

dBA A-weighted decibel

EA Environmental Assessment
EIR Environmental Impact Report
EIS Environmental Impact Statement
ELM Estimate for Long-term Management

Federal Act Federal Endangered Species Act

HCP Habitat Conservation Plan

HELIX Environmental Planning, Inc.

I Interstate

IA Implementing Agreement

IDEFO Inert Debris Engineered Fill Operations

Leq equivalent continuous

MHPA Multi-habitat Planning Area

MSCP Multiple Species Conservation Program

MUP Major Use Permit

NCCP Natural Community Conservation Planning

NEPA National Environmental Policy Act
NHPA National Historic Preservation Act

LIST OF ACRONYMS AND DEFINITIONS (CONT.)

OHCA Otay Hills Conservation Area

OHV Off-highway Vehicle

PAR Property Analysis Record PRC Public Resources Code

QCB Quino Checkerspot Butterfly

QMU Quino Checkerspot Butterfly Management Unit

RMP Resource Management Plan

RPR Rare Plant Rank

SDCWA San Diego County Water Authority

SDMMP San Diego Management and Monitoring Program

SDG&E San Diego Gas and Electric
SHPO State Historic Preservation Office
SMARA Surface Mining and Reclamation Act

SPA Specific Plan Amendment

SR State Route

U.S.C. United States Code

USFWS United States Fish and Wildlife Service

USGS United States Geological Survey

Wildlife Agencies USFWS and CDFW

Biological Resource Core Area – Under the County Biological Mitigation Ordinance (County 2010a), habitat is considered a BRCA if it meets one of the following criteria:

- It is considered a Pre-Approved Mitigation Area (PAMA) on the Wildlife Agencies' PAMA area map;
- It contains biological resources that support or contribute to the long-term survival of sensitive species and is adjacent to the pre-approved mitigation area;
- It is part of a regional linkage/corridor;
- It is mapped as Very High or High shown on the Habitat Evaluation Map and links significant patches of habitat;
- It is part of a patch of habitat greater than 500 acres in area that contributes to the conservation of sensitive species; or
- It supports a high number of sensitive species and is contiguous to undisturbed habitats.

LIST OF ACRONYMS AND DEFINITIONS (CONT.)

Hardline Preserve – Areas where landowners have negotiated with the Wildlife Agencies and the County to preserve land in perpetuity.

Major Amendment Areas – "have a high probability of supporting biological resources critical to the success of the MSHCP (either by location within core and linkage areas or by the resources identified on the site)" (County 2010c). Major Amendments require a formal amendment to the Subarea Plan.

Minor Amendment Areas – "contain habitat that could be partially or completely eliminated (with appropriate mitigation) without significantly affecting the overall goals of the County's MSCP Subarea Plan." (County 2010c). Minor Amendments require concurrence from the Wildlife Agencies.

Minor Amendment Areas Subject to Special Considerations – Transitional areas located between Major and Minor Amendment Areas that are subject to special requirements as spelled out in the County East Otay Mesa Specific Plan (County 1994) area. Minor Amendments for these areas require concurrence from the Wildlife Agencies.

MSCP Covered Species – Species for which the County has been issued take authorization from the USFWS and CDFW for the County MSCP Subarea Plan area.

Proposed Covered Species – The species proposed for coverage under this HCP, including 17 MSCP Covered Species and one non-MSCP Covered Species, the Quino checkerspot butterfly.

Take Authorized Area – Area where impacts are covered under the County MSCP Subarea Plan and no amendment process is required for development.

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1.0 INTRODUCTION

1.1 OVERVIEW AND BACKGROUND

The Multiple Species Conservation Program (MSCP; City of San Diego 1998) is a comprehensive, habitat conservation planning program that addresses the needs of multiple species and the preservation of natural vegetation communities in southwestern San Diego County (County). The overall goal of the MSCP is to maintain and enhance biological diversity in the region and conserve viable populations of endangered, threatened, and key sensitive species and their habitats, thereby preventing local extirpation and ultimate extinction. The MSCP preserve system replaces fragmented, project-by-project mitigation areas, which by themselves, do not contribute adequately to the continued existence of sensitive species or to maintenance of natural biological diversity.

The MSCP addresses the potential impacts of urban growth, natural habitat loss, and species endangerment and is a plan to mitigate for the potential loss of certain species and their habitats due to the direct impacts of future development of both public and private lands within the MSCP area. The MSCP is implemented through local subarea plans. On March 17, 1998, the U.S. Fish and Wildlife Service (USFWS) issued a section 10(a)(1)(B) permit (PRT-840414) pursuant to the Federal Endangered Species Act of 1973 (Federal Act), as amended (16 U.S.C. 1531 et seq.) for the MSCP County of San Diego Subarea Plan ("Subarea Plan"; County et al. 1997). The California Department of Fish and Wildlife (CDFW) also issued Natural Community Conservation Plan Approval and Take Authorization per Section 2800 et seq., of the California Fish and Game Code. The County's Subarea Plan and its associated Implementing Agreement and permits with the USFWS and CDFW (collectively referred to as the Wildlife Agencies) establish the conditions under which the County, for the benefit of itself and of public and private landowners and other land development project proponents within its Subarea Plan boundaries, receives take authorizations for 85 MSCP Covered Species incidental to land development and other lawful land uses, that are authorized by the County and are covered by the permits (i.e. covered activities). The Biological Mitigation Ordinance (BMO; County 2010a) is the implementing ordinance for the County's Subarea Plan. Compliance with this ordinance allows the County to issue Incidental Take Permits for MSCP Covered Species.

The County's Subarea Plan is divided into three segments. Within the South County Segment, certain lands were designated as "Major or Minor Amendment" areas where the location of the preservation and development was not resolved prior to permit issuance. For lands designated as "Major or Minor Amendment" areas, the County's take authorizations do not apply until the major or minor amendment process has been completed. The proposed Otay Hills Construction Aggregate and Inert Debris Engineered Fill Operation Project (Project) occurs within both "Major and Minor Amendment" areas; thus, the County (Applicant) is requesting an amendment to their Subarea Plan consistent with section 1.14.2 of the Subarea Plan. All major and minor amendments must conform to the MSCP and Subarea Plan requirements, and requests for amendments must be processed by the Wildlife Agencies in conformity with all applicable laws and regulations (including the National Environmental Policy Act [NEPA], the California Environmental Quality Act [CEQA], the Federal Act, and California Natural Community Conservation Planning [NCCP] Act) in effect at the time the request for an amendment is received.



1.2 PURPOSE AND NEED OF THE PROPOSED ACTION

Superior Ready Mix Concrete L.P. (Project Proponent) is proposing development of a hard rock quarry and inert landfill and associated activities on approximately 102.7 acres of Otay Mesa within an amendment area of the South County Segment of the County's MSCP Subarea Plan. An additional 2.4 acres along the southern boundary of the quarry and landfill site contains an easement and will not be impacted by the development but will be included in the Major Use Permit (MUP) area. The easement area is considered "impact neutral" and will result in a total MUP project area of approximately 105 acres. "Impact neutral" is defined as not impacted but also not proposed to be dedicated to open space. An additional 4.7 acres off site to the west is existing open space on the Otay Crossings Commerce Park project site that will be isolated by the quarry and landfill Project and is, therefore, considered part of the overall quarry and landfill site herein and impacted as part of the Project. Therefore, the total development (or impact) footprint of the Project is 107.4 acres. While considered impacted in this document, the 4.7-acre parcel would actually be proposed for future development separate from the quarry and landfill.

Approximately 77 acres within the development footprint of the Project are currently identified as a "Major Amendment" area, 4.7 acres are identified as Minor Amendment Area, and 25.2 acres are identified as "Minor Amendment Area Subject to Special Considerations" (there are also 0.2 acre of Take Authorized Area and 0.3 acre of Hardline Preserve in the development footprint). The Proposed Action is a major amendment to the County's Subarea Plan that would include designating "Hardline" development and preservation areas for the Project and providing take authorization within the development footprint for certain County MSCP Covered Species, and providing take authorization for the federal listed endangered Quino checkerspot butterfly (*Euphydryas editha quino*; QCB). The Proposed Action would result in permanent preservation of 304.6 acres of habitat that would contribute to the overall MSCP goal to maintain and enhance biological diversity in the region and conserve viable populations of endangered, threatened, and key sensitive species and their habitats.

The purpose in preparing this Habitat Conservation Plan (HCP) is to support an application to amend the County's existing incidental take permit, which is needed because the project will impact MSCP Covered Species and the QCB. The specific purposes of the Proposed Action are to:

- Respond to the Applicant's application to amend an incidental take permit for certain Proposed Covered Species related to project activities that have the potential to result in take, pursuant to Federal Act Section 10(a)(1)(B) and its implementing regulations and policies;
- Ensure the long-term survival of the Proposed Covered Species through the protection and management of the species and their habitats;
- Ensure consistency with the goals and objectives of the MSCP Subregional Plan and the County MSCP Subarea Plan;



- Ensure compliance with the Federal Act, NEPA, and other applicable federal laws and regulations; and
- Ensure compliance with the NCCP Act.

This HCP was prepared to support an amendment to the County's incidental take permit and Subarea Plan. The HCP describes the existing biological conditions of the subject property and evaluates the environmental consequences associated with the Proposed Action. This information provides the Wildlife Agencies and the County with current biological data to review the Proposed Action under NEPA, CEQA, and other applicable laws.

1.3 PERMIT HOLDER AND PERMIT DURATION

The County (Permit Holder) proposes to amend incidental take permit PRT-840414 and extend take authorization to Superior Ready Mix Concrete L.P. as a Third Party Beneficiary for the duration of the existing Subarea Plan permit (which is in effect until March 17, 2048; USFWS et al. 1998). It is anticipated that all direct physical take of habitat shall have occurred within this timeframe. Should additional take authorization be required and the MSCP permit is not extended, the Project Proponent would seek to extend take authorization through an independent permit process at that time.

1.4 PERMIT BOUNDARY

The total Project site encompasses: 1) a 102.7-acre development footprint; 2) 2.4 acres of "impact neutral;" 3) 4.7 acres off site on the Otay Crossings Commerce Park project; and 4) 304.6 acres that would be dedicated to open space as Hardline Preserve and is called the Otay Hills Conservation Area (OHCA). The total Project site is 414.4 acres. As stated previously, since the off-site Otay Crossings Commerce Park parcel would be functionally isolated from other conserved lands upon implementation of the Project, this parcel has been added to the Project site and development footprint herein and treated as fully developed. An additional 61-acre Additional Management Area (AMA) has an existing conservation easement in favor of the CDFW but lacks management funding and the Project is providing funding for management of this area. This AMA is not considered part of the Proposed Project site but is included in the description of areas being managed for conservation purposes.

The Project site consists of undeveloped land located in the foothills immediately east of Otay Mesa in southern San Diego County (Figure 1). The Project is in Township 18 South, Range 1 East, Sections 29, 30, 31, and 32 on the San Bernardino Base and Meridian U.S. Geological Survey (USGS) 7.5-minute Otay Mesa quadrangle map (Figure 2). The Project is located approximately one mile north of the border with Baja California, Mexico, one mile northeast of the Otay Mesa border crossing, and east of the intersection of Otay Mesa and Alta Roads (Figure 3). The Project is made up of all or portions of Assessor Parcel Numbers 648-050-12, 648-050-17, 648-050-14, 648-040-39, 648-050-13, 648-040-40, 648-080-13, 648-080-14, and 648-080-25. The AMA is part of APN 648-050-17. The development footprint and the OHCA are shown on Figure 4 in relation to the Subarea Plan Designations. The detached parcel of the OHCA is accessible for authorized access from the south and west.



1.5 SPECIES COVERED BY MAJOR AMENDMENT

Table 1 includes a list of animal and plant species proposed for coverage under an amendment to the County's incidental take permit. The species proposed for coverage have been reported in or near the Project site. The species are alphabetized in each section or subsection of the table by scientific name. All of the species are County MSCP Covered Species except the QCB, a federal listed endangered species.

Table 1 PROPOSED COVERED SPECIES					
SPECIES	FEDERAL STATUS	STATE STATUS ¹	COUNTY SUBAREA PLAN STATUS		
ANIMALS					
	Invertebra	ites			
Quino checkerspot butterfly (Euphydryas editha quino)	Endangered		Not Covered		
	Vertebrat	tes			
Reptiles					
Belding's orange-throated whiptail (Aspidoscelis hyperythra beldingi)		Watch List	MSCP Covered Species		
Coast horned lizard (Phrynosoma blainvillii)		Species of Special Concern	MSCP Covered Species		
Birds					
Cooper's hawk (Accipiter cooperii)		Watch List	MSCP Covered Species		
Southern California rufous- crowned sparrow (Aimophila ruficeps canescens)		Watch List	MSCP Covered Species		
Burrowing owl (Athene cunicularia)	Bird of Conservation Concern	Species of Special Concern	MSCP Covered Species		



Table 1 (cont.) PROPOSED COVERED SPECIES						
SPECIES	FEDERAL STATUS	STATE STATUS ¹	COUNTY SUBAREA PLAN STATUS			
ANIMALS (cont.)			,			
	Vertebrates ((cont.)				
Birds (cont.)						
Northern harrier		Species of Special	MSCP Covered Species			
(Circus cyaneus)		Concern	Wiscr Covered Species			
Coastal California						
gnatcatcher	Threatened	Species of Special	MSCP Covered Species			
(Polioptila californica	Tineatenea	Concern	Wiser covered species			
californica)						
Mammals	<u> </u>	Q : 11	ı			
Mountain lion		Specially	MSCP Covered Species			
(Puma concolor)		Protected				
Southern mule deer (Odocoileus hemionus			MSCD Covered Species			
			MSCP Covered Species			
fuliginata) PLANTS						
San Diego goldenstar						
(Bloomeria [Muilla]			MSCP Covered Species			
clevelandii)		CNPS RPR 1B.1	Wisci Covered species			
,			MSCP Covered Species			
Dunn's mariposa lily		Rare	Niser covered species			
(Calochortus dunnii)		CNPS RPR 1B.2	Narrow Endemic			
Orcutt's bird's beak						
(Cordylanthus orcuttianus)		CNPS RPR 2.1	MSCP Covered Species			
Tecate cypress						
(Hesperocyparis		CNPS RPR 1B.1	MSCP Covered Species			
[Cupressus] forbesii)		CNF5 KFK 1D.1				
Otay tarplant		Endangered	MSCP Covered Species			
(Deinandra conjugens)	Threatened	CNPS RPR 1B.1				
(Demandra conjugens)		CIVI S IXI IX 1B.1	Narrow Endemic			
Variegated dudleya			MSCP Covered Species			
(Dudleya variegata)		CNPS RPR 1B.2				
		,	Narrow Endemic			
San Diego barrel cactus		CNIDC DDD 2.1	MSCP Covered Species			
(Ferocactus viridescens)		CNPS RPR 2.1	•			
Gander's pitcher sage			MSCP Covered Species			
(Lepechinia ganderi)		CNPS RPR 1B.3	Narrow Endemic			
			manow endenne			



¹California Native Plant Society Rare Plant Rank (CNPS RPR) included herein where applicable.

² Narrow Endemic – Species with restricted geographic distributions, soil affinities, and/or habitats.

1.6 REGULATORY FRAMEWORK

1.6.1 Federal Endangered Species Act

Section 9 of the Federal Act and federal regulation pursuant to section 4(d) of the Federal Act prohibit the take of fish and wildlife species listed as endangered and threatened, respectively, without special exemption. Take, as defined by the Federal Act, means "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct." Harm is defined as "any act that kills or injures the species, including significant habitat modification." The Federal Act includes mechanisms that provide exceptions to the Section 9 take prohibitions. These are addressed in the Federal Act under Section 7 (federal actions) and section 10 (non-federal actions).

Individuals and state and local agencies (i.e., non-federal entities) proposing an action that is expected to result in take of federally listed species are encouraged to apply for an incidental take permit under section 10(a)(1)(B) of the Federal Act to be in compliance with the law. Such permits are issued by the USFWS when the take of federally listed fish and wildlife is not the intention of, and is incidental to, otherwise lawful activities.

The take prohibition for listed plants is more limited than for listed fish and wildlife. Under Section 9(a)(2)(B) of the Federal Act, endangered plants are protected from "removal, reduction to possession, and malicious damage or destruction" in areas that are under federal jurisdiction. Section 9(a)(2)(B) of the Federal Act also provides protection to plants from removal, cutting, digging up, damage, or destruction where the action takes place in violation of any state law or regulation or in violation of a state criminal trespass law. Thus, the Federal Act does not prohibit the incidental take of federally listed plants on private or other non-federal lands unless the take or action resulting in take is in violation of state law. Therefore, section 10 incidental take permits are necessary only for take of wildlife and fish species. Even though under the Federal Act there is no prohibition of take of plants on non-federal lands, the HCP covers many plants. Some plants are covered in order to meet regulatory obligations under Section 7 of the Federal Act. Plants are also included as Proposed Covered Species to provide no-surprises assurances for these species. The Section 7(a)(2) prohibition against jeopardy, however, applies to plants, and USFWS may not issue a Section 10(a)(1)(B) incidental take permit if the issuance of that permit would result in jeopardy to a listed plant species.

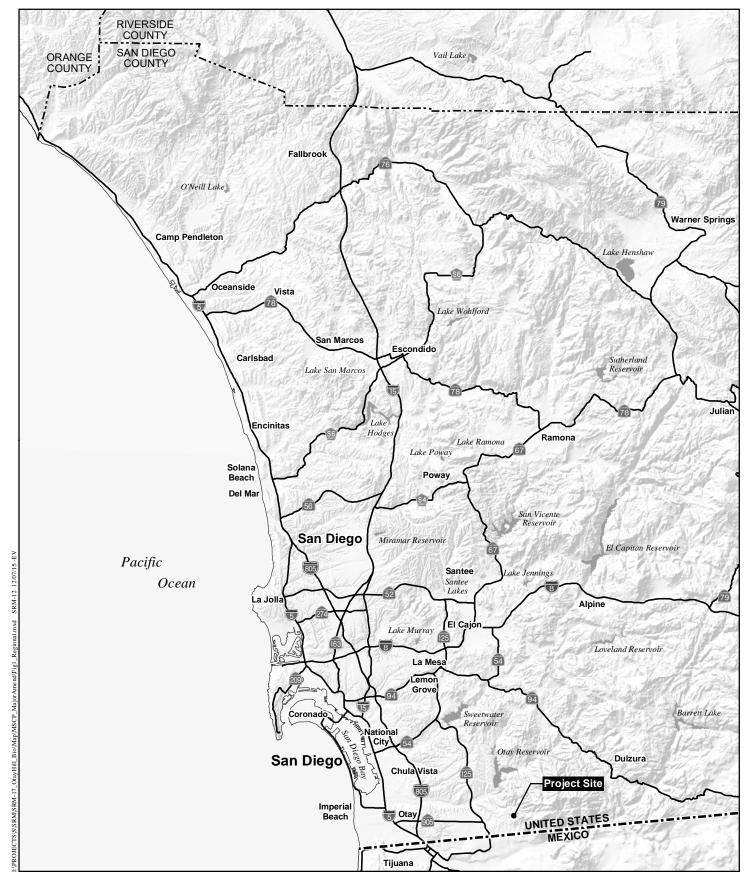
An application for an incidental take permit must be accompanied by a habitat conservation plan that specifies:

- The impact that will likely result from the taking of Proposed Covered Species;
- The steps the applicant will take to monitor, minimize, and mitigate such impacts; the funding that will be available to implement such steps; and the procedures to be used to deal with unforeseen circumstances1;

substantial and

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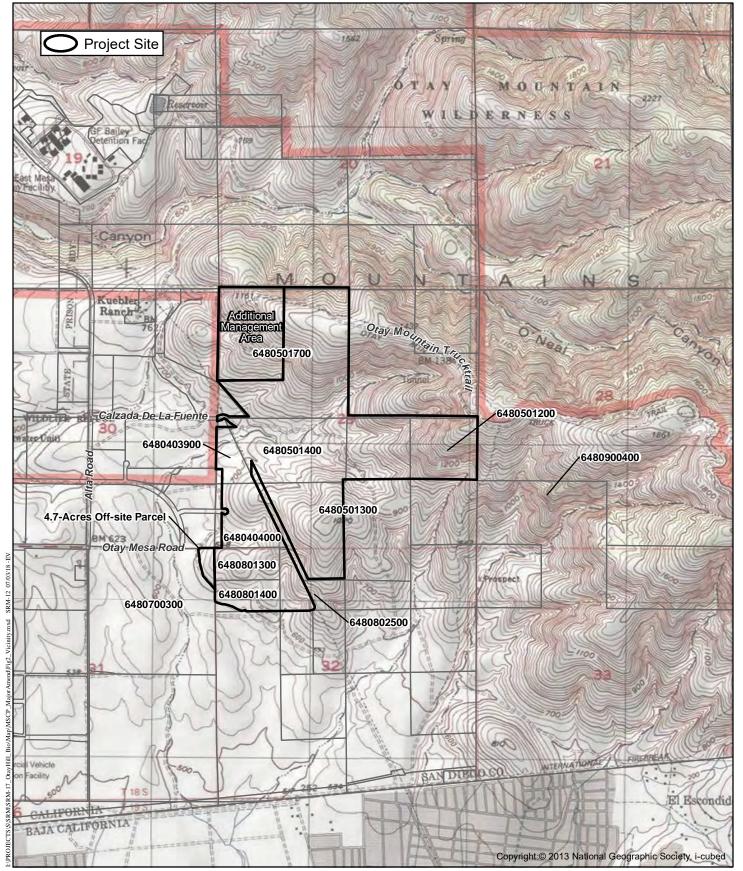
¹ Unforeseen circumstances are changes in circumstances affecting a Proposed Covered Species or geographic area covered by the HCP that could not reasonably have been anticipated by the plan developers, and that result in a substantial and adverse change in the status of a Proposed Covered Species.



