



Annual Report

2006

Resource Conservation District of Santa Cruz County

SPRING 2007

Santa Cruz Countywide Partners in Restoration Permit Coordination

Jen Stern, RCD and Kelli Camara, NRCS

Although the days of the Dust Bowl are gone, the partnership which was created because of it, between Resource Conservation Districts (RCDs) and the Natural Resources Conservation Service (NRCS), is alive and active in Santa Cruz County.

In 2006, the NRCS and the RCD of Santa Cruz County assisted landowners to implement conservation practices on more than 100 acres of agricultural land in Santa Cruz County.

More than 850 tons/year of sediment from these agricultural operations were prevented from entering adjacent streams and waterways utilizing such practices as sediment basins, hedgerows, cover crops, road seeding, ditch planting, bioswales, and access road improvements.

Wildlife habitat was improved on over 9 acres of Soquel Creek through the removal of invasive species, such as arundo, cape ivy, pampas grass and acacia trees, and then revegetated with native shrubs, trees, and grasses. A multi-year project to improve habitat and water quality through the reestablishment of native grassland began on an 11-acre parcel, adjacent to Harkins Slough.

Conservation practices, such as sediment basins, exclusionary fencing, critical area planting, installation of gutters and downspouts with energy dissipaters, and regrading of pastures and paddocks to redirect flow, were installed on ten horse facilities throughout the county. Manure bunkers were

installed on eight properties, preventing approximately 640 tons of manure from reaching adjacent streams and waterways each year.

Seven erosion control projects were installed to



Soil Erosion during the Dust Bowl Era circa 1935

treat erosion from 11,000 linear feet of private rural roads in the San Lorenzo River, Soquel Creek and Aptos Creek watersheds.

Conservation practices, such as road outsloping, culvert installation, and rolling dips, will prevent 3800 tons of sediment from entering salmonid streams over the next ten years. An instream

ford which inhibited steel-

head migration upstream on the west branch of Soquel Creek was replaced with a bridge, opening up at least one mile of salmonid spawning habitat.

These conservation and restoration projects were funded by Federal, State, and local sources and many were implemented utilizing the Santa Cruz County Partners in Restoration Program and the Integrated Watershed Restoration Program.

Last year was truly a year for projects in partnership and the NRCS and RCD staff look forward to a successful and collaborative 2007!

The RCD is a special district organized under state law, with no enforcement or regulatory functions. The RCD works closely with groups and individuals to provide practical solutions for soil and water management problems. Our only interaction with regulations is to be of assistance to landowners in complying with them.

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Our Mission

To help people protect, conserve and restore natural resources through information, education and technical assistance programs.

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Executive Director Report Karen Christensen

We have had a productive year at the Resource Conservation District of Santa Cruz County (RCD). Our programs have assisted the community and the environment by helping landowners realize their conservation goals. All of our programs have benefited from a strong partnership with the Natural Resources Conservation Service. The Permit Coordination Program has allowed us to help landowners effectively get conservation projects on the ground without being hindered by the sometimes cumbersome permitting process. This has been by providing the coordinated permitting needed for the high-quality erosion control and habitat restoration projects implemented through the RCD's programs.

We have expanded our Roads Program to include not only the San Lorenzo watershed, but also Soquel Creek and Aptos Creek. In the year to come we will see this program incorporated into the Lower Pajaro Watershed as well. Our manure management program, wherein we work in partnership with Ecology Action, began several years ago in the San Lorenzo watershed, and has now spread to include three counties, Santa Cruz, San Benito and southern Santa Clara. The Pajaro Program continues to implement projects and provide information to landowners on soil conservation practices. Many other projects were also accomplished in 2006. We completed our first bridge and helped improve fish passage up Soquel Creek through our Integrated Watershed Restoration Program (IWRP). We expanded restoration projects in collaboration with State Parks, County of Santa Cruz, City of Santa Cruz, City of Watsonville, City of Capitola, Arana Gulch Watershed Alliance, Scotts Creek Watershed Council, Watsonville Wetlands Watch, Coastal Watershed Council, Friends of Soquel Creek, UCSC's Environmental Internship Program, and students from Cabrillo College and local, state and federal resource agencies through our IWRP and Riparian Restoration Programs.

We held several Blue Circle Meetings throughout the year. These meetings serve as a forum for agency staff and the public to interact and discuss watershed and resource issues in an informal setting. We celebrated 10 years of Blue Circles at our October 2006 meeting!

