

# Resources

U P D A T E

## Help Your Local Waterway!



Join us to remove trash and debris from the Santa Ana River from 9 a.m. to noon on Saturday, October 3, 2009. We will be removing pollutants that might otherwise flow downstream, through the river to the ocean. This year's event will be staged at Riverside County Flood Control and Water Conservation District offices, 1995 Market St., just off the 60 freeway in Riverside.

The Santa Ana River, which drains the Santa Ana watershed, is home to a variety of native plant and wildlife species, including some that are threatened and endangered. The river drains to the ocean, so the removal of trash also helps save the lives of marine animals and protects our beaches. The annual watershed cleanup event is held in conjunction with the California Coastal Commission's Coastweeks, which are part of an international coastal cleanup effort.

### Our Heroes

Last fall, 350 volunteers collected 50 tons of human-made waste from the Temescal Wash, a tributary to the Santa Ana River. Concerned citizens, college clubs, scout groups, classes, families, and church groups volunteered to remove trash and debris. The cleanup was staged at the Auburndale Road crossing of the stream, in Corona, October 18, 2008.

We could not have made such a significant accomplishment without our wonderful financial and in-kind donors:

The *Only Rain Down the Storm Drain*  
Program of the Cities and County of  
Riverside  
Riverside County Flood Control and  
Water Conservation District  
Riverside-Corona Resource Conservation  
District  
Keep Riverside Clean and Beautiful  
Riverside County Waste Management  
Waste Management of the Inland Empire

Santa Ana Water Project Authority  
Arlington Rotary Club of Riverside  
Inland Empire Waterkeeper  
Santa Ana Watershed Association  
Western Municipal Water District  
Best, Best and Kreiger  
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Trails 4 All  
C,R&R



**The Riverside-Corona  
Resource Conservation District**

RCRCD provides resource management assistance to private and public landusers and conducts land treatment, education, and volunteer programs to steward natural resources. RCRCD fosters the sustainable use of natural resources for each land-use, including native habitats, urban/suburban areas, and agriculture.

To help us provide lunches and t-shirts for all, please RSVP to Jenny Anderson at (951) 683-7100, Ext. 204 or Erin Snyder at (951) 683-7691, Ext. 207.

### PREPARATION

For maximum safety and comfort, please wear shoes with closed-toes and work clothes of cotton or "breathable" fabric, a long sleeved shirt, long pants, a hat, sunscreen, and insect repellent. Plastic gloves and bags will be provided, however, you may wish to bring your own gloves. The event is not recommended for children under the age of 10, and children under 18 require a parent/guardian's signature to participate.

# Sweeping the Awards: Arlington High!

Two Arlington teams took top honors at the California Envirothon, an environmental learning competition, which was held May 2, 2009 in Scott's Valley, California. Arlington beat its own best record from 2004 by 'sweeping' the awards! The 2009 Arlington teams won five of six trophy categories.

Arlington High School's team "American Lions" took first place and advanced to the International Canon Envirothon, which was held Aug. 2-8 in Asheville, North Carolina. The American Lions placed 20 out of 52, competing against the winning teams from across the country and Canada.



Photo courtesy of Erin Snyder

The American Lions from Arlington High School.

At the California competition, the "Mountain Lions", a second team from Arlington, placed second in the state.

Congratulations to the dedicated students who worked so hard during the year, to their families and teachers for support, to the community for financial support, and to instructor Sherri Harris who has developed the most winning program in the state over the past eleven years. (Arlington's Envirothon teams also won the state title from 2003-2005.)

## What is the Envirothon?

High School teams are gearing up for the 2009-2010 Envirothon, a hands-on competition where students demonstrate their knowledge of environmental science and natural resource management. At the outdoor competition, each team member answers questions pertaining to the site, in the fields of aquatics, forestry, soils and wildlife. The final component is an oral presentation about a current environmental issue, which is developed by the five-member team. The 2010 topic will be "Protection of Groundwater through Urban, Agricultural, and Environmental Planning."

Training for the Envirothon begins well in advance of the actual event. Teams work throughout the year to develop their knowledge of natural resources and to practice their environmental problem-solving skills. Training includes presentations by natural resource professionals, study of natural resource materials, and field trips to relevant sites and museums.

The Riverside-Corona Resource Conservation District (RCRCD) sponsors local high school teams by paying registration fees and coordinating training, which is conducted by resource professionals. Resource Conservation Districts, in conjunction with other resource agencies, organizations, and groups support the California Envirothon. If you would like to form an Envirothon team at your high school, please contact your local Resource Conservation District. If you reside in the greater Riverside-Corona area, contact Erin Snyder at (951) 683-7691, Ext. 207. For more information about the California Envirothon, please see [www.CaEnvirothon.com](http://www.CaEnvirothon.com).



