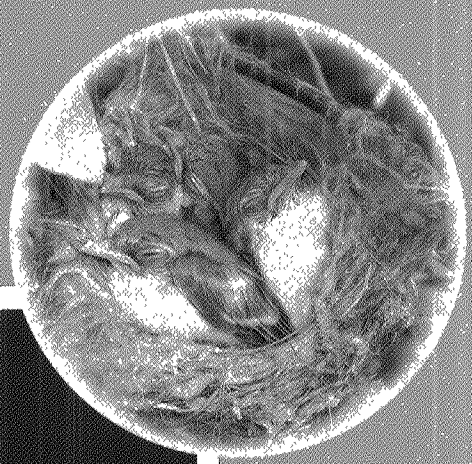
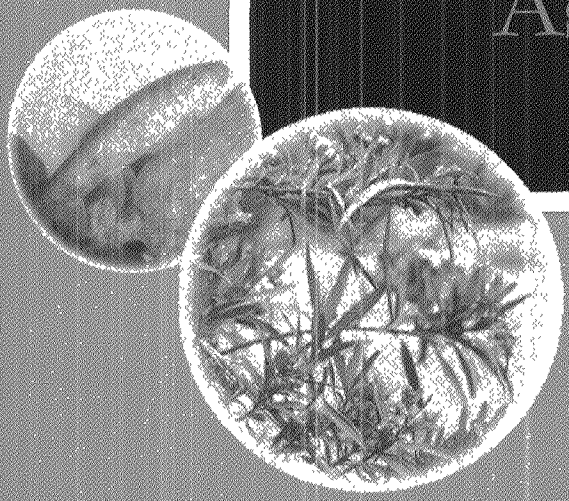
2005 Annual Report



Santa Ana Watershed Association



Introduction

The Santa Ana Watershed Association (SAWA) and partners are dedicated to the promotion of a healthy Santa Ana River Watershed for wildlife and people. SAWA is an action-oriented organization that accomplishes on the ground environmental management projects, working collaboratively with a multitude of other agencies, organizations, and private citizens. SAWA implements facets of the Santa Ana River Watershed Program, annually restoring the natural functions and resources of the river.

SAWA is comprised of the three Resource Conservation Districts, a special district and one Federal Agency that are Inland Empire Resource Conservation District (IERCD), San Jacinto Basin Resource Conservation District (SJBRCD), Riverside-Corona Resource Conservation District (RCRCD), Orange County Water District (OCWD), and the U. S. Army Corps of Engineers (USACE). In June of 2005, Inland Empire West RCD and East Valley RCD merged to form Inland Empire Resource Conservation District. Notably the U. S. Fish & Wildlife Service (USF&WS), California Department of Fish and Game (CDFG), and Regional Water Quality Control Board (RWQCB) are collaborating agencies. SAWA was founded in 1996 to implement the Watershed Program more efficiently. The formal beginning of the Watershed Program was in 1995, with the signing of a landmark agreement between the OCWD, USACE, and the U. S. Department of Interior for the USF&WS. This agreement allowed the OCWD to conserve water benind 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. Mitigation was required to offset inundation of habitat in the Prado Basin due to water conservation. Two of the major federal regulatory agencies were convinced enough of the river's degradation to break away from decades of traditional mitigation that historically dictated that impact compensation was to occur within or very near the project area. Orange County Water District has contributed $1 million to a fund that was the beginning of today's efforts to restore the function of the Santa Ana River.

The Watershed Program is staffed by the partnering agencies. Monthly meetings are held to discuss project plans and accomplishments. Project goals are specified in multiple-year and annual work plans that are compiled by SAWA with input from the other partners, but principally the USF&WS and OCWD. The annual work plans are reviewed by the various partnering agency boards and the regulatory agencies for their input and eventual endorsement. Changes and additions are made through staff-generated amendments. The work items, and components of the plans are largely dictated by responsibilities inherited with the funding and the long-term commitment for follow-up. Annual achievements and audits of expenditures are reported upon each year. In addition, the partnering agencies and regulators are annually toured through the watershed. Photographic documentation of work progress is collected in each project area and there are regular site visits by each RCD, OCWD, and regulatory agency representatives. The local RCD is usually responsible for contract and contractor oversight.

By early March 2003, SAWA became a 501(c) (3) nonprofit organization, and changed from fiscal year to calendar year. This annual report reflects the 12-month period from January 1, 2005 to December 31, 2005.

One of the main goals of the SAWA is to reduce the threat of invasive species on native habitat and river system function. SAWA projects are designed and board approved in an annual Workplan. The plan is implemented with a focus on long-term maintenance and enhancement of river system function, while implementing whole watershed health. The work plan develops projects that further these goals.

Work accomplished on the ground through SAWA is done by SAWA staff and the partnering agencies. The invasive species removal to date was accomplished by the individual RCDs within their geographic spheres of influence (Map 1).

As of December 31, 2005, SAWA has removed approximately 2,980 acres of invasive species within the watershed. The table below depicts the removal efforts conducted by each resource conservation district.

Acres Removed	
Inland Empire RCD (formerly East Valley RCD)	1,280
Riverside-Corona RCD	1,375
San Jacinto Basin RCD	325
Total Acres Removed To Date	2,980

Mission Statement

The Santa Ana Watershed Association will develop, coordinate and implement natural resource programs, which support a sustainable ecosystem and social benefits from the San Bernardino Mountains to the Pacific Ocean.

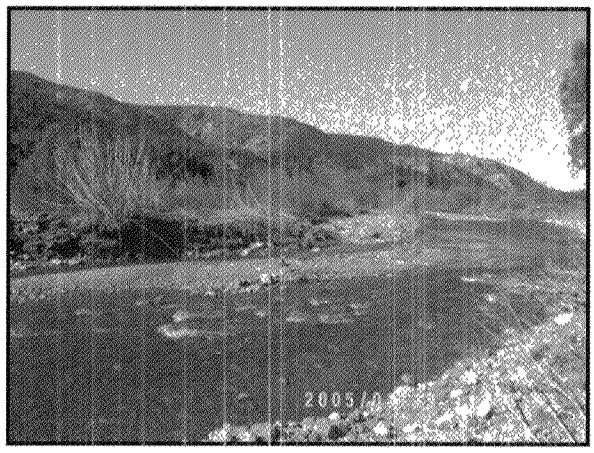
Goals

SAWA's umbrella goals for fiscal year 2005 were to:

1. Provide leadership in cooperation with other agencies, organizations, and private citizens to invest the watershed constituency in stewardship of their natural resources.

2. Assist in the development, implementation, and monitoring of effective processes to improve watershed quality and protect beneficial uses of soil, water, biological, and other natural resources of the Santa Ana River Watershed including, but not limited to:

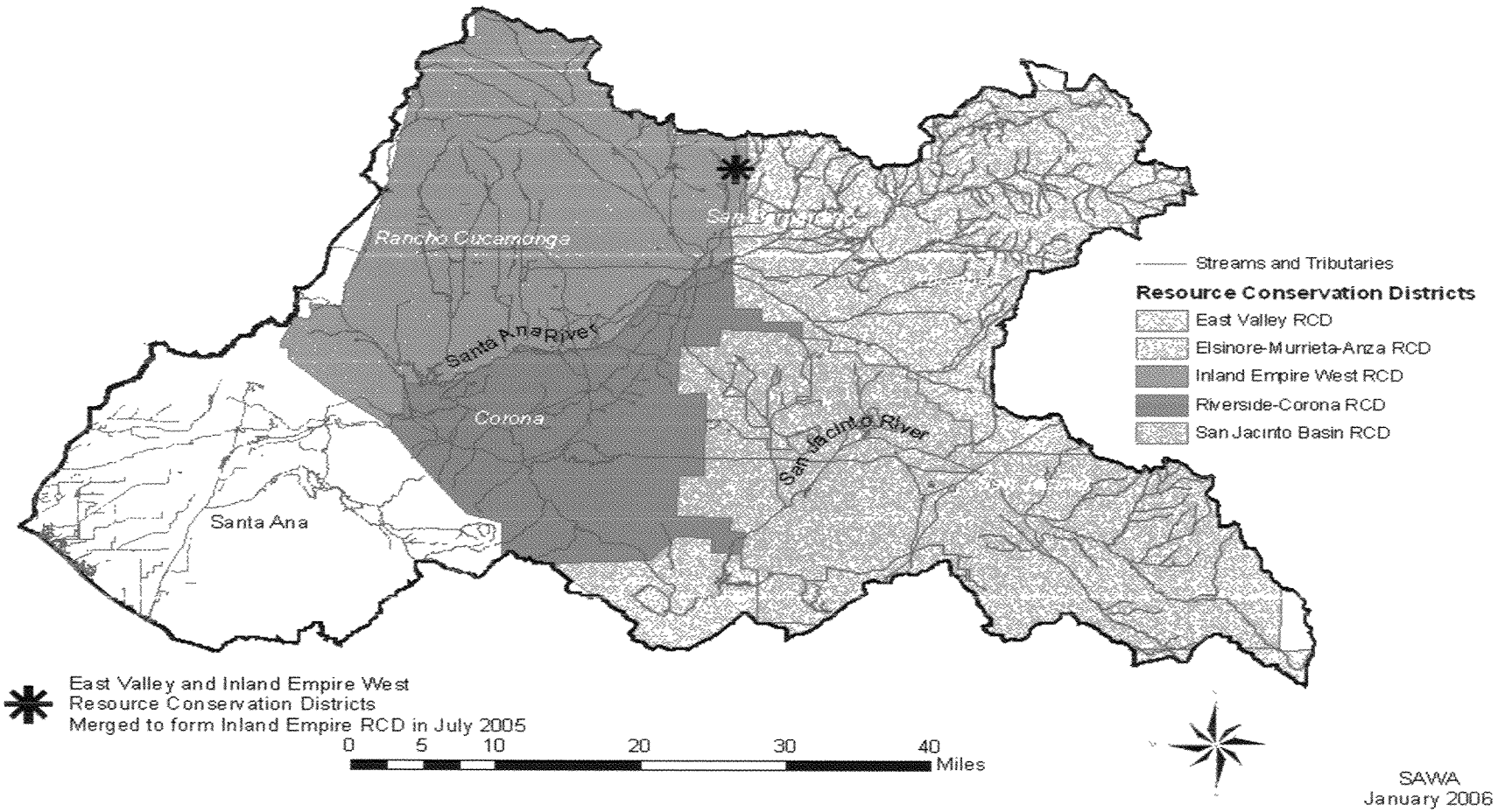
    - Habitat Restoration
    - Biological Monitoring
    - Invasive Plant Management
    - Management of Endangered Species



Santiago Creek, Orange County

3. Provide dependable and accessible scientific information to support decisions for further management actions.

Santa Ana Watershed Association
RCD Boundaries

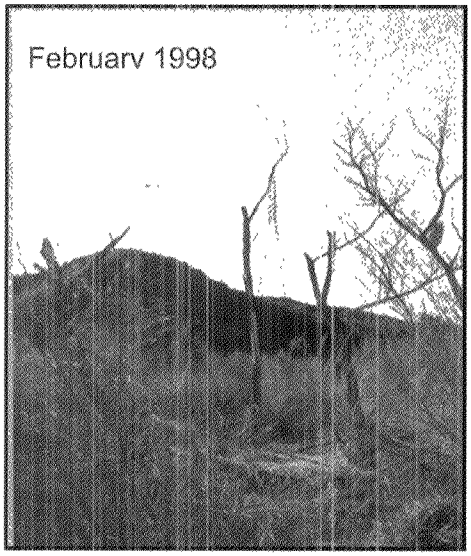


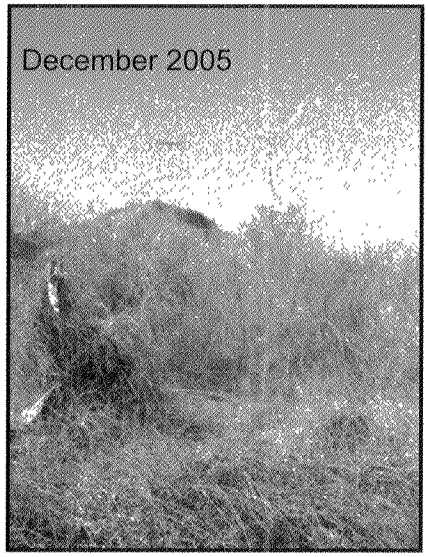
East Valley Resource Conservation District *

San Timoteo Creek --San Bernardino and Riverside County

San Timoteo Creek is 14 miles long and begins in Beaumont, which is located in Riverside County. The creek runs through the city of Redlands and Loma Linda where it converges with the Santa Ana River in San Bernardino. The invasive species removal project was unique due to the characteristics of the creek. The creek runs through many parcels of private property. Access was also difficult due to the steep banks of the creek and endangered species territories such as the least Bell's vireo.

The arundo removal for San Timoteo Creek began in 1997, and concluded in 2001, with 100% biomass removal. East Valley Resource Conservation District continues to monitor this 239-acre removal project located in the San Timoteo Watershed, a sub-watershed of the Santa Ana River Watershed. The initial monitoring and treatment took place on a monthly basis with the use of Rodeo® concentrate diluted to a 3% solution. Current monitoring occurs on a quarterly basis, monthly in high precipitation months.





The San Timoteo removal project was accomplished in four phases. The majority of the arundo is gone but there is still re-sprouting in some areas. Our spray contracts are for five years, proven now to be a fairly effective time frame for eradicating the weed. However, to ensure complete eradication, monitoring contracts have been expanded an additional year and they will continue until there is no more re-sprouting.

Phase I and II of San Timoteo Creek begins in the upstream portion of the creek and travels six and a half miles downstream. The two phases have not experienced significant changes this past year. Wild grape continues to take over approximately 50% of the arundo removal area in this portion of the creek (as shown in the photos on previous page). Impacts that have affected this portion of the creek consist of off-road vehicles. In the past, the abundance of native vegetation has helped reduce the off-road vehicle activity.

In 2003, no vireo were found within the Phase I area. In the 2004, calendar year there were two vireos monitored and in 2005, six vireos were noted to be present. The Phase II reach held five least Bell's vireo for the 02-03 fiscal year and increased to thirteen for the 2004 calendar year. The 2005 year consisted of twenty-one vireo.

*In July of 2005, East Valley and Inland Empire West RCD merged to form one district, Inland Empire RCD. This annual report does not reflect the merged district. This will take place in the 2006 annual report

San Timoteo Canyon-Phase III is approximately four miles long within the city of Redlands. The reach continues to show considerable re-growth of native vegetation because of an abundant supply of water from Yucaipa Valley Water District's outfall line into the creek.

Cattle grazing is still occurring in this portion of the creek. The photo to the left shows livestock near the creek in the background. There were twelve vireo territories located in this stretch of the creek for the 2004 calendar year and has decreased to eight in 2005. This may be due to loss of understory habitat from past rain events.

The Phase IV reach of San Timoteo Creek broadens to become the widest stretch of the creek, beginning at Alessandro Road down to Barton Road where channelization begins. Like Phase III, this 3 ½-mile portion of the creek is also involved in significant changes. The U.S. Army Corps of Engineers began construction of flood control levees. In the 2004 calendar year, there were two vireo territories present. In 2005, there were seven present in phase IV of San Timoteo Creek.

The purpose of the Army Corps improvements is to control the sediment generated in San Timoteo Creek and provide 100-year flood conveyance to the existing improved channel. The flood control project area covers the portion of San Timoteo Creek from 400 feet upstream of Barton Road to 4,700 feet upstream of San Timoteo Canyon Road (referred to as Reach 3B). The remaining reaches (Reaches 1, 2, and 3A) have already been constructed.

SAWA is responsible for carrying out the mitigation requirements for the USACE Reach 3B project. Information for the mitigation tasks completed for 2004 are represented in the mitigation portion of this report and also available in a separate annual report.

Natural Restoration of San Timoteo Creek

San Timoteo Creek has had 30 – 60% of the understory and younger trees removed three times now since 1997 by flood flows. The Santa Ana Watershed Association's approach toward habitat restoration and improvement consists of removing invasive species followed by monitoring. The next step is mostly relying on the habitat to rejuvenate naturally without manually re-vegetating the area. Since creeks have a tendency to scour the channel during storm events, as seen below, it often proves counter-productive to re-plant in these sensitive areas. Allowing the creek to naturally restore itself is the most cost effective method of habitat restoration in the flood plain. This sometimes takes longer but it always works, if the weeds are managed and eliminated. Riparian plantings can be very costly to install and maintain particularly if they are higher on the fringe of the floodplain where scour is less likely to wash them out. However, even on the edge of the floodplain, habitat is episodically buried or scoured. San Timoteo Creek has re-grown three times. The re-growth is weed-free because we have removed the invasive plant community.

The above photos depict the success of the natural re-vegetation and scouring method. These photos were taken ¼ mile upstream from Live Oak Canyon Road.

Yucaipa – San Bernardino County

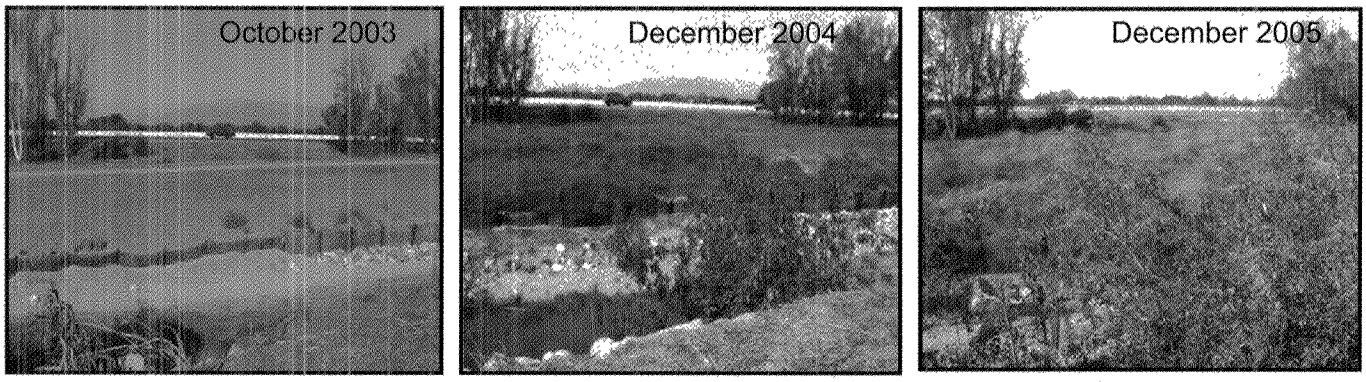
The Yucaipa removal project is within the San Timoteo Creek sub-watershed therefore arundo control was done simultaneously with the San Timoteo Creek project. The Yucaipa removal project is comprised of a dozen drainages located throughout the city. Access was difficult which made the project challenging.

The project was completed in two phases beginning in June 1999. Phase I, totaled 13.5 acres and Phase II, consisted of 7.5 acres. The removal sites have had a >90% success rate. This various removal locations need to be monitored regularly due to the high amount of development in the area. The development has a tendency to contribute to re-sprouts of the invasive plants in new areas. A third removal project will begin in the Yucaipa area in 2006. These areas are sites where landowner approval was not given or arundo was overlooked or not present at the time.

Highway 30 – San Bernardino County

Removal of 22 acres of arundo and 10 acres of tamarisk was completed in July 2001. Arundo was located along a drainage channel parallel to the 30 freeway in the city of Redlands. This drainage channel flows along citrus groves and directly into the Santa Ana River.

In 2003, San Bernardino County Flood Control District conducted erosion control in this area. Vegetation was removed for the construction activities. Since this activity has taken place, tree tobacco has been the dominant species to revegetate the area. Plantings in this particular area may be necessary to promote native species.



Highway 30 arundo removal location

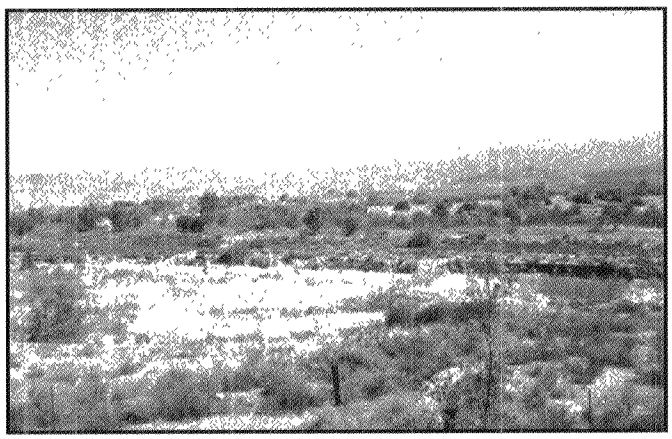
Modjeska Canyon and Santiago Creek – Orange County

Modjeska Canyon is located in Orange County. Since there is no Resource Conservation District representation in Orange County, East Valley RCD assumed the invasive plant removal role for Santiago Creek and its tributaries.

Modjeska Canyon is an upper tributary of Santiago Creek, which flows into the Santa Ana River. The project length was approximately 5 miles. There were approximately 20 acres of arundo from the top of Modjeska Canyon to its confluence with Santiago Creek. The arundo grew on both private and public properties. The upper portion, which is on private property, required hand cutting due to the steep and narrow landscape. Modjeska Canyon flows into Santiago Creek, which becomes broad with isolated arundo patches allowing for machine removal.

The Santiago Creek removal project is 23 miles long from Silverado Canyon to the 55 freeway in the City of Orange and is comprised of approximately 120 acres. The majority of this land is located on Irvine Company property, requiring an additional permit. The upper portion of the tributary is called Silverado Creek. It flows through privately owned parcels in the Silverado Canyon community. The creek is very narrow and steep in some locations with arundo patches that are not as abundant or large as in the downstream locations. The efforts consisted of hand clearing then complete biomass removal offsite from the upstream locations.

A 10-acre area located within the Santiago Oaks Regional Park will be removed in 2006 pending additional funding.



Arundo removal on Santiago Creek at Blackstar Canyon Road

Cherry Valley/San Timoteo subtributaries

Three sub-tributaries of San Timoteo Creek make up the Cherry Valley project area. The Cherry Valley arundo removal area is technically located in the city of Calimesa but accessed from Cherry Valley Boulevard off the 10 freeway. The tributaries flow intermittently into the upstream, southern portion of San Timoteo Creek. The tributaries are approximately 18 miles in length and average an 50 feet wide. These upper tributaries, like the mainstem of San Timoteo Creek, are mostly steep banked, which restricts access in some locations.

Like in many other project areas with intermittent stream flows, the arundo was sporadic throughout the floodplain. The project contained 17 acres of arundo. Landowner approval consisted of a written agreement between East Valley RCD and Oak Valley Partners, a local development company and owner

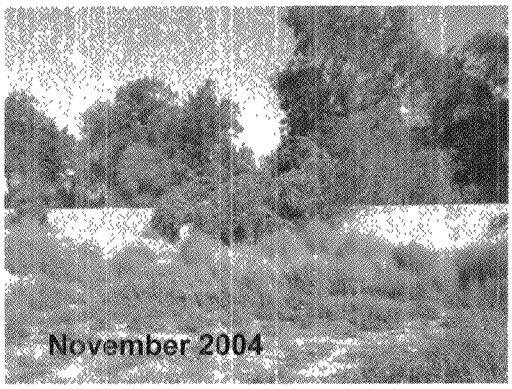
of the project area. The project commenced on July 2003, and was completed within two weeks. Arundo regrowth is <3%. Monitoring and spraying will continue for the next five years.

Santa Ana River Mainstem – San Bernardino County

The upper Santa Ana River project area spans 28 miles of the river and includes tributaries and drainage channels. The tributaries are Mill Creek, City Creek and the Redlands Zanja. The other drainage channels are located in the cities of Redlands, Yucaipa, Highland and San Bernardino.

The project area begins upstream on Mill Creek. This upper area contains small amounts of arundo, which are scattered but easily accessible. As the tributary merges with the Santa Ana River, special care needed to be taken during removal and follow-up treatments due to two endangered species that live in the area. The Santa Ana River Wooley Star (*Eriastrum densifolium sonetorum*) and San Bernardino Kangaroo Rat (*Dipodomys merriamiparuus*) are identified throughout reach IV in the Santa Ana River. Biologists were onsite during all phases of the invasive species control work to ensure no impacts to these listed species occurred.

The Zanja



The project consisted of 86 acres and took 2 months to complete. Obtaining access to private property and concern of the endangered species lengthened the completion time. The mainstem has also experienced significant impacts due to the storm events. The river has been scoured leaving many boulders and sediment in place of vegetation.

Harrison Canyon – San Bernardino County

The Harrison Canyon removal project is located in the northern portion of San Bernardino. The canyon is east of East Twin Creek. The removal project consisted of the removal of seven (7) acres of arundo and less than an acre of castor bean. The canyon is very steep with very few homes. The Old Fire, leaving no vegetation, also affected this area. This gives the opportunity for increased reinfestation of invasives. Monitoring takes place more frequently to ensure only native vegetation presence.

East Twin Creek – San Bernardino County

East Valley RCD began removal of 84 acres of arundo and castor bean in East Twin Creek in August 2002. The entire project was completed by October 2002. The project area is located in the city of San Bernardino. Fifty percent of the arundo was on private property, owned by one landowner. The remaining 50% is on San Bernardino County Flood Control District's right-of-way.

This project area has had extensive climatic events to contribute to the stream conditions. The Arrowhead fire in June 2002 burned 30 of the 84 acres located in the upper portion of the tributary. This reduced the amount of arundo biomass but spray contracts were immediately initiated because arundo thrives after fire events. In October 2003, the Old Fire burned any remaining vegetation in East and West Twin Creek. In late 2003 and 2004, heavy rains caused significant impacts to the watershed as shown in the below and preceding photos. Because of the fire and flood events, it is too early to gage the positive effects of removing the non-native species. We may need to actively plant some native material.

