



Creek Currents

Sacramento Area
Creeks Council

www.saccreeks.org

Summer 2010

Are Neighbors Becoming More Mindful?

Creek Week 2010 Cleanup Volunteers Found Less Garbage than Last Year

Thank you to the 2,200 volunteers who worked along 32 miles of waterways and helped clean a creek this April. They braved muck, red ants, blackberry thorns, mosquitoes, poison oak, and much more to remove about 19 tons of garbage from creeks in Sacramento, Citrus Heights, Folsom, Rancho Cordova, Galt, and communities throughout unincorporated Sacramento County.

People are the single source of all this garbage. Some people dump large or hazardous garbage in the creek to avoid the cost and inconvenience of doing it the right way. Much of the garbage is the detritus of people who are living or lurking in these natural places with no regard for the damage they may be causing. Then there are those heedless people driving, walking, or bicycling and leaving a trail of litter that will be blown by the wind or carried along storm drains and roadside ditches to the creeks. The good news is that less garbage was reported at most of the creek sites this year. This could mean that more people are mindful good neighbors inspired by Creek Week volunteers!

Volunteers also removed over 10,000 square feet of invasive plants like red sesbania, thistle, English ivy and Himalayan blackberry. Each invasive plant species presents a different challenge for

see "Creek Week," page 4



2,200 volunteers cleaned 32 miles of waterways, removing 19 tons of garbage and 10,000 square feet of invasive plants.

Above: Volunteers tote the garbage barge. Bottom left: Rio Linda volunteers prepare to clean Dry Creek.

Below: Quite a catch at Magpie Creek.





Sacramento Area Creeks Council

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The Sacramento Area Creeks Council provides information, educational resources, and stewardship opportunities that encourage the protection, restoration, and maintenance of natural streams in Sacramento County. Its goals are to educate the general public on the aesthetic, recreational, and ecological values of natural streams.

The Sacramento Area Creeks Council holds regular meetings, develops educational materials, and participates in neighborhood fairs and public events. It works with schools, neighborhoods, and youth groups to encourage creek cleanups and streambank restoration. It cooperates with city and county efforts to reduce pollution from stormwater runoff. It cooperates with other organizations to monitor developments along stream corridors. Membership is open to anyone who wishes to share in these activities.

Council meetings are generally held the third Monday of each month at the Arcade Creek Recreation and Park District office. Please call (916) 454-4544 for specific meeting dates.

Creek Cleaning Is Eye-Opening for Girl Scout

Hello. My name is Mariana Salerno, and I am a Girl Scout in troop 1617. I have participated in Creek Week for the past nine years. I have been lucky to experience so many things just because of this event. Creek Week gives you a chance to do something good for your community, and while you're doing that you learn something about yourself and about your surroundings.

My first year doing Creek Week was probably one of the most eye-opening experiences I had growing up. A man who was from the Creeks Council served as our "tour guide". He told us what plants to avoid and what plants we could eat but you still

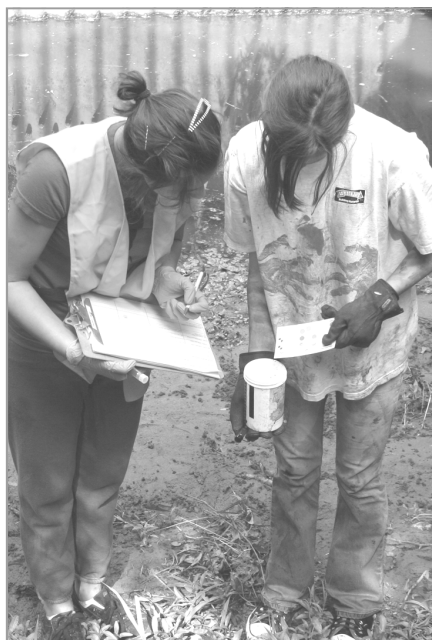
probably wouldn't want to. When you are younger, Creek Week may seem a little boring because you have to stay on the bank while the elders



Mariana Salerno has volunteered in Creek Week for nine years.

get to go trudge in the creek picking up most of the garbage. At Creek Week 2003 I finally noticed that the trees were collecting garbage. I had always noticed it, but then I realized that I could tell how high the water had reached based on how far up the garbage was.

At this year's Creek Week we tried something a little new. We tried these water monitoring kits. The kits were very easy to use. You always look at creek water and think, "Man that's gross water," but things are not always as they seem. With these new monitoring kits you can check the water's temperature, clarity, pH levels, and amount of dissolved oxygen to see if the creek could support certain types of wildlife. We also ob-



Learning how to determine and record the pH level of the water.

served the creek and how the land near the creek was being used to see what might be causing pollution and what might be helping the creek. ■

Special Thanks

Because of Emily Browne's inspiration and initiative, we now have 30 water testing kits, over a dozen Girl Scout leaders trained on how to use them and added benefits from Creek Week!