**4-H** is a youth organization that uses hands-on learning

projects to develop citizenship, leadership, and life skills. Programs are lead by adult volunteers. The Riverside County 4-H is launching a new Science, Engineering, and Technology program. For information, please see <http://www.ca4h.org/>, and contact Jeanne Lothridge at (951) 683-6491 or [cjlothridge@ucdavis.edu](mailto:cjlothridge@ucdavis.edu).

# PROTECTING OUR NATIVE FISH

## Did you know that dry Southern California has native fish?

Our native fish are *endemic*, found nowhere else in the world. They are distinct kinds or species of fish. They have adapted to shallow, warm inland streams and the plants and animals that grow in and along southern California waterways. Native fish, such as the Santa Ana Sucker and Arroyo Chub, were once common in the Santa Ana River and its tributaries. Today, many Inland Empire streams can no longer support populations of native fish.



Photo courtesy of Kerwin Russel

The *threatened* Santa Ana Sucker.

Our abundance of native fish is rapidly declining. Of the North American freshwater fish in streams, rivers, and lakes, nearly 40% are considered vulnerable or endangered!

## Why is it important to protect and restore native species?

In an ecosystem, native plants and animals have developed together and hold complementary roles; they are *interdependent*. Removal of even one species can disrupt natural interactions and reduce another species' ability to survive.

## Why are Southern California's fish absent or rare within their native waterways?

The main reason for the decline of native fish is loss of habitat. Waterways are narrowed and fragmented, lined with concrete, and contained in pipes. Less than one tenth of California's historic riparian (streamside) habitat remains.

Native fish species are also declining from degradation of stream habitat due to water pollution, exotic fish and aquatic animals, flood control dams, water diversion, and sand and gravel mining. Soil disturbance in the watershed, largely from land grading and fire, results in erosion and sediment that may also degrade habitat.

## What is an exotic species?

An exotic species is one that is living outside of its natural range. Non-native species become invasive when they out-compete natives by using limited resources in a habitat, such as food or nesting sites. Aquatic invaders often eat smaller native fish, amphibians, tadpoles and eggs. The exotics may be successful at taking over a habitat because they are larger, quicker, grow faster, or lack natural controls (such as predators) in their adopted environment. Locally, successful invaders often have broad tolerances for fluctuating environmental factors, such as water temperature, quality, or availability.

## Invasive Exotics



Photo courtesy of Brian Gratwicke



Photo courtesy of Michelle Tribe

Exotic species such as the Bullfrog and the Crayfish eat native fish and/or their eggs.



Southern California native fish prefer clean, clear, moving water in streams with shallow pools and gravelly or cobbly bottoms. Streams that move too slowly can trap fish, causing them to fall prey to birds and land animals. Good quality riparian habitat provides streamside vegetation, which shades and cools the water. Most native fish cannot survive in water that gets too warm (over 80 degrees). The quality of the water degrades with warmer temperatures. Good water quality supports varied populations of macro-invertebrates, an important food source for many types of fish. The better the water quality, the more likely native fish will thrive.

The term macro-invertebrate refers to small animals that can be seen without the use of magnifying equipment and that do not have backbones, such as mayfly, stonefly, and dragonfly larvae. Biologists count the variety and number of macroinvertebrates to help measure a stream's health.



Biologists search for macro-invertebrates, indicators of water quality.

### Remaining Native Fish of the Inland Empire

Species	Size	Status	Distribution
Santa Ana Sucker <i>Catostomus santaanaea</i>	6-8" long	Threatened	Upper Santa Ana River,
Arroyo Chub <i>Gila orcutti</i>	3-5" long	Uncommon	Upper Santa Ana River, Goldenstar Creek
Speckled Dace <i>Rhynchichthys osculus</i>	3-5" long	Rare	Cajon, Lytle, Plunge, Indian and City Creeks
Rainbow Trout <i>Oncorhynchus mykiss</i>	6-10" long	Natives Rare	Headwaters of the Santa Ana and San Jacinto Rivers (hatchery-raised and stocked in streams and lakes)
Partially Armored Three-spined Stickleback <i>Gasterosteus aculeatus</i>	3-4" long	Rare	Headwaters of the Santa Ana and San Jacinto Rivers
Unarmored Three-spined Stickleback <i>Gasterosteus aculeatus williamsoni</i>	3-4" long	Endangered	Headwaters of the Santa Ana River

The **Santa Ana Sucker** is the only species of sucker found in the Inland Empire and other parts of Southern California. Suckers now occupy only the upper portion of the Los Angeles and San Gabriel drainages, and the lower part of the Santa Ana River. Because there are so few remaining, they are considered *threatened* and protected by the Endangered Species Act.

Like other suckers, the Santa Ana type scrapes rock surfaces to eat different kinds of algae, detritus and insects. Santa Ana Suckers live in small, permanent streams, with depths from a few inches to over a foot. The water must be cool, but suckers have been known to withstand water temperatures of up to 80 degrees. This native fish may live up to 5 years.