Regional Location



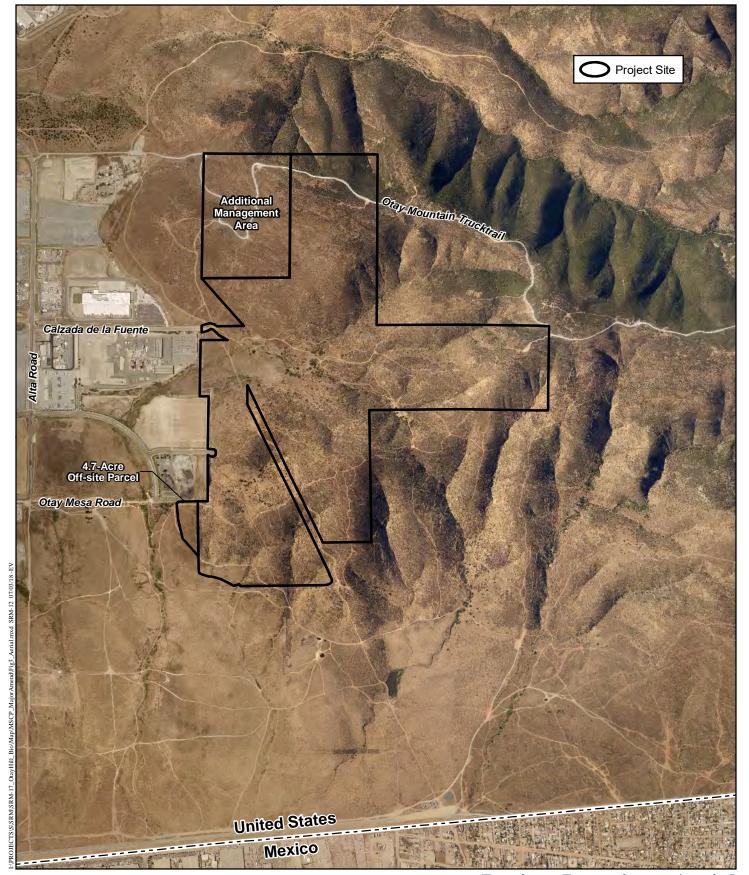




Project Vicinity Map



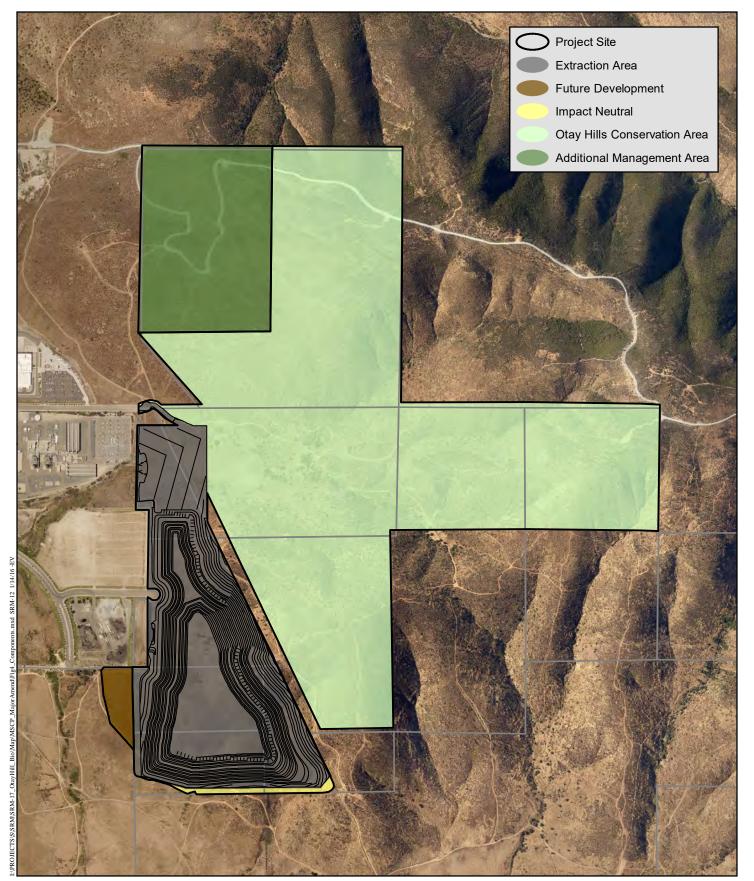




Project Location - Aerial







Proposed Project Components





- The alternative actions to taking of Proposed Covered Species the applicant considered and the reasons why such alternatives are not proposed to be utilized; and
- Such other measures that the Secretary of Interior may require as being necessary or appropriate for purposes of the HCP.

To receive an incidental take permit, the following statutory criteria must be met:

- 1. The taking will be incidental to otherwise lawful activities.
- 2. The applicant will, to the maximum extent practicable, minimize and mitigate the impacts of such taking.
- 3. The applicant will ensure adequate funding for the HCP and procedures to deal with unforeseen circumstances.
- 4. The taking will not appreciably reduce the likelihood of survival and recovery of the species in the wild.
- 5. The applicant will ensure that other measures that the USFWS may require as being necessary or appropriate will be provided.
- 6. The USFWS have received such other assurances as may be required that the HCP will be implemented.

Section 7 of the Federal Act requires federal agencies to ensure that their actions do not jeopardize the continued existence of listed species or destroy or adversely modify listed species' critical habitat. Issuance of an incidental take permit under section 10(a)(1)(B) of the Federal Act by the USFWS constitutes a federal action subject to Section 7 of the Federal Act. As a federal agency issuing a discretionary permit, the USFWS is required to undertake an internal Section 7 consultation. Elements specific to the Section 7 process that are not required under the section 10 process (e.g., analysis of impacts on designated critical habitat, analysis of impacts on listed plant species, and analysis of indirect and cumulative impacts on listed species) are included in the HCP to meet the requirements of Section 7 and assist the USFWS with its internal consultation.

1.6.2 Natural Community Conservation Planning Act

The NCCP program is a cooperative effort to protect habitats and species. It began under the State's NCCP Act of 1991, legislation broader in its orientation and objectives than the Federal and State Endangered Species Acts. These laws are designed to identify and protect individual species that have already declined in number significantly. Although the NCCP Act of 2003 was subsequently passed, the NCCP Act of 1991 and the associated Southern California Coastal Sage Scrub NCCP Conservation Guidelines (California Department of Fish and Game [CDFG] 1993a), Southern California Coastal Sage Scrub NCCP Process Guidelines (CDFG 1993b), and NCCP General Process Guidelines (CDFG 1998) apply to the MSCP and thus to this Major Amendment.



The primary objective of the NCCP program is to conserve natural communities at the ecosystem level while accommodating compatible land use. The program seeks to anticipate and prevent the controversies and gridlock caused by species' listings by focusing on the long-term stability of wildlife and plant communities and including key interests in the process.

This voluntary program allows the state to enter into planning agreements with landowners, local governments, and other stakeholders to prepare plans that identify the most important areas for a threatened or endangered species, and the areas that may be less important. These NCCP plans may become the basis for a state permit to take threatened and endangered species, as well as non-listed species, in exchange for conserving their habitat. The Wildlife Agencies worked to combine the NCCP program with the federal HCP process to provide take permits for state and federal listed species. Under the NCCP, local governments, such as the County, can take the lead in developing these NCCP plans and become the recipients of state and federal take permits. The County's MSCP Subarea Plan (County et al. 1997) and the Implementing Agreement by and between the Wildlife Agencies and County (USFWS et al. 1998) provide coverage for 85 specific species (i.e., MSCP Covered Species).

1.6.3 County Multiple Species Conservation Program Subarea Plan

The Project is located within the South County Segment of the County's MSCP Subarea Plan. Five County MSCP Subarea Plan designations occur on the Project site: Major Amendment Area (291.7 acres), Minor Amendment Area (5.0 acres), Minor Amendment Area Subject to Special Considerations (42.2 acres), Take Authorized Area (0.5 acre), and Hardline Preserve (103.7 acres; Figure 5). The amendment designations are because the locations of preservation and development areas were not resolved during the MSCP process for all lands within the South County Segment. For lands designated as Major and Minor Amendment Areas, the County's take authorizations for MSCP Covered Species do not apply until the Major or Minor amendment process has been completed. See the List of Acronyms and Definitions at the beginning of this document for the definitions of these Subarea Plan designations. Requirements for processing Major and Minor Amendments to the County MSCP Subarea Plan are listed below.

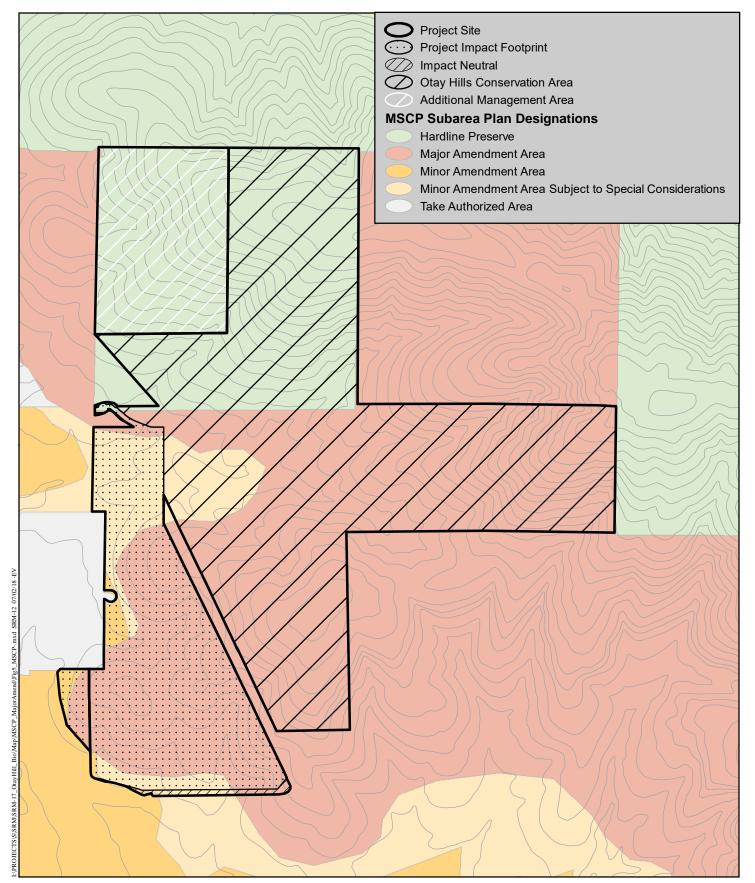
Major Amendment Areas

Major Amendments must conform to the MSCP Subregional Plan, the County MSCP Subarea Plan, as well as the BMO (County 2010a). Major Amendments also must be authorized by the Wildlife Agencies and be in conformance with all applicable laws and regulations, including NEPA, CEQA, NCCP Act, and Federal Act. Major Amendment Areas on the Project site are shown on Figure 5.

Minor Amendment Areas

Minor Amendments must meet the criteria and achieve the goals of linkages and corridors described in the County MSCP Subarea Plan (sections 4.2.1 and 4.2.2) and provide mitigation consistent with the BMO. Development within Minor Amendment Areas requires approval from the USFWS Field Office Supervisor, CDFW NCCP Program Manager, and County Board of Supervisors. Minor Amendment Areas on the Project site are shown on Figure 5.

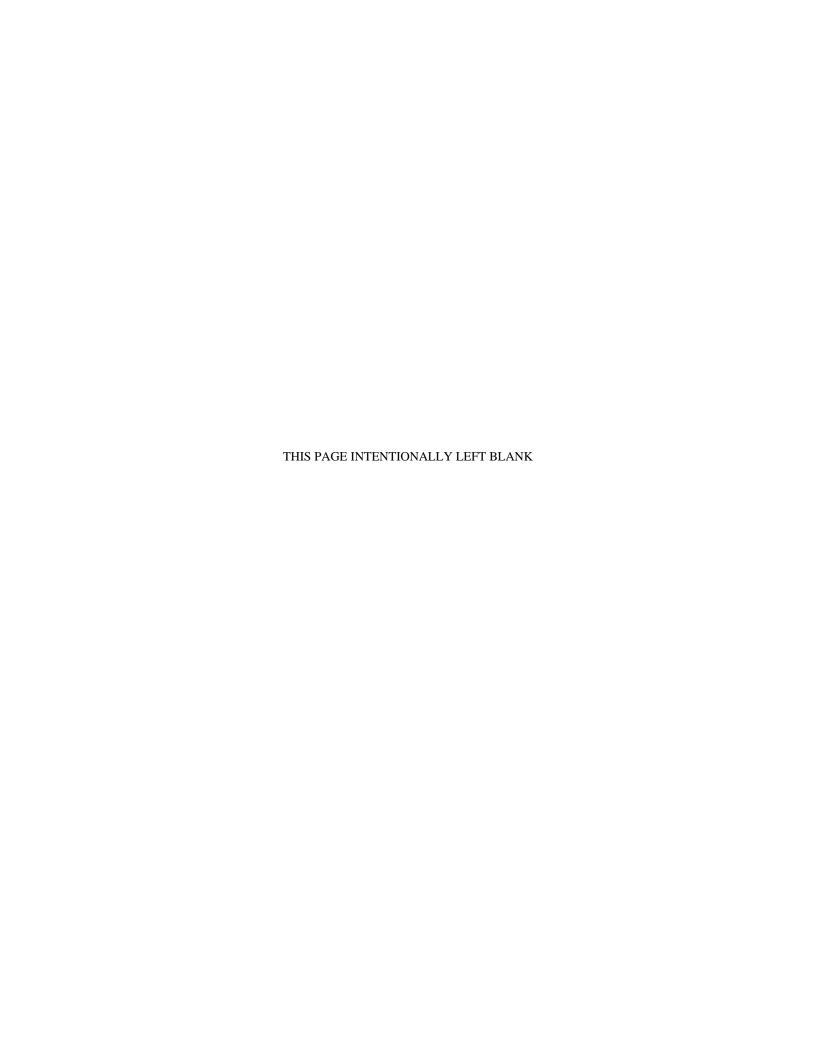




MSCP Subarea Plan







Minor Amendment Areas Subject to Special Considerations

In order to receive approval of a Minor Amendment that is Subject to Special Considerations, a Resource Conservation Plan addressing impacts to habitat and endangered species must be completed. Certain areas may be acquired or exacted as open space as a potential means of mitigating environmental impacts of development. Minor Amendment Areas Subject to Special Considerations on the Project site are shown on Figure 5.

The Proposed Action would:

- 1) Reclassify 77.1 acres from the Major Amendment Area to Take Authorized Area to allow for development;
- 2) Reclassify 4.7 acres in Minor Amendment Areas to Take Authorized Area;
- 3) Reclassify 25.2 acres in Minor Amendment Area Subject to Special Considerations to Take Authorized Area;
- 4) Reclassify 0.3 acre of Hardline Preserve to Take Authorized Area;
- 5) Reclassify 185.0 acres from the Major Amendment Area into Hardline Preserve;
- 6) Reclassify 15.8 acres of Minor Amendment Area Subject to Special Considerations to Hardline Preserve;
- 7) Reclassify 0.4 acre of Take Authorized Area to Hardline Preserve; and
- 8) Provide take authorization for the QCB (not an MSCP Subregional Plan or County MSCP Covered Species) and several other County MSCP Covered Species inside the development (or impact) footprint of the Project.

On the Project site, 0.3 acre already classified by the County's MSCP Subarea Plan as Take Authorized would be impacted by the project and 103.4 acres of private property already classified as Hardline Preserve (but not yet protected or managed) would be dedicated to open space in the OHCA.

In combination, these actions would result in permanent open space conservation (Hardline Preserve) of 304.6 acres on the Project site (not including the 2.4 acres of impact neutral area; see Section 1.2), of which 295.2 acres are high-quality habitat (the remainder consists of 8.7 acres of disturbed habitat and 0.7 acre of developed). Of these 304.6 acres, 103.4 acres are already designated as Hardline Preserve, and another 0.4 acre is considered Take Authorized but would be reclassified as Hardline Preserve. The preserved habitat would be connected to other conserved, high value habitat areas in the South County Segment of the County MSCP Subarea Plan that support listed and/or sensitive plant and animal species, which would contribute to the overall goals of the MSCP Subregional Plan and the County MSCP Subarea Plan. Management funding



provided for the AMA would further contribute to overall goals of the MSCP Subregional Plan and the County MSCP Subarea Plan.

1.6.4 National Environmental Policy Act

The purpose of NEPA is two-fold: to ensure that federal agencies examine environmental impacts of their actions (in this case, deciding whether to amend an incidental take permit) and to utilize public participation. The NEPA requires federal agencies to include in their decision-making process appropriate and careful consideration of all environmental effects of a proposed action and of possible alternatives. Documentation of the environmental impact analysis and efforts to avoid or minimize the adverse effects of proposed actions must be made available for public notice and review. This analysis is documented in either an environmental assessment (EA) or an environmental impact statement (EIS). Federal agencies must disclose in these documents whether the proposed action will adversely affect the human or natural environment. The NEPA requires disclosure of environmental effects and mitigation possibilities and serves as an analytical tool on direct, indirect, and cumulative impacts of the proposed project alternatives to help the USFWS decide whether to issue an incidental take permit. To satisfy NEPA, a draft EIS will be prepared for issuance of an amended incidental take permit for this HCP and circulated for public comment. After consideration of public comments, a final EIS will be prepared culminating in a record of decision which will document the USFWS' final decision.

National Historic Preservation Act

Compliance with the National Historic Preservation Act of 1966, as amended (16 U.S.C. 470 et seq.; NHPA), is required by law for all federal undertakings. An undertaking is defined in 36 CFR 800.16(y) of the NHPA's implementing regulations as "a project, activity, or program funded in whole or in part under the direct or indirect jurisdiction of a federal agency, including those carried out by or on behalf of a federal agency; those out with federal financial assistance; and those requiring a federal permit, license or approval." Under this definition, the USFWS issuance of a Federal Act section 10(a)(1)(B) incidental take permit for activities covered in a habitat conservation plan constitutes an undertaking and therefore must examine potential impacts to cultural resources pursuant to the NHPA. Thus, consultation with the State Historic Preservation Office (SHPO) and appropriate American Indian tribes may be required. All incidental take permit applicants are requested to submit a Request for Cultural Resources Compliance form to the USFWS. To complete compliance, the applicant may be required to contract for cultural resource surveys and possibly mitigation. The NHPA and the potential effects of the HCP on resources subject to the NHPA are discussed in detail in the EIR/EIS.

1.6.5 California Environmental Quality Act

The CEQA is a statute that requires state and local agencies to identify the significant environmental impacts of their actions and to avoid or mitigate those impacts, if feasible. The CEQA applies to certain activities of state and local public agencies. A public agency must comply with CEQA when it undertakes an activity defined by CEQA as a project. A project is an activity undertaken by a public agency or a private activity which must receive some discretionary approval



(meaning that the agency has the authority to deny the requested permit or approval) from a government agency which may cause either a direct physical change in the environment or a reasonably foreseeable indirect change in the environment.

Most proposals for physical development in California are subject to the provisions of CEQA, as are many governmental decisions that do not immediately result in physical development (such as adoption of a general or community plan). Every development project that requires a discretionary governmental approval will require at least some environmental review pursuant to CEQA, unless an exemption applies.