While we have had many milestones this year, we look forward to continuing our mission to help people protect, conserve and restore natural resources through information, education and technical assistance programs.



Steel Bridge installed on Soquel Creek to replace a ford crossing.

Arana Gulch Watershed Alliance Roberta Haver

The Arana Gulch Watershed Alliance (AGWA) strives to assist landowners and land users throughout the Arana Gulch Watershed, working together for a healthy watershed. Community involvement is crucial for watershed sediment management. The City of Santa Cruz is taking the lead on four priority restoration projects on City parklands: two in De Laveaga Park and two on the Green Belt.

The Santa Cruz Port District continues to receive thousands of cubic yards of sediment from Arana each year. In an effort to manage the sediment yield, there is annual cooperation between the City and County of Santa Cruz and Santa Cruz Port District to clear sediments from the Harbor High School sediment basin. The beneficial sediments are transported and used in local projects.

In 2007, Arana's work continues on three other high priority projects: a fish passage project and two sediment reduction projects. The Paul Sweet Road culvert was to be replaced with a steel bridge, an IWRP project. Funding for the bridge has been awarded; however, last year County permits were denied because of liquefaction concerns. In the coming year an alternative solution is being sought with installation of an arch culvert. This has been a multi-year effort with contributing members of the community and public agencies and with landowner participation. Funding sources include the Coastal Conservancy for design and permits, NRCS WHIP funds, American Rivers, Monterey Bay Aquarium Employees and Packard Foundation. We anticipate completion of this project in summer or fall of 2007.

AGWA's high priority gully repair on the Blue Trail in the upper watershed has designs complete, with permitting underway and funding potentials in progress. We also are engaged in planning a Watershed Event with the Santa Cruz Port District to celebrate the Santa Cruz Harbor's contributions to the local community, watershed and restoration therein. The event is scheduled for the fall of 2007. For this and other information please contact AGWA at 475-2379.



Paul Sweet Road Project

Integrated Watershed Restoration Program

Jim Robbins and Jen Stern

The mission of the Integrated Watershed Restoration Program (IWRP) is to facilitate and coordinate projects to improve fish and wildlife habitat and water quality in Santa Cruz County watersheds using a voluntary, non-regulatory approach. This program funded by the Coastal Conservancy brings together funding and permitting agencies to coordinate resource conservation projects. One of the key goals is to focus the available resources to develop high-quality designs, complete permit applications, and prepare project applicants to apply for implementation funding.

The following high-priority projects received funding from the IWRP Designs and Permitting and were then implemented in 2005 and 2006. The Ramsey Park Wetland Restoration was completed with the City of Watsonville as the project lead; the Manabe Wetland Restoration project was completed in the fall of 2006 with seventeen acres of wetland restoration along Middle Watsonville Slough; again the City of Watsonville was the project lead. The Tucker Road Ford Replace-

ment was done with the RCD as the lead agency; Valencia Creek Culvert Retrofit was done with the County Department of Public Works as the lead agency. IWRP funded the Delaveaga Disc Golf Course Sediment Reduction Feasibility Analysis (Phase I), with the City of Santa Cruz as the lead agency. The RCD received partial funding from IWRP to conduct 17 Road assessments and implement seven Road projects. The final draft of the Comparative Lagoon Ecological Assessment was completed using IWRP funds; in addition the Watershed Cruzin' Activity Guide was prepared.

IWRP has been awarded \$4.5 million through Proposition 40 Consolidated Grants to implement 14 IWRP Design and Permit Projects as well as six to ten Permit Coordination Projects. In addition, the Coastal Conservancy has agreed to extend the IWRP Design and Permit funding through 2008 and cover the costs of the IWRP Project Coordinator Jim Robbins (*Alnus Ecological*) and the IWRP Program Coordinator Kate Goodnight.

Fiscal Year 2006 Budget

July 1, 2005-June 30, 2006

Income Sources

| | |
|-------------------------|---------------------|
| Interest | \$19,378 |
| Local & Private Sources | \$15,065 |
| Augmentation Funds | \$28,902 |
| Other Revenue Grants | \$2,012,335 |
| Total | *\$2,075,680 |

Expenses

| | |
|---|---------------------|
| Outside Professional Services/ Project Imp. | \$1,299,072 |
| Salaries | \$496,887 |
| Office, Insurance, Audit, Mileage & Trans. | \$60,070 |
| Total | *\$1,856,029 |

*The difference between income and expenses represents grant money received and not yet spent.