Photo courtesy of Joe Ferreira



Photo courtesy of Joe Ferreira

The **Arroyo Chub** is a minnow-like fish that has a larger girth than other native fish, hence the name. They are helpful to us, because they feed on immature mosquitoes. Chub eat a varied diet of aquatic insects, algae, plants, and small crustaceans. Chub prefer calm water but are found both in slow-moving and fast-moving sections of streams, usually deeper than 6 inches. Chub have adapted to survive wide fluctuations in water temperature and

can tolerate from 60 to over 80 degrees Fahrenheit. Arroyo chub habitat includes the warm streams of the Inland Empire, which may be muddy torrents during the winter and clear quiet brooks in the summer, possibly drying up in places. If lucky, Chub may live about 4 years.

The **Speckled Dace** is a small, minnow-like fish that prefers clean, cool running water, inches to a few feet deep, from 50 to 70 degrees. Speckled dace are omnivores, feeding on algae and other plant material and occasionally on bottom-dwelling aquatic insects.

Dace have a “speckled” pattern on their bodies and are broadcast spawners, meaning they do not make a nest on the bottom of the creek. During breeding, males often accompany a single female who broadcasts eggs over the streambed. Each female produces between 200 and 500 eggs. Dace have a life span of about 4 years.

The **Rainbow Trout** is a species of salmonid native to tributaries of the Pacific Ocean and many other streams of the United States. The ocean going (anadromous) form are known as steelhead. There are some populations of rainbow trout in local streams, but those are still being tested to determine if they are the native coastal rainbow trout or planted stock.

Rainbow trout have been introduced for food or sport to over 45 countries. In some of these locations, they have had serious negative impacts on native fish species. Trout transmit contagious diseases or interbreed with closely related species and subspecies of native trout. They eat and out-compete natives.



## Something Fishy at RCRCD

In an effort to increase fish populations in their native ranges of the Santa Ana Watershed, the Riverside-Corona Resource Conservation District (RCRCD) has been conducting a variety of research and restoration projects since 2000. RCRCD has increased and managed populations of Santa Ana Sucker, Speckled Dace, and Arroyo Chub at the RCD's created stream and holding tanks. Over 5,000 fish have been reared and returned to the Santa Ana and San Jacinto Rivers and tributaries over the past 8 years.

RCRCD created a 300-foot long stream with a controlled environment to study and reproduce native fish. The District has been working to help native fish:

- Rescuing and relocating fish from Plunge and Lytle Creeks before they could be harmed by post-fire sediment. After being reared in RCRCD tanks, the populations are returned to their native streams in the San Bernardino National Forest.
- Rescuing Speckled Dace from Indian Creek after fire, before they could be harmed by eroded sediment.
- Removed exotic animal and plant species and reintroduced the Arroyo Chub to a creek at Sycamore Canyon Park in the City of Riverside.
- Surveying for fish at Coldwater Creek.



Photo courtesy of Diana Ruiz

RCRCD continues to test water quality to determine suitable sites for the re-introduction of native fish and to monitor for fish and water quality at Temescal Wash in Corona.

### Partners

RCRCD projects are often cooperative efforts between private landowners, agencies and/or organizations. Projects are conducted on public and/or private lands, or on the District's conservation easements.

The U.S. Forest Service funded the Speckled Dace Recovery Project for Indian, Plunge and Lytle Creeks. The California Department of Fish and Game assisted with the cooperative program.

The California Water Boards, locally the Santa Ana Regional Water Quality Control Board, funded the Special Environmental Projects for Sycamore Creek and the Temescal Creek Native Fish Restoration Program.

RCRCD has recently begun a new study to assess the impacts of water pollution on the Santa Ana Sucker, in cooperation with the US Fish and Wildlife Service.

The Santa Ana Watershed Association (SAWA) is an ongoing partner, providing funding, invasive species removal, and biologist assistance on RCRCD projects. SAWA continues to fund the maintenance and equipment for the 300-foot long Native Fish Stream at the RCRCD's LandUse Learning Center.

To learn more about reducing impacts on waterways and native habitats, request *Living on the Edge of the Urban-Wildlands Interface* brochure, (free to RCRCD residents) at (951) 683-7691, Ext. 207 or [snyder@rcrcd.com](mailto:snyder@rcrcd.com), or visit our website at [www.rcrcd.com](http://www.rcrcd.com).



## Thank You, Fly Fishers

The Deep Creek Fly Fishers presented the Riverside-Corona Resource Conservation District with a generous gift of \$1,500 for its fish research, restoration and education program. Deep Creek Fly Fishers is an Inland Empire nonprofit club that is dedicated to the art of fly fishing. The club conducts trips and monthly meetings with guest speakers from throughout the world. The organization sponsors *Trout In The Classroom*, a very popular school program in Riverside and San Bernardino counties. Learn more about DCFF online at [www.deepcreekyflyfishers.org](http://www.deepcreekyflyfishers.org).



