AWQA : Agriculture Water Quality Alliance

Protecting the waters and watersheds of the Monterey Bay National Marine Sanctuary

Introduction

The end of 2005 marks six years for the Agriculture Water Quality Alliance, AWQA. Developed to carry out the strategies in the Monterey Bay National Marine Sanctuary's (MBNMS) Agricultural and Rural Lands Plan. AWQA is a partnership that brings together a variety of organizations with the common goal of reducing runoff of sediments, nutrients and pesticides from agricultural lands on the Central Coast of California. AWQA is made up of government and non-governmental organizations, the agricultural industry, and university researchers. Driving AWQA is a committee consisting of representatives from the MBNMS, the Central Coast Agricultural Water Quality Coalition (Coalition), the Natural Resources Conservation Service (NRCS), the local Resource Conservation Districts (RCDs), and University of California Cooperative Extension (UCCE). The strength of AWQA comes from our strong and diverse partnerships throughout the region.

AWQA works to protect the waters of 11 major watersheds in six counties including: San Mateo, Santa Cruz, Santa Clara, San Benito, Monterey and San Louis Obispo. The agricultural industry in these counties is diverse and flourishing, valued at more than $5 billion annually. A chart of the top five valued crops in each county and the percent of farmland per county can be found in the appendix. This area includes almost 742,000 acres of important farmland and 2.77 million acres of grazing land[1].

Unstable funding has left many AWQA partners short staffed. Supported through a Congressional Allocation, NRCS has three employees dedicated to AWQA, including, a water quality specialist, a rangeland specialist and a hydrologist. When the year began there were only two official Coalition coordinators covering three counties and one employee of Monterey County Farm Bureau (MCFB) available to assist landowners. Two new coordinators were hired covering Santa Cruz and Northern Monterey in the fall. The Agriculture Land-Based Training Association (ALBA) has also hired a new coordinator for Northern Monterey County and Elkhorn Slough to focus on Spanish outreach. The RCDs did not have a coordinator for part of the year, but in the fall we were able to contract with Upper Salinas-Las Tablas RCD for that position. A new coordinator was hired by the MBNMS in December of 2004. That means we now have representation by all five main partners on the AWQA committee.

In November AWQA was recognized with the State of California's highest and most prestigious environmental honor, the Governor's Environmental and Economic Leadership Award (GEELA). The annual program is administered by the California Environmental Protection Agency and Resources Agency. The program recognizes individuals, organizations, and businesses that have demonstrated exceptional leadership and made notable contributions in conserving California's precious resources, protecting and enhancing our environment, and building public-private partnerships. AWQA received the award in the category of Ecosystem and Watershed Stewardship which is awarded to those that show innovative and sustainable approaches to land and water management that restore or protect natural conditions, functions and processes, and provide economic, social and environmental benefits.

[1] Source: Farmland Mapping and Monitoring Program, California Department of Conservation; 2002 – 2004 http://www.consrv.ca.gov/DLRP/fmmp/stats_reports/county_conversion_tables.htm#Los%20Angeles

Funding

AWQA was fortunate enough to receive $600,000 in Congressional funding again this year. We thank Rep. Sam Farr for his continued support of our program. In addition, the AWQA partners rely heavily on grants each year to support their work. In 2005, grant contracts were secured in excess of 2.1 million dollars. Grants secured in previous years but implemented in 2005 exceeded 5.7 million dollars. NRCS is not a grant-funded agency

NRCS, a non grant funded agency, continues to support farmers with the implementation of conservation practices through Farm Bill program funding such as the Environmental Quality Incentives Program (EQIP). In 2005, 63 farmers and ranchers in the six county area pledged to invest over $2 million dollars worth of time, equipment, and materials toward installing and managing conservation practices. NRCS matched these commitments with $2.8 million of EQIP cost-share funding to install practices that reduce erosion, protect water quality, conserve irrigation water, and enhance wildlife habitat along waterways.

