Creek Currents
Sacramento Area Creeks Council
www.saccreeks.org Spring 2010

Developments on Arcade Creek

By Safeena Mecklai, Senior Manager of the Outreach Study of the Arcade Creek Project

Just as the New Year brought outrageous resolutions and a wave of new goals and ambitions, it also brought an opportunity to reflect on the last year and what we have learned. As I write this, over 200 students from Mira Loma High School are busy as bees as they start a new semester of work on the Arcade Creek Project. Arcade Creek is 16.2 miles long and runs from Orangevale to Steelhead Creek near the confluence of the Sacramento and the American Rivers. The Project is focused on breaking down a complex ecosystem into analyzable data for assessment. Eleven studies, composed entirely of students and five instructors, are used in conjunction to holistically determine the health of the watershed.

First, let's look at what's been happening over the last year on the creek. According to Edward Lee, Senior Manager of the Chemistry Study of the Project, "Overall, there is less water at the creek, though the health has remained relatively the same." However, at site E of the creek, which is located around American River College, a dam was built and has caused an alarming array of problems at that site. Lee explains that "dissolved oxygen levels are low and the dam has greatly impeded water flow."

This connects directly with some of the findings of the Bio Assessment team, which monitors macro-invertebrates within the creek. Arunav Sarkar, a Senior Leader on the team, explains that "Over the last 10 years, there has been a steady downward trend in the amount of macro-invertebrates found living in the creek. This can be attributed to relatively high levels of water toxicity and reduced water flow in various parts of the creek, with the possibility of sediment erosion in other areas that reduce macro-invertebrate survivability.

In addition, while invasive species such as Red Sesbania and Himalayan Blackberry have continued to increase, Mira Loma's Arcade Creek Project has also instituted a new way of dealing with that. Each student on the project is required to

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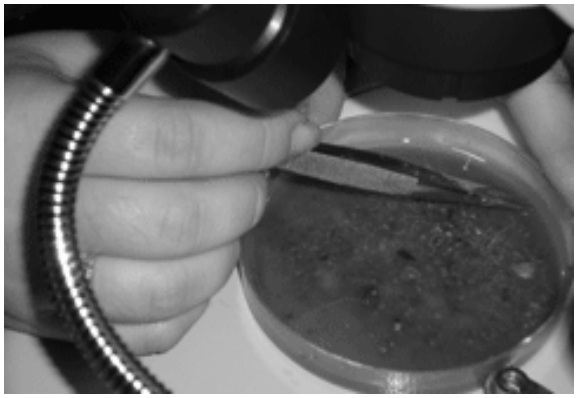
Student conducts experiments



Student samples macro-invertebrates

Students restore Arcade Creek

Creek Currents

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 Creek 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) 482-8377 for specific meeting dates and times.

In Search of Elusive Dry Creek Salmon

By Bill Templin, SACC Board Member

The Dry Creek Conservancy held their annual salmon survey on December 18, 2009. The Conservancy's salmon survey is designed to track the trends of salmon migration into Dry Creek. The information gained from this research is used to determine if management efforts are successful and to inform and educate people about the presence of salmon in Dry Creek. When people are informed about the results of the surveys, they can play a more active role in maintaining and improving the salmon run.

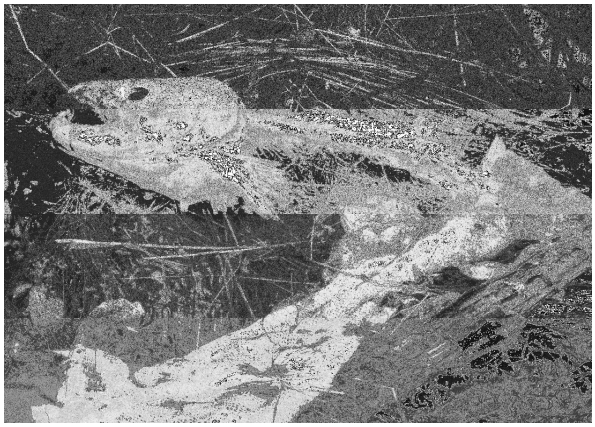
This year, I surveyed the same reach that I helped survey between the years 2004-2007, located between Harding Way and the confluence with Miner's Ravine (behind the theater complex on Eureka Way at I-80 in Roseville).

The good news is that my first experience with this survey, on November 21, 2004, was really exciting! We shared this small urban creek with 68 live and healthy salmon and 20 carcasses that had already spawned and died. In 2005 we only found 15, in 2006 only six, and in 2007 it was down to two live salmon and 4, 6, and 7 carcasses respectively (see Fig. 1). I heard that the number of salmon surveyed in December 2008 was also low, but in January 2009 a late run appeared.

