

The Lay of the Land

The Newsletter of the Solano Resource Conservation District

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Spring 2013

The Water Quality Issue

By Christopher Rose, Executive Director

“Whiskey is for drinking and water is for fighting over” is the famous quote by Mark Twain. I have always liked this quote, but I also believe that water is for conserving and keeping clean. This reminder of the importance of water quality and quantity rings true for us in the arid west and especially in the Central Valley of California where the quality and quantity of water is and will remain a focal point for agriculture and society for the foreseeable future.

We all know that the health of the landscape is dependent upon the health of all its parts – the plants and animals, the soil, the air and the water. All these things are connected, whether we manage 5,000 acres of agricultural

Please see Water Quality, page 4

Working With Local Partners To Meet Water Quality Objectives

by Amy King

Solano RCD is pleased to begin work with the Fairfield-Suisun Urban Runoff Management Program and Vallejo Sanitation and Flood Control District (VSFCD) this

spring in an effort to monitor water quality in urban streams. These groups are required by the State Water Resources Control Board to conduct water quality monitoring, and are part of a Bay Area wide coalition working together to meet these requirements.

Our staff will be working with the Fairfield-Suisun Sewer District (FSSD), VSFCD and consulting

firms to collect and analyze data on water chemistry, stream invertebrate and algae communities, sediment properties and geomorphology characteristics, such as streambank erosion. All of this data will be part of a statewide effort to assess stream health and monitor pollutants such as pesticides and trash. If problem areas are identified, we will work with these partners to address the issue and continue monitoring. We are excited to get to know these creeks and work with local communities to improve water quality!



Solano RCD and FSSD staff attended a training day with coalition members from the SF Bay Regional Water Quality Control Board, Applied Marine Sciences, EOA Inc. and Bioassessment Services.

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From Canals to Corridors: Benefits of Vegetated Waterways

by Mike Gordon



Students from the Center for Land Based Learning plant sedges at the Casey Road DRCD ditch

It is an unfortunate truth that many waterways today are a shadow of their former selves. The problems facing streams in agricultural areas can be especially dramatic. In the interest of efficient water conveyance for irrigation and/or flood abatement, many waterways have been channelized and stripped of their native plant cover. Though well-meaning in their intentions, these practices have had significant negative consequences. Riparian vegetation (vegetation near a waterway) is considered some of the most crucial habitat for a wide range of animal species. It also acts as a natural filter for runoff, effectively sequestering sediment and even chemicals that can degrade water quality. Trees and shrubs along a creek can also reduce water temperatures by shading the channel. Indeed, lack of suitable riparian vegetation exacerbates many of our water quality problems. Fortunately, it is becoming increasingly common for resource managers to enact a pragmatic middle-ground option that allows the waterway to support human demands while also providing valuable ecological services.

Recently, there has been extensive work on the subject of how to replant and repair vegetative structure along our waterways. We may not always be restoring the exact historic conditions found at a given site but there are still many things we can do to protect the underlying resources

from further damage. Because native plants are well adapted to our climate and local conditions, they make a good choice when deciding what species to use in your replanting effort. Research has shown that even in a simplified setting such as an irrigation canal, conditions can vary enough that selecting multiple species and planting them each in their appropriate

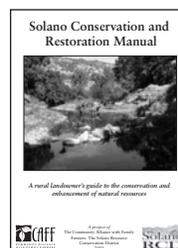
zone will yield the best results. For example, the plants you would select for installation at the height of the average water line should be different than the species you would plant near the top of the channel. In addition, your planting plan should take into consideration future management goals such as a desire to reduce herbicide application by

eliminating open ground susceptible to invasion by weeds.

Solano Resource Conservation District has successfully designed and implemented a number of native bank revegetation projects throughout our region.

If you are interested in a project on your property we would love to hear from you. Feel free to contact Restoration Project Manager Mike Gordon at: michael.gordon@solanorc.org, or (707) 678-1655 ext. 122

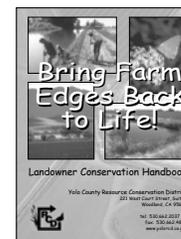
We also have many resources available to landowners seeking additional information on the subject. Here are just a few to start:



Solano Conservation and Restoration Manual. Community Alliance with Family Farmers and The Solano Resource Conservation District. 2005.

