

Long-term Agreement Status Report 2015-2018

Covering the Santa Ana Watershed Association (SAWA) Mitigation Projects Under Streambed Alteration Agreement; Notification No. 1600-2010-004-R6 (Revision 1)

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REMOVAL AND TREATMENT SITE ALONG THE SANTA ANA RIVER, DOWNSTREAM FROM THE TEQUESQUITE LANDFILL.

ABOUT SAWA

The Santa Ana Watershed Association (SAWA) is 501 c 3 non-profit corporation, serving the Santa Ana River watershed. For nearly 20 years, SAWA and its partners have been promoting a healthy Santa Ana River watershed for the wildlife and people who inhabit it. The Santa Ana River is over 96 miles long and its watershed spans approximately 2,800 square miles and ranges in elevation from 11,500 feet to sea level through five distinctive life zones. The Santa Ana Watershed is the largest watershed in California's South Coast Region and lies in one of Earth's 25 Biodiversity Hotspots—areas rich in flora and fauna that are threatened by human activity.

A major goal of SAWA is to restore the natural functions of the watershed through the enhancement and restoration of the native riparian community. This is accomplished by the removal of invasive plant species and the management of existing resources, including both habitat and wildlife. The largest threat to the riparian habitat within the Santa Ana Watershed is the spread of invasive plant species, notably *Arundo donax* (hereafter "arundo"). This exotic plant has invaded much of the watershed, out-competing native vegetation, consuming water disproportionate to that of native plant species and having drastic impacts on wildlife habitat. Removing arundo is difficult and complex, requiring decades of multiple treatments and intensive monitoring.

SAWA's comprehensive eradication efforts include identification and mapping of invasive species, initial biomass removal, post treatment, and intensive biological monitoring during all stages of eradication. Most importantly, SAWA monitors the removal areas long after the arundo has been eradicated to ensure that native vegetation and wildlife are recovering and that there is no return of the invasive plants. These intensive monitoring efforts are required to prevent re-growth that can lead to total re-infestation over time and to prevent any impacts to native species. Active restoration and enhancement is often employed when natural succession is not sufficient to ensure recovery of native habitat.

To date, SAWA has removed nearly 4,600 acres of arundo and other invasive plants throughout the watershed.



REMOVAL AND TREATMENT OF CASTOR BEAN IN PRADO BASIN.

COLLABORATION

SAWA conducts environmental management projects, working collaboratively with governmental agencies, conservation organizations, and private citizens. The most notable collaborating agencies include the U.S. Army Corps of Engineers (USACE), U.S. Fish & Wildlife Service (USFWS), California Department of Fish and Wildlife (CDFW), U.S. Forest Service (USFS), California Department of Water Resources (DWR), Santa Ana Watershed Project Authority (SAWPA), Riverside County Flood and Water Conservation District (RCFCD), Riverside Parks and Open Space District and the Regional Water Quality Control Board (RWQCB).

The Santa Ana River Watershed Program formally began in 1995, with the signing of a landmark agreement between the Orange County Water District (OCWD), USACE, and the U.S. Department of Interior for the USFWS. This agreement allowed the OCWD to conserve water behind Prado Dam but also recognized the need for watershed restoration by allowing a portion of the project mitigation to occur in the upper Santa Ana River watershed, many miles from the project site.

Habitat restoration, primarily through invasive plant species control, is the current focus of the Watershed Program because most of the funding obtained was earmarked for arundo control and related biological monitoring. Biological monitoring is conducted to avoid impacts to wildlife species during project activities and document recovery of wildlife and its habitat, with a focus on the Least Bell's Vireo (*Vireo pusillus bellii*). Funds are obtained from grants and mitigation of projects which have an adverse impact on riparian habitat, and the Santa Ana River Watershed Program took on the funds and the mitigation responsibilities. Mitigation projects are designated and approved by the SAWA Board of Directors. For copies of the past annual mitigation report and annual Least Bell's Vireo monitoring reports visit SAWA's web site at www.sawatershed.org

Since 2014, SAWA worked on 22 mitigation projects located in the Watershed under this Long-term permit. The following project site reports reflect the work performed under the SAWA-issued California Department of Fish and Wildlife Streambed Alteration Agreement; Notification No. 1600-2010-004-R6.

CDFW REGION 5

The reports contained herein cover SAWA projects funded by the In-lieu Fee program and mitigations, and are located within the California Department of Fish and Wildlife Region 5.

CARBON CANYON AERA

PROJECT BACKGROUND

Carbon Canyon Aera runs along Carbon Canyon Creek, adjacent to the Carbon Canyon Discovery Center, near Brea, CA. Originally the 4-acre project area was infested with about 2 acres of giant reed (*Arundo donax*). SAWA placed one mitigation at this location, and removal work began in November 2012. Control efforts have continued in subsequent years to control the re-emergence of giant reed.

Table 1: Carbon Canyon Aera - Mitigations Placed at Project

Permit Number	Project Name	Permittee Name	Amount Received	Mitigated Acreage	Mitigation Type
1600-2009-0020-R5 (Op Law) SPL-2009-00292-JPL RWQCB Cert. 9/17/2009	North Diemer Access Road Project	Metropolitan Water District of Southern California	\$75,000 (12/4/09)	0.7	ILF: Enhancement
Totals			\$75,000	0.7	

STATUS OF PROJECT ACTIVITIES

The Carbon Canyon Aera Project is in its 6th year. Treatment methods have proven effective in controlling giant reed, which is almost eradicated at this site. The project requires another year of treatment, then will be re-evaluated to determine if the goals have been met. However, other non-native species have taken over the void left behind. Additional work to remove these other non-native species is recommended to improve habitat quality.

Table 2: Carbon Canyon Aera – Summary of Mitigation Activities

Project placed in:	2012			
Reporting Period	Amount Removed or Treated (in acres)	Type of Activity	Months of Activity	Species Removed or Treated
7/1/14 to 6/30/15	0.2	Treatment	March 2015	giant reed
7/1/15 to 6/30/16	None	n/a	n/a	n/a
7/1/16 to 6/30/17	0.25	Treatment	September 2016	giant reed
7/1/17 to 6/30/18	0.2	Treatment	August, October 2017 April 2018	giant reed

Annual bioassessment surveys were implemented in 2016, and occurred at this site in 2017 and 2018. During the 2017 survey overall vegetative cover was noted at >75% of the project site, with >50-75% native coverage and >25-50% non-native coverage (Table 3). As of the 2018 survey these coverages decreased, with overall cover noted at >50-75% and both native and non-native coverage at >15-25%. In 2018, coverage for giant reed, the primary target species, was recorded at <1%, which fulfills the success criteria for this species. Results of the 6/22/18 bioassessment survey can be reviewed on Table 4. Overall, the project site has good plant coverage with few non-native weeds. Those non-native weeds present

are primarily herbaceous species. Habitat quality is suitable to support a variety of wildlife, including several species of concern. Detected species are listed on Table 5; however, this is not an all-inclusive list.

Table 3: Carbon Canyon Aera Vegetative Coverages Over Four Years			
	2016	4/19/17	6/22/18
Overall vegetative cover:	n/a	>75%	>50-75%
Native vegetative coverage:	n/a	>50-75%	>15-25%
Non-native vegetative coverage:	n/a	>25-50%	>15-25%

Table 4: Carbon Canyon Aera Site Conditions 6/22/18					
Tree height:	>15-20m		Shrub height:	>2-5m	
Overall vegetative cover:			>50-75%		
Native vegetative coverage:			>15-25%		
Common Name			Scientific Name		Coverage
Mulefat			<i>Baccharis salicifolia</i>		1-5%
Southern California black walnut			<i>Juglans californica</i>		1-5%
Blue elderberry			<i>Sambucus nigra caerulea</i>		1-5%
Non-native vegetative coverage:			>15-25%		
Common Name			Scientific Name		Coverage
Non-native grasses			n/a		>15-25%
Eucalyptus			<i>Eucalyptus</i> sp.		>5-15%
Mustard			<i>Hirschfeldia incana</i>		<1%
Giant reed			<i>Arundo donax</i>		<1%
Russian thistle			<i>Salsola tragus</i>		<1%

Table 5: Carbon Canyon Aera Detected Wildlife						
Common Name	Scientific Name	7/1/14 to 6/30/15	7/1/15 to 6/30/16	7/1/16 to 6/30/17	7/1/17 to 6/30/18	Special Status
Avian Species						
California Quail	<i>Callipepla californica</i>			X		
Mourning Dove	<i>Zenaida macroura</i>	X	X		X	
Anna's Hummingbird	<i>Calypte anna</i>	X	X		X	
Acorn Woodpecker	<i>Melanerpes formicivorus</i>				X	
Pacific-slope Flycatcher	<i>Empidonax difficilis</i>				X	
Least Bell's Vireo	<i>Vireo bellii pusillus</i>				X	FE, SE
California Scrub-jay	<i>Aphelocoma californica</i>	X	X	X		
Bushtit	<i>Psaltirparus minimus</i>				X	
House Wren	<i>Troglodytes aedon</i>	X	X	X		
Bewick's Wren	<i>Thryomanes bewickii</i>				X	
California Thrasher	<i>Toxostoma redivivum</i>	X	X		X	
Phainopepla	<i>Phainopepla nitens</i>	X	X	X	X	
House Finch	<i>Haemorhous mexicanus</i>				X	
Lesser Goldfinch	<i>Spinus psaltria</i>				X	
California Towhee	<i>Melospiza crissalis</i>	X	X	X		
Song Sparrow	<i>Melospiza melodia</i>	X	X	X		
Bullock's Oriole	<i>Icterus bullockii</i>			X	X	
Brown-headed Cowbird	<i>Molothrus ater</i>				X	
Yellow Warbler	<i>Setophaga petechia</i>				X	SSC
Western Tanager	<i>Piranga ludoviciana</i>			X		

Table 5 continued						
Common Name	Scientific Name	7/1/14 to 6/30/15	7/1/15 to 6/30/16	7/1/16 to 6/30/17	7/1/17 to 6/30/18	Special Status
Mammalian Species						
California Ground Squirrel	<i>Otospermophilus beecheyi</i>				X	
Desert Cottontail	<i>Sylvilagus audubonii</i>				X	
Herpetofauna Species						
Side-blotched Lizard	<i>Uta stansburiana</i>	X	X			

FE = Federal endangered

ST = State threatened

FP = State fully protected

FT = Federal threatened

SSC = State species of concern

E = non-native species

SE = State endangered

EVALUATION OF IMPACTS TO WILDLIFE RESOURCES

Impacts to wildlife resources have been minimal. Annual bioassessments show an abundance of avian species using the project site, including the state and federally-listed endangered Least Bell's Vireo (*Vireo pusillus bellii*) and state species of special concern, Yellow Warbler (*Setophaga petechia*). Although giant reed is currently well controlled, other non-native plant species may become a problem, resulting in degradation of habitat.

FACTORS THAT MAY POTENTIALLY INCREASE ADVERSE IMPACTS

Some herbicide treatments are conducted during bird breeding months, which can potentially adversely impact nesting birds. These impacts are avoided by having a qualified biological monitor on site to identify nesting birds and flag areas to be avoided.

PROJECT PHOTO DOCUMENTATION

Table 6: Carbon Canyon Aera GPS Photo Points		
Photo Point	Bearing (°)	Coordinates (UTM)
1	107° ESE	423575, 3753513
2	236° WSW	423553.8, 3753541.4
3	99° E	423524.7, 3753555.1

PHOTO "A" TAKEN 10/28/2012, PRE-REMOVAL



PHOTO "A" TAKEN 6/9/15



PHOTO "B" TAKEN 10/28/2012, PRE-REMOVAL



PHOTO "B" TAKEN 6/9/15



PHOTO POINT #1 TAKEN 6/9/15



PHOTO POINT #1 TAKEN 4/19/17



PHOTO POINT #1 TAKEN 6/22/18



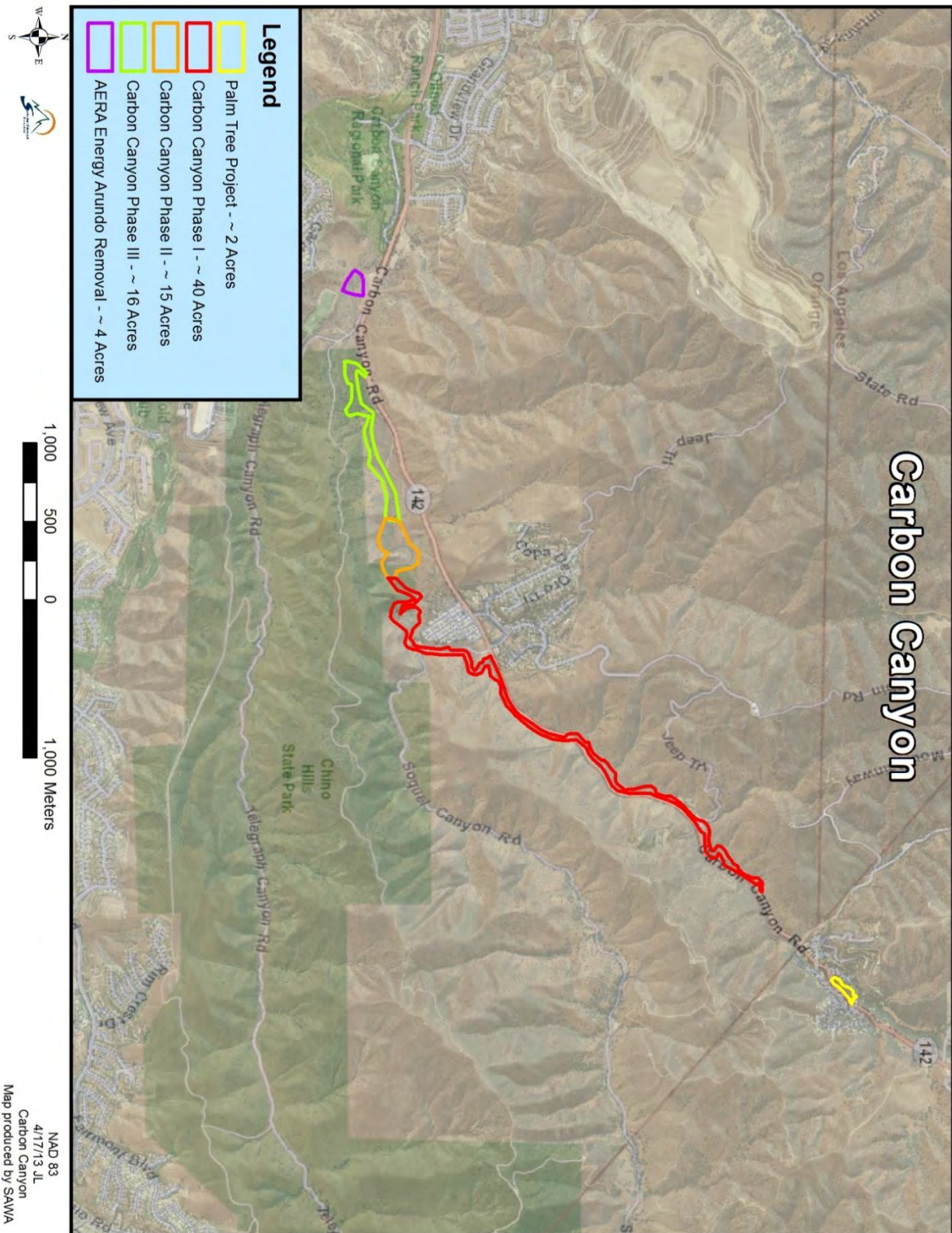
PHOTO POINT #2 TAKEN 6/22/18



PHOTO POINT #3 TAKEN 6/22/18



PROJECT MAP



IRVINE LAKE (SANTIAGO CREEK)

PROJECT BACKGROUND

Irvine Lake is located in Santiago Canyon, east of Orange, CA. The project is bounded by the Santa Ana Mountains to the north-east and south, and SR-241 to the west. Originally, the project was infested with 1.88 acres of giant reed (*Arundo donax*) along the shores of the lake. In 2013, SAWA began removal work for four mitigations. Extensive management practices have been employed to ensure there is no measureable water pollution and this project has demonstrated that such an operation can safely occur at a reservoir. Control efforts have continued in subsequent years to control the giant reed re-emergence.

Table 1: Irvine Lake (Santiago Creek) - Mitigations Placed at Project

Permit Number	Project Name	Permittee Name	Amount Received	Mitigated Acreage	Mitigation Type
1600-2008-0314-R5 Op Law SPL-2008-01063-JPL	Fullerton Layover Facility Project	Orange County Transportation Agency	\$19,000 (4/1/09)	0.09	ILF: Restoration
2006-01866 RWQCB Cert. 7/22/09	Union Pacific Railroad Company Track Improvement Project	Union Pacific Railroad Company	\$62,000 (7/30/09)	0.404	ILF: Restoration
SPL-2009-00674-JPL R8-2009-0047	Olinda Alpha Landfill Expansion	Orange County Waste & Recycling	\$75,000 (9/1/09)	1.0	ILF: Enhancement
1600-2008-0420-R5 Op Law SPL-2008-01145-MAS RWQCB Cert. 2/27/2009	Santiago Creek Bike Trail-Tustin Branch Trail	City of Orange	\$75,000 (10/1/10)	0.79	ILF: Enhancement
Totals			\$183,900	2.284	

STATUS OF PROJECT ACTIVITIES

The Irvine Lake Project is in its 5th year. Treatment methods have proven effective in controlling giant reed, which is almost eradicated at this site; unfortunately it is less effective in controlling tamarisk, which has become the dominant non-native. Within the scope of requirements for SAWA's In-Lieu Fee program, this requires the project continue until the tamarisk has been nearly eradicated. In addition, other non-native species have emerged around the lake. Additional work to remove these other non-native species is recommended.

Table 2: Irvine Lake (Santiago Creek) – Summary of Mitigation Activities

Project placed in:	2012			
Reporting Period	Amount Removed or Treated (in acres)	Type of Activity	Months of Activity	Species Removed or Treated
7/1/14 to 6/30/15	0.06	Treatment	Fall 2015	giant reed
7/1/15 to 6/30/16	0.06	Treatment	September 2015	giant reed
7/1/16 to 6/30/17	None	n/a	n/a	n/a
7/1/17 to 6/30/18	None	n/a	n/a	n/a

Annual bioassessment surveys were implemented in 2016, and occurred at this site in 2017 and 2018. During the 2017 survey overall vegetative cover was noted at >25-50% of the project site, with >5-15% native coverage and >50-75% non-native coverage (Table 3). As of the 2018 survey overall cover was noted at >5-15%, a decrease from the previous year. Native cover remained the same at 5-15% while non-native coverage increased to >75%. In 2018, coverage for giant reed, one of the primary target species, was not noted during the bioassessment, which fulfills the success criteria for this species. However, tamarisk, another targeted species, was noted at >50-75%, which requires additional treatments before all success criteria can be considered fulfilled. Results of the 7/5/18 bioassessment survey can be reviewed on Table 4. Overall, the project site has fairly poor vegetative coverage with a high coverage of non-native weeds, which contributes to a decline in habitat quality. Detected species are listed on Table 5; however, this is not an all-inclusive list.

Table 3: Irvine Lake Vegetative Coverages Over Four Years			
	2016	7/5/17	7/5/18
Overall vegetative cover:	n/a	>25-50%	>5-15%
Native vegetative coverage:	n/a	>5-15%	>5-15%
Non-native vegetative coverage:	n/a	>50-75%	>75%

Table 4: Irvine Lake Site Conditions 7/5/18					
Tree height:		>2-5m	Shrub height:		>1-2m
Overall vegetative cover:			>5-15%		
Native vegetative coverage:			>5-15%		
Common Name			Scientific Name		Coverage
Goodding's black willow			Salix gooddingii		1-5%
Mulefat			Baccharis salicifolia		1-5%
Red willow			Salix laevigata		1-5
Non-native vegetative coverage:			>75%		
Common Name			Scientific Name		Coverage
Tamarisk			Tamarix sp.		>50-75%
White sweet clover			Melilotus alba		>5-15%
Mustard			Brassica sp.		<1%
Non-native grasses			n/a		<1%

Table 5: Irvine Lake Detected Wildlife						
Common Name	Scientific Name	7/1/14 to 6/30/15	7/1/15 to 6/30/16	7/1/16 to 6/30/17	7/1/17 to 6/30/18	Special Status
Avian Species						
Canada Goose	<i>Branta canadensis</i>			X		
Mallard	<i>Anas platyrhynchos</i>		X	X		
Pied-billed Grebe	<i>Podilymbus podiceps</i>		X	X		
Western Grebe	<i>Aechmophorus occidentalis</i>		X			
Mourning Dove	<i>Zenaida macroura</i>		X	X		
Greater Roadrunner	<i>Geococcyx californianus</i>			X	X	
Anna's Hummingbird	<i>Calypte anna</i>	X		X		
American Coot	<i>Fulica americana</i>			X		
Black-necked Stilt	<i>Himantopus mexicanus</i>			X		
Great-blue Heron	<i>Ardea herodias</i>			X		
Snowy Egret	<i>Egretta thula</i>		X	X		

Table 5 continued						
Common Name	Scientific Name	7/1/14 to 6/30/15	7/1/15 to 6/30/16	7/1/16 to 6/30/17	7/1/17 to 6/30/18	Special Status
Avian Species						
Turkey Vulture	<i>Cathartes aura</i>		X	X		
White-tailed Kite	<i>Elanus leucurus</i>			X	X	FP
Bald Eagle	<i>Haliaeetus leucocephalus</i>			X	X	FP
Red-tailed Hawk	<i>Buteo jamaicensis</i>		X	X		
Acorn Woodpecker	<i>Melanerpes formicivorus</i>			X		
Cassin's Kingbird	<i>Tyrannus vociferans</i>			X		
Black Phoebe	<i>Sayornis nigricans</i>	X	X	X		
Least Bell's Vireo	<i>Vireo bellii pusillus</i>		X	X	X	FE, SE
American Crow	<i>Corvus brachyrhynchos</i>			X		
Northern Rough-winged Swallow	<i>Stelgidopteryx serripennis</i>		X			
Cliff Swallow	<i>Petrochelidon pyrrhonota</i>		X			
Bushtit	<i>Psaltirparus minimus</i>	X		X		
House Wren	<i>Troglodytes aedon</i>			X		
Bewick's Wren	<i>Thryomanes bewickii</i>	X		X		
European Starling	<i>Sturnus vulgaris</i>			X		E
House Finch	<i>Haemorhous mexicanus</i>		X	X		
Lesser Goldfinch	<i>Spinus psaltria</i>		X	X	X	
California Towhee	<i>Pipilo crissalis</i>		X	X		
Song Sparrow	<i>Melospiza melodia</i>	X	X	X		
Yellow-breasted Chat	<i>Icteria virens</i>		X	X		SSC
Red-winged Blackbird	<i>Agelaius phoeniceus</i>			X	X	
Orange-crowned Warbler	<i>Oreothlypis celata</i>	X	X			
Common Yellowthroat	<i>Geothlypis trichas</i>	X		X		
Yellow Warbler	<i>Setophaga petechia</i>		X			SSC
Mammalian Species						
Striped Skunk	<i>Mephitis mephitis</i>		X			
Coyote	<i>Canis latrans</i>		X	X		
Domestic cats	<i>Felis silvestris</i>			X		E
California Ground Squirrel	<i>Otospermophilus beecheyi</i>			X		
Desert Cottontail	<i>Sylvilagus audubonii</i>			X		
Herpetofauna Species						
Bullfrog	<i>Lithobates catesbeianus</i>			X		E
Side-blotched Lizard	<i>Uta stansburiana</i>		X			

FE = Federal endangered

FT = Federal threatened

SE = State endangered

ST = State threatened

SSC = State species of concern

FP = State fully protected

E = non-native species

EVALUATION OF IMPACTS TO WILDLIFE RESOURCES

Impacts to wildlife resources have been minimal. Annual bioassessments have detected several sensitive species, including the state and federal endangered Least Bell's Vireo (*Vireo pusillus bellii*). No treatments have occurred in the last few years due to access restrictions.

FACTORS THAT MAY POTENTIALLY INCREASE ADVERSE IMPACTS

Some herbicide treatments are conducted during bird breeding months, which have the potential to adversely impact nesting birds. These impacts are avoided by having a qualified biological monitor on site to identify nesting birds and flag areas to be avoided.

PROJECT PHOTO DOCUMENTATION

Table 6: Irvine Lake GPS Photo Points		
Photo Point	Bearing (°)	Coordinates (UTM)
1a	120° SE	433760, 3636912
1b	205° SW	433760, 3636912
1c	280° W	433760, 3636912
2a	53° NE	432682, 3738033
2b	133° SE	432682, 3738033
3a	225° SW	434816, 3737516
3b	315° NW	434816, 3737516

PHOTO "A" TAKEN 5/21/14, DURING REMOVAL



PHOTO "B" TAKEN 5/21/14, DURING REMOVAL



PHOTO POINT #1A TAKEN 6/22/16.



PHOTO POINT #1A TAKEN 7/5/18.



PHOTO POINT #1B TAKEN 6/22/16.



PHOTO POINT #1B TAKEN 7/5/18.



PHOTO POINT #1C TAKEN 6/22/16.



PHOTO POINT #1C TAKEN 7/5/18.



PHOTO POINT #2A TAKEN 6/22/16.



PHOTO POINT #2A TAKEN 7/5/18.



PHOTO POINT #2B TAKEN 6/22/16.



PHOTO POINT #2B TAKEN 7/5/18.



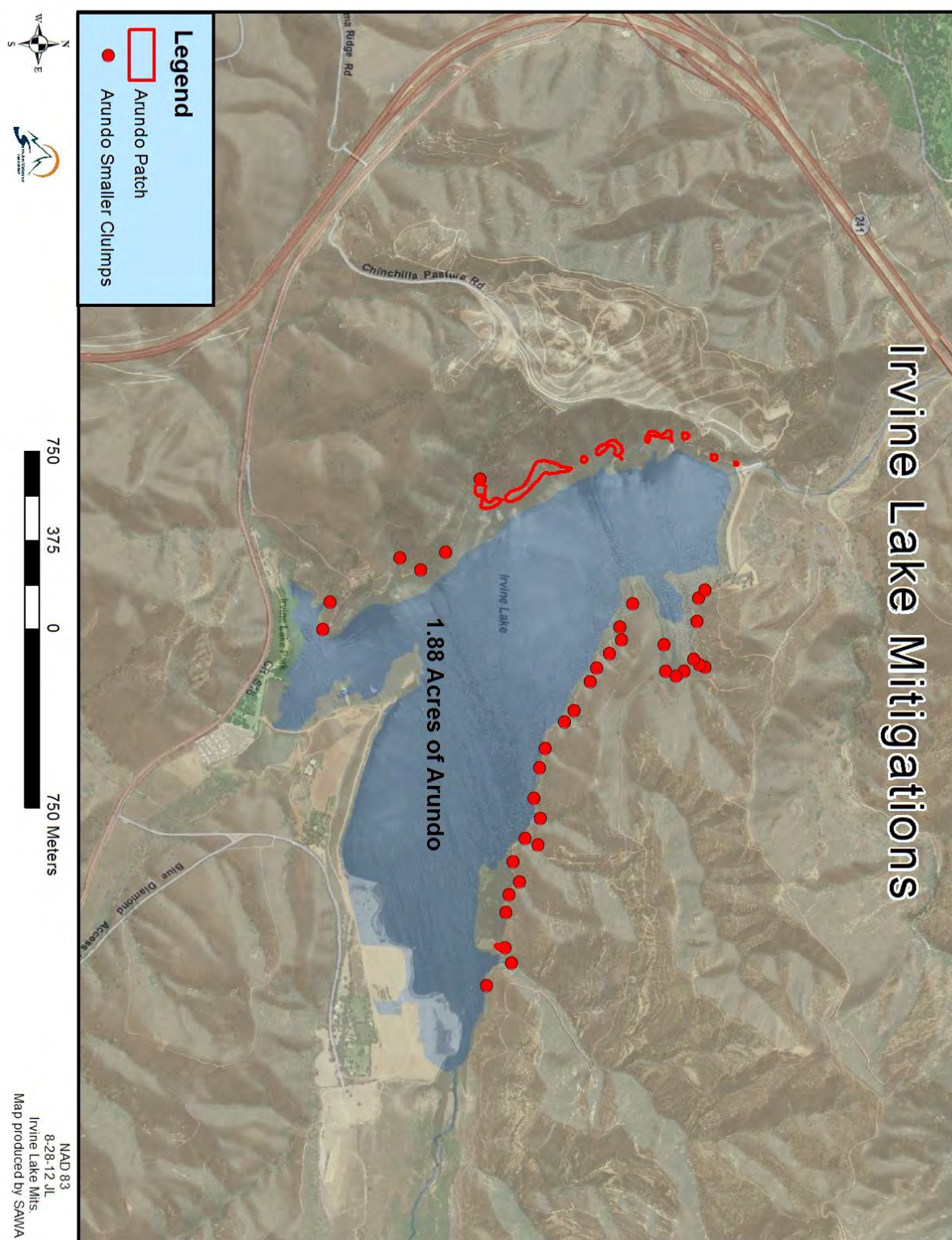
PHOTO POINT #3A TAKEN 7/5/18



PHOTO POINT #3B TAKEN 7/5/18



PROJECT MAP



IRVINE PARK (SANTIAGO CREEK)

PROJECT BACKGROUND

Irvine Park is located in Santiago Canyon, east of Orange, CA. The 26-acre project is bounded by the Santa Ana Mountains to the north and to the east and south, SR-241 to the south, and Santiago Canyon Road to the west. Originally, the Inland Empire Resource Conservation District (IERCD) conducted the invasive removal work, as part of eight mitigations. In 2012, IERCD gave management of the project to SAWA. Control efforts have continued in subsequent years to control the re-emergence of invasive species

Table 1: Irvine Park (Santiago Creek) - Mitigations Placed at Project

Permit Number	Project Name	Permittee Name	Amount Received	Mitigated Acreage	Mitigation Type
1600-2007-0003-R5 2007-76-Y RWQCB Cert. 9/25/07	Santiago Canyon Creek Recharge Enhancement Project	Orange County Water District	\$50,000 (8/29/01)	1.0	ILF: Enhancement
199915117-YJC	Saddleback Meadows	California Quartet	\$100,000 (6/11/03)	2	ILF: Restoration
200300194-YJC	Frank R. Bowerman Landfill	County of Orange IWMD	\$16,200 (9/27/04)	0.324	ILF: Enhancement
1600-2004-0256-R5 200500154-JPL RWQCB Cert	Caliber Motors Satellite Sales Facility	Ellas Properties Inc	\$5,000 (12/28/04)	0.1	ILF: Enhancement
CDFW Op Law	Robert B. Diemer Filtration Plant Emergency Spillway Vegetation Clearing Project	Metropolitan Water District of So. Cal	\$25,000 (2/1/05)	0.45	Permittee-based Mitigation: Enhancement
5-028-00 200000736-YJC	Yorba Linda Heights Project	Pulte Home Corp	\$162,500 (2/1/05)	3.25	ILF: Enhancement
1600-2004-0060-R5	Southern California Regional Rail Bridge Project	So Cal Regional Rail Authority	\$75,000 (7/24/06)	1.02	Permittee-based Mitigation: Enhancement
Totals			\$433,700	8.144	

STATUS OF PROJECT ACTIVITIES

The Irvine Park Project is in its 6th year with SAWA. Treatment methods have proven effective in controlling giant reed, which is almost eradicated at this site. The project goal is <1% giant reed over the total project area, which has been met. In October 2017, the Canyon 2 fire burned the mitigation site. Habitat quality is now improving, but the removal of non-native weeds and their seed sources is vital. Additional work to remove these additional non-native species is recommended.

Table 2: Irvine Park (Santiago Creek) – Summary of Mitigation Activities

SAWA management began in:		2012		
Reporting Period	Amount Removed or Treated (in acres)	Type of Activity	Months of Activity	Species Removed or Treated
7/1/14 to 6/30/15	None	n/a	n/a	n/a
7/1/15 to 6/30/16	3.9	Treatment	July 2015	giant reed
7/1/16 to 6/30/17	None	n/a	n/a	n/a
7/1/17 to 6/30/18	0.2	Treatment	December 2017 March 2018	giant reed, castorbean, tree tobacco

Annual bioassessment surveys were implemented in 2016, and occurred at this site in 2017 and 2018. During the 2017 survey overall vegetative cover was noted at >50-75% of the project site, with >50-75% native coverage and 1-5% non-native coverage (Table 3). As of the 2018 survey, overall cover and native cover were greatly decreased to >5-15%, largely due to the Canyon 2 Fire. Non-native coverage also increased greatly to >75%, largely composed of herbaceous annual species and perennial pepperweed (*Lepidium latifolium*). In 2018, coverage for giant reed, one of the primary target species, was not noted during the bioassessment, which fulfills the success criteria for this species. Results of the 7/11/18 bioassessment survey can be reviewed on Table 4. Overall, the project site has moderate vegetative coverage, and supports a variety of wildlife species. Detected species are listed on Table 5; however, this is not an all-inclusive list.