The west fork of the creek had an abundant amount of wild grape before the fire and floods. Native grape is of some concern because it can grow rapidly in newly cleared areas, blanketing and killing desirable trees Arundo control has been very effective (see photos) but monitoring will continue to ensure that re-growth does not consume the creek once again.

Public Outreach

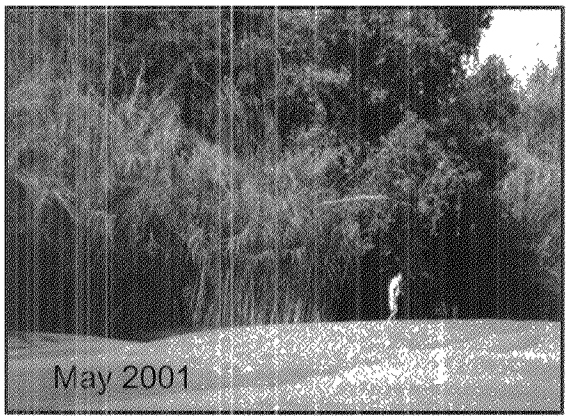
East Valley Resource Conservation District conducts the public outreach portion of the Workplan. The district continued to maintain the SAWA website and produce any literature the organization requested.

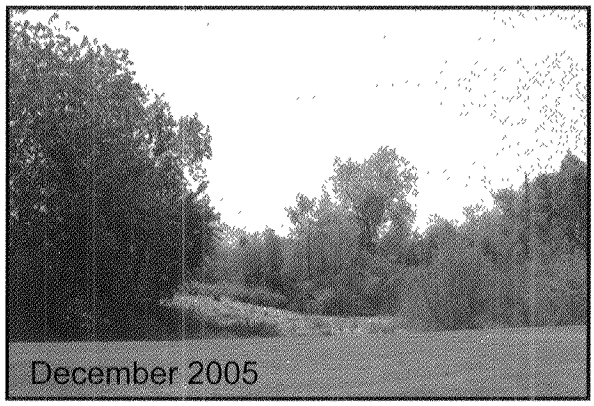
In April 2005, SAWA once again supported the Orange County Water Festival. The festival is a three-day event that educates Orange County students on environment issues such as recycling and biodiversity.

Inland Empire West Resource Conservation District

San Bernardino Golf Course

San Bernardino Golf Course is located on the north side of the Santa Ana River west of Waterman Avenue. Washburn Grove Management completed removal of the arundo biomass in May of 2000. Monitoring and spraying of regrowth will continue for the duration of the 5-year contract or until eradicated.



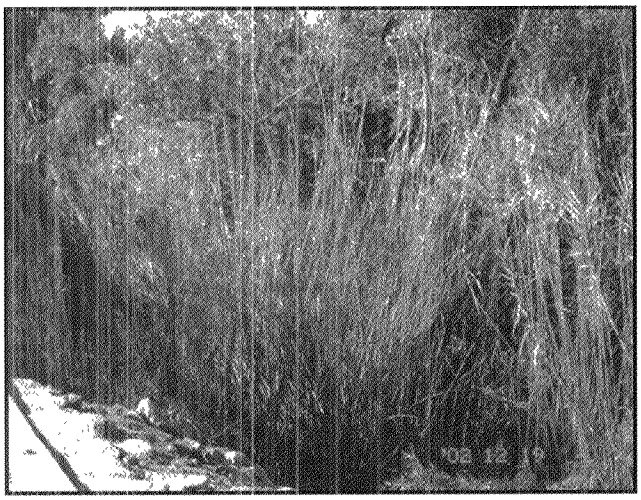


Lytle Creek

Lytle Creek lies at the eastern-most extension of the San Gabriel Mountains. The creek and its tributaries are perennial streams with lush vegetation. The creek runs southeast in the Cajon Pass, south of Hwy 138 and east of I-15, and then continues southward into the San Bernardino City limits. In addition to Lytle Creek, the project site included locations within the Upper Cajon Wash along Riverside Avenue south of I-15. In its entirety, the streambed encompasses 46,000 acres, of which 9 acres contained *Arundo donax*, *Tamarisk* spp. and castor bean. Removal efforts began after the least Bell's vireo nesting season in 2000 and 100% removal of the arundo biomass was accomplished in March 2001. Monitoring and spraying of regrowth with will also continue for the duration of the 5-year contract or until completely eradicated.

Mill and Day Creeks

Mill Creek runs south from the terminus of the concrete-lined Cucamonga Creek Channel west of Hellman Avenue and southwest across Chino-Corona Road. After skirting the east side of the Prado Regional Park, Mill Creek enters the Prado Flood Control Basin at the San Bernardino/Riverside County border. This area was infested with acres of arundo; the dominant native vegetation here should be mule fat scrub. Nature's Image completed removal work in 2004 and Washburn Grove Management is performing the herbicidal spraying and monitoring of regrowth. Day Creek is a concrete waterway that drains into an unlined spillway north of I-15. Approximately 5 acres of arundo have been removed. This project area was included within the Mill Creek contract.



Cajon Pass I/Lost Lake

Once a prehistoric travel way, the Cajon Pass is now a major modern transportation and utility corridor serving all of southern California. The San Andreas Fault is the dominant geologic feature of this site. Lost Lake is the only fault-formed perennial lake along the rift zone. The dominant native vegetation in this area consists of Chaparral, yucca, sage, Yerba Santa, buckwheat, and several riparian plants. The open landscape is punctuated by an immense rock formation known as Mormon Rocks, one of the youngest and most active geological regions in North America.

Washburn Grove Management began eradication efforts on 17 acres of arundo along the banks of Lost Lake in early April of 2000. The removal efforts were arduous due to the dense thickets of the arundo. Hand crews and one large chipper were used to cut and chip the arundo on site. The Monitoring phase began in early June of 2000. Over the last four years, the site is monitored quarterly with spray application when needed.

Cajon Pass II

The Cajon Pass area consists of alluvial sage scrub habitat dominated by native California buckwheat. Isolated patches of arundo occur along several miles of the Cajon Pass road and along the concrete channel. Washburn Grove Management began eradication efforts in May of 2000 and completed them in June of 2000.

Norco Bluff

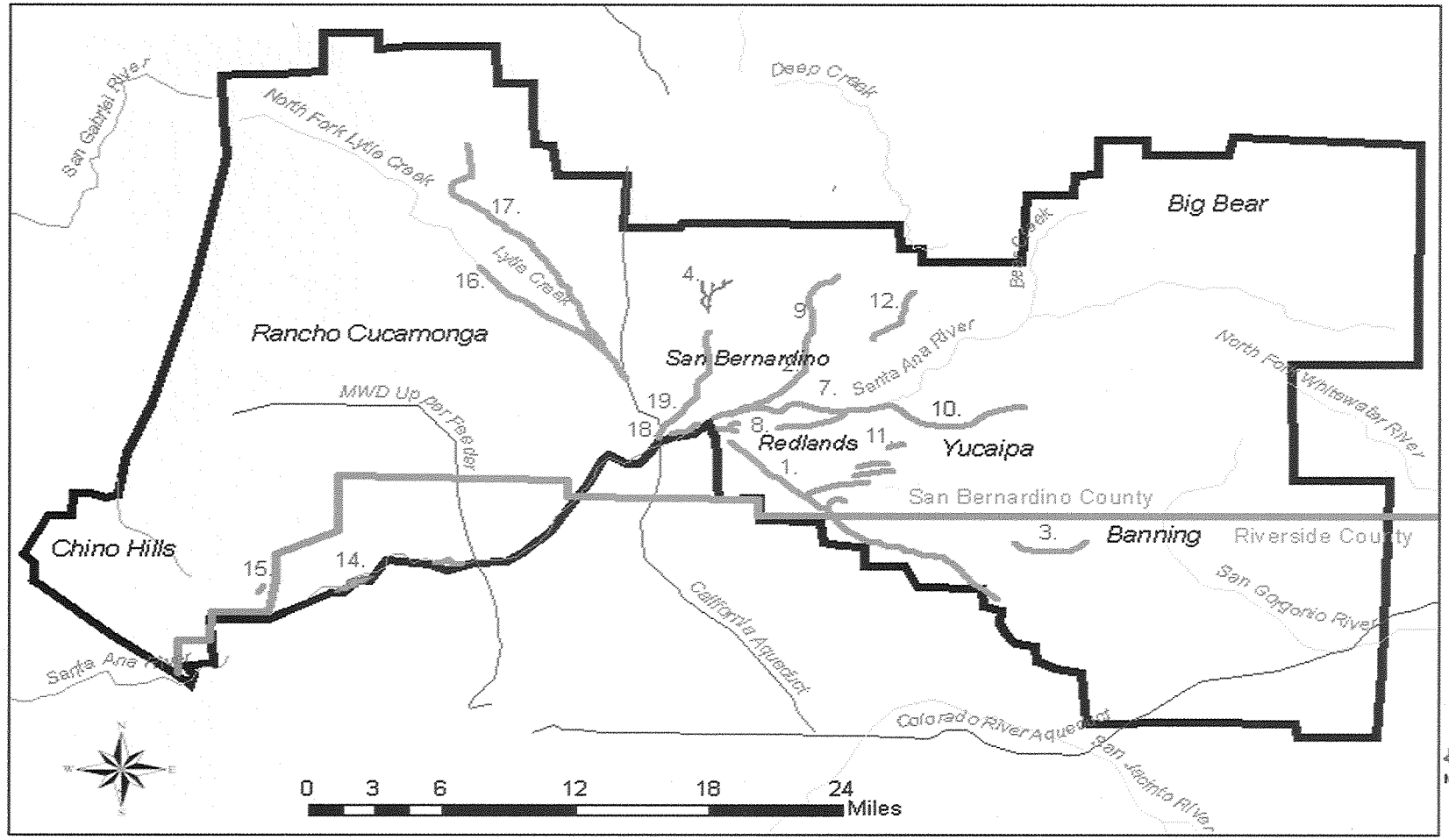
This 300-acre section of the Santa Ana River runs southwest from the Goose Creek Golf Course through adjacent dairy-farm land and ends on the southwest side of the Hamner Avenue Bridge. This area is dominated by arundo and perennial pepper weed with less native vegetation, largely stands of black willow. The Norco Bluff treatment area burned in December of 2002. In order to arrest regrowth of Arundo, an emergency spray contract was awarded in March to Washburn Grove Management. Monitoring and spraying of re-growth with a 3 percent solution of Rodeo® continued for the duration of the 5-year contract and thereafter as needed. The area was extended in January of 2004, labeled "Norco Burn Extension," to include some of the unburned portions resulting in an additional 185 acres of removal and spraying.

East Valley & Inland Empire RCD Expenditures

	2005 SAWA Expenditures	2005 IERCD (Federal Appropriation Expenditures)*	2005 Total Expenditures	1997-2005 Expenditures
San Timoteo Canyon	$ 1,478	$ 43,440	$ 44,918	$ 1,944,581
Yucaipa	1,478	9,364	$ 10,842	91,264
Highway 30	1,478	15,433	$ 16,911	140,454
East Twin Canyon	13,478	12,000	$ 25,478	450,081
Modjeska Canyon	8,978	-	$ 8,978	147,139
Santiago Creek	49,335	-	$ 49,335	498,664
Cherry Valley	4,178	2,700	$ 6,878	82,680
Santa Ana Mainstem	11,472	7,309	$ 18,781	479,008
Harrison	3,758	2,280	$ 6,038	42,436
SB Golf Course	2,328	850	$ 3,178	21,124
Lytle Creek	8,828	5,700	$ 14,528	70,586
Cajon I & II and Lost Lake	10,676	5,520	$ 16,196	41,003
Orange Show	3,428	1,478	$ 4,906	7,320
Mill Creek	23,338	21,858	$ 45,196	99,065
Norco Burn	127,600	67,896	$ 195,496	491,449
	$ 271,831	**$ 195,828**	**$ 467,659**	**$ 4,606,854**

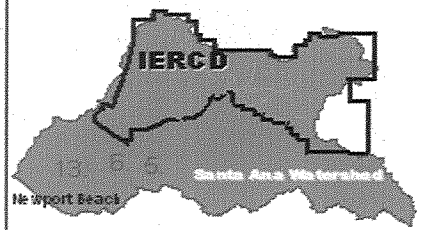
* In 2004, Inland Empire Resource Conservation District received congressional federal appropiations in cooperation with Natural Resource Conservation Service (NRCS) with the purpose of invasive species eradication and watershed protection. These funds sumplemented invasive species removal contracts, which is depicted in the above table.

Inland Empire Resource Conservation District
2005 Removal & Monitoring Locations



	Project	Acreage
1.	San Timoteo Creek	230
2.	Highway 30	30
3.	Cherry Valley	17
4.	East Twin Creek	84
5.	Modjeska Canyon	20
6.	Santiago Creek	120
7.	Santa Ana River	27
8.	Redlands Zanja	15
9.	City Creek	24
10.	Mill Creek	20
11.	Yucaipa	9
12.	Harrison Canyon	7
13.	Santiago Creek III	14
14.	Norco Bum	400
15.	Mill Creek-City of Chino	125
16.	Lytle Creek	9
17.	Cajon/Lost Lake	25
18.	SB Golf Course	9
19.	Warm Creek	3

County Line
Inland Empire RCD
Tributary
Removed Invasive Species



Produced 2.06 SAWA

Riverside-Corona Resource Conservation District

Sycamore Canyon- Riverside County

The seven-acre Sycamore Canyon site has been 100% controlled since 1998 and is now in an annual application and monitoring phase. The site has revegetated naturally in the middle and lower sections of the creek, and a one-acre area site was planted with 200 cuttings of willow and mule fat in the winter of 2000, at the lower end of the canyon. Herbicide applications occur on an annual basis and the remaining treatment areas currently have a 70% canopy cover from native vegetation and an 80% canopy cover in the planted area to date.

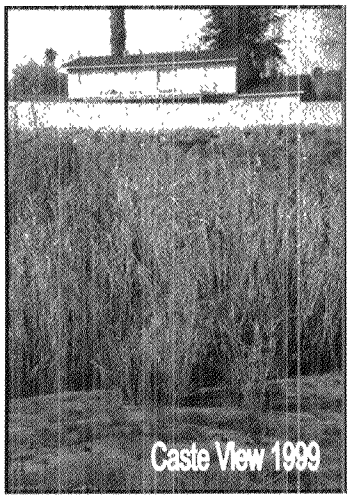
The lower portion of the creek continues to be dry in the later part of the summer so success of the planted vegetation has been limited to around 60%. Due to increased development around this watershed, flow velocity has increased during storms, depositing sediment in the lower portion of the canyon. Tree heights are 10 to 15 feet, and scouring floods should not impact the plantings as much as during the establishment period. The sandy, dry substrate in this lower reach of the creek make it difficult to establish container vegetation, so pole cuttings were planted at 2-5' on center (o.c.) at 2' in depth. Monitoring will be completed in June of 2005. Limited monitoring will be done past this date.

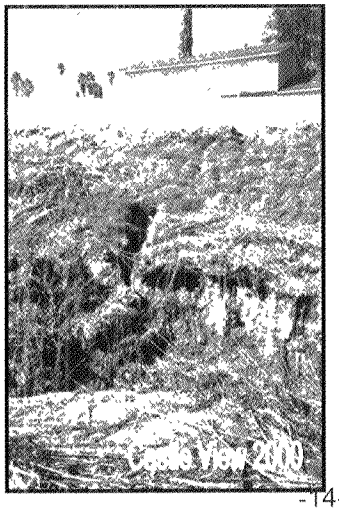
Fairmount Park Wilderness- Riverside County

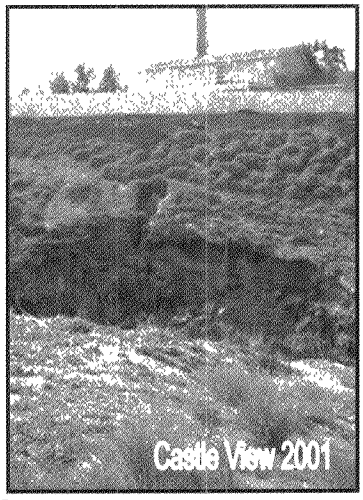
The arundo, castor bean and tamarisk on this seven-acre site were removed in the winter of 1998. The site is monitored and sprayed as needed. This site was planted with 200 oak and willow liners in the spring of 2001, and since then has attained 60 percent willow cover and 30 percent coast live oak cover. The site continues to have high foot traffic impacts to planted vegetation. It is also at the outlet to Evans Lake and receives high velocity runoff during storm events, making restoration difficult along the creek banks. Wild grape has taken over 60 percent of the arundo removal site, with other native plants such as black and red willow, and cottonwood infilling the edges. Total treatment area is nine acres, with a two-acre mitigation. Plant survey for this site over the fifth year has remained at 80 percent. Additional plantings were installed in the inlet channel on the north side of this site in the spring of 2004.

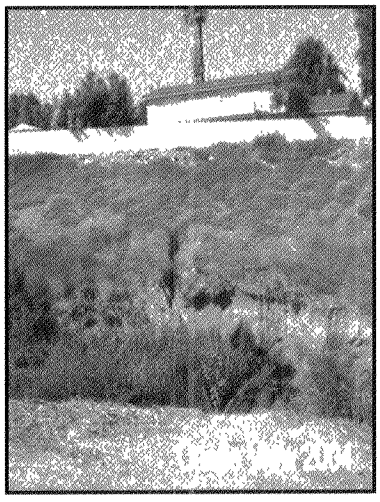
Castle View I -- Riverside County

This two-acre site was cut in the winter of 1999 and is in the herbicide application and monitoring stage. Treatment of the two acres has been highly successful with only one percent Arundo regrowth, which is subsequently treated with glyphosate herbicide as needed.









The main channel has 50 percent native vegetation of mostly black willows from wind-blown seeds. Sub-shrub vegetation consists of stinging nettle, mule fat and some mustard. Native mugwort and brittlebush are also present. No plantings were done at this site due to the presence of perennial water and vigorous native regrowth from surrounding vegetation. High velocity flows from winter rains have caused erosion on west facing banks were native vegetation is still establishing.

Castle View II – Riverside County

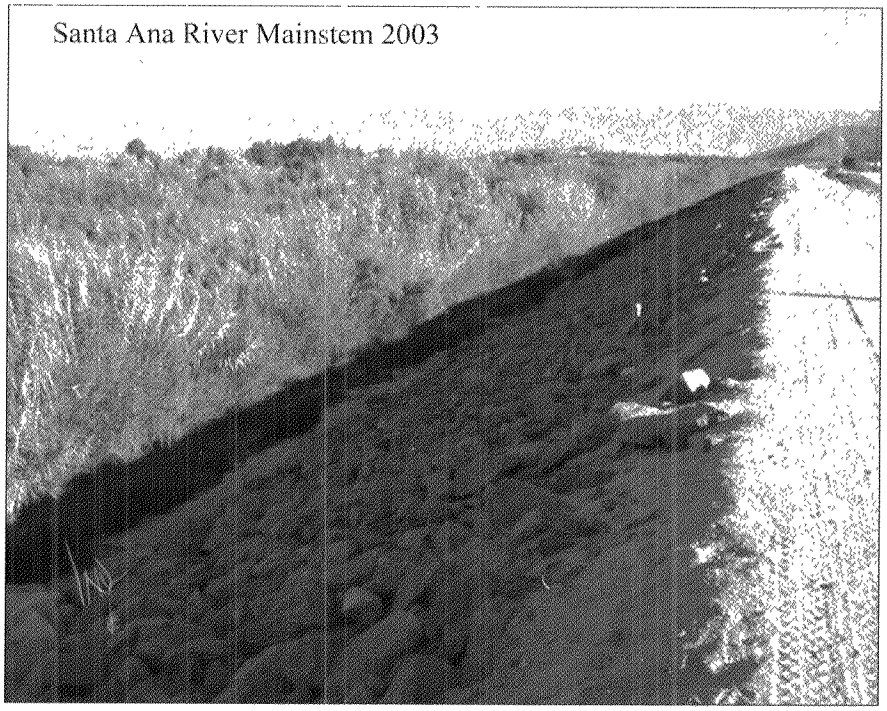
This removal site is the second phase of the Castle View Creek drainage area, which encompasses two miles of urban stream course in the City of Riverside. The arundo on this four-acre site was removed in the fall of 2000, with about two-thirds of the creek infested. Due to the presence of perennial water, regrowth of arundo was rapid and required monthly applications for the first two years.

Success of native vegetation regrowth has been 60 percent to 70 percent and none of the area needed to be artificially planted. Photos show the area below Dolphin Street and the natural succession of vegetation. Some exotics persist but have not been a hindrance to native succession. Current vegetation transects in this area show that herbaceous weeds make up 20 percent of the low ground cover, with 50 percent-60 percent willow and mule fat, and 30 percent open ground. The picture below is Caste View November 2005.

Alessandro Arroyo-Riverside County

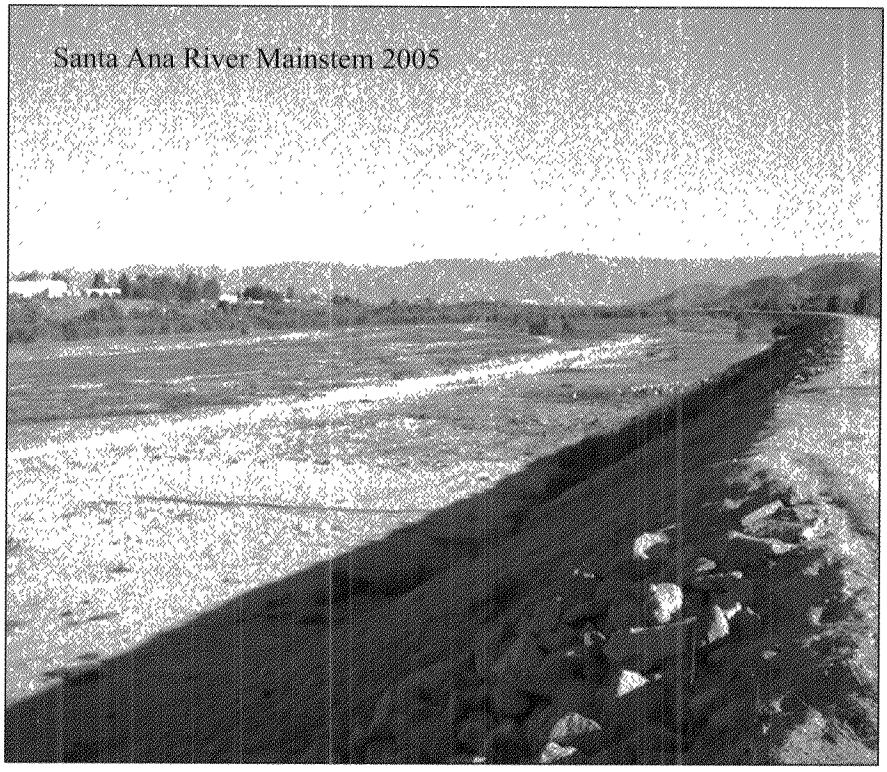
The invasives on this twelve-acre site were removed in the spring of 2000 and are now being treated with glyphosate concentrate as needed. Three acres of habitat were restored along a water district access road in this five square mile drainage in the winter of 1993. There are 60 acres of riparian habitat, 5 percent of which was impacted by arundo.

A removal site of one acre has regrown naturally, with a native canopy of 75 percent at the end of the fourth year. Vegetation transects indicate a plant species ratio of five percent herbaceous weeds, 60 percent black and red willow and 30 percent mule fat, and open space of five percent. Recent flooding has removed about 20 percent of the naturally established vegetation.


Santa Ana River Mainstem 2003

Santa Ana River Main stem/La Cadena Ave. to Mission St. - Riverside County

The La Cadena Avenue to Mission Street arundo removal project targeted 500 acres of arundo and tamarisk on the main stem of the Santa Ana River from its crossing with La Cadena to below Mission Street in the City of Riverside. The arundo was particularly dense along the Rapid Infiltration and Extraction (RIX) Plant outflow on Agua Mansa Road to its confluence with the river.


Santa Ana River Mainstem 2005

Invasive removal in this reach entailed the use of mulching/chipping machines and hand labor. San Bernardino County Flood Control District restricted access to the flood plain with heavy equipment, so chainsaws, brush cutters and other hand tools were used. In the Riverside County portion of this project area, use of mulching equipment that could run on tires (no tracks), greatly facilitated the removal of arundo. Treatment for the control of regrowth on both main stem projects is through the application of glyphosate at appropriate intervals, usually bi-monthly. Existing habitat includes black and red willow as well as scattered clusters of mule fat interspersed with open areas of sand and rock and the occasional cottonwood. The removal portion of this project was completed in 2004. Much of the remaining habitat was

affected by the October and November floods, with some replanting being done at the RIX outflow to improve the Santa Ana Sucker habitat in this area.

Santa Ana River Main stem/Waterman Ave. to La Cadena Ave. - San Bernardino County

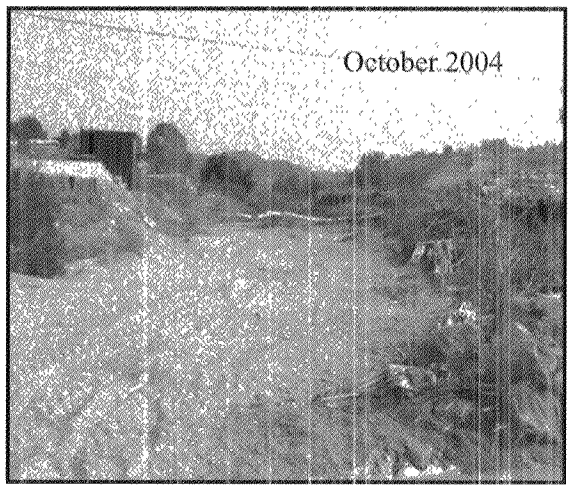
The Waterman Avenue to La Cadena Avenue arundo removal project is in the Santa Ana River main stem, from San Bernardino to Colton. Both cities have boundaries that cross or run parallel to the river and have been affected by flooding and arundo infestations. The Waterman/La Cadena project covers an area of 60 acres of *Arundo donax*, interspersed with areas of southern willow scrub habitat, flood control levees and a water treatment outflow. The sides of the channel have been altered for flood control with riprap and concrete-filled riprap. The bottom of the channel remains earthen and patchy native habitat supports least Bells vireos in the upper section of the project area. The area between Hospitality Drive and Waterman Avenue, looking east, had small patches of arundo removed from this area by hand due to accessibility issues. The biomass was left in place after chipping, and most of this mulch was buried under sand deposited by floodwaters. The lower section of the project area is characterized by a dry, braided streambed and intermittent clumps of arundo and castor bean. All of the invasive plants were removed in the spring of 2003 and are treated with herbicide as needed.

