



Large & small group learning is a central feature of the CCRC. Photo Credit: Lisa Lurie

Rolling grazing lands occupy much of the landscape within Sanctuary watersheds. The Central Coast Rangeland Coalition (CCRC) fosters holistic approaches to sustaining rangeland communities of humans and other living organisms, including provision of bountiful and clean water. The CCRC catalyzes rangeland stewardship awareness, including cooperative, experimental approaches to sustain natural resources and enhance the wisdom and economic viability of rangeland stewards. Participants are from Santa Barbara to Sonoma counties, inland to the Central Valley. The most active partners include many ranchers and quite a few conservation-oriented groups. Meetings on the third Thursday of each April and October have attracted up to 80 people, including students, land owners and working ranchers, government agents, conservation organizations, teachers, scientists, and families.



The CCRC demonstrates stewardship techniques intended to produce high quality and abundant water and presents new knowledge to the broader community of rangeland managers. For example, over the past 4 years, CCRC participants have invited rangeland advisors and experts onto their properties to participate in an extensive monitoring program examining rangeland health. These demonstration sites offer important stewardship information for others seeking to improve water quality. This monitoring program includes extensive multivariate analysis conducted by technical experts. Water quality can be affected by complex factors including vegetative cover, plant species diversity, and carefully planned management. By including a team of scientists, ranchers, and others during demonstration field days, the group is uniquely able to interpret the complex factors that lead to good water quality stewardship. Contact: Grey Hayes, Elkhorn Slough Coastal Training Program; 831-274-8700; grey@elkhornslough.org



UC, RCD, and private partners conducting an irrigation evaluation outside of Gilroy. Photo Credit: Dina Iden

Led by the Central Coast Resource Conservation & Development Council, AWQA secured federal financial cost-share assistance under the NRCS Agricultural Water Enhancement Program (AWEP) to support implementation of irrigation and nutrient management practices in Central Coast watersheds. **In 2009 and 2010 over \$3.1M in AWEP funding supported 71 growers in installing 384 conservation practices, treating 12,423 acres.** These practices included irrigation system and nutrient management evaluations, improved sprinkler systems, conversion to micro-irrigation, and installation of flow meters, among many others.

AWQA partners in San Mateo County received federal funding under the NRCS Cooperative Conservation Partnership Initiative (CCPI) for a similar project in coastal San Mateo County. Technical assistance partners at the San Mateo RCD, Farm Bureau, and NRCS provided services to assess and improve irrigation efficiency. **These activities have resulted in a 20-30% improvement in distribution uniformity on participating farms.**

For more information on AWEP contact Jeff Rodriguez, CCRC&D at 805-434-0396, x119 or Jeff.Rodriguez@ca.usda.gov. For more information on CCPI contact Jim Howard, NRCS at 650-726-4660 or james.howard@ca.usda.gov

The USDA is an equal opportunity provider and employer.

Growers in the Salinas valley, working with UC Cooperative Extension, recently demonstrated that reducing water and fertilizer use through better management is an effective strategy for lowering production costs, saving water, and improving water quality. In the face of rising costs and increasing water quality regulatory scrutiny, many Central Coast landowners seek to conserve resources through effective irrigation and nutrient management strategies. For these reasons, AWQA and a broad suite of partners developed the Central Coast Irrigation and Nutrient Management Program to help farmers implement irrigation and nutrient management practices to address mounting water quantity and water quality concerns in the region. Funding for implementing this voluntary program has come from many sources.

The time, cost, and complexity of navigating the permit process with a host of regulatory agencies can be daunting for landowners seeking to implement conservation projects on their properties. To help farmers, ranchers and other rural landowners overcome these barriers and to encourage implementation of conservation and restoration projects across Sanctuary watersheds, AWQA partners have worked to develop permit coordination programs. Led by Sustainable Conservation, Resource Conservation Districts, and the NRCS, the Partners in Restoration (PIR) Permit Coordination Programs help landowners to quickly and effectively obtain permits from multiple agencies, and provides technical and cost-share assistance for the installation of certain conservation practices. **During the course of 13 years, a total of 227 individual restoration projects have been completed under eight PIR programs covering all or portions of eight counties within California. These practices have prevented over 200,000 tons of soil loss.** In 2011, three additional PIR programs are slated to begin in four counties within California's Central Coast region.