Table 3: Irvine Park Vegetative Coverages Over Four Years

	2016	6/20/17	7/11/18
Overall vegetative cover:	n/a	>50-75%	>5-15%
Native vegetative coverage:	n/a	>50-75%	>5-15%
Non-native vegetative coverage:	n/a	1-5%	>75%

Table 4: Irvine Park Site Conditions 7/11/18

Table 4: Irvine Park Site Conditions 7/11/18				
Tree height:	>15-20m		Shrub height:	>1-2m
Overall vegetative cover:		>25-50%		
Native vegetative coverage:		>25-50%		
Common Name		Scientific Name		Coverage
Mulefat		<i>Baccharis salicifolia</i>		>5-15%
Blue elderberry		<i>Sambucus nigra caerulea</i>		>5-15%
Goodding's black willow		<i>Salix gooddingii</i>		1-5%
Laurel sumac		<i>Malosma laurina</i>		1-5%
Non-native vegetative coverage:		>5-15%		
Common Name		Scientific Name		Coverage
Eucalyptus		<i>Eucalyptus</i> sp.		>5-15%
Perennial pepperweed		<i>Lepidium latifolium</i>		1-5%
Mustard		<i>Brassica</i> sp.		1-5%
Tree tobacco		<i>Nicotiana glauca</i>		1-5%
Castorbean		<i>Ricinus communis</i>		<1%

Table 5: Irvine Park Detected Wildlife

Common Name	Scientific Name	7/1/14 to 6/30/15	7/1/15 to 6/30/16	7/1/16 to 6/30/17	7/1/17 to 6/30/18	Special Status
Avian Species						
California Quail	<i>Callipepla californica</i>			X		
Mourning Dove	<i>Zenaida macroura</i>		X	X	X	
Greater Roadrunner	<i>Geococcyx californianus</i>			X		
Anna's Hummingbird	<i>Calypte anna</i>	X	X	X		
Allen's Hummingbird	<i>Selasphorus sasin</i>		X			
Snowy Egret	<i>Egretta thula</i>			X		
Cooper's Hawk	<i>Accipiter cooperii</i>	X				
Red-shouldered Hawk	<i>Buteo lineatus</i>				X	
Red-tailed Hawk	<i>Buteo jamaicensis</i>	X		X		
Acorn Woodpecker	<i>Melanerpes formicivorus</i>			X		
Downy Woodpecker	<i>Dryobates pubescens</i>	X		X		
Nuttall's Woodpecker	<i>Dryobates nuttallii</i>		X			
Ash-throated Flycatcher	<i>Myiarchus cinerascens</i>			X		
Cassin's Kingbird	<i>Tyrannus vociferans</i>			X		
Pacific-slope Flycatcher	<i>Empidonax difficilis</i>		X			
Say's Phoebe	<i>Sayornis saya</i>				X	
Least Bell's Vireo	<i>Vireo bellii pusillus</i>	X	X	x		FE, SE
California Scrub-jay	<i>Aphelocoma californica</i>	X		X		
American Crow	<i>Corvus brachyrhynchos</i>		X	X		
Bushtit	<i>Psaltiriparus minimus</i>	X		X		
House Wren	<i>Troglodytes aedon</i>			X		
Bewick's Wren	<i>Thryomanes bewickii</i>	X		X		
California Gnatcatcher	<i>Poliophtila californica</i>			X	X	FT, SSC
Blue-gray Gnatcatcher	<i>Poliophtila caerulea</i>			X	X	
Wrentit	<i>Chamaea fasciata</i>			X		
Western Bluebird	<i>Sialia mexicana</i>			X		
California Thrasher	<i>Toxostoma redivivum</i>	X				
Northern Mockingbird	<i>Mimus polyglottos</i>			X		
European Starling	<i>Sturnus vulgaris</i>			X		E
Phainopepla	<i>Phainopepla nitens</i>			X		
House Finch	<i>Haemorhous mexicanus</i>		X		X	
Lesser Goldfinch	<i>Spinus psaltria</i>	X	X	X	X	
Spotted Towhee	<i>Pipilo maculatus</i>	X	X	X		
California Towhee	<i>Melospiza crissalis</i>		X	x		
Song Sparrow	<i>Melospiza melodia</i>	X	X			
Yellow-breasted Chat	<i>Icteria virens</i>	X		X		SSC
Hooded Oriole	<i>Icterus cucullatus</i>		X	X		
Common Yellowthroat	<i>Geothlypis trichas</i>	X				
Yellow Warbler	<i>Setophaga petechia</i>		X	X		SSC
Black-headed Grosbeak	<i>Pheucticus melanocephalus</i>		X	X		
Mammalian Species						
Coyote	<i>Canis latrans</i>	X		X		
California Ground Squirrel	<i>Otospermophilus beecheyi</i>	X		X		
Desert Cottontail	<i>Sylvilagus audubonii</i>			X		
Mule deer	<i>Odocoileus menionus</i>			X		

Table 5 continued						
Common Name	Scientific Name	7/1/14 to 6/30/15	7/1/15 to 6/30/16	7/1/16 to 6/30/17	7/1/17 to 6/30/18	Special Status
Herpetofauna Species						
Western Toad	<i>Anaxyrus boreas</i>			X		
Orange-throated Whiptail	<i>Aspidoscelis hyperythra beldingi</i>		X			SSC
Side-blotched Lizard	<i>Uta stansburiana</i>			X		

FE = Federal endangered

FT = Federal threatened

SE = State endangered

ST = State threatened

SSC = State species of concern

FP = State fully protected

E = non-native species

EVALUATION OF IMPACTS TO WILDLIFE RESOURCES

Impacts to wildlife resources have been minimal. Annual bioassessments have detected several sensitive species, including the state and federally endangered Least Bell's Vireo (*Vireo pusillus bellii*) and federally threatened California Gnatcatcher (*Polioptila californica*). Treatments have occurred every other year during this reporting period; targeted species appear to be well controlled with low coverages.

FACTORS THAT MAY POTENTIALLY INCREASE ADVERSE IMPACTS

Some herbicide treatments are conducted during bird breeding months, which have the potential to adversely impact nesting birds. These impacts are avoided by having a qualified biological monitor on site to identify nesting birds and flag areas to be avoided.

PROJECT PHOTO DOCUMENTATION

Table 6: Irvine Park GPS Photo Points		
Photo Point	Bearing (°)	Coordinates (UTM)
1	217° SW	430049, 3740294
2	354° N	429885, 3740204
3	60° NE	429385, 3740545
4	142° SE	429385, 3740544
5	103° E	429786, 3740294

PHOTO "A" TAKEN 8/11/06



PHOTO "B" TAKEN 8/11/06



PHOTO POINT #1 TAKEN 6/27/16.



PHOTO POINT #1 TAKEN 7/11/18.



PHOTO POINT #2 TAKEN 6/27/16.



PHOTO POINT #2 TAKEN 7/11/18.



PHOTO POINT #3 TAKEN 7/11/18.



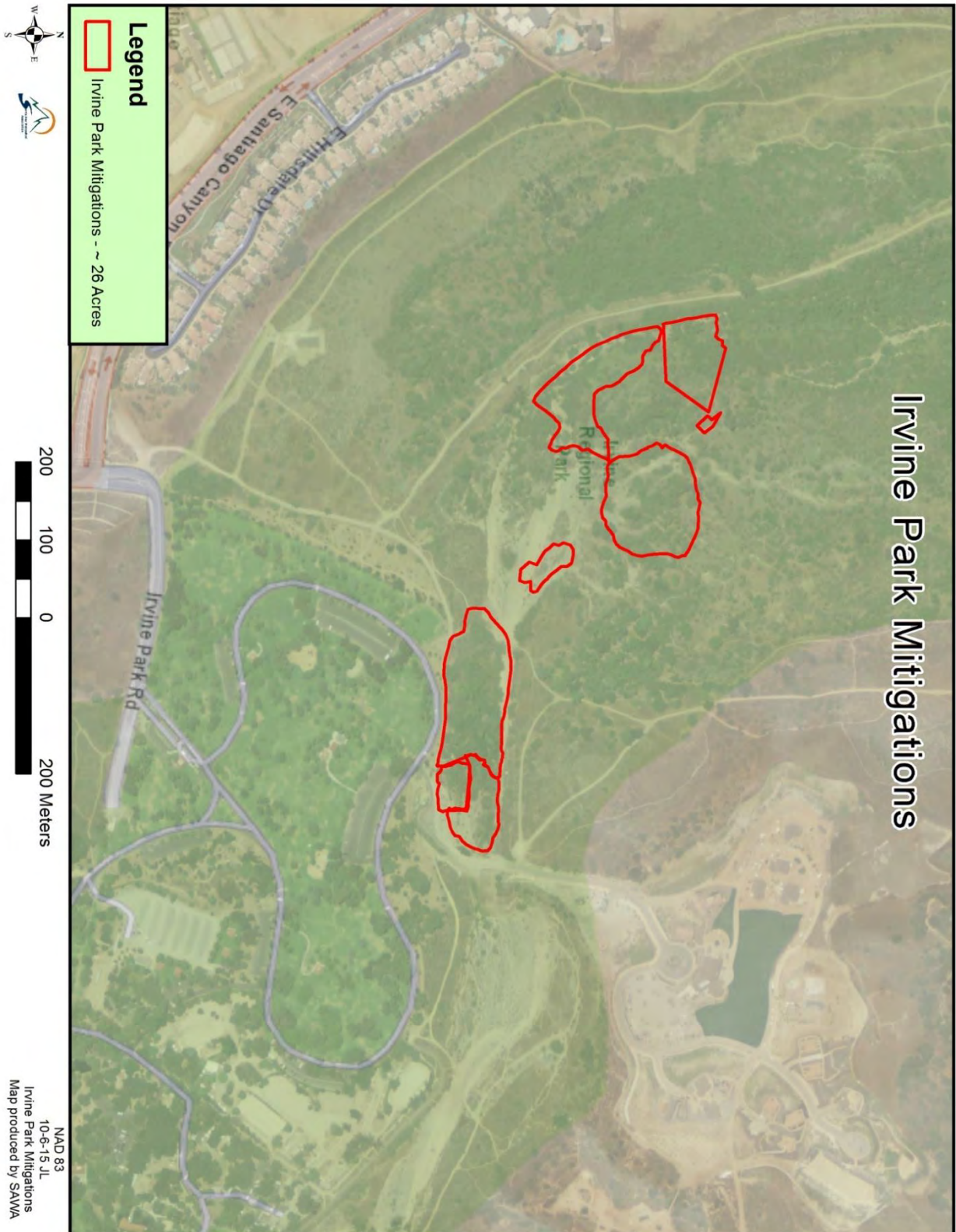
PHOTO POINT #4 TAKEN 7/11/18.



PHOTO POINT #5 TAKEN 7/11/18.



PROJECT MAP



SANTIAGO CREEK PHASE I

PROJECT BACKGROUND

Santiago Phase I is located in Santiago Canyon, upstream of Irvine Lake and east of Orange, CA. The project is bounded by the Santa Ana Mountains to the north and east, and Santiago Canyon Road to the south and west. Originally, the 206-acre project area was infested with giant reed (*Arundo donax*), castorbean (*Ricinus communis*), and Spanish broom (*Spartium junceum*). Several expired in-lieu fee mitigation projects were originally placed at this site this for initial removal. In 2012, SAWA began removal and maintenance work to fulfill the requirements of one mitigation. After initial removal, native species, such as Fremont cottonwood (*Populus fremontii*), mulefat (*Baccharis salicifolia*), and willows (*Salix* spp.), were encouraged to re-colonize through giant reed control efforts. This natural succession benefits the local wildlife, as well as water quality and quantity. Control efforts have continued in subsequent years to control giant reed re-emergence.

Table 1: Santiago Creek Phase I - Mitigations Placed at Project

Permit Number	Project Name	Permittee Name	Amount Received	Mitigated Acreage	Mitigation Type
1600-2005-0284-R5 2002-00505-DPS RWQCB Cert. 12/20/05	Mountain Park Development Project	The Irvine Company	\$845,180 (1/24/06)	18.8	ILF: Enhancement
Totals			\$845,180	18.8	

STATUS OF PROJECT ACTIVITIES

The Santiago Phase I Mountain Park Project is in its 6th year since the mitigation was placed. Treatment methods have proven effective in controlling giant reed. The performance goal for this project is <1% giant reed, which has been met. Other non-native species, such as thistles and mustard, have emerged at low levels. Additional work to remove these other non-native species is recommended to preserve habitat quality.

Table 2: Santiago Creek Phase I – Summary of Mitigation Activities

Project placed in:	2012			
Reporting Period	Amount Removed or Treated (in acres)	Type of Activity	Months of Activity	Species Removed or Treated
7/1/14 to 6/30/15	None	n/a	n/a	n/a
7/1/15 to 6/30/16	13	Treatment	May 2015	giant reed
7/1/16 to 6/30/17	None	n/a	n/a	n/a
7/1/17 to 6/30/18	0.2	Treatment	November 2017	Giant reed, castorbean, tree tobacco

Annual bioassessment surveys were implemented in 2016, and occurred at this site in 2017 and 2018. During the 2017 survey overall vegetative cover was noted at >50-75% of the project site, with >50-75%

native coverage and >15-25% non-native coverage (Table 3). As of the 2018 survey, overall cover and native cover remained the same, while non-native coverage decreased to 1-5%. In 2018, coverage for giant reed, one of the primary target species, was not noted during the bioassessment, which fulfills the success criteria for this species. Results of the 7/16/18 bioassessment survey can be reviewed on Table 4. Overall, the project site has good vegetative coverage, with minimal disturbance from trespassers. The site also supports a high quality habitat with a variety of wildlife species. Detected species are listed on Table 5; however, this is not an all-inclusive list.

Table 3: Santiago Creek Phase I Vegetative Coverages Over Four Years			
	2016	6/14/17	7/16/18
Overall vegetative cover:	n/a	>50-75%	>50-75%
Native vegetative coverage:	n/a	>50-75%	>50-75%
Non-native vegetative coverage:	n/a	>15-25%	1-5%

Table 4: Santiago Creek Phase I Site Conditions 7/16/18					
Tree height:		>15-20m	Shrub height:		>1-2m
Overall vegetative cover:			>50-75%		
Native vegetative coverage:			>50-75%		
Common Name			Scientific Name		Coverage
Mulefat			<i>Baccharis salicifolia</i>		>5-15%
California sagebrush			<i>Artemisia californica</i>		>15-25%
Arroyo willow			<i>Salix lasiolepis</i>		>5-15%
Goodding's black willow			<i>Salix gooddingii</i>		>5-15%
Non-native vegetative coverage:			1-5%		
Common Name			Scientific Name		Coverage
Non-native grasses			n/a		1-5%
Eucalyptus			<i>Eucalyptus</i> sp.		1-5%
Mustard			n/a		1-5%
Tree tobacco			<i>Nicotiana glauca</i>		<1%
Yellow starthistle			<i>Centaurea solstitialis</i>		<1%
Fountain grass			<i>Pennisetum setaceum</i>		<1%

Table 5: Santiago Creek Phase I Detected Wildlife						
Common Name	Scientific Name	7/1/14 to 6/30/15	7/1/15 to 6/30/16	7/1/16 to 6/30/17	7/1/17 to 6/30/18	Special Status
Avian Species						
Mourning Dove	<i>Zenaida macroura</i>		X	X		
White-throated Swift	<i>Aeronautes saxatalis</i>			X		
Anna's Hummingbird	<i>Calypete anna</i>		X	X		
Costa's Hummingbird	<i>Calypete costae</i>		X			
American Coot	<i>Fulica americana</i>		X			
Turkey Vulture	<i>Cathartes aura</i>		X	X	X	
Cooper's Hawk	<i>Accipiter cooperii</i>				X	
Red-tailed Hawk	<i>Buteo jamaicensis</i>		X	X		
Acorn Woodpecker	<i>Melanerpes formicivorus</i>		X	X	X	
Nuttall's Woodpecker	<i>Dryobates nuttallii</i>	X	X			
Ash-throated Flycatcher	<i>Myiarchus cinerascens</i>				X	
Pacific-slope Flycatcher	<i>Empidonax difficilis</i>	X	X		X	

Table 5 continued						
Common Name	Scientific Name	7/1/14 to 6/30/15	7/1/15 to 6/30/16	7/1/16 to 6/30/17	7/1/17 to 6/30/18	Special Status
Avian Species						
Black Phoebe	<i>Sayornis nigricans</i>	X				
Say's Phoebe	<i>Sayornis saya</i>		X			
Least Bell's Vireo	<i>Vireo bellii pusillus</i>			X		FE, SE
California Scrub-jay	<i>Aphelocoma californica</i>	X	X	X	X	
Common Raven	<i>Corvus corax</i>		X			
Tree Swallow	<i>Tachycineta bicolor</i>			X	X	
Northern Rough-winged Swallow	<i>Stelgidopteryx serripennis</i>		X			
Oak Titmouse	<i>Baeolophus inornatus</i>		X	X		
Bushtit	<i>Psaltirparus minimus</i>		X			
House Wren	<i>Troglodytes aedon</i>			X		
Bewick's Wren	<i>Thryomanes bewickii</i>			X		
Blue-gray Gnatcatcher	<i>Poliophtila caerulea</i>		X	X		
California Gnatcatcher	<i>Poliophtila californica</i>			X		FT, SSC
Wrentit	<i>Chamaea fasciata</i>		X	X	X	
American Robin	<i>Turdus migratorius</i>			X		
California Thrasher	<i>Toxostoma redivivum</i>		X			
Northern Mockingbird	<i>Mimus polyglottos</i>		X			
Phainopepla	<i>Phainopepla nitens</i>		X	X		
House Finch	<i>Haemorhous mexicanus</i>		X	X	X	
Lesser Goldfinch	<i>Spinus psaltria</i>	X	X	X		
Spotted Towhee	<i>Pipilo maculatus</i>	X	X	X	X	
Rufous-crowned Sparrow	<i>Aimophila ruficeps canescens</i>		X			SSC
California Towhee	<i>Melozone crissalis</i>	X	X	X	X	
Song Sparrow	<i>Melospiza melodia</i>	X		X		
Yellow-breasted Chat	<i>Icteria virens</i>		X			SSC
Orange-crowned Warbler	<i>Oreothlypis celata</i>	X				
Common Yellowthroat	<i>Geothlypis trichas</i>		X	X		
Yellow Warbler	<i>Setophaga petechia</i>		X	X		SSC
Black-headed Grosbeak	<i>Pheucticus melanocephalus</i>			X		
Mammalian Species						
Coyote	<i>Canis latrans</i>			X		
Desert Cottontail	<i>Sylvilagus audubonii</i>		X	X		
Mule Deer	<i>Odocoileus hemionus</i>		X			
Herpetofauna Species						
Western Toad	<i>Anaxyrus boreas</i>			X		
Western Skink	<i>Plestiodon skiltonianus</i>		X			
Whiptail species	<i>Aspidocelis</i> sp.			X		
Western Fence Lizard	<i>Sceloporus occidentalis</i>		X			
Side-blotched Lizard	<i>Uta stansburiana</i>		X	X		

FE = Federal endangered
FT = Federal threatened
SE = State endangered

ST = State threatened
SSC = State species of concern

FP = State fully protected
E = non-native species

EVALUATION OF IMPACTS TO WILDLIFE RESOURCES

Impacts to wildlife resources have been minimal. Annual bioassessments show an abundance of avian species using the project site. Although targeted invasive plants are currently well controlled, other non-native plants may become a problem, resulting in a degradation of habitat quality.

FACTORS THAT MAY POTENTIALLY INCREASE ADVERSE IMPACTS

In order to fully control invasive plants, especially annuals, it is sometimes necessary to conduct treatments during bird breeding months, which have the potential to adversely impact nesting birds. These impacts are avoided by having a qualified biological monitor on site to identify nesting birds and flag areas to be avoided.

PROJECT PHOTO DOCUMENTATION

Table 6: Santiago Creek Phase I GPS Photo Points		
Photo Point	Bearing (°)	Coordinates (UTM)
1	182° S	437237, 3736070
3	267° W	437262, 3735728
4	270° W	437199, 3736241
5	130° SE	436676, 3737363
6	180° S	435746, 3737495
7	200° S	435978, 3737486
8	315° NW	437155, 3736546

PHOTO POINT #1 TAKEN 9/5/13.



PHOTO POINT #1 TAKEN 6/10/16.



PHOTO POINT #1 TAKEN 7/16/18.



PHOTO POINT #4 TAKEN 9/5/13.



PHOTO POINT #4 TAKEN 6/10/16.



PHOTO POINT #4 TAKEN 7/16/18.



PHOTO POINT #5 TAKEN 7/16/18.



PHOTO POINT #6 TAKEN 7/16/18.



PHOTO POINT #7 TAKEN 7/16/18.



PHOTO POINT #8 TAKEN 7/16/18.



PROJECT MAP



SANTIAGO CREEK PHASE II

PROJECT BACKGROUND

Santiago Phase II is located north-east of the intersection of SR-55 and Chapman Ave, in Orange, CA. The project site begins where the channelized portion of Santiago Creek ends, downstream to Chapman Ave. Originally, the 19-acre project was infested with giant reed (*Arundo donax*). Initial removal began in 2007, with continued control efforts in subsequent years to control the re-emergence of these species.

Table 1: Santiago Creek Phase II - Mitigations Placed at Project

Permit Number	Project Name	Permittee Name	Amount Received	Mitigated Acreage	Mitigation Type
1600-2004-0187-R6 200300640-WJC RWQCB Cert. 8/24/05	May Ranch Phase 6 Residential Development Project	KB Home Coastal, Inc	\$453,000 (10/7/05)	9.06	ILF: Enhancement
1600-2005-0386-R5 200301268-YJC RWQCB Cert. 1/24/06	Boy Scouts of America Outdoor Education Camp	Boy Scouts of America	\$50,000 (2/27/06)	0.72	ILF: Enhancement
1600-2003-5167-R5	SR-22 HOV Lane Project	Orange County Transportation Authority	\$25,000 (9/28/05)	0.51	ILF: Enhancement
30-2005-32-DGW	Del Rio Project	North Orange Del Rio Land, LLC	\$35,000 (1/24/06)	0.04	ILF: Enhancement
Totals			\$563,000	10.33	

STATUS OF PROJECT ACTIVITIES

The Santiago Creek Phase II Project is in its 10th year. Treatment methods have proven effective in controlling giant reed, which is almost eradicated at this site. However, other non-native species, such as pepper tree and ornamental trees, have emerged as dominant non-native species. Additional work to remove these other non-native species is recommended.

Table 2: Santiago Creek Phase II – Summary of Mitigation Activities

Project placed in:	2007			
Reporting Period	Amount Removed or Treated (in acres)	Type of Activity	Months of Activity	Species Removed or Treated
7/1/14 to 6/30/15	n/a	Treatment	June 2015	giant reed, castorbean, tree tobacco
7/1/15 to 6/30/16	0.95	Treatment	May 2016	giant reed, castorbean, tree tobacco
7/1/16 to 6/30/17	0.6	Treatment	April 2017	giant reed, castorbean, mustard, perennial
7/1/17 to 6/30/18	0.5	Treatment	July 2017 March-May 2018	Giant reed, castorbean, mustard, perennial pepperweed, milk thistle

Annual bioassessment surveys were implemented in 2016, and occurred at this site in 2017 and 2018. During the 2017 survey overall vegetative cover was noted at >25-50% of the project site, with >25-50% native coverage and >25-50% non-native coverage (Table 3). As of the 2018 survey, overall cover remained the same, while native cover decreased to >15-25% and non-native cover decreased to 5-15%. In 2018, coverage for giant reed, one of the primary target species, was not noted during the bioassessment, which fulfills the success criteria for this species. Results of the 7/9/18 bioassessment survey can be reviewed on Table 4. Overall, the project site has low vegetative coverage, with much of the non-native vegetation consisting of recruits from local landscaping and residential properties. The site provides low quality habitat due to homeless encampments, trash dumping, and vehicle usage in the mitigation area. Detected species are listed on Table 5; however, this is not an all-inclusive list.

Table 3: Santiago Creek Phase II Vegetative Coverages Over Four Years			
	2016	6/20/17	7/9/18
Overall vegetative cover:	n/a	>25-50%	>25-50%
Native vegetative coverage:	n/a	>25-50%	>15-25%
Non-native vegetative coverage:	n/a	>25-50%	>5-15%

Table 4: Santiago Creek Phase II Site Conditions 7/9/18					
Tree height:		>15-20m	Shrub height:		>0.5-1m
Overall vegetative cover:			>25-50%		
Native vegetative coverage:			>15-25%		
Common Name			Scientific Name		Coverage
Laurel sumac			<i>Malosma laurina</i>		>5-15%
Yerba santa			<i>Eriodictyon</i> sp.		>5-15%
Arroyo willow			<i>Salix lasiolepis</i>		>5-15%
Mulefat			<i>Baccharis salicifolia</i>		1-5%
Non-native vegetative coverage:			>5-15%		
Common Name			Scientific Name		Coverage
Ornamental trees			n/a		>5-15%
Brazilian pepper tree			<i>Schinus terebinthifolius</i>		>5-15%
Eucalyptus			<i>Eucalyptus</i> sp.		1-5%

Table 5: Santiago Creek Phase II Detected Wildlife						
Common Name	Scientific Name	7/1/14 to 6/30/15	7/1/15 to 6/30/16	7/1/16 to 6/30/17	7/1/17 to 6/30/18	Special Status
Avian Species						
Mallard	<i>Anas platyrhynchos</i>		X	X	X	
Mourning Dove	<i>Zenaida macroura</i>	X	X	X	X	
Greater Roadrunner	<i>Geococcyx californianus</i>			X		
White-throated Swift	<i>Aeronautes saxatalis</i>			X		
Anna's Hummingbird	<i>Calypte anna</i>	X	X		X	
Killdeer	<i>Charadrius vociferous</i>	X		X		
Snowy Egret	<i>Egretta thula</i>			X		
Black Phoebe	<i>Sayornis nigricans</i>	X		X		
California Scrub-jay	<i>Aphelocoma californica</i>	X		X	X	
American Crow	<i>Corvus brachyrhynchos</i>			X		

Table 5 continued						
Common Name	Scientific Name	7/1/14 to 6/30/15	7/1/15 to 6/30/16	7/1/16 to 6/30/17	7/1/17 to 6/30/18	Special Status
Avian Species						
Tree Swallow	<i>Tachycineta bicolor</i>				X	
Northern Rough-winged Swallow	<i>Stelgidopteryx serripennis</i>			X	X	
Bushtit	<i>Psaltirparus minimus</i>		X			
Bewick's Wren	<i>Thryomanes bewickii</i>	X				
Wrentit	<i>Chamaea fasciata</i>			X		
Northern Mockingbird	<i>Mimus polyglottos</i>		X	X		
European Starling	<i>Sturnus vulgaris</i>			X		E
Scaly-breasted Munia	<i>Lonchura punctulata</i>	X	X			
House Finch	<i>Haemorhous mexicanus</i>	X		X		
Lesser Goldfinch	<i>Spinus psaltria</i>	X				
California Towhee	<i>Melospiza crissalis</i>	X				
Song Sparrow	<i>Melospiza melodia</i>	X		X		
Hooded Oriole	<i>Icterus cucullatus</i>			X		
Brown-headed Cowbird	<i>Molothrus ater</i>		X			
Mammal Species						
California Ground Squirrel	<i>Otospermophilus beecheyi</i>			X		
Herpetofauna Species						
Western Fence Lizard	<i>Sceloporus occidentalis</i>			X		

FE = Federal endangered ST = State threatened FP = State fully protected
 FT = Federal threatened SSC = State species of concern E = non-native species
 SE = State endangered

EVALUATION OF IMPACTS TO WILDLIFE RESOURCES

Impacts to wildlife resources have been minimal, however the site provides low quality habitat regardless of enhancement activities. Species detections are low, and could be improved through additional mitigation to better improve the natural functions of the site.

FACTORS THAT MAY POTENTIALLY INCREASE ADVERSE IMPACTS

Some herbicide treatments are conducted during bird breeding months, which have the potential to adversely impact nesting birds. These impacts are avoided by having a qualified biological monitor on site to identify nesting birds and flag areas to be avoided.

PROJECT PHOTO DOCUMENTATION

Table 6: Santiago Creek Phase II GPS Photo Points		
Photo Point	Bearing (°)	Coordinates (UTM)
1	6° N	423551, 3739284
2	14° N	423585, 3739304
3	360° N	423618, 3739319
5	268° W	423888, 3739692

PHOTO POINT #1 TAKEN 6/20/17 (LEFT) AND 7/9/18 (RIGHT).



PHOTO POINT #2 TAKEN 5/1/07 (LEFT) AND 6/20/17 (RIGHT).



PHOTO POINT #2 TAKEN 7/9/18.



PHOTO POINT #3 TAKEN 6/10/16 (LEFT) AND 7/9/18 (RIGHT).



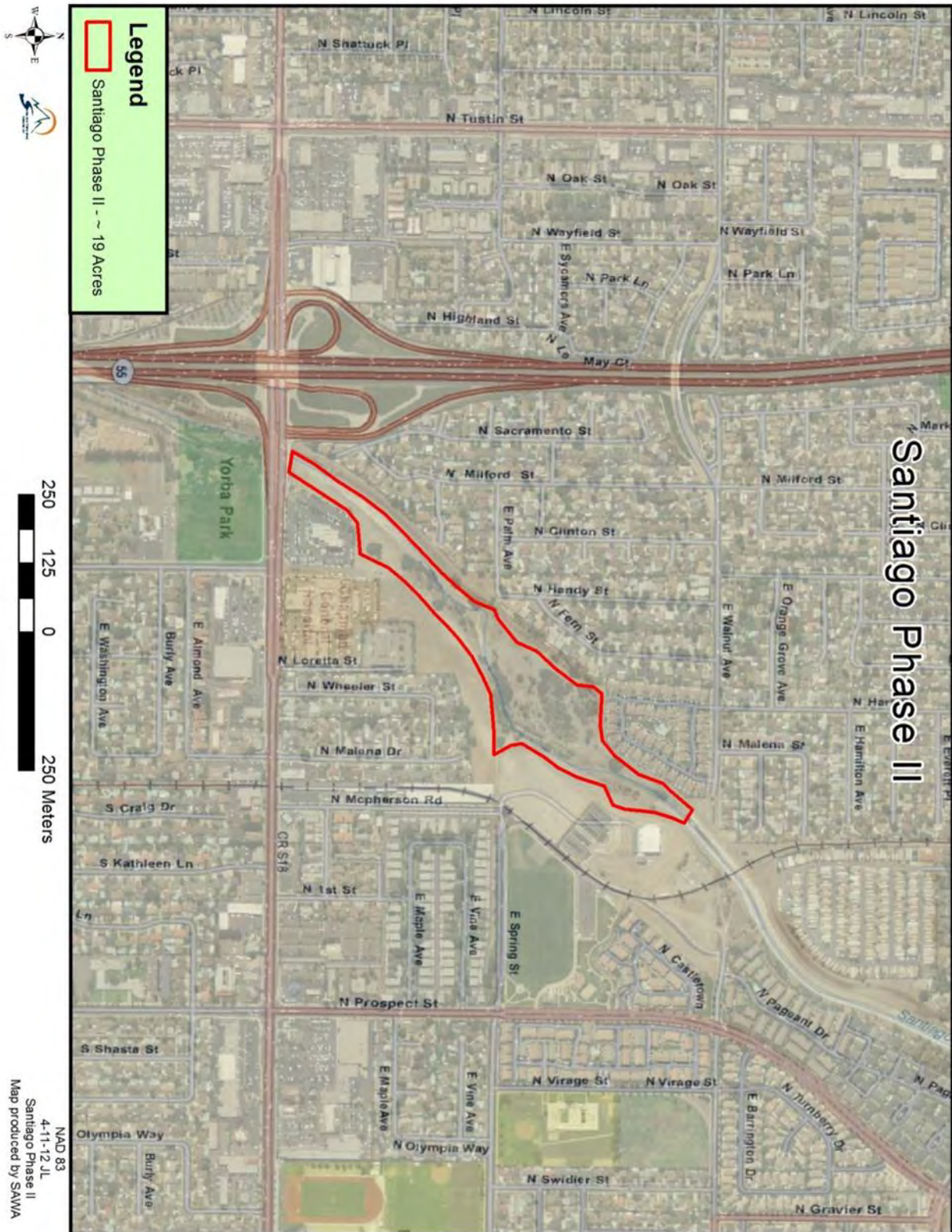
PHOTO POINT #5 TAKEN 5/1/07 (LEFT) AND 6/20/17 (RIGHT).



PHOTO POINT #5 TAKEN 7/9/18.



PROJECT MAP



CDFW REGION 6

The reports contained herein cover SAWA projects funded by the In-lieu Fee program and mitigations, and are located within the California Department of Fish and Wildlife Region 6.

CALNEV PIPELINE

PROJECT BACKGROUND

Cal-Nev Pipeline is located along approximately 4 miles of the Cajon Creek drainage, south of the junction between CA-138 and I-15. The mitigation is composed of three different projects totaling 0.32-Ac permanent impacts and 0.33-Ac temporary impacts, resulting in 1.08-Ac of non-native invasive vegetation eradication. Removal efforts began in 2010 and continued through 2012, with six years follow-up treatments and monitoring. Targeted species include giant reed (*Arundo donax*), salt cedar (*Tamarix* spp.), tree of heaven (*Ailanthus altissima*), and pampas grass (*Cortaderia selloana*).