Many agricultural producers have invested their own financial resources in water quality protection activities without any public match. This level of industry contribution is expected to increase in order to comply with regulatory expectations. To remain viable however, many of these producers will seek grants and cost-share assistance to offset the costs of the investment. Public funding through NRCS and the RCDs has been, and will continue to be, a critical source of support. It is important to note that the effective delivery of these financial resources relies on the proportionate availability of technical staff to deliver designs and specifications and administer the grants. AWQA partners are seeking effective ways to match up technical advise with implementation dollars.

Water Quality Protection in a Regulatory Environment

In July of 2004 the Central Coast Regional Water Quality Control Board (RWQCB 3) adopted a new Conditional Waiver of Waste Discharge Requirements of Discharges from Irrigated Lands (Ag Waiver). The Ag Waiver went into effect Jan 1, 2005. While AWQA continues to be a voluntary program separate from the State's regulatory environment, AWQA partners assisted farmers in enrolling in the program. AWQA assisted with the delivery of numerous educational forums for farmers and ranchers that provided an overview of water quality concerns and the steps necessary to be in compliance with the Ag Waiver. These steps include completing 15-hours of water quality education, developing a site specific Farm Water Quality Plan (Farm Plan), participating in a monitoring program and implementing water quality conservation practices.

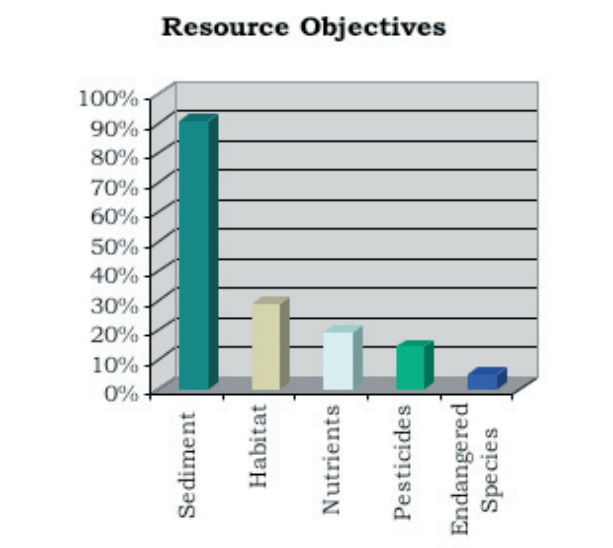
AWQA has been providing farmers with 15-hours of water quality education through the Farm Water Quality Planning short course (Short Course), led by UCCE and NRCS since 2000. During the Short Courses farmers develop a site specific Farm Plan which is used to guide and direct implementation of conservation practices to protect water quality. For many years AWQA has also been assisting farmers in implementing these conservation practices by providing technical assistance, permit assistance, and funding support. Since the conditions farmers are required to meet in order to comply with the Ag Waiver are so similar to AWQA's voluntary program, many farmers were ahead of the game. They still needed to enroll into the program and participate in a monitoring program, but most had completed their education and Farm Plan.

Project Implementation

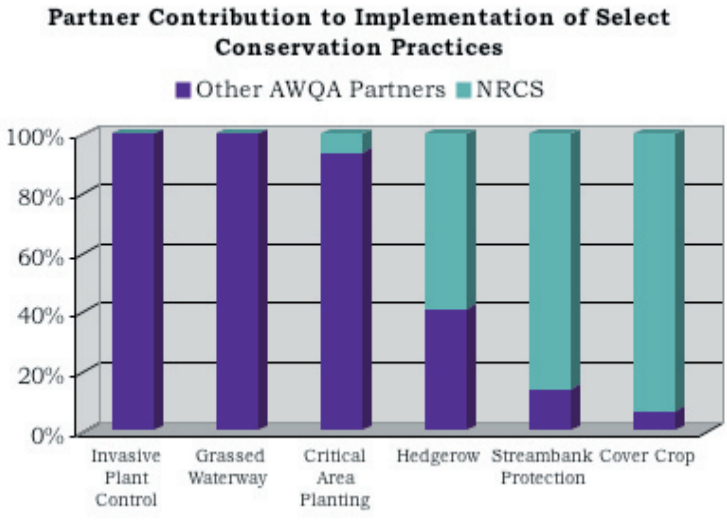
Implementing a practice can take years to complete depending on the scale of the project. Before any work is done on a property, AWQA partners work with farmers and ranchers to develop site-specific farm or conservation plans. NRCS conservation plans were written for over 27,000 acres. The majority of these plans were written for operations in the Salinas River watershed. In 2005, farmers and ranchers implemented the following based on AWQA partners' technical assistance.