Golden Star Creek - Riverside County

This sixteen-acre removal site was cut in the fall of 2000, by both machine and hand power tools. A one-acre restoration site in the middle of the drainage was planted in the spring of 2003, and has achieved an 80 percent cover. The one-acre revegetation was conducted at the Gopher Gulch road crossing with five-gallon trees and pole cuttings of mule fat. This section of the creek is seen in the photos.

The top left photo, taken in the spring of 2002, shows dead cane washed down after a flood event. Mulefat regrowth was from riparian habitat that was infested with cane, even though the lower portion of the creek goes dry in the summer, relic populations of riparian plants persisted.

The area below this site continues to be altered by landowners to prevent a private drive from washing out. This alteration has led to sediment deposition and a dramatic alteration of the stream hydrology. The activities associated with protecting this private drive have altered the stream channel and contributed to habitat degradation in the drainage with increased sedimentation and stream flows. The drive acts as a drop structure, causing sediment to accumulate and erosion to ensue downstream, contributing to mass wasting and bank failure. Spot treatments of Glysophate are applied as needed.



La Sierra/Woodcrest – San Bernardino County

This 30-acre removal project consists of two locations, the La Sierra creek watershed and an unincorporated area of Woodcrest. Approximately 25 acres of arundo occurred among custom homes and roadways in the Woodcrest area in both the upper Golden Star and Prenda creek drainages. Herbicide applications began in the early winter of 2001, with the use of glyphosate concentrate. The La Sierra creek drainage had five acres of arundo removed in mixed stands with the majority being cut with tractors. All of the cut material was chipped and left in place as mulch to help reduce erosion.

Natural revegetation has been successful at both locations, although wild grape dominance could be an issue in places. A ½ acre area along La Sierra Avenue will be planted after widening of that street occurs in early 2004; a mitigation requirement for the County of Riverside, Transportation Department. Areas around this drainage are currently being converted from open space and agriculture to single family homes. Increased nuisance runoff will increase water in the creek, but at the same time, increased flooding is likely to change the channel hydrology.

Tequesquite Arroyo – Riverside County

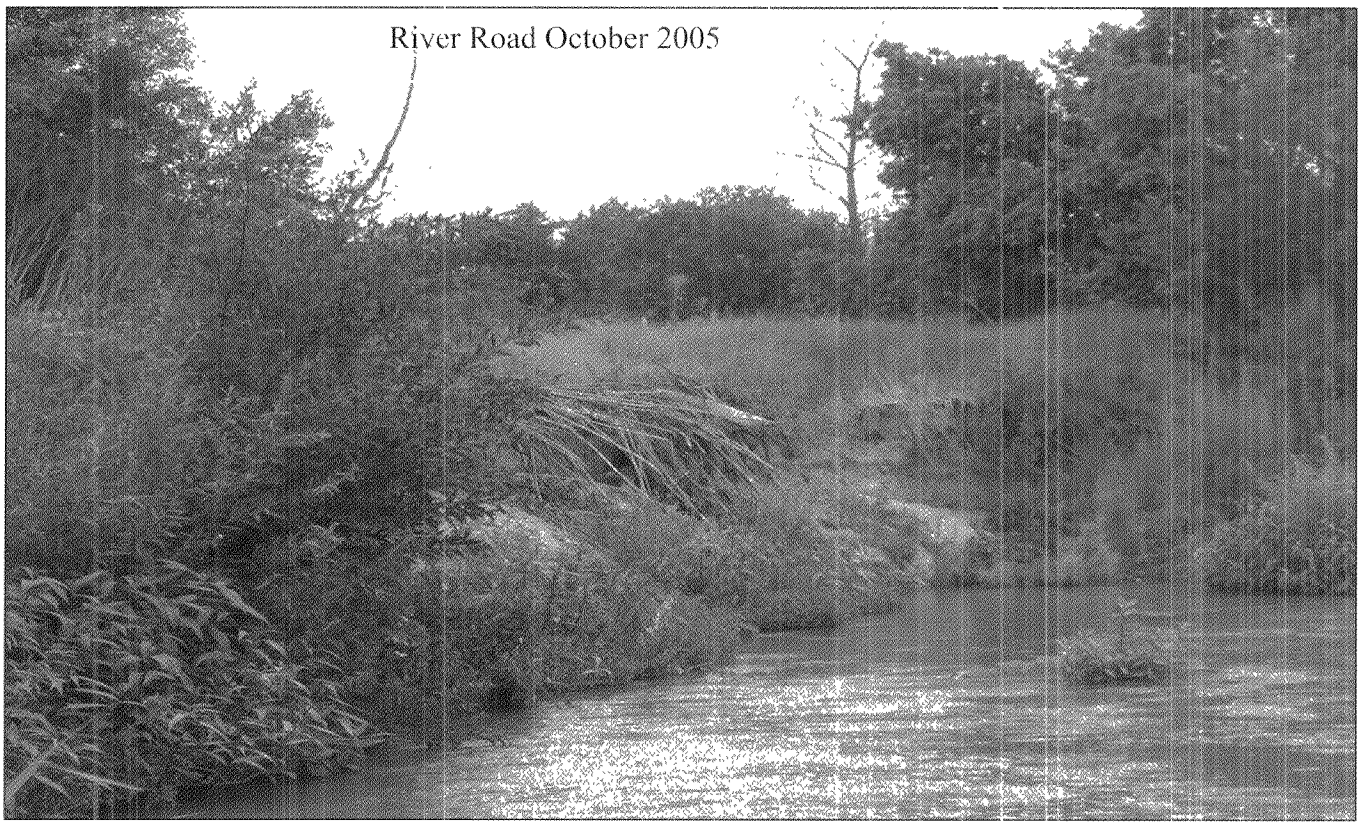
The Tequesquite Arroyo is the northern portion of Sycamore Canyon creek and the Castle View arroyo. The junction of Sycamore and Castle View creeks form the Tequesquite arroyo, which runs through Victoria Golf club, downtown Riverside and eventually into the Santa Ana River. The upper portions of this watershed was impacted by isolated clumps of arundo, castor bean and cotoneaster, all introduced exotics. SAWA removed the invasives in the later spring of 2003 and are now treating and monitoring the site. Approximately 2 acres of arundo and other invasives were removed from the site. Removal was done by hand over the two-week period. There has been 100% control of arundo at the site and spot spraying of castor bean every few months. Removal and treatment have been provided by Washburn Grove Management.

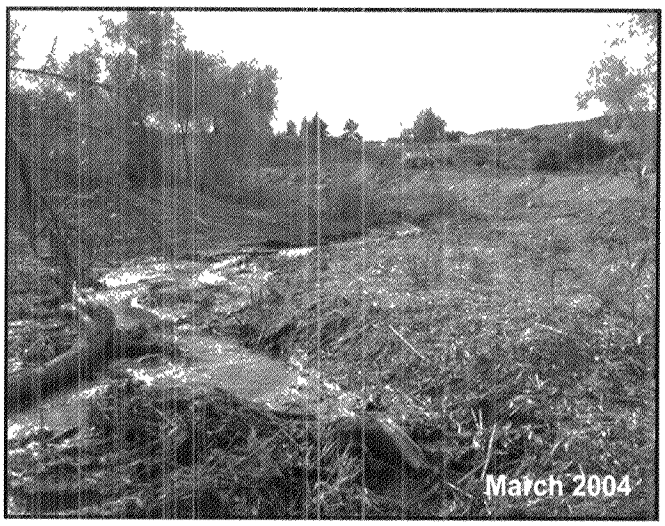
River Road – Riverside County

Biomass removal was accomplished over this 30-acre site in the winter of 1997-98, before the El Nino floods in February of 1998. Vegetation transects were conducted in the spring of 2001, to determine growth of native plants in areas left to natural succession and in areas that were planted by RCRCD staff. There is about 2 percent regrowth of arundo which is controlled with a 4 percent solution of glyphosate. One hundred black and red willow cuttings were planted in the winter of 1998 with a 70 percent survival rate after the first year. The cuttings ranged in size from ½ inch to 2 inches in diameter and 24 to 36 inches in length. No supplemental water was used on the pole cuttings or nursery stock.

Sixty percent of the 30 acres is now covered with native vegetation, 20 percent is open, sandy soil and 20 percent is herbaceous weeds. Since this site is used as a debris basin to protect the River Road Bridge ½ mile downstream, no additional revegetation is planned.

In areas along the southern edge of the river, arundo canes were left in place to provide limited shelter to native fish. These canes eventually washed out during flood events, allowing for increased native vegetation to establish and provide much better native fish habitat. Due to arundo upstream, this site will require perpetual monitoring to keep it invasive-free. This site will be completed in June of 2005, with extensions for work based upon regorwth of invasive. It is estimated that some spot treatments of herbicide will be needed to keep open areas clear or arundo.





Mockingbird Canyon – Riverside County

Mockingbird Canyon is a 2,429-acre, 8-mile long drainage in Riverside County. The Canyon is characterized by willow species with an understory of yerba mansa, *Anemopsis californica,* watercress, and *Rorippa nasturtium-aqaticum.* Residential development is occurring immediately adjacent to the creek on Riversidian alluvial sage scrub. Gage Canal basin is characterized by a large seasonally dry streambed leading to the reservoir that contains native riparian vegetation, and exotics including *Arundo donax,* and perennial pepperweed.

Arundo removal began in the 170-acre of arundo Mockingbird Canyon site in the summer of 2003, and was completed in October 2003. This area is impacted by a developing upper watershed, with sections along the creek constricted by granitic rock outcroppings that reduce meandering capacity and increase velocity. These sections are characterized by large arundo stands that were planted to reduce erosion, but have only led to increased flooding.

Many of the watershed drainages are a patchwork of multiple private and public lands and some of the smaller tributaries are mostly private property. For example, within Mockingbird Canyon, there are 112 landowners that were physically contacted or sent certified mail to gain permission for encroachment to remove Arundo and 150 landowners were contacted for potential placement of cowbird traps.

This drainage also had breeding least Bell's vireo but they suffered a 100 percent rate of parasitism by brown-headed cowbird in 2003. In 2005, the Canyon was surveyed from Wood Rd. to the reservoir at Gage Canal. The number of territories of the least Bell's vireo increased by 66% in 2005.

Care was taken to ensure that occupied habitat was not impacted by the arundo removal activities. Herbicide applications are being made as needed to arundo regrowth in the canyon. The Arundo bio mass was mulched and it was removed from the constricted sections of the creek to reduce the chances of floodwaters damaging nearby properties, and or promoting riverbank failures.

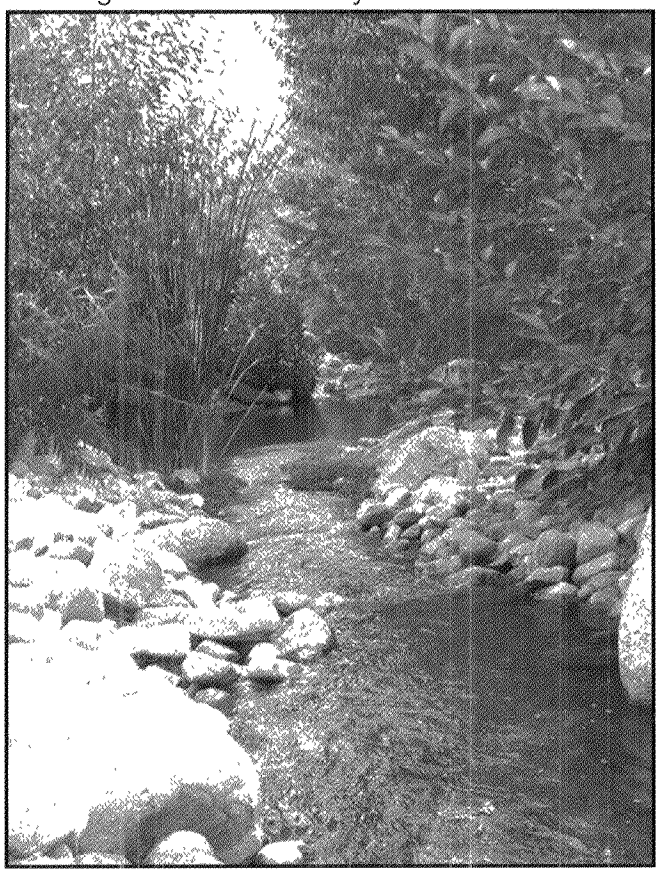
Santa Ana River Main stem Levee - San Bernardino

Riverside County Flood Control cut much of the vegetation in the channel for flood control purposes and made access to the arundo and tamarisk much easier. Large floods in this section can cause the river to meander and change the vegetational cover from year to year. Arundo may be present in this area one year and absent the next due to the hydrodynamics of the river.

Large sections of this reach also have tamarisk and palms that have been introduced through ornamental uses. The perennial nature of water from effluent discharge in this section of river also leads to rapid regrowth of cut material and necessitates hand spraying. Much of this area was impacted by the floods of October and November of 2005, when over 50 percent of the arundo roots were washed downstream along with much of the native vegetation.

Native Fish Stream

The native fish stream and tanks were created in 2000, for the purpose of providing habitat for native fish in the Santa Ana River watershed and for research purposes associated with the Riverside-Corona Resource Conservation Districts' Land Use Learning Center. The 300-foot long stream is currently home to three native fish; the Arroyo chub (*Gila orcutti*), Speckled dace (*Rhynichys osculus* ssp) and Santa Ana sucker (*Catostomus santaanae*).



The stream pumps 400 gallons of water per minute through three biological filters and cascading aerator into pools of various depths, and three stream sections.

Carrying capacity of the stream is not yet known and fish spawn once per year over a three to four month period in the spring. Native plants grown in the nursery were used to vegetate the stream and provide shade and cover for the native fish. This shading canopy is important during the heat of summer in regulating temperatures. Aquatic insect species that have populated the stream naturally include mayfly, midges, stoneflies and cadis flies. No supplemental food is used to allow natural acclimation of the fish and reduce input from outside sources.

Current populations of fish in the stream are 2,500 Chub, 355 Dace and one (1) Santa Ana sucker.

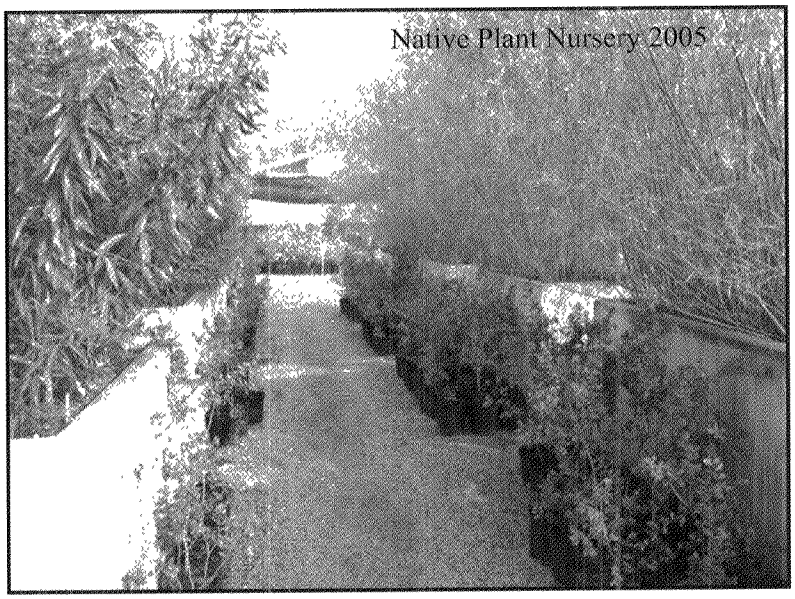
Colton Burn-San Bernardino County

This 80-acre burn area along the mainstem of the Santa Ana River is being treated as needed with glyphosate applications on the regrowth This reach of the river is dry during the summer months and also has a high concentration of other weed species such as mustard and tumbleweed. Due to the low moisture content of the soil in this area, the cane does not grow as fast as in areas with permanent water, which makes it easier to control. The site currently has a 90 percent control rate and limited regrowth.

Channel activities such as sand mining, and levee building have helped to spread arundo in this area. Flood control activities have spread the cane to levees and roadways that now require herbicide applications; arundo root masses can be transported and replanted by heavy equipment. The floods of October 2004 displaced much of the arundo in this area, which will reduce treatment, unless root masses re-establish downstream. Native vegetation was also removed during flood events and may need to be enhanced in areas that have permanent water.

Native Plant Nursery

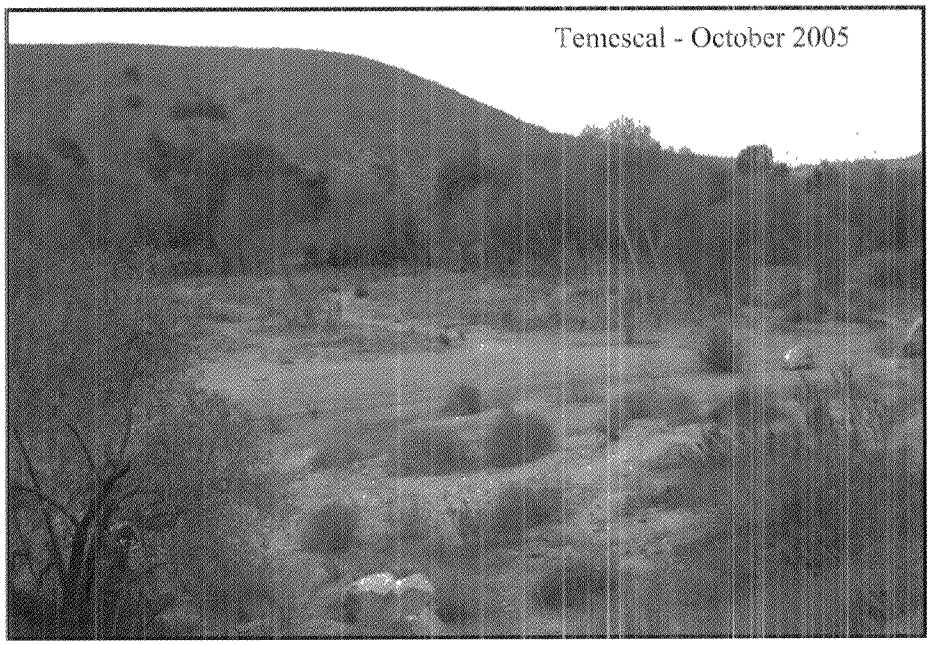
The native plant nursery is a one-acre facility that is used for SAWA and RCRCD restoration and habitat enhancement projects. Plant stock is grown in super cells, tree bands, quarts, one, two, five and 15-gallon containers. Many plants are grown from seed, field-collected or harvested at the Land Use Learning Center.


Native Plant Nursery 2005

Native plants grown include black, sandbar, red and arroyo willow, Fremont cottonwood, mule fat, black and white sages, coast live oak, western redbud, arrow weed, coyote bush, buckwheat, brittlebush, blue-eyed grass, salt grass, rush grass, and anamopsis.

Native Plant Nursery (NPN) stock has been used on eighteen acres of mitigation and restoration sites throughout the RCRCD service area and on SAWA projects since 1998. The nursery has eighteen sand tanks for the propagation of bare root plants and parent stock, a 1,500 square foot seed and cutting area, 400 square foot potting and soil prep area and a 1,200 square foot shade area, along with an associated supply storage area. The nursery is operated by RCRCD and is assisted by SAWA staff and conducts activities year-round. Revegetation projects using NPN stock include River Road, Alessandro Arroyo, Fairmount Wilderness, Sycamore Canyon, Goldenstar Creek, Highway 71, and the RIX Plant. The NPN currently has 1,500 pole cuttings and 10,000 plants in containers.

Temescal Canyon – Riverside County



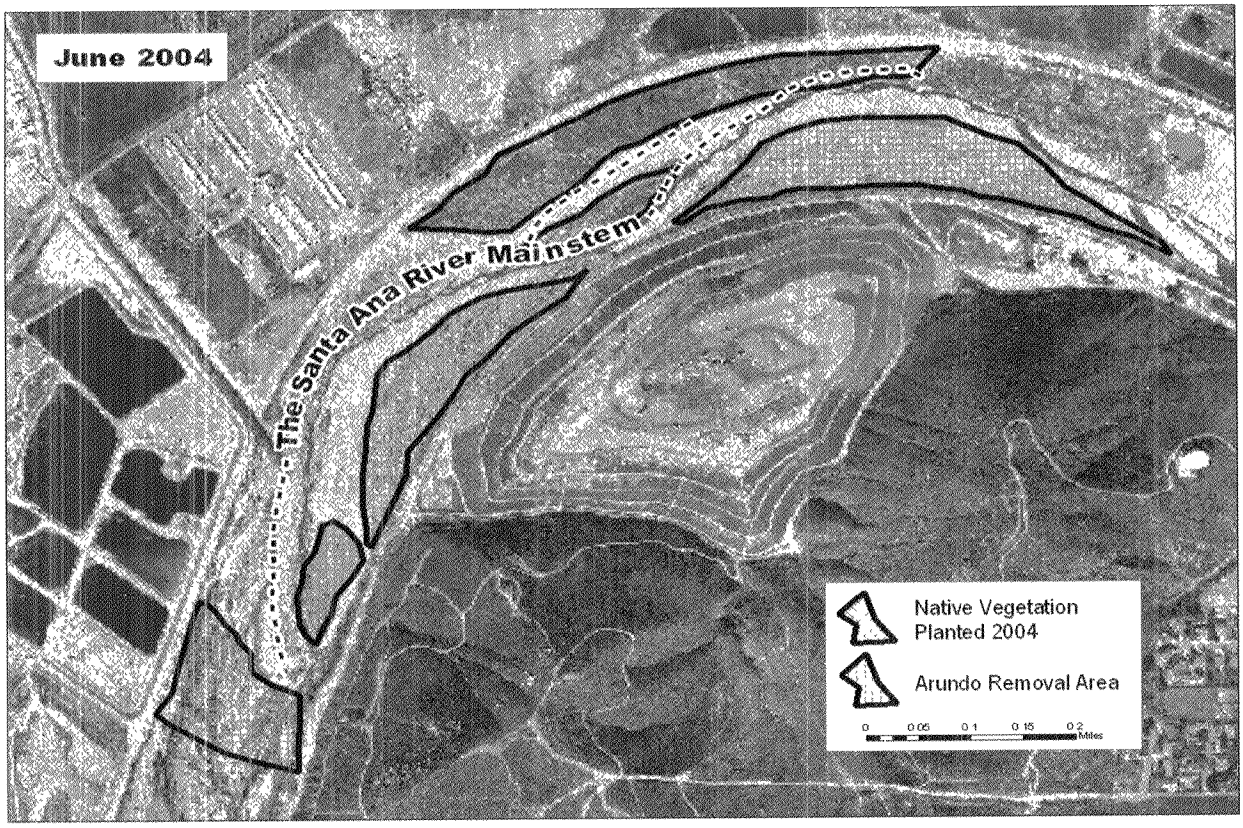
The arundo on this 220-acre site was cut in the winter of 2001, and regrowth is currently being treated as needed with glyphosate herbicide. Treatment and monitoring will be done for another two years. Seventy acres of tamarisk are also being treated in areas next to arundo stands, allowing for two invasive species to be controlled at the same time. Temescal Creek is a fifteen-mile drainage that is part of the 720 square mile San Jacinto River watershed, and the major tributary to the Santa Ana River. Temescal Creek is a braided waterway impacted by development, invasive plant species, polluted storm water runoff and ephemeral water flows. The drainage was once home to the arroyo toad, although recent surveys have failed to provide any current locations for this species. Vireos have occupied some of the better riparian habitat, but much of the stream channel substrate consists of rock and cobble of metamorphic origin that makes establishment of wetland plants more difficult during the dry times of the year.