Table 1: CalNev Pipeline - Mitigations Placed at Project

Permit Number	Project Name	Permittee Name	Amount Received	Mitigated Acreage	Mitigation Type
1600-2006-0189-R6	Repair of Calnev Pipeline East of I-15	Calnev LLC	\$40,000 (1/10/08)	0.51	Enhancement
1600-2007-0105-R6	Deadman Junction Washout Repair on Calnev 14" Pipeline	Calnev LLC	\$47,000 (12/20/07 & 10/11/10)	0.27	Enhancement
1600-2007-0075-R6	Swarthout Canyon Road Washout Repairs on Calnev 8" Pipeline	Calnev LLC		0.3	Enhancement
Totals			\$87,000	1.08	

STATUS OF PROJECT ACTIVITIES

The Cal-Nev Pipeline Project is in its 9th year. Treatment methods required the use of glyphosate, as mandated by NEPA documents covering this site, which presented challenges for the control and eradication of invasive species in that the chemical is less effective compared to other treatment methods. Despite these challenges, a total of a total of 1.24 acres of targeted species have been removed, exceeding the 1.08 acres required by the mitigations.

Table 2: CalNev Pipeline – Summary of Mitigation Activities

Project placed in:	2010			
Reporting Period	Amount Removed or Treated (in acres)	Type of Activity	Months of Activity	Species Removed or Treated
7/1/14 to 6/30/15	0.028	Treatment	December 2014 January 2015	Giant reed, tamarisk
7/1/15 to 6/30/16	0.135	Treatment	August, October- December 2015	Giant reed, tamarisk
7/1/16 to 6/30/17	0.135	Treatment	August, September, December 2016	Giant reed, tamarisk, Spanish broom
7/1/17 to 6/30/18	0.101	Treatment	Fall 2017	Giant reed, tamarisk, Spanish broom

EVALUATION OF IMPACTS TO WILDLIFE RESOURCES

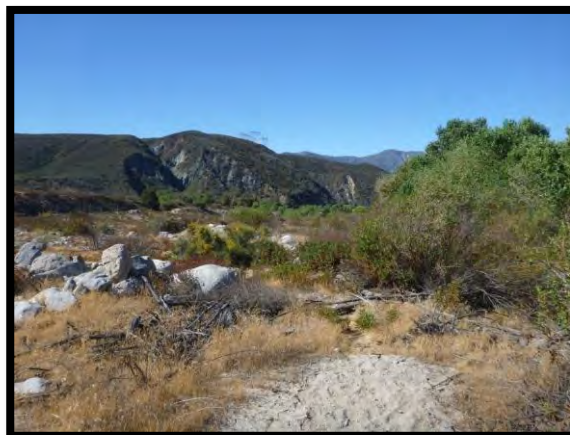
Impacts to wildlife resources have been minimal. Incidental observations of wildlife show an abundance of species, including several sensitive species.

FACTORS THAT MAY POTENTIALLY INCREASE ADVERSE IMPACTS

Removals and treatments were mostly conducted during fall and winter, outside of migratory bird breeding months. This greatly reduced potential impacts to wildlife. Some treatments were conducted during bird breeding months, with a qualified biologist monitoring activities to minimize impacts.

PROJECT PHOTO DOCUMENTATION

PHOTOS TAKEN IN 2013



PHOTOS TAKEN IN 2014:



PHOTO TAKEN IN 2015 (LEFT) SHOWING TREATED ARUNDO PATCH; SAME PATCH (RIGHT) IN 2016 SHOWING RECRUITMENT OF OAK SAPLING.



PHOTOS TAKEN IN 2016



PHOTO TAKEN IN 2016:



Calnev CDFW Report Map 2017-2018

Calnev Cajon Wash

- Additional Enhancement
- Enhancement within Project Area
- Conservation Areas
- CalNev Mitigation Project Area

Locator Map

0 1 2 4 Miles

Source: NAD83 UTM Zone 11N
Imagery: World Imagery from ESRI
Map produced by IERCD 2017

Service Layer Credits: Sources: Esri, HERE, DeLorme, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), MapmyIndia, NGCC, OpenStreetMap contributors, and the GIS User Community
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User

CENTERPOINTE

PROJECT BACKGROUND

Initially, work performed in association with this mitigation focused on the Cienega property in San Timoteo Canyon owned by the Rivers and Lands Conservancy (RLC); however, in 2017 it was determined that the use of grant funding in original acquisition of RLC's property rendered it inappropriate for mitigation placement. For this reason, placement of this mitigation, which requires perpetuity maintenance and monitoring, is being transferred to a portion of a large 361-A San Timoteo Canyon property SAWA originally anticipated acquiring in the first half of 2018. Disagreements with the property owner, regarding trash present on the site and the final purchase price, has delayed the acquisition process. SAWA anticipates acquisition of this property by the end of 2018, at which time mitigation project conceptual plans will be facilitated on the property.

Table 1: Centerpointe - Mitigations Placed at Project

Permit Number	Project Name	Permittee Name	Amount Received	Mitigated Acreage	Mitigation Type
1600-2009-0043-R6	Centerpointe Business Center PProject	Overton Moore Properties	\$178,818.42 (1/25/12)	1.02 0.44	Restoration ILF: Enhancement
Totals			\$178,818.42	1.48	

STATUS OF PROJECT ACTIVITIES

The Centerpointe project will involve five years of enhancement of 0.44 acres, and five years of restoration of 1.02 acres. Following these activities, maintenance and monitoring will take place in perpetuity for the benefit of wildlife, water quality, and soil health. At this time, enhancement and restoration activities to fulfill this mitigation have not started.

EVALUATION OF IMPACTS TO WILDLIFE RESOURCES

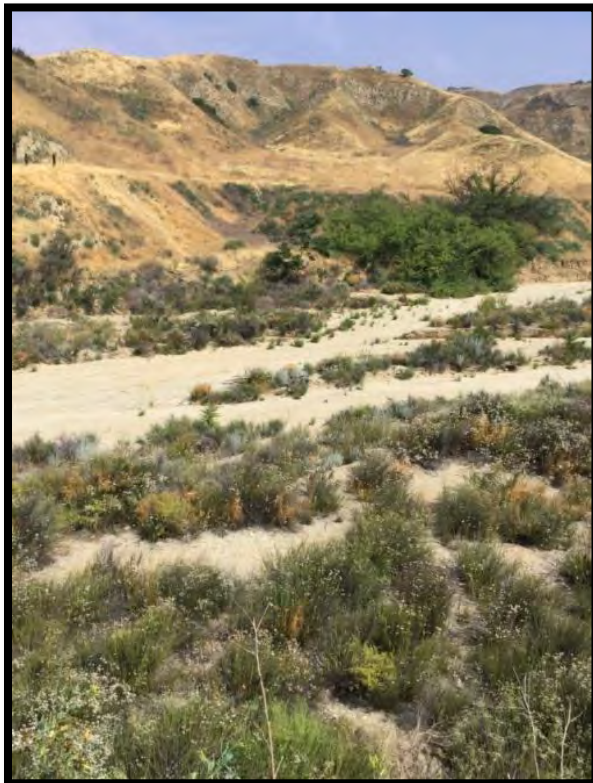
At this time no on-site work has been performed in association with this mitigation, therefore no impacts have occurred.

FACTORS THAT MAY POTENTIALLY INCREASE ADVERSE IMPACTS

At the time work begins, there will be potential for impacts to local wildlife. These impacts include disturbance of nesting birds and removal of cover and foraging habitat as non-native weeds are removed. However, these impacts can be reduced by having a qualified biological monitor on-site to flag sensitive areas. Furthermore, habitat quality will improve once invasive plants are controlled.

PROJECT PHOTO DOCUMENTATION

POTENTIAL PLACEMENT SITE: 361 ACRES OF JURISDICTIONAL WASH IN SAN TIMOTEO CANYON.



PROJECT MAP



HABITAT FOR HAMNER

PROJECT BACKGROUND

Habitat for Hamner is located along the Santa Ana River, downstream of Hamner Ave, in Corona, CA. Originally the 30-acre project was infested with about 15 acres of giant reed. Initial removal occurred in 2007. Control efforts continued in 2008, and SAWA was handed management of the project in 2009. The mitigation project was placed at this time to retain control over the removed vegetation and prevent re-infestation. In 2015, SAWA found two new landowners holding multiple parcels at the mitigation site, and treatments halted to gain new access agreements. The project area has since been reduced to 4.6 acres, which better reflects the mitigated acreage placed here.

Table 1: Habitat for Hamner - Mitigations Placed at Project

Permit Number	Project Name	Permittee Name	Amount Received	Mitigated Acreage	Mitigation Type
1600-2008-0104-R6 SPL-2008-00785-JEM	JCSD Plant 1 100-year Flood Protection Project	Albert A. Webb Associates	\$120,000 (1/13/09)	2	ILF: Restoration
Totals			\$120,000	2	

STATUS OF PROJECT ACTIVITIES

The Habitat for Hamner Project is in its 6th year. Maintenance work to control regrowth of invasive species has resumed starting December 2017, after several years of no work. This has resulted in the re-emergence of giant reed and has prevented the mitigation goal of <1% non-native vegetation from being met. In addition to the targeted invasive plants, poison hemlock has filled in the open space that was left by previously removed giant reed. Additional removal and treatment will be necessary to remediate the current project status, and additional work to remove these other non-native species is recommended.

Table 2: Habitat for Hamner – Summary of Mitigation Activities

Mitigation placed:	2009			
Reporting Period	Amount Removed or Treated (in acres)	Type of Activity	Months of Activity	Species Removed or Treated
7/1/14 to 6/30/15	1.5	Treatment	August 2014 September 2014	giant reed
7/1/15 to 6/30/16	None	n/a	n/a	n/a
7/1/16 to 6/30/17	None	n/a	n/a	n/a
7/1/17 to 6/30/18	0.5	Treatment	December 2017 February-May 2018	giant reed, castorbean, mustard, perennial pepperweed

Annual bioassessment surveys were implemented in 2016, and occurred at this site in 2017 and 2018. During the 2017 survey overall vegetative cover was noted at >50-75% of the project site, with >50-75% native coverage and >25-50% non-native coverage (Table 3). As of the 2018 survey, overall cover remained the same, while native cover increased to >75% and non-native cover decreased to 1-5%. In

2018, coverage for giant reed, one of the primary target species, was recorded at <1%, which fulfills the success criteria for this species. However, another targeted species, castorbean (*Ricinus communis*), was recorded at 1-5%, which requires additional treatment to fulfill success criteria. Results of the 7/9/18 bioassessment survey can be reviewed on Table 4. Overall, the project site has good plant coverage with few non-native weeds. Habitat quality is suitable to support a variety of wildlife, including several species of concern. Detected species are listed on Table 5; however, this is not an all-inclusive list.

Table 3: Habitat for Hamner Vegetative Coverages Over Four Years			
	2016	4/14/17	7/5/18
Overall vegetative cover:	n/a	>50-75%	>50-75%
Native vegetative coverage:	n/a	>50-75%	>75%
Non-native vegetative coverage:	n/a	>25-50%	1-5%

Table 4: Habitat for Hamner Site Conditions 7/5/18					
Tree height:		>5-10m	Shrub height:		>2-5m
Overall vegetative cover:			>50-75%		
Native vegetative coverage:			>75%		
Common Name			Scientific Name		Coverage
Goodding's black willow			Salix gooddingii		>15-25%
Arroyo willow			Salix lasiolepis		>15-25%
Mulefat			Baccharis salicifolia		>5-15%
Fremont's cottonwood			Populus fremontii		>5-15%
Hoary nettle			Urtica dioica		>5-15%
Non-native vegetative coverage:			1-5%		
Common Name			Scientific Name		Coverage
Golden crownbeard			Verbesina encelioides		1-5%
Poison hemlock			Conium maculatum		1-5%
Castorbean			Ricinus communis		1-5%
Perennial pepperweed			Lepidium latifolium		<1%
Giant reed			Arundo donax		<1%
Tree tobacco			Nicotiana glauca		<1%

Table 5: Habitat for Hamner Detected Wildlife						
Common Name	Scientific Name	7/1/14 to 6/30/15	7/1/15 to 6/30/16	7/1/16 to 6/30/17	7/1/17 to 6/30/18	Special Status
Avian Species						
Common Ground-dove	<i>Columbina passerina</i>				X	
Anna's Hummingbird	<i>Calypte anna</i>		X		X	
Red-tailed Hawk	<i>Buteo jamaicensis</i>		X			
Least Bell's Vireo	<i>Vireo bellii pusillus</i>	X	X	X	X	FE, SE
Common Raven	<i>Corvus corax</i>		X			
House Wren	<i>Troglodytes aedon</i>			X		
Phainopepla	<i>Phainopepla nitens</i>				X	
House Finch	<i>Haemorhous mexicanus</i>			X		
Lesser Goldfinch	<i>Spinus psaltria</i>			X		
Spotted Towhee	<i>Pipilo maculatus</i>		X			
Song Sparrow	<i>Melospiza melodia</i>		X		X	
Table 5 continued						

Common Name	Scientific Name	7/1/14 to 6/30/15	7/1/15 to 6/30/16	7/1/16 to 6/30/17	7/1/17 to 6/30/18	Special Status
Avian Species						
Yellow-breasted Chat	<i>Icteria virens</i>			X	X	SSC
Brewer's Blackbird	<i>Euphagus cyanocephalus</i>		X			
Common Yellowthroat	<i>Geothlypis trichas</i>			X	X	
Yellow Warbler	<i>Setophaga petechia</i>	X	X	X	X	SSC
Black-headed Grosbeak	<i>Pheucticus melanocephalus</i>			X	X	

FE = Federal endangered

ST = State threatened

FP = State fully protected

FT = Federal threatened

SSC = State species of concern

E = non-native species

SE = State endangered

EVALUATION OF IMPACTS TO WILDLIFE RESOURCES

Impacts to wildlife resources have been minimal. Annual bioassessments show an abundance of avian species using the project site, including the state and federally endangered Least Bell's Vireo (*Vireo pusillus bellii*) and state species of special concern, Yellow Warbler (*Setophaga petechia*) and Yellow-breasted Chat (*Icteria virens*). Although giant reed is currently well controlled within the mitigation areas, other non-native plant species may become a problem, resulting in degradation of habitat.

FACTORS THAT MAY POTENTIALLY INCREASE ADVERSE IMPACTS

Some herbicide treatments are conducted during bird breeding months, which have the potential to adversely impact nesting birds. These impacts are avoided by having a qualified biological monitor on site to identify nesting birds and flag areas to be avoided.

PROJECT PHOTO DOCUMENTATION

Table 6: Habitat for Hamner GPS Photo Points		
Photo Point	Bearing (°)	Coordinates (UTM)
1	165° S	448298, 3756431
2	200° S	448250, 3756432
3	185° S	448121, 3756470

PHOTO POINT#1 TAKEN 4/14/17 (LEFT) AND 7/5/18 (RIGHT).



PHOTO POINT#2 TAKEN 4/14/17 (LEFT) AND 7/5/18 (RIGHT).



PHOTO POINT#3 TAKEN 4/14/17 (LEFT) AND 7/5/18 (RIGHT).



PROJECT MAP



HIGHWAY 71 EUCALYPTUS

PROJECT BACKGROUND

Hwy 71 Eucalyptus is located along SR-71 in Eastvale, CA, part of the Prado Basin, and was originally managed through the Orange County Water District (OCWD). Work on the 12-acre project site (Phase I) began in 2002 with the removal of *Eucalyptus* trees as well as native revegetation. Later Phase II added another 3 acres, then expanded in 2006 by 14-acres (Phase III) to initiate control over additional non-native vegetation, such as giant reed (*Arundo donax*), tamarisk (*Tamarix* spp.), perennial pepperweed (*Lepidium latifolium*), tree tobacco (*Nicotiana glauca*), and thistles. Approximately 25 acres of eucalyptus was also removed as part of Phase III. Management responsibilities were given to the Santa Ana Watershed Association (SAWA) in 2006. Since 2014, on-site work has halted due to the necessity to review permits and project status. Staff is currently looking to meet with the employees that were present during the placement process to get a better understanding of the necessary work required. Once that is completed, SAWA would like to meet with the regulatory agencies to get their input prior to resuming work.

Table 1: Hwy 71 Eucalyptus Project - Mitigations Placed at Project

Permit #'s	Project Name	Permittee Name	Amount Received	Mitigated Acreage	Mitigation Type
1600-2004-0116-R6 Op Law 200401866-CLM	TTM 31955 and Foothill Parkway extension, Corona	Centex Homes (Far West Housing, LLC)	\$10,500 (9/26/05)	0.21	ILF: Creation (riparian)
1600-2005-0092-R6 Op Law 2005-01337-SJH 332012-07	TT 32997, Century American Development	Century American Development	\$376,000 (2/28/08)	7.52	ILF: Creation (Prado Basin)
CDFW #6-2002-039 RWQCB #02C-037	Murrieta Hot Springs Road Development	DKN Holdings, LLC	\$50,000 (1/25/06 & /27/06)	1.0	ILF: Enhancement
2008-312-SLP RGP 63 Emergency Permit #2008-312-G5	Burlington Northern Santa Fe Railway, mile post 64.11X, Devore	BNSF Railway Company	\$125,000 (7/13/10)	1	ILF: Creation (wetland/riparian)
Totals			\$561,500	9.73	

STATUS OF PROJECT ACTIVITIES

All removal and maintenance work on this project has been halted and SAWA staff is determining the amount of Eucalyptus that was originally removed, and the amount of mitigations that were placed.

Annual bioassessment surveys were implemented in 2016, and occurred at this site in 2017 and 2018. During the 2017 survey overall vegetative cover was noted at >75% of the project site, with >50-75% native coverage and >15-25% non-native coverage (Table 3). As of the 2018 survey, all coverages decreased, with overall cover recorded as >25-50%, and both native and non-native cover at >5-15%. This decrease is largely due to the Euclid Fire, which burned a large area of the project in June 2018. Giant reed was not recorded on this site in 2018, but other non-native species are present. Eucalyptus has been a primary target at this site, which was recorded at >5-15%. Results of the 7/9/18 bioassessment survey can be reviewed on Table 4. Detected species are listed on Table 5; however, this is not an all-inclusive list.

Table 3: Hwy 71 Eucalyptus Vegetative Coverages Over Four Years			
	2016	6/19/17	7/2/18
Overall vegetative cover:	n/a	>75%	>25-50%
Native vegetative coverage:	n/a	>50-75%	>5-15%
Non-native vegetative coverage:	n/a	>15-25%	>5-15%

Table 4: Hwy 71 Eucalyptus Site Conditions as of 7/2/18			
Tree height:	>10-15m	Shrub height:	>1-2m
Overall vegetative cover:	>25-50%		
Native vegetative coverage:	>5-15%		
Common Name	Scientific Name	Coverage	
Mulefat	<i>Baccharis salicifolia</i>	>5-15%	
Goodding's black willow	<i>Salix gooddingii</i>	>5-15%	
Blue elderberry	<i>Sambucus nigra caerulea</i>	1-5%	
Non-native vegetative coverage:	>5-15%		
Common Name	Scientific Name	Coverage	
Perennial pepperweed	<i>Lepidium latifolium</i>	>5-15%	
Eucalyptus	<i>Eucalyptus</i> sp.	>5-15%	
Black mustard	<i>Brassica nigra</i>	1-5%	
Saharan mustard	<i>Brassica tournefortii</i>	1-5%	
Additional comments			
Approximately 5% of Phase I and 99% of Phase II burned in the June 2018 Euclid Fire, which has led to a further degradation of habitat.			

Table 5: Hwy 71 Eucalyptus Detected Wildlife						
Common Name	Scientific Name	7/1/14 to 6/30/15	7/1/15 to 6/30/16	7/1/16 to 6/30/17	7/1/17 to 6/30/18	Special Status
Avian Species						
Mourning Dove	<i>Zenaida macroura</i>			X		
Downy Woodpecker	<i>Dryobates pubescens</i>			X		
Nuttall's Woodpecker	<i>Dryobates nuttallii</i>	X	X			
Black Phoebe	<i>Sayornis nigricans</i>				X	
Least Bell's Vireo	<i>Vireo bellii pusillus</i>	X	X	X	X	FE, SE
Bushtit	<i>Psaltiriparus minimus</i>		X	X		
House Finch	<i>Haemorhous mexicanus</i>	X	X	X	X	
Lesser Goldfinch	<i>Spinus psaltria</i>	X		X	X	
Spotted Towhee	<i>Pipilo maculatus</i>		X	X		
Song Sparrow	<i>Melospiza melodia</i>				X	
Yellow-breasted Chat	<i>Icteria virens</i>			X		SSC
Bullock's Oriole	<i>Icterus bullockii</i>		X	X		
Common Yellowthroat	<i>Geothlypis trichas</i>		X		X	
Yellow Warbler	<i>Setophaga petechia</i>	X	X	X		SSC
Herpetofauna Species						
Western Fence Lizard	<i>Sceloporus occidentalis</i>	X				

FE = Federal endangered
FT = Federal threatened
SE = State endangered

ST = State threatened
SSC = State species of concern

FP = State fully protected
E = non-native species

EVALUATION OF IMPACTS TO WILDLIFE RESOURCES

Currently no removal or maintenance work is being conducted on site, thus there are no impacts to wildlife resources.

FACTORS THAT MAY POTENTIALLY INCREASE ADVERSE IMPACTS

Currently no removal or maintenance work is being conducted on site, thus there are no impacts to wildlife resources.

PROJECT PHOTO DOCUMENTATION

Table 6: Hwy 71 Eucalyptus GPS Photo Points		
Photo Point	Bearing (°)	Coordinates (UTM)
1	255° W	439943, 3753373
2	250° W	439944, 3753772
3	330° NW	440095, 3752086
4	185° S	439947, 3753070
5	260° W	439938, 3753172

PHOTO TAKEN 11/28/12, POST-FIRE TREATMENT



PHOTO TAKEN 2/12/15



PHOTO TAKEN 11/28/12, POST-FIRE TREATMENT



PHOTO TAKEN 2/12/15



PHOTO POINT #1 TAKEN 6/19/17 (LEFT) AND 7/2/18 (RIGHT).



PHOTO POINT #2 TAKEN 6/19/17 (LEFT) AND 7/2/18 (RIGHT).



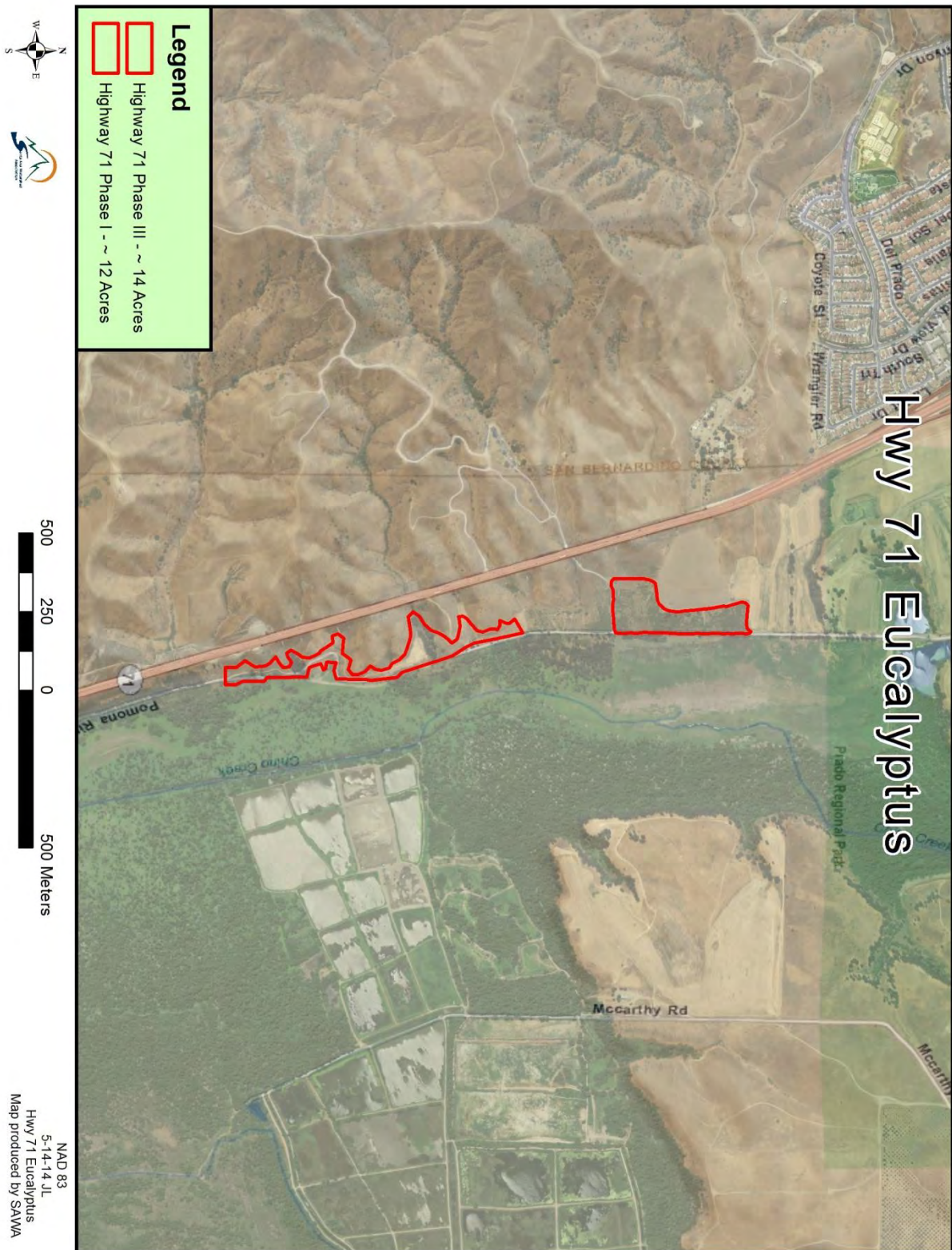
PHOTO POINT #3 TAKEN 7/2/18 (LEFT) AND PHOTO POINT #4 TAKEN 7/2/18 (RIGHT).



PHOTO POINT #5 TAKEN 7/2/18.



PROJECT MAP



MOCKINGBIRD CANYON MCB

PROJECT BACKGROUND

Mockingbird Canyon MCB is a conservation easement located in Mead Valley, CA, just south of Riverside. The 11.28-acre project was infested with giant reed (*Arundo donax*), perennial pepperweed (*Lepidium latifolium*), and other non-native plants. In 2009, SAWA acquired a conservation easement with the placement of five mitigations. Removal work began in early 2011, and control efforts continue. In 2011 and 2012, SAWA planted native trees and shrubs to aid in habitat restoration, including 200 mulefat (*Baccharis salicifolia*) and 10 red willows (*Salix laevigata*).

Table 1: Mockingbird MCB - Mitigations Placed at Project

Permit Number	Project Name	Permittee Name	Amount Received	Mitigated Acreage	Mitigation Type
1600-2004-0145-R6 Op Law	Quincy Channel hydro-modification	Highpointe Moreno Valley II, LLP	\$75,000 (3/23/09)	1	ILF: Restoration
1600-2007-0106-R6 Op Law SPL-2007-00874-JPL RWQCB Cert 12/4/2007	Hawarden Development Project	Hawarden Development Corp	\$60,000 (1/27/09)	1	Permittee-based Mitigation: Restoration
SPL-2008-00254-YLC	San Sevaive Villas Affordable Housing Project	NorthTown Housing Development	\$60,000 (11/8/08 & 7/7/09)	0.5	Permittee-based Mitigation: Enhancement
1600-2008-0096-R6 SPL-2008-0923	Kitching Street Improvements Project	City of Moreno Valley	\$75,000 (6/18/09)	0.183	ILF: Restoration
1600-2008-0105-R6 SPL-2008-00814-SLP	Agua Mansa Commerce Center Project	AMB Property Corp.	\$112,500 (12/17/09)	0.54	ILF: Enhancement 5 years cowbird trapping
Totals			\$382,500	3.223	

STATUS OF PROJECT ACTIVITIES

The Mockingbird Canyon MCB Project is in its 9th year, and mitigation goals have not been met, due to the current coverage of non-native species such as perennial pepperweed. Continued treatments are required until it is eradicated. In addition, the mitigation site should have 90% coverage with riparian woody species. This success criteria has not been met, however, it may be unattainable at this arid location. This criteria should be discussed with regulatory agencies to revise as needed; inclusion of coastal sage scrub species is recommended.

Table 2: Mockingbird Canyon MCB – Summary of Mitigation Activities

Project placed in:	2010			
Reporting Period	Amount Removed or Treated (in acres)	Type of Activity	Months of Activity	Species Removed or Treated
7/1/14 to 6/30/15	1	Treatment	May 2015 June 2015	Perennial pepperweed, mustard, tocalote
7/1/15 to 6/30/16	1	Treatment	August 2015 March 2016 May 2016	Perennial pepperweed, mustard, tocalote

Table 2 continued				
Reporting Period	Amount Removed or Treated (in acres)	Type of Activity	Months of Activity	Species Removed or Treated
7/1/16 to 6/30/17	0.33	Treatment	April 2017	Perennial pepperweed, mustard, wild radish
7/1/17 to 6/30/18	0.3	Treatment	July 2017 February, March, May 2018	Perennial pepperweed, mustard, wild radish

Annual bioassessment surveys were implemented in 2016, and occurred at this site in 2017 and 2018. During the 2017 survey overall vegetative cover was noted at >50-75% of the project site, with >50-75% native coverage and 1-5% non-native coverage (Table 3). As of the 2018 survey, overall and native coverages remained the same, but non-native cover increased to >5-15%. Perennial pepperweed, one of the targeted species, was recorded at >5-15% on the mitigation site. This species requires continued treatment until it has been eradicated to fulfill success criteria. Overall, the project site has good plant coverage and provides high quality habitat supporting a variety of wildlife, including several species of concern. Results of the 7/3/18 bioassessment survey can be reviewed on Table 4. Detected species are listed on Table 5; however, this is not an all-inclusive list.

Table 3: Mockingbird Canyon MCB Vegetative Coverages Over Four Years			
	2016	6/6/17	7/3/18
Overall vegetative cover:	n/a	>50-75%	>50-75%
Native vegetative coverage:	n/a	>50-75%	>50-75%
Non-native vegetative coverage:	n/a	1-5%	>5-15%

Table 4: Mockingbird Canyon MCB Site Conditions 7/3/18					
Tree height:		>10-15m	Shrub height:		>2-5m
Overall vegetative cover:			>50-75%		
Native vegetative coverage:			>50-75%		
Common Name			Scientific Name		Coverage
Fremont's cottonwood			Populus fremontii		>15-25%
Willow species			Salix spp.		>15-25%
Coyote brush			Baccharis pilularis		>5-15%
Stinging nettle			Urtica dioica		1-5%
Non-native vegetative coverage:			>5-15%		
Common Name			Scientific Name		Coverage
Perennial pepperweed			Lepidium latifolium		>5-15%
Pampas grass			Cortaderia selloana		<1%
Mustard			Brassica sp.		<1%
Giant reed			Arundo donax		<1%

Table 5: Mockingbird Canyon MCB Detected Wildlife

Common Name	Scientific Name	7/1/14 to 6/30/15	7/1/15 to 6/30/16	7/1/16 to 6/30/17	7/1/17 to 6/30/18	Special Status
Avian Species						
Mourning Dove	<i>Zenaida macroura</i>		X	X	X	
Anna's Hummingbird	<i>Calypte anna</i>	X	X		X	
Turkey Vulture	<i>Cathartes aura</i>		X			
Cooper's Hawk	<i>Accipiter cooperii</i>				X	
Red-tailed Hawk	<i>Buteo jamaicensis</i>		X	X		
Nuttall's Woodpecker	<i>Dryobates nuttallii</i>	X	X		X	
Ash-throated Flycatcher	<i>Myiarchus cinerascens</i>				X	
Western Kingbird	<i>Tyrannus verticalis</i>				X	
Say's Phoebe	<i>Sayornis saya</i>				X	
Least Bell's Vireo	<i>Vireo bellii pusillus</i>	X		X	X	FE, SE
California Scrub-jay	<i>Aphelocoma californica</i>	X	X	X		
American Crow	<i>Corvus brachyrhynchos</i>	X				
Common Raven	<i>Corvus corax</i>				X	
Tree Swallow	<i>Tachycineta bicolor</i>				X	
Cliff Swallow	<i>Petrochelidon pyrrhonota</i>		X		X	
Bushtit	<i>Psaltirparus minimus</i>	X	X	X	X	
House Wren	<i>Troglodytes aedon</i>				X	
Bewick's Wren	<i>Thryomanes bewickii</i>		X			
California Thrasher	<i>Toxostoma redivivum</i>	X	X			
Northern Mockingbird	<i>Mimus polyglottos</i>		X	X		
Phainopepla	<i>Phainopepla nitens</i>			X	X	
House Finch	<i>Haemorhous mexicanus</i>		X		X	
Lesser Goldfinch	<i>Spinus psaltria</i>		X		X	
Spotted Towhee	<i>Pipilo maculatus</i>	X			X	
California Towhee	<i>Melozone crissalis</i>			X		
Song Sparrow	<i>Melodia melospiza</i>	X				
White-crowned Sparrow	<i>Zonotrichia leucophrys</i>		X			
Hooded Oriole	<i>Icterus cucullatus</i>		X			
Yellow Warbler	<i>Setophaga petechia</i>		X		X	SSC
Black-headed Grosbeak	<i>Pheucticus melanocephalus</i>		X	X	X	
Mammalian Species						
Virginia Opossum	<i>Didelphis virginiana</i>	X				
Raccoon	<i>Procyon lotor</i>	X				
Coyote	<i>Canis latrans</i>	X	X			
California Ground Squirrel	<i>Otospermophilus beecheyi</i>		X			
Desert Cottontail	<i>Sylvilagus audubonii</i>	X	X			
Herpetofauna Species						
Baja California Treefrog	<i>Pseudacris hypochondriaca</i>	X				
Western Fence Lizard	<i>Sceloporus occidentalis</i>	X	X			
Side-blotched Lizard	<i>Uta stansburiana</i>	X	X			

FE = Federal endangered
FT = Federal threatened
SE = State endangered

ST = State threatened
SSC = State species of concern

FP = State fully protected
E = non-native species

EVALUATION OF IMPACTS TO WILDLIFE RESOURCES

Impacts to wildlife resources have been minimal. Annual bioassessments show an abundance of avian species using the project site, including the state and federally endangered Least Bell's Vireo (*Vireo pusillus bellii*) and state species of special concern, Yellow Warbler (*Setophaga petechia*). Although more treatments are currently required, invasive plants are generally well controlled on this site.