- Ranchers in the region applied conservation practices to over 54,000 acres of grazing land, making up over 10% of grazing land acreage protected by NRCS in the state.
- In the Pajaro and Elkhorn Slough watersheds, irrigation efficiency was improved resulting in a water savings of 172 ac-ft.
- Improvement to farm access roads, resulting in reduced erosion, was completed on 22,790 feet of road.
- Farmers on over 1,000 acres of land are now using cover crops on their fields in the winter.
- Over 13,000 ft of hedgerows were planted this year.
- 870 ft of stream bank were protected.

The overall objective of AWQA is to improve water quality by reducing sediments, nutrients, and pesticides in runoff from agricultural lands. However, there are other resource objectives that are often addressed when implementing conservation practices such as improving habitat, or protecting endangered species. The following shows the percentage of practices focusing on different resource objectives. One practice can have multiple objectives.



Some of the conservation practices implemented by NRCS would have happened without the AWQA program. However, the role of all AWQA partners accelerated the willingness of agricultural producers to participate and has encouraged the use of new conservation practices in the region. The graph below shows the percentage of projects led by other AWQA partners for select practices.



Roads

Work on the rural roads section of the Ag Plan continued this year. The Santa Cruz County RCD continues to be the leader in the region implementing a comprehensive Private Roads program. They have received extensive help this year from the NRCS Hydrologist hired with AWQA funding.

In 2005, the Santa Cruz County Resource Conservation District (SCCRCD), through funding from the California Coastal Conservancy and State Water Resources Control Board, expanded the Rural Roads Erosion Control Assistance Program from the San Lorenzo River watershed into the Soquel Creek and Aptos Creek watersheds. New additions to the program, which began in 2001, include, road assessments, designs, permits, and sediment load reduction monitoring funded through the Coastal Conservancy's Integrated Watershed Restoration Program (IWRP).

In the summer and fall of 2005, SCCRCD coordinated a total of ten road assessments on private roads; seven in the San Lorenzo River watershed and three in the Aptos/Valencia Creek watershed. Pacific Watershed Associates (PWA) conducted these road assessments. SCCRCD expects to facilitate at least eight more road assessments in 2006, which will includes six in the San Lorenzo River watershed, one in the Soquel Creek watershed and one in the Aptos Creek watershed.

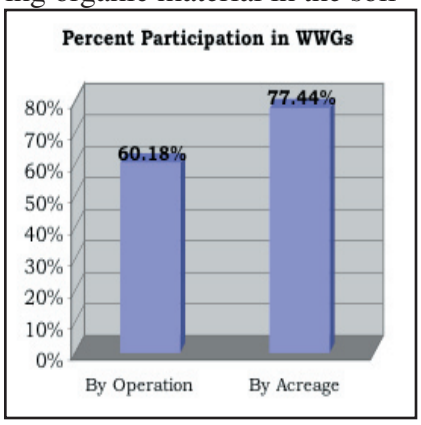
Watershed Working Groups

Since the development of AWQA, the Coalition of Central Coast County Farm Bureaus served as a representative for the agricultural industry. Recently, the Coalition morphed into a non-profit entity called the Central Coast Agricultural Water Quality Coalition, and is adjusting to its role in AWQA as a new non-profit. The Coalition Board is comprised of representatives from the six county Farm Bureausand has hired two new coordinators for Monterey and Santa Cruz counties. San Mateo, Santa Clara and San Benito counties also have coordinators.

There are 24 watershed-working groups (WWG) in the region which include a total of almost 600 farmers and ranchers. A list of all the groups can be found in the appendix. Participation can be determined by counting the number of operations in the WWG compared with all the operations farming in that watershed or it can be calculated by acreage farmed by participants compared to total acreage farmed in the watershed. These two calculation methods produce significantly different results. By acreage, on average WWG in the region have 77.44% participation. This compares with 60.18% participation by operation, showing that participants tend to be the larger acreage farmers in a watershed.