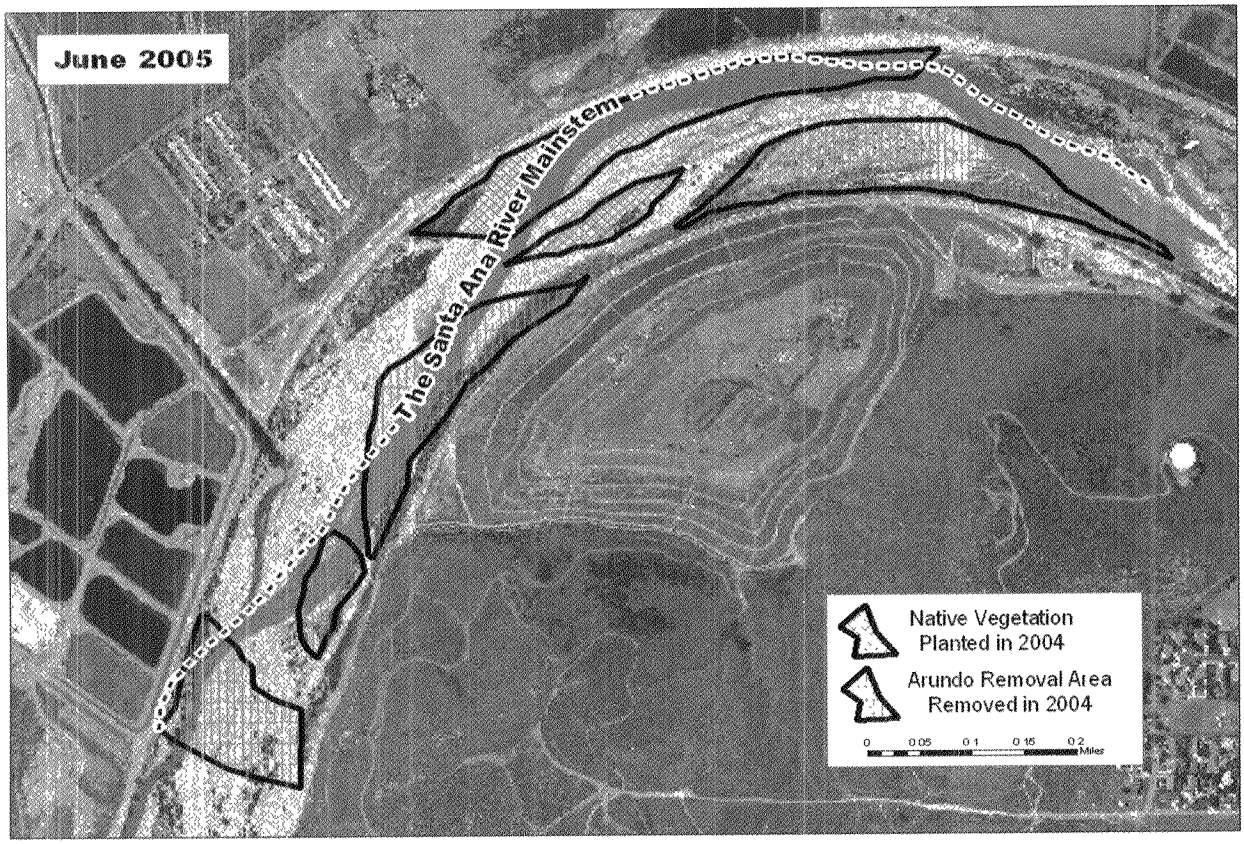
A one-acre habitat restoration site was planted in the winter of 2000, at the Cajalco Bridge with 300 willow and mule fat cuttings to help reduce erosion around the bridge pylons and to prevent illegal dumping via an access road. This site was covered by the floods of October and November 2004.

Mitigation sites in this drainage occur along the edges of the channel to prevent excessive removal during floods. If catastrophic events do occur, the sites are allowed to revegetate naturally.

The 2004-2005 aerial photos show how natural flood events can alter the river hydrology and associated vegetation. Flood flows during the winter of 04-05 carried volumes of 60 to 80 thousand cubic feet per second, which sent much of the cut arundo roots and native vegetation downstream. All of the arundo biomass was mulched, but river flows were so extensive that erosion and deposition of sediment was as much as four feet in some areas. Both the native and non-native vegetation was affected, with 50% of the river bottom being impacted.

Aerial Photos of the Santa Ana River Mainstem between Mission and La Cadena Ave



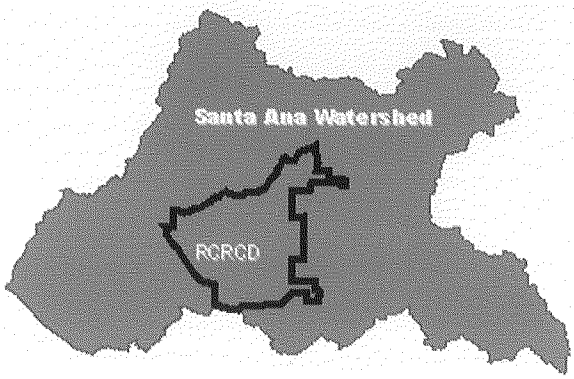


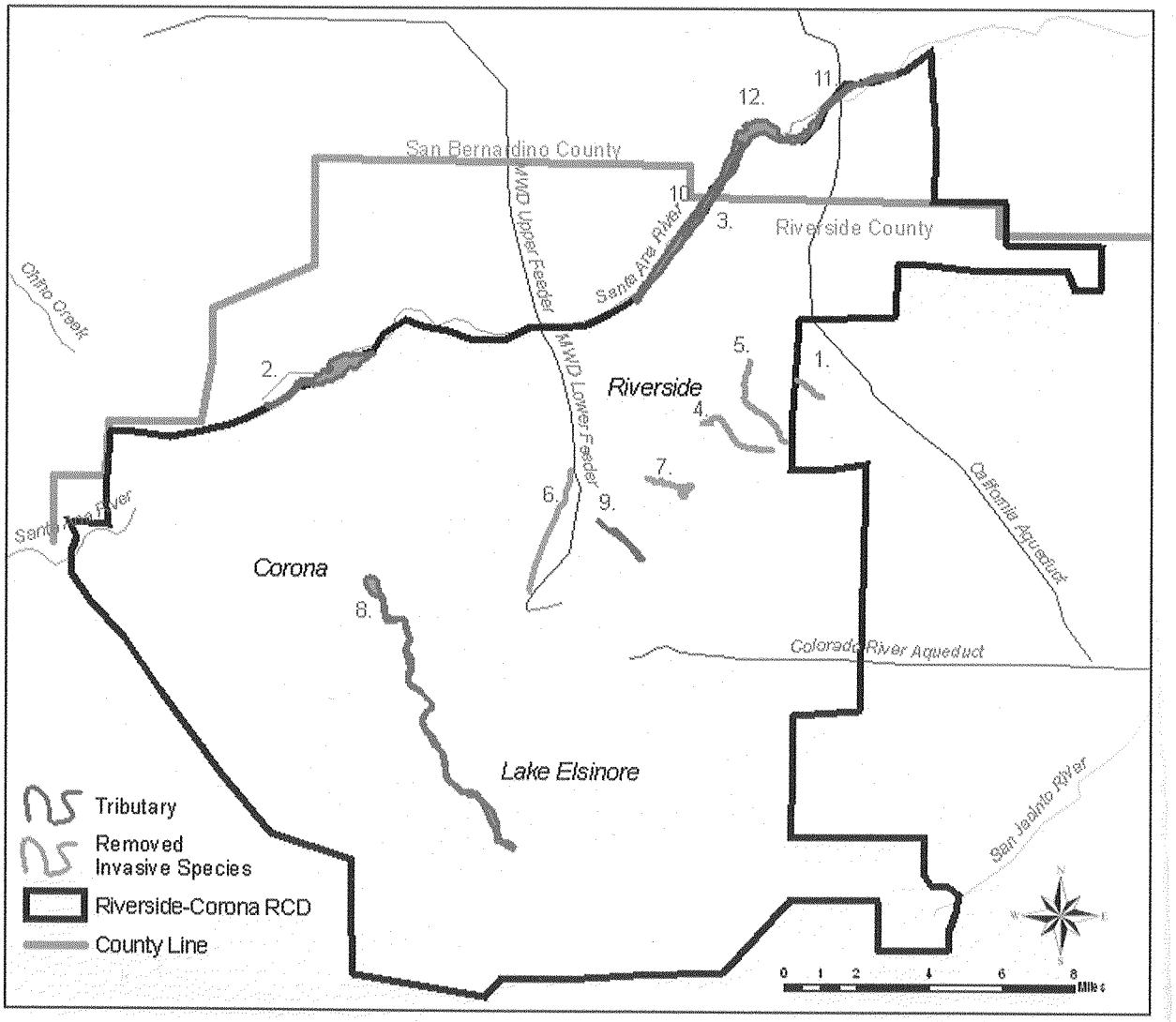
RCRCD Expenditures

Project Name	2005	Total
Alessandro Arroyo	$ 1,619	$ 91,546
Castle View	1,619	19,647
Castle View II	1,619	12,650
Colton	20,783	105,041
Fairmont	5,099	125,252
Golden Star	1,619	139,644
Highway 71 Spraying	10,535	185,916
La Sierra Woodcrest	1,619	136,998
Levee	122,698	189,189
Mockingbird	55,270	304,230
Native Fish Steam supplies	20,289	134,479
Nursery	7,627	55,073
River road	1,619	1,521,682
Santa Ana River Mainstem La Cadena to Mission	31,783	696,633
Springbrook Mitigation	6,078	6,078
Sycamore	4,599	17,383
Temescal Arundo	69,722	228,785
Tequesquite	3,243	3,243
Waterman to La Cadena	18,833	45,174
Biologist Monitoring/Staff	63,286.00	63,286.00
	$ 449,562	$ 4,081,932

Riverside-Corona Resource Conservation District
2005 Removal & Monitoring Locations

	Project	Acreage
1.	Sycamore Canyon	7
2.	River Road	30
3.	Fairmount Park	7
4.	Alessandro/Arroyo	12
5.	Caste View I & II	6.5
6.	La Sierra/Woodcrest	30
7.	Golden Star	16
8.	Temescal Canyon	220
9.	Mockingbird	133
10.	Santa Ana River	500
11.	Santa Ana River II	60
12.	Colton Burn	150





San Jacinto Basin Resource Conservation District

Mystic Lake and the San Jacinto Wildlife Refuge – Riverside County

Initiated in 2002 with the cutting of an 85-acre stand (Mystic Lake East Phase I) of mixed Arundo and Tamarisk, monitoring and maintenance of this site at the eastern high water mark of Mystic Lake, just west of Gilman Springs Road continued throughout 2005 with the planned five-year program in its 43rd month as of December 2005. Regrowth throughout the year was minimal given the ongoing control applications of three–percent Garlon. Unseasonably heavy rains in late 2004 and early 2005 foreshadowed a return of ephemeral Mystic Lake with the subsequent inundation of the project area. Rainfall in the region ranged from 19 to 24 inches between September 2004 and June 2005 leaving most of the project area inaccessible through the summer and fall. Accordingly, maintenance has been suspended until this shoreline area once again becomes dry. Close monitoring will be required at that time since the alternate drying and wetting of this zone has led to re-infestations of both Arundo and Tamarisk in past decades. As this is being written (winter '06), much of the project area is once again high and dry after the near total failure of '05/'06 winter rains to materialize.

West of the original 85-acre Mystic Lake site, cutting of several additional stands of mostly pure Tamarisk with small amounts of Arundo were completed in 2004. This includes 128 acres of material (Mystic Lake West Phase II) removed from the heart of the Wildlife Refuge. This component was in its 19th month as of December 2005.

A five-acre stand designated Mystic Lake Northwest Phase I was cut in late 2003 and as of December 2005 was in its 26th month of monitoring and maintenance.

Finally an 11-acre stand of pure Tamarisk, designated Mystic Lake Northwest Phase II was also cut in late 2003 and is likewise in its 26th month of monitoring and maintenance.

Cutting and spraying of invasive plants in the San Jacinto Wildlife Area was minimal through the late spring of 2005 since most project areas were either inundated or too wet for acceptable access following record winter rains. The pace of work returned to normal through the summer and fall with regrowth somewhat retarded during the winter of 2005-2006 due to the return of drought-like conditions. Given anything approaching normal rainfall in late winter, some accelerated spring growth is anticipated due to abnormally high late winter temperatures.

In summary, cutting and/or maintenance of a total of 229 acres of Arundo and Tamarisk was performed in the Mystic Lake/San Jacinto Wildlife Refuge management area in 2005. On average the area will require an additional three years of monitoring and spraying to assure control of the invasives in this zone.

Davis Road East – Riverside County

A cutting project was initiated in late 2003 targeting a 1.5-mile reach of the San Jacinto River Channel harboring some 14 acres of Tamarisk. The project continues and extends work completed earlier on a 7-mile reach of the river just to the east near the headquarters of the San Jacinto Wildlife Refuge. As of December 2005, the project was in its 26th month. Ongoing maintenance of this reach in 2005 was deferred for several months due to running water in the normally dry river channel. A return of drought-like conditions in late 2005 has resulted in minor regrowth of stunted and otherwise poorly developed Tamarisk shoots.

Lamb Canyon -- Riverside County

This 5-mile arroyo extends along the western side of Lamb Canyon Road (Highway 79) southerly from the County Landfill to Gilman Springs Road at the base of the badlands. Cutting of Tamarisk from this reach was completed in the spring of 2003 with monitoring and spraying in the 32nd month as of December 2005. Removal of Tamarisk from this reach is considered a priority in that the sub-watershed of the arroyo drains to Mystic Lake and the San Jacinto Wildlife Refuge to the west and may have been a significant source of contamination of those areas. The rocky arroyo was well wetted during the record rains of the winter of 2005 and may have been scoured by flows since virtually no regrowth of Tamarisk has been noted here during the summer or fall of 2005. The area will be closely monitored in the spring of 2006.

San Jacinto River Channel (Sanderson Bridge to Davis Road) – Riverside County

Now in its 58th month, the maintenance phase on this 7.5 mile reach of the San Jacinto River (Sanderson to Davis Rd.) involves 13 acres of mixed Arundo and Tamarisk in an area that embraces the heart of the San Jacinto Valley's dairy and dry land farming region, as well as Mystic Lake and the San Jacinto Wildlife Refuge. This reach is a microcosm of issues being addressed by the Lake Elsinore/San Jacinto River Nutrient Management Plan and associated BMPs targeting TMDLs being assigned to the dairy and agricultural sectors. Also of interest are flood control issues and conflicts associated with the agricultural-urban interface prompted by aggressive new development of the area. Natural re-vegetation of this reach has helped to re-establish a long-neglected but critical riparian corridor.

Although contracted work along this reach is scheduled for completion the end of February 2006, a new area of Tamarisk has been located just east of the Sanderson Street Bridge over the river and extending east to the vicinity of the Scientology complex. A contract for cutting in this area will be let as soon as the dimensions of the area are mapped and bids for the work have been reviewed.

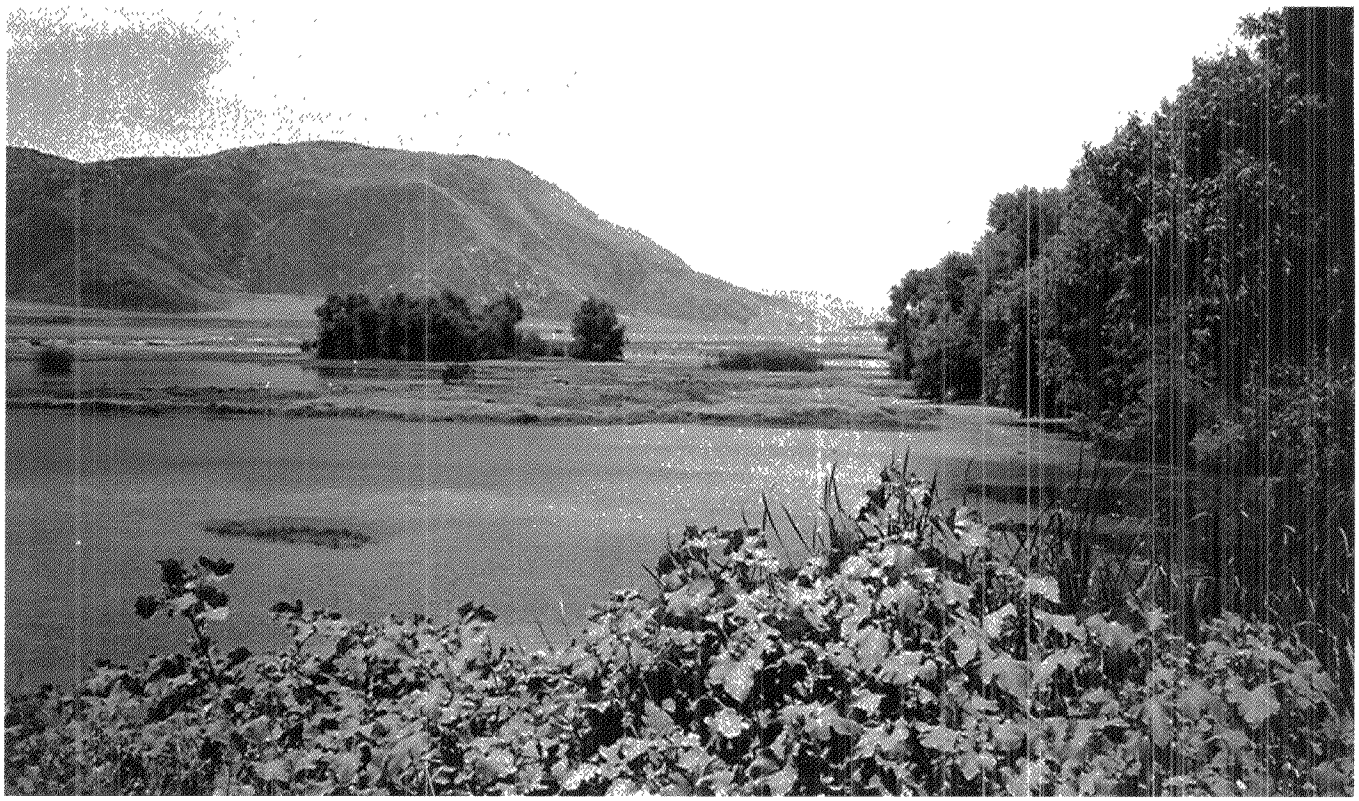
Bridge Street/Four Winds Pheasant Farm – Riverside County

Approximately five acres of mixed Arundo and Tamarisk were removed from this private hunting reserve in the spring of 2000. Re-vegetation along the constructed San Jacinto River Channel, which runs through the area, has helped to re-establish the native riparian environment here as willows and mulefat have reclaimed the normally dry channel from the Tamarisk and Arundo, which had displaced much of the native flora. Active maintenance (spraying) was completed here as of June 2005 although we will continue to monitor the area in concert with Mystic Lake management efforts.

McSweeney Ranch/Avery Canyon – Riverside County

Approximately 5 acres of Arundo were removed from this watercourse, a tributary of Salt Creek, in late 1999. Maintenance on the site was not initiated until the spring of 2000. Accordingly, active maintenance of the site continued through April 2005. Natural processes have almost completely re-established the native vegetation along this rocky, sandy and somewhat unique riparian corridor. Once dominated by Arundo, observed members of the diverse community here have included Desert Willow, Creosote Bush, Encelia, Monkeyflower, California Fuschia, Buckwheat, Penstemon, Lemonade Berry and Matilija Poppy. Much, if not all, of this project area has been slated for development by the McSweeney farming family. Accordingly, additional monitoring may be of questionable value until the future of the watercourse is more clearly defined.

In summary, 23 acres of Arundo and Tamarisk have been and continue to be treated under this task.

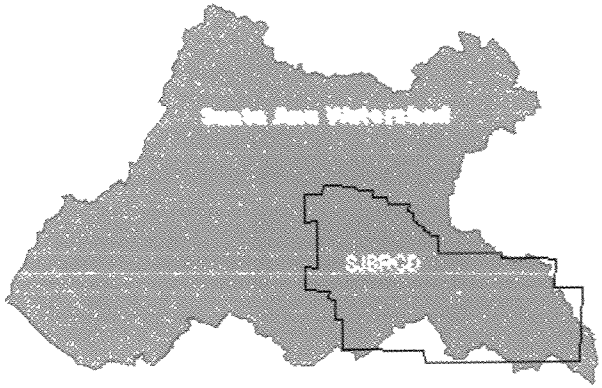


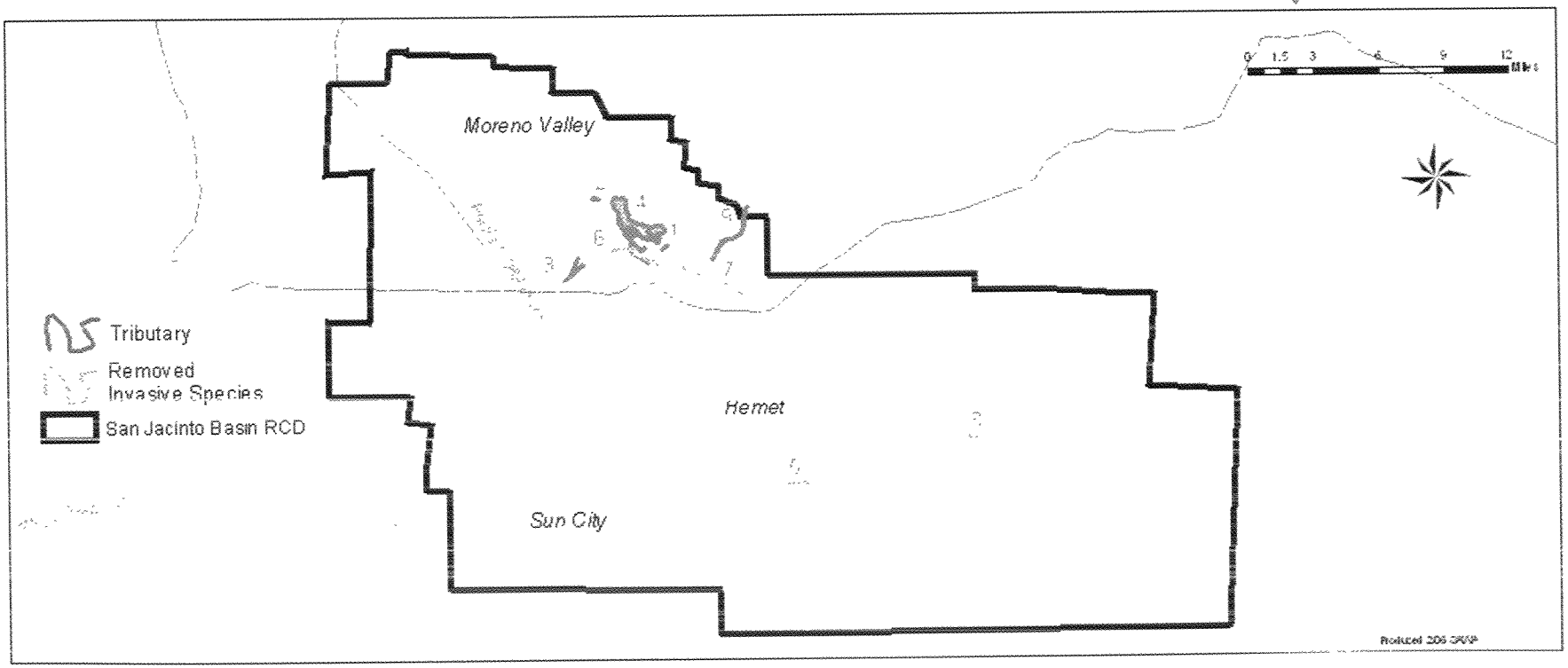
SJBRCD Expenditures

	2005	Total
Mystic Lake West Phase II	$ 39,005	$ 61,405
Mystic Lake Northwest Phase I	2,605	303,836
Mystic Lake Northwest Phase II	9,178	12,918
Davis Road East	7,022	12,462
Lambs Canyon	3,335	35,099
San Jacinto River (Sanderson to Davis)	7,755	59,530
Bridge Street/Four Winds	2,466	28,401
McSweeney Ranch/Avery Canyon	605	31,123
Biological Monitoring (Vireo, BHCO, Invasive Species)	3,837	3,837
	$ 75,808	$ 548,612

San Jacinto Basin Resource Conservation District
2005 Removal & Monitoring Locations

	Project	Acreage
1	Wildlife Refuge South	16
2	Wildlife Refuge North	5
3	Davis Road	17
4.	Mystic Lake	232
5.	McSweeney Ranch	5
6	Four Winds Pheasant Farm	5
7.	San Jacinto River Channel	14
8.	Doe Canyon	6
9	Lambs Canyon	75





Biological Monitoring

SAWA biologists managed a number of diverse projects during 2005 totaling 11,751 hours. The major biological management efforts of 2005 were to monitor the removal of invasive plants to prevent harm to endangered and sensitive species and to monitor the nesting of the least Bell's vireo, *Vireo belli pusillus*, and the southwestern willow flycatcher, *Empidonax trailli extimus.* We also worked to prevent the impacts of nest predation by the brown-headed cowbird, *Molothrus ater.* To document changes to the habitat at Arundo removal sites, winter bird and breeding bird surveys anc vegetation transects were done.

Areas monitored during Arundo removal operations included the Santa Ana River at La Cadena and north to Mill Creek, Norco Bluffs at Highway 15, Temescal Canyon, Mill Creek in Prado Basin, Mockingbird Canyon, and Santiago Canyon.

In 2005, SAWA biologists detected 318 least Bell's vireo territories and 224 pairs at sites historically managed. Populations managed since at least 2002 include those in San Timoteo Canyon, Hidden Valley, Temescal Canyon, and the Santa Ana Canyon. More recent additions to the monitoring regime include Mockingbird Canyon, the Stephen's Kangaroo Rat Reserve at March Air Reserve Base, Harrison Reservoir, and San Jacinto. Surveys for the southwestern willow flycatcher were done concurrently. Map 1 (Pg 34) shows the current extent of biological monitoring in the watershed. The above sites were visited every 7 to 10 days to document vireo numbers and breeding success

In 2005, we added a second monitoring regime for the vireo. Our regular monitoring protocol was set aside for three weeks during the season, at which time we visited habitat not yet surveyed. Pre-season reconnaissance provided about 40 sites that had apparently adequate habitat for vireos but for which nothing was known. These sites were visited once during the weeks of May 2, June 6, and July 11. Data on the number of territories and breeding behavior were documented. An additional 73 territories were added to the watershed count of least Bell's vireos.

With the work done by SAWA and that of cooperating agencies such as the County of San Bernardino and California State Parks, the total number of vireos in the watershed, excluding the Prado Basin, is 391 territories, 250 pairs, and 367 observed fledglings.

In addition to our monitoring efforts we worked with several agencies and developers to protect and enhance vireo habitat. We met with Riverside County Flood Control to review its management needs for a stretch of the San Jacinto River upon which vireos were newly found this year. These birds were detected when we were monitoring bluebird boxes in the river at Soboba Ave. and State St. We also are working with developers in Mockingbird Canyon to protect the riparian habitat from not only the impacts of construction in the area but also to deter paintball activity that has been taking place directly in vireo nesting habitat. We participated in tours of sites of Arundo removal in San Timoteo and the Allessandro Arroyo. We also participated in a tour of Carbon Canyon, Orange County, for the Wetlands Recovery Project to further its interest in funding the removal of Arundo in that canyon. We also attended a meeting of the Carbon Canyon Fire Safety Council regarding the dangers of Arundo in the canyon.