FACTORS THAT MAY POTENTIALLY INCREASE ADVERSE IMPACTS

Some herbicide treatments are conducted during bird breeding months, which have the potential to adversely impact nesting birds. These impacts are avoided by having a qualified biological monitor on site to identify nesting birds and flag areas to be avoided.

GPS PHOTO POINTS

Table 6: Mockingbird Canyon MCB GPS Photo Points		
Photo Point	Bearing (°)	Coordinates (UTM)
1	55° NE	468054, 3746350
2a	305° NW	468076, 3746344
2b	245° W	468076, 3746344
3	115° E	468063, 3746333
4	234° SW	468084, 3746317
6	30° N	468002, 3746295
7	135° SE	468069, 3746250
9a	293° NW	468082, 3746222
9b	293° NW	468083, 3746223
10	262° W	468068, 3746343
11	211° SW	468047, 3746365
12	220° SW	468017, 3746273
13	324° NW	468036, 3746236

PHOTO POINT #1 TAKEN 7/3/18 (LEFT) AND PHOTO POINT #2A TAKEN 7/3/18 (RIGHT).



PHOTO POINT #2B TAKEN 7/3/18 (LEFT) AND PHOTO POINT #3 TAKEN 7/3/18 (RIGHT).



PHOTO POINT #4 TAKEN 7/3/18 (LEFT) PHOTO POINT #6 TAKEN 7/3/18 (RIGHT).



PHOTO POINT #7 TAKEN 7/3/18 (LEFT) AND PHOTO POINT #9A TAKEN 7/3/18 (RIGHT).



PHOTO POINT #9B TAKEN 7/3/18 (LEFT) AND PHOTO POINT #10 TAKEN 7/3/18 (RIGHT).



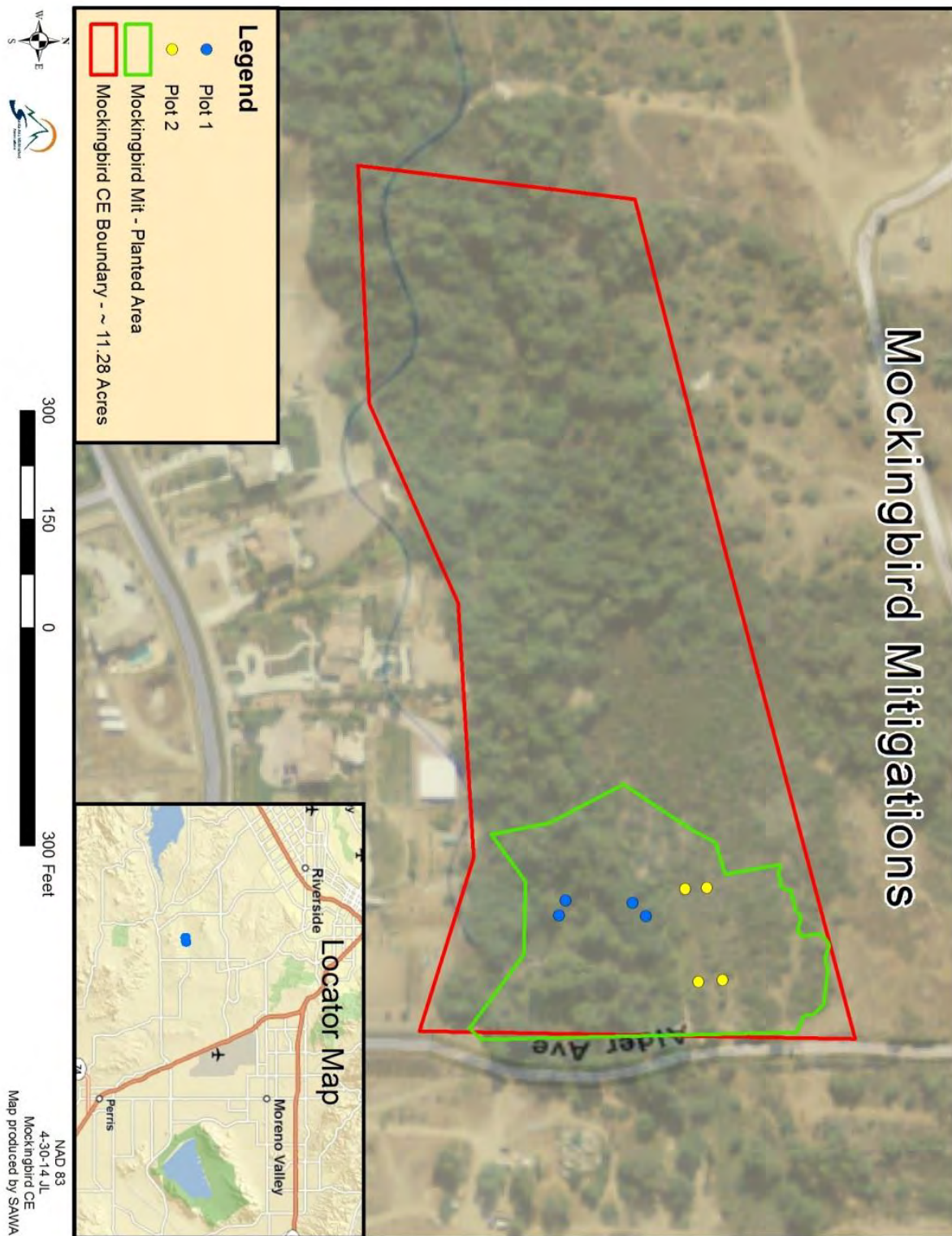
PHOTO POINT #11 TAKEN 7/3/18 (LEFT) AND PHOTO POINT #12 TAKEN 7/3/18 (RIGHT).



PHOTO POINT #13 TAKEN 7/3/18.



PROJECT MAP



QUAIL RUN PHASE II

PROJECT BACKGROUND

Quail Run Phase II is located at the Quail Run Park in Riverside, CA. The project is bounded by Central Avenue, Sycamore Canyon Boulevard, and residential development. Originally, the 23-acre project site was infested with 1.67 acres of giant reed (*Arundo donax*) and 0.9 acres of castorbean (*Ricinus communis*). In 2012, the Santa Ana Watershed Association (SAWA) received agency approval to begin work. Invasive removal for eight mitigations occurred in September 2013. Control efforts have continued in subsequent years to control the re-emergence of these species. In January 2015, SAWA planted 1-meter pole cuttings from mulefat, cottonwood, and arroyo willow to aid in habitat restoration where the giant reed was removed.

Table 1: Quail Run Phase II - Mitigations Placed at Project

Permit #'s	Project Name	Permittee Name	Amount Received	Mitigated Acreage	Mitigation Type
1600-2004-0009-R6 Op Law 200400654-GS 36-2004-04-DGW	Crafton Hills Repair Project	Department of Water Resources	\$33,000 (12/14/10)	0.25	ILF: Restoration
SPL-2004-899-WJC	First Street and Potrero Avenue Roadway Improvement Project	City of Beaumont	\$25,000 (5/22/10)	0.15	ILF: Enhancement
SPL-2007-01094-FBV	Stagecoach Park Project	City of Corona	\$50,000 (1/6/06)	0.48	ILF: Enhancement
SPL-2009-00139-VCC	I-215 West Perimeter Drainage Improvement Project	Donahue Schriber Realty Group	\$33,000 (7/20/10)	0.112	ILF: Enhancement
1600-2009-0138-R6 SPL-2009-00750-JPL R8-2010-054	Florida Promenade Specific Plan Amendment	Hemet Hospitality Investments	\$62,000 (11/22/10)	0.48	ILF: Enhancement
1600-2010-0089-R6 Op Law	Bundy Canyon Plaza Project	Bundy I-15, LP	\$33,000 (1/19/12)	0.14	Permittee-based Mitigation: Enhancement
SPL-2007-00128-SLP	Alabama Street Arch Culvert Construction Project	San Bernardino County Flood Control District	\$25,000 (3/30/11)	0.25	ILF: Enhancement
1600-2011-0007-R6 Op Law SPL-2011-00236 332011-12	Line Section-51 Pipeline Erosion Repair Project	Kinder Morgan Energy Partners	\$25,000 (10/22/11)	0.25	ILF: Restoration
Totals			\$286,000	2.112	

STATUS OF PROJECT ACTIVITIES

The Quail Run Phase II Project is in its 5th year. Treatment methods used to eradicate the target species have proven effective to control giant reed, with minimal regrowth. The project goal is <1% giant reed over the total project area, which has been met. However, castorbean is currently documented at 1-5%, including several large castorbean plants growing on the upstream end of the project site. Removal of

these plants and continued treatment and monitoring will be required to eradicate castorbean. Native riparian pole cuttings were planted in the 2014-2015 reporting period, and are helping to establish the understory and canopy.

Table 2: Quail Run Phase II – Summary of Mitigation Activities				
Project placed	2013			
Reporting Period	Amount Removed or Treated (in acres)	Type of Activity	Months of Activity	Species Removed or Treated
7/1/14 to 6/30/15	1.61	Treatment Planting	January, April, June 2015 January 2015	giant reed and castorbean mulefat, arroyo willow, Fremont cottonwood
7/1/15 to 6/30/16	1.46	Treatment	December 2015 May 2016	giant reed and castorbean
7/1/16 to 6/30/17	1	Treatment	September 2016 February-April 2017	giant reed, castorbean, tamarisk, tree tobacco
7/1/17 to 6/30/18	1.8	Treatment	November 2017 February, April, May, July 2018	Giant reed, castorbean, tamarisk, tree tobacco

Annual bioassessment surveys were implemented in 2016, and occurred at this site in 2017 and 2018. During the 2017 survey overall vegetative cover was noted at >50-75% of the project site, with >50-75% native coverage and 1-5% non-native coverage (Table 3). As of the 2018 survey, overall coverage decreased to >25-50%, while native cover increased to >75% and non-native cover remained the same. Castorbean, one of the targeted species, was recorded at 1-5%, which requires additional treatments to fulfill success criteria. Overall, the project site provides high quality habitat supporting a variety of wildlife, including several species of concern. Results of the 6/28/18 bioassessment survey can be reviewed on Table 4. Detected species are listed on Table 5; however, this is not an all-inclusive list.

Table 3: Quail Run Phase II Vegetative Coverages Over Four Years			
	2016	6/14/17	6/28/18
Overall vegetative cover:	n/a	>50-75%	>25-50%
Native vegetative coverage:	n/a	>50-75%	>75%
Non-native vegetative coverage:	n/a	1-5%	1-5%

Table 4: Quail Run Phase II Site Conditions 6/28/18			
Tree height:	>15-20m	Shrub height:	>2-5m
Overall vegetative cover:	>25-50%		
Native vegetative coverage:	>75%		
Common Name	Scientific Name	Coverage	
Mulefat	<i>Baccharis salicifolia</i>	>15-25%	
Willows	<i>Salix</i> spp.	>15-25%	
Western sycamore	<i>Platanus racemosa</i>	>15-25%	
Poison oak	<i>Toxicodendron diversilobum</i>	>5-15%	

Table 4 continued		
Non-native vegetative coverage:	1-5%	
Common Name	Scientific Name	Coverage
Castorbean	<i>Ricinus communis</i>	1-5%
Tree tobacco	<i>Nicotiana glauca</i>	<1%
Peruvian pepper tree	<i>Schinus molle</i>	<1%
Giant reed	<i>Arundo donax</i>	<1%
Golden crownbeard	<i>Verbesina encelioides</i>	<1%
Palms	n/a	<1%

Table 5: Quail Run Phase II Detected Wildlife						
Common Name	Scientific Name	7/1/14 to 6/30/15	7/1/15 to 6/30/16	7/1/16 to 6/30/17	7/1/17 to 6/30/18	Special Status
Avian Species						
Mallard	<i>Anas platyrhynchos</i>		X			
California Quail	<i>Callipepla californica</i>		X	X		
Mourning Dove	<i>Zenaida macroura</i>	X	X	X		
Greater Roadrunner	<i>Geococcyx californianus</i>		X	X		
White-throated Swift	<i>Aeronautes saxatalis</i>			X		
Anna's Hummingbird	<i>Calypte anna</i>	X	X	X	X	
Nuttall's Woodpecker	<i>Dryobates nuttallii</i>	X	X	X		
Black Phoebe	<i>Sayornis nigricans</i>		X	X		
Least Bell's Vireo	<i>Vireo bellii pusillus</i>		X		X	FE, SE
California Scrub-jay	<i>Aphelocoma californica</i>	X				
American Crow	<i>Corvus brachyrhynchos</i>	X				
Common Raven	<i>Corvus corax</i>				X	
Tree Swallow	<i>Tachycineta bicolor</i>		X			
Bushtit	<i>Psaltirparus minimus</i>		X		X	
House Wren	<i>Troglodytes aedon</i>	X		X		
Bewick's Wren	<i>Thryomanes bewickii</i>	X			X	
Northern Mockingbird	<i>Mimus polyglottos</i>		X			
Phainopepla	<i>Phainopepla nitens</i>		X			
House Finch	<i>Haemorhous mexicanus</i>	X	X	X	X	
Lesser Goldfinch	<i>Spinus psaltria</i>	X	X	X	X	
Spotted Towhee	<i>Pipilo maculatus</i>	X	X			
California Towhee	<i>Melospiza crissalis</i>	X	X	X	X	
Song Sparrow	<i>Melospiza melodia</i>	X	X	X		
Yellow Warbler	<i>Setophaga petechia</i>		X			SSC
Black-headed Grosbeak	<i>Pheucticus melanocephalus</i>			X		
Mammalian Species						
Raccoon	<i>Procyon lotor</i>	X	X			
Coyote	<i>Canis latrans</i>	X	X	X		
California Ground Squirrel	<i>Otospermophilus beecheyi</i>		X		X	
Desert Cottontail	<i>Sylvilagus audubonii</i>		X		X	
Herpetofauna Species						
Baja California Treefrog	<i>Pseudacris hypochondriaca</i>		X			
Rosy Boa	<i>Lichanura trivirgata</i>			X		
Orange-throated Whiptail	<i>Aspidoscelis hyperythra beldingi</i>		X	X	X	SSC
Western Fence Lizard	<i>Sceloporus occidentalis</i>	X	X	X	X	

Table 5 continued						
Common Name	Scientific Name	7/1/14 to 6/30/15	7/1/15 to 6/30/16	7/1/16 to 6/30/17	7/1/17 to 6/30/18	Special Status
Herpetofauna Species						
Granite Spiny Lizard	<i>Sceloporus orcutti</i>	X		X	X	
Side-blotched Lizard	<i>Uta stansburiana</i>	X	X	X	X	

FE = Federal endangered
FT = Federal threatened
SE = State endangered

ST = State threatened
SSC = State species of concern

FP = State fully protected
E = non-native species

EVALUATION OF IMPACTS TO WILDLIFE RESOURCES

Impacts to wildlife resources have been minimal. Annual bioassessments show an abundance of avian species using the project site, including the state and federally endangered Least Bell's Vireo (*Vireo pusillus bellii*).

FACTORS THAT MAY POTENTIALLY INCREASE ADVERSE IMPACTS

Some herbicide treatments are conducted during bird breeding months, which have the potential to adversely impact nesting birds. These impacts are avoided by having a qualified biological monitor on site to identify nesting birds and flag areas to be avoided.

PROJECT PHOTO DOCUMENTATION

Table 6: Quail Run Phase II GPS Photo Points		
Photo Point	Bearing (°)	Coordinates (UTM)
1	184° S	470439, 3757467
2	137° SE	470497, 3757468
3	123° SE	470592, 3757437
4	286° W	470106, 3757413
6	340° NW	470708, 3757579
7	184° S	470955, 3757525
8	95° E	470944, 3757540

PHOTO POINT #1, TAKEN 9/17/13 (LEFT) AND 4/7/15 (RIGHT).



PHOTO POINT #1, TAKEN 6/14/17 (LEFT) AND 6/28/18 (RIGHT).



PHOTO POINT #2 TAKEN 9/17/13 (LEFT) AND 6/14/17 (RIGHT).



PHOTO POINT #2 TAKEN 6/28/18.



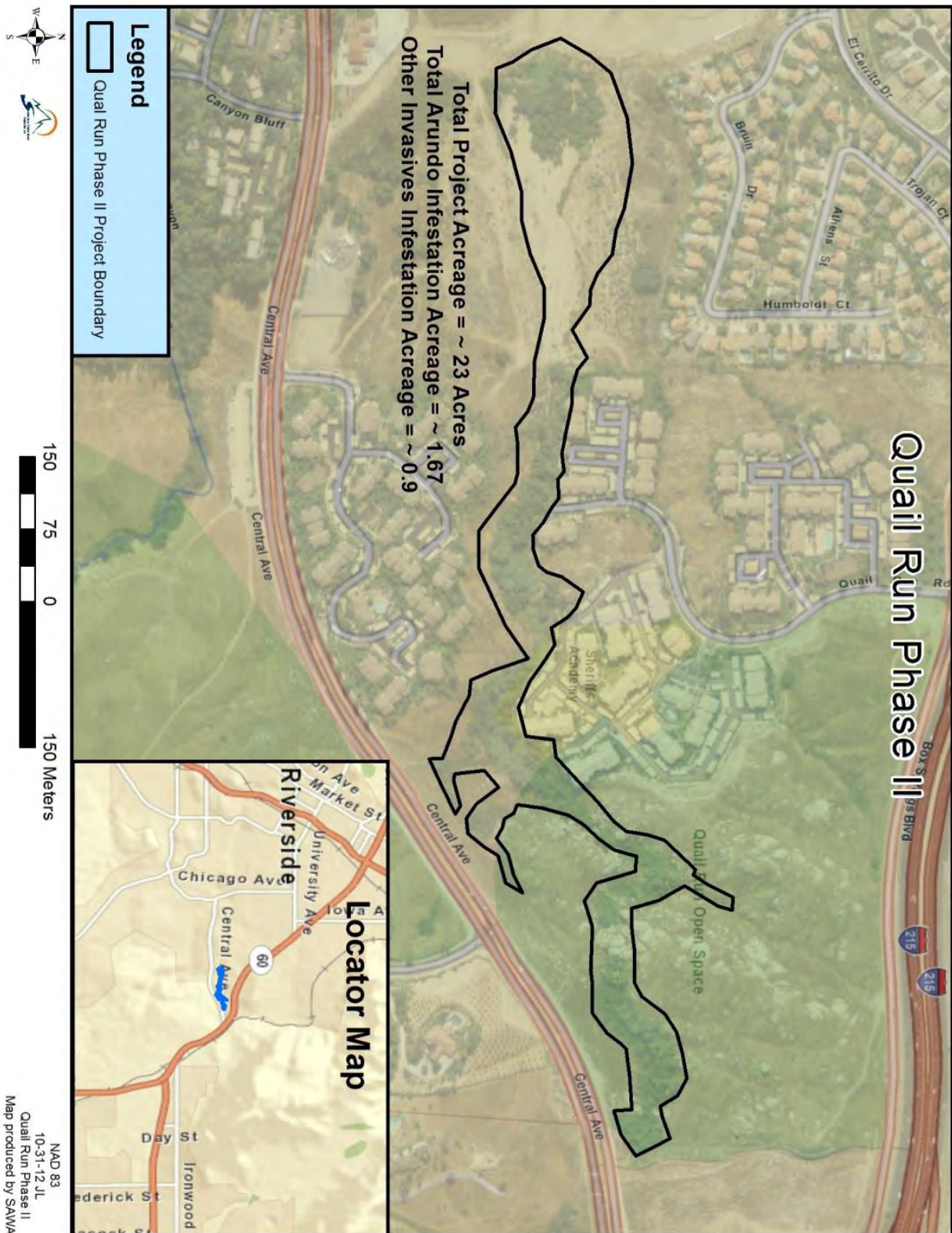
PHOTO POINT #3, TAKEN 9/17/13 (LEFT) AND TAKEN 6/14/17 (RIGHT).



PHOTO POINT #3 TAKEN 6/28/18.



PROJECT MAP



RACEWAY FORD

PROJECT BACKGROUND

Raceway Ford is located between Sycamore Canyon Boulevard and I-215, in Riverside, CA. Originally, the 3.5-acre project site was infested with about 0.25 acre of giant reed (*Arundo donax*). In 2006, after the permittee received a violation notice from the California Regional Water Quality Control Board, SAWA was approached to oversee the removal and control of giant reed on the site. Control efforts have continued in subsequent years to control the re-emergence of this species.

Table 1: Raceway Ford Project - Mitigations Placed at Project

Permit Number	Project Name	Permittee Name	Amount Received	Mitigated Acreage	Purpose of Funds
RWQCB Cert. 5/20/05	Raceway Ford Project	McCallan Properties, LLC	\$60,000 (12/27/05 & 11/15/06)	0.25	ILF: Enhancement
Totals			\$25,000	0.25	

STATUS OF PROJECT ACTIVITIES

The Raceway Ford Project is in its 12th year. Treatment methods used to eradicate the target species have proven effective to control giant reed, which has been completely eradicated. Within the scope of the original agreement, the project goals have been met and no additional removal is required at this time. However, other non-native species have emerged on site. Additional funding to remove these other non-native species is recommended.

Table 2: Raceway Ford – Summary of Mitigation Activities

Project placed in:	2006			
Reporting Period	Amount Removed or Treated (in acres)	Type of Activity	Months of Activity	Species Removed or Treated
7/1/14 to 6/30/15	None	n/a	n/a	n/a
7/1/15 to 6/30/16	None	n/a	n/a	n/a
7/1/16 to 6/30/17	0.1	Treatment	February 2017 March 2017	giant reed , castorbean, tamarisk
7/1/17 to 6/30/18	0.1	Treatment	July, November 2017 February, April 2018	Giant reed, castorbean, tamarisk

Annual bioassessment surveys were implemented in 2016, and occurred at this site in 2017 and 2018. During the 2017 survey overall vegetative cover was noted at >25-50% of the project site, with >75% native coverage and <1% non-native coverage (Table 3). As of the 2018 survey, overall coverage remained the same, while native cover decreased to >50-75% and non-native cover increased to >5-15%. Giant reed, the only targeted species for this mitigation, was not recorded during this survey, which fulfills the success criteria. However, other non-native species, such as tamarisk, were recorded on site. Overall, the

project site is not well vegetated and does not provide quality habitat. The site is located in a drainage bordered by a railroad track, and may not be able to support a heavily vegetated habitat. Additional restoration efforts with planting may help to improve its current conditions. There was construction taking place immediately adjacent to the project site at the time of the last bioassessment. These construction activities could have a disruptive impact on wildlife at this site, but are independent of those activities conducted by SAWA. This site is unlikely to support a high variety of wildlife, as suggested by detections during the bioassessment. Results of the 6/28/18 bioassessment survey can be reviewed on Table 4. Detected species are listed on Table 5; however, this is not an all-inclusive list.

Table 3: Raceway Ford Vegetative Coverages Over Four Years			
	2016	6/15/17	6/28/18
Overall vegetative cover:	n/a	>25-50%	>25-50%
Native vegetative coverage:	n/a	>75%	>50-75%
Non-native vegetative coverage:	n/a	<1%	>5-15%

Table 4: Raceway Ford Site Conditions 6/28/18				
Tree height:	>5-10m		Shrub height:	>1-2m
Overall vegetative cover:		>25-50%		
Native vegetative coverage:		>50-75%		
Common Name		Scientific Name		Coverage
Mulefat		<i>Baccharis salicifolia</i>		>5-15%
Goodding's black willow		<i>Salix gooddingii</i>		>15-25%
California sagebrush		<i>Artemisia californica</i>		>5-15%
Non-native vegetative coverage:		>5-15%		
Common Name		Scientific Name		Coverage
Tamarisk		<i>Tamarix</i> sp.		>5-15%
Palo verde		<i>Parkinsonia</i> sp.		1-5%
Mustard		n/a		1-5%

Table 5: Raceway Ford Detected Wildlife						
Common Name	Scientific Name	7/1/14 to 6/30/15	7/1/15 to 6/30/16	7/1/16 to 6/30/17	7/1/17 to 6/30/18	Special Status
Avian Species						
Mourning Dove	<i>Zenaida macroura</i>			X		
Bushtit	<i>Psaltiriparus minimus</i>	X			X	
Bewick's Wren	<i>Thryomanes bewickii</i>	X				
European Starling	<i>Sturnus vulgaris</i>	X				
House Finch	<i>Haemorhous mexicanus</i>			X		
Lesser Goldfinch	<i>Spinus psaltria</i>			X		
California Towhee	<i>Melospiza crissalis</i>	X				
Song Sparrow	<i>Melospiza melodia</i>	X				
Herpetofauna Species						
Western Fence Lizard	<i>Sceloporus occidentalis</i>	X				
Side-blotch Lizard	<i>Uta stansburiana</i>	X				

FE = Federal endangered
FT = Federal threatened
SE = State endangered

ST = State threatened
SSC = State species of concern

FP = State fully protected
E = non-native species

EVALUATION OF IMPACTS TO WILDLIFE RESOURCES

Impacts to wildlife resources have been minimal. It is likely the construction occurring immediately adjacent to the project would have a greater impact on wildlife resources.

FACTORS THAT MAY POTENTIALLY INCREASE ADVERSE IMPACTS

Some herbicide treatments are conducted during bird breeding months, which have the potential to adversely impact nesting birds. These impacts are avoided by having a qualified biological monitor on site to identify nesting birds and flag areas to be avoided.

PROJECT PHOTO DOCUMENTATION

Table 6: Raceway Ford GPS Photo Points		
Photo Point	Bearing (°)	Coordinates (UTM)
2	271° W	472596, 3755936
3	284° W	472561, 3755971
4a	199° S	472654, 3755874
4b	157° S	472654, 3755874

PHOTO TAKEN 11/17/06 PRIOR TO REMOVAL (LEFT) AND 11/18/06 AFTER REMOVAL (RIGHT).



PHOTO TAKEN 11/17/06 PRIOR TO REMOVAL (LEFT) AND 11/18/06 AFTER REMOVAL (RIGHT).



PHOTO POINT #2 TAKEN 6/14/17 (LEFT) AND 6/28/18 (RIGHT).



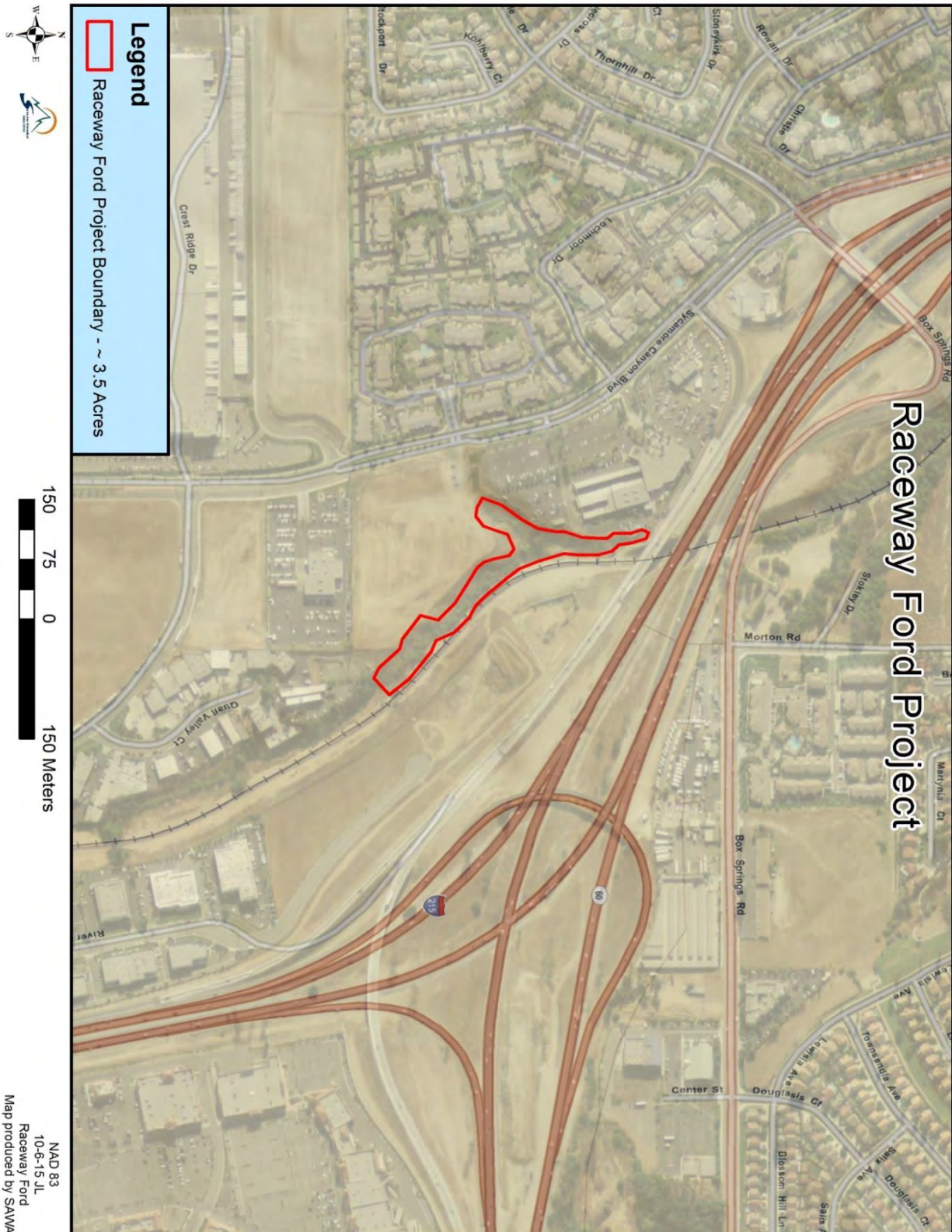
PHOTO POINT #3 TAKEN 6/14/17 (LEFT) AND 6/28/18 (RIGHT).



PHOTO POINT #4A (LEFT) AND #4B (RIGHT) TAKEN 6/28/18.



PROJECT MAP



REACH 3B SAN TIMOTEO

PROJECT BACKGROUND

Reach 3B encompasses the entirety of San Timoteo Creek sub-watershed, approximately 1,200 acres across Calimesa, Redlands, Yucaipa, and unincorporated portions of San Bernardino and Riverside Counties. This mitigation includes restoration on the Cienega and Oak Valley Properties, enhancement over several properties, and conservation over nearly the entire reach of the San Timoteo mainstem. Work began in 2004, and will continue through 2024. Targeted non-native weeds include giant reed (*Arundo donax*), tamarisk (*Tamarix* spp.), perennial pepperweed (*Lepidium latifolium*), yellow starthistle (*Centaurea solstitialis*), milk thistle (*Silybum marianum*), and non-native grasses (including *Bromus* species).

Table 1: Reach 3B - Mitigations Placed at Project

Permit Number	Project Name	Permittee Name	Amount Received	Mitigated Acreage	Mitigation Type
Biological Opinion #FWS-SB-740.4	Reach 3B Flood Control Project	USACE	\$1,620,000	34.56	Restoration
Totals			\$1,620,000	34.56	

STATUS OF PROJECT ACTIVITIES

Eradication efforts have continued throughout the project site. Over 450 acres have been treated since the commencement of the Reach 3B project; a summary of those treatments occurring within this reporting period can be found on Table 2. In addition to eradication efforts, restoration activities occurred on the 10 acre Cienega property owned by Rivers and Lands Conservancy, beginning in 2014 and continued through 2016. Approximately 300 square feet were planted or seeded with native herbaceous species, including salt grass (*Distichlis spicata*), yerba mansa (*Anemopsis californica*), Saltscale (*Atriplex serenana*), and salt heliotrope (*Heliotropium curassavicum*). An additional 325 mixed pole cuttings were planted, including mulefat (*Baccharis salicifolia*), Fremont's cottonwood (*Populus fremontii*), and multiple willow species (*Salix* spp.). In 2016, restoration and enhancement work also took place on the 4.9 acre San Timoteo Nature Sanctuary managed by the Redlands Conservancy. Enhancement work focused primarily on the removal and treatment of yellow starthistle and tumbleweeds (*Salsola tragus*). A seed mixture of native species was also planted at this site. Least Bell's Vireo (*Vireo bellii pusillus*; hereafter "vireo") monitoring and Brown-headed Cowbird trapping (*Molothrus ater*) continued throughout San Timoteo Canyon during this reporting period. This monitoring effort have shown an increase in vireo territories from 151 in 2014 to 172 in 2017, and an overall parasitism rate of 1.6% (6/369 nests).