Ano Nuevo WWG in San Mateo is the only group with 100% participation. This small watershed located on the border between San Mateo and Santa Cruz counties is home to five farmers with 300 acres in production. The WWG with the largest amount of farm acres is San Benito in central San Benito County. There are 35 participants in this group farming over 18,500 acres, which is 77% of the acres farmed in the watershed. The Spanish language WWG in Elkhorn slough has steady participation by 40 farmers. Only 3 other groups in the region have a higher number of participants, but for Elkhorn Slough this represents only 27% of the predominately Spanish language operations.

In 2004, a dozen growers in San Mateo WWGs participated in cover crop demonstrations to accomplish a variety of water quality and farm production goals including; reduction of soil erosion, utilization on existing "left-over" nutrients from the previous crop (reducing the potential of nutrient movement thru the winter into adjacent water bodies), increasing organic material in the soil



and in some fields, increasing the available nitrogen for the next cash crop. Growers tried new seed mixes to compare the results with their more traditional cover crop plantings. This spring growers met to discuss the results. Many of these growers became the program's ambassadors of conservation, getting the word out to other growers regarding the benefits of this activity. Building on this success, cover crops were again earmarked for demonstration projects this year. Interest was high and twice the acreage of cover crops (over 275 acres) were planted late Fall 2005, bringing new adopters into the program, as well as the original ambassadors. This highlights the effectiveness of the WWGs and demonstration projects.

In San Mateo growers also introduced a new demonstration project subject, low tech approaches to stabilizing gullies. Utilizing hand labor and locally harvested willow cuttings, this project worked to remediate three gullies of varying degree of severity. The project was completed in March and appears to be viable option for local land owners, farmers and ranchers. Building on that success, the coordinator is advertising locally for additional gully participants. Like the Cover Crop Project, the CCAWQC is hoping to double the number of participants in 2006 year.

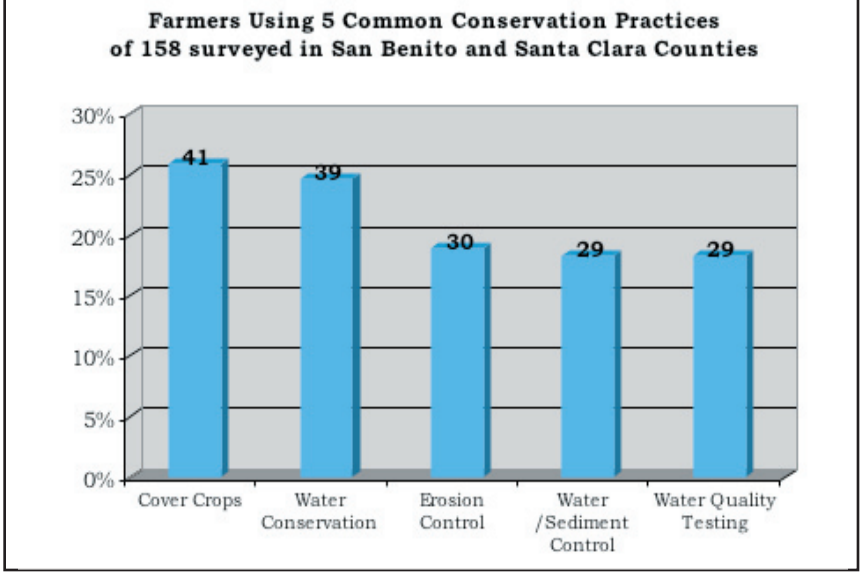
Another great project is happening in Santa Cruz County, cleaning and grassing the Beach Road drainage ditch in Watsonville. This is a collaborative project involving the CCAWQC, NRCS, Santa Cruz County RCD, Santa Cruz County Public Works Dept, and 13 growers along the drainage ditch. The project site is West of Rt. 1 and North of the Pajaro River. The ditch was excavated, weeded and sown with a cover crop of annual barley in November. By Spring 2006, the entire 5 miles of ditch will be planted with native grass plugs. Also during the last year, 24,000 square feet of grassed waterways and 4,000 linear feet of native plant hedgerows were planted on growers' properties in the Elkhorn Slough Watershed. This was done as a cooperative effort between CAFF, the Elkhorn Slough Foundation, and the Coalition.