Biotechnical restoration methods at the site of a streambank failure - permitted under PIR - are helping protect private orchard land, prevent erosion, and enhance fish habitat in Santa Cruz County's Corralitos Creek Watershed. Photo credit: Paolo Vescia

Central Coast PIR Programs

- Santa Cruz County (current)
- Marin Coastal Watersheds (current)
- San Luis Obispo County (in development)
- Upper Pajaro River Watershed (in development)
- Santa Barbara County (in development)
- Salinas River Watershed (expired)
- Elkhorn Slough Watershed (expired)
- Morro Bay Watershed (expired)

Sustainable Conservation recently undertook a comprehensive assessment of the PIR programs. The analysis found that PIR significantly increases implementation of small restoration projects, leading to promising reductions in soil erosion. However, despite the broad popularity of PIR programs among all stakeholder groups, the programs have become more difficult and expensive to develop rather than easier and cheaper. Based on the results of their program evaluation, Sustainable Conservation proposes transitioning PIR permitting efforts from the watershed and countywide basis to a statewide, multi-region program. For more information and to view the full PIR program summary and assessment, contact Erik Schmidt, Senior Research Analyst at 415-977-0380 x334, eschmidt@suscon.org, or visit www.suscon.org.



AWQA celebrated 10 years of collaboration with a partner appreciation cruise of the Monterey Bay aboard the MBNMS research vessel "Fulmar." Photo Credit: MBNMS

2009 marked the 10-year anniversary of AWQA and the Agriculture and Rural Lands Plan (Ag Plan). Released in 1999, the Ag Plan laid out strategies for protecting water quality and the productivity of Central Coast agricultural lands through a voluntary stewardship approach. The AWQA partners have made great strides towards implementing the Ag Plan over the past decade. Some examples of our success include:

Education and Outreach

AWQA developed a Farm Water Quality Planning Short Course through which 70% of growers in the region developed farm water quality management plans for their properties. We offer ongoing continuing education workshops and field days (about 50 a year), which you can find on our online calendar awqa.org/involved/workshops.php. To sign up to receive email updates of the AWQA event calendar, contact Lisa Lurie at 831-420-3662 or lisa.lurie@noaa.gov.

Confidential Technical and Financial Assistance

Over the last 10 years the USDA Natural Resources Conservation Service (NRCS) has assisted growers in the region to voluntarily implement conservation practices through \$18M in Farm Bill support dollars, matched by \$15M of farmer investment in these same practices.

Collaborative Research to solve problems

Growers are partnering with researchers to conduct field trials of practices that reduce water and nitrogen inputs in commercial scale lettuce production. Other collaborative research looks at the effectiveness of various conservation practices, including cover crops and vegetated treatment systems.

Strengthening Coordination

AWQA has led to improved coordination and collaboration of agencies, researchers, non-profits, and industry groups. AWQA partners meet monthly to discuss emerging issues and coordinate projects. AWQA funding supports development of regional, collaborative projects such as irrigation and nutrient management programs and efforts to reconcile perceived conflicts between food safety and the environment.

The Santa Clara Valley Water District (SCVWD) is always looking to help growers find ways to use water more efficiently. That's why, in 2009, the SCVWD funded a three year project led by the Santa Clara Farm Bureau to improve irrigation efficiency. The goal of the project is to work intensively with 10 growers to achieve an irrigation efficiency of 80% or greater. A team of technical experts from the Farm Bureau, UC Cooperative Extension, and the RCD of Monterey County are working together with 10 growers producing diverse crops on large and small



Through this project, technical support staff receive training to better assist growers with evaluating and reducing their use of water. Photo credit: Lisa Lurie, MBNMS

operations on a total of 4675 acres throughout the Llagas and Uvas watersheds. Each year, the technical team evaluates the efficiency of the irrigation systems on each ranch. They meter every drop of water going onto the field, and then compare the amount of water used to the estimated crop need based on CIMIS weather station data. The growers then use this information to make management decisions to improve the uniformity or scheduling of the irrigations. The technical team then reevaluates the system to monitor progress made in achieving higher irrigation efficiencies.

Two years into the project, 4 of the participating growers are consistently meeting or exceeding the 80% efficiency goal, 3 are steadily progressing towards it, and 3 have inconsistent results. Their goal in the next year is to better understand and respond to the factors that are causing these inconsistencies with the help of more soil moisture monitoring.

The one-on-one fieldwork is supplemented by community wide workshops funded by the SCVWD and by an AWQA mini-grant. The project team offered 4 workshops in 2010 (each focused on different crops) in San Benito, Santa Clara, and Santa Cruz Counties. Over 100 people attended the workshops, learning about the results of the project and about methods to improve irrigation efficiency.