Bring Farm Edges Back to Life

Yolo County Resource Conservation District. Woodland, CA. Paul Robins. February 1999.



New Faces at Solano RCD

by Katherine Holmes

Solano RCD has undergone some exciting new changes over the past few months. In addition to receiving funding for several new restoration and water quality programs (see other newsletter articles for more details), we hired three new staff members!



Miles DaPrato uses an auger to drill planting holes.

Miles DaPrato joined Solano RCD as a Restoration Project Manager this fall. He comes to us from the Audubon California Landowner Stewardship Program, where he worked for the past ten years implementing habitat restoration projects on agricultural lands, primarily in Yolo County. Here at Solano RCD, Miles is heading up a suite

of restoration and weed control projects in the Delta area north of Rio Vista as well as partnering with Yolo RCD and Audubon to implement an on-farm restoration project along Sweeney Creek.

Mike Gordon also joined us as a Restoration Project Manager this fall. Previously he worked for the Department of Fish and Game conducting plant community surveys throughout the Central Valley. He also worked for the Mattole Restoration Council controlling invasive weeds in Humboldt County. Mike is leading Solano



Mike Gordon installs an irrigation line

RCD's efforts on a community-based restoration project on Blue Rock Springs Creek in Vallejo. He is also developing a GIS-based database of restoration and water quality projects



Martha Rocha teaching a mapping lesson for the Suisun Marsh Watershed Program.

in cooperation with our NRCS and Dixon RCD partners.

Martha Rocha joined Solano RCD as an Education Coordinator this winter. Martha worked for Suisun RCD for many years, where she partnered with Solano RCD on student education programs in Suisun Marsh. In addition to continuing to work on the Suisun programs, Martha is also assisting with our Watershed Explorer education programs in Rockville and Blue Rock Springs Creek (3rd grade students), our Biomonitoring program (high school students), and our Lake Berryessa boater education program.

We're very happy to have Miles, Mike and Martha join our team! Each of them brings a new set of skills, talents, and energy that allow Solano RCD to improve and expand our resource management programs. Contact information for all RCD staff is in the directory on page 6.

**Get the
Lay of the Land
by e-mail!**

Our newsletter is now available in pdf format, for delivery by email. If you would like to start receiving the *Lay of the Land* in your email in-box instead of as a mailed paper copy, please contact Judy Powell at jkpowell@solanorcd.org

The Dixon/Solano RCD Water Quality Coalition: Working With Solano County's Irrigated Agricultural Producers

By Andrea Mummert-Puccini

Nearly 650 of Solano County's landowners and growers who produce irrigated agricultural products are members of the Dixon/Solano RCD Water Quality Coalition. Our Coalition operates as a joint effort between Dixon and Solano RCD staff, as well as our members, allowing our members to comply with the Central Valley Water Quality Control Board's water quality regulations as a group (rather than having to obtain individual permits). As part of the larger Sacramento Valley Water Quality Coalition, the Coalition monitors local water quality, reports on the results, and develops management plans to address problems when they are found.



Water quality sampling at our Ulatis Creek monitoring site

In recent years, we have had local water quality exceedances that were likely caused by agricultural use of pesticide products containing Chlorpyrifos, Pyrethroids, and Diuron. To address this, our Coalition does outreach – through mailings, presentations, and direct phone calls – to registered users and likely users of those products. We educate those users about the water quality issues we are having and provide information about management practices that can help them use these products more safely. We also connect growers and pesticide users to advisors who can provide recommendations for safer, alternative products or for other options for pest control, such as Integrated Pest Management.

Since the Fall of 2011, our targeted outreach focused on Chlorpyrifos, Pyrethroids, and Diuron has reached 123 people through presentations; Water Quality Alert fliers have reached 190 people; 64 individuals received direct phones about water quality issues; and we've met with 37 individuals in-person.