Year	Live Salmon	Salmon Carcasses
2004	68	20
2005	15	4
2006	6	6
2007	2	7
2008	Unknown	Unknown
2009	0	1

Fig. 1: Dry Creek Salmon Survey Results

The bad news is that on this year's survey (2009) I found only one carcass, and the surveyors in the reach just downstream also found just one carcass. On the bright side, the downstream surveyors mentioned that in November 2009 they had noticed several live salmon in this area. The big rainfall event we had in November must have drawn them in early.



Salmon carcass found at Dry Creek, 2009

The local management of the Dry Creek watershed is heavily influenced by the resource management in the entire Sacramento River Watershed, the Bay-Delta Region, and even out in the ocean. The recent major declines in the salmon

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Creeks Cleanup Plan for McClellan

By Susan Wolbarst, Air Force Real Property Agency

The Air Force is finalizing a feasibility study evaluating alternatives for cleaning up contaminated sediment in creeks on the former McClellan Air Force Base, where chemicals used from 1936-2001, when the base was active, have contributed to soil contamination. A proposed plan summarizing the analysis contained in the feasibility study will follow this summer.

Two main creeks flow through the central part of the former base: Magpie Creek and Don Julio Creek. In the western portion of the former base, the creeks enter a 225-acre natural habitat area that provides habitat for aquatic and wetland plants and animals. Canada geese, red-winged blackbirds, mallards, green herons, and many other birds nest or winter in the area. River otters and beavers inhabit the creeks, along with a variety of fish, crayfish, western pond turtles, and other aquatic life.

"Of particular concern are rare and endangered species which might live in or around creeks at the former base."

Of particular concern are rare and endangered species which might live in or around creeks at the former base. Vernal pool fairy shrimp, a federally threatened species, have been found in the vernal pools that are scattered throughout the floodplain of the creeks. The creeks and adjacent habitats may also support the giant garter snake and the valley elderberry longhorn beetle, two other federally listed species. Neither of these has been sighted at McClellan.

The feasibility study will provide the Air Force and regulatory agencies with the information needed to select cleanup actions complying with CERCLA (the Comprehensive Environmental Response, Compensation and Liability Act) and striking the most appropriate balance between human health, ecological risk mitigation, and ecological impacts. CERCLA evaluation criteria are: overall protection of human health and the environment; compliance with ARARs (applicable or relevant and appropriate requirements); long-term effectiveness and permanence; reduction of toxicity, mobility, or volume through treatment; short-term effectiveness; implementability; and cost. Two additional criteria—state acceptance and community acceptance—are generally evaluated after public comment on the proposed plan, and could be used to modify aspects of the preferred alternative when preparing the ROD (record of decision). Once signed by the Air Force and regulators, the ROD becomes a binding agreement regarding remediation. Remedial action might include a variety of activities, such as leaving low-level contamination in place and monitoring it over time or removing contaminated sediments.

A creek flowing through the former McClellan Air Force Base

For purposes of evaluation, the creeks at McClellan have been split into different sections because each section of creek contains different lev-

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"McClellan," from page 3

els of contamination and may or may not support significant wildlife habitat. Contaminants of concern included PCBs, dioxins/furans, PAHs, Total DDT, bis(2-ethylhexyl)phthalate, cadmium, and silver. The feasibility study evaluates alternatives for cleanup based on level of ecological risk, human health concerns, and habitat quality.

Remedial Action Objectives (RAOs) developed in the feasibility study include: (1) reducing the current and future risk to ecological receptors from exposure to contaminants in sediment to an acceptable level; and (2) reducing the potential risk to human health from consumption of crayfish or other biota from the creeks. According to the study, human health could be adversely affected if a person consumed regular meals of crayfish, fish, or other organisms from the creeks throughout his or her lifetime (eight ounces, three times per month over a period of 30 years). This potential risk would be addressed by imposing fishing restrictions.

In addition to the required "no action" alternative, the Air Force is looking at three alternatives for the creeks, which were evaluated against the seven CERCLA criteria. The alternative called Creeks-2 involves monitoring and institutional controls, such as sediment control measures, to mitigate residual risks from leaving the contaminants in place. Creeks-3 involves removal of sediment by excavation or dredging. The remedial design is aimed at balancing risk reduction with habitat impact. Creeks-4 involves more extensive sediment removal and would entail more significant habitat damage. The selection of a preferred alternative will be based on the level of contamination present in each section of the creek, the impact of the action on sensitive wildlife habitat, and the potential for long-term risk reduction.