Arcade Creek Sampling Shows Creek is Struggling

A team of biologists from ENTRIX, an environmental and natural resource management firm, led a large group in exploring Arcade Creek on a cool, breezy Saturday under gathering clouds. Thirty adults and children attended the outing, including students from Mira Loma High School's International Baccalaureate Biology program who have been monitoring Arcade Creek.

The ENTRIX team described the specialized equipment we use for studying creeks, including seine net, electrofisher, instruments for measuring fish, and water quality sensors. We then hiked down through a narrow band of riparian forest into the creek itself. Our mission was to look below the water's surface for aquatic life in this urban creek.

What does it mean to be an urbanized creek? Runoff into Arcade Creek flows across a landscape of homes, offices, shopping centers, roads, and golf courses. The creek system drains a watershed that begins in Citrus Heights and Orangevale and ends in Del Paso Heights where it flows into Steelhead Creek which then empties into the Sacramento River on the north side of Discovery Park.

The water quality of a creek is

strongly influenced by activities in the watershed. We discussed how pesticides, herbicides, and fertilizers used on lawns, gardens, and golf courses can be carried into the creek by storm water and runoff from washing cars or over watering lawns. Storm water (runoff from yards, roads, and parking lots) enters the creek untreated at multiple locations. Sewer water (what goes down the sink drains and toilets), on the other hand, is treated at the regional wastewater treatment plant before being released into the Sacramento River.

The creek site we chose included two pools separated by a short sandy bar. A large tree had toppled across the creek at an angle, providing a jungle gym and high vantage point for the youngsters. Physical habitat in the creek was good with a long deep undercut in one of the pools. Fish could hide within undercut banks that were bound together by vegetation roots. The upstream pool had some woody debris that fish also tend to use. The channel was somewhat incised, meaning that the channel



Picture 1: Thirty adults and students learn about current creek sampling methods and how humans impact animal and plant life in an urban creek.

has cut down into the bed of the creek. The stream bottom was composed entirely of sand without the rocks and gravel that form nooks and crannies that aquatic invertebrates favor.

We were optimistic when we started sampling the downstream pool using the electrofisher (Picture 1). However, we caught just one fish, a native California roach, and two crayfish that were non-native species. We sampled the pool again, this time with a 30 foot seine net, and caught one non-native golden shiner. A similar sampling approach in the upstream pool produced no fish at all. This was not a good sign.

Collectively, the sampling
see "Sampling," page 5

Habitat	Fisheries Data				Water Quality Data				
	E-Fish catch	Length/Weight	Seine catch	Length/Weight	Temp ¹ C°	D.O. ² mg/l	Cond. ³ u/mhos/cm2	pH ⁴ (units)	Turb. ⁵ (NTU)
Downstream Pool	1 Calif. roach	55mm 2 gms	1 golden shiner	60 mm 2 gms	13.6	8.2	347	7.2	3.5
Upstream Pool	0		0		-	-	-	-	-

Table 1: Summary of fish and water quality data April 10, 2010. Arcade Creek in Del Paso Park upstream of Bridge Road.

^{*} Length in millimeters and weight in grams, ¹ Water Temperature in degrees Centigrade, ² Dissolved oxygen in milligrams per liter or parts per thousand,

³ Conductivity is micro mhos per square centimeter, ⁴ pH is measured in pH units, ⁵ Turbidity measured by Nephelometric Turbidity Units

“Creek Week,” from Page 1

volunteers. Red sesbania removal requires working in mud, for example, while thistle removal happens in open sunny areas. Invasive plants crowd out and can kill native plants. Some lovely big willow trees now have a second chance to thrive after volunteers removed English ivy that was choking their trunks and branches. Native blackberries will be planted to replace monstrous Himalayan blackberry brambles. The work of these Weed Warriors is an important step in restoring our creeks to a more natural condition.

Water monitoring became a Creek Week feature this year. A dozen Girl Scout troops monitored creek water at various locations. Using kits donated by World Water Monitoring Day, they collected water samples and tested temperature, clarity, dissolved oxygen, and pH levels. The data will be entered into databases that can be built upon with future monitoring efforts.

For the first time, the Creek Week Celebration was held at Carmichael Park. The traditional hot dog lunch, Junk and Gunk contest, Radio Disney Rockin’ Road Show, contests, games, exhibits, and T-shirt give away were enjoyed by all in this beautiful setting.