Table 2: Reach 3B – Summary of Mitigation Activities				
Project placed in:	2004			
Reporting Period	Amount Removed or Treated	Type of Activity	Months of Activity	Species Removed or Treated
7/1/14 to 6/30/15	37.68 acres 1060 pole cuttings 143 acres	Treatment Planting Cowbird trapping	January, April, May 2015 February 2015 March-July 2015	Thistles, perennial pepperweed, mixed annuals Mixed natives Brown-headed cowbird
7/1/15 to 6/30/16	27.05 acres 325 pole cuttings, 0.65 acres 169 acres	Treatment Planting Cowbird trapping	Throughout reporting period January 2016 March-July 2015	Thistles, perennial pepperweed Mixed natives Brown-headed cowbird
7/1/16 to 6/30/17	9.49 acres 4.9 acres 87 acres	Treatment Planting Cowbird trapping	Throughout reporting period October, November 2016 March-July 2016	Giant reed, tree of heaven, tamarisk, milk thistle Mixed native seed Brown-headed cowbird
7/1/17 to 6/30/18	14.68 acres 93 acres	Treatment Cowbird trapping	Throughout reporting period March-July 2017	Thistles, giant reed, tree of heaven, tamarisk, castorbean Brown-headed cowbird

EVALUATION OF IMPACTS TO WILDLIFE RESOURCES

Impacts to wildlife resources have been minimal. In fact, annual Least Bell's Vireo monitoring has shown an increase in territories over the years. This site is composed of high quality habitat that supports a wide variety of wildlife species, including several sensitive species. Supplemental reports showing results of surveys in the area are available on request.

FACTORS THAT MAY POTENTIALLY INCREASE ADVERSE IMPACTS

Removals and treatments preferentially take place during fall and winter, outside of migratory bird breeding months. This greatly reduced potential impacts to wildlife. When treatments must occur during bird breeding months, a qualified biologist is on site to flag sensitive areas and minimize impacts.

PROJECT PHOTO DOCUMENTATION

Note: Due to the sheer size of Reach 3B, the number of photo points is prohibitive to inclusion; for that reason, photo highlights of 2013 work are being included in this section.

AERIAL OF PHASE I, II, AND III RESTORATION SITES AT THE CIENEGA PROPERTY.



PHASE III RESTORATION IN 2016 (LEFT) AND 2017 (RIGHT).



AERIAL OF PALMER FIRE (LEFT) AND RESPROUTING INVASIVES POST-FIRE (RIGHT), TAKEN IN 2018.



MILK THISTLE REMOVAL IN 2016 (LEFT) AND RECOLONIZATION WITH MARE'S TAIL IN 2017 (RIGHT).



PHASE II RESTORATION SITE WITH SALTBUSH AND WILLOWS IN 2015 (LEFT) AND YELLOW STAR-THISTLE TREATMENT IN 2014 (RIGHT).



PROJECT MAP



Source(s): ESRI County, U.S. State, and components of the ESRI USA Base Map

San Timoteo Project Area Map

Source(s): Base Map Imagery
served online via ESRI Base
Map Server.
Geographic Projection of each
data frame = UTM, NAD 1983,
Zone 11N.
Map created by Chad McKenna,
GeoSystems Analysis, Inc.
October 20, 2014



Source(s): National Geographic
served online via ESRI Base Map Server.

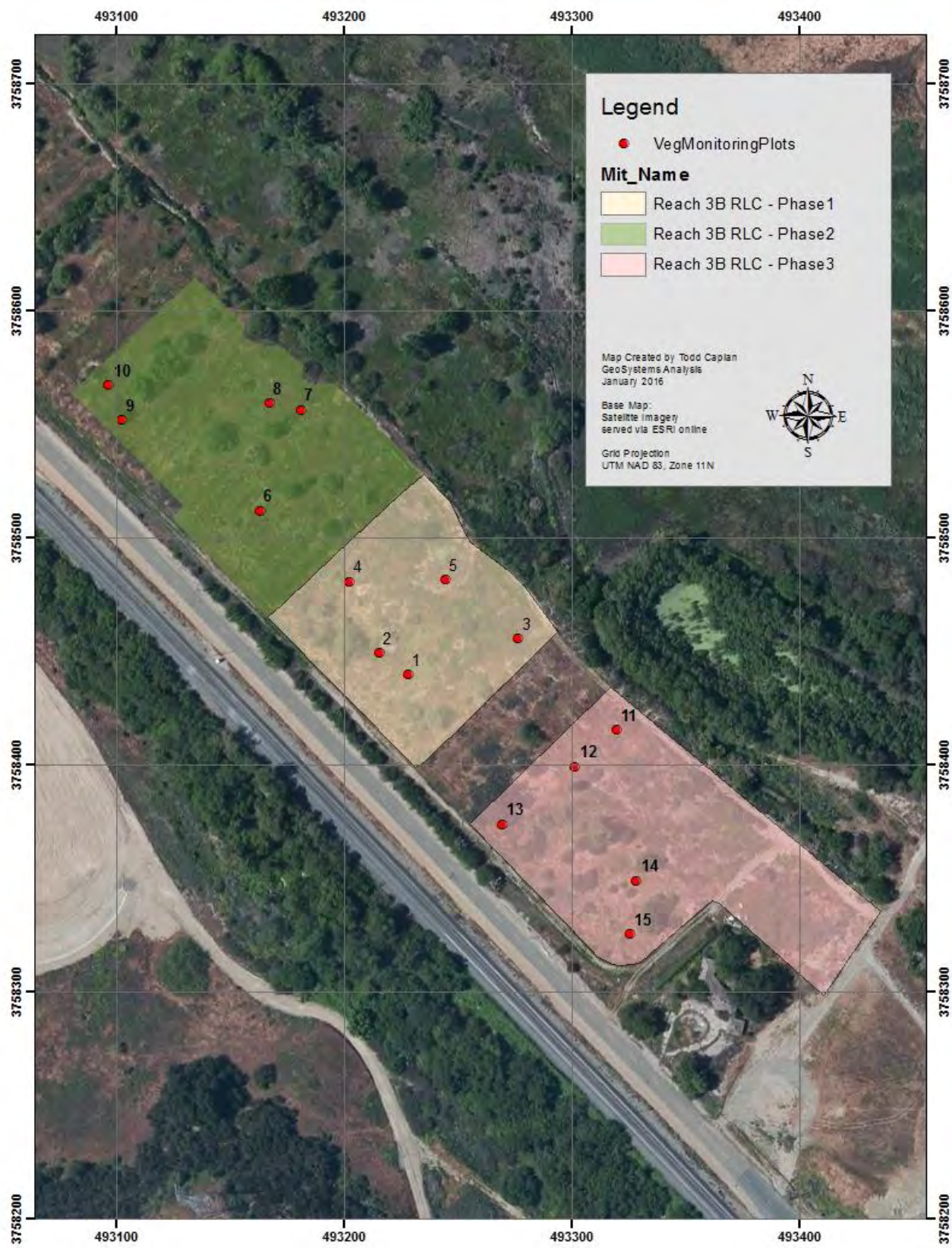


Figure II: Map of the 361-A property that SAWA is working to acquire in San Timoteo Canyon



SAN BERNARDINO VALLEY COLLEGE DISTRICT – SAN BERNARDINO

PROJECT BACKGROUND

San Bernardino Valley College District (SBVCD) - San Bernardino project site is located along the Santa Ana River, just upstream from the I-10/I-215 interchange in San Bernardino, CA. Originally, the 43-acre project was infested with non-native weeds such as giant reed (*Arundo donax*) and tamarisk (*Tamarix* spp.). In 2011, SAWA began invasive removal for this mitigation. Control efforts have continued in subsequent years to control the re-emergence of these species.

Table 1: SBVCD San Bernardino Project - Mitigations Placed at Project

Permit Number	Project Name	Permittee Name	Amount Received	Mitigated Acreage	Purpose of Funds
1600-2007-0039-R6 2007-379-SLP RWQCB Cert. 8/13/07	Crafton Hills College Master Plan Phase I	San Bernardino Community College District	\$300,000 (3/27/08)	3.75	Permittee-based Mitigation: Enhancement
Totals			\$300,000	3.75	

STATUS OF PROJECT ACTIVITIES

The SBVCD San Bernardino Project is in its 7th year. Treatment methods to eradicate the target species have proven effective. There are very few non-natives present on site and no additional removal is required at this time. Continued monitoring for new emergences of non-native species will be sufficient to maintain the status of this project.

Table 2: SBVCD San Bernardino – Summary of Mitigation Activities

Project placed in:	2011			
Reporting Period	Amount Removed or Treated (in acres)	Type of Activity	Months of Activity	Species Removed or Treated
7/1/14 to 6/30/15	1.29	Treatment	May 2015	giant reed, perennial pepperweed, tree of heaven, castorbean, tamarisk
7/1/15 to 6/30/16	1.29	Treatment	June 2015	giant reed, castorbean
7/1/16 to 6/30/17	0.5	Treatment	August 2016 April 2017	giant reed, castorbean, tamarisk
7/1/17 to 6/30/18	0.3	Treatment	May 2018	Giant reed, castorbean, tamarisk

Annual bioassessment surveys were implemented in 2016, and occurred at this site in 2017 and 2018. During the 2017 survey overall vegetative cover was noted at >75% of the project site, with >75% native coverage and >5-15% non-native coverage (Table 3). As of the 2018 survey, all coverages decreased, with overall and native cover recorded at >25-50%, and non-native cover at 1-5%. Giant reed, one of the targeted species, was recorded at <1%, fulfilling the success criteria for this species. Overall, the project site contains low percentages of non-native plants, many of which are annual herbaceous species. Sufficient habitat is present to support a variety of wildlife, including several species of concern. Results

of the 7/5/18 bioassessment survey can be reviewed on Table 4. Detected species are listed on Table 5; however, this is not an all-inclusive list

Table 3: SBVCD – San Bernardino Vegetative Coverages Over Four Years			
	2016	4/5/17	7/5/18
Overall vegetative cover:	n/a	>75%	>25-50%
Native vegetative coverage:	n/a	>75%	>25-50%
Non-native vegetative coverage:	n/a	>5-15%	1-5%

Table 4: SBVCD – San Bernardino Site Conditions 7/5/18			
Tree height:	>10-15m	Shrub height:	>1-2m
Overall vegetative cover:	>25-50%		
Native vegetative coverage:	>25-50%		
Common Name	Scientific Name	Coverage	
Mulefat	<i>Baccharis salicifolia</i>	>5-15%	
Fremont’s cottonwood	<i>Populus fremontii</i>	>5-15%	
Non-native vegetative coverage:	1-5%		
Common Name	Scientific Name	Coverage	
Tree tobacco	<i>Nicotiana glauca</i>	<1%	
Eucalyptus	<i>Eucalyptus</i> sp.	<1%	
Mustard	n/a	<1%	
Giant reed	<i>Arundo donax</i>	<1%	

Table 5: SBVCD – San Bernardino Detected Wildlife						
Common Name	Scientific Name	7/1/14 to 6/30/15	7/1/15 to 6/30/16	7/1/16 to 6/30/17	7/1/17 to 6/30/18	Special Status
Avian Species						
Rock Pigeon	<i>Columba livia</i>				X	
White-throated Swift	<i>Aeronautes saxatalis</i>				X	
Anna's Hummingbird	<i>Calypte anna</i>	X		X		
Allen's Hummingbird	<i>Selasphorus sasin</i>		X			
Killdeer	<i>Charadrius vociferus</i>				X	
Cooper's Hawk	<i>Accipiter cooperii</i>		X		X	
Red-shouldered Hawk	<i>Buteo lineatus</i>			X		
Nuttall's Woodpecker	<i>Dryobates nuttallii</i>	X				
Western Kingbird	<i>Tyrannus veticalis</i>				X	
Black Phoebe	<i>Sayornis nigricans</i>	X			X	
Least Bell's Vireo	<i>Vireo bellii pusillus</i>		X	X	X	FE, SE
Bushtit	<i>Psaltiriparus minimus</i>				X	
House Finch	<i>Haemorhous mexicanus</i>	X		X	X	
Bewick's Wren	<i>Thryomanes bewickii</i>		X		X	
Lesser Goldfinch	<i>Spinus psaltria</i>		X		X	
Spotted Towhee	<i>Pipilo maculatus</i>		X	X	X	
California Towhee	<i>Melospiza crissalis</i>	X				
Song Sparrow	<i>Melospiza melodia</i>	X	X	X		
Common Yellowthroat	<i>Geothlypis trichas</i>		X	X		
Yellow Warbler	<i>Setophaga petechia</i>		X	X	X	SSC

Table 5 continued						
Common Name	Scientific Name	7/1/14 to 6/30/15	7/1/15 to 6/30/16	7/1/16 to 6/30/17	7/1/17 to 6/30/18	Special Status
Avian Species						
Wilson's Warbler	<i>Cardellina pusilla</i>			X		

FE = Federal endangered

FT = Federal threatened

SE = State endangered

ST = State threatened

SSC = State species of concern

FP = State fully protected

E = non-native species

EVALUATION OF IMPACTS TO WILDLIFE RESOURCES

Impacts to wildlife resources have been minimal. Annual bioassessments show an abundance of avian species using the project site, including the state and federally endangered Least Bell's Vireo (*Vireo pusillus bellii*) and state species of special concern, Yellow Warbler (*Setophaga petechia*).

FACTORS THAT MAY POTENTIALLY INCREASE ADVERSE IMPACTS

Some herbicide treatments are conducted during bird breeding months, which have the potential to adversely impact nesting birds. These impacts are avoided by having a qualified biological monitor on site to identify nesting birds and flag areas to be avoided.

PROJECT PHOTO DOCUMENTATION

Table 6: SBVCD – San Bernardino GPS Photo Points		
Photo Pont	Bearing (°)	Coordinates (UTM)
1	25° NE	473249, 3769778
2	275° W	473341, 3769809
3	312° W	473140, 3769733
4	0° N	473474, 3769849

PHOTO TAKEN 10/11/11



PHOTO TAKEN 10/11/11



PHOTO TAKEN 4/5/17



PHOTO TAKEN 4/5/17



PHOTO POINT #1S TAKEN 7/5/18.



PHOTO POINT #2R TAKEN 6/13/16 (LEFT) AND 7/5/18 (RIGHT).



PHOTO POINT #3S TAKEN 6/13/16 (LEFT) AND 7/5/18 (RIGHT).

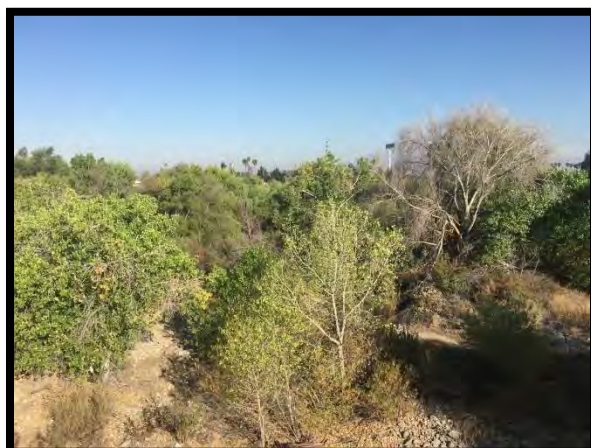
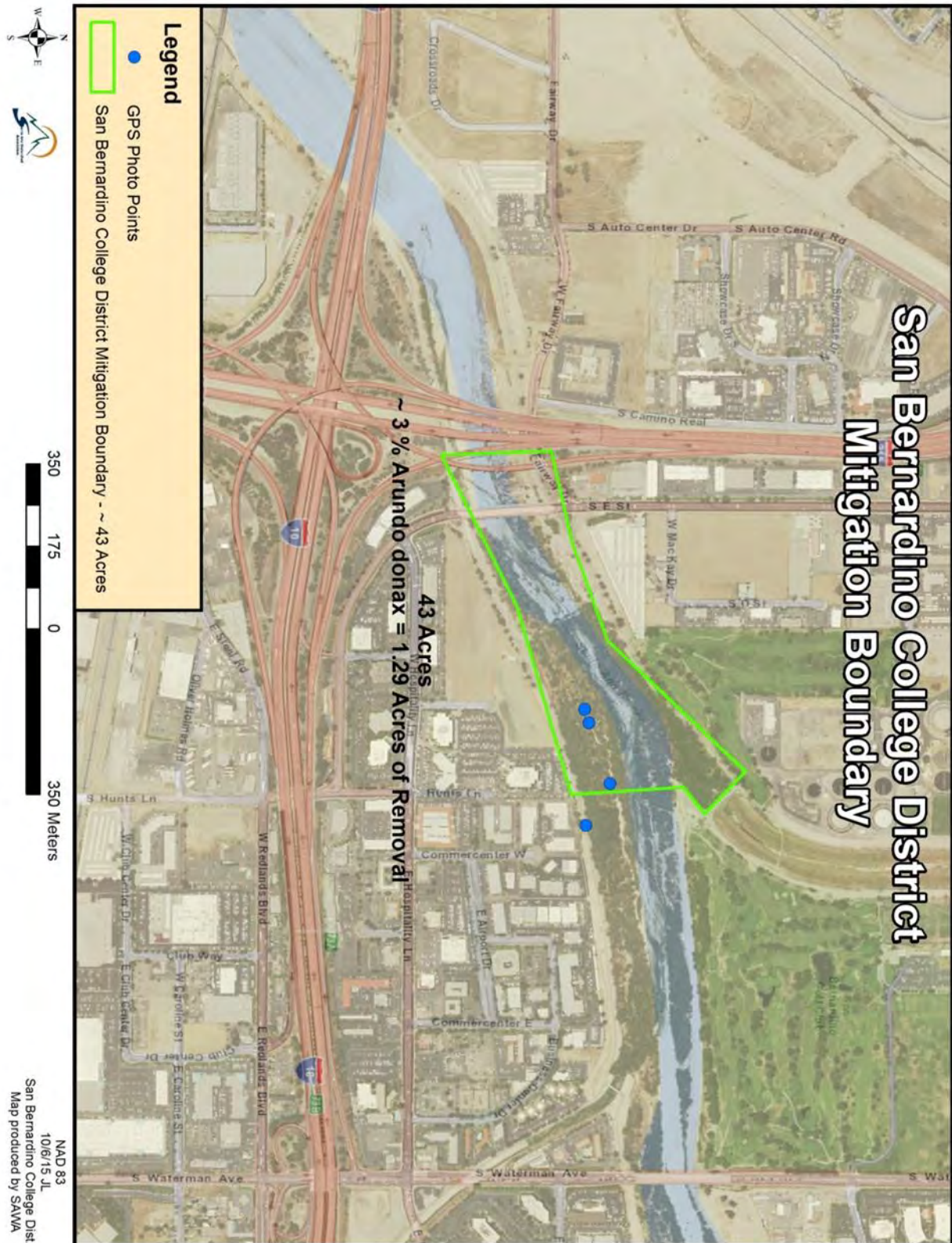


PHOTO POINT #4R TAKEN 6/13/16 (LEFT) AND 7/5/18 (RIGHT).



PROJECT MAP



SAN BERNARDINO VALLEY COLLEGE DISTRICT - PRADO

PROJECT BACKGROUND

San Bernardino Valley College District (SBVCD) Prado is located in the Prado Basin, Riverside County, CA, off a dirt access road just below the Prado Recreation Dog Park. The creation component of the SBVCD mitigation was placed at this site in 2015, with removal work expected to begin in winter 2016. However, no work has been performed at this site. This location is currently being examined and evaluated for suitability of this mitigation.

Table 1: SBVCD Prado Project - Mitigations Placed at Project					
Permit Number	Project Name	Permittee Name	Amount Received	Mitigated Acreage	Mitigation Type
1600-2007-0039-R6 2007-379-SLP RWQCB Cert. 8/13/07	Crafton Hills College Master Plan Phase I	San Bernardino Community College District	\$300,000 (3/27/08)	0.35	Permittee-based Mitigation: Creation (wetland)
Totals			\$300,000	0.35	

STATUS OF PROJECT ACTIVITIES

As of this reporting period, no work has been performed at this location. It is currently being examined and evaluated for suitability of this mitigation. If determined unsuitable for wetland creation, the mitigation will have to be moved to a better location. If this site is chosen for mitigation, the boundaries will need to be clarified with the current lease, and agricultural use will have to cease.

Table 2: SBVCD Prado – Summary of Mitigation Activities				
Project placed in:	2015			
Reporting Period	Amount Removed or Treated (in acres)	Type of Activity	Months of Activity	Species Removed or Treated
7/1/14 to 6/30/15	None	n/a	n/a	n/a
7/1/15 to 6/30/16	None	n/a	n/a	n/a
7/1/16 to 6/30/17	None	n/a	n/a	n/a
7/1/17 to 6/30/18	None	n/a	n/a	n/a

Annual bioassessment surveys were implemented in 2016, and occurred at this site in 2017 and 2018. During the 2017 survey overall vegetative cover was noted at >50-75% of the project site, with >25-50% native coverage and >25-50% non-native coverage (Table 3). As of the 2018 survey, all coverages decreased to <1%, due to the site is being used for agriculture, with is not consistent with a mitigation. Although the site has very low non-native plant coverage, it would require more intensive restoration efforts before it could be considered suitable habitat. Results of the 7/2/18 bioassessment survey can be reviewed on Table 4. Detected species are listed on Table 5; however, this is not an all-inclusive list

Table 3: SBVCD - Prado Vegetative Coverages Over Four Years

	2016	6/19/17	7/2/18
Overall vegetative cover:	n/a	>50-75%	<1%
Native vegetative coverage:	n/a	>25-50%	<1%
Non-native vegetative coverage:	n/a	>25-50%	<1%

Table 4: SBVCD - Prado Site Conditions 7/2/18			
Tree height:	>5-10m	Shrub height:	>1-2m
Overall vegetative cover:	<1%		
Native vegetative coverage:	<1%		
Common Name	Scientific Name	Coverage	
Mulefat	<i>Baccharis salicifolia</i>	Trace	
Non-native vegetative coverage:	<1%		
Common Name	Scientific Name	Coverage	
Eucalyptus	<i>Eucalyptus</i> sp.	<1%	
Perennial pepperweed	<i>Lepidium latifolium</i>	<1%	

Table 5: SBVCD - Prado Detected Wildlife						
Common Name	Scientific Name	7/1/14 to 6/30/15	7/1/15 to 6/30/16	7/1/16 to 6/30/17	7/1/17 to 6/30/18	Special Status
Avian Species						
Ash-throated Flycatcher	<i>Myiarchus cinerascens</i>			X		
House Finch	<i>Haemorhous mexicanus</i>		X	X		
Yellow Warbler	<i>Setophaga petechia</i>			X		SSC

FE = Federal endangered
FT = Federal threatened
SE = State endangered

ST = State threatened
SSC = State species of concern

FP = State fully protected
E = non-native species

EVALUATION OF IMPACTS TO WILDLIFE RESOURCES

Currently no removal or maintenance work is being conducted on site, thus there are no impacts to wildlife resources.

FACTORS THAT MAY POTENTIALLY INCREASE ADVERSE IMPACTS

Currently no removal or maintenance work is being conducted on site, thus there are no impacts to wildlife resources.

PROJECT PHOTO DOCUMENTATION

Table 6: SBVCD – Prado GPS Photo Points		
Photo Point	Bearing (°)	Coordinates (UTM)
1	70° NE	439952, 3753388
2	70° NE	439945, 3753363
3	255° W	440002, 3753352

PHOTO POINT #1 TAKEN 11/28/12 (LEFT) AND 6/19/17 (RIGHT).



PHOTO POINT #1 TAKEN 7/2/18.



PHOTO POINT #2 TAKEN 11/28/12 (LEFT) AND 6/19/17 (RIGHT).



PHOTO POINT #2 TAKEN 7/2/18.



PHOTO POINT #3 TAKEN 11/28/12 (LEFT) AND 6/19/17 (RIGHT).



PHOTO POINT #3 TAKEN 7/2/18.



PROJECT MAP



SAR I-210 TO I-10/I-215 INTERCHANGE

PROJECT BACKGROUND

SAR I-210 to I-10/I-215 Interchange project site covers approximately 930 acres along the Santa Ana River (SAR) in San Bernardino County. The project area starts at the I-210 overpass in Highland, CA, and runs downstream to the I-10/I-215 interchange in San Bernardino, CA. Originally the project site was infested with castorbean (*Ricinus communis*), tamarisk (*Tamarix* spp.), and other non-native invasive species. In 2010, removal work for one mitigation began. Control efforts have continued in subsequent years to control the re-emergence of these species.

Table 1: SAR I-210 to I-215 Interchange Project - Mitigations Placed at Project

Permit Number	Project Name	Permitte Name	Amount Received	Mitigated Acreage	Mitigation Type
1600-2005-0309-R5 2005-01214-CLM	Friends Christian High School Project	Friends Christian High School	\$135,000 (11/4/09)	2.4	ILF: Enhancement
Totals			\$135,000	2.4	

STATUS OF PROJECT ACTIVITIES

The SAR I-210 to Interchange Project is in its 9th year. Within the scope of requirements for SAWA's In-Lieu Fee program, the project goals are met. Non-native invasive plants such as arundo, castorbean, and tamarisk are at <1% coverage over the total site. Continued monitoring and maintenance will keep these plants controlled for the duration of the project.

Table 2: SAR I-210 to Interchange – Summary of Mitigation Activities

Project placed in:	2010			
Reporting Period	Amount Removed or Treated (in acres)	Type of Activity	Months of Activity	Species Removed or Treated
7/1/14 to 6/30/15	9.3	Treatment	April 2015 May 2015	giant reed, tamarisk, castorbean, Spanish broom
7/1/15 to 6/30/16	18.6	Treatment	July 2015 May 2016	giant reed, tamarisk, castorbean, Spanish broom
7/1/16 to 6/30/17	9.3	Treatment	March 2017 April 2017	giant reed, castorbean, Spanish broom, tamarisk
7/1/17 to 6/30/18	5	Treatment	March-June 2018	Giant reed, castorbean, Spanish broom, tamarisk

Annual bioassessment surveys were implemented in 2016, and occurred at this site in 2017 and 2018. During the 2017 survey overall vegetative cover was noted at >50-75% of the project site, with >50-75% native coverage and >15-25% non-native coverage (Table 3). As of the 2018 survey, all coverages decreased, with overall and native cover recorded at >15-25% and non-native cover at 1-5%. Giant reed and tamarisk, both targeted species, were recorded at <1%, which fulfills the success criteria for these species. Overall, the site is drier with large areas of sandy wash. It will likely not be able to support highly vegetated habitat, however it can still be used by wildlife, as shown in the documented

detections. Unfortunately, there are many homeless encampments and trash throughout the project site, which do degrade the habitat quality. Results of the 7/5/18 bioassessment survey can be reviewed on Table 4. Detected species are listed on Table 5; however, this is not an all-inclusive list

Table 3: SAR I-210 to Interchange Vegetative Coverages Over Four Years			
	6/13/16	4/5/17	7/5/18
Overall vegetative cover:	n/a	>50-75%	>15-25%
Native vegetative coverage:	n/a	>50-75%	>15-25%
Non-native vegetative coverage:	n/a	>15-25%	1-5%

Table 4: SAR I-210 to Interchange Site Conditions 7/5/18				
Tree height:	>5-10m		Shrub height:	>1-2m
Overall vegetative cover:		>15-25%		
Native vegetative coverage:		>15-25%		
Common Name		Scientific Name		Coverage
Mulefat		<i>Baccharis salicifolia</i>		1-5%
Fremont's cottonwood		<i>Populus fremontii</i>		>5-15%
Non-native vegetative coverage:		1-5%		
Common Name		Scientific Name		Coverage
Eucalyptus		<i>Eucalyptus</i> sp.		1-5%
Mustard		n/a		<1%
Tamarisk		<i>Tamarix</i> sp.		<1%
Tree tobacco		<i>Nicotiana glauca</i>		<1%
Giant reed		<i>Arundo donax</i>		<1%

Table 5: SAR I-210 to Interchange Detected Wildlife						
Common Name	Scientific Name	7/1/14 to 6/30/15	7/1/15 to 6/30/16	7/1/16 to 6/30/17	7/1/17 to 6/30/18	Special Status
Avian Species						
Mourning Dove	<i>Zenaidura macroura</i>				X	
Anna's Hummingbird	<i>Calypte anna</i>	X		X		
Costa's Hummingbird	<i>Calypte costae</i>	X				
Cooper's Hawk	<i>Accipiter cooperii</i>	X				
Red-shouldered Hawk	<i>Buteo lineatus</i>			X		
Red-tailed Hawk	<i>Buteo jamaicensis</i>	X				
Nuttall's Woodpecker	<i>Dryobates nuttallii</i>	X				
Northern Flicker	<i>Colaptes auratus</i>	X				
Least Bell's Vireo	<i>Vireo bellii pusillus</i>		X	X	X	FE, SE
Common Raven	<i>Corvus corax</i>	X	X		X	
Northern Rough-winged Swallow	<i>Stelgidopteryx serripennis</i>			X		
House Wren	<i>Troglodytes aedon</i>				X	
Bewick's Wren	<i>Thryomanes bewickii</i>	X				
California Thrasher	<i>Toxostoma redivivum</i>	X				
House Finch	<i>Haemorhous mexicanus</i>	X			X	
Lesser Goldfinch	<i>Spinus psaltria</i>				X	
Spotted Towhee	<i>Pipilo maculatus</i>	X	X		X	
Song Sparrow	<i>Melospiza melodia</i>	X	X	X		
Table 5 continued						

Common Name	Scientific Name	7/1/14 to 6/30/15	7/1/15 to 6/30/16	7/1/16 to 6/30/17	7/1/17 to 6/30/18	Special Status
Avian Species						
Orange-crowned Warbler	<i>Oreothlypis celata</i>			X		
Common Yellowthroat	<i>Geothlypis trichas</i>		X			
Yellow Warbler	<i>Setophaga petechia</i>		X		X	SSC
Herpetofauna Species						
San Diegan Tiger Whiptail	<i>Aspidoscelis tigris stejnegeri</i>	X				
Side-blotch Lizard	<i>Uta stansburiana</i>	X				

FE = Federal endangered

ST = State threatened

FP = State fully protected

FT = Federal threatened

SSC = State species of concern

E = non-native species

SE = State endangered

EVALUATION OF IMPACTS TO WILDLIFE RESOURCES

Impacts to wildlife resources have been minimal. Annual bioassessments show the site is used by several avian species, including the state and federally endangered Least Bell's Vireo (*Vireo pusillus bellii*) and state species of special concern, Yellow Warbler (*Setophaga petechia*). Although targeted invasive plants are currently well controlled, homeless encampments and trash do pose a problem for habitat quality. However, these issues are independent of mitigation activities.

FACTORS THAT MAY POTENTIALLY INCREASE ADVERSE IMPACTS

Some herbicide treatments are conducted during bird breeding months, which have the potential to adversely impact nesting birds. These impacts are avoided by having a qualified biological monitor on site to identify nesting birds and flag areas to be avoided.

PROJECT PHOTO DOCUMENTATION

Table 6: SAR I-210 to Interchange GPS Photo Points		
Photo Point	Bearing (°)	Coordinates (UTM)
1	277° W	474913, 3770370
2	290° W	475990, 3771130
3	43° NE	477540, 3771409
4	138° SE	480756, 3772657

PHOTOS TAKEN 2/13/2015.



PHOTOS TAKEN 2/13/2015 (LEFT) AND PHOTO POINT #1 TAKEN 7/5/18 (RIGHT).



PP#2 TAKEN 4/5/17 (LEFT) AND 7/5/18 (RIGHT).



PP#3 TAKEN 4/5/17 (LEFT) AND 7/5/18 (RIGHT).



PP#4 TAKEN 9/16/15 (LEFT) AND 7/5/18 (RIGHT).



PROJECT MAP



SAR I-215 INTERCHANGE TO RIALTO CHANNEL

PROJECT BACKGROUND

SAR I-10/I-215 Interchange to Rialto Channel project site covers approximately 375 acres along the Santa Ana River (SAR) in San Bernardino and Riverside Counties. The project area starts at the I-10/I-215 interchange in San Bernardino, CA, and runs downstream to the Rialto Channel, just past the RIX treatment plant. In 2003, the initial removal for 60 acres of giant reed (*Arundo donax*) interspersed with castorbean (*Ricinus communis*) occurred. Another removal of 500 acres of giant reed and tamarisk (*Tamarix* spp.) was completed in 2004. Nineteen mitigations have been placed at this project to maintain control of invasive species and prevent future infestations. Control efforts have continued in subsequent years to control the re-emergence of these species.