Livestock and Land

Angela Stuart

The RCD of Santa Cruz County in partnership with Ecology Action will continue to achieve the goal of reducing Non-Point Source Pollution (NPS) from livestock properties that enter local waterways. With continued funding from the State Water Resources Control Board, the *Manure & Erosion Pollution Prevention Program*, better known as the *Livestock & Land Program*, has grown since its pilot program in the San Lorenzo watershed in 2002. The program now encompasses three counties: Santa Cruz, San Benito and South Santa Clara.

The program has dramatically increased public outreach and education. Workshops geared toward teaching landowners practical ways to reduce NPS by implementing Best Management Practices (BMPs) on their properties were offered in all three counties. Topics included erosion and mud control, pasture and paddock management, methods for dealing with manure such as composting and storage. Attendance in the three counties topped 400 at 11 workshops. Over ten percent of the workshop attendees participated in a follow-up survey that revealed the majority had voluntarily implemented at least one practice they had learned at the workshops.

Fifteen cost-share demonstration sites were completed in October 2006. Projects included constructing manure bunkers, adding gutters and downspouts, installing subsurface drains, creating vegetated filter strips, installing settling ponds, improving drainage in paddock areas, and other proven BMPs. A tour of four demonstration sites was conducted in November 2006, with over thirty attendees including prop-



Before (left) clay soil with poor drainage and after (right) exclusionary fencing and improved grading and footing.



erty owners, various agency staff, and contractors.

A Manure Market Study Survey was completed in May 2006 to determine what services might benefit local livestock owners. The results spawned the creation of an online Organic Materials Exchange which debuted in November 2006 and currently has over 25 listings for manure, compost, and other organic materials.

The Peer Leader Program, built on a "Neighbors helping Neighbors" philosophy, is designed to provide a simple and informal link between landowners and local agencies that provide educational tools and funding assistance. Two trainings were conducted with a total of seventeen Peer Leaders attending. This exceeded our goal of nine. Peer Leaders completed a total of 10 projects through February 2007 that resulted in 33 referrals to the RCD.

In August 2006, we completed our first hands-on training in Santa Cruz County that illustrated the fundamentals of installing filter fabric in paddock areas. Two more trainings were held in October in Santa Clara and San Benito Counties. The first covered the basics of composting horse manure. The second provided instruction on building a French Drain that included student participation in constructing a dissipater.

If you are interested in learning more about the program, want information on upcoming workshops, or would like to be added to the program mailing list, please contact Angela at the RCD office at (831) 464-2950 ext. 22 or astuart@sccrcd.org.

Soquel Creek Watershed Organizational Support Grant Jen Stern

The Soquel Creek Watershed Organizational Support Grant to the RCD for an organizational support position has leveraged a total of \$530,062.98 in combined cash and in-kind match. This position has also catalyzed the involvement of the Soquel Creek Watershed community in restoration and conservation efforts through project implementation and various forms of outreach and education.

Two brochures and one handout were created: one *Large Woody Material* brochure, a two-page handout outlining techniques for *Arundo donax* eradication, and one brochure titled *Water Conservation in the Soquel Creek Watershed*.

The current organizational support position has been crucial in the initiation and development of fish passage and habitat improvement projects including coordination and development of projects identified as high-priority in the Soquel Creek Watershed Assessment and Enhancement Project Plan.

As a result, eight projects are in the implementation phase.

Two of these projects are for fish passage improvement on the West Branch of Soquel Creek and are funded through IWRP. The other six are habitat restoration and invasive plant removal projects for fish habitat improvement along the mainstem of Soquel Creek. All six have been permitted through the Partners in Restoration County wide Permit Coordination Program.

Funding to continue work on Soquel Creek was received March 2006 through year end from a NRCS Contribution Agreement and the Community Foundation of Santa Cruz County. Additional funding was received for 2007 through Proposition 40 for the coordination and implementation of permit coordination projects as well as several other projects, some of which are habitat restoration projects on Soquel Creek.

Outreach, Education & Technical Assistance Organizational Support Grant Jen Stern

This grant to the RCD for an organizational support position in the San Lorenzo Valley has leveraged a total of \$293,209.65 in combined cash and in-kind match. Educational materials were produced as a result of this grant as well as trainings and workshops. Landowners interested in implementing erosion control, drainage improvement, and fish habitat and passage improvement projects were identified.