Diana Ruiz (left) and Erin Snyder (right) accepted the award from Ron Bishop.

The RCRC would like to extend a special thanks to Lou Fawley for nominating our Education Program for the award. Lou is a dedicated fly fisher and volunteer for the Bluebird Nestbox Monitoring Program. She has spent the past two nesting seasons helping to bring back the bluebirds. Thank you, Lou.

## Learn to Protect Water

To help reduce water pollution and impacts on fish populations, RCRCD conducts storm water education programs for elementary schools and groups. During the last fiscal year, resource educators presented 390 hands-on programs to 9,058 students at 68 elementary schools throughout Riverside County for the *Only Rain Down the Storm Drain* Program of the Cities and County of Riverside.

If you would like to request a program or educational materials for an elementary class or group, please contact Renee Hicks at (951) 683-7691, Ext. 208 or [hicks@rcrcd.com](mailto:hicks@rcrcd.com).

RCRCD also conducts storm water education programs for adult groups, staff meetings, and events, including *Home Gardening...Simple and Environmentally Friendly and Keep Our Water Clean*. If you would like to schedule a program, please contact Erin Snyder at (951) 683-7691, Ext. 207 or [snyder@rcrcd.com](mailto:snyder@rcrcd.com).

## Drought Buster Landscape Workshop

RCRCD held a Waterwise Landscape workshop for homeowners on August 15. Twenty homeowners learned about irrigation system trouble shooting, maintenance, scheduling, and saving money on their water bills. RCRCD's Irrigation Water Management team, Kerwin Russell and Craig Mogi, taught about different watering systems, soils, and plant water requirements.

The program was sponsored by Riverside Public Utilities. Clay Monroe spoke about Riverside's incentive programs to help finance water conservation projects. For more information about rebate programs, please see [www.BlueRiverside.com](http://www.BlueRiverside.com) or contact Clay Monroe at [CMonroe@riverside.ca.gov](mailto:CMonroe@riverside.ca.gov). If you would like to be notified about future yard management workshops, please leave your contact information with Shani McCullough at (951) 683-7691 ext. 223 or [McCullough@rcrcd.com](mailto:McCullough@rcrcd.com).



Craig Mogi displays irrigation system components.

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All RCRCD programs and services are offered on a nondiscriminatory basis, without regard to race, national origin, religion, or gender.

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# Dates to Remember 2009

- October 3** **Santa Ana River Watershed Clean Up Event**, 9 AM-Noon, Riverside (see front page for more information).
- October 15** **California Native Plant Society** meeting/speaker at RCRCD, 7-9 PM, [www.enceliacnps.org/](http://www.enceliacnps.org/)
- October 17-18** **Fall Plant Sale**, University of California, Riverside: Botanic Gardens, Saturday 12-5 PM, Sunday, 9 AM-3 PM, [www.gardens.ucr.edu](http://www.gardens.ucr.edu)
- October 27** **Inland Empire Urban Forest Council** meeting/speaker. For information, contact Deborah Day at [dday@ci.san-dimas.ca.us](mailto:dday@ci.san-dimas.ca.us)
- November 7** **Composting Workshop** 10 AM-7 PM at Landscapes Southern California Style, 450 Alessandro Blvd., Riverside CA. (951) 486-3200 **Free!**  
[http://www.rivcowm.org/composting/composting\\_workshops.html](http://www.rivcowm.org/composting/composting_workshops.html)
- November 7-8** **Plant Sale** at Rancho Santa Ana Botanic Garden, (909) 625-8767 Ext. 200, 1500 North College Ave., Claremont, CA 91711, [www.rsabg.org](http://www.rsabg.org)
- November 14** **Plant Sale**, California Native Plant Society For information: contact Kate Barrows (760) 217-0121 or [www.enceliacnps.org/](http://www.enceliacnps.org/)



**Please Note:**

In the winter edition of *Resources*, we incorrectly listed the phone number for Mockingbird Nursery. The correct contact information is: (951)780-3571, <http://mockingbirdnursery.com>. For information, please contact the nursery's very knowledgeable manager Joni Clayton, Cell: (951) 522-1118, E-mail: [joni@mockingbirdnursery.com](mailto:joni@mockingbirdnursery.com), 1670 Jackson Street, Riverside, CA 92504

The Theodore Payne Foundation has a nursery that sells native plants year-round at 10459 Tuxford Street, Sun Valley, CA 91352 (near Los Angeles). For more information about their comprehensive native plant nursery and educational programs, please visit [www.theodorepayne.org](http://www.theodorepayne.org) or call (818) 768-1802.



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