We have found our outreach through the Coalition can be a tremendously productive way to open the channels of communication between local producers, pest control advisors, technical advisors and researchers, and regulators. At the same time that we educate our members about water quality concerns, we learn just as much from them about their needs and constraints as agricultural producers – providing us with on-the-ground knowledge and experience that we can bring back and feed into research to refine management practices, trials of new products, and into the Regional Water Quality Control Board's development of a new framework for its regulatory program.

Water Quality, cont. from pg 1

crops or two acres of rural residential land with a couple of horses. We're all responsible for making sure our work and play activities don't waste water or decrease water quality.

Solano RCD and its partners work hard to improve water quality in our District and throughout the County. Our education programs teach elementary through high school students about the importance of water quality with hands-on activities in classroom lessons and in the field. We work with the Solano County Water Agency and other local partners in the Lake Berryessa Watershed Partnership to implement a person-to person water quality public education Boater Outreach Program at Lake Berryessa.

Our habitat restoration staff is implementing more than twenty projects with local partners throughout the County. Focusing on vegetation management, these projects replace weeds with native vegetation to help reduce erosion, lessen the need for herbicide use and increase filtration of excess nutrients from County waterways.

Help us work towards cleaner and more abundant water in Solano County! Read about what we're up to in this issue, and give us a call!

Bio-Monitoring Program Explores Local Creeks

By Martha Rocha & Marianne Butler

Solano RCD's Spring 2013 Bio-Monitoring Program will take more students than ever before out into their watersheds to monitor the health of local creeks. Vallejo Sanitation and Flood Control District has provided funding for biomonitoring units in Vallejo high school and college classes since 2008. Last year, Solano Community College partnered with the Solano County Office of Education to expand the program to high school classes in Benicia, Vallejo, and Fairfield. This year the program will work with 14 classes, using local creeks as living laboratories where students study the aquatic macroinvertebrates (tiny water bugs) to determine creek health.

Students start the program with a watershed walk that provides an opportunity to contribute to local restoration projects.



Fairfield High students looking at macroinvertebrates in a magnifier



Installing tree protection in the Blue Rock Springs Corridor restoration site.

With dibbles, clippers and shovels, participants plant grass plugs and acorns and remove artichoke thistle and blackberry.

In-class lessons focus on stream ecology, local watersheds, watershed mapping,

macroinvertebrate identification, chemical testing, field trip preparation and data analysis. These lessons are designed to prepare students to collect high quality data in the California Streamside Assessment format utilized on the field trip. This data is sent to local waste water agencies and the Department of Water Resources.

During their day-long field trip, students rotate between three stations that focus on chemical, biological and physical assessments of the creek. At the chemical station, students

test the water to determine the pH, temperature, and levels of dissolved oxygen, phosphates and nitrates. At the biological station students collect macroinvertebrates

and sort and identify the organisms. At the physical station, students take measurements of the creek's physical aspects such as water depth, velocity and percent riparian cover.

The final in-class lesson is spent evaluating the data collected on the field trip to determine the overall health of the creek. Creek health determination is based on several biological factors including: the ratio of more pollution-sensitive species to pollution-tolerant species, species richness and density. Analyzing the field trip data also gives students a chance to see the interconnectedness of chemical, biological, and physical processes in a riparian ecosystem.

Contact Education Program Manager Marianne Butler for more information about our environmental education programming at marianne.butler@solanorcd.org or 707-301-5778.



A student rests after planting plugs at a restoration project site.



Fairfield High students monitoring Union Ave. Creek in Fairfield

Solano RCD Staff Directory

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Seasonal Education & Restoration Staff:
Deborah Bartens, Don Broderson, Jeff Carlson,
Duc Jones, Wendy Low and Carla Murphy

Solano Resource Conservation District

Annual

Spring Plant Sale

April 20, 2013

8:00 am-12:00 pm

at the Conservation Education Center
6390 Lewis Road, Vacaville

Featuring an excellent selection of well-priced
California native & regionally appropriate plants

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Solano RCD's Spring Native Plant Sale is April 20