Educational materials focused on the salmonid life cycle and habitat requirements, lagoons, and the threat of the invasive plant *Arundo donax*. The workshops and trainings emphasized the importance of lagoons, road drainage improvements and BMPs for private roads.



Private Road Workshop

This position initiated the coordination and development of fish habitat and passage improvement projects identified in the San Lorenzo River Watershed Salmonid Enhancement Plan.

Of the nine projects along the mainstem of the San Lorenzo River that were initiated and evaluated with landowners, agency staff, and local resource professionals, four were not feasible due to lack of landowner support, or unresolved project design. Of the remaining five projects, two are in the implementation phase, two have been initiated and developed for execution, and one has been initiated.

State Parks Tim Reilly and Tangi Chapman

This past season marked the fourth year the RCD has joined with State Parks to provide resource management on the more than 60,000 acres of State Park land within Santa Cruz County. This partnership supports a diverse range of tasks including invasive species removal, participating in prescribed burns, supporting erosion control measures and interpreting project information to the public, and managing for threatened and endangered species.

Our public treasure is home to many endemic species, many of which are threatened and endangered. Unfortunately, these same areas are often infested with exotic species that can out-compete native species for habitat. The State Parks Resource Crews work tirelessly to remove exotic species from State Park land and to maintain these sites to ensure there is no reinfestation. Work has begun to eradicate European dune grass from State Park lands. The restoration will create additional habitat for the Western Snowy Plover. Biotechnic practices are used to reduce gully erosion. These techniques include the use of willow sprigging, wattles, fascines and live staking to encourage root growth and, thus, soil stabilization.

PIR Permit Coordination Jen Stern

Permit Coordination (PC) is integral to all the RCD's watershed restoration work. This Program provides coordinated permitting needed for high-quality erosion control and habitat restoration projects implemented through the RCD's programs. PC is based on a model of coordinated, multi-agency regulatory review that ensures the integrity of agency mandates, but makes permitting more accessible to rural landowners, farmers, and ranchers than the traditional approval process.

The NRCS and Sustainable Conservation, a nonprofit environmental organization, developed the Partners in Restoration (PIR) program in 1998 in response to the need to alleviate permitting challenges associated with small, environmentally beneficial erosion control projects for landowners in the Elkhorn Slough Watershed in Monterey County. The PC program is based on the model developed in Elkhorn Slough, but tailored to the resource conditions present in Santa Cruz County watersheds. The Santa Cruz Countywide PC Program was finalized in 2005. Two projects in the Soquel Creek watershed were implemented in 2005 with permitting assistance from the program and another seven projects were implemented through the Program in 2006.

Pajaro River Watershed and Water Quality Protection Program Arianne Rettinger and Lea Haratani

The Pajaro River Watershed encompasses an area of over 1,200 square miles that drain into the Monterey Bay National Marine Sanctuary. The Sanctuary is the largest marine protected area in the United States, including an area of more than 5,000 square miles along the Central Coast of California. The mouth of the Pajaro River forms the Pajaro River Lagoon, which is connected to the Watsonville Slough Complex, the most important wetland habitat between Elkhorn Slough and Pescadero Lagoon.

The RCD in collaboration with various agencies and stakeholders has taken on the role of assisting landowners in improving water quality from the rich agricultural lands of the central coast. Through the most recent State Water Resources Control Board Proposition 13 grant, the RCD has completed 36 agricultural water quality demonstration projects and two wetland restoration projects, including one that benefits the City of Watsonville by connecting trails and waterways to create parkland. Further, funding from this grant has been invested in staff time to sup-



Ditch Planting.

port and reinvigorate the San Benito Resource Conservation District.

In addition to the Prop. 13 grant, four more SWRCB grants have been awarded to the RCD. The new grants will continue to address and improve water quality from agricultural lands throughout the Pajaro Watershed.

These new grants will support work to convert agricultural drainage ditches into engineered wetland treatment systems in the four counties within the Pajaro watershed. In addition, the new grants will support work with the agricultural community to implement agricultural management practices for additional water quality protection through educational outreach and education. The grants will serve as models for state-wide implementation of these treatment systems as well as demonstrate effectiveness through monitoring and evaluation. Moreover, the grants will support the development of a Permit Coordination Program in the Upper Pa-

jaro Watershed that will be modeled after the existing Santa Cruz County Permit Coordination Program.