Support for the vireo management program includes trapping brown-headed cowbirds in several of the areas biologists monitor. Over 1,500 brown-headed cowbirds were removed from riparian habitat over 3,662 trap days during the 2005 season. Forty-five traps were deployed in 2005. This number is down 30% from the 65 traps deployed last year because we did not deploy traps in unproductive areas and because many trap sites remained underwater throughout most of the season after the very wet winter of 2004-05. Water persisted at sites such as Gunnerson Pond in Lake Elsinore and at the San Jacinto Wildlife Refuge. Traps were located in ten drainages/sites; the number of traps is in parenthesis: San Timoteo Canyon (7), the Santa Ana River between Fairmont Park and Van Buren Boulevard (4), the Santa Ana River at Norco (1), Mockingbird Canyon, (8), Hidden Valley (5), Temescal (7), the Santa Ana

Canyon (5), March SKR, Air Reserve Base (2), Sycamore Canyon (1), and San Jacinto (5). Successful winter trapping was done at a horse stable off Interstate 91 at Green River and in San Jacinto dairies during the winter of 2004-2005.

SAWA continued its field assistant program for a fourth year. Part-time workers are hired and trained to work the traps allowing biologists to spend more time with vireos and other projects. Five assistants were hired this season. Additional assistance from biologists from the Center for Natural Lands Management aided our trapping efforts.

There were three full time biologists and a full time biologist's assistant for most of 2005. Throughout 2005, there were efforts to hire two additional biologists. SAWA contracted with three biologists to provide vireo and flycatcher monitoring services, Robert A Hamilton, Talula Wiater, and John K. Konecny, of Konecny Biological Services. Additionally, Robb Hamilton did a series of coastal surveys to gather data on avian species at the mouth of the Santa Ana River. SAWA biologists accompanied him to improve their bird identification skills. He also surveyed a winter bird plot in Norco and accompanied most of the SAWA biologists on their study plots to further SAWA biologists' birding skills.

SAWA biologists worked with Northwestern Vector Control to support its efforts to monitor the spread of West Nile Virus SAWA made cowbirds and non-targets (mostly native birds) caught in its traps available to Northwestern Vector Control to take blood specimens. Over the last two years, 278 cowbirds have been tested with eight birds testing positive for WNV. In 2005, no birds tested positive (J. Wisniewska, pers comm.)

With the expansion of the Army Corps of Engineers permit to the off-season, the winter bird surveys are being done at several sites where SAWA has removed Arundo: San Timoteo Canyon, Temescal Creek at the 3M plant, Norco Bluffs in Corona, Mockingbird Canyon, and Featherly Park in the Santa Ana Canyon and the San Jacinto River. A paper is being drafted for publication by SAWA on the winter birds of the Santa Ana River. Breeding bird surveys were done in San Timoteo, Mockingbird Canyon, and Featherly Park.

Herpetological arrays were open on the 900-acre reserve lands at El Toro, in Irvine, and in San Timoteo Canyon in the Younglove Reserve. Plans to open arrays in Sycamore Canyon in 2006 are underway. Herpetological night drives began in the summer of 2005 at San Timoteo, Hidden Valley and in the Santa Ana Canyon.

The winter flooding in 2004-2005 impacted some of our study sites. The bird survey plots at Featherly Park, Norco, and the Prado Basin were severely eroded. Flooding in San Timoteo buried a herp array making it unusable for the last two months of the survey. However, as with all our arrays, we removed it and returned the habitat to its natural state as best we could. Although the flooding removed under story from the riparian corridors, the impacts to vireo nesting were not as great as feared. Nesting success and predation rates were stable. After the heavy rains of the winter, we surveyed the upper mainstem of the Santa Ana River for the San Bernardino kangaroo rat before a water release from the Seven Oak's Dam in February. One possible burrow was found below the Hwy 30 overpass.

We are working with the Western Riverside Multi-Species Habitat Conservation Plan to coordinate studies and provide educational support for its biologists.

Raptor surveys were also initiated. Ten to 25 mile routes along highways were established in San Timoteo Canyon and at the base of the San Bernardino Mountains.

Biologists also participated in surveys for the endangered fish, the Santa Ana sucker, *Catostomus santaanae*, in conjunction with Kerwin Russell of the Riverside-Corona Resource Conservation District (RCRCD) and the Orange County Water District and its consultants.

Biologists are pursuing field investigations to supplement our knowledge of the status and distribution of sensitive species. During the vireo monitoring effort in Norco, biologists discovered a single plant of the Santa Ana Woolly-star, *Eriastrum densiflora, ssp. sanctorum*. This single plant was in bloom. We speculate that seeds were washed down from the populations upstream. This plant was located on a sand bar, newly deposited from the winter flooding. Additional sightings of the San Diego horned lizard were made in the Santa Ana Canyon and on the Santa Ana River. We worked closely with the Orange County Sanitation District and the Chino Hills State Park to prevent harm to the lizard in the Santa Ana Canyon during emergency work to repair an underground hazardous waste pipeline.

Abundance data is documented during our vireo monitoring for sensitive species such as the yellow warbler, *Dendroica petechia*, and the yellow-breasted chat, *Icteria virens*. Three sites were confirmed for breeding for the spadefoot toad, *Spea hammondii*. Two sites were in the San Jacinto River and one site was in Sycamore Canyon. Breeding was observed in water persistent in a tire rut along a dirt road. County rangers were made aware of the site and SAWA biologists assisted the rangers in protecting the site until the toads matured. Habitat assessments were done in San Jacinto for the arroyo toad, *Bufo aurora*. Efforts to translocate burrowing owls, *Athene cunicularia*, and construct artificial nesting burrows were done at Prado Basin. Biologists did a habitat assessment for burrowing owls at a plot of land at Pigeon Pass in Riverside.

We are monitoring bluebird boxes along the San Jacinto River.

Biologists also supported the SAWA native plant nursery at the Riverside-Corona RCD by helping to collect native plant specimens and seed and processing cuttings. We participated in a volunteer mulefat planting day at the Highway 71 restoration project.

Biologists continued to write fact sheets on the status and distribution of sensitive species. The "*Sensitive Species of the Santa Ana Watershed*" consists of datasheets on endangered, threatened, or other sensitive species found in the watershed, and is being developed for community outreach to educate the public on the presence and the needs of wildlife in the watershed. Datasheets completed or under development include the orange-throated whiptail, (*Cnemidophorus hyperythrus beldingi*), the southwestern willow flycatcher, (*Empidonax traillii extimus*), cactus wren, (Camphylorphynchus *brunneicapillus*), tri-colored blackbird, (*Agelaius tricolor*), Stephens' kangaroo rat, (*Dipodomys stephensi*), the San Bernardino kangaroo rat, (*Dipodomys merriami parvus*), Cooper's hawk, (*Accipiter cooperii*), loggerhead shrike, (*Lanius ludovicianus*), osprey, (*Pandion haliaetus*), San Diego horned lizard, (*Phrynosoma coronatum blainvillei*), arroyo toad, (*Bufo californicus*), mountain yellow-legged frog, (*Rana muscosa*), the western spadefoot toad, (*Spea hammondii*), and the western pond turtle, (*Clemmys marmorata pallida*). Occasionally, a fact sheet on invasive plants is done. A datasheet is being developed for the bladder flower, (*Araujia sericifera*). We are also working on a field guide of rare and endangered plants for internal use by SAWA biologists.

Biologists attended The Wildlife Society meeting in January 2005 in Sacramento, a rattlesnake symposium held in Loma Linda California in January 2005, and the burrowing owl consortium meeting in San Francisco in February. We received CPR and First Aid Training from the Red Cross.

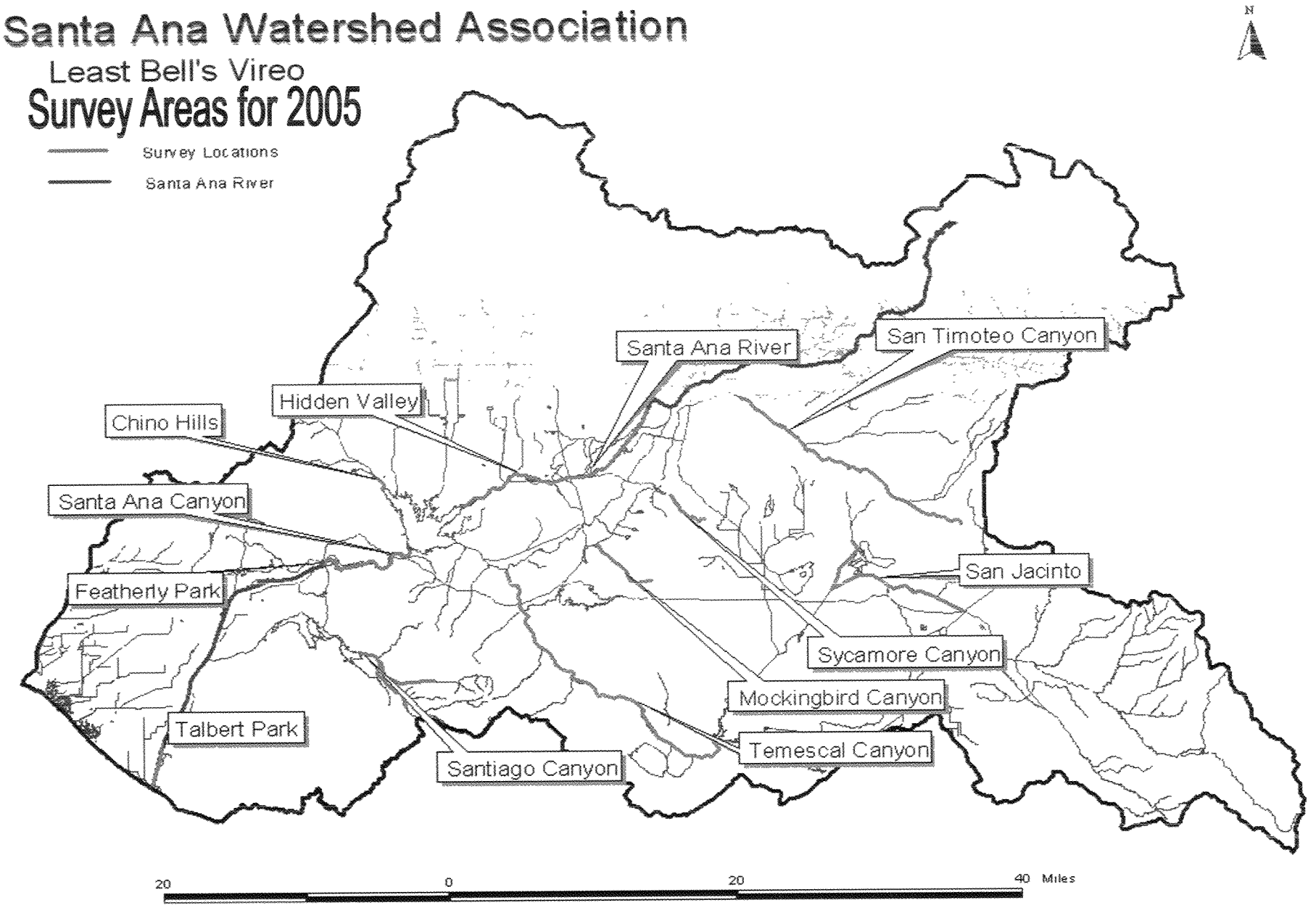
Biologists are now housed at the Riverside-Corona Resource Conservation District, in the Prado Basin, and at the Inland Empire Utilities Agency in Chino Hills.

New projects planned for 2006 include increasing the number of raptor survey routes and work to investigate the status and distribution of sensitive species. Formation of a data management procedure is underway to allow us to notify interested parties of sightings of sensitive species in a timely manner. The spadefoot toad inventory of the watershed is planned. Management of several species including the burrowing owl, (*Athene cunicularia*), is also planned.

Santa Ana Watershed Association

Least Bell's Vireo

Survey Areas for 2005



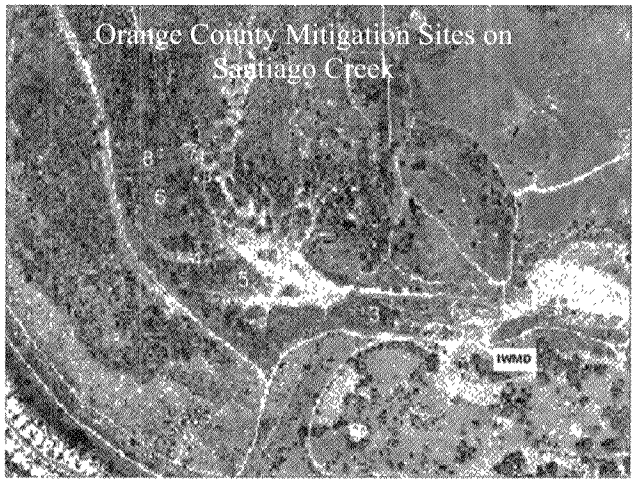
Biological Staff Hours

Project	2005 Staff Hours
Army Corp Prado Diverting the Dam	20
Bat Species	9
BHCO Program	455
Biologist Administration	2,970
El Toro Marine Base	293
EVRCD Main Stem	95
Feathery Park	402
Focal Spp.	220
Geographic Information Systems (GIS)	173
Green river Golf Course	186
Harrison	88
Hidden Valley	320
Highway 71	4
Irvine Park	5
March Air Force	113
Mill Creek IEW	36
Mockingbird and subtribs	711
Native Plant Nursery	71
Norco Burn	220
Prado Basin	84
Public Outreach	5
Railroad Canyon	36
Riverside-Corona RCD	308
San Jacinto River Floodplain	1,296
San Timoteo Canyon	1,019
Santa Ana Canyon	533
Santa Ana Watershed-Wide Assessment	327
Santiago Canyon I	55
Sucker SAS	225
Sycamore Canyon	70
Temescal Canyon	346
Upper SAC Canyon	182
Van Buren (Fairmount-Van Buren SAR)	262
Vireo Program	607
Winter Bird Survey	11
Total Staff Hours	**11,751**

Project: County of Orange, Integrated Waste Management Department
Location: Santiago Creek, Orange County

Project Origin:

The U.S. Army Corps of Engineers (USACE) required the Integrated Waste Management Department of the County of Orange to mitigate for discharges of fill material into the waters of the United States resulting from a landslide at the Bowerman Landfill, which occurred in March 2003.



Required Mitigation:

The County of Orange IWM Department was required to mitigate .324 acres of invasive plant removal. As a result, $16,200.00 was deposited into the Santa Ana River Conservation Trust Fund in January 2004.

Location:

The USACE required the mitigation to be conducted within Santiago Canyon in Orange County. The mitigation was assigned to an area in Irvine Park, which had a pure stand of arundo donax. The mitigation location is at 33°47'59"N and 117°45'24"W. This particular mitigation is located in an upland area of the riparian zone. This arundo was close enough to the stream channel to cause infestations in other locations throughout Irvine Park and Santiago Creek.

Purpose/ Goal of the Mitigation

The purpose of removing the arundo from this location was to restore the stream back to its natural native condition. In addition removal of arundo reduces fire hazards and conserves water. Arundo is known to grow 4 inches in a day in favorable conditions allowing for large amounts of water consumption *(California Exotic Pest Plant Council, 2004)*. Some areas of Santiago Creek are rich with willows, mulefat, costal sage and elderberry which are beneficial habitat for native species. Removal of the arundo will allow for an increase in these native plant populations.

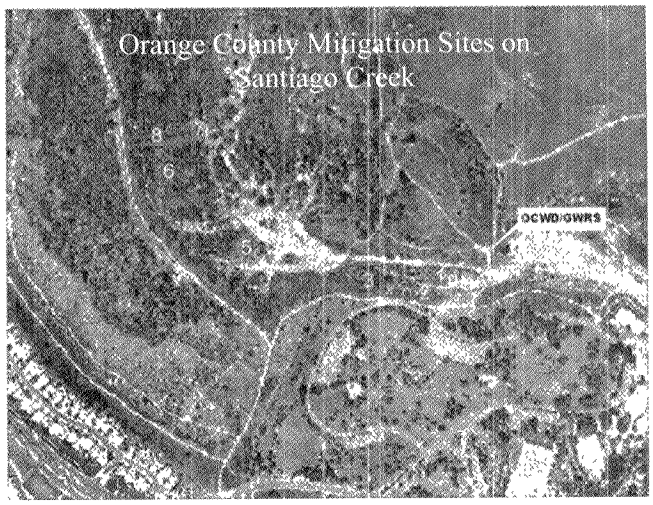
Site Visits

Visits to the Orange County mitigation sites took place on the following dates.
1/19/05, 3/19/05, 4/18/05. 6/21/05, 9/26/05, 10/4/05, 12/12/05

Project Status:

Currently the project is in the spray/monitoring phase, with spray or monitoring conducted on a monthly basis. As of December 31, 2005 $8385.33 has been expended on the .324-acre mitigation project.

Project: OCWD/GWRS
Location: Santiago Creek, Orange County



Project Origin:

Orange County Water District conducted a groundwater recharge system project for which mitigation was required.

Required Mitigation:

The Santa Ana River Conservation Trust Fund received $50,000 on August 29, 2001 for one acre of mitigation.

Location:

The USACE required the mitigation to be conducted within Santiago Canyon. The mitigation was assigned to an area in Irvine Park, which had a pure stand of arundo donax. The mitigation location is at 33°48'01"N and 117°45'23"W. This particular mitigation is located in an upland area of the riparian zone. This arundo was close enough to the stream channel to cause infestations in other locations throughout Irvine Park and Santiago Creek.

Purpose/ Goal of the Mitigation

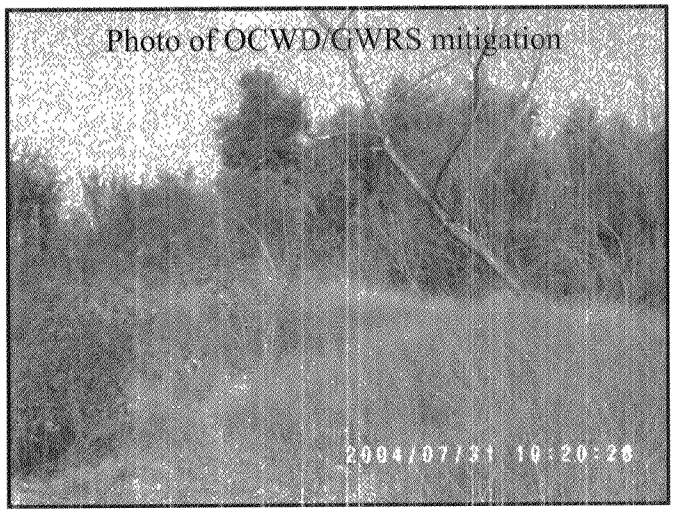
The purpose of removing the arundo from this location was to restore the stream back to its natural native condition. Removal of arundo reduces fire hazards and conserves water. Some areas of Santiago Creek are rich with willows, mulefat, costal sage and elderberry which are beneficial habitat for native species. Removal of the arundo will allow for an increase in these native plant populations.

Site Visits

Visits to the Orange County mitigation sites took place on the following dates
1/19/05, 3/19/05, 4/18/05, 6/21/05, 9/26/05, 10/04/05, 12/12/05

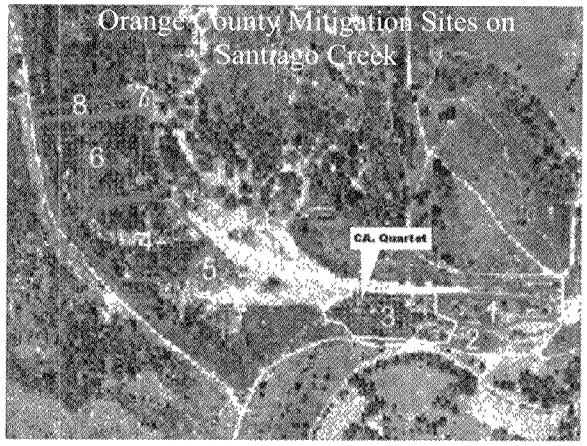
Project Status:

Washburn Grove Management and Natures Image conducted the removal and monitoring. As of December 31, 2005, $17,224.63 has been spent. The arundo was hand removed and then mulched. The mulched biomass was placed on-site. The removal occurred in July and August 2002. The monitoring is now in its fourth year with minimal re-growth due to the 2004-2005 storm events. The mitigations only disturbance was a temporarily constructed road. A Boy Scout building was being built so there were temporary impacts to the mitigation during construction.



Project: California Quartet
Location: Santiago Creek, Orange County

Project Origin:
California Quartet was required to mitigate due to a 283-unit residential development.



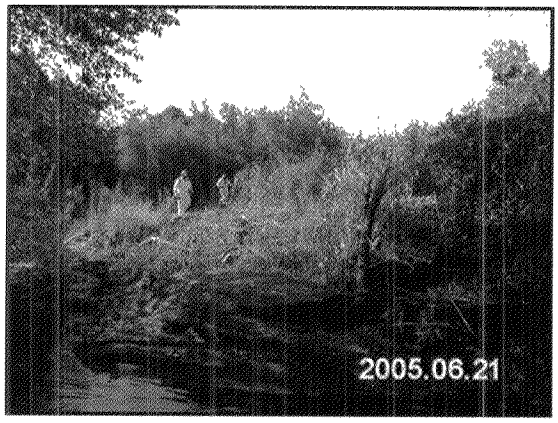
Required Mitigation:
The Santa Ana River Trust Fund received $ 100,000 on June 1, 2003 for 2 acres of mitigation.

Location:
The mitigation is also in Irvine Park. The project consists of the restoration of two (2) acres of riparian habitat on Santiago Creek, located in Orange County. The mitigation location is 33°48'0"N and 117°45'29"W. The mitigation is located more closely within the flow zone of Santiago Creek.

Purpose/ Goal of the Mitigation
The purpose of removing the arundo from this location was to restore the stream back to its natural native condition Removal of arundo reduces fire hazards as well as conserves water. Some areas of Santiago Creek are rich with willows, mulefat, costal sage and elderberry.

Site Visits
Visits to the Orange County mitigation sites took place on the following dates.
1/19/05, 3/19/05, 4/18/05, 6/21/05, 9/26/05, 10/04/05, 12/12/05

Project Status:
Currently this mitigation site is in the monitoring phase. As of December 31, 2005, $13,518.63 has been expended on the two-acre mitigation project.

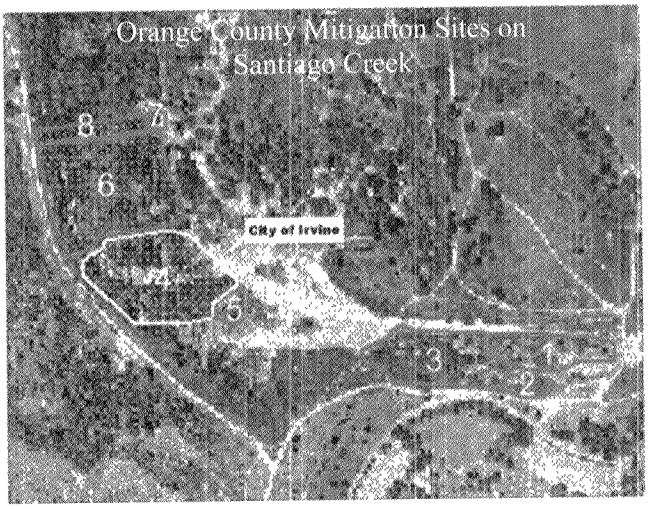


Natures Image spraying resprouts in Santiago Creek

Project: City of Irvine
Location: Santiago Creek, Orange County
Permit / Agreement # CDFG - 1600-2003-5161-R5

Project Origin:

The City of Irvine was required to mitigate for streambed alteration associated with the San Diego Creek Channel Maintenance Work Project.



Required Mitigation:

The Santa Ana River Trust Fund received $75,000 in March of 2004 for two acres of mitigation.

Location:

The mitigation is also in Irvine Park. The project consists of the restoration of two (2) acres of riparian habitat on Santiago Creek, located in Orange County. The mitigation location is at 33°48'04"N and 117°45'42"W. The mitigation is located in habitat, which contains mixed vegetation such as cottonwoods and mulefat.

Purpose/ Goal of the Mitigation

The purpose of removing the arundo from this location was to restore the stream back to its natural native condition. Removal of arundo not only reduces fire hazards but conserves water as well. Some areas of Santiago Creek are rich with willows, mulefat, costal sage and elderberry.

Site Visits

Visits to the Orange County mitigation sites took place on the following dates.
1/19/05, 3/19/05, 4/18/05, 6/21/05, 9/26/05, 10/04/05, 12/12/05

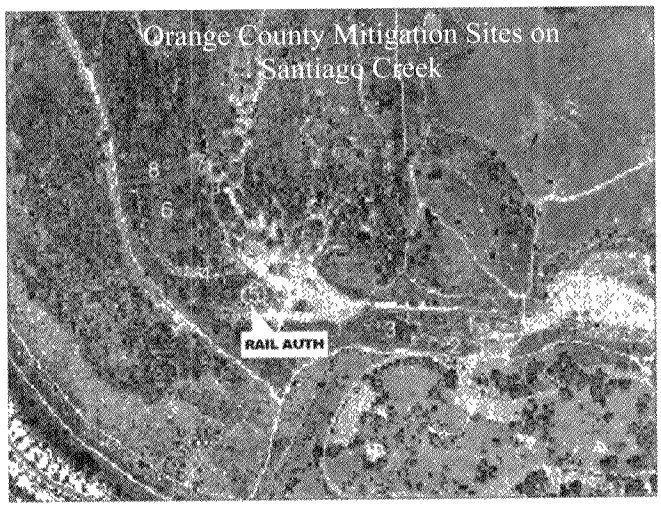
Project Status:

Removal was conducted by machine and hand removal. The project is in the spray/monitoring phase. As of December 31 2005, $10,371.63 has been spent on this 2-acre mitigation project.