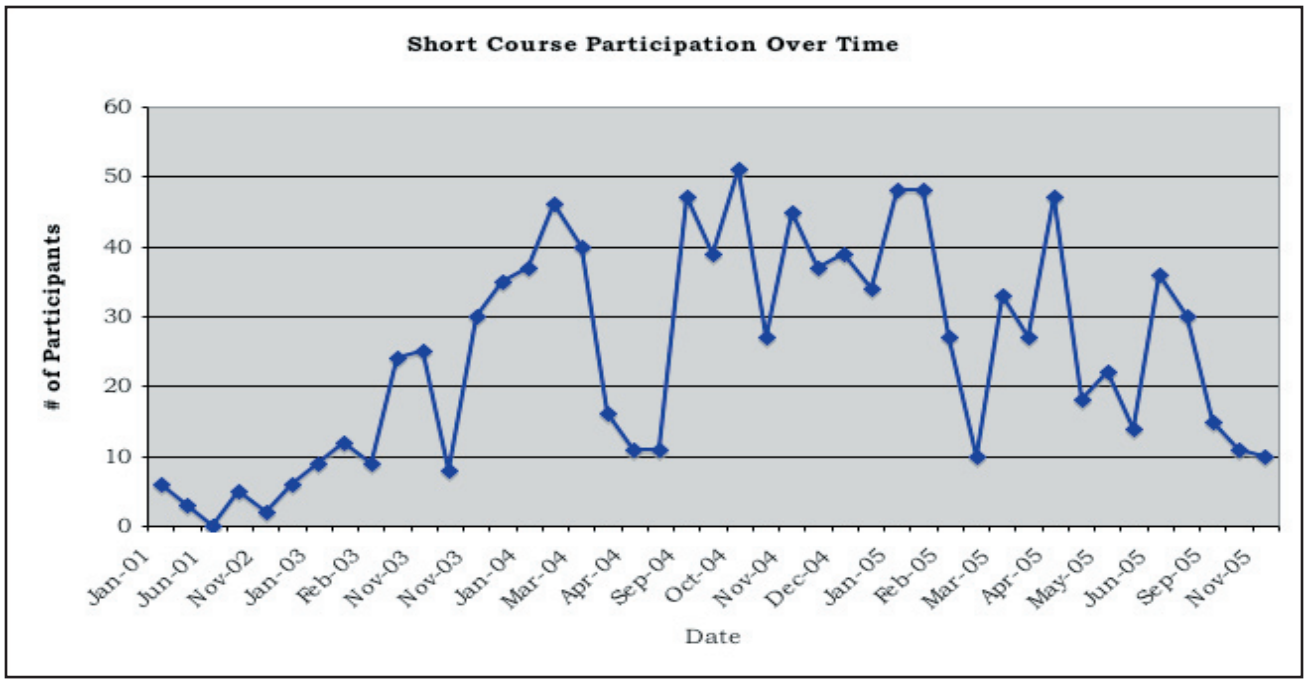
Education

AWQA partners conduct a wide variety of educational activities each year. 2005 was no exception. The Farm Water Quality Planning short course offerings continued, numerous workshops and tailgates sessions including demonstration projects were held, and more publications to assist farmers and ranchers were produced.

UCCE & NRCS, in cooperation with the MBNMS and local RCDs, Water Agencies/Districts, researchers, and Coalition coordinators, continue to offer Farm Water Quality Planning (FWQP) short courses for growers along the Central Coast. During the 15-hour course, producers learn about water quality regulations, techniques for site-assessment of pollution problems, methods for recognizing practices that are already in place that

A survey of growers was taken in Santa Clara and San Benito Counties. Of the growers surveyed, these top five conservation practices were implemented by farmers <u>without technical assistance.</u>





protect water quality, management practices that can help solve any water quality problems, and practice evaluation methods. The course is held throughout the Central Coast and involves classroom and field instruction that leads to completion of an individualized Farm Water Quality Plan. Many of these courses were partially supported by a grant from the State Coastal Conservancy.