Rural Roads Technical Assistance Program

Carey Cooper

The *Rural Roads Erosion Control Assistance Program* has expanded into two new watersheds, providing assistance to private road associations in the San Lorenzo River, Soquel Creek and Aptos Creek watersheds. The funding and services of the program have also expanded. In addition to the State Water Resources Control Board funding for project implementation, the RCD has also received funding from the California Coastal Conservancy's IWRP. With the addition of these contributions to the program, the RCD is now able to offer road erosion assessments conducted by Pacific Watershed Associates in order to develop a prioritized plan for road erosion control improvements. Additionally, the Conservancy's funding has assisted with the development of a sediment load reduction monitoring protocol to determine the effectiveness of implemented erosion-control measures.



Erosion from Santa Cruz County rural roads.

This year the RCD has also been able to assist private road associations with the sometimes challenging permitting process. The Partners in Restoration (PIR) Santa Cruz County-wide Permit Coordination Program offers landowners a one-stop permitting mechanism through the RCD and NRCS partnership. Through PIR the RCD was able to assist with a coordi-

nated permitting process for three rural road erosion control projects in 2006 in the San Lorenzo River watershed.

Over the past year, Pacific Watershed Associates has con-

ducted seventeen road assessments and identified priority road erosion-control sites for implementation. In addition to working with private road associations, we will also be collaborating with State Parks to implement erosion control measures identified through their road assessments conducted by the California Geological Survey. In the fall of 2006, nine erosion control projects identified through road assessments were completed.

The Roads Program also includes outreach, education and technical assistance. *Private Roads Maintenance Guide for Santa Cruz County* has proven to be popular with private road associations. Additionally, the *News from the Road* annual newsletter provides private road associations with technical information and resources as well as updated information about program events.

In the summer of 2005, the RCD partnered with the County of Santa Cruz Public Works Department and Pacific Watershed Associates to hold a technical training focused on road out-sloping. The training gave the Public Works crews an opportunity to observe and apply this practice. Private road associations were also invited to observe the implementation and discuss the benefits of this practice.

With continuing requests for technical and financial assistance for rural road erosion control improvements, the RCD will be accepting applications for assistance from non-County road groups on an ongoing basis. These will be kept on file and applicants will be contacted regarding technical assistance resources as well as opportunities for cost-share funding as grant funds become available. For further information please contact Ezra Neale at (831) 464-2950 ext 14 or via e-mail at eneale@sccrcd.org.

**District History
in Santa Cruz County.**

Resource Conservation Districts have had a presence in Santa Cruz County since 1941, when the Pajaro Soil Conservation District (SCD) was formed in South County. In 1948 the Redwood SCD (SCDs underwent a name change in 1972 to Resource Conservation Districts) was formed to serve the central portion of the County. As the County began to grow in population and development began to encroach on more mountainous and sensitive land, the need arose to address the resource issues beyond the then boundaries of the two Districts. Later, in 1978, the Directors of the two Districts petitioned the Local Agency Formation Commission (LAFCO) to join and extend the District boundaries countywide, excluding the territories of the four incorporated cities. This new District was named the Resource Conservation District of Santa Cruz County with a service area of over 260,000 acres. The City of Capitola was subsequently annexed to the District in 1983, at the

Healthy Watersheds Restoration Program Jen Stern

The Healthy Streams Riparian Restoration Program was started in 2003 with funding from the California Department of Fish and Game and the Santa Cruz County Fish and Game Commission.



Cut A. donax, ready for removal from the site.

At this time the program was called the *Arundo donax* Eradication Program to address the *A. donax* sites on Soquel Creek as identified in the Soquel Creek Watershed Enhancement Plan (2003). Since then, *A. donax* has successfully been removed from five sites along Soquel Creek.

The goal of this program has expanded to include exotic invasive plant species eradication from the Soquel Creek and San Lorenzo River watersheds, and to restore riparian corridors throughout the County to benefit wildlife and the community, and to decrease erosion and flood risks. The program also aims to edu-

cate the community about the threats of non-native invasive plants in order to prevent the spread of these plants in Santa Cruz County. Funding for *A. donax* removal in 2006 was received from the NRCS and the Community Foundation of Santa Cruz County.

In 2005, removal of English and Cape ivy (among other non-native invasive plants) and habitat restoration began on three sites along Soquel Creek totaling about 8 acres. There are two projects scheduled for this summer. One in the San Lorenzo Valley and one in the Soquel Creek watershed.



English Ivy growing up a bay tree.



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