Project: Southern California Regional Rail Authority
Location: Santiago Creek, Orange County
Permit / Agreement # CDFG - 1600-2004-0014-R5

Project Origin:

Southern California Regional Rail Authority was required to mitigate .37 acres due to permanent impact construction at the Santiago Creek bridge/Santa Ana 2nd main track.



Required Mitigation:

The Santa Ana River Trust Fund received $21,000 in June of 2004 for .37 acres of mitigation.

Location:

The mitigation is also in Irvine Park. The project consists of the restoration of riparian habitat on Santiago Creek, located in Orange County. The mitigation location is at 33°48'02"N and 117°45'38"W. The mitigation is located in habitat which contains mixed vegetation such as cottonwoods and mulefat.

Purpose/ Goal of the Mitigation

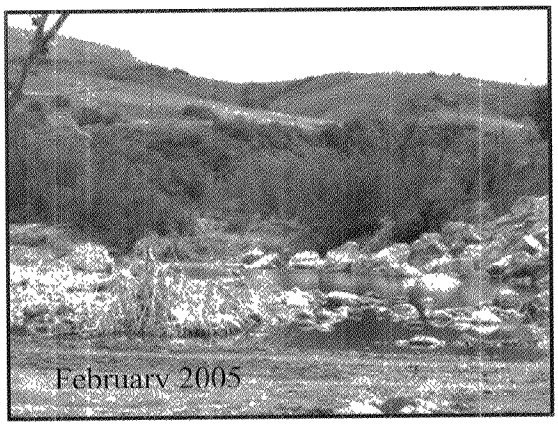
The purpose of removing the arundo from this location was to restore the stream back to its natural native condition. Removal of arundo not only reduces fire hazards but conserves water as well. Some areas of Santiago Creek are rich with willows, mulefat, costal sage and elderberry.

Site Visits

Visits to the Orange County mitigation sites took place on the following dates.
1/19/05, 3/19/05, 4/18/05. 6/21/05, 9/26/05, 10/04/05, 12/12/05

Project Status:

The mitigation was completed mainly by hand removal because the arundo was interspersed with native vegetation. The project is in the spray and monitoring phase. As of December 31, 2005, $3,387.63 has been spent on this 0.37-acre mitigation project.

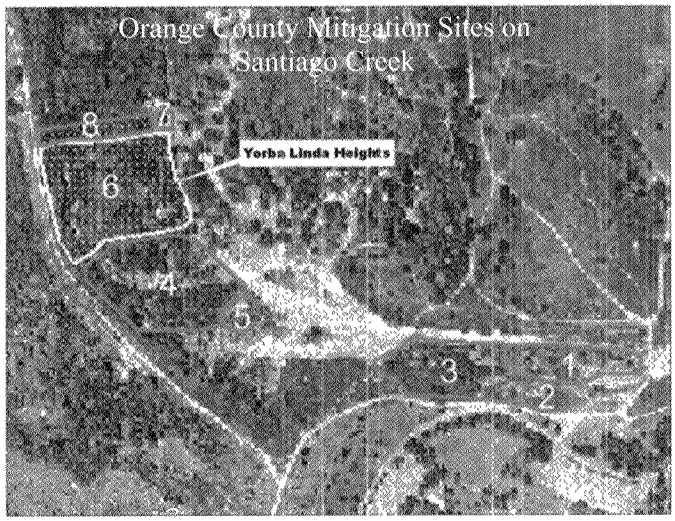


The photo represents the scour of the stream channel from the December 2004 / January 2005, storm events

Project: Yorba Linda Heights
Location: Santiago Creek, Orange County
Permit / Agreement # ACOE 200000736-YJC / CDFG (SAA)- 5-028-00

Project Origin:

Pulte Homes was required to mitigate for the development of the Yorba Linda Heights Project.



Amount of Mitigation:

$162,500.00 was received on February 1, 2005 for habitat enhancement on 3.25 acres on Santiago Creek.

Location:

The mitigation was for riparian habitat enhancement on Santiago Creek in the Santa Ana River Watershed. The mitigation site was dedicated within Irvine Park on Santiago Creek located at 33°48'07"N and 117°45'44"W.

Purpose/ Goal of the Mitigation

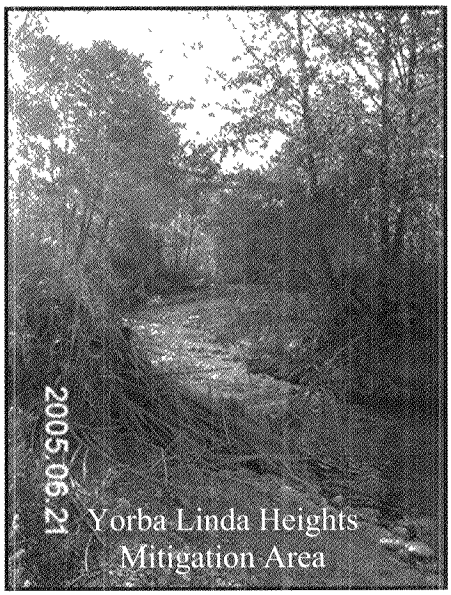
The purpose of removing the arundo from this location was to restore the stream back to its natural native condition. Also, removal of arundo reduces fire hazards and conserves water. Some areas of Santiago Creek are rich with willows, mulefat, costal sage and elderberry.

Site Visits

Visits to the Orange County mitigation sites took place on the following dates.
1/19/05, 3/19/05, 4/18/05, 6/21/05, 9/26/05, 10/04/05, 12/12/05

Project Status:

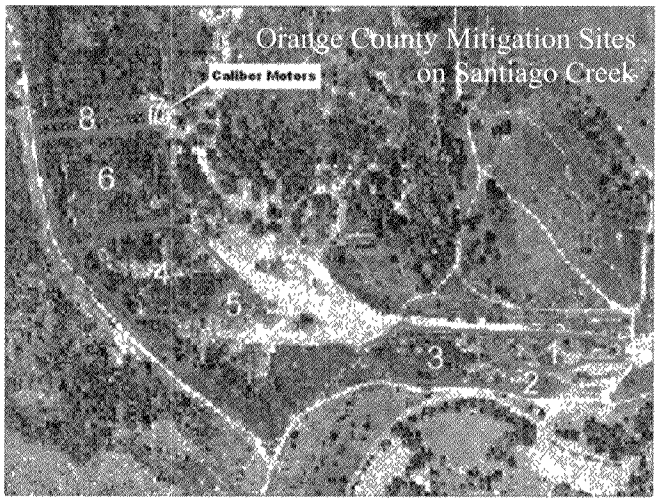
The mitigation was completed mainly by hand removal because the arundo was interspersed with native vegetation. The project is in the spray and monitoring phase. As of December 31, 2005, $3,626.63 has been spent on this 3.25-acre mitigation project.



Project: Caliber Motors
Location: Santiago Creek, Orange County
Permit / Agreement # ACOE-200500154-JPL

Project Origin:
Caliber Motors was required to mitigate due to a conversion of a trapezoidal concrete channel.

Amount of Mitigation:
The Santa Ana River Conservation Trust Fund received $5000.00 on February 2005 for 0.1 acres of mitigation.



Location:
The mitigation is for ongoing maintenance of non-native plant removal on Santiago Creek in the Santa Ana River Watershed The mitigation site was dedicated within Irvine Park, located at 33°48'10"N and 117°45'42"W.

Purpose/ Goal of the Mitigation
Arundo removal and monitoring at this location will restore the stream back to its natural native condition. Reducing the fire hazard along with the conservation of water are additional benefits to the removal the non-native plants.

Site Visits
Along with the other Orange County mitigation sites, visits to the Caliber Motors mitigation took place on the following dates.

1/19/05
3/19/05
4/18/05
6/21/05
9/26/05
10/04/05
12/12/05

Project Status:
The mitigation was completed mainly by hand removal because the arundo was interspersed with native vegetation. The project is in the spray and monitoring phase. As of December 31, 2005, $3,368.63 has been spent on this .1-acre mitigation project.

Photo of Caliber Motors and MWD mitigation site. Most of the root mass was washed down due to storm events.

Project: Metropolitan Water District
Location: Santiago Creek, Orange County

Project Origin:
Metropolitan Water District was required to mitigate for impacting .45 acre of riparian habitat due to clearing of vegetation for a spillway.

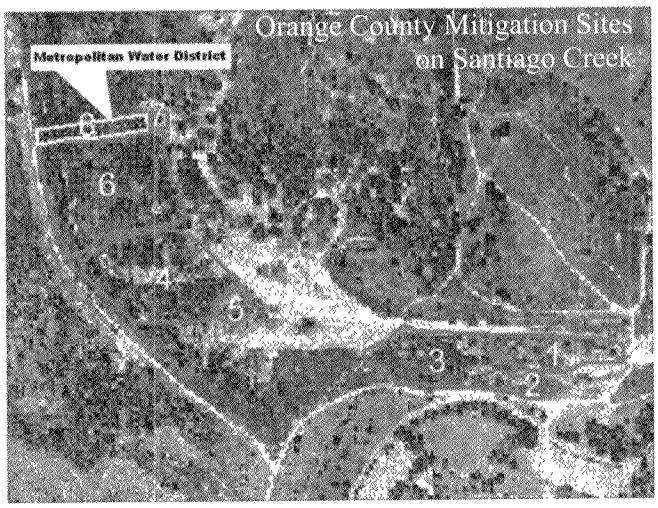
Amount of Mitigation:
The Santa Ana River Conservation Trust Fund received $25,000.00 on February 1, 2005 for mitigation on .45 acres.

Location:
The mitigation is for riparian habitat enhancement on Santiago Creek in the Santa Ana River Watershed. The mitigation site was dedicated within Irvine Park, located at 33°48'10"N and 117°45'45"W.

Purpose/ Goal of the Mitigation
The purpose of removing the arundo from this location was to restore the stream back to its natural native condition. In addition, removal of arundo reduces fire hazards and conserves water. Some areas of Santiago Creek are rich with willows, mulefat, costal sage and elderberry. These species can increase in population due to the absence of arundo.

Site Visits
Along with the other Orange County mitigation sites visits to the Metropolitan Water District mitigation took place on the following dates.
1/19/05, 3/19/05, 4/18/05, 6/21/05, 9/26/05, 10/04/05, 12/12/05

Project Status:
The mitigation was completed mainly by hand removal because the arundo was nterspersed with native vegetation. The project is in the spray and monitoring phase. As of December 31, 2005, $3,387.63 has been spent on this .45-acre mitigation project.



Project: Essex Nationwide, Orange Show
Location: Warm Creek, San Bernardino County
Permit / Agreement # CDFG-1600-2004-0070-R6

Project Origin
Essex Nationwide was required to mitigate due to construction of a storm drain in San Bernardino.

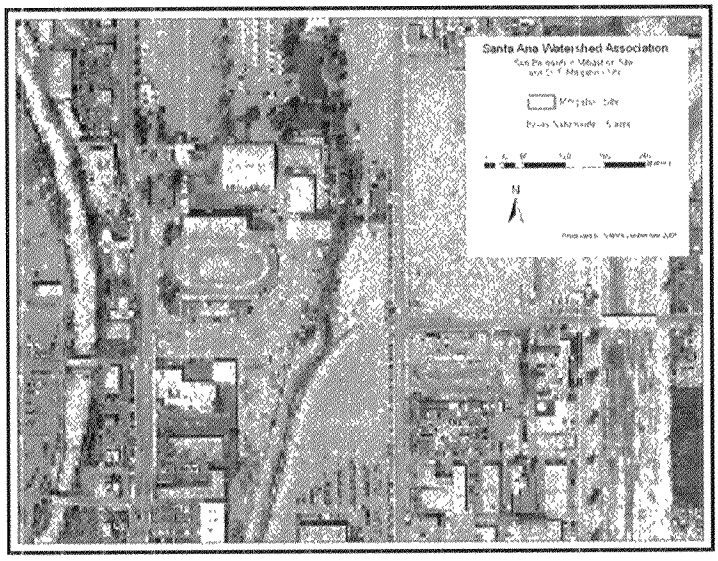
Amount of Mitigation
The mitigation was received on September 22, 2004 in the amount of $21,132.80. The mitigation is for five years of removal and monitoring of 0.5 acres.

Location
The mitigation site is located in Warm Creek. The mitigation portion flows through the Orange County Fair Grounds. The channel is an upper tributary to the Santa Ana River located in the City of San Bernardino. The mitigation is located at 34°5'12"N, 117°17'26"W.

Purpose/ Goal of the Mitigation
The purpose of the mitigation was to remove the arundo from this location and encourage regrowth of native vegetation. Removal of arundo reduces fire hazards as well as conserves water. This area has been known to burn in the past due to the Orange Show events and homeless encampments in the area

Site Visits
Site visits to the Essex Nationwide mitigation took place on:
5/17/05
10/04/05

Project Status
The project is in the monitoring phase. <1% of the arundo is remaining. There wasn't a revegetation project but one may be necessary since tree of heaven (*Ailanthus altissima*) has taken over where the arundo was removed. This species will also have to be removed in order to restore any native vegetation within the channel. As of December 2005 $13,000.00 has been spent on this mitigation site.



Aerial Photo of Essex Nationwide Mitigation Area

Project: U.S. Army Corp of Engineers
Location: San Timoteo Creek, Riverside County

Project Origin
Construction of the Seven Oaks Dam required 60 acres of off-site mitigation in the upper watershed of the Santa Ana Watershed.

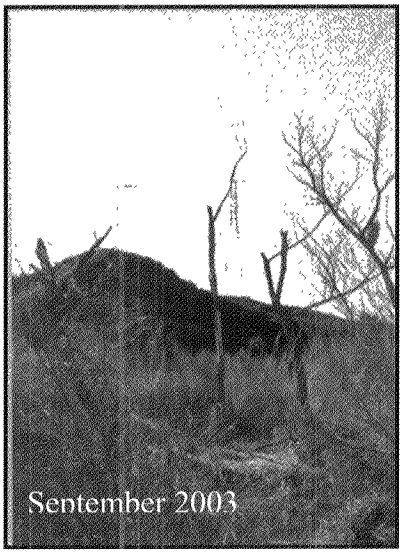
Amount of Mitigation
$1,350,000.00 was deposited into the Santa Ana River Conservation Trust Fund in June 1997 for 60 acres of mitigation.

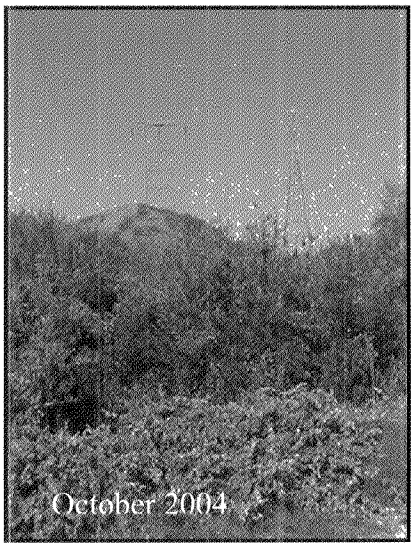
Location
The project is located in Riverside County in the upstream portion of San Timoteo Creek. The 60 acres runs from the 60 freeway to the first railroad crossing at Norton Younglove Preserve. Arundo donax and tamarisk (*tamarix spp.*) were removed from the mitigation project area.

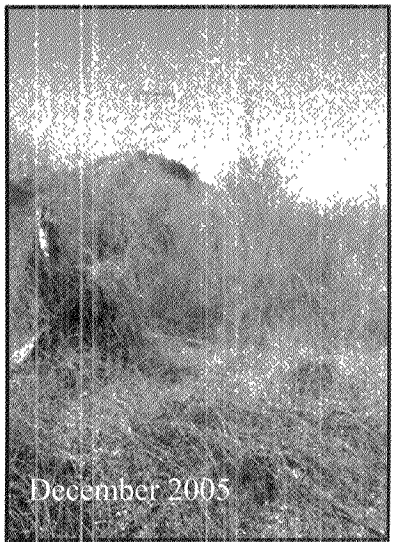
Purpose/ Goal of the Mitigation
San Timoteo Creek had been overrun with arundo. The non-native plant was becoming the dominant species in the channel, crowding out the essential native vegetation. Removing the arundo and other non-natives allowed for natural recruitment of native species which is important for overall watershed health. This project has goals consistent with the additional San Timoteo Creek mitigations listed on the subsequent pages.

Project Status
As of December 2005, $515,854.45 has been spent removing and monitoring this mitigation site. The removal began in November 1997 and was completed in April 1998. The monitoring is now in its 7th year with minimal regrowth. The regrowth represents less than one percent of the current vegetation. Since the removal efforts have taken place, native vegetation has had the ability to flourish in the area. Willow species have increased along with California wild grape. The extremely thick arundo and the steep banks also contributed to the extensiveness of the project. Washburn Grove Management conducts the monthly monitoring and herbicide treatment, which began in July 1998 and continues to be monitored. There are seven least Bell's vireo territories located within the mitigation area.

Site Visits
Visits to the San Timoteo Creek mitigation sites took place on the following dates:
1/11/05, 2/17/05, 5/17/05, 10/04/05







Project: Centex Homes
Location: San Timoteo Creek, Riverside County

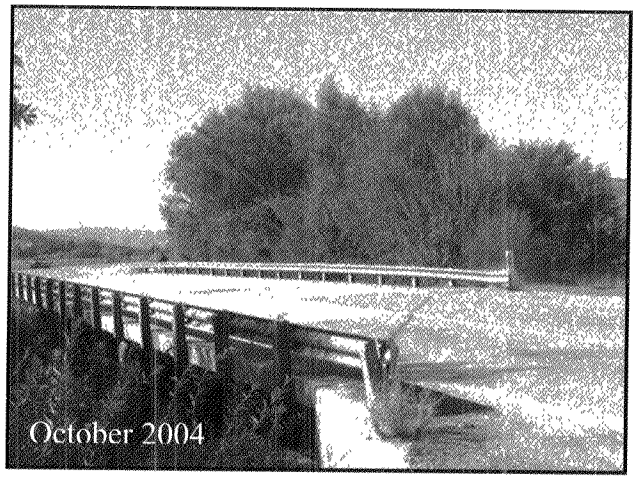
Project Origin
Centex Homes was required to mitigate by California Department of Fish and Game for property development.

Amount of Mitigation
The Santa Ana River Trust Fund received $281,700.00 in February 1999 for six acres of mitigation.

Location
Arundo removal took place on six acres in San Timoteo Creek located in Riverside County. The area was located in phase two of a four-phased removal project. The removal began in February 1999 and was concluded by March 1999. Hand removal took place with the cut arundo being disposed of at a nearby landfill.

Site Visits
Site visits to the San Timoteo Creek mitigation locations took place on the following dates:
1/11/05, 2/17/05, 5/17/05, 10/04/05

Project Status
In the six years since the removal, the arundo has a <1% presence within the six-acre site. The monitoring contract is with Washburn Grove Management. Vegetation that is now present includes: several willow species, cottonwood, mulefat, mugwort, stinging nettle, phacelia, mustard, tree tobacco, buckwheat, elderberry and hemlock. The willow species represent approximately 34 percent of the vegetation, cottonwoods represent another 34 percent and mulefat represents an additional 31 percent of all vegetation. All other vegetation including the arundo represents the remaining one percent. It is estimated that $72,942.90 has been spent weeding this mitigation site as of December 2005.



Project: Norco Bluffs Project
Location: San Timoteo Creek, Riverside County

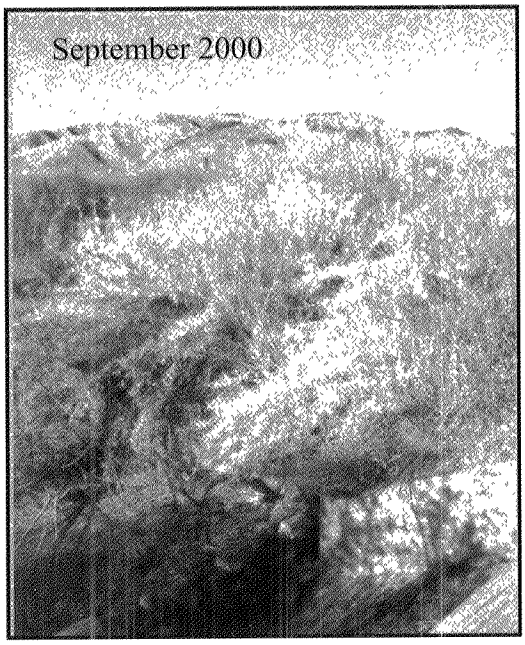
Project Origin
The Norco Bluffs Project was required to mitigate by U.S. Army Corps of Engineers due to the development of houses in the city of Norco.

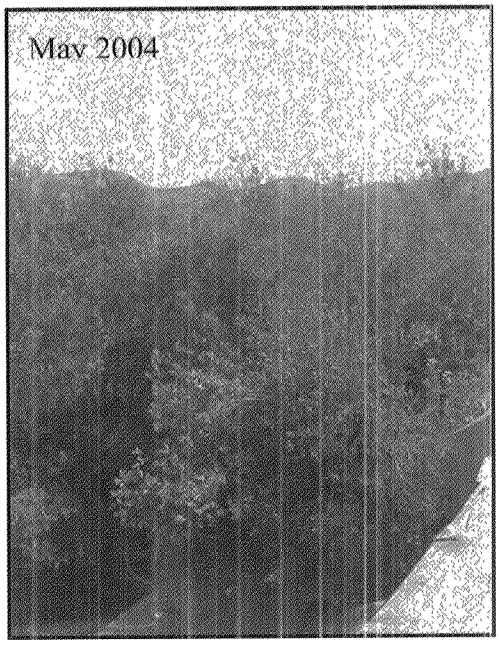
Amount of Mitigation
$516,880 was received by East Valley RCD on May 9, 2000 for the mitigation of 11.4 acres.

Location
The mitigation requirements consisted of 11.4 acres of arundo control on phase two of a four-phased removal project on San Timoteo Creek located in Riverside County. The mitigation consisted of 17.5 % of phase two's 65 acre project.

Site Visits
Visits to the San Timoteo Creek mitigation sites took place on the following dates:
1/11/05, 2/17/05, 5/17/05, 10/04/05

Project Status
As of December 2005, $134,688.40.17 had been spent on this 17.5 percent portion of phase two of San Timoteo Creek. The mitigation site has had a 99 percent success rate in year seven. Inhabiting the site today are several willow species, cottonwood, mulefat, mugwort, stinging nettle, Phacelia, mustard, tree tobacco, Datura, buckwheat, elderberry and hemlock. The willow species represent approximately 34 percent of the vegetation, cottonwoods represent another 34 percent and mulefat represents an additional 31 percent of all vegetation. All other vegetation including the arundo represents the remaining one percent. The 11.4-acre mitigation site continues to be monitored as part of San Timoteo's Phase 2 project area by Washburn Grove Management.





Project: Rivendell Land Co & Fairfield Ranch
Location: San Timoteo Creek, Riverside County

Project Origin
The Rivendell Land Co and Fairfield Ranch were required to mitigate due to property development.

Amount of Mitigation
The Santa Ana River Trust Fund received $67,050 in March 1999 for 1.49 acres of mitigation.

Location
The mitigation requirements consisted of 1.49 acres of arundo control on phase two of a four-phased project on San Timoteo Creek located in Riverside County. The mitigation consisted of 2.2% of phase two. The location is downstream and adjacent to the Centex Homes mitigation project.

Project Status
Removal efforts took place in March 1999 and concluded in April 1999. The mitigation project consisted of hand removal. Currently there is < 1 % arundo present at the site. Monitoring still takes place on a monthly basis during the wet season and every other month during the dry season. As with the adjacent mitigations, current vegetation consists of several willow species, cottonwood, mulefat, mugwort, Phacelia, mustard, tree tobacco, datura, buckwheat, elderberry and hemlock. The willow species represent approximately 30% of the vegetation, cottonwoods represent another 30% and mulefat represents an additional 39% of all vegetation. All other vegetation including the arundo represents the remaining one percent. In addition the three mitigations sites in Phase two contain 21 least Bell's vireo territories. Invasive control expenditures as of December 2005 were $20,199.35.

Site Visits
Visits to the San Timoteo Creek mitigation sites took place on the following dates:
1/11/05, 2/17/05, 5/17/05, 10/04/05

Project: MasterCraft
Location: Calimesa, Riverside County
Permit / Agreement # CDFG 1600-2004-0199-R6, ACOE 200500266-JPL

Project Origin
The mitigation was required for the construction of 268 single family residential homes. The construction project is located in the City of Calimesa. The site is located within Section 24 of Township 2 South, Range 2 West of the USGS El Casco, California, 7.5-minute topographic quadrangle map.

Amount of Mitigation
The Santa Ana River Conservation Trust Fund received $242,000.00 on September 15, 2005.

Location
The mitigation is unique due to the fact the funds will be applied to the purchase of conservation easements and/or fee title property in San Timoteo Creek.

Purpose/Goal of Mitigation
San Timoteo Creek is a beneficial natural resource for humans and wildlife. Preserving San Timoteo Creek has become significant due to the active development in the region. Obtaining conservation easements within San Timoteo Creek will keep this habitat and wildlife corridor intact. Wildlife species need secure

core habitat where human activity is limited, ecosystem functions are still intact and wildlife populations are able to flourish. San Timoteo Creek allows for the necessary seasonal movement.

Project Status

Meetings have been held with the Riverside Land Conservancy (RLC). The RLC has obtained fee title property in the San Timoteo Creek area. Coordination with this group is beneficial to determine the most suitable easement purchase with the MasterCraft mitigation funds. Parcel maps have also been purchased from the County of San Bernardino to assist with potential easement opportunities. As of December 2005, $1,343.44 has been spent on this mitigation project.

Project: Viele Avenue, Beaumont
Location: San Timoteo Creek, Riverside County
Permit / Agreement # RWQCB - 332004-24-TIS

Project Origin

The Viele Avenue mitigation project was due to culvert construction by in the city of Beaumont.