"We're really excited about having this type of in depth program in partnership with the Water District. This is good for our water supply and good for agriculture. It's a model for the future," stated MaryEllen Dick, Project Manager and Watershed Coordinator at the Santa Clara Farm Bureau. For more information, contact MaryEllen at 831-728-5984 or maryellenagwater@sbcglobal.net.

"AWQA is a partnership created out of love and respect for our natural resources." Tim Chiala, George Chiala Farms, Inc.

Tim Chiala and **Ian Teresi** of Morgan Hill don't just talk about water quality. They implement water quality practices on their many properties and demonstrate results. Consequently George Chiala Farms is an influential model of proactive water quality stewardship for large agricultural operations throughout the Central Coast. As they learn of new opportunities, Tim and Ian continually adapt their management toward their longstanding goal of reducing agricultural runoff and filtering excess stormwater. They have implemented grassed ditches, buffer strips, cover crops, water recycling programs, and a regular water monitoring program at different locations on the farm. They are proactive participants and often leaders in many initiatives to promote water quality protection, including Watershed Working Groups, Water Quality Short Courses, the Central Coast Agricultural Water Quality Coalition, and the Santa Clara Valley Water District's Mobile Lab Program and Irrigation Efficiency Program. They share their success stories with their peers, offering their property as the site for training workshops and field tours. As Farm Bureau board members, Tim and Ian's leadership in the agricultural community serves to promote and enhance the value of water quality stewardship on Central Coast farmland.



Ian Teresi of George Chiala Farms is conserving natural resources while maintaining an economically viable business, all with an eye on future generations. Photo Credit: Israel Jonson

Tim and Ian received a 2009 AWQA Stewardship Award. Other awardees were: Steve Pederson and Jeanne Byrne (High Ground Organics, Watsonville) and the Quail Creek Subwatershed Working Group (Monterey County)

LEARN MORE...

Website: www.awqa.org
 Find local contact information for technical and financial assistance, continuing education, and research at: <http://www.awqa.org/farmers/workwith.html>
 Calendar of events and continuing education: <http://www.awqa.org/involved/workshops.php>
 For more information on AWQA contact **Lisa Lurie** at the Monterey Bay National Marine Sanctuary, **831-420-3662** or lisa.lurie@noaa.gov

PROTECTING THE WATERS AND WATERSHEDS OF THE MONTEREY BAY NATIONAL MARINE SANCTUARY.



2009-2010 ACCOMPLISHMENTS



The Central Coast of California abounds in natural resources. Its rugged coastline and rolling valleys support a diverse, \$5 Billion dollar agricultural industry that produces more than 200 crops. The region is also home to the Monterey Bay National Marine Sanctuary - the largest national marine sanctuary in the United States. As land use intensifies in this rich landscape, the protection of water resources grows increasingly urgent. Farmers are up against a number of challenges to stay viable, comply with regulations, and protect natural resources. In response to these challenges, farmers and agencies on the Central Coast have formed the Agriculture Water Quality Alliance (AWQA).

AWQA is a unique regional partnership that brings together farmers, ranchers, resource conservation agencies, researchers, and agricultural and environmental organizations to protect the health of Sanctuary waters and the productivity of Central Coast farmlands. Since 1999, AWQA partners have worked together to reduce the runoff of sediments, nutrients, and pesticides from agricultural and rural lands through education and outreach, technical and financial assistance, research and monitoring, permit streamlining, and watershed coordination. AWQA's regional approach focuses on industry led initiatives and voluntary, collaborative solutions to tackling water quality problems.

2009-2010 has been a period of both great challenges and great successes for AWQA partners. Despite tough economic times, growers and ranchers have continued to invest both time and money on implementing and evaluating the effectiveness of conservation practices. AWQA brought new federal funding to the region through the USDA to support irrigation and nutrient efficiency programs. We celebrated the 10-year anniversary of the Agriculture and Rural Lands Plan, and a decade of collaborative problem-solving. This report highlights just some of the many accomplishments of the AWQA partnership during 2009-2010. While celebrating our accomplishments, we are mindful of the challenges that still lay before us. The need for collaboration in protecting water quality has never been greater.



Cover photo credits, clockwise from top: Israel Jonson, Lisa Lurie/MBNMS, Chad King/MBNMS