Sacramento County’s creek system benefited from the efforts of Creek Week volunteers. We can help our local waterways year-round by being careful not to let anything but rainwater go down the stormdrains. For example, cars should be washed at a car wash or on the grass so that soap and gunk from the car don’t go down the gutter and into the creek. Let’s all pledge to continue our stewardship of this important urban natural resource by following best practices as we live our daily lives. ■



First place winners of the Junk and Gunk contest: students from Mira Loma High School.



At the Celebration: fishing garbage out of the pretend creek — it’s all in the wrist.



Above: Val Connor of the State Water Board presents the Creek Steward Award to cadette Girl Scouts Mariana Salerno of Troop 1617 and Renee Morales and Ellie Browne of Troop 819 who accepted the award on behalf of all the Girl Scouts who have helped with Creek Week. Right: Green fun at the Celebration.



Cleaning Up On Arcade Creek

Creeks Council leads group of 34 volunteers from cub scouts, church, and schools in cleaning Arcade Creek

On Saturday, April 17, 2010 a group of 34 volunteers gathered at the Arcade Creek Park and Jo Smith Nature Trail, a community park located along Arcade Creek just east of Garfield Avenue and south of Madison Avenue in Carmichael. Their purpose was to take this beautiful spring morning to give back (and forward) to a feature of our community that we often take for granted. This group was composed of a local Cub Scout Pack, members of a local church, and some high school and college students who were there to get credit for community service. Whatever their driving force was, it worked. In addition to Arcade Creek Park, several other Arcade Creek spots downstream and upstream received attention.

Arcade Creek is one of the most “cleaned up” creeks in Sacramento County. Unfortunately, that means that it is also one of the most littered creeks in Sacramento County. The 50 or so creek cleanup sites throughout the county are the creeks that are in most need of attention. Each year as part of the Sacramento Area Creek Council’s Creek Week, creek sites are visited by members of our community who look forward to gathering and doing their part to improve our living environment. People find the darnedest things in our creeks. A couple of years ago we pulled out someone’s Jacuzzi spa that apparently fell victim to high flows that are common in Arcade Creek now because a large part of its watershed is paved over - causing increased urban runoff.

No, it’s not rocket science; it’s picking up someone else’s thoughtlessly discarded trash. It makes us feel good about ourselves and it’s actually fun to get out and take a close look at what accumulates over a year. If you haven’t taken part in a

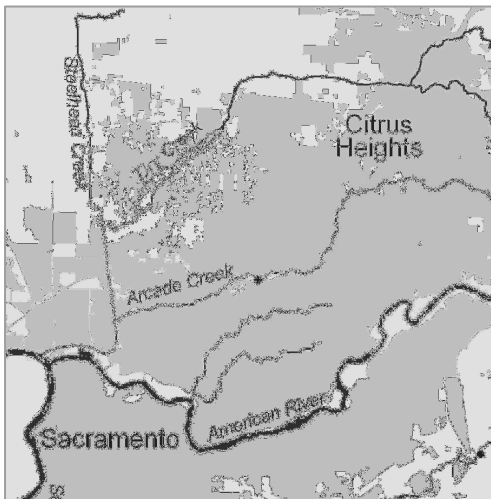


Figure 1. (Map Source: Central Valley Regional Water Quality Control Board)

cleanup before, fair warning, it is contagious and can “get in your blood”. You may never be able to walk by discarded cigarette butts or beverage containers again without stopping to pick them up. We all live in a watershed and I hope you took the time, as these volunteers did, to show your appreciation to your local creek and community. We’re all in this together and if not you, “Who?” ■

“Sampling,” from Page 3

indicates something is seriously wrong in the creek. We would typically expect to capture hundreds of fish in this type of habitat. The fact that we found no aquatic insects or other macroinvertebrates is also troubling. Aquatic insect larvae are the foundation of a productive food chain for fish. Since the overall physical habitat appears to be in fair to good condition, the low occurrence of animals suggests that poor water quality could be the main stress. The water quality parameters that we measured, such as water temperature and dissolved oxygen, were within normal ranges (Table 1). We couldn’t look at pollutants such as pesticides, oils, or metals because that requires more specialized equipment. Detecting pulses of pollution can be difficult because water quality can be extremely variable in time and space. For example, the sudden flush of storm flows may carry high concentrations of harmful substances that occur briefly but can have a great influence on aquatic life.

Hence, the challenge to all those interested in sustaining Arcade Creek is how to manage and protect a stream serving such a large metropolitan area. Arcade Creek is a unique resource for the Sacramento area – a little bit of flowing water and a riparian forest that borders backyards and is also a key-stone element for many parks. The extremely low abundance of aquatic life is very troubling. As I pondered our results later that afternoon during a downpour, I was left to wonder what potentially harmful substances might be making their way into Arcade Creek.

By Tom Taylor and Ramona Swenson, PhD. ENTRIX, Inc. ■



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