Amount of Mitigation

$3,000.00 was received by Inland Empire Resource Conservation District (formerly East Valley RCD) on December 1, 2004 for 0.06 acres of mitigation.

Location

The mitigation requirements consisted of .06 acres of invasive species management in the Santa Ana Watershed. This specific mitigation is designated to ongoing maintenance of Phase 3 in San Timoteo Creek. The mitigation is located adjacent to the 6-acre wetland easement held by the Resource Conservation District, east of Allessandro Road, 34°0'34"N, 117°10'13"W.

Site Visits

1/11/05
2/17/05
5/17/05
10/04/05

Project Status

As of December 2005, $3,881.26 has been spent of the mitigation funds. The area contains <1% of arundo donax and tamarisk. This area was scoured of vegetation in late 2004 and early 2005. Since then the natural revegetation of cottonwoods, willows and mulefat has occurred.

Project: U.S. Army Corps of Engineers, San Timoteo Creek Reach 3-B
Location: San Timoteo Creek, San Bernardino County

Project Origin

The mitigation was required due to the construction and operation of the San Timoteo Creek Flood Control Project on and adjacent to Reach 3B.

Amount of Mitigation

On February 10, 2004 SAWA received $1,640,000.00 from the Corps for wildlife management and restoration on San Timoteo Creek and environs. Expenditures of these funds will result in a minimum net benefit of the equivalent of 34.56 acres of productive riparian habitat.

Location

The mitigation funds can be expended within the entire San Timoteo Watershed but are focused on the most advantageous areas that benefit the wildlife and habitat in the region.

Purpose/Goal of Mitigation

The primary goal of the mitigation is to support work that will benefit the least Bell's vireo (*Vireo bellii pusillus*), southwestern willow flycatcher (*Empidonax traillii extimus*), other riparian species and the riparian habitat in the San Timoteo Creek Watershed.

Project Status

As of December 2005, $56,161.61 has been spent (this number includes biologist time spent on cowbird trapping, vireo surveys and other biological activity in San Timoteo Canyon). A more detailed annual report of this mitigation has been drafted for the U.S. Army Corps of Engineers.

U.S. Army Corps of Engineers flood control work

Project: Joseph Nichols Homes
Location: San Timoteo Creek, San Bernardino County

Project Origin

Joseph Nicholas Homes, Inc. was required to mitigate for temporary impacts to .12 acres of Southwestern Willow Flycatcher and least Bell's vireo habitat within San Timoteo Creek west of Alessandro Road due to the construction of the Creekside Development.

Amount of Mitigation

Joseph Nicholas Homes was required to grant a six-acre conservation easement to the Resource Conservation District, along with the creation of .34 acres of wetlands and the construction of sediment basins. Inland Empire RCD (formerly East Valley RCD) received $112,000.00 for the maintenance of the conservation easement.

Location

The 6-acre easement is located at Creekside Drive, off of Allessandro Road in the city of Redlands. The approximate location is 34°0'51"N, 117°10'43".

Site Visits

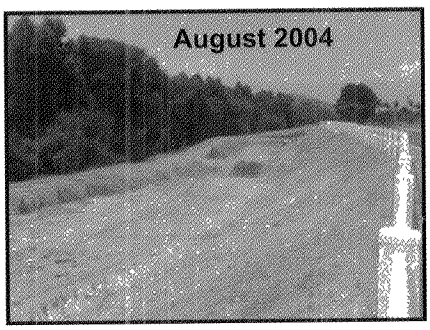
The following dates represent the site visits to the 6-acre easement site for maintenance and /or observation.
2/17/05, 2/18/05, 3/10/05, 5/23/05, 5/24/05, 5/25/05, 7/20/05

Purpose/Goal of Mitigation

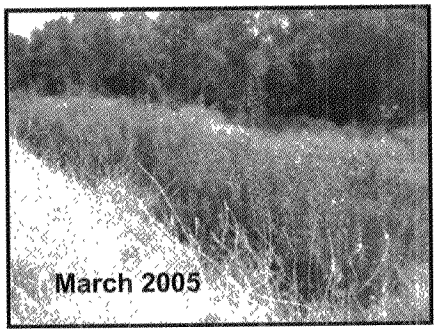
Wetlands are considered valuable because they clean the water, recharge water supplies, reduce flood risks, and provide fish and wildlife habitat *(EPA, Functions and Values of Wetlands, www.epa.gov)*. The six acre sediment basin provides wetland habitat and stormwater filtration reducing the amount of pollutants and sediment entering San Timoteo Creek.

Project Status

Currently the sediment basins and wetland site has become effective toward recucing pollution and storm flows into San Timoteo Creek. Maintenance tasks that were carried out in the 2005 fiscal year consisted of; periodic weeding and mowing of the non-native plants on the slopes, removal of non-wetland plants from the first basin and drilling larger holes in the culvert in the first basins for the water to drain more efficiently. This is important to discourage vector issue in stagnant water. In addition, there are two least Bell's vireo territories in close proximity to the easement site so the SAWA field biologists are monitoring the site on a regular basis. There were two areas of concern for the 2005 year. Due to a stream course change, one sediment basin was lost. In addition, there are large amounts of mustard, *Hirschfeldia incana.* As of December 2005, $13,373.79 has been spent.



Facing NW



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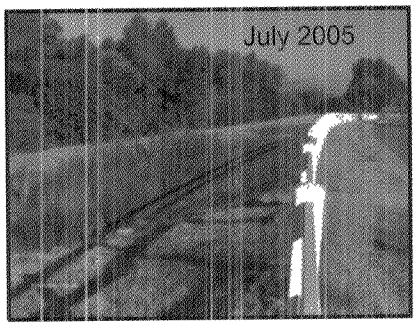
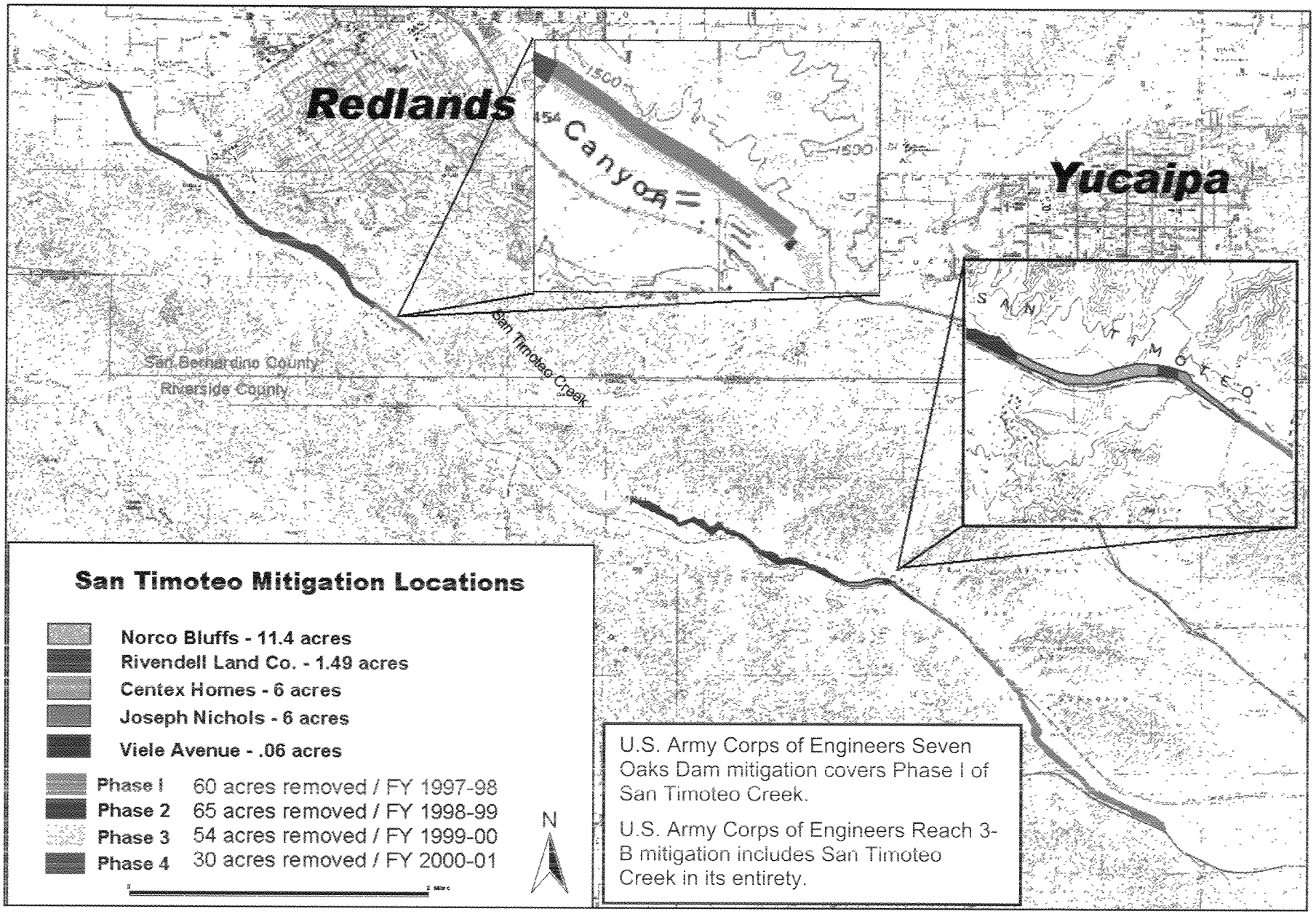


Facing NW

San Timoteo Creek – Mitigation and Conservation Easement Locations



Project: Century Vintage Homes
Location: Yucaipa, San Bernardino County
Permit / Agreement # R8-2004-0110

Project Origin

Century Vintage Homes was required to mitigate due to drainage fill and the replacement of a culvert on Holmes Street located in the City of Yucaipa, Riverside County.

Amount of Mitigation

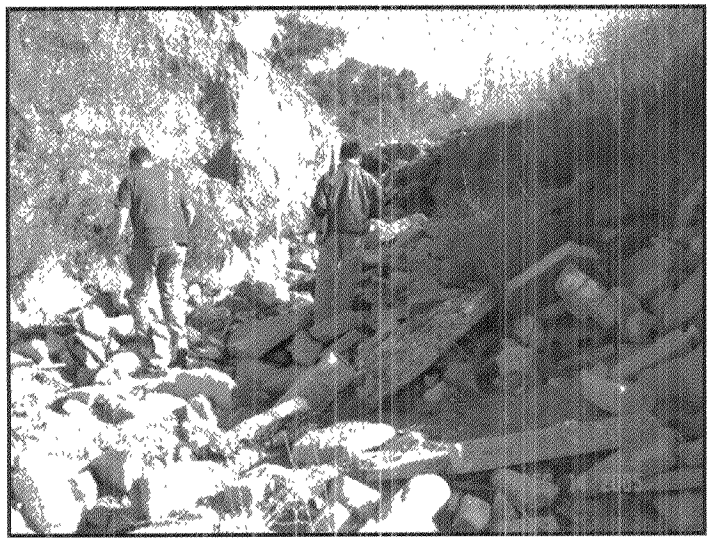
The Inland Empire Resource Conservation District (formerly East Valley RCD) received $87,000.00 on March 15, 2005 for 9 acres of mitigation. Three acres will consist of revegetation, 2 acres will consist of restoration and 2 acres will consist of trash removal.

Location

The mitigation projects will take place within the city of Yucaipa on an unnamed tributary to Wildwood Creek. The drainage location is west of Homes Street at 34°1'3"N, 117°1'33".

Site Visits

1/20/05
5/19/05
12/14/05

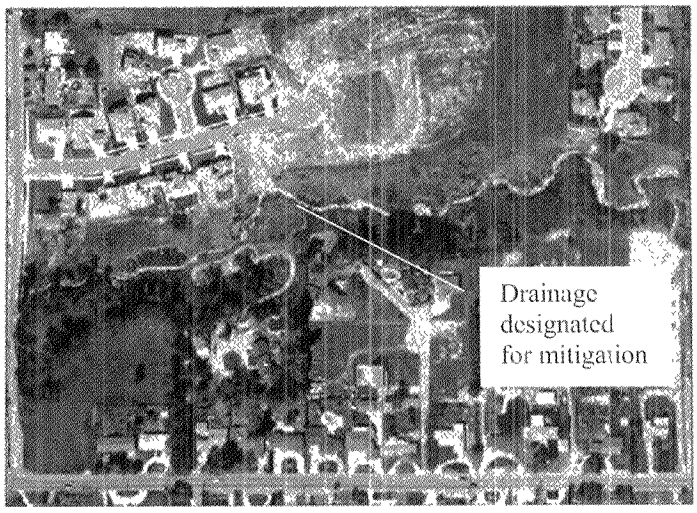


Purpose/Goal of Mitigation

The Century Village Home Development was required to mitigate for impacts to a drainage in Yucaipa. Several mitigation options were presented. The regulatory agencies allowed for several restorative options. The revegetation, restoration and trash removal will enhance the degraded habitat of an unnamed channel located northeast of Wildwood Creek.

Project Status

The expenses to date have consisted of project planning. There were several site visits to assess the creek and determine the best possible restoration method. The tributary will require a large amount of restoration so engineering designs will be required. As of December 2005, $671.73 has been spent on this mitigation site.



The following mitigations were received during the last quarter of the 2005 fiscal year. Their expenses and activity will be recorded in the 2006 annual report.

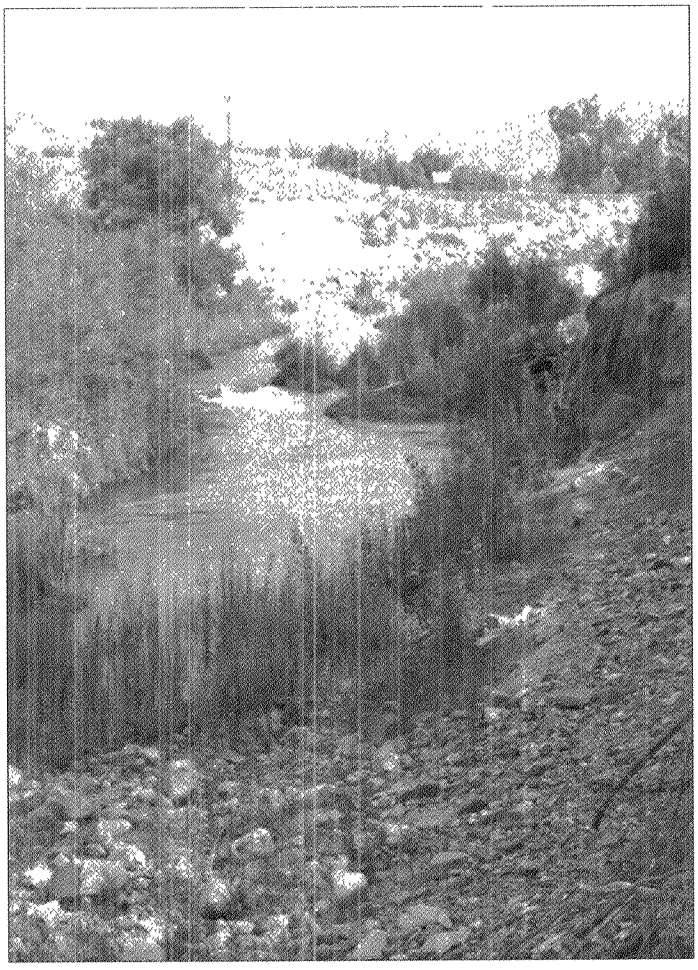
Mitigant	Mitigation Location	Permit/ Agreement #	Date Received	Amount
KB Homes	Santiago Creek		10/6/05	$453,000.00
Century America	Santa Ana Watershed	ACOE 200501150-WJC, CDFG 1600-2004-0205-R6	10/19/05	$24,000.00
OCTA Route 22 HOV	Santiago Creek	CDFG 1600-2003-5167-R5	10/20/05	$25,500.00

Riverside-Corona Resource Conservation District

Regency-Cornerstone, LLC / Santa Ana River Mainstem

USACE Permit #1600-2003-5111-R6

In January of 2004, Regency-Cornerstone was required to mitigate with .25 acres of arundo removal by the California Department of Fish and Game for impacts from a drain improvement project to an unnamed tributary under permit #1600-2003-5111-R6 in the Corona area of Riverside County. The mitigation requirement is for removal and control of arundo along the Santa Ana River mainstem and will occur over five years. Funds for the work were deposited to the Santa Ana River Watershed Trust Fund by Regency-Cornerstone in the amount of $3,152. Arundo removal for this mitigation occurred in March of 2004 and is currently in the herbicide-treatment phase. The .25-acre site was cut by hand and chipped on-site with a self-feeding brush chipper and spread in place as mulch. The removal area was 100% *Arundo donax* with small patches of existing native riparian habitat on the edges of the removal area. Since removal has been recent, native vegetation has not been encouraged until spray treatments have been completed. Vegetation on the edges of the removal site has begun to encroach and infill between the removal patches. The removal portion of the project was conducted by Washburn Grove Management and was completed in March of 2004. Agri-Chem is conducting the treatment phase of the project with quarterly treatments now being made with 6-8 % glyphosate herbicide applied with backpack sprayers. As of December 2005, $644.53 was spent on the removal and treatment of this site.



Pulte Homes / Temescal Canyon

In October of 2001, Pulte Homes was required to mitigate for impacts on an unnamed tributary in Riverside/San Bernardino Counties to one acre of riparian habitat. Pulte was also required to mitigate with the Santa Ana Watershed Association for three (3) acres of arundo removal, control and biological monitoring for a period of 20 years in the Temescal Canyon project. Washburn Grove Management removed the arundo and completed in the summer of 2002. Arundo was removed by hand and with hammer-flail mowers with the biomass left on site as mulch. Herbicide treatments are made to the site on a quarterly basis and are conducted by Natures Image of Lake Forest. Backpack sprayers apply herbicide at a rate of five percent per gallon. Areas that have had vegetation transects conducted show a 50 to 60 percent natural recruitment rate with willow, mule fat and herbaceous understory covering between 20 and 30 percent of the area. Some damaged occurred during the storms of 2004, with 20 percent of the vegetation being removed due to flooding. The remaining open space is either bare soil or dying clumps of arundo that require treatment and do not allow for the placement of plant material. The site was 80 percent arundo at the time of removal, with as needed treatments being made as arundo grows to treatable height of three to four feet. Herpotology arrays and cowbird trapping are also conducted on this site during the season with monitoring of the Least Bell's Vireo done during the nesting season. Traps are checked on a daily basis from April to September and have been deployed on the site for the five years. Current expenditures for this project are $23,772.24

Davcon Development / Mockingbird Canyon

In September of 2003, Davcon Development and Skyking LLC were required to mitigate for impacts to the outflow channel of Lake Elsincre in the City of Lake Elsinore, Riverside County, CA. The 0.02-acre permanent and 0.03-acre temporary impacts to the channel were required by the Department of Fish and Game to be mitigated through the Santa Ana Watershed Association. Funding was provided to SAWA in the amount of $2,437.20. The mitigation was the removal of .12-acre of arundo in Mockingbird Canyon conducted in October of 2003 with monitoring over a five-year period. The .12-acre site was cut by hand and chipped on-site with a hammer flail mower, and the mulch was left in place. The removal area was 100 percent Arundo donax at the crossing of Mockingbird Canyon Road and Mockingbird Creek. Some small patches of existing mule fat were left on the edges of the removal area. Since removal of the arundo, native vegetation within the site has naturally consisted of mule fat and some aquatic and vegetation consisting of watercress, cattails and a few black willows. Additional mulefat and elderberry were planted to supplement natural succession. The removal portion of the project was conducted by Natures Image of Lake Forest and was completed in November of 2003. Washburn Grove Management of Hemet is conducting the treatment phase of the project with quarterly treatments with 5 percent glyphosate herbicide, applied with backpack sprayers. As of December 2005, $480.12 has been spent on the removal and treatment of this site.

Forecast Homes / Santa Ana River Mainstem

In September of 2003, Forecast Homes was required to mitigate for impacts to an unnamed tributary of the San Jacinto River in the Valle Vista area of Hemet, CA. Impacts to the 50-acre area of riparian habitat were mitigated through the Santa Ana Watershed Association by providing $35,000 for habitat restoration. Mitigation was required by the Department of Fish and Game under permit number 6-008-98 for one acre of Arundo control on the Santa Ana River mainstem for a period of five years. The one-acre site on the mainstem of the Santa Ana River was cut by hand and chipped on-site with a self-feeding brush chipper and spread in place as mulch. The removal area was 100 percent Arundo donax with small patches of existing native riparian habitat on the edges of the removal area, consisting mostly of mule fat and black willow. Since removal of the arundo was recent, native vegetation within the .50-acre removal area has not filled-in until spray treatments have been completed. Vegetation on the edges of the removal site was damaged during the October 2004 flood and some was washed downstream. Vegetation that remained has begun to grow between the remaining open spaces. The removal portion of the project was conducted by Washburn Grove Management of Hemet and was completed in March of 2004. Agri-Chem of Oceanside is conducting the treatment phase of the project with quarterly treatments being made with 6-8 percent glyphosate herbicide, applied with backpack sprayers and ATV's with spray tanks. As of December 2005, $961.23 has been spent on the removal and treatment of this site.

Chaparral Valley LLC/Santa Ana River Mainstem
USACE Permit # 2003-01477-DLC

In October of 2003, Chaparral Valley, LLC and Classic Pacific Homes were required to mitigate for impacts to an unnamed tributary of the San Jacinto River in the Romoland area of Riverside County, CA. Four acres of arundo removal were required by the Regional Water Quality Control Board for impacts to one acre of riparian habitat. Funding was provided to SAWA in the amount of $68,000 for a period of five years. The four-acre site was cut by hand and chipped on-site with a self-feeding brush chipper and spread in place as mulch. The removal area was 100 percent *Arundo donax* with small patches of existing native riparian habitat on the edges of the removal area, consisting of mule fat, black willow and a few Fremont cottonwoods. Since removal of the arundo was recent, native vegetation within the four-acre site has not been encouraged to re-grow until spray treatments have been completed. As with the other sites, vegetation along the edges has begun to infill between the current openings that existed before removal, with some native vegetation establishing between the cut clumps of arundo. This vegetation now makes up 10 percent of the on-site cover, where before, 100 percent was occupied by arundo. The removal portion of the project was conducted by Washburn Grove Management of Hemet and was completed in March of 2004. Agri-Chem of Oceanside is conducting the herbicide treatment phase of the project with as-needed treatments with 6-8 percent glyphosate herbicide, applied with backpack sprayers and ATV's with mounted spray packs. As of December 2005, $16,198.99 has been spent on the removal and treatment of this site.

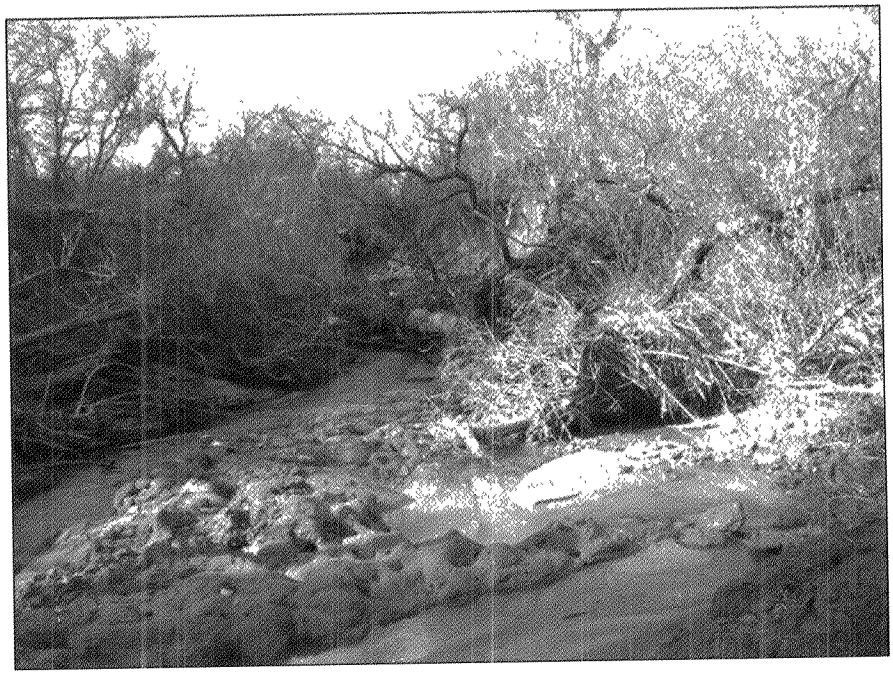
Clark Management and Development, Springbrook Creek, Riverside
USACE Permit # 200500141-WJC
CDFG Permit# 1600-2004-09195-R6

In November of 2001, Clark Management and Development was required to mitigate for impacts to Springbrook Creek for construction of a tilt-up industrial building on the east portion of the City of Riverside. The construction project was not completed until August of 2004 with removal waiting to be done in the fall of 2004 by Washburn Grove Management. The one-acre site in Springbrook Creek has been impacted by four acres of arundo, two acres of castor bean and a few trees of tamarisk. Clark Management was required to mitigate with the Santa Ana Watershed Association for one acre of arundo removal for a five-year period. The stream is the main drainage that flows from Box Springs and Blue Mountain areas and is slated for a 1,500 home development upstream

of the removal site. Money was received in the amount of $17,000 with $4,909.37 used for removal to date.