The Air Force's preferred alternative will be evaluated against the remaining two CERCLA criteria, community and regulatory acceptance, during the public comment period on the proposed plan. The Air Force will be issuing the proposed plan this summer. A 30-day public comment period will follow the plan's release. For a copy of the proposed plan, notification of the timing of the public comment period, or a presentation to your group about the proposed plan please contact Mary Hall at McClellan Community Relations, (916) 643-0830, extension 232, or by email at mary.hall.ctr@lackland.af.mil. ■

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Removing Red Sesbania

complete four restoration hours in which they go out with a team and spend their time removing invasive species from the creek. These students are incredibly talented, really only needing a pair of gloves, a trash bag, and a whole lot of heart to get these pesky species off the creek.

As February comes to a close and March begins, the fact that we're in 2010 has finally set in; I've stopped accidentally writing the year as 2009. Last year brought a slight decrease in health to Arcade Creek, but it also brought a new and excited group of students to work on its waters. As the year progresses, we can look forward to more interesting developments from the students of Mira Loma High School. You can "bank" on that.

For more information on the project, visit http://www.arcadecreekproject.org. ■

Thanks to Our Contributors!

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and steelhead migrations into our region are the result of a large number of intentional and unintentional human activities such as degradation of habitat and pollution. Activities of the fishery's natural, invasive, and imported predators have also had a large impact on the survival of local salmon and steelhead. Learn more about how human activities affect local creeks by visiting www.saccreeks.org.

The success of this survey depends on having enough volunteers; unfortunately, the turnout of volunteers was down in 2009. If you're interested in volunteering, email Gregg Bates at dcc@surewest.net and let him know that you would like to help in 2010. Hopefully with more volunteers we can do a more complete survey of all the tributaries to Dry Creek to ensure we don't miss any salmon. Who knows, we might even get lucky and have a bigger salmon run in 2010, or at least pick the time when the season's largest number of salmon are present.

Volunteers gather for the 2009 Dry Creek Survey

Creek Week organizers are looking for a crew to help clean up this reach during Creek Week on April 17, 2010. I noticed more discarded bicycles, bike parts, and other litter in this reach than I've ever noticed before. Hopefully someone will step up and lead a cleanup at this site this year.

For more information, contact Bill Templin at wetemplin@att.net or the Dry Creek Conservancy at http://drycreekconservancy.org. ■

Litter at Dry Creek, 2009

Show that You Care! Volunteer for Creek Week 2010

Controlling trash, pollutants and non-native plants in Sacramento area creeks and sloughs limits flooding by allowing for proper drainage, helps wildlife in urban areas that depend on creeks and the bordering plants for survival, and contributes to a safe drinking water supply.

Cleanup: Saturday, April 17th, 9:00-Noon

There will be a variety of activities to support a healthy creek system: trash and debris removal, removing invasive non-native plants, water quality testing, and planting native plants. It all makes a difference! Cleanup areas include: Antelope, Carmichael and Northeastern Sacramento, Citrus Heights, Natomas, North Sacramento and North Highlands, Orangevale, Rio Linda, South Sacramento County and Rancho Cordova, and Galt. Folsom cleanups will occur on April 24.

Celebration: Noon-2:00 PM

Cleanup volunteers are invited to join the fun at the Creek Week wrap-up celebration. Enjoy a picnic served by the Maharlika Lions Club, Radio Disney Rockin' Road Show, Earth-friendly exhibits and interactive displays. Receive your Creek Week 2010 t-shirt and enter your cleanup finds in the Junk and Gunk Contest!

Register for the Creek Week 2010 Cleanup on our web site: www.creekweek.net, call Alta at 454-4544, or email saccreeks@gmail.com.

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In This Issue

NEXT CREEK CLEANUP IS ON SATURDAY, APRIL 17TH

Creek Week Brochure Inside!

The Sacramento Area Creeks Council is dedicated to protecting and sharing the abundant natural treasures that make up the extensive creek systems of our region. As a member, you will receive many benefits, including our newsletter *Creek Currents*. To become a member or renew your membership, please fill out and mail the form below to: Sacramento Area Creeks Council, PO Box 162774, Sacramento, CA, 95816.

YES! I want to help Sacramento area creeks. Enclosed is my tax deductible gift of:

$10: Students	$25: Regular membership	$40: Family Membership
$100	$250	Other _____

I would like to be a member of the Sacramento Area Creeks Council.

I'm already a member; please accept my donation and renewal.

Make check payable to: Sacramento Area Creeks Council.

Name _____

Address _____

City, State, Zip _____

Phone _____ Email _____

Questions? Call: (916) 454-4544 Email: saccreeks@gmailcom