In 2005 18 more courses were offered with 708 farmers participating. 22% of the courses in 2005 were offered in Spanish. Short Courses will continue through 2006, after which they will be offered on an as-needed basis. As the majority of farmers completed a Short Course, AWQA will be transitioning to a different style of continuing education.

Delivering over 30 workshops kept many partners busy this year. AWQA began posting all workshops offered by our partners on our website calendar page, www.awqa.org/involved/getinvolved.html. Workshops covered such topics as use of cover crops, PAM and pesticide risk screening. In addition to the workshops offered. UCCE conducted 19 field trials to evaluate the effectiveness of monitoring techniques and management practice to protect water quality. Spanish speaking farmers were given more educational materials and events this year and ALBA continues to be the lead partner in Spanish outreach and education.

The number of publications available for download on the AWQA website (www.awqa.org/pubs/publications.html) continued to increase over the year. Three publications related to roads including the entire Low Volume Roads Engineering: Best Management Practices Field Guide were added to the site. There are also nine publications specific to horse keeping, plus fifteen other publications related to conservation practices. This year UCCE with NRCS completed 70 one page management practice information sheets. Each practice sheet has a general description, picture, pros and cons, benefits to water quality (if known) and links to additional information. In addition to information on conservation practices there are eight documents related to water quality evaluation, annual watershed working group reports, crop statistics, the Pescadero-Butano watershed assessment, nine cost-studies, and hydrologic and groundwater basin maps for the entire region.

APPENDIX

WATERSHED WORKING GROUPS

SAN MATEO
- Pescadero/Butano
- Pilarcitos
- Ano Nuevo
- Frenchman's

SANTA CRUZ
- Lower Pajaro
- Watsonville Sloughs/ Beach
- Carneros Cr/ Elkhorn
- Brown's Creek

SAN BENITO
- Pacheco/Tequisquita Slough
- Tres Pinos
- San Juan
- San Benito

SANTA CLARA
- Llagas
- Uvas

MONTEREY
- Chualar/Quail
- Gabilan/Natividad/ Alisal Cr
- Blanco Drain/Alisal Slough
- Arroyo Seco
- Mid Salinas River
- Elkhorn Slough

SAN LUIS OBISPO
- Los Osos/Chorro
- San Migues/Estrella
- Nipomo

County/Percent Land Area in Farms	Top Five Valued Crops & Total Value	In Millions
MONTEREY 59.3%	Lettuce, Leaf	$ 544.3
	Lettuce, Head	$ 406.2
	Strawberries	$ 317.0
	Broccoli	$ 273.3
	Nursery	$ 270.2
	County Total Value	$ 3,392 B
SAN BENITO 65.1%	Baby Lettuce (salad)	$ 48.2
	Nursery Stock	$ 26.4
	Misc. Veg. & Row Crops	$ 22.5
	Bell Peppers	$ 20.7
	Winegrapes	$ 18.9
	County Total Value	$ 266
SAN LUIS OBISPO 62.3%	Winegrapes (All)	$ 127.4
	Cattle and Calves	$ 54.4
	Broccoli (all)	$ 54.3
	Vegetable Transplants	$ 30.0
	Head Lettuce	$ 29.4
	County Total Value	$ 539.4
SAN MATEO 14.5%	Ornamental Nursery Stock	$ 29.4
	Potted Foliage Plants	$ 17.0
	Mushrooms	$ 17.0
	Potted Orchids	$ 10.0
	Potted Lilies	$ 7.2
	County Total	$ 181.5
SANTA CLARA 38.8%	Nursery Crops	$ 94.6
	Mushrooms	$ 53.9
	Bell Peppers	$ 12.4
	Cut Flowers	$ 9.5
	Cattle, Steers and Heifers	$ 7.1
	County Total	$ 258.3
SANTA CRUZ 23.6%	Strawberries	$ 194.7
	Raspberries	$ 101.3
	Landscape Plants	$ 27.0
	Indoor Cut Flowers	$ 14.7
	Misc. Vegetables	$ 13.0
	County Total Value	$ 448.0