2.0 PROJECT DESCRIPTION/ACTIVITIES COVERED BY THE PROPOSED ACTION

2.1 PROJECT DESCRIPTION

The Project Proponent proposes to establish a mineral resource recovery and processing operation with associated activities on approximately 102.7 acres of the 414.4-acre Project site (Figure 4). With the inclusion of the 2.4-acre "impact neutral" area along the southern boundary of the site, the total MUP project area will be approximately 105 acres. During and after mineral resource recovery operations, the open pit would serve as a receiver site for inert debris such as concrete, asphalt, rock, and soil. Approximately 89.2 million tons of mineral resources would be extracted from the development footprint over an approximately 90-year period, and more than 32 million cubic yards of inert debris would be received over an approximately 120+-year period that overlaps the extraction period. Prior to commencing operations, the Project would require the approval of a Specific Plan Amendment (SPA), MUP, Reclamation Plan, and financial assurance. These requirements are set forth in the County of San Diego Grading Ordinance Chapter 87.700 et seq. and the California Surface Mining and Reclamation Act (SMARA) Public Resources Code (PRC) 2770(a) et seq. The Project Proponent proposes preservation of 304.6 acres of conservation area in the OHCA by dedicating a conservation easement and biological open space easement prior to impacts over the entire 304.6-acre OHCA (Figure 4) and phasing of the management and monitoring funding to coincide with the phases of construction.

Rock that has been processed for use in manufacturing other products (such as concrete or asphaltic concrete) is typically referred to as aggregate. Aggregates are necessary for the construction, maintenance, and renovation of buildings and existing homes, and construction of new homes and supporting infrastructure.

Hours of operation primarily would be from 5:00 a.m. to 10:00 p.m. Maintenance and exporting of aggregate by truck, however, could occur 24 hours per day. Following completion of resource recovery operations, the development footprint area would be reclaimed to a beneficial land use consistent with the underlying land use regulations. The proposed SPA would change the designation of approximately 36.3 acres of Mixed Industrial land to Conservation/Limited Open Space. In addition, approximately 81.1 acres of land currently designated Rural Residential would be designated as Mixed Industrial (Figures 6a and 6b). Slopes abutting the OHCA would be revegetated with native upland habitat as construction of the slopes is completed.



Mineral resource recovery operations would be conducted through the use of drilling and blasting to fracture rocks. Based on anticipated production levels of 0.6 to 1.6 million tons per year, blasting would occur approximately once each week. Blasting operations would be conducted by a licensed blasting contractor with all blasting materials transported to the development footprint area for each blasting sequence. No explosives would be stored at the site. A single drill rig would be used to drill a pattern of bore holes three to six inches in diameter. Typically, the pattern would be laid out in a 60- by 120-foot-wide grid with 45-foot-deep holes. A contractor would then load the holes with carefully metered explosives. The "shot" would be timed to detonate each hole(s) in sequence. This procedure minimizes the ground vibration and noise of the blast, while maximizing fracture of the rock. Some dust would be created as a result of the blast; however, the dust would be fully dissipated within 30 to 60 seconds following the shot, and additional dust control measures will be implemented as necessary. The goal of the blasting program would be to fracture the rock to sizes less than 18 inches in diameter.

Following blasting, the rock resource is fractured and can be moved with conventional earth-moving equipment. A front-end loader is used to load off-highway rock trucks for transport of fractured rock to the primary processing plant.

The bulk of the processing activities would take place on an approximate 16.1-acre pad located at the northern portion of the proposed site. The primary processing (which includes the use of a jaw crusher) may be extended to the extraction areas using conveyor belts. Some crushing and screening will eventually occur below grade, within the pit area. The hot mix asphalt (HMA) plant, aggregate processing plant, and concrete ready mix plant will be stationary and therefore, will not be relocated. Equipment shown on the southern end of the 16.1-acre pad, including the recycling plant and primary crusher, is portable and will eventually be relocated to the quarry floor as excavation progresses below grade (Figure 7).

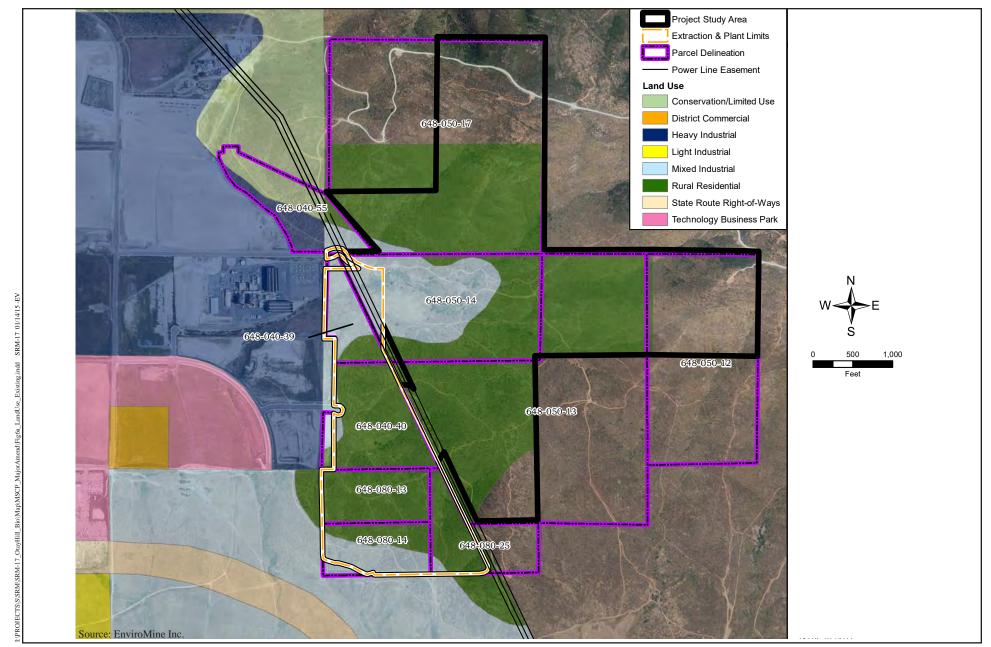
Primary Plant

The primary plant is loosely defined as the area required to process the raw material and crush it to a size suitable for further processing and screening. Typically, a primary plant would crush the rock, screen out unusable fines, and deposit the crushed rock in a surge pile for use by the secondary plant. The primary plant is independent of the secondary plant and can be used without operating the secondary plant. It is anticipated that the primary plant would consist of a jaw crusher, a screen, and a primary crusher. Depending upon the distance from the processing plant, it may be feasible to use a remote jaw crusher and overland conveyor to move materials to the secondary processing plant.

Secondary Plant

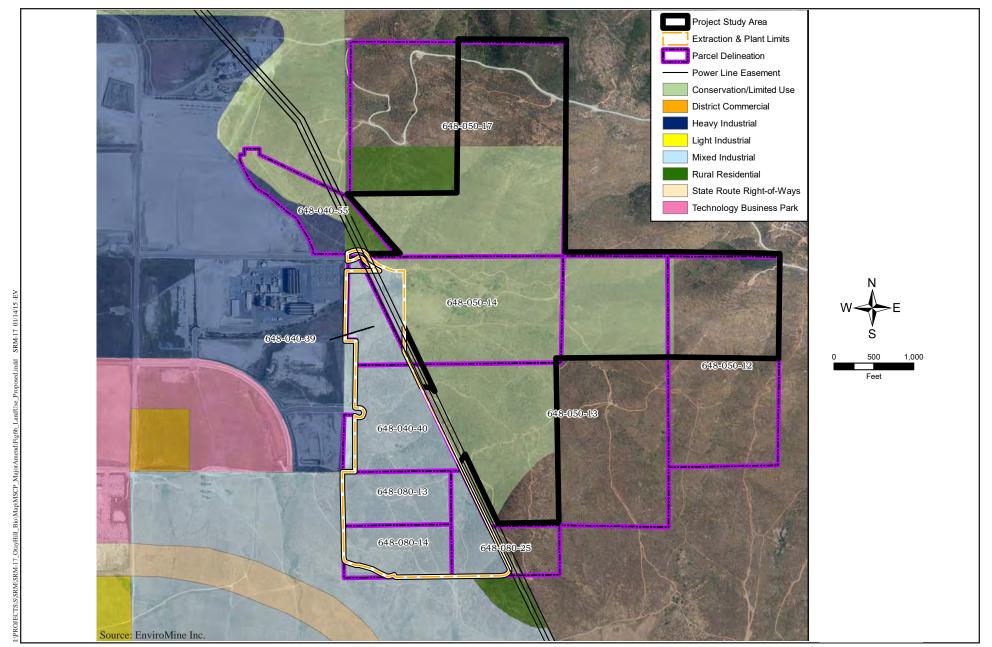
The secondary plant would consist of two to four rock crushers to further reduce the size of the rock, three or four screens to sort the material by size, and a washer to clean dirt from certain types of material to meet end product specifications. Materials washing would require construction of a 90- by 160-foot pond to recycle and store water. Measures have been incorporated into the project that will minimize the potential for the pond to be an attractive nuisance for wildlife. Finished





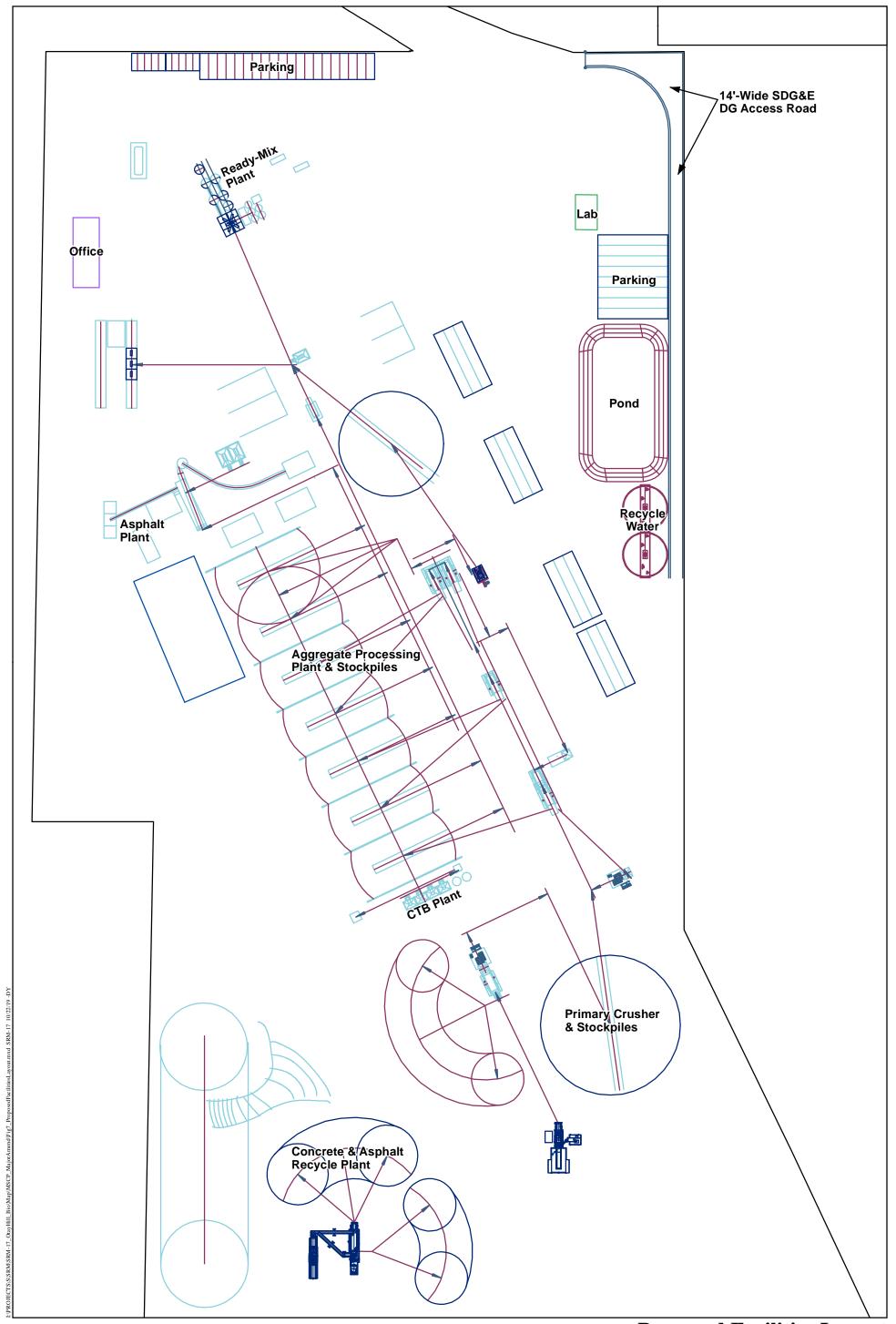
Existing Land Use





Proposed Land Use





Proposed Facilities Layout

aggregate would be stockpiled and/or stored in overhead loading bins. The stockpiles would be approximately 35 feet in height. The aggregate would then be loaded onto trucks either with a front-end loader or by gates on the bottom of overhead loading bins. Prior to leaving the development footprint, loaded trucks would be top-watered to prevent fugitive dust and would pass across a scale to determine the total weight of the truck and identify the type and weight of the aggregate.

Operation of the processing plants would require approval of permits from the San Diego Air Pollution Control District (APCD). Dust would be controlled by state-of-the-art dust control system using the best available control technology (BACT; APCD 2011) with full review and monitoring by the APCD. The BACT may include measures such as covered screens or water spray systems for screens and material transfer points.

Concrete Batch Plant

A concrete batch plant would be located within the development footprint. The plant would likely be set up so that materials could be conveyed directly from the aggregate stockpiles to the concrete batch plant. Within a concrete batch plant, appropriate quantities of aggregate of various types (i.e., sand and rock), cement, and water are weighed to make up a batch of concrete. These materials are then discharged into a mixer drum on a ready mix concrete truck. A concrete batch plant is relatively quiet, and compliance with the APCD permits requiring BACT would ensure a relatively emissions- and dust-free operation.

Asphaltic Concrete Batch Plant

An asphaltic concrete batch plant also would be located within the development footprint. The plant would likely be set up so that materials could be conveyed from the aggregate stockpiles for direct loading of the asphalt plant by conveyor. The asphalt plant would discharge the various types of aggregate into a large rotating drum, where the aggregate would be heated to drive off water. The heated materials would then be mixed with asphalt to make asphaltic concrete. An asphaltic concrete plant is also relatively quiet, and compliance with APCD permits requiring BACT would ensure a relatively emissions- and dust-free operation.

Cement Treated Base Plant

A cement treated base plant would be located within the development footprint. Cement treated base is a rock/sand mixture that has been mixed with cement powder to provide improved strength and stability for highway and foundation projects.

Recycling of Concrete and Asphalt Products

Efficient use of resources requires that all used concrete and asphalt products (also known as construction and demolition materials) be recycled for beneficial use. This process involves the import of used concrete and asphalt materials that have been salvaged from redevelopment and/or reconstruction projects. These materials are crushed and then exported for use as road base or as



a foundation material. These materials may also be blended with crushed rock originating from the development footprint to improve performance characteristics.

Office Buildings

Buildings associated with the aggregate plant within the development footprint would likely include an office building, a small truck scale office, and a small maintenance shop. These facilities would be located near the secondary plant. Operations would likely employ approximately 10 to 15 persons, and parking within the development footprint is proposed.

Truck Access

Operations would produce approximately 0.6 to 1.6 million tons of aggregate annually during the most active phase of activity. There would be no trips related to mining or landfilling activities during Phase 1. It is anticipated that less than 148 average daily passenger care equivalent (PCE) trips would be experienced during this time. During Phase 2, truck trips would be limited to trips required for the extraction operation and materials imports for the onsite processing facilities. There would be no trips related to landfilling activities during Phase 2. Operations would produce approximately 0.6 to 1.6 million tons of aggregate annually. This level of activity would result in 1,332 PCE trips per day, related to Phase 2 and Phase 3 activities and based on an average production scenario. During Phase 4, 390 PCE trips on an average day would result from imported material and landfilling operations. Therefore, 1,722 average daily PCE trips should be expected when both extraction and Inert Debris Engineered Fill operations are occurring (Phases 3 and 4)

Primary access to the site would be from Calzada de la Fuente, a dedicated access road that connects the northern end of the site with Alta Road. The access road connects with Alta Road approximately one-half mile north of the intersection with Otay Mesa Road.

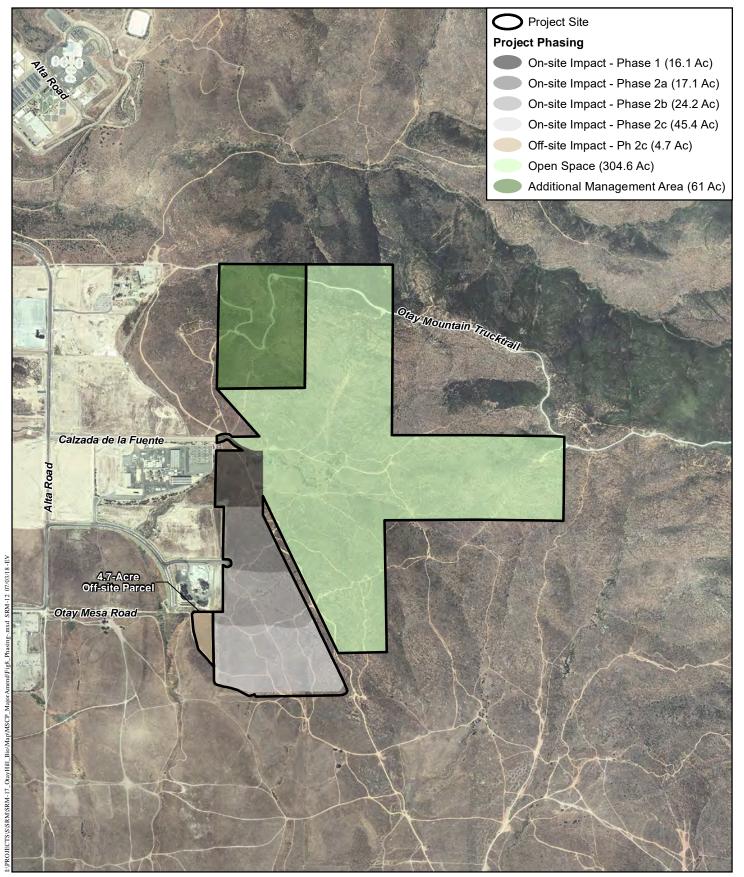
Phasing

The proposed mineral resource recovery project would consist of site preparation for the processing plant equipment and a phased extraction and backfilling operation. Ongoing backfilling of the site during the open pit extraction phase of the Project would allow reclamation to progress concurrently with the extraction operation. The phases would include Phase 1 Site Preparation, Phase 2 Extraction to Natural Grade Elevation, Phase 3 Open Pit Extraction, and Phase 4 IDEFO, as further discussed below and shown on Figure 8.

Phase 1 – Site Preparation

Phase 1 would be located in the northern portion of the development footprint (Figure 8). Site preparation would involve initial grading to establish access routes; extending water and power service to the development footprint; grading pad areas for processing plant location; and constructing the processing plant, concrete batch plant, asphalt plant, cement treated base plant, and site office. Phase 1 would consist of cutting the landform to create a relatively flat working surface for the processing plant. This initial phase would include approximately 16.1 acres within the development footprint, plus associated activities required to construct the access road.





Project Location/Phasing





Activities in Phase 1 are expected to continue for about one year. Refer to Figure 7 for the proposed facilities layout. A fence would be placed along the outside edge of extraction areas during construction for safety and security reasons. The fence also would help keep people out of the OHCA.

<u>Phase 2 – Extraction to Natural Grade Elevation</u>

Phase 2 would involve commencement of extractive operations within the development footprint (Figure 8). This phase is divided into three sub-phases with Phase 2a occurring in the north and ending with Phase 2c in the south. Phase 2 would consist of cutting the landform to the natural grade elevation that exists along the western perimeter of the development footprint. During Phase 2a, aggregate resources would be recovered immediately adjacent to Phase 1 and over an approximately 17.1-acre area of the development footprint (Figure 8). Extractive operations in Phase 2a are expected to remove 4.2 million tons and would continue for approximately 4.5 years depending on the demand for aggregate resources. Phase 2b would commence upon completion of extraction operations within Phase 2a.

Phase 2b operations would include extraction of material from an approximately 24.2-acre area and is expected to continue for approximately 5.5 years depending on the demand for aggregate resources. This phase is expected to remove 4.7 million tons of material.

Phase 2c operations would begin immediately following the completion of extraction operations within Phase 2b. Phase 2c would consist of extracting approximately 10.5 million tons of material from the remainder of the extraction footprint (approximately 45.4 acres). This phase is expected to continue for approximately 11 years depending on the demand for aggregate resources.

As operations progress in Phase 2, slope areas within Phases 1 and 2 would be seeded with a non-invasive erosion control mix. Phase 2 would consist of cutting the landform to the natural grade elevation that exists along the western perimeter of the site. Slopes that are seeded along the eastern perimeter of the pit would be used as a biological buffer adjacent to sensitive habitats proposed to be set aside by the Project to the east of the proposed extractive operations. Salvaged topsoil from the site and a native seed mix would be used for these areas.