Table 1: SAR I-215 Interchange to Rialto Channel Project - Mitigations Placed at Project					
Permit #'s	Project Name	Permittee Name	Amount Received	Mitigated Acreage	Mitigation Type
2006-00825-SHJ RWQCB Cert. 11/7/06	WL Homes Tracts 28886 and 28886-1	WL Homes, LLC	\$50,000 (12/13/06)	0.25	ILF: Enhancement
6-2002-283	n/a	GFR Enterprises	\$17,000 (12/02)	1.0	Restoration
6-008-98	n/a	Forecast Homes	\$35,000 (9/03)	1.0	Restoration
CDFW Notification	Specific Plan No. 301 and EIR No. 423	Meniffee Development LLC	\$8,500 (11/03/03)	0.5	Restoration
RWQCB Cert.	Cougar Ranch Development Tract 30388	Cougar Ranch LLC	\$54,000 (1/16/04)	1.08	ILF: Enhancement
1600-2003-5111-R6	Eastvale Storm Drain	Regency Cornerstone Invest, LLC	\$3,125 (1/30/04)	0.25	ILF: Enhancement
200301492-JPL	Lemnar Homes	US Home	\$11,250 (5/20/04)	0.81	ILF: Enhancement
206-01404-JPL	Proposed Tract 32996, Lake Elsinore	Wesco Homes & Development	\$25,000 (12/8/06)	0.2	ILF: Enhancement
1600-2007-0073-R6 2007-00549-JPL	Van Buren Bridge Replacement Project	Riverside County Transportation Department	\$60,000 (1/23/08)	0.87	ILF: Restoration
2006-01249-SJH	I-215 Improvements Project	California Department of Transportation	\$50,000 (1/29/08)	0.5	ILF: Enhancement
1600-2006-0175-R6 200601732-JPL 362006-26-APF	Santa Ana River Trail Phase 1	San Bernardino Regional Parks Department	\$360,000 (3/21/07)	5.75	ILF: Restoration
20061265-JPL	Iowa Street Medical Condo Project	Iowa Street Partners	\$50,000 (1/16/07)	1	ILF: Enhancement
200500862-SJH	Rider Street Improvements Project	City of Perris	\$81,500 (5/23/05)	1.63	ILF: Enhancement

Table 1 continued					
Permit #'s	Project Name	Permittee Name	Amount Received	Mitigated Acreage	Mitigation Type
200500907-DPS	Eastgate Business Center Storm Drain	Industrial Developments International	\$20,000 (11/3/05)	0.4	ILF: Enhancement
200501536-SJH	Ethanac Road Shopping Center	Cahan Properties	\$40,000 (5/12/06 & 5/25/06)	1	ILF: Restoration
200600313-CLM	Pulte Homes Residential Development	Pulte Homes	\$60,000 (7/13/06)	1	ILF: Enhancement
200300727-DPS	Garbani Property Residential Development	Granite Homes	\$35,000 (2/16/06)	.24	ILF: Restoration
200501187-DPS	Tequesquite Trunk Sewer Protection Project	City of Riverside, Public Works	\$50,000 (12/22/06)	0.3	ILF: Restoration
200301477-DLC	Tract 30662	Chaparral Valley LLC	\$68,000 (12/30/03)	4	ILF: Enhancement
Totals			\$1,078,375	21.7	

STATUS OF PROJECT ACTIVITIES

The SAR I-215 Interchange to Rialto Channel Project is in its 12th year. Within the scope of requirements for SAWA's In-Lieu Fee program, the project goals of <1% giant reed, tamarisk, and castorbean have been met. Continued monitoring and maintenance will keep these plants controlled for the duration of the project.

Table 2: SAR I-215 to Rialto Channel – Summary of Mitigation Activities				
SAWA management began in:		2006		
Reporting Period	Amount Removed or Treated (in acres)	Type of Activity	Months of Activity	Species Removed or Treated
7/1/14 to 6/30/15	None	n/a	n/a	n/a
7/1/15 to 6/30/16	1.36	Treatment	August 2015	giant reed, tamarisk, castorbean, Spanish broom
7/1/16 to 6/30/17	1	Treatment	April 2017 May 2017	giant reed, castorbean, tamarisk, tree of heaven, tree tobacco
7/1/17 to 6/30/18	None	n/a	n/a	n/a

Annual bioassessment surveys were implemented in 2016, and occurred at this site in 2017 and 2018. During the 2017 survey overall vegetative cover was noted at >25-50% of the project site, with >50-75% native coverage and >15-25% non-native coverage (Table 3). As of the 2018 survey, all coverages decreased, with overall cover recorded at >15-25%, native cover at >5-15%, and non-native cover at 1-5%. Giant reed, tamarisk, and castorbean, all targeted species, were each recorded at <1%, which fulfills the success criteria for these species. Overall, the site is drier with large areas of sandy wash. It will likely not be able to support highly vegetated habitat, however it can still be used by wildlife, as

shown by the detections. Results of the 7/5/18 bioassessment survey can be reviewed on Table 4.

Detected species are listed on Table 5; however, this is not an all-inclusive list

Table 3: SAR I-215 Interchange to Rialto Channel Vegetative Coverages Over Four Years

	2016	6/6/17	7/5/18
Overall vegetative cover:	n/a	>25-50%	>15-25%
Native vegetative coverage:	n/a	>50-75%	>5-15%
Non-native vegetative coverage:	n/a	>15-25%	1-5%

Table 4: SAR I-215 Interchange to Rialto Channel Site Conditions 7/5/18

Tree height:	>10-15m	Shrub height:	>2-5m
Overall vegetative cover:	>15-25%		
Native vegetative coverage:	>5-15%		
Common Name	Scientific Name	Coverage	
Mulefat	<i>Baccharis salicifolia</i>	>5-15%	
Fremont's cottonwood	<i>Populus fremontii</i>	>15-25%	
Gooding's black willow	<i>Salix gooddingii</i>	>15-25%	
California buckwheat	<i>Eriogonum fasciculatum</i>	>15-25%	
Non-native vegetative coverage:	1-5%		
Common Name	Scientific Name	Coverage	
Castorbean	<i>Ricinus communis</i>	<1%	
Tree tobacco	<i>Nicotiana glauca</i>	<1%	
Giant reed	<i>Arundo donax</i>	<1%	
Tamarisk	<i>Tamarix</i> sp.	<1%	

Table 5: SAR I-215 Interchange to Rialto Channel Detected Wildlife

Common Name	Scientific Name	7/1/14 to 6/30/15	7/1/15 to 6/30/16	7/1/16 to 6/30/17	7/1/17 to 6/30/18	Special Status
Avian Species						
Mourning Dove	<i>Zenaida macroura</i>		X	X		
Anna's Hummingbird	<i>Calypte anna</i>	X				
Black-crowned Night Heron	<i>Nycticorax nycticorax</i>	X				
Red-tailed Hawk	<i>Buteo jamaicensis</i>			X	X	
American Kestrel	<i>Falco sparverius</i>			X		
Least Bell's Vireo	<i>Vireo bellii pusillus</i>	X	X	X	X	FE, SE
California Scrub-jay	<i>Aphelocoma californica</i>	X				
Common Raven	<i>Corvus corax</i>	X	X	X	X	
Barn Swallow	<i>Hirundo rustica</i>		X			
Bushtit	<i>Psaltiriparus minimus</i>	X				
Bewick's Wren	<i>Thryomanes bewickii</i>	X				
Northern Mockingbird	<i>Mimus polyglottos</i>			X		
Phainopepla	<i>Phainopepla nitens</i>				X	
House Finch	<i>Haemorhous mexicanus</i>	X		X	X	
Lesser Goldfinch	<i>Spinus psaltria</i>	X				
Spotted Towhee	<i>Pipilo maculatus</i>	X				
California Towhee	<i>Melospiza crissalis</i>	X	X			
Song Sparrow	<i>Melodia melospiza</i>	X				
Yellow-breasted Chat	<i>Icteria virens</i>	X				SSC

Table 5: SAR I-215 Interchange to Rialto Channel Detected Wildlife

Common Name	Scientific Name	7/1/14 to 6/30/15	7/1/15 to 6/30/16	7/1/16 to 6/30/17	7/1/17 to 6/30/18	Special Status
Avian Species						
Common Yellowthroat	<i>Geothlypis trichas</i>	X	X			
Yellow Warbler	<i>Setophaga petechia</i>	X	X			SSC
Mammalian Species						
Coyote	<i>Canis latrans</i>	X				
California Ground Squirrel	<i>Otospermophilus beecheyi</i>	X	X	X		
Desert Cottontail	<i>Sylvilagus audubonii</i>	X	X			
Feral Pigs	<i>Sus scrofa</i>	X				E

FE = Federal endangered
FT = Federal threatened
SE = State endangered

ST = State threatened
SSC = State species of concern

FP = State fully protected
E = non-native species

EVALUATION OF IMPACTS TO WILDLIFE RESOURCES

Impacts to wildlife resources have been minimal. Annual bioassessments show the site is used by several avian species, including the state and federally endangered Least Bell's Vireo (*Vireo pusillus bellii*). Due to the arid nature of this site, it may not ever provide high quality riparian habitat, however this is independent of mitigation activities.

FACTORS THAT MAY POTENTIALLY INCREASE ADVERSE IMPACTS

Some herbicide treatments are conducted during bird breeding months, which have the potential to adversely impact nesting birds. These impacts are avoided by having a qualified biological monitor on site to identify nesting birds and flag areas to be avoided.

PROJECT PHOTO DOCUMENTATION

Table 6: SAR I-215 to Rialto Channel GPS Photo Points

Photo Points	Bearing (°)	Coordinates (UTM)
1	323° NW	467560, 3766840
2	344° N	468570, 3767521
3	93° E	469070, 3767234
4	40° NE	470057, 3767136
5	260° W	470613, 3767446

PHOTO POINT #1 TAKEN 6/6/17 (LEFT) AND 7/5/18 (RIGHT).



PHOTO POINT #2 TAKEN 6/6/17 (LEFT) AND 7/5/18 (RIGHT).

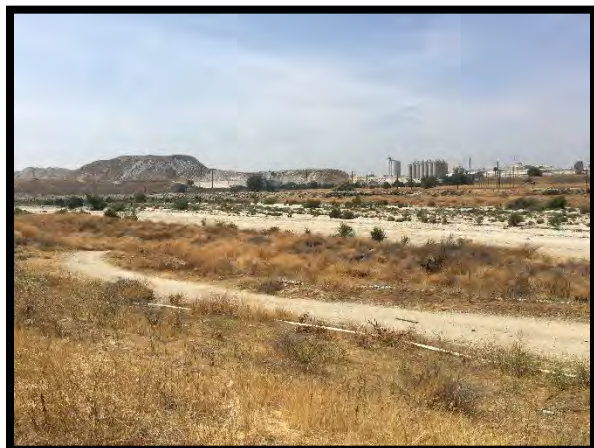


PHOTO POINT #3 TAKEN 7/5/18.



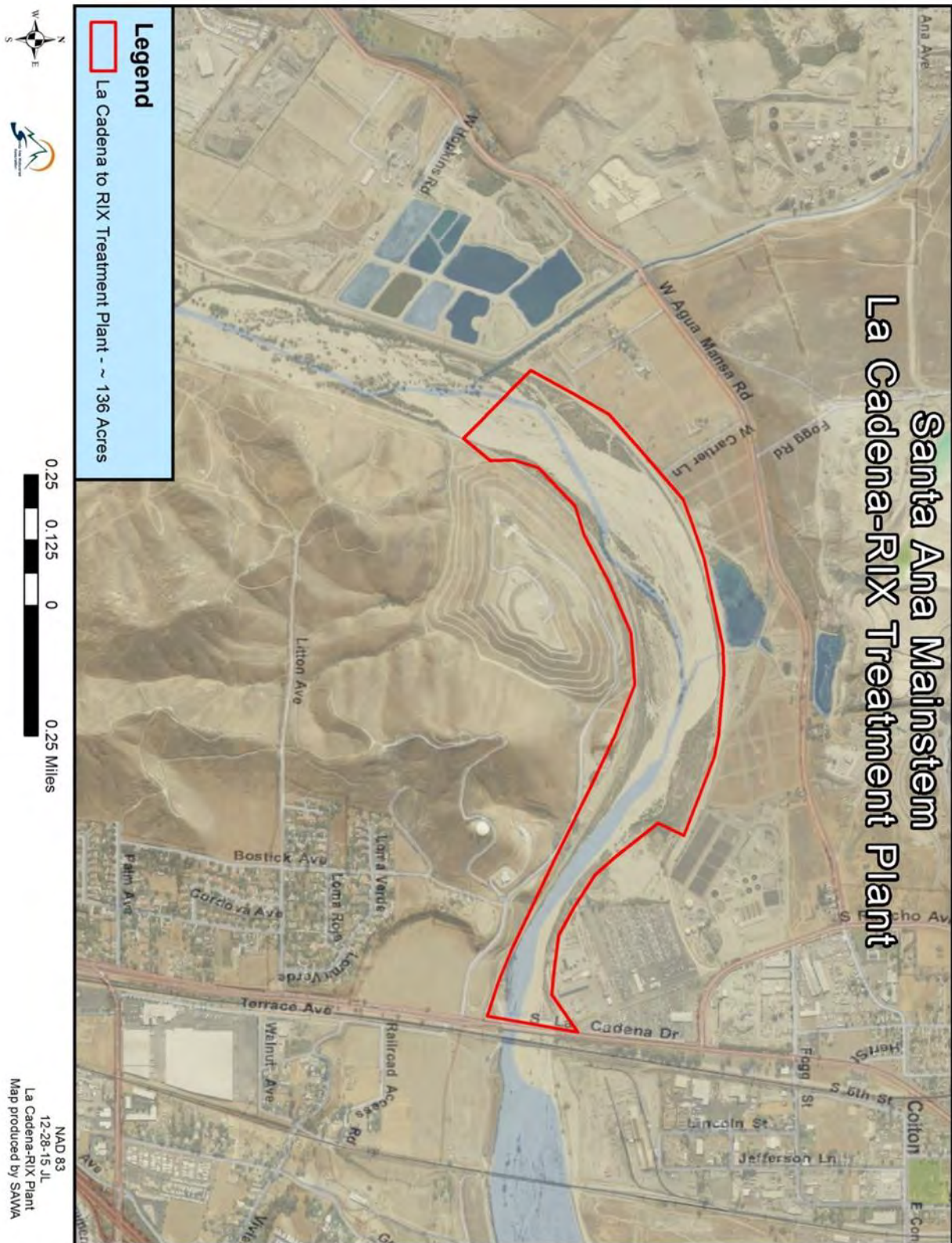
PHOTO POINT #4 TAKEN 6/6/17 (LEFT) AND 7/5/18 (RIGHT).



PHOTO POINT #5 TAKEN 6/6/17 (LEFT) AND 7/5/18 (RIGHT).



PROJECT MAP



SUNNYSLOPE

PROJECT BACKGROUND

Sunnyslope is located along the Sunnyslope Channel, a tributary to the Santa Ana River, in Riverside, CA. The project is located on 9.28 acres within riparian habitat downstream of the Louis Robidoux Nature Center. Originally, this project was established to restore the creek for Santa Ana Sucker (*Catostomus santaanae*) habitat. Invasive removal for three mitigations occurred in 2013. Control efforts have continued in subsequent years to control the re-emergence of these species.

Table 1: Sunnyslope Project - Mitigations Placed at Project

Permit Number	Project Name	Permittee name	Amount Received	Mitigated Acreage	Mitigation Type
1600-2011-0165-R6 Op Law SPL-2011-00570-SME 33-2011-07	North Norco Channel Flood Control Improvements Project	Realty Bancorp Equities, Inc	\$82,500 (6/5/13)	1.1	ILF: Active Restoration
1600-2007-0213-R6 Op Law SPL-2008-00242 33-2007-43	Walgreen's Project	Arlington-Van Buren Investment, LLC	\$156,000 (2/24/10)	2.08	ILF: Enhancement
SPL-2008-00358-FBV RWQCB Cert. 11/3/09	Sycamore Creek Area Project	Starfield Sycamore Investors, LLC	\$33,000 (1/28/10)	0.15	ILF: Enhancement
Totals			\$271,500	3.33	

STATUS OF PROJECT ACTIVITIES

The Sunnyslope Project is in its 5th year. Within the scope of requirements for SAWA's In-Lieu Fee program, the project goals have not yet been met. At this time in the life of the project, giant reed and castorbean should be at <1% of the total project area. Currently there is 1-5% of each documented on the site. Additional removal and treatment will be necessary to remediate the current project status.

Table 2: Sunnyslope – Summary of Mitigation Activities

Project placed in:	2012			
Reporting Period	Amount Removed or Treated (in acres)	Type of Activity	Months of Activity	Species Removed or Treated
7/1/14 to 6/30/15	0.93	Treatment	September 2014 December 2014	giant reed, tamarisk
7/1/15 to 6/30/16	0.93	Treatment	July 2015	giant reed, tamarisk
7/1/16 to 6/30/17	0.5	Treatment	August 2016	giant reed, castorbean, tamarisk, tree of heaven
7/1/17 to 6/30/18	0.42	Treatment	October 2017 March-May 2018	Giant reed, castorbean, tamarisk, tree of heaven

Annual bioassessment surveys were implemented in 2016, and occurred at this site in 2017 and 2018. During the 2017 survey overall vegetative cover was noted at >50-75% of the project site, with >50-75%

native coverage and 1-5% non-native coverage (Table 3). All coverages remained the same, as of the 2018 survey. Giant reed and castorbean, both targeted species, were each recorded at 1-5%. Additional treatments are required before success criteria for these species can be fulfilled. Overall, the site contains high quality habitat which supports a variety of wildlife, including several species of concern. Results of the 6/29/18 bioassessment survey can be reviewed on Table 4. Detected species are listed on Table 5; however, this is not an all-inclusive list

Table 3: Sunnyslope Vegetative Coverages Over Four Years			
	2016	6/7/17	6/29/18
Overall vegetative cover:	n/a	>50-75%	>50-75%
Native vegetative coverage:	n/a	>50-75%	>50-75%
Non-native vegetative coverage:	n/a	1-5%	1-5%

Table 4: Sunnyslope Site Conditions 6/29/18					
Tree height:		>10-15m	Shrub height:		>2-5m
Overall vegetative cover:			>50-75%		
Native vegetative coverage:			>50-75%		
Common Name			Scientific Name		Coverage
Gooding's black willow			Salix gooddingii		>50-75%
Fremont's cottonwood			Populus fremontii		>5-15%
Western sycamore			Platanus racemosa		1-5%
Yellow willow			Salix lutea		<1%
Non-native vegetative coverage:			1-5%		
Common Name			Scientific Name		Coverage
Ash			Fraxinus sp.		1-5%
Castorebean			Ricinus communis		1-5%
Poison hemlock			Conium maculatum		<1%
Giant reed			Arundo donax		1-5%

Table 5: Sunnyslope Detected Wildlife						
Common Name	Scientific Name	7/1/14 to 6/30/15	7/1/15 to 6/30/16	7/1/16 to 6/30/17	7/1/17 to 6/30/18	Special Status
Avian Species						
Mourning Dove	<i>Zenaida macroura</i>		X			
Greater Roadrunner	<i>Geococcyx californianus</i>		X			
Black-chinned Hummingbird	<i>Archilochus alexandri</i>			X		
Anna's Hummingbird	<i>Calypte anna</i>			X	X	
Green Heron	<i>Butorides virescens</i>	X				
Cooper's Hawk	<i>Accipiter cooperii</i>	X		X	X	
Red-tailed Hawk	<i>Buteo jamaicensis</i>		X		X	
Acorn Woodpecker	<i>Melanerpes formicivorus</i>		X			
Downy Woodpecker	<i>Dryobates pubescens</i>				X	
Nuttall's Woodpecker	<i>Dryobates</i>			X	X	
Northern Flicker	<i>Colaptes auratus</i>	X		X	X	
Western Kingbird	<i>Tyrannus verticalis</i>		X	X		
Pacific-slope Flycatcher	<i>Empidonax difficilis</i>	X			X	
Western Wood-pewee	<i>Contopus sordidulus</i>	X				
Black Phoebe	<i>Sayornis nigricans</i>			X		

Table 5 continued						
Common Name	Scientific Name	7/1/14 to 6/30/15	7/1/15 to 6/30/16	7/1/16 to 6/30/17	7/1/17 to 6/30/18	Special Status
Avian Species						
Least Bell's Vireo	<i>Vireo bellii pusillus</i>	X			X	FE, SE
Hutton's Vireo	<i>Vireo huttoni</i>				X	
Bushtit	<i>Psaltirparus minimus</i>		X	X	X	
Bewick's Wren	<i>Thryomanes bewickii</i>	X	X		X	
Western Bluebird	<i>Sialia mexicana</i>		X			
California Thrasher	<i>Toxostoma redivivum</i>				X	
Phainopepla	<i>Phainopepla nitens</i>				X	
Scaley-breasted Munia	<i>Lonchura punctulata</i>				X	E
House Finch	<i>Haemorhous mexicanus</i>		X	X	X	
Lesser Goldfinch	<i>Spinus psaltria</i>		X	X	X	
Spotted Towhee	<i>Pipilo maculatus</i>	X		X	X	
California Towhee	<i>Melospiza crissalis</i>	X	X			
Song Sparrow	<i>Melospiza melodia</i>	X			X	
Yellow-breasted Chat	<i>Icteria virens</i>	X		X		SSC
Brown-headed Cowbird	<i>Molothrus ater</i>				X	
Common Yellowthroat	<i>Geothlypis trichas</i>	X		X	X	
Yellow Warbler	<i>Setophaga petechia</i>	X	X	X	X	SSC
Black-headed Grosbeak	<i>Pheucticus melanocephalus</i>	X	X	X		
Blue Grosbeak	<i>Passerina caerulea</i>	X				
Mammalian Species						
Virginia Opossum	<i>Didelphis virginiana</i>	X				
Raccoon	<i>Procyon lotor</i>	X			X	
Striped Skunk	<i>Mephitis mephitis</i>	X			X	
Coyote	<i>Canis latrans</i>	X		X	X	
California Ground Squirrel	<i>Otospermophilus beecheyi</i>		X	X		
Desert Cottontail	<i>Sylvilagus audubonii</i>		X			
Feral Pigs	<i>Sus scrofa</i>	X		X		E
Herpetofauna Species						
Bullfrog	<i>Lithobates catesbeianus</i>					E
Western Fence Lizard	<i>Sceloporous occidentalis</i>			X		
Fish Species						
Santa Ana sucker	<i>Catostomus santaanae</i>	X			X	FT

FE = Federal endangered
FT = Federal threatened
SE = State endangered

ST = State threatened
SSC = State species of concern

FP = State fully protected
E = non-native species

EVALUATION OF IMPACTS TO WILDLIFE RESOURCES

Impacts to wildlife resources have been minimal. Annual bioassessments show an abundance of avian species using the project site, including the state and federally endangered Least Bell's Vireo (*Vireo pusillus bellii*) and state species of special concern, Yellow Warbler (*Setophaga petechia*). Although giant reed is currently becoming well controlled, other non-native plant species may become a problem, resulting in degradation of habitat. The creek on this site also provides breeding habitat for the federally threatened Santa Ana sucker (*Catostomus santaanae*).

FACTORS THAT MAY POTENTIALLY INCREASE ADVERSE IMPACTS

Some herbicide treatments are conducted during bird breeding months, which have the potential to adversely impact nesting birds. These impacts are avoided by having a qualified biological monitor on site to identify nesting birds and flag areas to be avoided.

PROJECT PHOTO DOCUMENTATION

Table 6: Sunnyslope GPS Photo Points		
Photo Point	Bearing (°)	Coordinates (UTM)
2	41° NE	460044, 3759244
3	170° S	460076, 3759303
4	147° SE	459936, 3758993

PHOTOS TAKEN 12/17/14.



PHOTO POINT #2 TAKEN 2/12/15 DURING REMOVAL (LEFT) AND 6/7/17 (RIGHT).



PHOTO POINT #2 TAKEN 6/29/18.



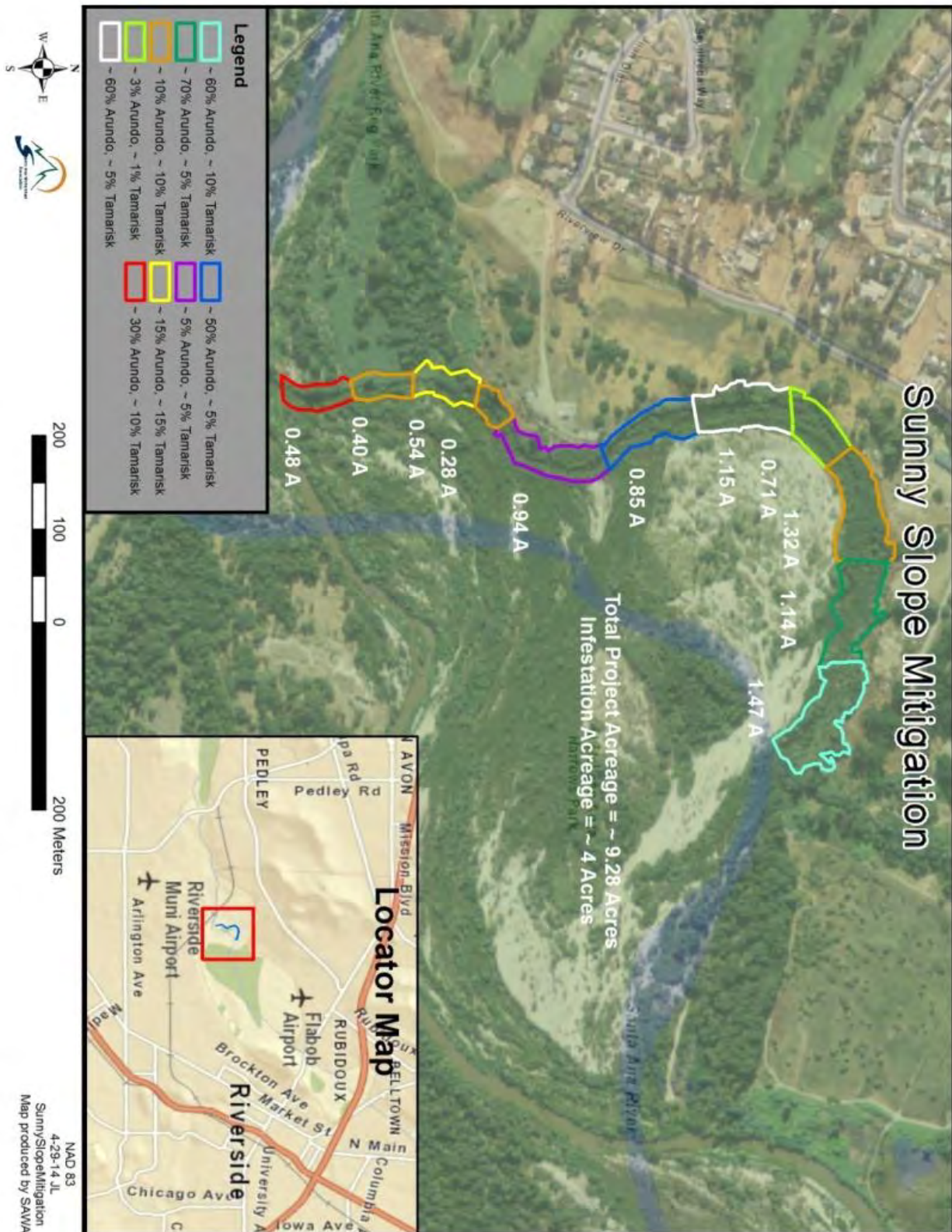
PHOTO POINT #3 TAKEN 6/7/17 (LEFT) AND 6/29/18 (RIGHT).



PHOTO POINT #4 TAKEN 6/7/17 (LEFT) AND 6/29/18 (RIGHT).



MAP



TEMESCAL WASH 3M 2.8-ACRE OLD STONE HEIGHTS

PROJECT BACKGROUND

Temescal Wash 3M 2.8-acre Old Stone Heights project site is located on 10.96 acres in the Temescal Wash, in El Cerrito, CA, south of Corona, CA. The project site is bounded by Minnesota Rd to the north, the FST Main Quarry Plant to the east, and residential areas to the southwest. Originally, the project site was infested with giant reed (*Arundo donax*) and other non-native invasive plants. In 2014, the Santa Ana Watershed Association (SAWA) began removal work for two mitigations. Control efforts have continued in subsequent years to control the re-emergence of these species.

Table 1: Temescal Wash 3M 2.8-A Old Stone Heights Project - Mitigations Placed at Project

Permit Number	Project Name	Permittee Name	Amount Received	Mitigated Acreage	Mitigation Type
332007-18	Parcel Map 30626	Old Stone Heights, LLC	\$66,510.44 (7/21/14)	2.8	Permitte-based Mitigation: Enhancement
Totals			\$66,510.44	2.8	

STATUS OF PROJECT ACTIVITIES

The Temescal 3M 2.8-Acre Old Stone Heights project is in its 4th year and contains a high number of non-native species and open ground. Specifically, mustard, poison hemlock, and pepper trees have become dominant non-natives. Additional removal and treatment will be required to control these invasives. Native planting may be required to improve vegetative cover. Additional work to meet these requirements is necessary.

Table 2: Temescal Wash 3M 2.8-A Old Stone Heights– Summary of Mitigation Activities

Project placed in:	2014			
Reporting Period	Amount Removed or Treated (in acres)	Type of Activity	Months of Activity	Species Removed or Treated
7/1/14 to 6/30/15	2.86	Initial removal & treatments	March 2015 April 2015 June 2015	giant reed, tamarisk, castorbean, mustard, perennial pepperweed
7/1/15 to 6/30/16	2.74	Treatment	August 2015	giant reed, tamarisk, castorbean
7/1/16 to 6/30/17	0.14	Treatment	August 2015 February 2017 April 2017	giant reed, castorbean, mustard, palms, perennial pepperweed
7/1/17 to 6/30/18	0.1	Treatment	July 2017 April 2018	Giant reed, castorbean, mustard, palms, perennial

Annual bioassessment surveys were implemented in 2016, and occurred at this site in 2017 and 2018. During the 2017 survey overall vegetative cover was noted at >50-75% of the project site, with >25-50% native coverage and >25-50% non-native coverage (Table 3). As of the 2018 survey, overall coverage decreased to >25-50% while both native and non-native cover remained the same. Giant reed, a

targeted species, was recorded at 1-5%. Additional treatments are required before success criteria for these species can be fulfilled. Overall, the site has fairly low vegetative coverage, about half of which is composed of non-native weeds. Habitat quality is poor, despite the variety of wildlife observed, including several species of concern. Results of the 6/29/18 bioassessment survey can be reviewed on Table 4. Detected species are listed on Table 5; however, this is not an all-inclusive list

Table 3: Temescal Wash 3M 2.8-A Old Stone Heights Vegetative Coverages Over Four Years			
	2016	6/27/17	6/29/18
Overall vegetative cover:	n/a	>50-75%	>25-50%
Native vegetative coverage:	n/a	>25-50%	>25-50%
Non-native vegetative coverage:	n/a	>25-50%	>25-50%

Table 4: Temescal Wash 3M 2.8-A Old Stone Heights Site Conditions 6/29/18					
Tree height:		>5-10m	Shrub height:		>1-5m
Overall vegetative cover:			>25-50%		
Native vegetative coverage:			>25-50%		
Common Name			Scientific Name		Coverage
Mulefat			<i>Baccharis salicifolia</i>		1-5%
Stinging nettle			<i>Urtica dioica</i>		>5-15%
Blue elderberry			<i>Sambucus nigra caerulea</i>		>5-15%
Fremont's cottonwood			<i>Populus fremontii</i>		1-5%
Willows			<i>Salix</i> spp.		1-5%
Non-native vegetative coverage:			>25-50%		
Common Name			Scientific Name		Coverage
Poison hemock			<i>Conium maculatum</i>		>5-15%
Peruvian pepper tree			<i>Schinus molle</i>		>5-15%
Mustard			n/a		>5-15%
Giant reed			<i>Arundo donax</i>		1-5%

Table 5: Temescal Wash 3M 2.8-A Old Stone Heights Detected Wildlife						
Common Name	Scientific Name	7/1/14 to 6/30/15	7/1/15 to 6/30/16	7/1/16 to 6/30/17	7/1/17 to 6/30/18	Special Status
Avian Species						
Mourning Dove	<i>Zenaida macroura</i>				X	
Greater Roadrunner	<i>Geococcyx californianus</i>		X			
Black-chinned Hummingbird	<i>Archilochus alexandri</i>	X				
Anna's Hummingbird	<i>Calypte anna</i>	X				
Turkey Vulture	<i>Cathartes aura</i>		X			
Red-tailed Hawk	<i>Buteo jamaicensis</i>		X		X	
Nuttall's Woodpecker	<i>Dryobates nuttallii</i>	X	X	X		
Black Phoebe	<i>Sayornis nigricans</i>	X	X	X		
Least Bell's Vireo	<i>Vireo bellii pusillus</i>	X	X	X	X	FE, SE
Northern Rough-winged Swallow	<i>Stelgidopteryx serripennis</i>	X	X			
Bushtit	<i>Psaltiriparus minimus</i>				X	
Bewick's Wren	<i>Thryomanes bewickii</i>		X	X		
California Gnatcatcher	<i>Poliophtila californica</i>		X		X	FT, SSC
Table 5: Temescal Wash 3M 2.8-A Old Stone Heights Detected Wildlife						

Common Name	Scientific Name	7/1/14 to 6/30/15	7/1/15 to 6/30/16	7/1/16 to 6/30/17	7/1/17 to 6/30/18	Special Status
Avian Species						
Phainopepla	<i>Phainopepla nitens</i>		X		X	
House Finch	<i>Haemorhous mexicanus</i>		X	X	X	
Lesser Goldfinch	<i>Spinus psaltria</i>	X	X	X	X	
Spotted Towhee	<i>Pipilo maculatus</i>	X		X		
California Towhee	<i>Melospiza crissalis</i>		X	X		
Song Sparrow	<i>Melospiza melodia</i>	X	X			
White-crowned Sparrow	<i>Zonotrichia leucophrys</i>		X			
Hooded Oriole	<i>Icterus cucullatus</i>		X			
Common Yellowthroat	<i>Geothlypis trichas</i>			X		
Yellow Warbler	<i>Setophaga petechia</i>	X		X		SSC
Black-headed Grosbeak	<i>Pheucticus melanocephalus</i>		X			
Mammalian Species						
Coyote	<i>Canis latrans</i>		X			
California Ground Squirrel	<i>Otospermophilus beecheyi</i>		X		X	
Desert Cottontail	<i>Sylvilagus audubonii</i>		X			
Granite Spiny Lizard	<i>Sceloporus orcutti</i>				X	

FE = Federal endangered

FT = Federal threatened

SE = State endangered

ST = State threatened

SSC = State species of concern

FP = State fully protected

E = non-native species

EVALUATION OF IMPACTS TO WILDLIFE RESOURCES

Impacts to wildlife resources have been minimal. Annual bioassessments show typical avian species using the project site, including the state and federally endangered Least Bell's Vireo (*Vireo bellii pusillus*) and the federally threatened California Gnatcatcher (*Polioptila californica*).