Cougar Ranch, LLC/Santa Ana River Mainstem

In December of 2003, Cougar Ranch LLC was required to mitigate by the Regional Water Quality Control Board for permanent impacts to .50 acre of an unnamed tributary in the City of Beaumont for a period of 20 years. The 1.08 acres of arundo removal credit cost the applicant $54,000. The 1.08-acre site was cut by hand in the San Bernardino County portion of our removal project on the Santa Ana River and was chipped on-site with a self-feeding chipper and spread in place as mulch. The removal area was 100 percent *Arundo donax* with small patches of existing native riparian habitat on the edges, consisting of mule fat, black willow and a few Fremont cottonwoods. As with the other sites, native vegetation within the site has not been encouraged to colonize until spray treatments have been completed. This site is within a large, 100-acre arundo removal area on the Santa Ana River mainstem and has no surrounding vegetation. Some native vegetation has begun growing in areas between the cut arundo. This vegetation was damaged during the floods of October 2004 and again in January of 2005. Native vegetation now makes-up 5 percent of the area, with about 80 percent of the arundo killed by spray treatments. The removal portion of the project was conducted by Washburn Grove Management of Hemet and was completed in April of 2004. Agri-Chem of Oceanside is conducting the treatment phase of the project with monthly spray applications being made with 6-8 percent glyphosate herbicide, applied with backpack sprayers and ATV's with mounted spray packs. As of December 2005, $4,589.72 has been spent on the removal and treatment of this site.



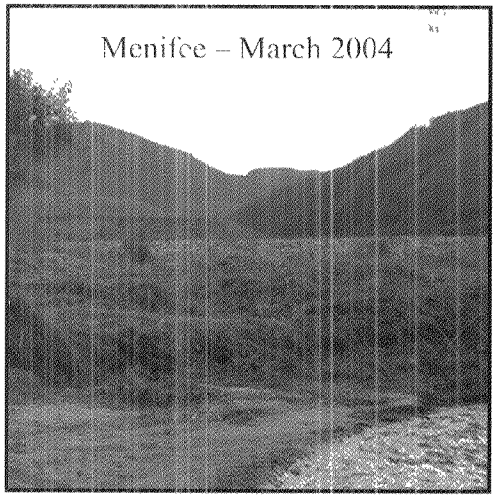
Steadfast Properties/Alessandro Arroyo

CDFG Permit# 06-66-99

In September of 1999, Steadfast Properties was required by the ACOE to mitigate for impacts to an unnamed pond in the City of Corona, CA. For the one-acre impact, Steadfast mitigated with the Santa Ana Watershed Association for 2.5 acres of arundo by the Department of Fish and Game. Mitigation was applied to the Alessandro Arroyo arundo removal project in the amount of $25,000. The 2.5-acre site is south of the Berry Street Bridge and has been arundo free for the last three. Vegetation was planted along portions of the removal area with native recruitment making up a success rate of 80 percent. Pestmaster Services of Bishop, CA has applied herbicide treatments as well as the removal of the arundo. Treatments are with an eight percent glyphosate mixture applied as needed, conducted removal in the fall of 1999. Removal was done by hand and with tractor-powered flail mowers. Arundo was left in place as mulch, with some smaller piles, (less than 3-inches in height), left above the high water mark for small mammal habitat. To date, all funds have been spent and the obligation for this site expired in September of 2004. In the winter of 2004-05, large flows removed some of the habitat from this site. As of December 2005, $3,921.41 has been spent on the removal and treatment of this site.

Steadfast Properties-River Run/Temescal Canyon

In March of 2001, Steadfast Properties was required to mitigate for impacts on .75 acre of an unnamed tributary of the Santa Ana River in the City of Corona for the River Run Housing Complex. The company was required to mitigate for one acre of weed control spray treatments, re-vegetation, and monitoring for five years and provided $5,500 for the work. The project started in October of 2002 and will be completed in October of 2006. Arundo removal was done by hand and with flail mowers in the summer of 2002 in Temescal Canyon by Washburn Grove Management and was completed in the fall of 2002. Natures Image of Lake Forest conducts herbicide treatments to the site on a quarterly basis. As of December 2005, $3,921.41 has been spent on the removal and treatment of this site.



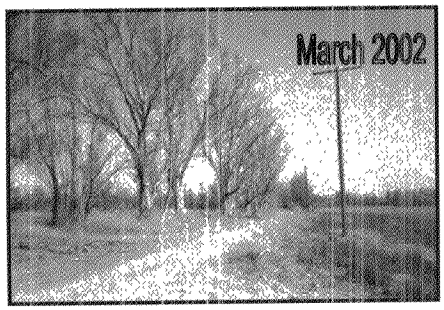
Menifee Development, LLC/Santa Ana River Mainstem

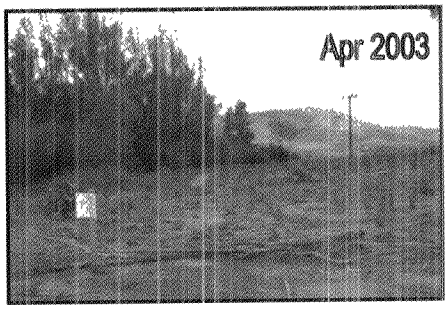
In November of 2003, Standard Pacific Homes and Menifee Development, LLC were required to mitigate for impacts to an existing detention basin in the Sun City area of Riverside County. The .41 acre basin existed as a water-holding structure used by the previous landowner for agriculture purposes. The Department of Fish and Game determined that the basin was of low habitat value and that an alteration agreement was not necessary. Although this reduced the impact to the developer, the Department gave them a .50 arundo removal mitigation requirement. Funds for the mitigation were deposited in November of 2003 in the amount of $8,500. The .50-acre site was cut by hand and chipped on-site with a self-feeding brush chipper and spread in place as mulch. The removal area was 100 percent Arundo donax with small patches of existing native riparian habitat on the edges of the removal area, consisting of mule fat and black willow. Since removal of the arundo occurred before the October floods, native vegetation within the .50-acre removal area has not been planted until spray treatments have been completed. Vegetation on the edges of the removal site has begun to infill between the current open space and areas that were damaged by the flooding. The removal portion of the project was conducted by Washburn Grove Management of Hemet and was completed in March of 2004. Agri-Chem of Oceanside is conducting the treatment phase of the project with monthly treatments being made with 3-6 percent glyphosate herbicide, applied with backpack sprayers and ATV's with hose-mounted spray packs. As of December 2005, $873.51 has been spent on the removal and treatment of this site.

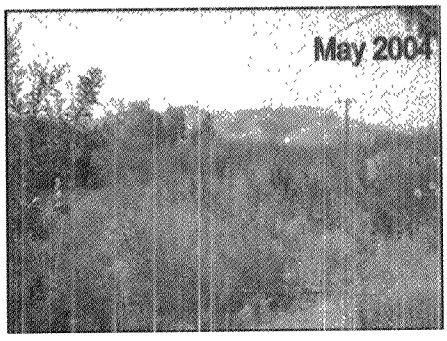
GFR Enterprises, Inc. /Santa Ana River Mainstem
CDFG Permit #6-2002-283

In December of 2002, GFR Enterprises was required to mitigate for impacts to a .24-acre area of an unnamed channel in the City of San Bernardino by the Department of Fish and Game. The $17,000 established by SAWA was required for a five-year period and was applied to the Santa Ana River Mainstem arundo removal project to a one-acre area. The one-acre site was cut by hand in the San Bernardino County portion of the project and was chipped on-site with a self-feeding brush chipper and spread in place as mulch. The removal area was 100 percent Arundo donax with small patches of existing riparian habitat on the edges of the removal area, consisting of mule fat, black willow and a few Fremont cottonwoods. This site was removed at the RIX Water Treatment Plant outfall and is part of a Santa Ana Sucker arundo removal area. Since removal of the arundo is recent, native vegetation within the site has not been encouraged until spray treatments have been completed. A small .50-acre re-vegetation site has been planted by SAWA staff and has a current success rate of 50 percent, with 200 new pole cuttings and 50 one-gallon container stock being planted in January of 2004 and again in March of 2005. This site also occurs

within the large, 100-acre arundo removal area with much of the surrounding vegetation being lost in the October 2004 floods. Native vegetation now makes-up 10 percent of the area, were before, 100 percent was occupied by arundo. The removal portion of the project was conducted by Washburn Grove Management of Hemet and was completed in March of 2004. Agri-Chem of Oceanside is conducting the treatment phase of the project with as-needed spray treatments being made with 6-8 percent glyphosate herbicide, applied with backpack sprayers and ATV's with mounted spray packs. As of December 2005, $4,271.65 has been spent on the removal, treatment and planting of nursery stock.







Highway 71 Mitigation Project - Riverside County

This twelve-acre eucalyptus removal and vegetation management project is located along highway 71 in Riverside County; north of the Prado flood control basin on Corps and OCWD managed land. Over 1,200 trees from three inches diameter at breast height (DBH) to over four feet DBH were removed and corded for firewood.

The site is used by migratory birds during the breeding season and has been used by raptors such as Red-tailed hawks, Barn owls and American kestrels. 2,000 plants came from RCRCD's native plant nursery and an additional 8,000 plants were purchased from a native plant nursery in Menifee, CA. Irrigation was installed and was used with a well on-site with a portable generator. Plantings consisted of mule fat (80 percent), willow, sycamore and cottonwood (10 percent) and upland plants such as sugar bush and bush poppy (10 percent). Weed control is done by hand and with a systemic herbicide as needed. Success rates of the plating are currently 90 percent with no supplemental irrigation occurring due to adequate soil moisture being available during the summer months. As of December 2005, $186,415.02 has been spent on the removal, treatment and planting of nursery stock.

SAWA Account	Contributing Agency & Project	Amount	Purpose of Funds	Date Received	Status and Location of Work
1	Corps of Engineers; Seven Oaks Dam	$ 1,350,000	60 acres of Arundo removal	6/13/97	San Timoteo Creek, Phase I completed but monitoring and spot treatment in perpetuity
2	The Nature Conservancy; Prado Water Conservation and Flood Control	$ 1,631,953	Create 124 acre vireo habitat vireo mgt	7/28/97	Prado Basin; completed but monitoring ongoing
3	Orange County Water District; Prado Water Conservation	$ 1,000,000	Arundo control, endangered bird mgt	8/1/97	upper watershed; Prado Basin and environs
4	Centex Homes; property development	$ 281,700	Arundo control on 6 acres	2/23/99	San Timoteo Creek, 9.2% of Phase II; completed but monitoring ongoing
5	Rivendel Land Co; Fairfield Ranch	$ 67,050	Arundo control on 1.49 acres	3/30/99	San Timoteo Creek 2.2% of Phase II; completed but monitoring ongoing
6	CalTrans; Hwy 71 improvements Project	$ 210,000	Enhance vireo habitat	11/8/99	Endangered species mgt. On Prado Basin Habitat restoration eucalyptus removal
7	Steadfast Properties; Carl Neuhasusen at 15/91 Fwys	$ 25,000	Onetime removal of 3 acres of Arundo	1/10/00	Completed in Alessandro Arroyo
8	Corps of Engineers; Norco Bluffs Project	$ 516,880	11.4 acres of Arundo removal; 6 yr 4 traps	5/9/00	San Timoteo Creek, 17.5% of Phase II Arundo Removal; complete with ongoing monitoring & trapping
9	OCWD/GWRS	$ 50,000	1 acre	8/29/01	1 acre restored Santiago Creek
10	Highland Orchards	$ 150,000	3 acres	11/30/01	3 acres restored on Temescal Creek
11	County of Orange IWM	$ 10,000	Fish Restore	1/24/02	Sucker Habitat Creation
12	State of California	$ 200,000	revegetation	8/1/02	Prado Eucalyptus replacement with native habitat/Caltrans
13	Corps of Engineers	$ 90,000	Cowbird	10/2/02	Cowbird Control; Prado Dam Raising Mitigation
14	Steadfast Properties	$ 5,500	1 acre of arundo control and reveg	3/13/03	Temescal at Cajalco bridge
44	California Quartet	$ 100,000	arundo removal and monitoring	6/1/03	maintenance mode
15	Corps of Engineers	$ 90,000	Cowbird	7/8/03	Cowbird control in the Santa Ana Canyon-15 traps
16	State of California	$ 77,000	Hwy 71 Mitigation	8/6/03	Eucalyptus removal, habitat restoration, west Prado
17	Riverside County	$ 116,986	River road Sand Mining	8/27/03	Ongoing arundo control on San Timoteo Creek
18	Forecast Homes	$ 35,000	1 acre of arundo removal	9/5/03	San Ana River mainstem
19	Davcon Development	$ 2,437	12 acre arundo removal	10/6/03	Mockingbird Canyon
20	Menifee Development LLC	$ 8,500	.41 acres of arundo removal	11/3/03	Arundo removal on Santa Ana River mainstem
21	GFR enterprises	$ 17,000	1 acre of arundo removal	11/4/03	Santa Ana River mainstem
22	County of Orange IWM	$ 16,200	arundo removal	12/5/03	Arundo removal within Orange County, Santiago Canyon
23	Chaparral Valley LLC	$ 68,000	4 acres of arundo removal	12/30/03	Santa Ana River mainstem
24	MWD of So. Ca	$ 50,000	Lake Mathews Settle RWQCB	1/13/04	Arundo control on Mockingbird Canyon -3 acres
25	OCWD	$ 930,000	Winter water con-Prado	1/27/04	Restoration of 37.2 acres in Prado Basin
38	Regency Center	$ 3,125	East Valley Master Drainage	2/5/04	Santa Ana Watershed
36	John Ferronato	$ 112,000	housing development	2/20/04	Restoration on 6 ac on San Timoteo Creek
68	Essex Nationwide	$ 21,133	Construction of a storm drain	2/22/04	Monitoring phase Arundo less than 1 percent eradiate
28	County of Riverside Transportation and Land Management Agency	$ 6,250	Impacts at Hicks Street-.45 arundo removal	3/10/04	7/17/04 cut and chipped arundo completed. Spray mode

SAWA Account	Contributing Agency & Project	Amount:	Purpose of Funds	Date Received	Status and Location of Work
29	Cougar Ranch LLC	$ 54,000	housing development	3/10/04	SAR 1.08 ac for 20 yrs of arundo removal (La Cadena/Mission)
30	City of Irvine-removed sediment in San Diego Creek	$ 75,000	restoration/enhancement of 2 acres within upper SAW	3/10/04	Initiated site, removed .45 acres of arundo, 1st mo. of spray phase
31	Gavilan Road	$ 17,500	1 acre arundo removal 5 years Gavilan Road project	5/17/04	Spray mode
32	US Home-#200301492-JPL cdfg	$ 11,250	.81 Acre of arundo removal and control on Santa Ana Mainstem 5 years	5/20/04	Spray mode
33	The Alter Group-Impacts to Mulberry Creek	$ 2,000	0.04	7/30/04	Arundo removal and control in Santa Ana Mainstem
34	TMLA-Newport Road/Interstate 215	$ 9,800	.56 arundo removal	8/25/04	in lieu fee payment
35	County of Riverside	$ 5,880	monitoring & reporting of arundo in La Sierra gorge	8/30/04	Spray mode
47	Clark Management and Development 2751 W. Pacific Coast Hwy #250 Newport Beach, CA 92663	$ 17,500	arundo removal in Springbrook	9/23/04	Spray mode
69	Viele Ave	$ 3,000	construction of culvert in Beaumont	12/1/04	less than 1 percent Invasives, monitoring phase, scoured in 04 & 05, natives are back
26	Riverside County Trans Depart	$ 3,125	replacement of a culvert under Corydon Street	12/15/04	Temescal for three years
39	SAWPA-CDFG	$ 5,440	impacts at Baker st in Lake Elisonore	12/15/04	removal of 32 acres in Temescal
41	Caliber Motors Mercedes-Bez	$ 5,000	(.1 acre) re-treatment of arundo in Irvine Park arundo removal for 20 yrs	2/1/05	assigned to Santiago
42	Pulte Homes/Chambers	$ 162,500	Yorba Linda Heights	2/1/05	3.25-acre site in Irvine Park
43	Metropolitan Water District	$ 25,000	Spillway Clear in Telegraph Can/Dimer Filtration Plant	2/1/05	.45-acre arundo removal within Santiago Creek
45	Desert Valley Hospital	$ 15,000	removal, control, biological monitoring of arundo	4/20/05	applied to Springbrook Spray mode
51	KB Homes	$ 81,500	impacts in the Perris Valley Strom Drain	5/25/05	1.63 acres of arundo control
52	OCTA	$ 25,000	Route 22 HOV Land	6/16/05	assigned on Santiago Creek
48	Centex Homes; property development	$ 10,500	development single family	9/28/05	.21 acres" creation" Prado Eucalyptus forest conversion in the upper watershed
50	KB Homes	$ 453,000	In Lieu Fee program-remove arundo	10/6/05	9.06 acres re-treatment in upper watershed
49	Beazer Homes Orange Division	$ 96,000	cleanup & restoration of 1.92 acres on San Jacinto River	10/7/05	1.96 acres of re-treatment in San Jacinto Watershed
53	City of Calimesa	$ 242,000	impacts on San Timoteo	11/7/05	Spray mode
55	Highland Orchards Associate	$ 150,000		11/16/05	3 acres "creation" - Prado Eucalyptus Forest Conversion
59	Wasson West LP-on the check/Helix Env	$ 32,500	Village I	12/2/05	Spray mode
66	Century American Development Corporation	$ 100,000	This Mitigation is a total of 276000 and we received the 100k in Dec 05	12/5/05	This was applied to Highway 71 eucalyptus removal, Dennis began work in early March 06

Funding and Expenditures

Background

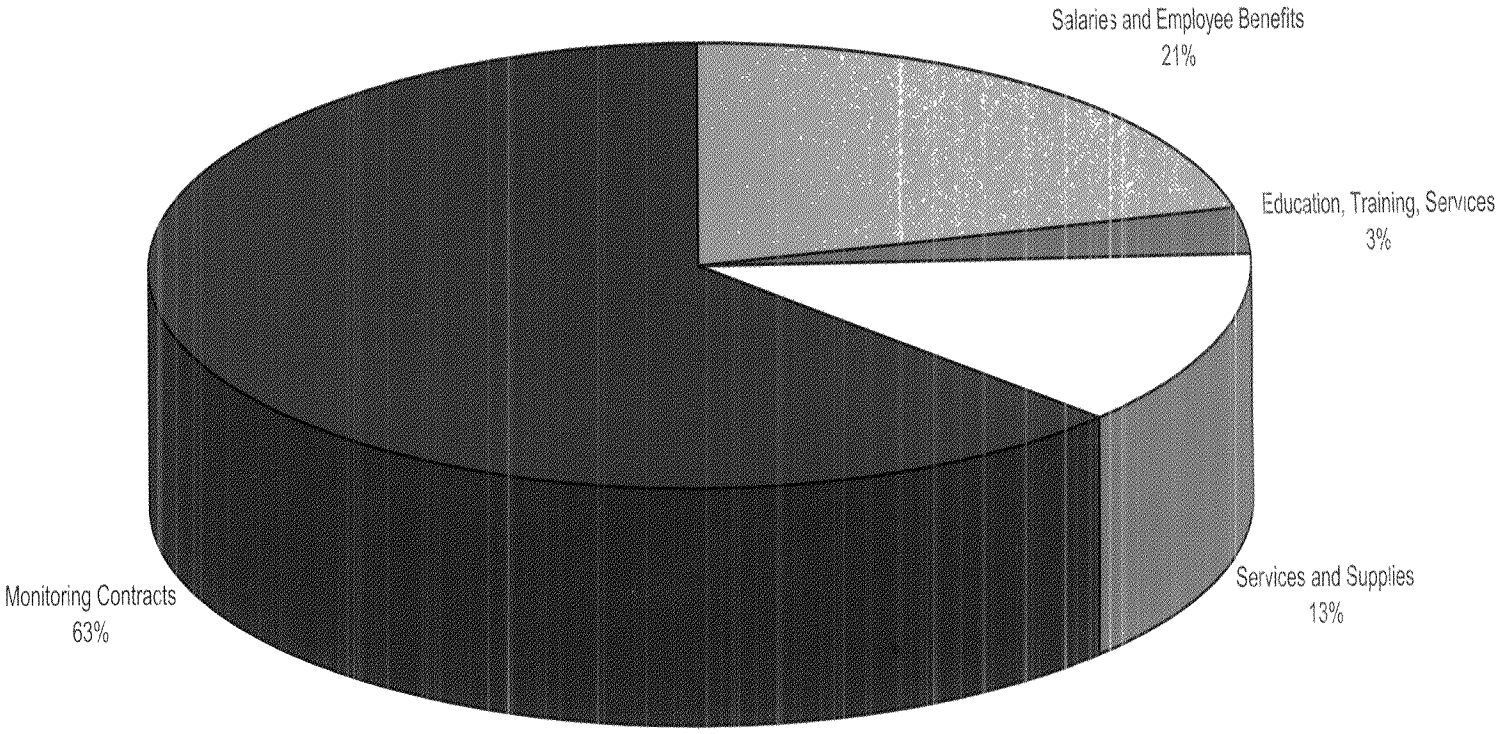
The Nature Conservancy (TNC) originally managed the watershed fund and the restoration work in the upper watershed. As of 1997, the work is performed by four Resource Conservation Districts (RCD) in the watershed and the fund is administered by OCWD at no cost. The RCDs came together as the Santa Ana Watershed Association (SAWA), which include the East Valley, Inland Empire West, Riverside-Corona, and San Jacinto Basin RCDs. The foci of the Watershed Program are dictated by the mitigation responsibilities assumed from the mitigants with the public funds provided to mitigate mostly for large federal projects through control of invasive species, particularly giant reed and cowbirds, which interfere with river function and resource abundance; increasing wetlands and open space; managing endangered species toward recovery; and public involvement. Arundo control started in the upper watershed and continues downstream because arundo invades by pieces washing down and sprouting in moist soil. Arundo seeds are sterile in our area, so that the spread of arundo has been entirely by vegetative means.

Habitat restoration, primarily through arundo control is the current central focus of the Watershed Program because most of the funding obtained was earmarked for arundo control. The endangered species work and other wildlife monitoring is necessary for compliance with the regulatory permits to do the arundo work. Total deposits into the Santa Ana River Conservation Trust Fund were $15,755,743.30 as of December 31, 2005. Deposits were from grants and funds for the mitigation of projects on the river; the Watershed Program took on the funds and the mitigation responsibilities. The projects providing funds included the Seven Oaks Dam; Prado Water Conservation; Highway 71 Improvements; Norco Bluffs Stabilization; Santa Ana River Flood Control; Environmental Protection Agency Grants; and several smaller private funds from Regency Cornerstone, Cougar Ranch LLC, City of Irvine, US Home, and The Alter Group. Some of the mitigation funding sources did not specify acreage requirements but provided the wherewithal for treatment of several hundred additional acres and more importantly, for longer term re-treatment. Beginning in 2002, there was an additional $9 million for arundo control due to a successful grant application for Proposition 13 funds.

The Annual Work Plan has been deemed to constitute a contract by Riverside County Council. Changes and additions are made through staff-generated amendments to the work plans. The work items are largely dictated by the responsibilities inherited with the funding and the long-term commitment for follow-up. Annual achievements and audits of expenditures are reported upon each year. Photographic documentation of work progress is collected in each project area and there are regular site visits by RCDs, OCWD, and regulatory agency representatives. The local RCD is responsible for contract and contractor oversight.

An individual RCD performs a piece of work, authorized through the annual work plan and within the budgetary constraints dictated therein. That RCD then invoices the OCWD and they are paid out of the trust fund. To be paid, invoices must be signed by the manager of the invoicing RCD, the chair of SAWA, and two authorized staff of the OCWD. Approved work is confined to the activities specified in current grants and to maintenance obligations. The trust fund must be kept at a level that will yield enough operating capital to continue long-term arundo maintenance and other follow-up responsibilities. The trust fund received deposits totaling $21,799,520.60 and interest of $1,301,937.54 as of December 31, 2005 with disbursements of $15,755,743.30 and balance of $7,345,714.84.

SAWA Expenditures



Santa Ana Watershed Association
Annual Budget
January 1, 2005 - December 31, 2005

REVENUES		
	Proposition 13 Funds	$ 274,421
	Mitigation	1,531,000
	Interest	183,743
	Total Revenues	1,989,164
EXPENSES		
	Salaries and Employee Benefits	
	Salaries/Wages	310,805
	Employee Education Fund	1,574
	Accounting Services	26,609
	Annual Audit	6,500
	Advertisement for positions	2,311
	Auto Mileage	29,744
	Bank Service Charges	22
	Biological Contracts	46,870
	Communication	7,003
	Computers/Tech upgrades	1,192
	Donations-Watershed planning support SJBRCD	27,125
	Equipment	1,458
	Field Supplies	2,667
	Liability Insurance	4,326
	Meetings (supplies for meeting)	65
	Memberships-Ca Nonprofit Assoc.	439
	Office Supplies	1,356
	Payroll service	2,943
	Postage	117
	Public Outreach, events, advertisement-awards water festival, tour	12,514
	Printing (Brochure & Newsletter)	10,634
	Safety Training	300
	Seed for the BHCO program	47
	State/Federal permitting requirements	2,428
	Tax fee	80
	Water sampling	1,417
	Contracts with RCD's	923,103
	Total Expenses	1,423,649
Net Revenues Over(Under) Expenses		565,515
FUNDS AVAILABLE FROM RESERVE		6,780,200
Net Funds Available Over(Under) Expenses		$ 7,345,715

SAWA Executive Board

Jennifer Ares, Chair
Inland Empire RCD
25864-K Business Center Drive
Redlands, Ca 92374
(909) 799-7407

David Hansberger, Director
Inland Empire RCD
P.O. Box 1470
Chino, CA 91708
(909) 799-7407

Kerwin Russell, Vice Chair
Riverside-Corona RCD
4500 Glenwood Ave.
Riverside, CA 92501
(951) 683-7691

Dick Zembal, Treasurer
Orange County Water District
10500 Ellis Ave., P.O. Box 8300
Fountain Valley, CA 92728
(714) 378-3213

Jim Gilmore, Secretary
San Jacinto Basin RCD
950 North Ramona Blvd. #6
San Jacinto, CA 92582
(951) 654-7733

Hayley Lovan, Director
US Army Corp of Engineer
PO Box 532711
Los Angeles, CA 90053-2325
(213) 452 3863

Renee Latu, Executive Director
25864-K Business Center Drive
Redlands, Ca 92374
(909) 799 7407

Santa Ana Watershed Association