Phase 3 – Open Pit Extraction

At the completion of Phase 2, mine operations would continue to Phase 3 (Figure 8). Like Phase 2, Phase 3 is divided into sub-phases. Phases 3a through 3d would also progress in a north to south direction. Extraction operations that would occur during Phases 3b through 3d would extend to a maximum depth of approximately 525 feet from the existing grade, unless groundwater (not storm water) is encountered in the pit. If groundwater is encountered, excavation will halt at that elevation and reclamation will begin within one year. As part of the reclamation process, the site would be used as an IDEFO. Backfilling is expected to continue throughout the Phase 3 operations on a phase-by-phase basis.

The Phase 3a operations would involve additional extraction of material from an approximately 8.5-acre area that would extend below the finished grade to form a sub-grade depression. Phase 3a



extraction operations would extend below the Phase 2a area and have a maximum depth of approximately 285 feet from the existing grade. This phase is expected to remove approximately 2.9 million tons and would continue for approximately three years, depending on the demand for aggregate resources. As extraction operations advance in Phase 3a and space becomes available, backfilling of the Phase 3a sub-grade depression would commence. Inert fill material would be used to backfill the depression. Phase 3b operations would consist of extracting approximately 12.2 million tons of material from an approximately 22.1-acre area over approximately 12 years depending on the demand for aggregate resources.

It is anticipated that Phase 3c would extract approximately 18.3 million tons of material from an approximately 22.1-acre area over approximately 18 years depending on the demand for aggregate resources. Lastly, Phase 3d operations are expected to extract 32.6 million tons from an approximately 33.7-acre area over approximately 33 years (±1 year) depending on the demand for aggregate resources.

Phase 4 – Inert Debris Engineered Fill Operations

As extraction operations advance in Phase 3, the pit would be backfilled with inert fill material (fill dirt) on a phase-by-phase basis. The rate of backfill is estimated at 500,000 cubic yards per year. This backfill rate was determined by studying backfill rates at other sites in San Diego County. Throughout the phased mine plan, fill material that is used for backfilling would be compacted to form pad areas. All fill material would be inspected upon arrival to ensure that contaminated soils or garbage are not present. All backfilling operations would be supervised by a geotechnical engineer to ensure that the materials are adequately compacted to satisfy the needs of the post-mining land use. Inert fill is produced from a variety of sources but typically is a by-product of sub-grade excavations for parking garages or development that results in export of naturally occurring soil. In addition, clean demolition materials from redevelopment projects need to be placed in an inert fill materials site.

Depending on the rate at which fill material is imported to the site, it is anticipated that Phase 4 activities would continue for approximately 64 years throughout the extraction operation and for approximately 15 years beyond extraction operations.

Reclamation

Reclamation would commence upon completion of each phase. Although reclamation would occur in each phase as recovery operations are concluded, these activities would be similar on all areas of the development footprint. Final reclamation would occur when all recovery operations have been completed. These activities would include final grading to establish the final land form, removal of plant equipment, application of topsoil resources, and revegetation.

Following completion of all recovery operations, processing and operating equipment would be removed from the site unless this equipment continues to be used following reclamation. At this time, it is anticipated that the concrete and asphalt plants would remain on the site following reclamation.



Pad areas would be treated with appropriate erosion control measures to stabilize the development footprint against accelerated erosion and sedimentation. The development footprint would be managed in this manner until an appropriate land use is identified. Post-mining land uses would be consistent with the underlying land use designations and will be determined upon reclamation of the site following completion of mining. An application for a SPA was submitted to County that addressed the land use concerns associated with long-term use of the Project site following the end of mining operations. The SPA would change the designation of approximately 36.3 acres of Mixed Industrial land to Conservation/Limited Open Space. These lands are found to the north and east of the Project site. In addition, approximately 81.1 acres of land currently designated Rural Residential would be designated as Mixed Industrial.

Portions of the slopes would be seeded as a biological buffer adjacent to sensitive biological habitats proposed to be set aside by the Project Proponent as construction of the slopes is completed. The OHCA dedications would occur on undisturbed lands located to the east of the proposed extractive operations prior to initiation of impacts. A fence would be placed along the outside edge of extraction areas during construction for safety and security reasons. The fencing will be chain link or similar fencing material. The fence also would help keep people out of the OHCA.

2.2 ACTIVITIES COVERED BY THE PERMIT

Activities proposed for coverage under the HCP that may result in direct impacts to Proposed Covered Species are vegetation clearing, grading, blasting, material extraction, and ancillary activities in the approximately 102.7-acre quarry and landfill development footprint. With the inclusion of the "impact neutral" area along the southern boundary of the site, the total MUP project area will be approximately 105 acres. Additionally, 4.7 acres of existing open space on the Otay Crossings Commerce Project to the west will be isolated by the proposed activity and are, therefore, considered impacted. The future land use of the 4.7-acre parcel will be determined through a separate action. It is anticipated that direct impacts to Proposed Covered Species would likely be limited to initial vegetation clearing, which is expected to occur over the entire development footprint within the first 16 years during Phases 1 and 2; thereafter, the development footprint area will be maintained in a cleared/disturbed state.

The activities listed above may result in indirect impacts to Proposed Covered Species including noise, invasive plant species, human activity/domestic animals, night lighting, fugitive dust, and animal pitfalls. Indirect impacts are anticipated to diminish over time as the grade separation between the quarry floor and OHCA increases. Indirect impacts are not expected to be significant after completion of Phase 2, which is expected to be completed within approximately 23 years of project initiation. Project minimization measures will further reduce these effects as discussed further below.

There is also the potential that some inadvertent take of small numbers of QCB could occur during habitat management activities as a result of trampling of QCB larvae and host plants. Minor trampling could also occur to sensitive plants; however, known sensitive plant and nest locations will be recorded and impacts will be avoided as much as possible during habitat management activities. This HCP authorizes incidental take of Proposed Covered Species through the expiration



of the current MSCP Subarea Plan in 2048. If additional take authorization is deemed necessary after 2048, an extension or a new permit would be required.

3.0 AFFECTED ENVIRONMENT

3.1 LOCATION

The 414.4-acre Project site is located approximately one mile north of the border with Baja California, Mexico, one mile east of the Otay Mesa border crossing, and east of the intersection of Otay Mesa and Alta Roads (Figures 1 and 2). The Project is in Township 18 South, Range 1 East, Sections 29, 30, 31, and 32 on the San Bernardino Base and Meridian U.S. Geological Survey (USGS) 7.5-minute Otay Mesa quadrangle map (Figure 2). Within the Project site, the development footprint, OHCA, and AMA are shown on Figure 5 in relation to the MSCP Subarea Plan Designations.

3.2 GEOGRAPHIC SETTING

The Project is located within the foothills of the San Ysidro Mountains (Figure 2). Topographically, the Project site is composed of generally parallel ranges of steep-sloping hills and mountains separated by alluvial valleys. Elevation in the western portion of the Project site ranges from 600 to 1,020 feet above mean sea level (AMSL). Elevation in the north ranges from 700 to 1,300 feet AMSL, and areas in the east extend to above 1,500 feet AMSL.

3.3 LAND USE

The Project site is undeveloped and consists of several low hills at the western foothills of the San Ysidro Mountains. Numerous dirt roads cross the Project site. With the exception of Otay Truck Trail, these roads are frequently used illegally by off-highway vehicles (OHVs), especially dirt bikes. Hundreds of dirt bikes and OHVs have been observed on the Project site during surveys. The U.S. Border Patrol traverses the Project site in vehicles and OHVs during daily patrols. In addition, San Diego Gas & Electric (SDG&E) maintains access roads on the Project site. These activities degrade the biological resources on the Project site but not to an extent that appreciably decreases their value.

The southern boundary of the Project site abuts the boundaries of the proposed East Otay Mesa Recycling and Collection Center Landfill. The final footprint of this facility has not yet been determined, and no permits have been issued. The land is undeveloped and similarly impacted by OHVs and the U.S. Border Patrol.

The San Ysidro Mountains and foothills lie north and east of the development footprint and are largely undeveloped. A few roads, such as the Otay Mountain Truck Trail and some dirt trails, transect these mountains. Most of these mountains are considered Biological Resource Core Area (BRCA; County 2010a) that support a high concentration of sensitive biological resources, which if lost or fragmented, could not be replaced or mitigated elsewhere. Additionally, the Otay Mountain Cooperative Land and Wildlife Management Area managed by the BLM lies east of the



Project site. The Otay Mountain Truck Trail, which crosses the northern portion of the Project site, provides access to this BLM-managed land. The trail is used mainly by U.S. Border Patrol agents and by motorists desiring a scenic view; some mountain bikers also use the trail. Besides the U.S. Border Patrol, fewer than 1,000 recreationalists use the trail each year.

Undeveloped land and industrial complexes surround the development footprint. The closest existing development to the development footprint is a power plant on a lot abutting the western edge of the footprint; the land adjacent to the remainder of the western boundary is undeveloped although much of the western edge abuts pads that have been graded for future development. A small portion of the southwestern portion of the development footprint abuts open space on the Otay Crossings Commerce Park project. The George F. Bailey County Detention Facility is located approximately one mile to the northwest and the R.J. Donovan State Correctional Facility is located approximately 1.1 miles to the northwest. West and southwest of the development footprint, starting approximately one-half to one mile away and spreading westward, are industrial developments consisting of large buildings, automobile and/or equipment yards, and a municipal, small-airplane airport (Brown Field). Undeveloped lots are scattered between the various facilities.

The closest mapped recreational facility to the development footprint is Lower Otay County Park, approximately two miles to the north.

Scattered rural residential uses nearby consist of five private residential farms/ranches located within approximately two miles of the development footprint. The properties include facilities for animals, such as horses and sheep, and multiple usable and derelict vehicles, as well as homes and scattered outbuildings.

The U.S.-Mexico international border is located approximately 0.75 mile south of the development footprint. Land uses on the Mexican side of the border consist of undeveloped lands and industrial portions of the City of Tijuana, as well as some multi-family residential development.

3.4 GEOLOGY, SOILS, CLIMATE, AND HYDROLOGY

The Project site is located within the Peninsular Ranges Geomorphic Province, a region characterized by northwest-trending structural blocks and intervening, generally parallel, fault zones. Typical lithologies in the Peninsular Ranges include a variety of igneous intrusive (i.e., formed below the surface) rocks associated with the Cretaceous (between approximately 65 and 135 million years old) Southern California Batholith (a large igneous intrusive body). Geologic exposures in the southwestern corner of San Diego County (including the Project site) consist primarily of Jurassic metavolcanic and Tertiary sedimentary rocks, with batholithic rocks generally occurring farther to the east.

Topographically, the Peninsular Ranges Province is composed of generally parallel ranges of steep-sloping hills and mountains separated by alluvial valleys. More recent uplift and erosion has produced the characteristic canyon and mesa topography present today in western San Diego County, as well as the deposition of surficial materials including Quaternary (less than approximately two million years old) alluvium, colluvium, and topsoil.



Soils on the Project site consist almost entirely of San Miguel-Exchequer rocky silt loam (nine to 70 percent slopes), which is typically found in mountainous uplands and consists of silt loams with a clay subsoil (Figure 9). Some of the western portion of the Project site consists of Huerhuero loam (nine to 70 percent slopes), which typically consists of loams with a clay subsoil developed from sandy marine sediments (Bowman 1973).

The Project site occurs within the South Coast Bioregion of California, which is characterized by hot, dry summers with predictable wildfires followed by wet winters with storms that can trigger mudslides on fire-denuded slopes (California Biodiversity Council 2008). Climatic conditions are characteristically Mediterranean, with mild temperatures year-round, though summer temperatures often exceed 90 degrees Fahrenheit and winter temperatures occasionally dip to freezing. Most of the rainfall is during the months of December through March; average annual rainfall is less than 12 inches per year.

The Project site is located within the 470-square-mile Tijuana Hydrologic Unit, which is drained by Cottonwood and Campo creeks. Although these creeks are not in the vicinity of the Project, they are tributaries to the Tijuana River that lies approximately two miles south of it. The development footprint has an overall slope from east to west with a portion of the runoff collecting in an ephemeral stream that runs through the northern portion of the development footprint, and the remainder of the runoff flows through the southern portion of the development footprint. The stream descends from the San Ysidro Mountain Range, which lies to the northeast and drains into the Tijuana River within the boundaries of Mexico.

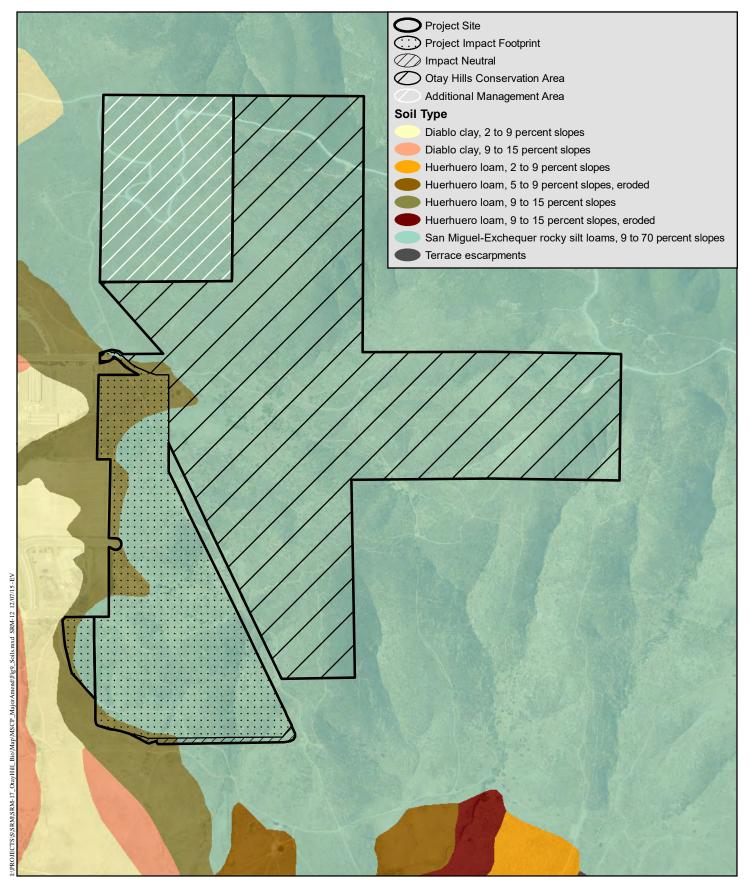
Due to the fairly steep topography on the Project site and lack of significant rainfall, it is unlikely that surface water has a large impact on groundwater in the area. Surface water may enter the Tijuana River and possibly end up in the Lower Tijuana River Valley alluvial aquifer. According to the 1997 San Diego County Water Authority (SDCWA) Groundwater Report, the Lower Tijuana River Valley aquifer has a total surface area of 5.6 square miles, total storage capacity of 80,000 acre-feet, and a maximum depth of 80 feet (SDCWA 1997). Although the Tijuana River Valley aquifer collects surface water from the Tijuana Hydrologic Unit, the aquifer is approximately eight miles west of the Project.

3.5 VEGETATION COMMUNITIES/HABITATS

The Project site was burned during a fire that swept through the area in 1997 and has not burned since. Vegetation has largely recovered and has moderate cover of perennial species. As a general characterization of the Project site, the south-facing slopes support thinner soils and are more sparsely vegetated. The north-facing slopes have deeper, heavier soils, support more vegetation, and support the majority of the sensitive annual plant species. Openings in the vegetative canopy are common, especially on the south-facing slopes.

In addition to developed land, 12 vegetation communities/habitats occur on the Project site: mule fat scrub, cismontane alkali marsh, southern interior cypress forest, disturbed wetland, tamarisk scrub, native grassland, Diegan coastal sage scrub (including disturbed), coastal sage-chaparral

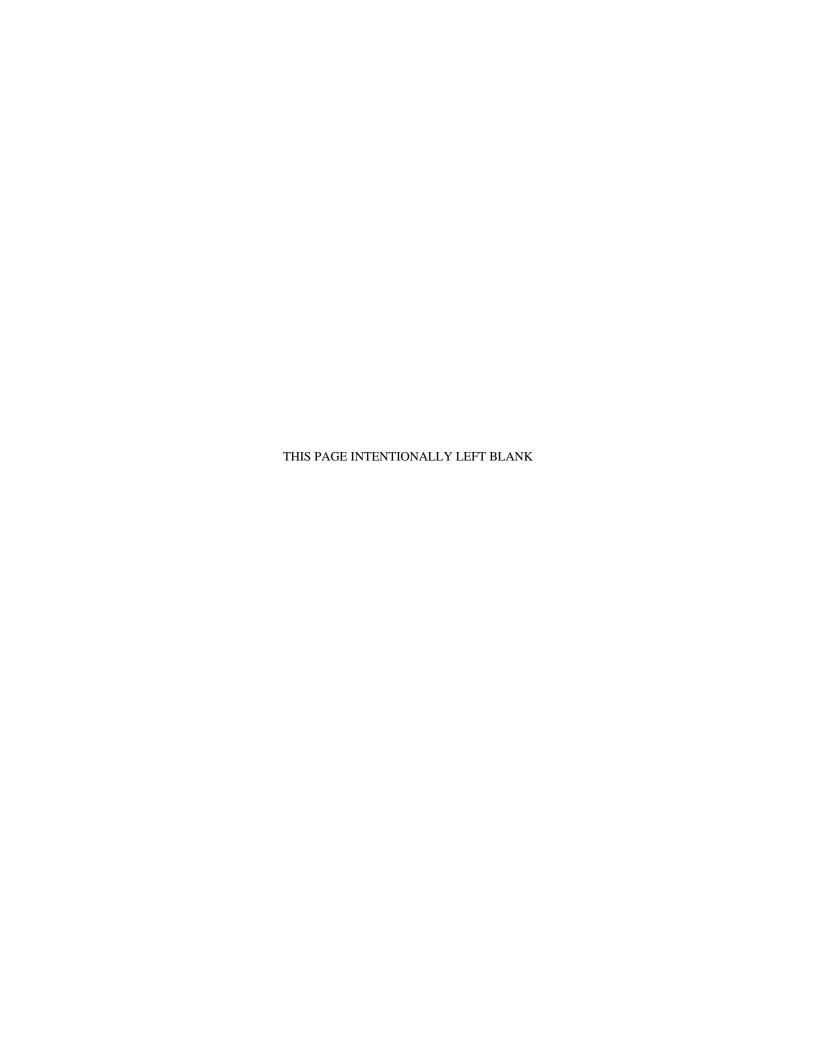




Soils Map







scrub, chamise chaparral, southern mixed chaparral, non-native grassland, and disturbed habitat (Figure 10; Table 2; HELIX 2019).

Table 2
VEGETATION COMMUNITIES/HABITATS ON AND OFF SITE
(acres) ³

VEGETATION COMMUNITY/HABITAT ¹	TIER ²	ON SITE	OFF SITE	TOTAL
Mule fat scrub (63310)	I	0.03	0.00	0.03
Cismontane alkali marsh (52310)	I	0.34	0.00	0.34
Southern interior cypress forest (83330)	I	0.5	0.0	0.5
Disturbed wetland (11200)	1	0.01	0.0	0.01
Tamarisk scrub (63810)	I	0.10	0.00	0.10
Native grassland (42100)	I	1.2	0.0	1.2
Diegan coastal sage scrub (including disturbed; 32500)	II	284.1	2.5	286.6
Coastal sage-chaparral scrub (37G00)	II	5.4	0.0	5.4
Chamise chaparral (37200)	III	14.8	0.0	14.8
Southern mixed chaparral (37120)	III	38.6	0.0	38.6
Non-native grassland (42220)	III	45.4	2.0	47.4
Disturbed habitat (11300)	IV	18.4	0.2	18.6
Developed land (12000)	IV	0.7	0.0	0.7
	TOTAL	409.7	4.7	414.4

¹ Vegetation categories and numerical codes are from Holland (1986) and Oberbauer (2008).

Eleven sensitive vegetation communities are present on the Project site (i.e., all vegetation communities/habitats except disturbed habitat and developed land) and include mule fat scrub, cismontane alkali marsh, southern interior cypress forest, disturbed wetland, tamarisk scrub, native grassland, Diegan coastal sage scrub (including disturbed), coastal sage-chaparral scrub, chamise chaparral, southern mixed chaparral, and non-native grassland. Each vegetation community/habitat present is described below.

Mule Fat Scrub

Mule fat scrub is a riparian scrub community dominated by mule fat (*Baccharis salicifolia*) interspersed with shrubby willows (*Salix* spp.) and a few other shrub species. This vegetation community occurs along intermittent stream channels with a coarse substrate and moderate depth to the water table. Mule fat scrub is maintained by frequent flooding, the absence of which would lead to riparian woodland or forest (Holland 1986). On the Project site, mule fat scrub is dominated by mule fat; other species include arroyo willow (*S. lasiolepis*), tamarisk (*Tamarix* sp.), and broom baccharis (*B. sarothroides*).