FACTORS THAT MAY POTENTIALLY INCREASE ADVERSE IMPACTS

Most herbicide treatments have been conducted outside of avian breeding season and pose minimal impact to wildlife resources. When treatments must occur during breeding season, impacts can be avoided by having a qualified biological monitor on site to identify nesting birds and flag areas to be avoided.

PROJECT PHOTO DOCUMENTATION

Table 6: Sunnyslope GPS Photo Points		
Photo Point	Bearing (°)	Coordinates (UTM)
2	41° NE	460044, 3759244
3	170° S	460076, 3759303
4	147° SE	459936, 3758993

PHOTOS TAKEN 3/10/15.

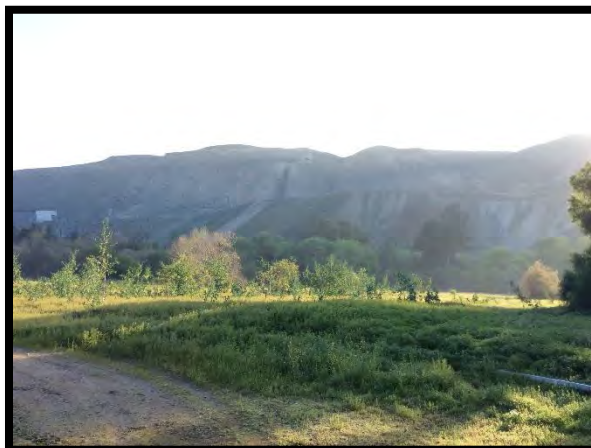


PHOTO POINT #1 TAKEN 6/27/17 (LEFT) AND 6/29/18 (RIGHT).



PHOTO POINT #2 TAKEN 6/29/18.



PHOTO POINT #3 TAKEN 6/29/18.



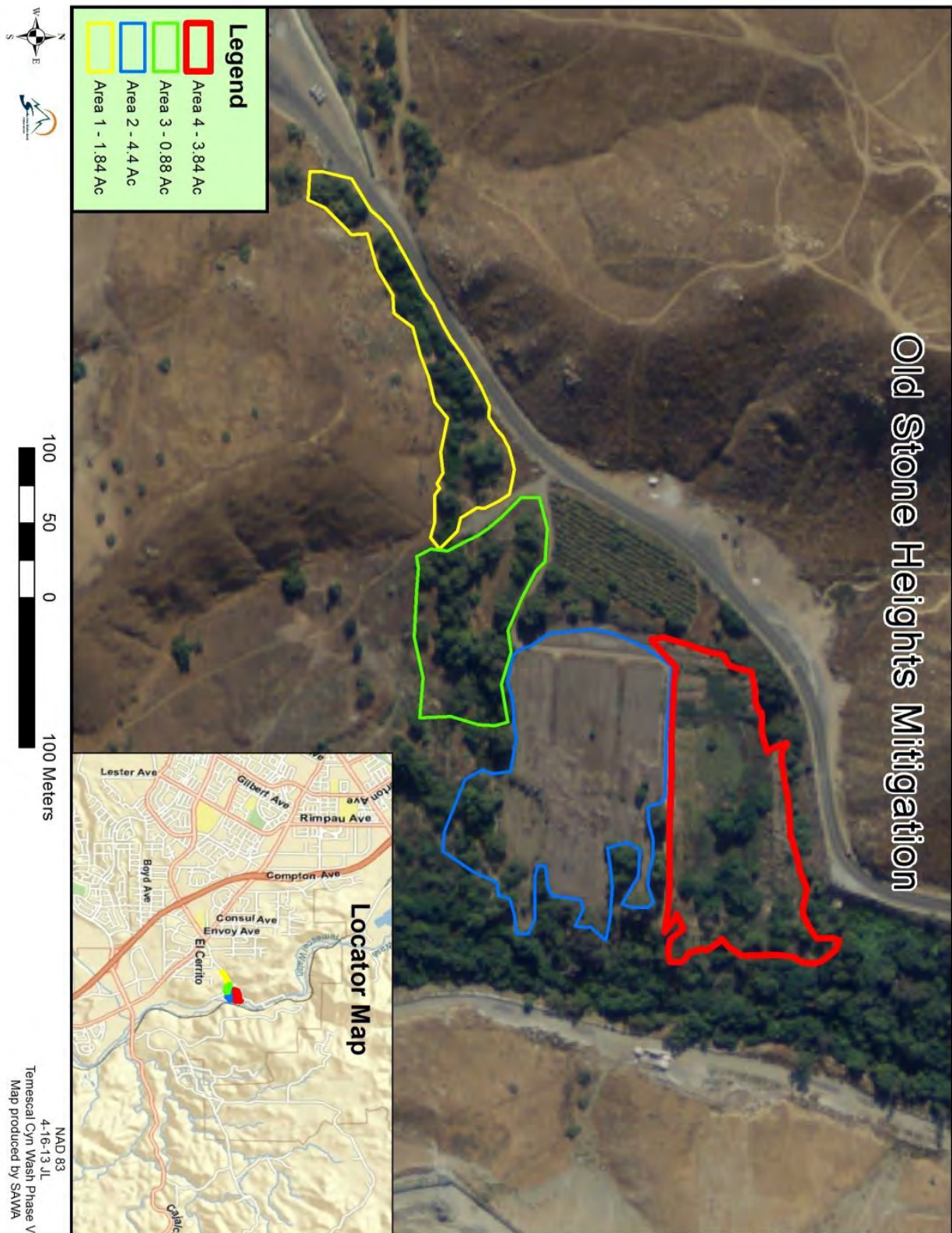
PHOTO POINT #4 TAKEN 6/29/18.



PHOTO POINT #5 TAKEN 6/29/18.



PROJECT MAP



TEMESCAL WASH PHASE V 115-ACRE

PROJECT BACKGROUND

The Temescal Wash Phase V project area is located on approximately 115 acres along Temescal Creek in El Cerrito of the County of Riverside. The project is approximately ¼ mi south of Sherborn St and ends on the north side of Cajalco Rd. The project is bounded by an active rock quarry along the majority of its perimeter. Originally the 115-acre project was infested with large patches of giant reed (*Arundo donax*) and tamarisk (*Tamarix spp.*). Initial removal occurred in 2001 and was monitored for re-growth for five years before being turned over to SAWA in 2006 for continued monitoring and control of target species. SAWA has subsequently treated castorbean (*Ricinus communis*), perennial pepperweed (*Lepidium latifolium*), and other nonnative species as needed.

Table 1: Temescal Wash Phase V Project - Mitigations Placed at Project

Permit Number	Project Name	Permittee Name	Amount Received	Mitigated Acreage	Mitigation Type
1600-2010-0149-R6 Op Law SPL-2010-00522-CLD 332010-29	Temescal Canyon Business Park	Temescal Office Partners, LP	\$33,000 (6/26/12)	0.25	ILF: Restoration
200401-500-SMJ RWQCB Cert. 8/24/04	Storm Drain Improvements at Corydon St and Melinda Ln, Lake Elsinore	Riverside County Transportation Department	\$3,125 (10/28/04)	0.1	ILF: Enhancement
1600-2005-0039-R6 2005-00978-DPS	Construction of Five Storm Drain Outlet Structures in Salt Creek for Tract #30808	Community Park 124, LLC	\$25,000 (12/21/05 & 1/19/06)	0.3	ILF: Enhancement
Totals			\$61,125	1.55	

STATUS OF PROJECT ACTIVITIES

The Temescal Wash Phase V Project is in its 12th year. Within the scope of requirements for SAWA's In-Lieu Fee program, the project goals have been met. However, other non-native species, such as perennial pepperweed, poison hemlock, and mustard, have emerged as dominant non-native species. Additional work to remove these other non-native species is recommended.

Table 2: Temescal Wash Phase V – Summary of Mitigation Activities

SAWA management began in:		2006		
Reporting Period	Amount Removed or Treated (in acres)	Type of Activity	Months of Activity	Species Removed or Treated
7/1/14 to 6/30/15	None	n/a	n/a	n/a
7/1/15 to 6/30/16	6.9	Treatment	August 2015 September 2015	giant reed, tamarisk
7/1/16 to 6/30/17	1.75	Treatment	August 2016	giant reed, castorbean, tree tobacco
7/1/17 to 6/30/18	1.5	Treatment	September-December 2017 February-June 2018	Giant reed, castorbean, tree tobacco

Annual bioassessment surveys were implemented in 2016, and occurred at this site in 2017 and 2018. During the 2017 survey overall vegetative cover was noted at >75% of the project site, with >50-75% native coverage and >15-25% non-native coverage (Table 3). As of the 2018 survey, overall coverage decreased to >50-75% while both native and non-native cover remained the same. Giant reed, tamarisk, and castorbean, all targeted species, were recorded at <1%, which fulfills the success criteria for these species. Overall, the site has high vegetative coverage, and high quality habitat which supports a variety of wildlife, including several species of concern. Results of the 7/2/18 bioassessment survey can be reviewed on Table 4. Detected species are listed on Table 5; however, this is not an all-inclusive list

Table 3: Temescal Wash Phase V Vegetative Coverages Over Four Years			
	2016	6/27/17	7/2/18
Overall vegetative cover:	n/a	>75%	>50-75%
Native vegetative coverage:	n/a	>50-75%	>50-75%
Non-native vegetative coverage:	n/a	>15-25%	>15-25%

Table 4: Temescal Wash Phase V Site Conditions 7/2/18				
Tree height:		>10-15M	Shrub height:	>1-2M
Overall vegetative cover:		>50-75%		
Native vegetative coverage:		>50-75%		
Common Name		Scientific Name		Coverage
Mulefat		<i>Baccharis salicifolia</i>		>25-50%
Fremont's cottonwood		<i>Populus fremontii</i>		>15-25%
Stinging nettle		<i>Urtica dioica</i>		>25-50%
Willows		<i>Salix</i> spp.		>15-25%
Cattails		<i>Typha</i> sp.		>5-15%
Poison oak		<i>Toxicodendron diversilobum</i>		>5-15%
Non-native vegetative coverage:		>15-25%		
Common Name		Scientific Name		Coverage
Perennial pepperweed		<i>Lepidium latifolium</i>		>25-50%
Eucalyptus		<i>Eucalyptus</i> sp.		>5-15%
Palms		n/a		1-5%
Giant reed		<i>Arundo donax</i>		<1%
Tamarisk		<i>Tamarix</i> sp.		<1%
Castorbean		<i>Ricinus communis</i>		<1%

Table 5: Temescal Wash Phase V Detected Wildlife						
Common Name	Scientific Name	7/1/14 to 6/30/15	7/1/15 to 6/30/16	7/1/16 to 6/30/17	7/1/17 to 6/30/18	Special Status
Avian Species						
Mourning Dove	<i>Zenaida macroura</i>		X		X	
Greater Roadrunner	<i>Geococcyx californianus</i>		X			
Black-chinned Hummingbird	<i>Archilochus alexandri</i>	X	X			
Anna's Hummingbird	<i>Calypte anna</i>		X		X	
Turkey Vulture	<i>Cathartes aura</i>		X			
Cooper's Hawk	<i>Accipiter cooperii</i>	X			X	
Red-shouldered Hawk	<i>Buteo lineatus</i>	X				
Red-tailed Hawk	<i>Buteo jamaicensis</i>	X	X		X	
Table 5 continued						

Common Name	Scientific Name	7/1/14 to 6/30/15	7/1/15 to 6/30/16	7/1/16 to 6/30/17	7/1/17 to 6/30/18	Special Status
Avian Species						
Nuttall's Woodpecker	<i>Dryobates nuttallii</i>	X	X		X	
Northern Flicker	<i>Colaptes auratus</i>		X			
Ash-throated Flycatcher	<i>Myiarchus cinerascens</i>		X			
Pacific-slope Flycatcher	<i>Empidonax difficilis</i>		X			
Black Phoebe	<i>Sayornis nigricans</i>	X	X			
Least Bell's Vireo	<i>Vireo bellii pusillus</i>	X	X	X	X	FE, SE
California Scrub-jay	<i>Aphelocoma californica</i>		X			
American Crow	<i>Corvus brachyrhynchos</i>		X			
Common Raven	<i>Corvus corax</i>		X		X	
Northern Rough-winged Swallow	<i>Stelgidopteryx serripennis</i>	X	X			
Cliff Swallow	<i>Petrochelidon pyrrhonota</i>				X	
Bushtit	<i>Psaltirparus minimus</i>	X	X	X	X	
Rock Wren	<i>Salpinctes obsoletus</i>		X			
House Wren	<i>Troglodytes aedon</i>		X		X	
Bewick's Wren	<i>Thryomanes bewickii</i>		X		X	
California Gnatcatcher	<i>Poliophtila californica</i>				X	FT, SSC
Wrentit	<i>Chamaea fasciata</i>		X			
California Thrasher	<i>Toxostoma redivivum</i>		X			
Phainopepla	<i>Phainopepla nitens</i>		X		X	
House Finch	<i>Haemorhous mexicanus</i>		X		X	
Lesser Goldfinch	<i>Spinus psaltria</i>		X	X		
Spotted Towhee	<i>Pipilo maculatus</i>	X	X		X	
Rufous-crowned Sparrow	<i>Aimophila ruficeps</i>		X			SSC
California Towhee	<i>Melozone crissalis</i>		X		X	
Song Sparrow	<i>Melospiza melodia</i>	X	X			
White-crowned Sparrow	<i>Zonotrichia leucophrys</i>		X			
Yellow-breasted Chat	<i>Icteria virens</i>	X	X		X	SSC
Hooded Oriole	<i>Icterus cucullatus</i>		X		X	
Common Yellowthroat	<i>Geothlypis trichas</i>	X	X			
Yellow Warbler	<i>Setophaga petechia</i>	X	X		X	SSC
Yellow-rumped Warbler	<i>Setophaga coronata</i>		X			
Black-headed Grosbeak	<i>Pheucticus melanocephalus</i>		X			
Mammalian Species						
Raccoon	<i>Procyon lotor</i>		X			
Coyote	<i>Canis latrans</i>		X			
Domestic dog	<i>Canis familiaris</i>		X			E
Bobcat	<i>Lynx rufus</i>		X			
California Ground Squirrel	<i>Otospermophilus beecheyi</i>		X			
Desert Cottontail	<i>Sylvilagus audubonii</i>		X			
Mule Deer	<i>Odocoileus hemionus</i>		X			
Herpetofauna Species						
Orange-throated Whiptail	<i>Aspidoscelis hypertythra beldingi</i>	X				SSC
San Diegan Tiger Whiptail	<i>Aspidoscelis tigris stejnegeri</i>				X	SSC
Blainville's Horned Lizard	<i>Phrynosoma blainvillii</i>	X				SSC
Western Fence Lizard	<i>Sceloporus occidentalis</i>		X			
Granite Spiny Lizard	<i>Sceloporus orcutti</i>		X		X	
Table 5 continued						

Common Name	Scientific Name	7/1/14 to 6/30/15	7/1/15 to 6/30/16	7/1/16 to 6/30/17	7/1/17 to 6/30/18	Special Status
Herpetofauna Species						
Side-blotched Lizard	<i>Uta stansburiana</i>				X	

FE = Federal endangered

FT = Federal threatened

SE = State endangered

ST = State threatened

SSC = State species of concern

FP = State fully protected

E = non-native species

EVALUATION OF IMPACTS TO WILDLIFE RESOURCES

Impacts to wildlife resources have been minimal. Annual bioassessments show typical avian species using the project site, including the state and federally endangered Least Bell's Vireo (*Vireo bellii pusillus*) and the federally threatened California Gnatcatcher (*Polioptila californica*).

FACTORS THAT MAY POTENTIALLY INCREASE ADVERSE IMPACTS

Most herbicide treatments have been conducted outside of avian breeding season and pose minimal impact to wildlife resources. When treatments must occur during breeding season, impacts can be avoided by having a qualified biological monitor on site to identify nesting birds and flag areas to be avoided.

PROJECT PHOTO DOCUMENTATION

Table 6: Sunnyslope GPS Photo Points		
Photo Point	Bearing (°)	Coordinates (UTM)
2	41° NE	460044, 3759244
3	170° S	460076, 3759303
4	147° SE	459936, 3758993

PHOTOS TAKEN 9/7/06



PHOTO TAKEN 9/7/06



PHOTO POINT #1 TAKEN 6/27/17 (LEFT) AND 7/2/18 (RIGHT).



PHOTO POINT #2 TAKEN 6/27/17 (LEFT) AND 7/2/18 (RIGHT).



PHOTO POINT #3 TAKEN 6/27/17 (LEFT) AND 7/2/18 (RIGHT).



PHOTO POINT #4 TAKEN 7/2/18.



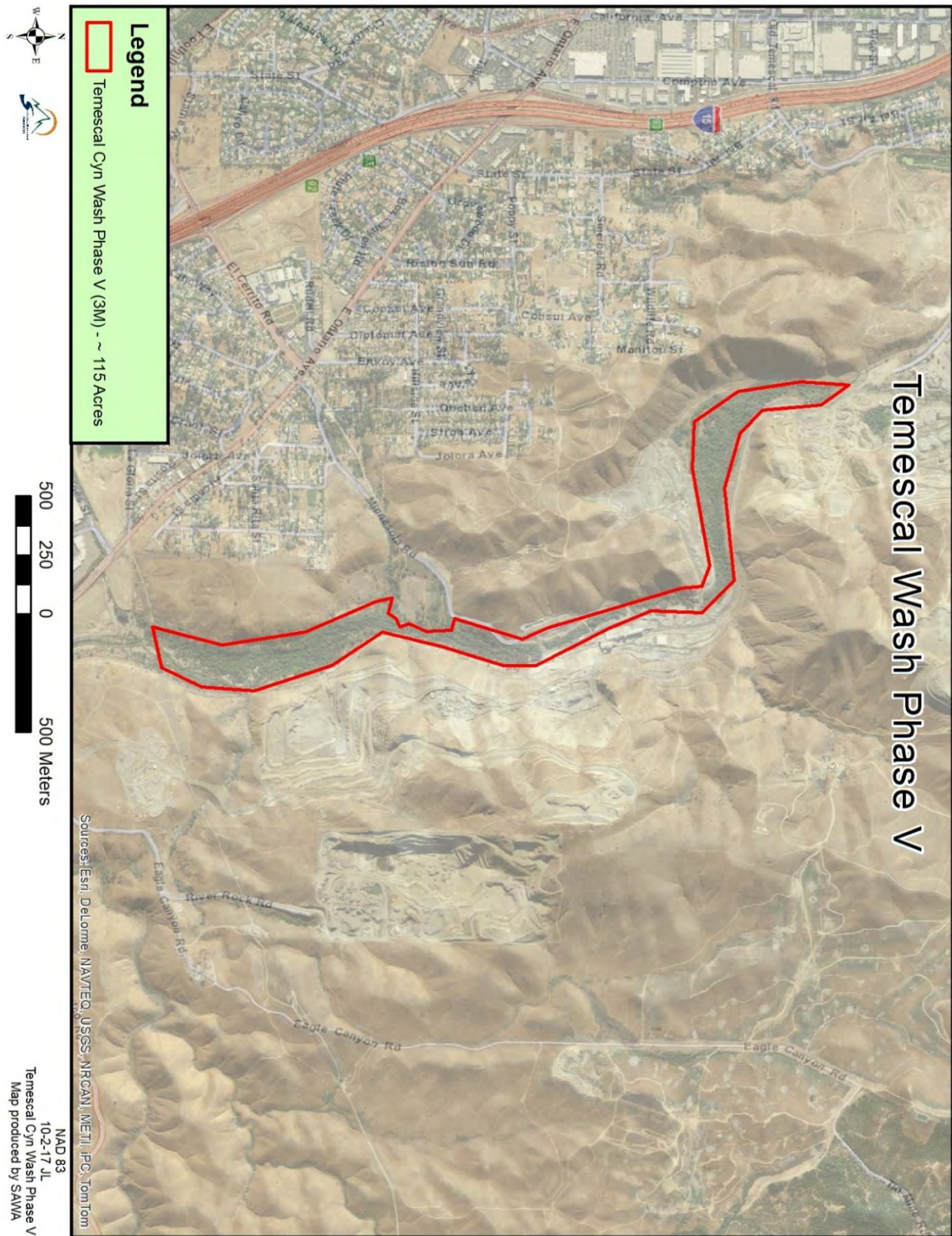
PHOTO POINT #5 TAKEN 7/2/18.



ADDITIONAL PHOTOS TAKEN 7/2/18.



PROJECT MAP



WOLFSKILL-GILMAN

PROJECT BACKGROUND

Wolfskill-Gilman is located along Laborde Canyon in the San Jacinto Valley. Originally, the 23-acre project area was infested with tamarisk (*Tamarix* spp.). In 2012, SAWA received agency approval to begin work, and invasive removal began. Control efforts have continued to the present. About 1700 native plants were planted on site in 2013 to reach the restoration goals.

Table 1: Wolfskill Gilman - Mitigations Placed at Project

Permit Number	Project Name	Permittee Name	Amount Received	Mitigated Acreage	Mitigation Type
1600-2008-0138-R6	SR-91 Eastbound Lane Addition Between SR-241 and SR-71 Project	California Department of Transportation	\$234,000 (12/1/11)	2.66	Permittee-based Mitigation: Restoration
1600-2009-0060-R6 Op Law	Ironwood Avenue Road Widening Project	City of Moreno Valley	\$33,000 (6/30/10)	0.25	Permittee-based Mitigation: Enhancement
1600-2009-0115-R6	Ironwood Avenue and Indian Avenue Detention Basin Improvements Project	City of Moreno Valley	\$148,500 (6/28/10)	1.98	Permittee-based Mitigation: Enhancement
1600-2012-0024-R6 SPL-2010-00944-SCH 302012-05	I-215 Widening from Scott Road to Nuevo Road Project	Riverside County Transportation Commission	\$310,478 (12/14/12)	2.988	Permittee-based Mitigation: Restoration
Totals			\$725,978	7.878	

STATUS OF PROJECT ACTIVITIES

The Wolfskill-Gilman Project is in its 7th year. Within the scope of the project's performance standards, this project has not yet met the goals for this year. Currently Russian thistle is documented at 1-5%. Additional removal and treatment is required to bring this species down to the required <1% of the total project site. Continued maintenance and monitoring for other species will be required to prevent re-emergence. The goal of 90% native species coverage, including native woody species, has also not been met. This goal may also not be achievable, due to site hydrologic and geologic conditions. Discussions with regulatory agencies should occur to modify the project standards as needed.

Table 2: Wolfskill Gilman – Summary of Mitigation Activities

Project placed in:	2012			
Reporting Period	Amount Removed or Treated (in acres)	Type of Activity	Months of Activity	Species Removed or Treated
7/1/14 to 6/30/15	4	Treated	July-September 2014 March-June 2015	tamarisk and non-native annual weeds
7/1/15 to 6/30/16	1.15	Treated	July-August 2015 December 2015	tamarisk and non-native annual weeds
7/1/16 to 6/30/17	1.25	Treated Hand-pulling	July 2016 September 2016 March 2017	tamarisk, Russian thistle, non-native annual weeds

Table 2 continued				
Reporting Period	Amount Removed or Treated (in acres)	Type of Activity	Months of Activity	Species Removed or Treated
7/1/17 to 6/30/18	1.05	Treatment	August, November 2017 April-June 2018	Tamarisk, Russian thistle, annual weeds

Annual bioassessment surveys were implemented in 2016, and occurred at this site in 2017 and 2018. During the 2017 survey overall vegetative cover was noted at >25-50% of the project site, with >75% native coverage and 1-5% non-native coverage (Table 3). As of the 2018 survey, overall and native coverage decreased to >15-25% and >5-15%, respectively. Non-native cover remained the same at 1-5%. Tamarisk, a targeted species, was not recorded during this survey, which fulfills the success criteria for this species. Overall, the site has fairly low vegetative coverage. Habitat quality is currently fair, but is improving, and more sensitive species are beginning to utilize the site. Results of the 6/19/18 bioassessment survey can be reviewed on Table 4. Detected species are listed on Table 5; however, this is not an all-inclusive list

Table 3: Wolfskill-Gilman Vegetative Coverages Over Four Years			
	2016	6/28/17	6/19/18
Overall vegetative cover:	n/a	>25-50%	>15-25%
Native vegetative coverage:	n/a	>75%	>5-15%
Non-native vegetative coverage:	n/a	1-5%	1-5%

Table 4: Wolfskill-Gilman Site Conditions 6/19/18					
Tree height:		>10-15m	Shrub height:		>2-5m
Overall vegetative cover:			>15-25%		
Native vegetative coverage:			>5-15%		
Common Name			Scientific Name		Coverage
Mulefat			<i>Baccharis salicifolia</i>		1-5%
Fourwing saltbush			<i>Atriplex canescens</i>		1-5%
Blue elderberry			<i>Sambucus nigra caerulea</i>		1-5%
Fremont's cottonwood			<i>Populus fremontii</i>		1-5%
California buckwheat			<i>Eriogonum fasciculatum</i>		1-5%
Non-native vegetative coverage:			1-5%		
Common Name			Scientific Name		Coverage
Non-native grasses			n/a		1-5%
Russian thistle			<i>Salsola tragus</i>		1-5%
Stinknet			<i>Oncosiphon piluliferum</i>		<1%

Table 5: Wolfskill-Gilman Detected Wildlife						
Common Name	Scientific Name	7/1/14 to 6/30/15	7/1/15 to 6/30/16	7/1/16 to 6/30/17	7/1/17 to 6/30/18	Special Status
Avian Species						
California Quail	<i>Callipepla californica</i>		X	X	X	
Mourning Dove	<i>Zenaida macroura</i>		X	X		
Anna's Hummingbird	<i>Calypte anna</i>	X				
Red-tailed Hawk	<i>Buteo jamaicensis</i>	X			X	
Barn Owl	<i>Tyto alba</i>				X	

Table 5 continued						
Common Name	Scientific Name	7/1/14 to 6/30/15	7/1/15 to 6/30/16	7/1/16 to 6/30/17	7/1/17 to 6/30/18	Special Status
Avian Species						
Nuttall's Woodpecker	<i>Dryobates nuttallii</i>	X	X	X		
American Kestrel	<i>Falco sparverius</i>	X				
Ash-throated Flycatcher	<i>Myiarchus cinerascens</i>				X	
Western Kingbird	<i>Tyrannus verticalis</i>			X		
Loggerhead Shrike	<i>Lanius ludovicianus</i>			X		SSC
Least Bell's Vireo	<i>Vireo bellii pusillus</i>				X	FE, SE
American Crow	<i>Corvus brachyrhynchos</i>				X	
Northern Rough-winged Swallow	<i>Stelgidopteryx serripennis</i>				X	SSC
Bewick's Wren	<i>Thryomanes bewickii</i>	X	X	X	X	
Cactus Wren	<i>Campylorhynchus brunneicaillus</i>		X		X	SSC
California Gnatcatcher	<i>Polioptila californica</i>			X	X	FT, SSC
Wrentit	<i>Chamaea fasciata</i>			X		
California Thrasher	<i>Toxostoma redivivum</i>	X	X	X		
Northern Mockingbird	<i>Mimus polyglottos</i>		X	X	X	
Phainopepla	<i>Phainopepla nitens</i>	X	X	X	X	
House Finch	<i>Haemorhous mexicanus</i>		X	X	X	
Lesser Goldfinch	<i>Spinus psaltria</i>			X		
Spotted Towhee	<i>Pipilo maculatus</i>	X	X	X		
California Towhee	<i>Melospiza crissalis</i>		X	X	X	
Song Sparrow	<i>Melodia melospiza</i>	X				
Black-headed Grosbeak	<i>Pheucticus melanocephalus</i>	X	X	X		
Herpetofauna Species						
Orange-throated Whiptail	<i>Aspidoscelis hyperythra beldingi</i>			X		SSC
San Diegan Tiger Whiptail	<i>Aspidoscelis tigris stejnegeri</i>	X				SSC
Western Fence Lizard	<i>Sceloporus occidentalis</i>	X	X			
Side-blotched Lizard	<i>Uta stansburiana</i>	X	X			
Southern Pacific Rattlesnake	<i>Crotalus oreganus helleri</i>	X				

FE = Federal endangered
FT = Federal threatened
SE = State endangered

ST = State threatened
SSC = State species of concern

FP = State fully protected
E = non-native species

EVALUATION OF IMPACTS TO WILDLIFE RESOURCES

Impacts to wildlife resources have been minimal. Annual bioassessments show a variety of avian species using the project site, including the state and federally endangered Least Bell's Vireo (*Vireo pusillus bellii*) and federally threatened California Gnatcatcher (*Polioptila californica*). Continued treatments will be required to maintain control over non-native plants.

FACTORS THAT MAY POTENTIALLY INCREASE ADVERSE IMPACTS

Some herbicide treatments are conducted during bird breeding months, which have the potential to adversely impact nesting birds. These impacts are avoided by having a qualified biological monitor on site to identify nesting birds and flag areas to be avoided.

PROJECT PHOTO DOCUMENTATION

Table 6: Wolfskill-Gilman GPS Photo Points		
Photo Point	Bearing (°)	Coordinates (UTM)
1	93° E	498097, 3747898
2	55° NE	498111, 3747960
3	32° NE	498107, 3747924
4	34° NE	498053, 3748107
5	48° NE	498026, 3748216
6	163° S	498045, 3748304
7	208° SW	498072, 3748305
8	179° S	498145, 3748943
9	37° NE	498156, 3748952
10	88° E	498168, 3748970
11	318° NW	497983, 3749253
12	149° SE	497901, 3749404
13	19° N	497748, 3749748
14	207° SW	497756, 3749731

PHOTO POINT #1 TAKEN 3/5/13 (LEFT) AND 6/1/15 (RIGHT).



PHOTO POINT #1 TAKEN 6/19/18 (LEFT) AND PHOTO POINT #2 TAKEN 6/19/18 (RIGHT).



PHOTO POINT #2 TAKEN 3/5/13 (LEFT) AND 6/1/15 (RIGHT).

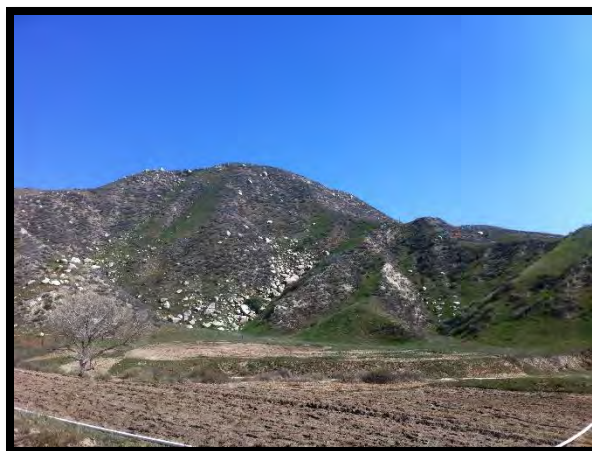


PHOTO POINT #3 TAKEN 6/19/18 (LEFT) AND PHOTO POINT #4 TAKEN 6/19/18 (RIGHT).



PHOTO POINT #4 TAKEN 3/5/13 (LEFT) AND 6/1/15 (RIGHT).



PHOTO POINT #5 TAKEN 9/23/12 (LEFT) AND 6/1/15 (RIGHT).



PHOTO POINT #5 TAKEN 6/19/18 (LEFT) AND PHOTO POINT #6 TAKEN 6/19/18 (RIGHT).



PHOTO POINT #6 TAKEN 9/23/12 (LEFT) AND 6/1/15 (RIGHT).



PHOTO POINT #7 TAKEN 3/15/13 (LEFT) AND 6/19/18 (RIGHT).