² Tiers refer to County MSCP Subarea Plan habitat classification system.

³ Upland habitats are rounded to the nearest 0.1 acre. Wetland habitats are rounded to the nearest 0.01. Totals reflect rounding.

Cismontane Alkali Marsh

Cismontane alkali marsh is characterized by wet or inundated areas dominated by emergent plant species, but often with an understory of grasses or sedges. Standing water or saturated soil is present during all or most of the year. High evaporation rates and low input of freshwater result in high salinity levels, especially during the summer (Holland 1986). Characteristic species generally include yerba mansa (*Anemopsis californica*), saltgrass (*Distichlis spicata* var. *stricta*), cattails (*Typha* spp.), and/or rush (*Juncus* sp.). On the Project site, cismontane alkali marsh is dominated by San Diego marsh-elder (*Iva hayesiana*) and southwestern spiny rush (*Juncus acutus* ssp. *leopoldii*).

Southern Interior Cypress Forest

Southern interior cypress forest is a fairly dense, fire-maintained, low forest dominated by piute cypress (*Hesperocyparis* [*Cupressus*] *nevadensis*), Tecate cypress (*H.* [*C.*] *forbesii*), or Arizona cypress (*H.* [*C.*] *stephensonii*). This forest often occurs as isolated groves within a matrix of chaparral or piñon-juniper woodland (Holland 1986). On the Project site, southern interior cypress forest is dominated by Tecate cypress with a matrix of chaparral species. The other two cypress species do not occur on the Project site. Tecate cypress is the host plant for Thorne's hairstreak butterfly (*Callophrys thornei*) but Thorne's hairstreak was not observed during surveys and is considered to have very low potential to occur.

Disturbed Wetland

This vegetation community is dominated by exotic wetland species that invade areas that have been previously disturbed or undergone periodic disturbances. These non-natives become established more readily following natural or human-induced habitat disturbance than the native wetland flora. Characteristic species of disturbed wetlands include giant reed (*Arundo donax*), ox tongue (*Picris echioides*), cocklebur (*Xanthium strumarium* var. *canadense*), and tamarisk (*Tamarix* sp.). Dominant species in this plant community within the Proposed Project site include hyssop loosestrife (*Lythrum hyssopifolia*).

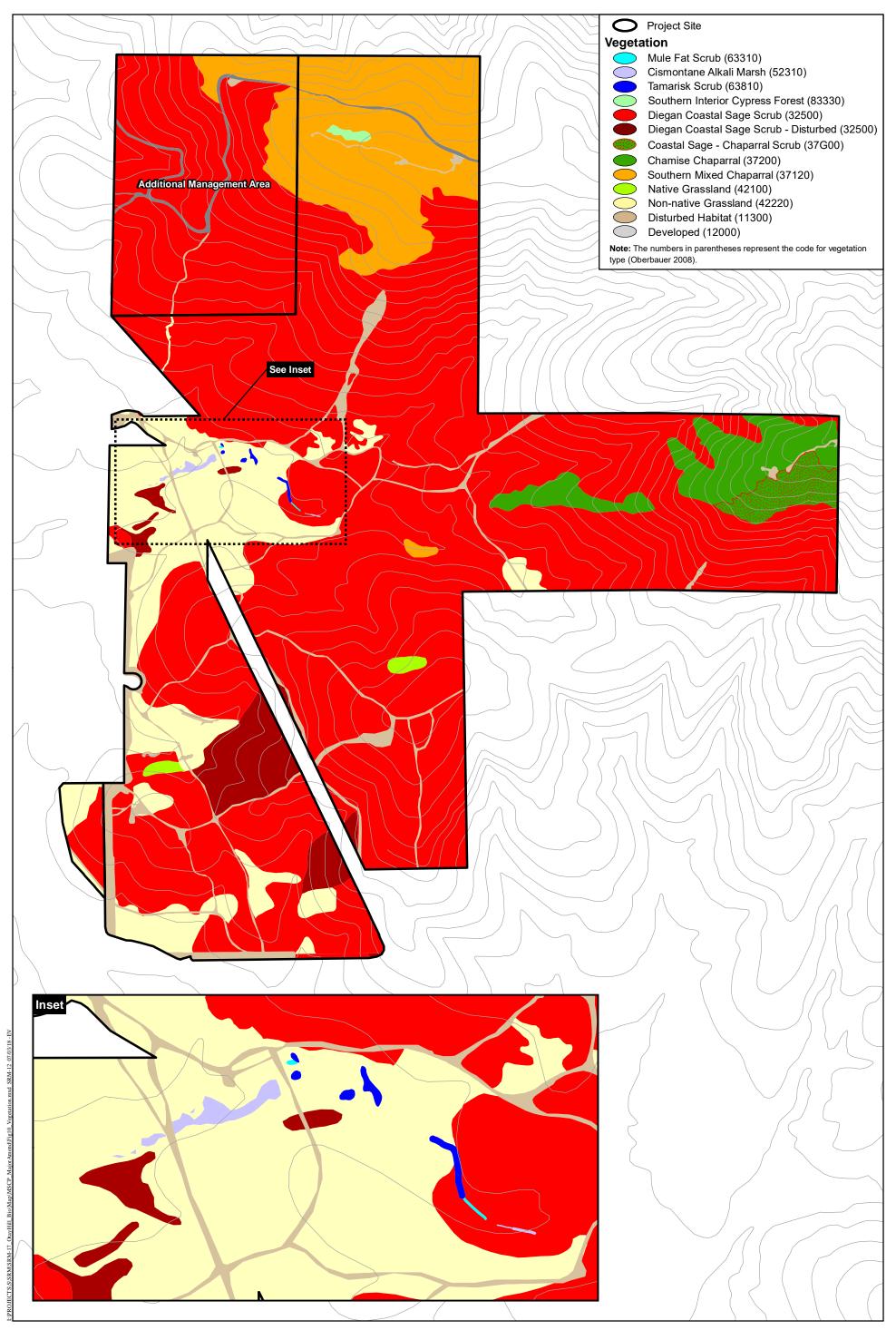
Tamarisk Scrub

Tamarisk scrub is a weedy stand of tamarisk species, which are non-native plant species that displace native vegetation subsequent to a major disturbance. It occurs along intermittent streams where high evaporation rates increase the salinity level of the soil. Because of its deep root system and high transpiration rates, tamarisk can substantially lower the water table to below the root zone of native species, thereby competitively excluding them. As a prolific seeder, it is able to rapidly replace the native species that it displaces within drainages (Holland 1986). Five small patches of tamarisk scrub occur in the western portion of the Project site.

Native Grassland

Native grassland is a vegetation community dominated by perennial bunchgrasses such as purple needlegrass (*Nassella pulchra*) with annual and perennial forbs such as common golden stars







(Bloomeria crocea ssp. crocea) and California blue-eyed grass (Sisyrinchium bellum). Native grasslands generally occur on fine-textured soils that generally exclude the annual, exotic grasses. Almost all of the native grasslands in California have been displaced by non-native grassland dominated by introduced, annual species. Native grasslands occur throughout California as small isolated islands. Native grassland occurs in two patches on northwest-facing slopes in the western portion of the Project site. Native grasses also occur in smaller patches within Diegan coastal sage scrub on these same slopes. Native grass species that occur within this vegetation community include purple needlegrass and San Diego needlegrass (Achnatherum diegoense).

Diegan Coastal Sage Scrub (including disturbed)

Coastal sage scrub is one of two major shrub types that occur in southern California. It occupies xeric sites characterized by shallow soils. Dominated by drought-deciduous shrub species with relatively shallow root systems and open canopies, coastal sage scrub communities often contain a substantial herbaceous component. Four distinct coastal sage scrub geographical associations are recognized along the California coast (northern, central, Venturan, and Diegan). Despite being greatly reduced from its historical distribution (Oberbauer and Vanderwier 1991), the Diegan association is the dominant coastal sage scrub in coastal southern California from Los Angeles to Baja California, Mexico (Holland 1986) and supports a number of rare, threatened, or endangered species.

Diegan coastal sage scrub (including disturbed) dominates approximately 70 percent of the Project site. Plant species observed within the Diegan coastal sage scrub include California sagebrush (*Artemisia californica*), lemonadeberry (*Rhus integrifolia*), California buckwheat (*Eriogonum fasciculatum*), and laurel sumac (*Malosma laurina*).

Disturbed Diegan coastal sage scrub contains many of the same shrub species as undisturbed habitat but is sparser and has a higher proportion of non-native, annual species. Disturbed Diegan coastal sage scrub may have developed in areas with a slower post-fire revegetation rate that allowed for more non-native species to become established. An additional 51.8 acres of Diegan coastal sage scrub occurs within the AMA.

Coastal Sage-Chaparral Scrub

Coastal sage-chaparral scrub is a mixture of sclerophyllous chaparral shrubs and drought-deciduous sage scrub species and is regarded as an ecotone, or transition, between the two vegetation communities. This vegetation community is located in the eastern end of the Project site and contains floristic elements of both communities including California sagebrush, California buckwheat, laurel sumac, chamise (*Adenostoma fasciculatum*), and Ramona ceanothus (*Ceanothus tomentosus*).

Chamise Chaparral

The most widely distributed chaparral shrub is chamise, which occurs from Baja California, Mexico to northern California in pure or mixed stands. Chamise's ubiquitous distribution may be the result of it being the only chaparral species that regenerates from fire from both an underground



root crown and from seed (Rundel 1986). It often dominates at low elevations and on xeric south-facing slopes with 60 to 90 percent canopy cover. Along its lower elevation limit, chamise intergrades with coastal sage scrub (Rundel 1986). Mission manzanita (*Xylococcus bicolor*) is a minor associate within this vegetation community on the Project site. Chamise chaparral occurs in the eastern portion of the Project site.

Southern Mixed Chaparral

Southern mixed chaparral is composed of broad-leaved, sclerophyllous shrubs that reach between six and 10 feet in height and form dense, often nearly impenetrable stands. The plants of this association are typically deep-rooted. In southern mixed chaparral there is a well-developed soil litter layer, high canopy coverage (greater than 100 percent), low light levels within the canopy, and lower soil temperatures (Keeley and Keeley 1988). This vegetation community occurs on dry, rocky, often steep north-facing slopes with little soil. As conditions become more mesic, broad-leaved, sclerophyllous shrubs that re-sprout from underground root crowns become dominant. Southern mixed chaparral on the Project site includes such species as chamise, mission manzanita, and Ramona ceanothus. Southern mixed chaparral occurs primarily in the far northern portion of the Project site. An additional 7.0 acres of southern mixed chaparral occurs in the AMA.

Non-native Grassland

Non-native grassland is a dense to sparse cover of annual grasses. Characteristic species on the Project site include oats (*Avena* sp.), red brome (*Bromus madritensis* ssp. *rubens*), ripgut (*B. diandrus*), ryegrass (*Lolium* sp.), and mustard (*Brassica* sp.). Most of the annual species that comprise the majority of species and biomass within non-native grassland were introduced from the Mediterranean region, an area with a long history of agriculture and a climate similar to California. These two factors, in addition to intensive grazing and agricultural practices in conjunction with severe droughts, contributed to the successful invasion and establishment of these species and the replacement of native grasslands with annual-dominated, non-native grassland (Jackson 1985).

Non-native grassland occurs primarily in the western portion of the Project site and in small patches scattered throughout Diegan coastal sage scrub. This vegetation community is important raptor foraging habitat and may also support special status plant species.

Disturbed Habitat

Disturbed habitat includes land that has been cleared of vegetation (e.g., dirt roads), contains a preponderance of non-native plant species (such as ornamentals or ruderal, exotic species) that take advantage of disturbance (previously cleared or abandoned landscaping), or shows signs of past or present animal usage which has reduced the land's capability of providing higher quality wildlife habitat.

On the Project site, disturbed habitat includes dirt roads crisscrossing the area that have been carved through the native vegetation and non-native grassland by dirt bikes and U.S. Border Patrol



vehicles. In addition, SDG&E maintains access roads and transmission facilities on the Project site.

Developed Land

Developed land exists where permanent structures and/or pavement has been placed (preventing the growth of vegetation) or where landscaping is clearly tended and maintained. Developed land consists of a paved roadway (Otay Mountain Truck Trail) in the northern portion of the Project site.

3.6 PROPOSED COVERED SPECIES

There is one non-MSCP Covered Species and 17 MSCP Covered Species proposed for coverage under this HCP (12 animals and nine plants; Table 1). Figures 11a and b shows the location of the non-MSCP Covered Species, the QCB, and Figures 12 and 13 show the locations of the MSCP Covered Species. Appendix A includes a conservation analysis for each of these species. The analysis includes the overall levels of conservation of habitat estimated for each MSCP Covered Species in: 1) the MSCP Preserve; 2) within the County Subarea's portion of the MSCP Preserve; and 3) habitat preserved outside of the MSCP Preserve. The conservation analysis also includes background biological information on each species including habitat characteristics/use, life history, status and distribution, occurrences in the Project area, and threats and conservation needs. The MSCP Area Specific Management Directives for each MSCP Covered Species are included as well as guidelines for management and monitoring of the species and their habitats.

4.0 POTENTIAL BIOLOGICAL IMPACTS/TAKE ASSESSMENT

4.1 DIRECT AND INDIRECT IMPACTS

Impacts would be implemented over time. Direct impacts would occur upon clearing of habitat, which is anticipated to occur within the first 16 years of Project implementation (see Section 2.2). Indirect impacts to Proposed Covered Species could potentially occur as a result of noise, potential introduction of invasive plant species, human activity/domestic animals, night lighting, fugitive dust, and the unintentional creation of animal pitfalls. Indirect impacts are anticipated to diminish over time as the grade separation between the quarry and OHCA increases. Indirect impacts are not expected to be significant after completion of Phase 2, which is expected to be completed within approximately 23 years of project initiation, because the grade separation between the quarry and OHCA at that time will limit these impacts, and project minimization measures will further reduce these effects.

4.1.1 Vegetation Communities/Habitats

The Project would directly impact approximately 98.7 acres of sensitive vegetation communities/habitats through grubbing, clearing, and grading: 0.27 acre of cismontane alkali marsh, 0.01 acre of disturbed wetland, 0.06 acre of tamarisk scrub, 0.5 acre of native grassland,



66.7 acres of Diegan coastal sage scrub (including disturbed), and 31.1 acres of non-native grassland (Figure 14; Table 3).

Table 3
DIRECT IMPACTS TO VEGETATION COMMUNITIES/HABITATS

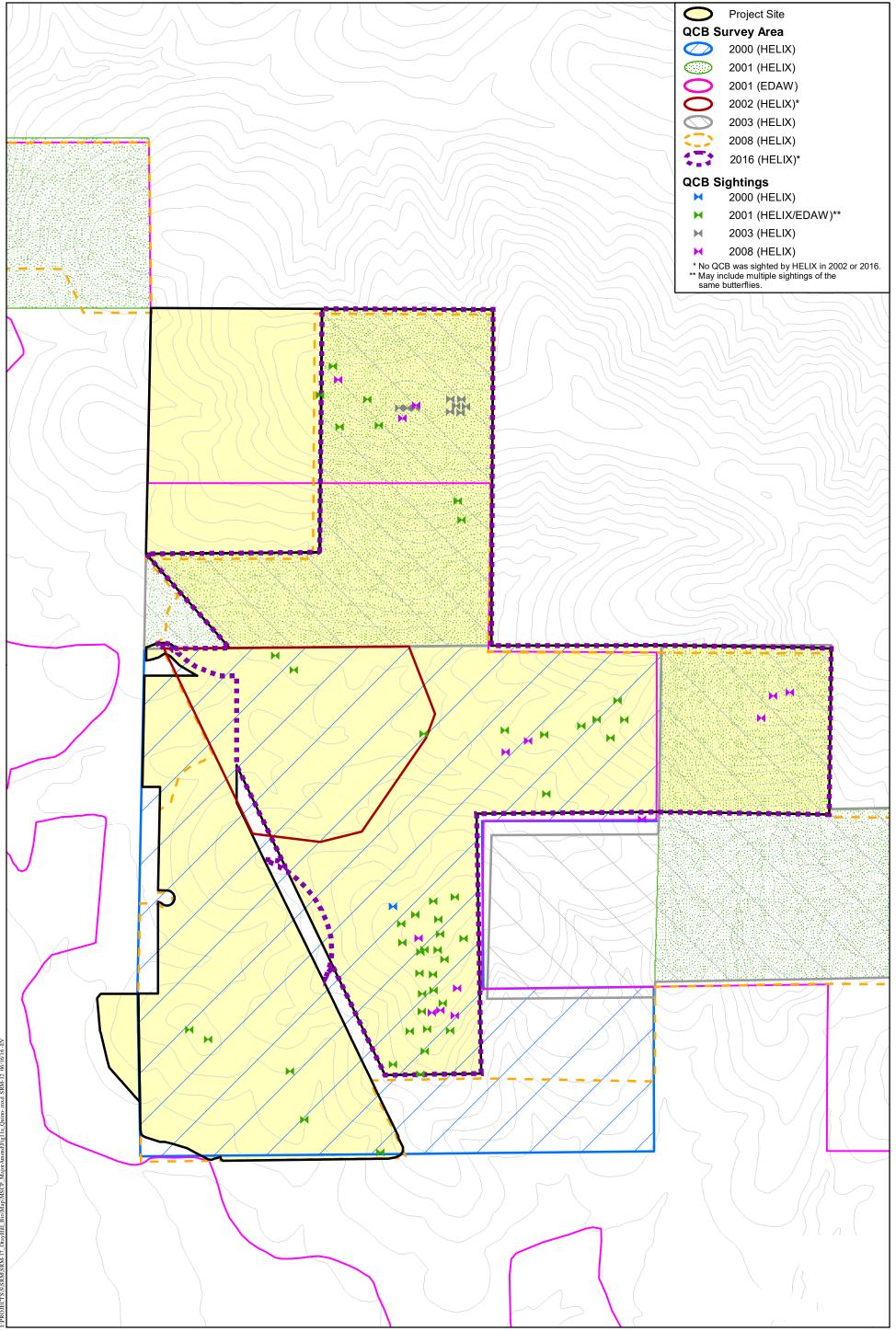
VEGETATION COMMUNITY/HABITAT ¹	TIER ²	ON SITE (acre) ³	OFF SITE (acre) ³	TOTAL (acre) ³	IMPACT NEUTRAL (acre) ^{3,4}
Mule fat scrub (63310)	I	0.00	0.00	0.00	0.00
Cismontane alkali marsh (52310)	I	0.27	0.00	0.27	0.00
Southern interior cypress forest (83330)	I	0.00	0.00	0.00	0.00
Disturbed wetland (11200)	1	0.01	0.00	0.01	0.00
Tamarisk scrub (63810)	I	0.06	0.00	0.06	0.00
Native grassland (42100)	I	0.5	0.0	0.5	0.0
Diegan coastal sage scrub (including disturbed; 32500)	II	64.2	2.5	66.7	1.0
Coastal sage-chaparral scrub (37G00)	II	0.0	0.0	0.0	0.0
Chamise chaparral (37200)	III	0.0	0.0	0.0	0.0
Southern mixed chaparral (37120)	III	0.0	0.0	0.0	0.0
Non-native grassland (42220)	III	29.1	2.0	31.1	0.2
Disturbed habitat (11300)	IV	8.5	0.2	8.7	1.2
Developed land (12000)	IV	< 0.1	0.0	< 0.1	0.0
	TOTAL	102.7	4.7	107.4	2.4

¹ Vegetation categories and numerical codes are from Holland (1986) and Oberbauer (2008).

² Tiers refer to County MSCP Subarea Plan habitat classification system.

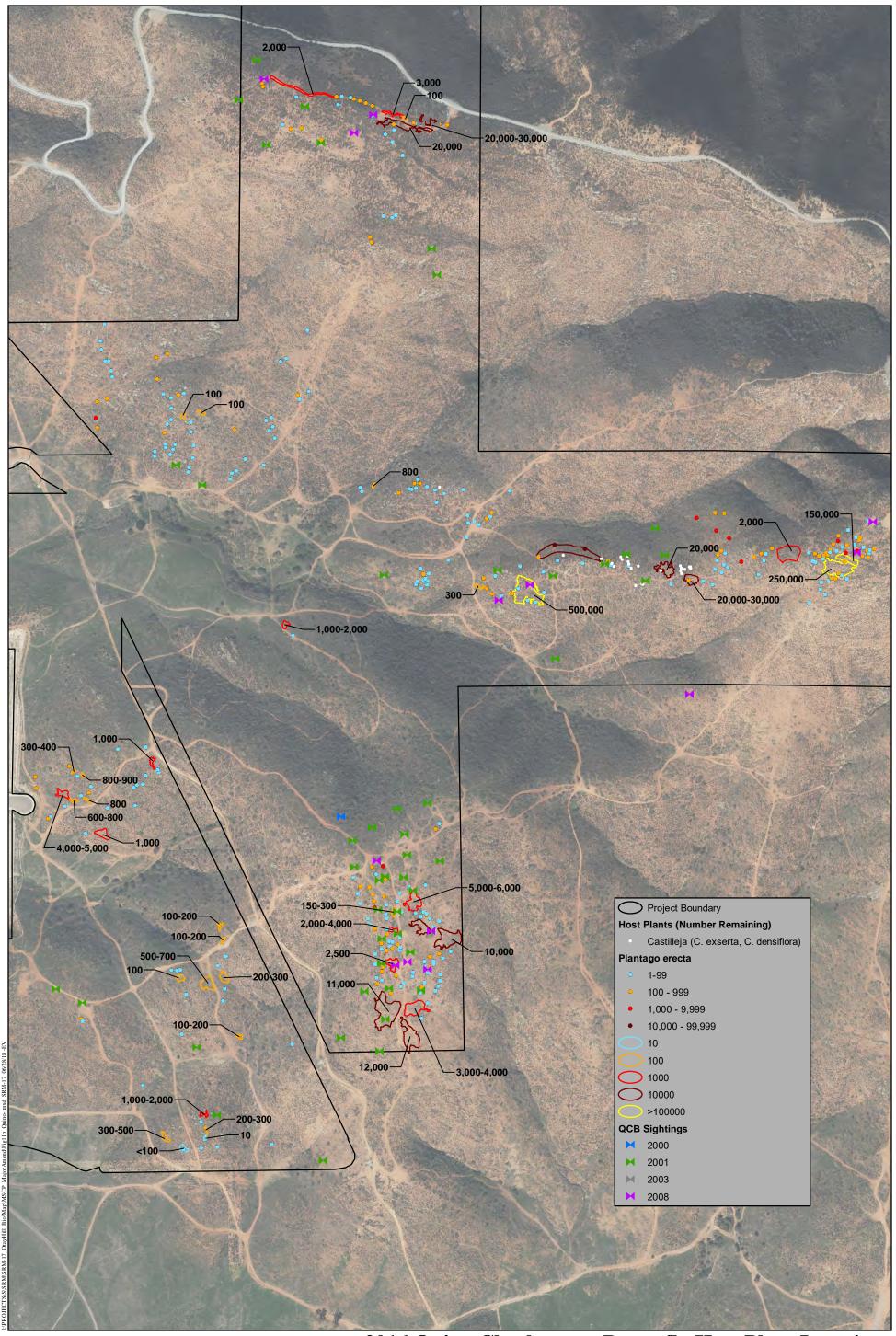
³ Upland habitats are rounded to the nearest 0.1 acre, while wetland habitats are rounded to the nearest 0.01; thus, totals reflect rounding.

⁴ Not impacted but also not proposed to be dedicated to open space.



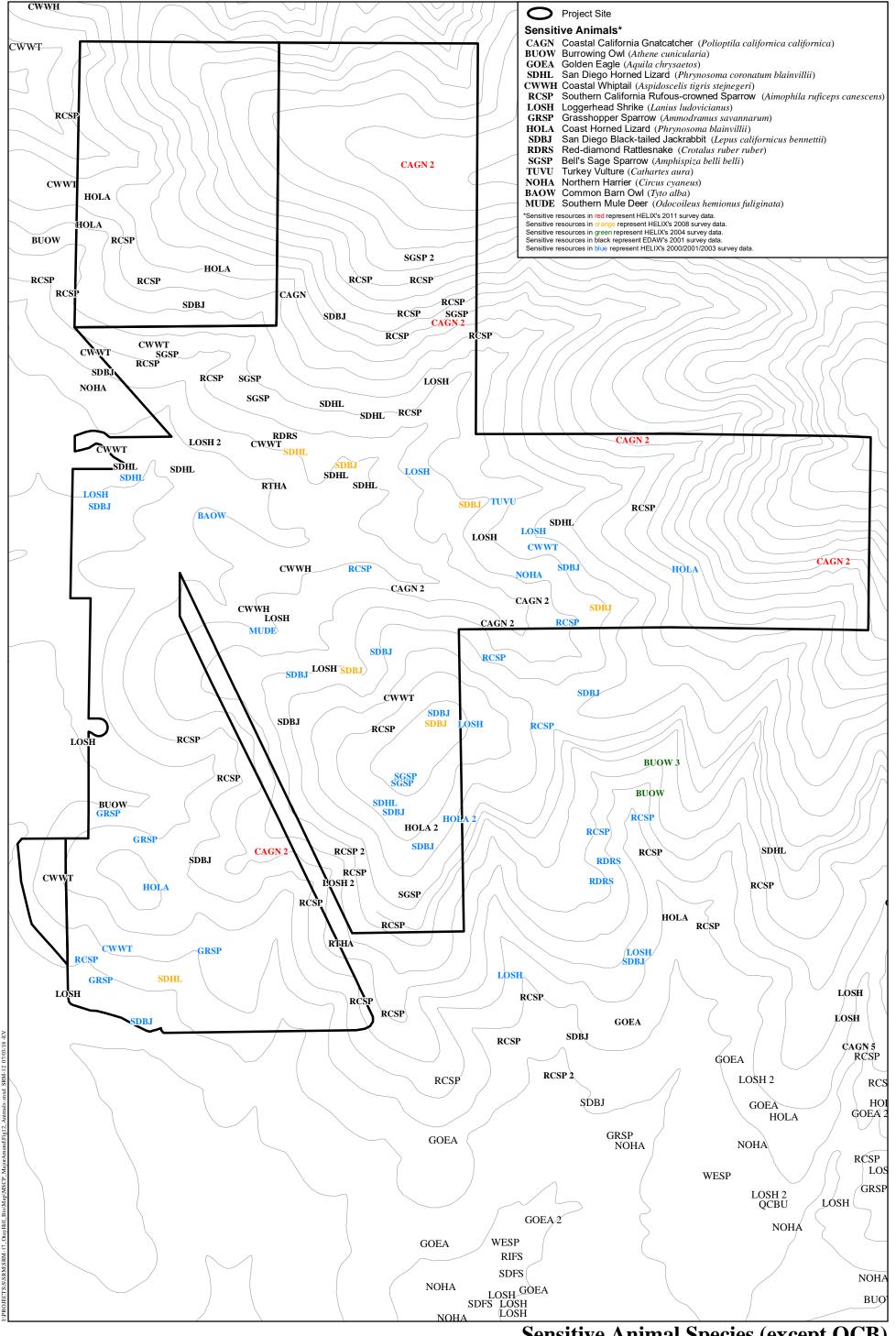
Quino Checkerspot Butterfly (QCB) Survey Limits and Sightings





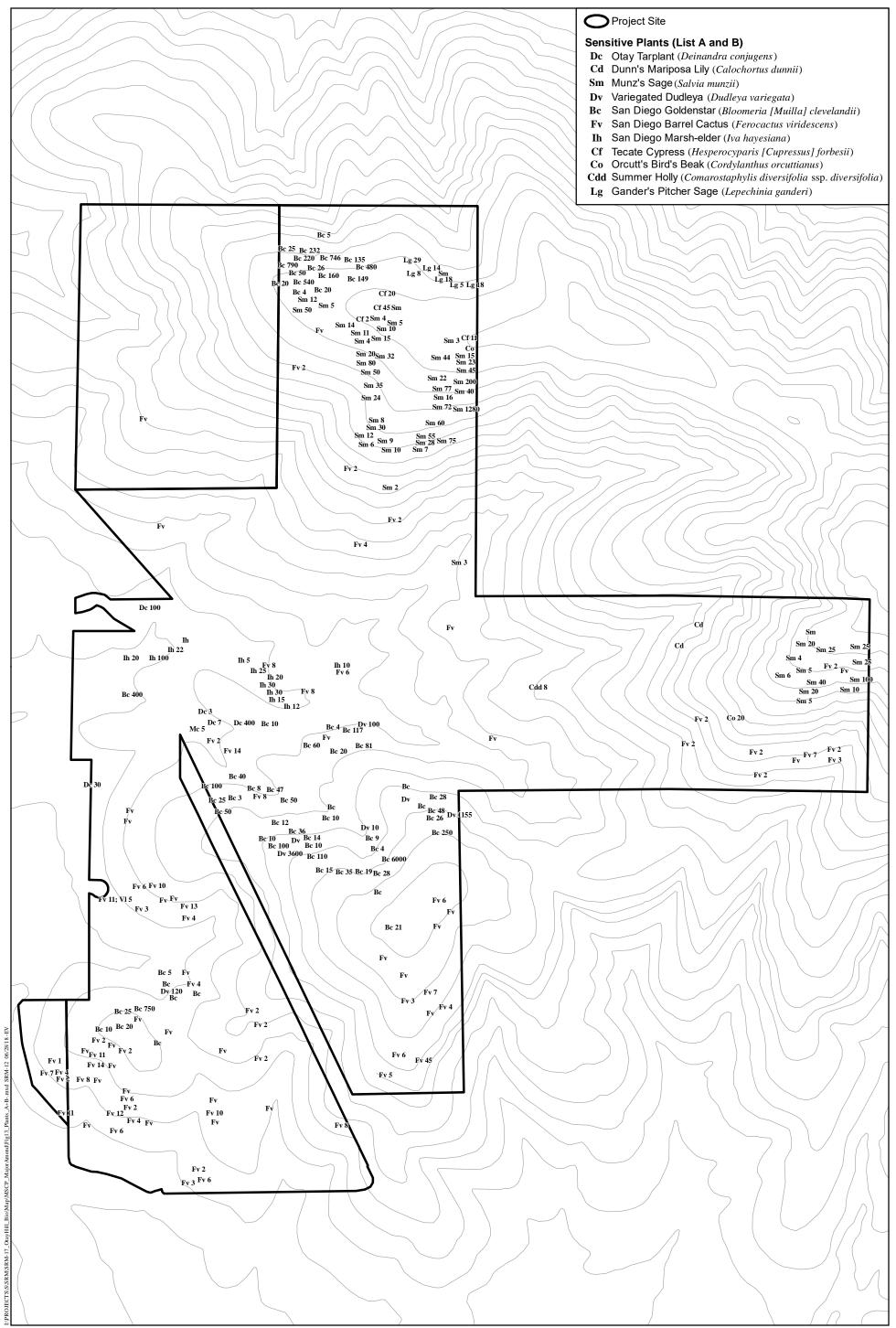
2016 Quino Checkerspot Butterfly Host Plant Locations





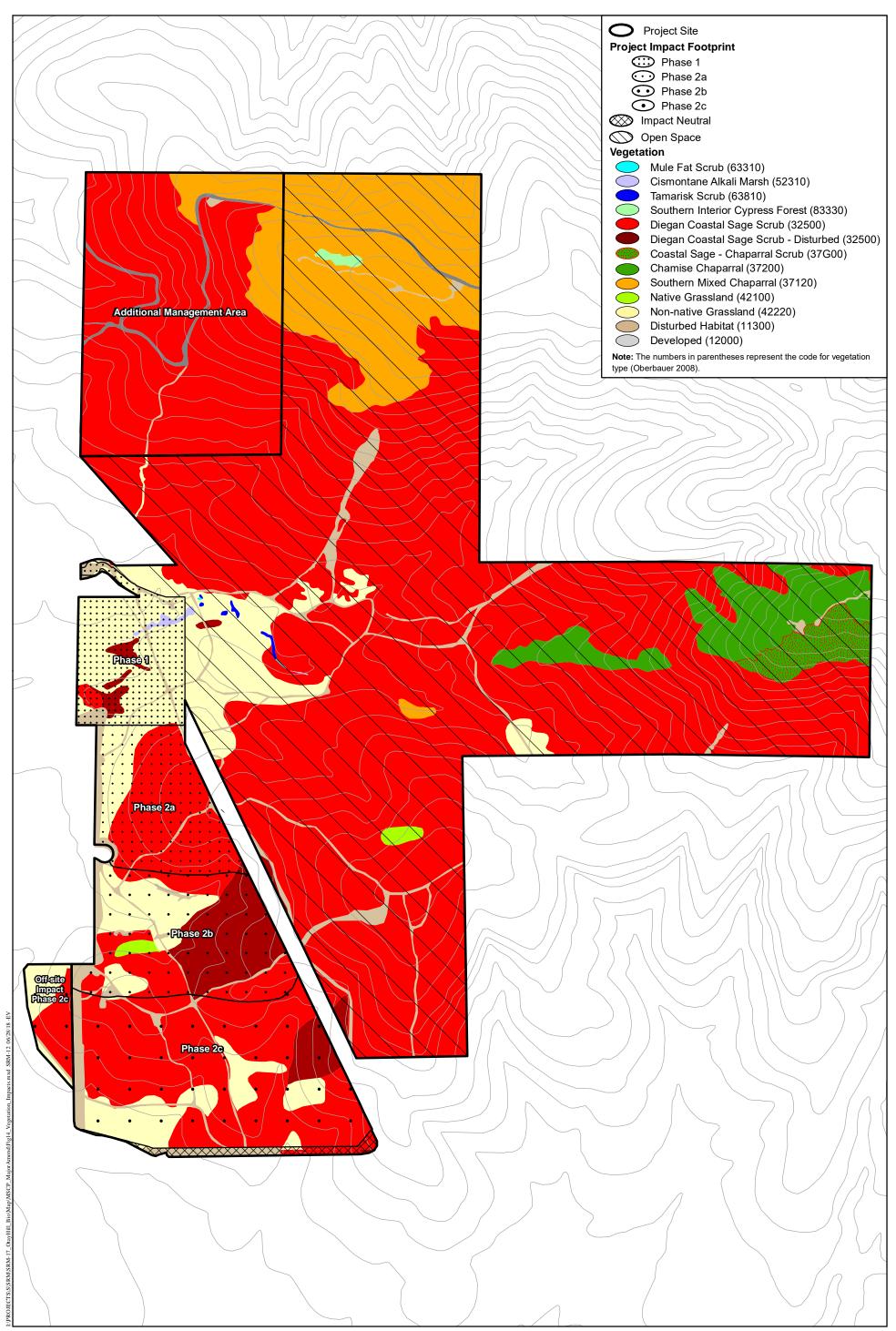
Sensitive Animal Species (except QCB)





Federal, State, and County (List A and B) Sensitive Plant Species/Impacts





Vegetation Communities/Impacts

Table 4 summarizes impact by Phase.

Table 4	
DIRECT IMPACTS TO VEGETATION COMMUNITIES BY PHASE	

VEGETATION COMMUNITY/HABITAT ¹	PHASE 1 (acre) ²	PHASE 2A (acre) ²	PHASE 2B (acre) ²	PHASE 2C ³ (acre) ²	TOTAL (acre) ³
Mule fat scrub (63310)	0.0	0.0	0.0	0.0	0.0
Cismontane alkali marsh (52310)	0.27	0.0	0.0	0.0	0.27
Southern interior cypress forest (83330)	0.0	0.0	0.0	0.0	0.0
Disturbed wetland (11200)	0.01	0.0	0.0	0.0	0.01
Tamarisk scrub (63810)	0.06	0.0	0.0	0.0	0.06
Native grassland (42100)	0.0	0.0	0.5	0.0	0.5
Diegan coastal sage scrub (including disturbed; 32500)	1.8	13.5	16.4	35.0	66.7
Coastal sage-chaparral scrub (37G00)	0.0	0.0	0.0	0.0	0.0
Chamise chaparral (37200)	0.0	0.0	0.0	0.0	0.0
Southern mixed chaparral (37120)	0.0	0.0	0.0	0.0	0.0
Non-native grassland (42220)	12.0	3.2	6.1	9.8	31.1
Disturbed habitat (11300)	1.6	1.5	2.5	3.2	8.7
Developed land (12000)	0.0	0.0	0.0	0.0	0.0
TOTAL	15.7	18.2	25.5	48.0	107.4

¹ Vegetation categories and numerical codes are from Holland (1986) and Oberbauer (2008).

4.1.2 Regional Context, Wildlife Movement, and Nursery Sites

Two types of wildlife corridors potentially occur on the Project site: local and regional. Local corridors provide animals with access to resources such as food, water, and shelter. Animals can use these corridors (such as the hillsides and tributary drainages to the main drainage on the Project site) to travel from riparian to upland habitats and back. Regional corridors allow for animal movement between large core areas of habitat that are regionally important. They include major creeks and rivers, ridges, valleys, and large swaths of undeveloped land.

The Project site serves as a key component enabling gene flow of many sensitive plant and animal species that move between the Project site and adjacent open space to the north, south, and east, and a small area of open space on the Otay Crossings Business Park to the southwest. The project will isolate this open space area on Otay Crossings Business Park and will be treated as part of the project impact area. Existing development occurs adjacent to the northwestern portion of the development footprint (the AMA), and already approved development (Otay Crossings Commerce Park and partially constructed Paseo De La Fuente) occurs along the remainder of the western boundary of the development footprint. The presence of several raptor nests on the Project site demonstrates the importance of the area to raptor species. These species forage in undeveloped



² Upland habitats are rounded to the nearest 0.1 acre, while wetland habitats are rounded to the nearest 0.01; thus, totals reflect rounding. The phase acreages in the project description (Section 2.1) reflect the excavation footprint used to calculate aggregate yield. The acreages in this table and in the phased funding calculation (Section 7.1) are more inclusive, and conservatively assume impacts all the way to the project boundary.

³ Phase 2c includes 4.7-acre off-site impacts to the Otay Crossings Commerce Park open space parcel.

lands located both within and outside of the Project site boundary. Sightings of the federally endangered QCB over multiple years on the Project site demonstrate that the Project site contains habitat for this species.

Designated public lands and private open space on Otay Mountain occur beyond the development footprint and the OHCA to the north and east. Animal species can use most habitats on the Project site and can access habitats off site without restriction at this time. The Project site is not part of a regional corridor, but the Project site is part of a large contiguous block of open space that can support wide-ranging species and may act as a core wildlife area. The Project's development footprint would consist of haul roads and mining-related structures and appurtenances that would create a barrier on the land surface for local wildlife movement across the western portion of the Project site, but would not restrict regional wildlife movement likely occurring to the north and east of the development footprint in the OHCA and connecting to the adjacent public lands and private open space farther to the north and east. Construction activity and extraction operations are expected to impede local wildlife movement slightly given that extraction operations would occur over many years, but the Project is designed to maintain connectivity of preserved habitats in the 304.6-acre OHCA with off-site vacant lands to the north, south, and east (Figure 15) that support the QCB (Figure 16). Therefore, the Project site would continue to provide regional landscape level conservation function.

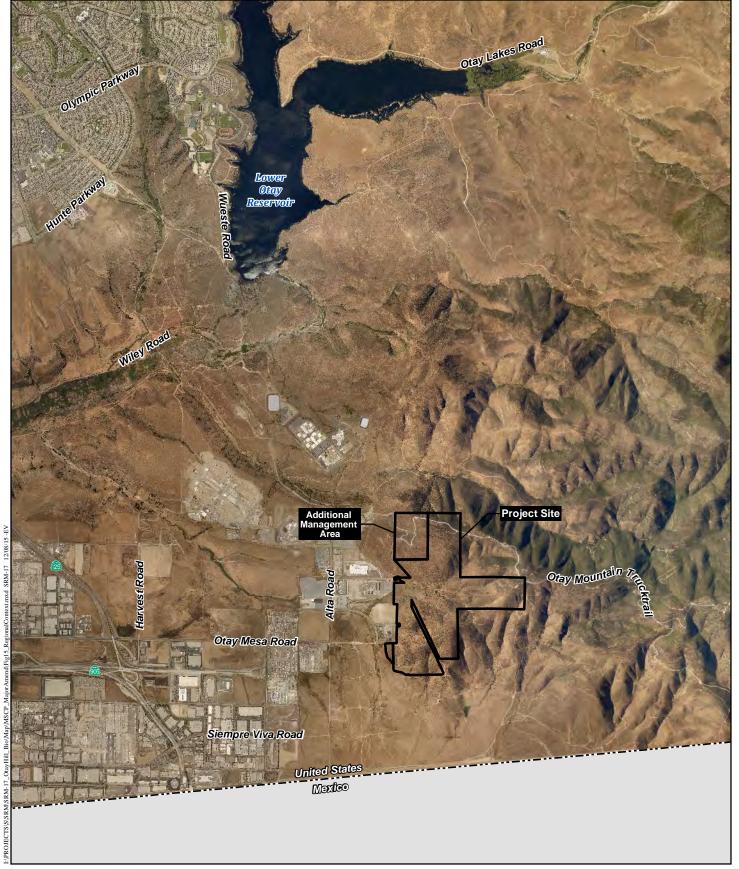
4.2 ANTICIPATED TAKE OF COVERED WILDLIFE SPECIES

Incidental take of Covered Wildlife Species could occur in the form of harassment, harm, injury, or mortality. Direct impacts that could result in incidental take of Proposed Covered Species would occur through the permanent removal of habitat, which is expected to be completed by year 16. Direct impacts to QCB adult locations and host plants are shown on Figure 16. Covered Wildlife Species excluding the QCB are shown on Figure 17. There is also the potential that some inadvertent take of small numbers of QCB could occur during habitat management activities as a result of trampling of QCB larvae and host plants. Minor trampling could also occur to sensitive plants; however, known sensitive plant and nest locations will be recorded and impacts will be avoided as much as possible during habitat management activities.