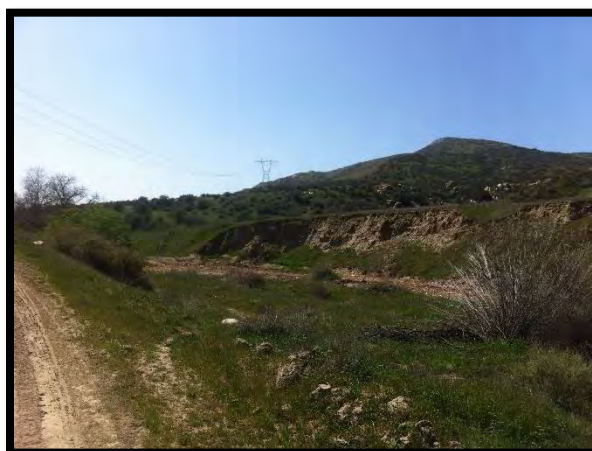


PHOTO POINT #8 TAKEN 3/15/13 (LEFT) AND 6/1/15 (RIGHT).



PHOTO POINT #8 TAKEN 6/19/18 (LEFT) AND PHOTO POINT #9 TAKEN 6/19/18 (RIGHT).



PHOTO POINT #9 TAKEN 3/5/13 (LEFT) AND 6/1/15 (RIGHT).

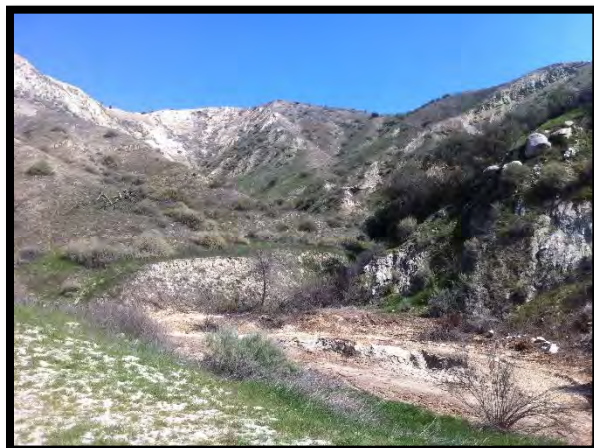


PHOTO POINT #10 TAKEN 3/5/13 (LEFT) AND 6/19/18 (RIGHT).



PHOTO POINT #11 TAKEN 11/27/12 (LEFT) AND 6/1/15 (RIGHT).



PHOTO POINT #11 TAKEN 6/19/18 (LEFT) AND PHOTO POINT #12 TAKEN 6/19/18 (RIGHT).



PHOTO POINT #12 TAKEN 11/27/12 (LEFT) AND 6/1/15 (RIGHT).



PHOTO POINT #13 TAKEN 3/5/13 (LEFT) AND 6/1/15 (RIGHT).



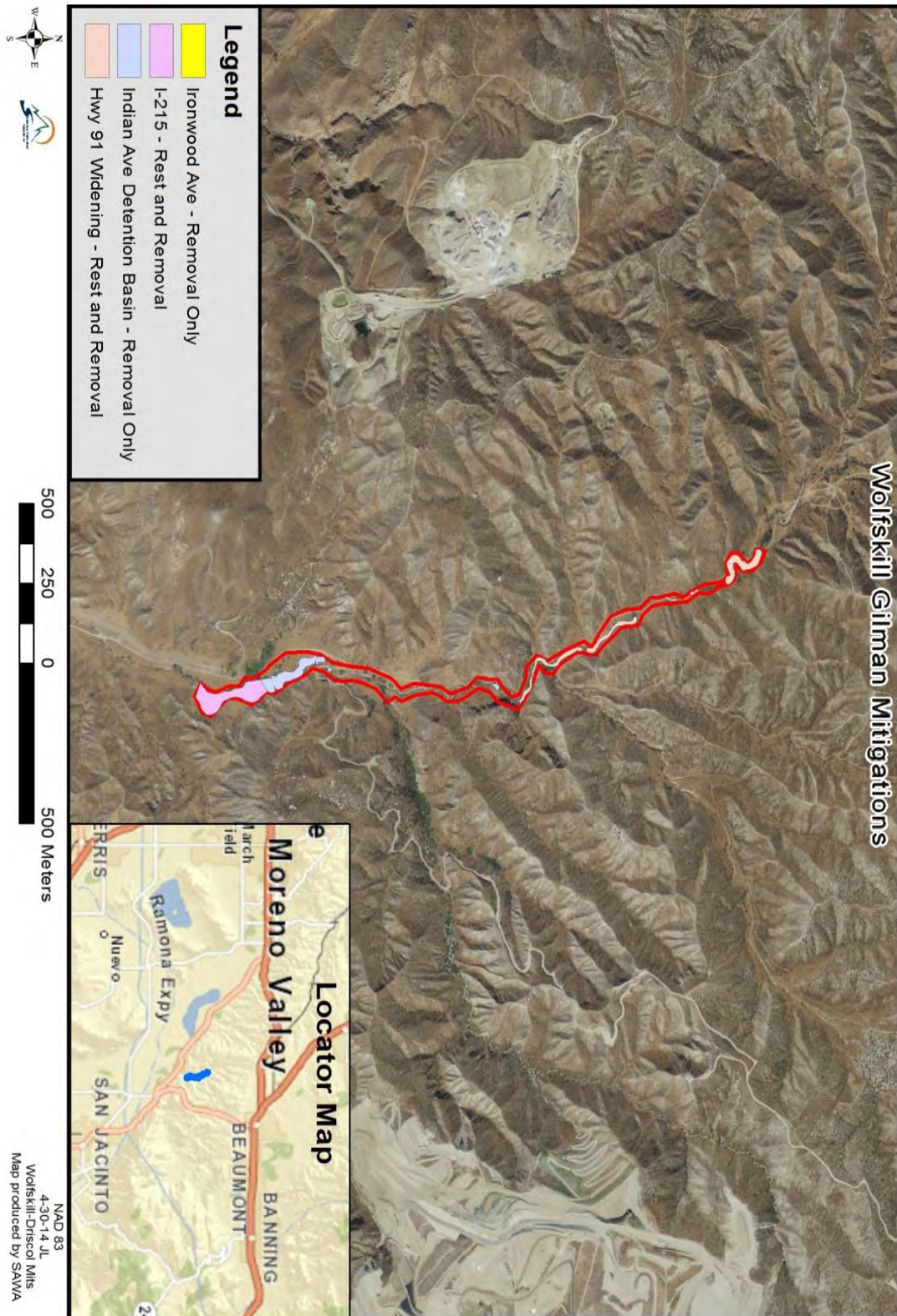
PHOTO POINT #13 TAKEN 6/19/18 (LEFT) AND PHOTO POINT #14 TAKEN 6/19/18 (RIGHT).



PHOTO POINT #14 TAKEN 3/5/13 (LEFT) AND 6/1/15 (RIGHT).



PROJECT MAP



WOLFSKILL 1.47

PROJECT BACKGROUND

Wolfskill 1.47 is located along Laborde Canyon in the San Jacinto Valley. Originally, the 1.47-acre project area was infested with tamarisk (*Tamarix* spp.). In 2014, SAWA received agency approval to begin work, and invasive removal for one mitigation began. Control efforts have continued in subsequent years to control the re-emergence of this species.

Table 1: Wolfskill 1.47 Project - Mitigations Placed at Project

Permit Number	Project Name	Permittee Name	Amount Received	Mitigated Acreage	Purpose of Funds
1600-2012-0210-R6 Op Law 332012-36	I-215/Newport Road Interchange Improvement Project	Riverside County Transportation Department	\$200,234.90	1.47	Permittee-based Mitigation: Restoration
Totals			\$200,234.90	1.47	

STATUS OF PROJECT ACTIVITIES

The Wolfskill 1.47 Project is in its 4th year. Within the scope of the project's performance standards, this project has not yet met the goals for this year. Additional removal and treatment is required to bring Russian thistle coverage, which is currently at 1-5%, down to <1% of the total site. Continued maintenance and monitoring for other species will be required to prevent re-emergence. Native pole cuttings were placed on the project site, but have not yet matured enough to provide substantial coverage.

Table 2: Wolfskill 1.47 – Summary of Mitigation Activities

Project placed in:	2014			
Reporting Period	Amount Removed or Treated (in acres)	Type of Activity	Months of Activity	Species Removed or Treated
7/1/14 to 6/30/15	0.5	Initial treatment	December 2014 April-May 2015	tamarisk and non-native annual weeds
7/1/15 to 6/30/16	0.5	Treatment	August & December 2015 March-April, June 2016	tamarisk and non-native annual weeds
7/1/16 to 6/30/17	0.3	Treatment	July 2016 March, June 2017	Russian thistle, tamarisk, and non-native annual weeds
7/1/17 to 6/30/18	0.27	Treatment	July, August, November 2017 January, March-May 2018	Russian thistle, tamarisk, annual weeds

Annual bioassessment surveys were implemented in 2016, and occurred at this site in 2017 and 2018. During the 2017 survey overall vegetative cover was noted at >25-50% of the project site, with >50-75% native coverage and >15-25% non-native coverage (Table 3). As of the 2018 survey, overall and native coverage decreased to >15-25% each, while non-native cover also decreased to 1-5%. Tamarisk, a targeted species, was not recorded during this survey, which fulfills the success criteria for this species. However, Russian thistle is still present at 1-5% and requires continued treatment to fulfill all success

criteria for this mitigation. Overall, the site has fairly low vegetative coverage. Habitat quality is currently fair, but is improving, and more sensitive species are beginning to utilize the site. Results of the 6/19/18 bioassessment survey can be reviewed on Table 4. Detected species are listed on Table 5; however, this is not an all-inclusive list

Table 3: Wolfskill-Gilman Vegetative Coverages Over Four Years			
	2016	6/28/17	6/19/18
Overall vegetative cover:	n/a	>25-50%	>15-25%
Native vegetative coverage:	n/a	>50-75%	>15-25%
Non-native vegetative coverage:	n/a	>15-25%	1-5%

Table 4: Wolfskill 1.47 Site Conditions 6/19/18				
Tree height:	>1-2m		Shrub height:	>1-2m
Overall vegetative cover:		>15-25%		
Native vegetative coverage:		>15-25%		
Common Name		Scientific Name		Coverage
Mulefat		<i>Baccharis salicifolia</i>		1-5%
Fourwing saltbush		<i>Atriplex canescens</i>		1-5%
Blue elderberry		<i>Sambucus nigra caerulea</i>		1-5%
California buckwheat		<i>Eriogonum fasciculatum</i>		>5-15%
Non-native vegetative coverage:		1-5%		
Common Name		Scientific Name		Coverage
Russian thistle		<i>Salsola tragus</i>		1-5%
Stinknet		<i>Oncosiphon piluliferum</i>		<1%

Table 5: Wolfskill 1.47 Detected Wildlife						
Common Name	Scientific Name	7/1/14 to 6/30/15	7/1/15 to 6/30/16	7/1/16 to 6/30/17	7/1/17 to 6/30/18	Special Status
Avian Species						
Anna's Hummingbird	<i>Calypte anna</i>	X				
Red-tailed Hawk	<i>Buteo jamaicensis</i>	X				
Nuttall's Woodpecker	<i>Picoides nuttallii</i>	X				
American Kestrel	<i>Falco sparverius</i>	X				
Western Kingbird	<i>Tyrannus verticalis</i>		X			
Bewick's Wren	<i>Thryomanes bewickii</i>	X	X		X	
California Thrasher	<i>Toxostoma redivivum</i>	X				
Phainopepla	<i>Phainopepla nitens</i>	X				
House Finch	<i>Haemorhous mexicanus</i>		X	X	X	
Spotted Towhee	<i>Pipilo maculatus</i>	X	X	X	X	
California Towhee	<i>Melospiza crissalis</i>		X	X		
Song Sparrow	<i>Melodia melospiza</i>	X				
Bullock's Oriole	<i>Icterus bullockii</i>		X			
Black-headed Grosbeak	<i>Pheucticus melanocephalus</i>	X	X			
Blue Grosbeak	<i>Passerina caerulea</i>			X		
Herpetofauna Species						
San Diegan Whiptail	<i>Aspidoscelis tigris stejnegeri</i>	X				SSC
Western Fence Lizard	<i>Sceloporus occidentalis</i>	X	X			

Table 5 continued						
Common Name	Scientific Name	7/1/14 to 6/30/15	7/1/15 to 6/30/16	7/1/16 to 6/30/17	7/1/17 to 6/30/18	Special Status
Herpetofauna Species						
Side-blotched Lizard	<i>Uta stansburiana</i>	X				
Southern Pacific Rattlesnake	<i>Crotalus oreganus helleri</i>	X				

FE = Federal endangered

FT = Federal threatened

SE = State endangered

ST = State threatened

SSC = State species of concern

FP = State fully protected

E = non-native species

EVALUATION OF IMPACTS TO WILDLIFE RESOURCES

Impacts to wildlife resources have been minimal. Annual bioassessments show a variety of avian species using the project site. Continued treatments will be required to maintain control over non-native plants.

FACTORS THAT MAY POTENTIALLY INCREASE ADVERSE IMPACTS

Some herbicide treatments are conducted during bird breeding months, which have the potential to adversely impact nesting birds. These impacts are avoided by having a qualified biological monitor on site to identify nesting birds and flag areas to be avoided.

PROJECT PHOTO DOCUMENTATION

Table 6: Wolfskill 1.47 GPS Photo Points		
Photo Point	Bearing (°)	Coordinates (UTM)
1	12° N	498059, 3747665
2	335° NW	498084, 3747648
3	242° SW	498154, 3747822
4	153° SE	498106, 3747861

PHOTO POINT #1, TAKEN 1/13/15 (LEFT) AND 6/19/18 (RIGHT).



PHOTO POINT #2, TAKEN 1/13/15 (LEFT) AND 6/19/18 (RIGHT).



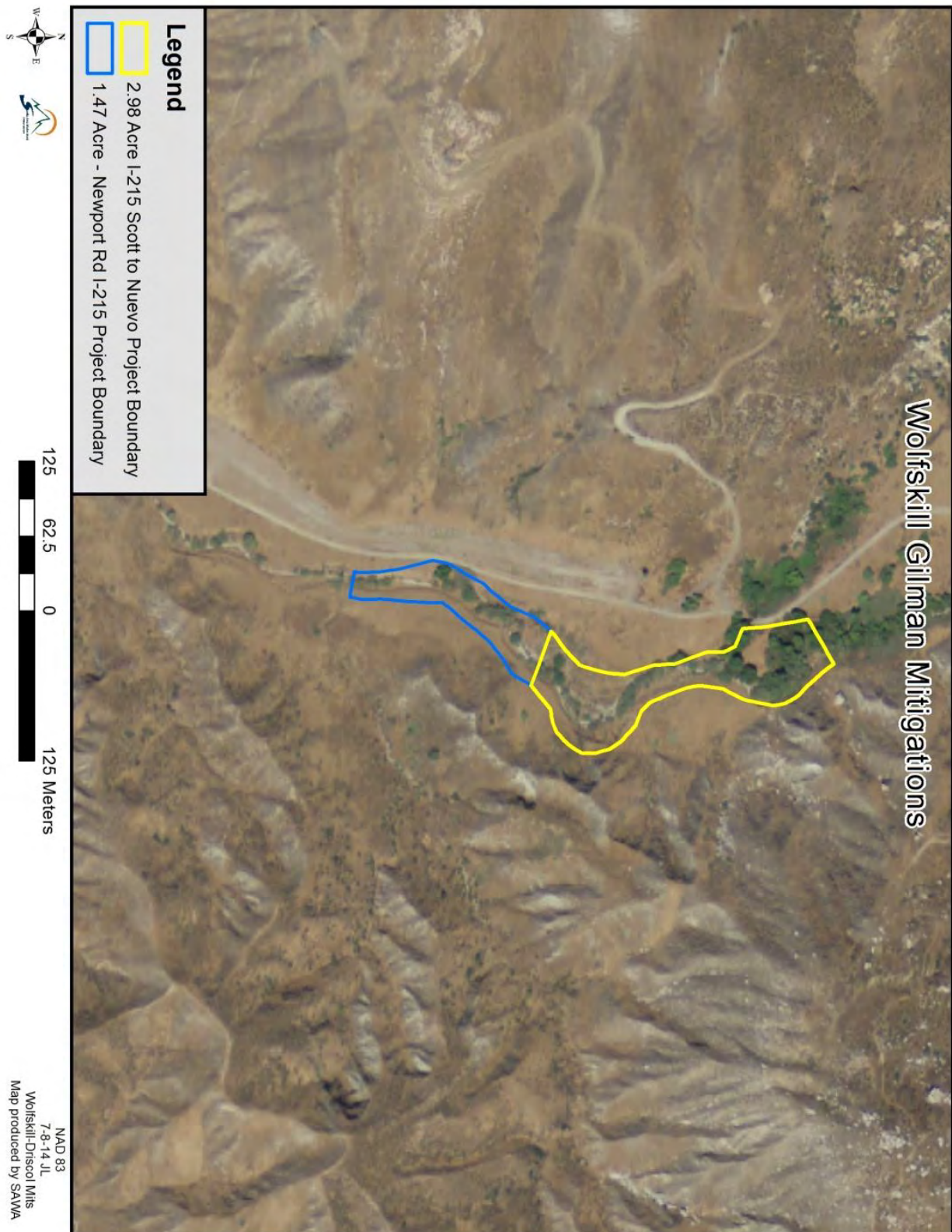
PHOTO POINT #3, TAKEN 1/13/15 (LEFT) AND 6/19/18 (RIGHT).



PHOTO POINT #4, TAKEN 1/13/15 (LEFT) AND 6/19/18 (RIGHT).



PROJECT MAP



APPENDIX A. PERMIT DIRECTORY

CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE (CDFW) PERMITS (in order of permit number)

Permit Number	Permitted Project Name	CDFW Region	SAWA Mitigation Placement Name	Page
1600-2003-5111-R6	Eastvale Storm Drain	R6	SAR I-215 Interchange to Rialto Channel	90
1600-2003-5167-R5	SR-22 HOV Lane Project	R5	Santiago Creek Phase II	32
1600-2004-0009-R6 (Op Law)	Crafton Hills Repair Project	R6	Quail Run Phase II	60
1600-2004-0060-R5	Southern California Regional Rail Bridge Project	R5	Irvine Park	21
1600-2004-0116-R6 (Op Law)	TTM 31955 and Foothill Parkway Extension, Corona	R6	Hwy 71 Eucalyptus	49
1600-2004-0145-R6 (Op Law)	Quincy Channel Hydro-modification	R6	Mockingbird Canyon MCB	55
1600-2004-0187-R6	May Ranch Phase 6 Residential Development Project	R5	Santiago Creek Phase II	32
1600-2004-0256-R5	Caliber Motors Satellite Sales Facility	R5	Irvine Park	21
1600-2005-0039-R6	Construction of Five Storm Drain Outlet Structures in Salt Creek for Tract #30808	R6	Temescal Wash Phase V	109
1600-2005-0092-R6 (Op Law)	TT 32997, Century American Development	R6	Hwy 71 Eucalyptus	49
1600-2005-0284-R5	Mountain Park Development Project	R5	Santiago Creek Phase I	27
1600-2005-0309-R5	Friends Christian High School Project	R6	SAR I-210 to I-10/I-215 Interchange	84
1600-2005-0386-R5	Boy Scouts of America Outdoor Education Camp	R5	Santiago Creek Phase II	32
1600-2006-0175-R6	Santa Ana River Trail Phase 1	R6	SAR I-215 Interchange to Rialto Channel	90
1600-2006-0189-R6 (Op Law)	Repair of Calnev Pipeline east of I-15	R6	Cal-Nev Pipeline	41
1600-2007-0003-R5	Santiago Canyon Creek Recharge Enhancement Project	R5	Irvine Park	21
1600-2007-0039-R6	Crafton Hills College Master Plan Phase I	R6	SBVCD - San Bernardino	75
1600-2007-0073-R6	Van Buren Bridge Replacement Project	R6	SAR I-215 Interchange to Rialto Channel	90
1600-2007-0075-R6 (Op Law)	Swarthout Canyon Road Washout Repair	R6	Cal-Nev Pipeline	41
1600-2007-0105-R6 (Op Law)	Deadman Junction Pipeline Washout Repair	R6	Cal-Nev Pipeline	41
1600-2007-0106-R6 (Op Law)	Hawarden Development Project	R6	Mockingbird Canyon MCB	55

CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE (CDFW) PERMITS (in order of permit number)

Permit Number	Permitted Project Name	CDFW Region	SAWA Mitigation Placement Name	Page
1600-2007-0213-R6 (Op Law)	Walgreen's Project	R6	Sunnyslope	97
1600-2008-0096-R6	Kitching Street Improvements Project	R6	Mockingbird Canyon MCB	55
1600-2008-0104-R6	JCSD Plant 1 100-year Flood Protection Project	R6	Habitat for Hamner	43
1600-2008-0105-R6	Agua Mansa Commerce Center Project	R6	Mockingbird Canyon MCB	55
1600-2008-0138-R6	SR-91 Eastbound Lane Addition Between SR-241 and SR-71 Project	R6	Wolfskill-Gilman	113
1600-2008-0314-R5 (Op Law)	Fullerton Layover Facility Project	R5	Irvine Lake	12
1600-2008-0420-R5 (Op Law)	Santiago Creek Bike Trail - Tustin Branch Trail	R5	Irvine Lake	12
1600-2009-0020-R5 (Op Law)	North Diemer Access Road Project	R5	Carbon Canyon AERA	9
1600-2009-0043-R6 (Rev. 1)	Centerpointe Business Park Project	R6	Centerpointe	42
1600-2009-0060-R6 (Op Law)	Ironwood Avenue Road Widening Project	R6	Wolfskill-Gilman	113
1600-2009-0115-R6	Ironwood Avenue and Indian Avenue Detention Basin Improvements Project	R6	Wolfskill-Gilman	113
1600-2009-0138-R6	Florida Promenade Specific Plan Amendment	R6	Quail Run Phase II	60
1600-2010-0089-R6 (Op Law)	Bundy Canyon Plaza Project	R6	Quail Run Phase II	60
1600-2010-0149-R6 (Op Law)	Temescal Canyon Business Park	R6	Temescal Wash Phase V	109
1600-2011-0007-R6 (Op Law)	Line Section-51 Pipeline Erosion Repair Project	R6	Quail Run Phase II	60
1600-2011-0165-R6 (Op Law)	North Norco Channel Flood Control Improvements Project	R6	Sunnyslope	97
1600-2012-0024-R6	I-215 Widening from Scott Road to Nuevo Road Project	R6	Wolfskill-Gilman	113
1600-2012-0210-R6 (Op Law)	I-215/Newport Road Interchange Improvement Project	R6	Wolfskill 1.47-A	122
5-028-00	Yorba Linda Heights Project	R5	Irvine Park	21
6-008-98	Forecast Homes	R6	SAR I-215 Interchange to Rialto Channel	90
6-2002-039	Murrieta Hot Springs Road Development	R6	Hwy 71 Eucalyptus	49
6-2002-283	GFR Enterprises	R6	SAR I-215 Interchange to Rialto Channel	90
CDFW Notification	Specific Plan No. 301 and EIR No. 423	R6	SAR I-215 Interchange to Rialto Channel	90

CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE (CDFW) PERMITS (in order of permit number)

Permit Number	Permitted Project Name	CDFW Region	SAWA Mitigation Placement Name	Page
CDFW Op Law	Rober D. Diemer Filtration Plant Emergency Spillway Vegetation Clearing Project	R5	Irvine Park	21

U.S. ARMY CORPS OF ENGINEERS (USACE) PERMITS (in order of permit number)

Permit Number	Permitted Project Name	CDFW Region	SAWA Mitigation Placement Name	Page
199915117-YJC	Saddleback Meadows	R5	Irvine Park	21
200000736-YJC	Yorba Linda Heights Project	R5	Irvine Park	21
2002-00505-DPS	Mountain Park Development Project	R5	Santiago Creek Phase I	27
200300194-YJC	Frank R. Bowerman Landfill	R5	Irvine Park	21
200300640-WJC	May Ranch Phase 6 Residential Development Project	R5	Santiago Creek Phase II	32
200300727-DPS	Garbani Property Residential Development	R6	SAR I-215 Interchange to Rialto Channel	90
200301268-YJC	Boy Scouts of America Outdoor Education Camp	R5	Santiago Creek Phase II	32
200301477-DLC	Tract 30662	R6	SAR I-215 Interchange to Rialto Channel	90
200301492-JPL	Lemnar Homes	R6	SAR I-215 Interchange to Rialto Channel	90
200400654-GS	Crafton Hills Repair Project	R6	Quail Run Phase II	60
200401-500-SMJ	Storm Drain Improvements at Corydon St and Melinda Ln, Lake Elsinore	R6	Temescal Wash Phase V	109
200401866-CLM	TTM 31955 and Foothill Parkway Extension, Corona	R6	Hwy 71 Eucalyptus	49
200500154-JPL	Caliber Motors Satellite Sales Facility	R5	Irvine Park	21
200500862-SJH	Rider Street Improvements Project	R6	SAR I-215 Interchange to Rialto Channel	90
200500907-DPS	Eastgate Business Center Storm Drain	R6	SAR I-215 Interchange to Rialto Channel	90
2005-00978-DPS	Construction of Five Storm Drain Outlet Structures in Salt Creek for Tract #30808	R6	Temescal Wash Phase V	109
200501187-DPS	Tequesquite Trunk Sewer Protection Project	R6	SAR I-215 Interchange to Rialto Channel	90
2005-01214-CLM	Friends Christian High School Project	R6	SAR I-210 to I-10/I-215 Interchange	84
2005-01337-SJH	TT 32997, Century American Development	R6	Hwy 71 Eucalyptus	49

U.S. ARMY CORPS OF ENGINEERS (USACE) PERMITS (in order of permit number)

Permit Number	Permitted Project Name	CDFW Region	SAWA Mitigation Placement Name	Page
200501536-SJH	Ethanac Road Shopping Center (Perris Crossing)	R6	SAR I-215 Interchange to Rialto Channel	90
200600313-CLM	Pulte Homes Residential Development	R6	SAR I-215 Interchange to Rialto Channel	90
2006-00825-SHJ	WL Homes Tracts 28886 and 28886-1	R6	SAR I-215 Interchange to Rialto Channel	90
2006-01249-SJH	I-215 Improvements Project	R6	SAR I-215 Interchange to Rialto Channel	90
200601563-SLT	Repair of Calnev Pipeline east of I-15	R6	Cal-Nev Pipeline	41
200601732-JPL	Santa Ana River Trail Phase 1	R6	SAR I-215 Interchange to Rialto Channel	90
2006-01866	Union Pacific Railroad Company Track Improvement Project	R5	Irvine Lake	14
20061265-JPL	Iowa Street Medical Condo Project	R6	SAR I-215 Interchange to Rialto Channel	90
2007-00549-JPL	Van Buren Bridge Replacement Project	R6	SAR I-215 Interchange to Rialto Channel	90
2007-01258	Swarthout Canyon Road Washout Repair	R6	Cal-Nev Pipeline	41
2007-1288	Deadman Junction Pipeline Washout Repair	R6	Cal-Nev Pipeline	41
2007-379-SLP	Crafton Hills College Master Plan Phase I	R6	SBVCD - San Bernardino	75
2007-76-Y	Santiago Canyon Creek Recharge Enhancement Project	R5	Irvine Park	21
2008-312-SLP	Burlington Northern Santa Fe Railway, mile post 64.11X, Devore	R6	Hwy 71 Eucalyptus	49
206-01404-JPL	Proposed Tract 32996, Lake Elsinore	R6	SAR I-215 Interchange to Rialto Channel	90
30-2005-32-DGW	Del Rio Project	R5	Santiago Creek Phase II	32
SPL-2004-899-WJC	First Street and Potrero Avenue Roadway Improvement Project	R6	Quail Run Phase II	60
SPL-2006-01928-JPL	Centerpointe Business Park Project	R6	Centerpointe	42
SPL-2007-00128-SLP	Alabama Street Arch Culvert Construction Project	R6	Quail Run Phase II	60
SPL-2007-00374-JPL	Hawarden Development Project	R6	Mockingbird Canyon MCB	55
SPL-2007-01094-FBV	Stagecoach Park Project	R6	Quail Run Phase II	60
SPL-2008-00242	Walgreen's Project	R6	Sunnyslope	97
SPL-2008-00254-YLC	San Sevaive Villas Affordable Housing Project	R6	Mockingbird Canyon MCB	55

U.S. ARMY CORPS OF ENGINEERS (USACE) PERMITS (in order of permit number)

Permit Number	Permitted Project Name	CDFW Region	SAWA Mitigation Placement Name	Page
SPL-2008-00358-FBV	Sycamore Creek Area Project	R6	Sunnyslope	97
SPL-2008-00785-JEM	JCSD Plant 1 100-year Flood Protection Project	R6	Habitat for Hamner	43
SPL-2008-00814-SLP	Agua Mansa Commerce Center Project	R6	Mockingbird Canyon MCB	55
SPL-2008-01063-JPL	Fullerton Layover Facility Project	R5	Irvine Lake	14
SPL-2008-01145-MAS	Santiago Creek Bike Trail - Tustin Branch Trail	R5	Irvine Lake	14
SPL-2008-0923	Kitching Street Improvements Project	R6	Mockingbird Canyon MCB	55
SPL-2009-00139-VCC	I-215 West Perimeter Drainage Improvement Project	R6	Quail Run Phase II	60
SPL-2009-00292-JPL	North Diemer Access Road Project	R5	Carbon Canyon AERA	9
SPL-2009-00674-JPL	Olinda Alpha Landfill Expansion	R5	Irvine Lake	14
SPL-2009-00750-JPL	Florida Promenade Specific Plan Amendment	R6	Quail Run Phase II	60
SPL-2010-00522-CLD	Temescal Canyon Business Park	R6	Temescal Wash Phase V	109
SPL-2010-00944-SCH	I-215 Widening from Scott Road to Nuevo Road Project	R6	Wolfskill-Gilman	113
SPL-2011-00236	Line Section-51 Pipeline Erosion Repair Project	R6	Quail Run Phase II	60
SPL-2011-00570-SME	North Norco Channel Flood Control Improvements Project	R6	Sunnyslope	97

REGIONAL WATER QUALITY CONTROL BOARD (RWQCB) PERMITS (in order of permit number)

Permit Number	Permitted Project Name	CDFW Region	SAWA Mitigation Placement Name	Page
02C-037	Murrieta Hot Springs Road Development	R6	Hwy 71 Eucalyptus	49
30212-05	I-215 Widening from Scott Road to Nuevo Road Project	R6	Wolfskill-Gilman	113
332007-18	Parcel Map 30626	R6	Temescal Wash 3M 2.8-A	104
33-2007-43	Walgreen's Project	R6	Sunnyslope	97
332010-29	Temescal Canyon Business Park	R6	Temescal Wash Phase V	109
33-2011-07	North Norco Channel Flood Control Improvements Project	R6	Sunnyslope	97
332011-12	Line Section-51 Pipeline Erosion Repair Project	R6	Quail Run Phase II	60
332012-07	TT 32997, Century American Development	R6	Hwy 71 Eucalyptus	49

REGIONAL WATER QUALITY CONTROL BOARD (RWQCB) PERMITS (in order of permit number)

Permit Number	Permitted Project Name	CDFW Region	SAWA Mitigation Placement Name	Page
332012-36	I-215/Newport Road Interchange Improvement Project	R6	Wolfskill 1.47-A	122
36-2004-04-DGW	Crafton Hills Repair Project	R6	Quail Run Phase II	60
362006-26-APF	Santa Ana River Trail Phase 1	R6	SAR I-215 Interchange to Rialto Channel	90
Certificate 1/24/06	Boy Scouts of America Outdoor Education Camp	R5	Santiago Creek Phase II	32
Certificate 11/3/09	Sycamore Creek Area Project	R6	Sunnyslope	97
Certificate 11/7/06	WL Homes Tracts 28886 and 28886-1	R6	SAR I-215 Interchange to Rialto Channel	90
Certificate 12/20/05	Mountain Park Development Project	R5	Santiago Creek Phase I	27
Certificate 12/4/07	Hawarden Development Project	R6	Mockingbird Canyon MCB	55
Certificate 2/27/09	Santiago Creek Bike Trail - Tustin Branch Trail	R5	Irvine Lake	14
Certificate 5/20/05	Raceway Ford Project	R6	Raceway Ford	67
Certificate 7/22/09	Union Pacific Railroad Company Track Improvement Project	R5	Irvine Lake	14
Certificate 8/13/07	Crafton Hills College Master Plan Phase I	R6	SBVCD - San Bernardino	75
Certificate 8/24/04	Storm Drain Improvements at Corydon St and Melinda Ln, Lake Elsinore	R6	Temescal Wash Phase V	109
Certificate 8/24/05	May Ranch Phase 6 Residential Development Project	R5	Santiago Creek Phase II	32
Certificate 9/17/09	North Diemer Access Road Project	R5	Carbon Canyon AERA	9
Certificate 9/25/07	Santiago Canyon Creek Recharge Enhancement Project	R5	Irvine Park	21
R8-2009-0047	Olinda Alpha Landfill Expansion	R5	Irvine Lake	14
R8-2010-054	Florida Promenade Specific Plan Amendment	R6	Quail Run Phase II	60
RWQCB Certificate	Caliber Motors Satellite Sales Facility	R5	Irvine Park	21
RWQCB Certificate	Cougar Ranch Development Tract 30388	R6	SAR I-215 Interchange to Rialto Channel	90