Incidental take of Covered Wildlife Species also has the potential to occur from the indirect impacts that could result from noise, colonization of non-native invasive plant species, human activity/domestic animals, night lighting, fugitive dust, and animal pitfalls. Indirect impacts associated with noise and fugitive dust are not expected to be significant after completion of Phase 2, which is expected to be completed within approximately 23 years of project initiation, because the grade separation between the quarry and OHCA at that time will limit these impacts. Other indirect impacts such as animal pitfalls and human access will be minimized by fencing, as discussed below for each potential indirect impact.

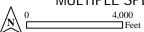
<u>Noise</u>. Noise from such sources as grading, grubbing, vehicular traffic, and extraction and processing activities (includes blasting) would impact the coastal California gnatcatcher, southern California rufous-crowned sparrow, burrowing owl (should it re-occur on site), and northern harrier (should it nest on site). Construction of the facility, aggregate extraction, and processing

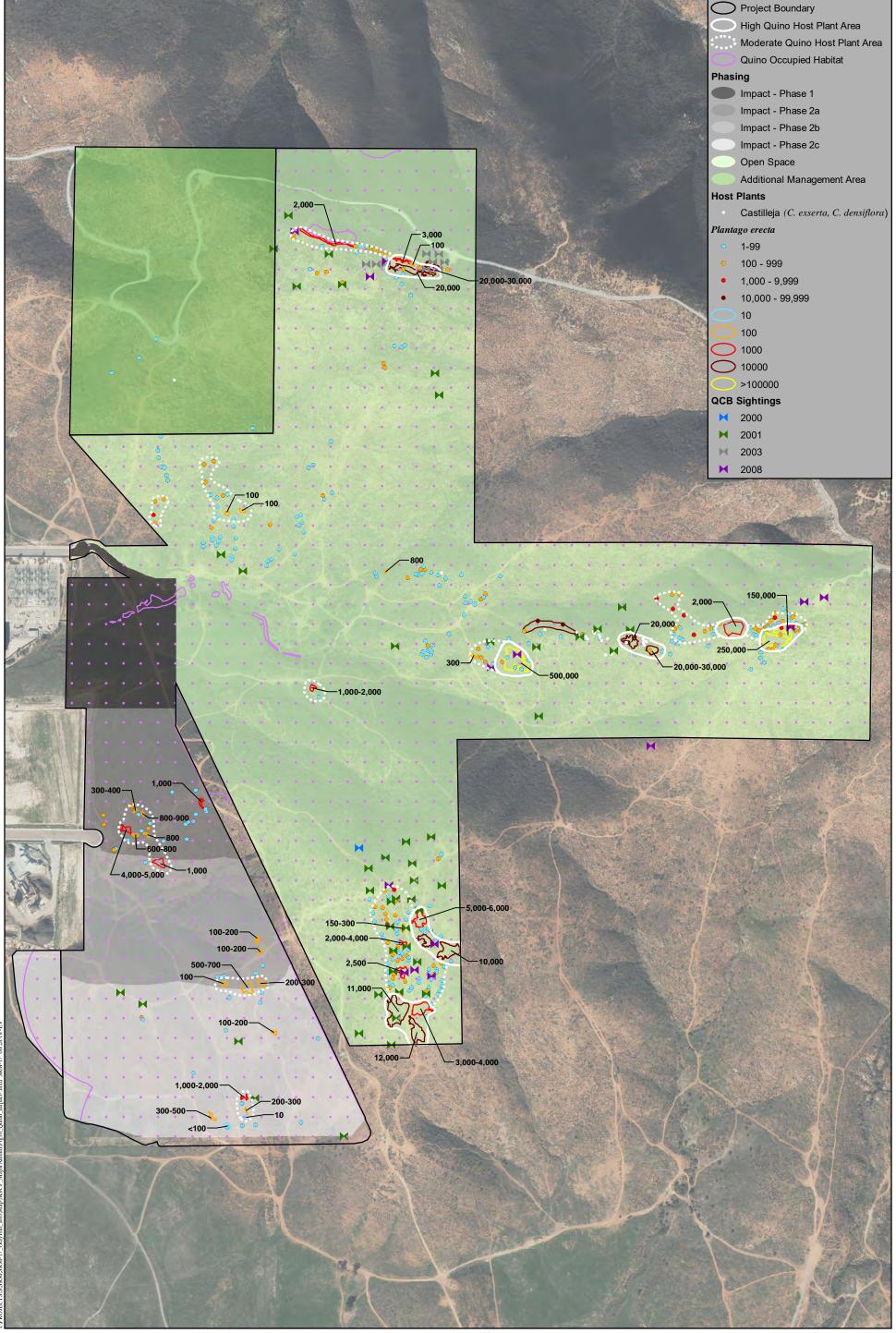




Regional Context

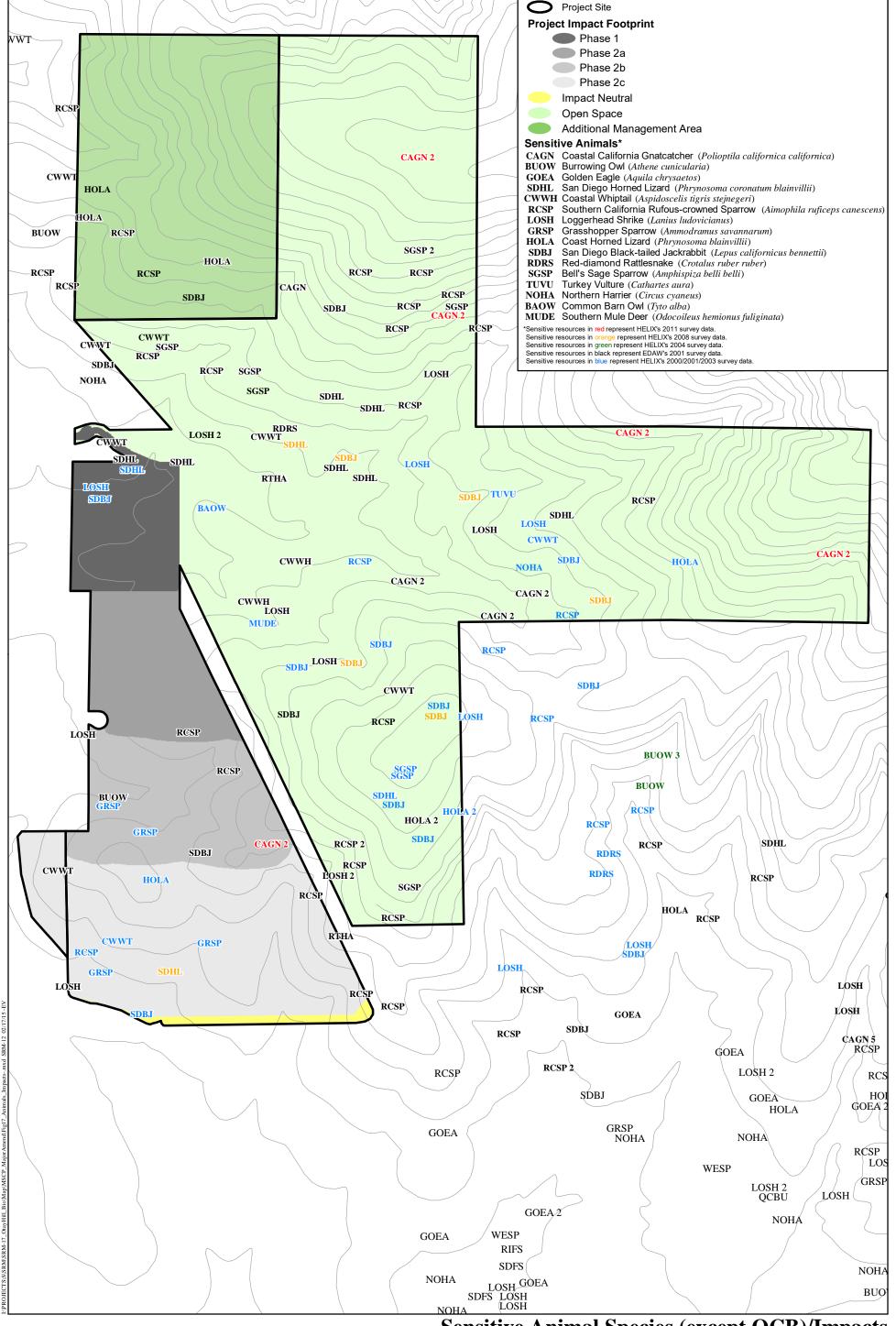






Quino Checkerspot Butterfly Sightings and Host Plant Locations/Impacts





Sensitive Animal Species (except QCB)/Impacts



operations would require the daily use of heavy equipment that would elevate existing noise levels on the Project site.

Some studies such as the Bioacoustics Research Team (1997 *in* County 2010c) concluded that 60 A-weighted decibels (dBA; that is, relative loudness in air as perceived by the human ear), averaged over a time period such as one hour or 24 hours, is a single, simple criterion to use as a starting point for passerine impacts until more specific research is done. Factors that may be considered include, but are not limited to, song and noise frequencies and levels and temporal shifts (time of day, steady versus intermittent, etc.) for the sensitive species.

A noise analysis, prepared by HELIX (2015), determined that the 60 dBA L_{eq} (equivalent continuous) noise level resulting from the processing plant operations and extraction activities would extend out past the ultimate development footprint at distances of between 12 and 1,200 feet. This determination was derived from existing and proposed topography and modeling using the known noise level of various extraction equipment. Excavation activities would be located in only 1 location at any given time, rather than around the entire development footprint perimeter. The distance between operations and the 60 dBA Leq limit assumes that extractive equipment is operating immediately adjacent to the edge of the development footprint (closest to the OHCA), and no mitigating circumstances occur. Thus, the noise impacts would be localized and not spread across the entire area at one time. Also, excavation of the material would utilize a bench construction technique. This technique results in a shear working face after initial construction. These approximately 20- to 60-foot-high slopes would act as a noise barrier when equipment is near the working face. The grade separation between the quarry floor and OHCA will substantially limit these impacts by the completion of Phase 2 at year 23, according to the noise analysis prepared by HELIX (2016b).

In order to determine potential indirect impact acreage from excavation activities, noise impacts were calculated based on taking three sample points at the edge of the development footprint, extending out to the 60 dBA L_{eq} noise contour, and calculating Diegan coastal sage scrub (including disturbed), non-native grassland, and cismontane alkali marsh acreages outside the footprint but within the 60 dBA L_{eq} noise contour. This indirect noise impact is estimated to be approximately 10.4 to 20.6 acres of Diegan coastal sage scrub (including disturbed) for the processing plant and excavation. For the processing plant and excavation north, impacts would total approximately 17.7 acres (Figure 18a). For the processing plant and excavation east, impacts would total approximately 20.6 acres (Figure 18b). For the processing plant and excavation south, impacts would total approximately 10.4 acres (Figure 18c). The worst-case scenario of 20.6 acres is used in this document (Figure 18b).

As stated above, excavation noise would not have significant noise impacts past the completion of Phase 2 in approximately year 23, because of the grade separation between the excavation area and the adjacent habitat. Backfilling operations would also continue past Phase 2; however, the noise generated by backfilling would be less than that of excavation. The equipment used during backfilling would likely be rubber tire dozers or scrapers for compaction purposes, which would have a similar noise output to the loader used for excavation, while the D9 track dozer and rock drill used during excavation would not be used for backfilling. In addition, backfilling would finish at the same elevation as at the end of Phase 2, and thus the grade separation throughout backfilling



operations would be the same or greater than at year 23. For these reasons, no significant noise impact is expected from backfilling.

The processing plant would also continue operation beyond year 23, with a noise impact of approximately 2.79 acres (Figure 18d). The processing plant would operate continuously and the limits of its noise impacts would be consistent, such that species impacted by noise would not be expected to initiate nesting in that area; thus, there would be no take of Proposed Covered Species from plant noise continuing past year 23. If additional take authorization is deemed necessary after 2048, an extension or a new permit would be required.

Colonization of Non-native, Invasive Plant Species. Non-native plants could colonize areas disturbed by construction and could potentially spread into adjacent native habitats, especially following a disturbance such as fire in the native habitats. Many of these non-native plants are highly invasive and can displace native vegetation and reduce native species diversity, potentially increase flammability and fire frequency, change ground and surface water levels, and potentially adversely affect native wildlife that is dependent on the native plant species directly or indirectly.

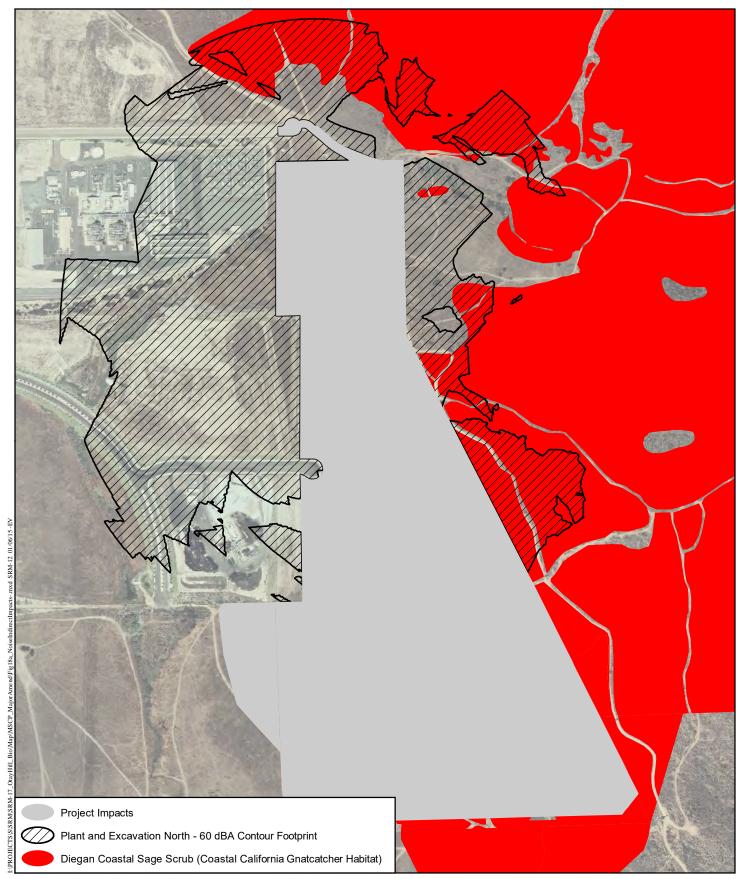
<u>Human Activity/Domestic Animals</u>. Currently, the development footprint has relatively unrestricted access via a series of dirt roads that dissect it. Quarry development would limit unauthorized access from the west to the OHCA to the east, and a fence would be placed along the outside edge of extraction areas during construction for safety and security reasons as described further in Section 5.3.2. Therefore, unauthorized human activity in the area is anticipated to be reduced over the long term by implementation of the Project.

Night Lighting. Night lighting on native habitats can prevent nocturnal wildlife from using an area. Increased ambient light levels could alter bird behavior and increase the effectiveness of visually aided nocturnal predators (e.g., Rich and Longcore 2006). Night lighting can also adversely affect plants. For example, plants depend on darkness for the management of their metabolism. Deciduous trees lose their leaves during the fall from the production of hormones that are caused by lengthening nights; they do not lose their leaves when artificial night lighting simulates summer's long days and short nights (County 2010c).

There is potential for night lighting at staging areas during construction or during operations for security purposes for the Project. It is anticipated by the Project Proponent that some operational activities would occur at night. Additionally, artifact light from nearby existing industrial or commercial activities may occur on the Project site. Night lighting could cause an increased loss in native wildlife as it could provide nocturnal predators with an unnatural advantage over their prey. Since the plant species on the Project site are not seasonally deciduous (i.e., deciduous in fall [some are drought deciduous, however, in summer, for example]), night lighting effects on plants are anticipated to be minimal. The grade separation between the quarry and OHCA will limit these impacts by the completion of Phase 2.

<u>Fugitive Dust</u>. Fugitive dust produced by construction and extraction operations has the potential to disperse into the OHCA, which may reduce the overall vigor of individual plants by reducing their photosynthetic capabilities and increasing their susceptibility to pests or disease. This, in turn, could affect animals dependent on these plants (e.g., QCB or seed-eating rodents). Fugitive dust

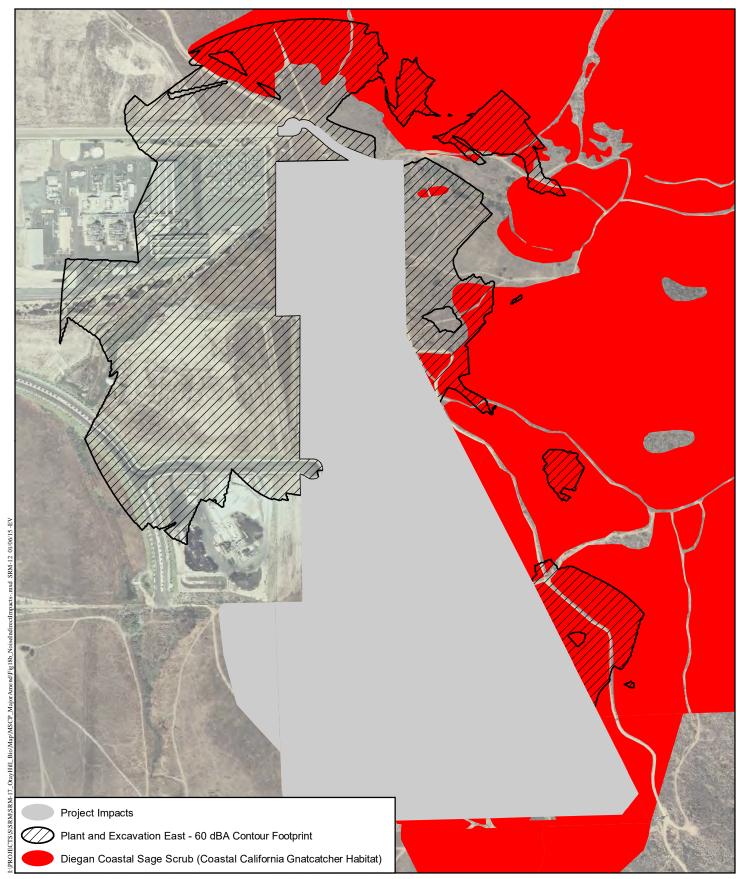




Plant and Excavation North Indirect Impacts to Coastal California Gnatcatcher Habitat



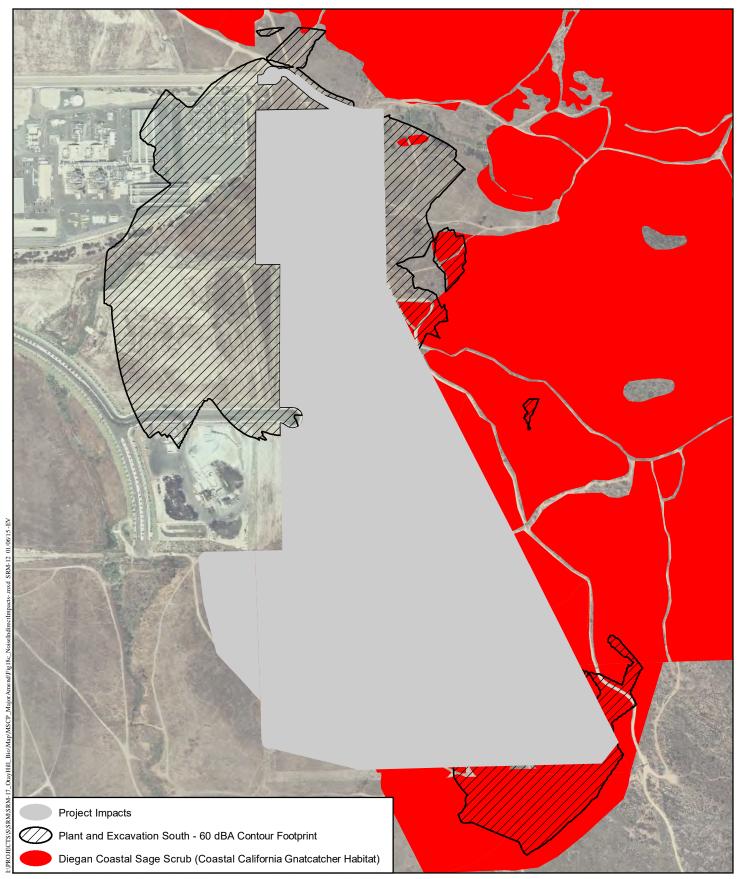




Plant and Excavation East Indirect Impacts to Coastal California Gnatcatcher Habitat



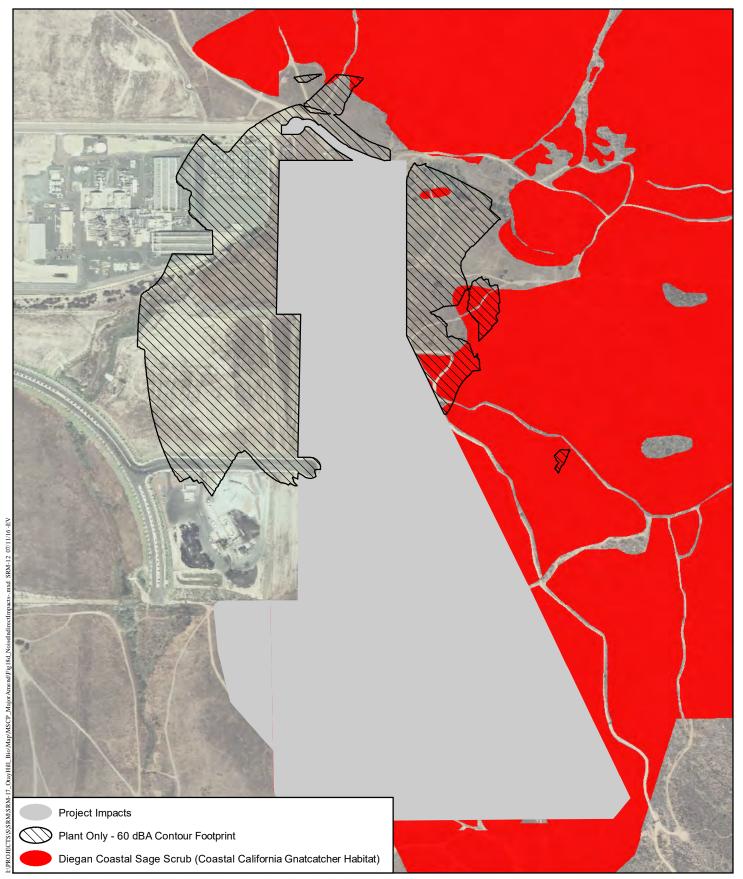




Plant and Excavation South Indirect Impacts to Coastal California Gnatcatcher Habitat







Plant Only Indirect Impacts to Coastal California Gnatcatcher Habitat







also may make plants unsuitable as habitat for insects and birds. Breeding birds and mammals may temporarily or permanently leave their territories to avoid construction and/or extraction operations, which could lead to reduced reproductive success and increased mortality.

Animal Pitfalls. The Project would result in a pit approximately 530 to 650 feet deep with 1.5:1 side slopes during extraction activities and prior to filling with inert debris. During the intermediary time, animals such as butterflies, reptiles, birds, and mammals could potentially fly or fall into the pit. Butterflies and birds would be able to fly out of the pit. Some reptiles, such as lizards, and some mammals may be able to climb out of the pit. Other animals, such as snakes or mammals, unable to climb the side slopes may be able to work their way out of the pit via access roads or other paths, although some species may become trapped. This could include impacts to Proposed Covered Species such as coast horned lizard and southern mule deer. Fencing would be placed along the outside edge of extraction areas during construction for safety and security reasons (as described further in Section 5.3.2) that would prevent animal pitfalls and trapping.

Increased Fire Frequency. Fire is a natural part of southern California ecosystems. Wildfire ignition sources may increase with implementation of Covered Activities adjacent to the OHCA. For example, fuel management zones and other mowed areas are readily colonized by non-native plants, making these areas more susceptible to fire, particularly in areas accessible to the public. Another potential source of wildfire is the use of vehicles, mowers, or other construction equipment in vegetated areas where catalytic converters may ignite vegetation. Non-natural fire return intervals (increased fire frequency over prehistoric levels) could affect the long-term viability of habitats through type conversion (e.g., Diegan coastal sage scrub to non-native grassland). The frequency of fires often increases with increased human access to areas adjacent to open space, resulting in shorter fire return intervals. Due to the type of land use proposed and the active preclusion of access through the quarry site to the OHCA, human access may actually decrease, and no increase in fire frequency is anticipated.

Table 5 presents the impacts to Covered Wildlife Species from the Project.



Table 5					
			QUANTIFICATION OF		
COUNTY STATUS	TO OCCUR	TYPES OF IMPACT	TAKE OR IMPACT		
	INVERTEBRATES				
Federal: Endangered State: None County: MSCP Not Covered	Fifty-seven unique locations observed during multiple surveys. 99 percent of habitat (409.5 acres) is assumed occupied based on the County's "Occupied QCB Habitat" definition (County 2009).	Direct impacts to five locations and occupied habitat. Indirect impacts from invasive plant species may affect habitat quality and replace larval host plants. Indirect impacts from dust could adversely affect both larval host and	Direct impacts to five locations and 104.9 acres of occupied habitat. All five locations would be impacted in Phase 2c.		
	VEDTEDDATES	adult nectar resource plants.			
	VERTEDRATES				
Federal: None State: Species of Special Concern County: MSCP Covered	Assumed present throughout the Project site as abundant suitable habitat is present.	Direct impacts to habitats and individuals. Indirect impacts from invasive plant species and dust could affect habitat quality and structure	96.3 acres of habitat assumed to be occupied by this species (i.e., the entire development footprint except disturbed and developed areas).		
	Federal: Endangered State: None County: MSCP Not Covered Federal: None State: Species of Special Concern County: MSCP	IMPACTS TO WILDLIFE SPECIES THAT ARE PROFEDERAL, STATE, COUNTY STATUS Federal: Endangered State: None County: MSCP Not Covered Poperation of the County's "Occupied Dased on the County's "Occupied QCB Habitat" definition (County 2009).	Types of Impacts to five Invertebrate Inverte		



Table 5 (cont.)							
	IMPACTS TO WILDLIFE SPECIES THAT ARE PROPOSED FOR COVERAGE						
SPECIES	FEDERAL, STATE, COUNTY STATUS	OBSERVED OR POTENTIAL TO OCCUR	TYPES OF IMPACT	QUANTIFICATION OF TAKE OR IMPACT			
		VERTEBRATES (cont.)					
Reptiles (cont.)							
Coast horned lizard (Phrynosoma blainvillii)	Federal: None State: Species of Special Concern County: MSCP Covered	Eleven individuals observed on the Project site. Assumed present throughout the Project site as abundant suitable habitat is present.	Direct impacts to habitats and individuals. Indirect impacts from invasive plant species and dust could affect habitat quality and structure and prey base.	Four individuals directly impacted. 96.3 acres of habitat assumed to be occupied by this species (i.e., the entire development footprint except disturbed and developed areas).			
Birds							
Cooper's hawk (Accipiter cooperii)	Federal: None State: Watch List County: MSCP Covered	One individual flying over the site. Assumed to use site for foraging.	Direct impacts to foraging habitat.	One individual and 98.7 acres of suitable habitat impacted.			
Southern California rufous- crowned sparrow (Aimophila ruficeps canescens)	Federal: None State: Watch List County: MSCP Covered	Twenty-two individuals observed/detected on the Project site.	Direct impacts to habitat and individuals. Indirect impacts from noise may render habitat undesirable (for breeding). Indirect impacts to habitat from invasive plant species and dust could affect habitat quality and structure and prey base.	Five individuals and 66.7 acres of Diegan coastal sage scrub habitat directly impacted. 20.6 acres of Diegan coastal sage scrub habitat indirectly impacted by noise.			



	Table 5 (cont.)						
	IMPACTS TO WILDLIFE SPECIES THAT ARE PROPOSED FOR COVERAGE						
SPECIES	FEDERAL, STATE, COUNTY STATUS	OBSERVED OR POTENTIAL TO OCCUR	TYPES OF IMPACT	QUANTIFICATION OF TAKE OR IMPACT			
		VERTEBRATES (cont.)					
Birds (cont.)							
Burrowing owl	Federal: Bird of	One sighting west of the SDG&E	Direct impacts to grassland	Approximately 31.6 acres of			
(Athene cunicularia)	Conservation Concern State: Species of Special Concern County: MSCP Covered, MSCP Narrow Endemic	easement in 2001 in non-native grassland. None observed during subsequent surveys, including winter and breeding season burrowing owl surveys in 2012 (HELIX 2012a, 2012b).	habitats could affect habitat quality and structure and prey base. This species is often observed in high noise areas such as airports and adjacent to roadways and indirect impacts such as noise are not anticipated to have a significant impact on	potential grassland habitats directly impacted (0.5 acre native grassland and 31.1 acres non-native grassland).			
Coastal California gnatcatcher (Polioptila californica californica)	Federal: Threatened State: Species of Special Concern County: MSCP Covered	Five pairs observed on the Project site. Protocol survey conducted in 2011 (HELIX 2011).	this species. Direct impacts to habitat and individuals. Indirect impacts to species from noise may render habitat undesirable (for breeding). Indirect impacts to habitat from invasive plant species and dust could affect habitat quality and structure and prey base.	One pair and 66.7 acres of Diegan coastal sage scrub habitat directly impacted. 20.6 acres of Diegan coastal sage scrub habitat indirectly impacted by noise.			

Table 5 (cont.)							
IMPACTS TO WILDLIFE SPECIES THAT ARE PROPOSED FOR COVERAGE							
SPECIES	FEDERAL, STATE, COUNTY STATUS	OBSERVED OR POTENTIAL TO OCCUR	TYPES OF IMPACT	QUANTIFICATION OF TAKE OR IMPACT			



	VERTEBRATES (cont.)					
Mammals						
Mountain lion	Federal: None	Not observed but high potential to	Direct impacts to potential	Direct impacts to 107.4 acres of		
(Puma concolor)	State: None	utilize the Project site as tracks	habitat. Indirect impacts	habitat (i.e., the entire		
	County: MSCP	observed in the vicinity.	from invasive plant species	development footprint).		
	Covered		and dust on habitats could			
			affect prey base. Potential			
			indirect impacts on use of			
			habitat from increased			
			human activity associated			
			with the Project.			



Table 5 (cont.)						
		ILDLIFE SPECIES THAT ARE PRO	OPOSED FOR COVERAGE			
SPECIES	FEDERAL, STATE,	OBSERVED OR POTENTIAL	TYPES OF IMPACT	QUANTIFICATION OF		
SI ECIES	COUNTY STATUS	TO OCCUR	TITES OF INITACT	TAKE OR IMPACT		
		VERTEBRATES (cont.)				
Mammals (cont.)						
Southern mule deer	Federal: None	One mule deer observed in habitat to	Direct impacts to potential	Direct impacts to 107.4 acres of		
(Odocoileus hemionus	State: None	be preserved on the Project site, but	habitat. Indirect impacts to	habitat (i.e., the entire		
fuliginata)	County: MSCP	more expected to occur.	habitat from invasive plant	development footprint).		
	Covered		species and dust could			
			adversely affect forage			
			quality/quantity. Potential			
			indirect impacts on use of			
			habitat from increased			
			human activity associated			
			with the Project.			



4.3 ANTICIPATED IMPACTS ON COVERED PLANT SPECIES

Direct impacts will occur to Covered Plant Species populations occurring within the development footprint through direct removal. Indirect impacts to Covered Plant Species could occur from the colonization of non-native, invasive plant species and fugitive dust, as described in Section 4.2.

Table 6 presents the impacts to Covered Plant Species from the Project as a whole; Table 7 presents the impacts to Covered Plant Species by phase. Direct impacts to Covered Plant Species are shown on Figure 19. Likely Limits of Occurrence for Otay tarplant, variegated dudleya, and San Diego goldenstar are shown on Figures 20a through 20c.



Table 6 MSCP COVERED PLANT SPECIES IMPACTS

SPECIES	FEDERAL, STATE, COUNTY STATUS	OBSERVED OR POTENTIAL TO OCCUR	TYPES OF IMPACT	QUANTIFICATION OF TAKE OR IMPACT
San Diego goldenstar	Federal: None	12,388 individuals found on north-	Direct impacts through	1,214 individuals (9.8 percent)
(Bloomeria [Muilla]	State: None (CNPS	and west-facing slopes on the Project	removal. Indirect impacts	directly impacted. 13.27 acres
clevelandii)	RPR 1B.1)	site. Most individuals occur within	could occur from invasive	of potential habitat impacted (16
	County: MSCP	six primary populations. Three	plant species competition	percent).
	Covered	represent 11,174 individuals to be	and dust that could reduce	
		preserved in the OHCA. Two smaller	plant vigor.	
		populations (1,214 individuals) occur		
		within the development footprint.		
Dunn's mariposa lily	Federal: None	Eight individuals found on the Project	Indirect impacts could	Zero individuals directly
(Calochortus dunnii)	State: Rare (CNPS	site.	occur from invasive plant	impacted.
	RPR 1B.2)		species competition. The	
	County: MSCP		nearest location of this	
	Covered, MSCP		plant to the development	
	Narrow Endemic		footprint is more than 2,000	
			feet, so indirect impacts	
			from dust are not	
			anticipated.	
Orcutt's bird's beak	Federal: None	Twenty-one individuals found on the	Indirect impacts could	Zero individuals directly
(Cordylanthus orcuttianus)	State: None (CNPS	Project site.	occur from invasive plant	impacted.
	RPR 2.1)		species competition. The	
	County: MSCP		nearest location of this	
	Covered		plant to the development	
			footprint is more	
			approximately 2,700 feet,	
			so indirect impacts from	
			dust are not anticipated.	



Table 6 (cont.) MSCP COVERED PLANT SPECIES IMPACTS

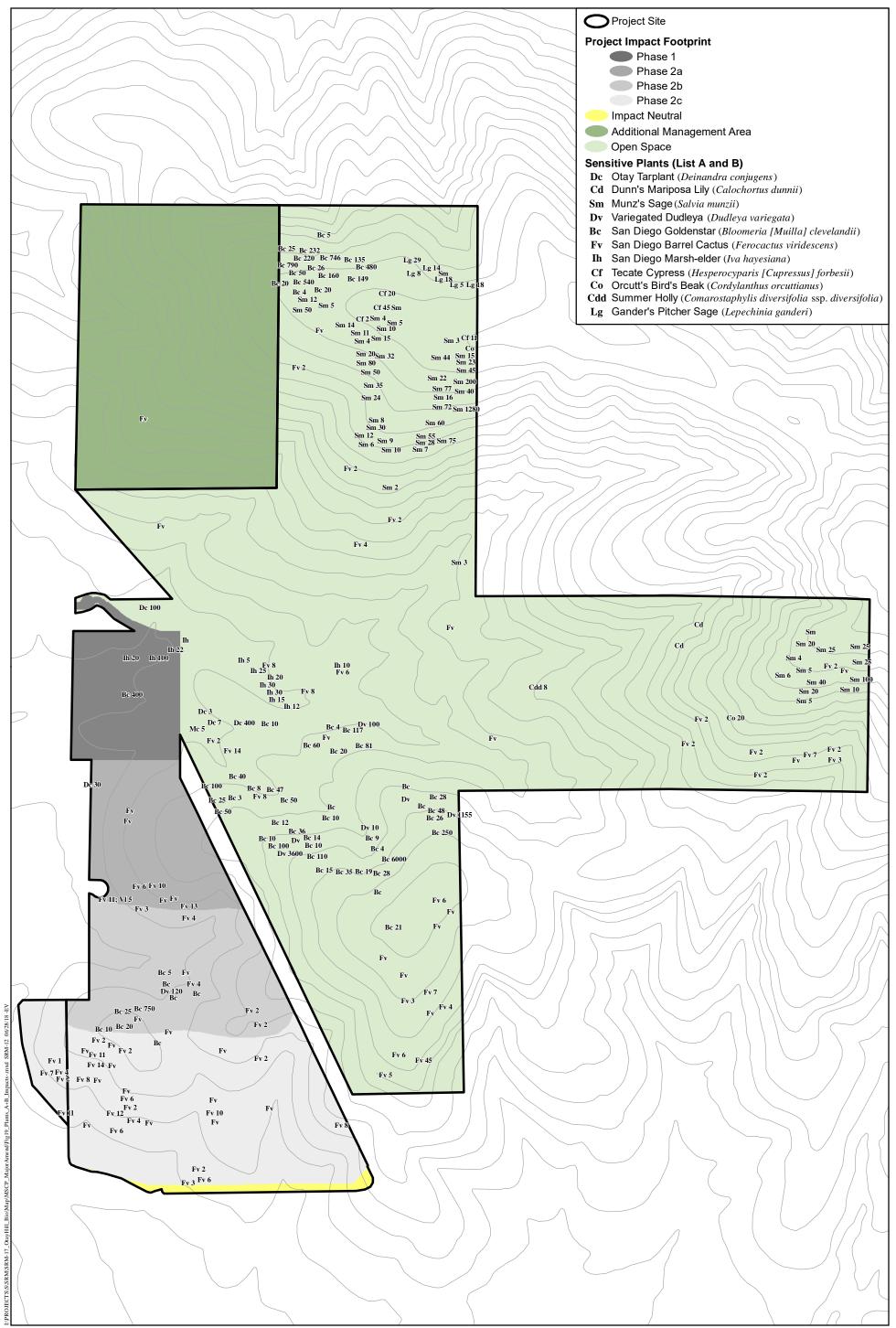
SPECIES	FEDERAL, STATE, COUNTY STATUS	OBSERVED OR POTENTIAL TO OCCUR	TYPES OF IMPACT	QUANTIFICATION OF TAKE OR IMPACT
Tecate cypress	Federal: None	Seventy-eight individuals found in	Indirect impacts could	Zero individuals directly
(Hesperocyparis	State: None (CNPS	scattered locations on the Project site.	occur from invasive plant	impacted.
[Cupressus] forbesii)	RPR 1B.1)		species competition. While	
	County: MSCP		this species may be	
	Covered		affected by high return-	
			interval fire, no increase in	
			fire frequency is anticipated	
			to be caused by the Project.	
Otay tarplant	Federal: Threatened	540 individuals found on the Project	Direct impacts through	30 individuals directly
(Deinandra conjugens)	State: Endangered	site within four primary populations,	removal. Indirect impacts	impacted (5.6 percent).
	(CNPS RPR 1B.1)	the largest of which contains 400	could occur from invasive	16.69 acres of potential
	County: MSCP	individuals. Three of these	plant species competition	habitat impacted (72
	Covered, MSCP	populations occur in habitat to be	and dust that could reduce	percent).
	Narrow Endemic	preserved in the OHCA. The fourth	plant vigor. Critical habitat	
		population (30 individuals) occurs in	extends off site to the west	
		the western portion of the	but this area is already	
		development footprint.	developed and	
			fragmentation of the	
			existing critical habitat is	
			not anticipated.	
Variegated dudleya	Federal: None	4,987 individuals found on the	Direct impacts through	120 individuals directly
(Dudleya variegata)	State: None (CNPS	Project site. Six primary populations	removal. Indirect impacts	impacted (2.4 percent).
	RPR 1B.2)	of variegated dudleya are present:	could occur from invasive	1.27 acres of potential habitat
	County : MSCP	one in the development footprint (120	plant species competition	impacted (22 percent).
	Covered, MSCP	individuals) and five in habitat to be	and dust that could reduce	
	Narrow Endemic	preserved in the OHCA (two of these	plant vigor.	
		are MSCP major populations with	_	
		greater than 500 individuals each).		



Table 6 (cont.) MSCP COVERED PLANT SPECIES IMPACTS

SPECIES	FEDERAL, STATE, COUNTY STATUS	OBSERVED OR POTENTIAL TO OCCUR	TYPES OF IMPACT	QUANTIFICATION OF TAKE OR IMPACT
San Diego barrel cactus	Federal: None	337 individuals found on south-facing	1	196 total individuals directly
(Ferocactus viridescens)	State: None (CNPS	slopes throughout the Project site; 25	removal. Indirect impacts	impacted (50.4 percent).
	RPR 2.1)	additional on Otay Crossings	could occur from invasive	
	County: MSCP	Commerce Park open space to the	plant species competition	
	Covered	west.	and dust that could reduce	
			plant vigor.	
Gander's pitcher sage	Federal: None	92 individuals found on the Project	Indirect impacts could	Zero individuals directly
(Lepechinia ganderi)	State: None (CNPS	site.	occur from invasive plant	impacted.
	RPR 1B.3)		species competition. The	
	County: MSCP		nearest location of this	
	Covered, MSCP		plant to the development	
	Narrow Endemic		footprint is approximately	
			2,850 feet, so indirect	
			impacts from dust are not	
			anticipated.	





Federal, State, and County (List A and B) Sensitive Plant Species/Impacts

