

Conservation Almanac

Trinity County Resource Conservation District

Fall 2004

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River Day 2004 at Coffee Creek School

Coffee Creek School began hosting a River Day Celebration in 2002. It is designed to introduce students, teachers and parents from smaller elementary schools in our area to a one-day version of the District's Environmental Camp program (see page 4). Students participate in a series of hands-on field activities along the banks of Coffee Creek such as:

- Monitoring water quality
- Collecting and identifying macro-invertebrates and using them as indicators of stream health
- Identifying soil types and discussing erosion-related effects on salmon
- Studying fish anatomy



and the salmon and trout life cycle

- Measuring stream flow
- Learning about the functions of riparian areas in protecting streams
- Forestry
- Local geology
- Wildlife
- Studying watersheds and the effects of human activities

on watershed health

Over 150 students have joined in the fun, and students already are planning an exciting celebration for 2005.

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Upper Trinity River Watershed Management Planning Project Update

The District has begun the planning process for the Upper Trinity River Watershed. To date, we have compiled a summary of reports with information about the watershed, met with several landowners, spoken with land managers, visited properties with specific issues of concern, put out a Request For Qualifications for a consultant to assist in the development and evaluation of a watershed monitoring plan, and completed the data collection for a road inventory on private lands in the upper portion of this watershed.

Summary of Reports

Although this watershed has not been a high priority for watershed planning, there were still several studies that looked at the Upper Trinity River, probably the most thorough analysis is the Sediment Source Analysis for the Mainstem Trinity River completed by the EPA in 2001. This study developed estimates of sediment production and delivery by process for the entire Trinity River watershed (including the Upper Trinity River) using a combination of field measurements and indirect techniques, involving aerial photo and GIS-based analyses. Sources were stratified by time period, land use type, and dominant process, in order to assess management and non-management related sediment sources and their relative contributions. The purpose of this report was to compile, summarize, and analyze sediment production data for the Trinity River Watershed that could be used for TMDL development. The sediment production data are then integrated with other geomorphic information to develop a preliminary sediment budget for portions of the Trinity River watershed. This study combined office-based analyses of aerial photographs and GIS coverages with extensive field data collection and inventories, including considerable streamflow and sediment

transport data collection. The report concluded that significant construction of new roads has led to increasing sediment yields from road surface erosion, despite improved practices.

Road Inventory Data Collection Completed

Road inventory and watershed assessment surveys are tools used by resource managers to identify sources of active sediment delivery to streams that can be detrimental to the local fisheries. Funding for most of these surveys tends to be tied to watersheds that feed into anadromous rivers, such as the Trinity or the South Fork of the Trinity, since the impact to salmon and steelhead can have such a broad economic effect. This year, however, the RCD received funding from the U.S. Fish and Wildlife Service to conduct an inventory in the Upper Trinity River Watershed (UTRW), which is an area that has been closed to anadromous fish since the construction of the Trinity Dam in 1964.

Working with assistance of the Natural Resource Conservation Service, the RCD has completed the survey of 114 miles of mostly gravel and native-surfaced roads on property owned by Timber Products Company, based out of Yreka. Timber Products owns 44% (17,650 acres) and manages 114 of the estimated 179 road miles of the area surveyed within the UTRW. For those of you who are familiar with the north part of the county, the surveyed area ends at HWY 3 at the base of Scott Mountain and starts at Mt Eddy near the Dead Fall Lakes area. If you have ever driven up the Parks Creek Road (also known as the IP road) then you have driven up,

and through, the center part of the watershed covered by this survey.

To conduct the survey, RCD crews slowly drove the roads while using hand held GPS units and various measuring instruments, to identify and map active sources of sediment, such as landslides and road failures, as well as potential problems like undersized or plugged culverts and severe gully erosion in the road surface.

Measurements were taken at stream crossings to calculate the amount of road fill over the culverts and to record the size, length and angle of the culvert. The main objectives of the survey were to:

- Identify all active sources of sediment delivery to streams
- Collect data necessary to evaluate adequacy of stream crossing culverts
- Identify stream crossings with potential to divert the stream down the road, if the culvert were to fail.
- Locate, number and map all culverts.

This winter, when the field season is over and the crew is office-bound, the information collected in the field will be entered into a data base and the GPS data will be entered into a Geographical Information System (GIS) program. With these two powerful tools, the data will be analyzed and the various features will be mapped out. The end result will be a resource that can be accessed by planners to prioritize sediment reducing watershed restoration activities that will lead to the improvement of stream habitats and the reduction in the amount of sediment that is delivered into the Upper Trinity River and Trinity Lake.

Recent Events and New Employees

By: Doug Schleusner, Executive Director, Trinity River Restoration Program

No, it's not your imagination. More water has been flowing down the Trinity River. In fact, each of the past five years has seen a progressively larger volume of water released (see following table). Water year 2002 was a "normal water year" and both 2003 and 2004 were classified as "wet water years." Although it is way too soon to make any predictions about 2005, the recent series of storms is certainly reason for optimism.

Water Year	Water Volume Released (acre-feet)
2004	683,300
2003	486,000
2002	469,000
2001	369,000
2000	340,000

The July 2004 opinion by a three-judge panel of the 9th Circuit Court of Appeals sets the stage for higher peak releases called for in the December 2000 Record of Decision. Previously limited by physical structures to releases of 6,000 cubic feet per second (cfs), the necessary bridge modifications featured in the last newsletter are still on track, and other floodplain structure modifications are in the planning stages. The Trinity River Restoration Program (TRRP) and its partners are doing everything possible to ensure that if 2005 is a wet water year, the associated higher releases of 8,500 cfs can be carried out safely and effectively to the benefit of the river and its fisheries.

Denise Wiltse has been involved with the Program since the mid-1990s, when she worked for both Reclamation and the State Department of Water Resources as a student engineer, where she gained experience in water quality monitoring and civil surveying. She received her engineering degree from Chico State University in 1999, was hired full-time by Reclamation, and then became involved in preliminary designs



The two newest TRRP employees will help us meet this challenging work schedule. Denise Wiltse (left), formerly of Reclamation's Shasta Dam office, and Joe Riess, most recently with the Redding office of CH2MHill, are both civil engineers in the Implementation Branch.

of the four Trinity River bridges that are now under construction. She will have primary responsibilities for floodplain structure modifications, and has already made extensive landowner contacts. Denise and her husband Vernon look forward to moving to Weaverville from Redding in the near future.

Joe Riess has an undergraduate degree in environmental resources engineering from Humboldt State University, a graduate degree in civil and environmental engineering from UC Davis, and is a registered professional civil engineer in California. He comes to the TRRP from the Redding office of CH2MHill, where he was the lead process engineer on a \$54 million wastewater treatment plant expansion project near Lake Tahoe. This experience in civil engineering design and construction make's Joe a valuable addition to our Implementation Branch, where he will have specific responsibilities for the Program's channel rehabilitation projects. An avid kayaker and outdoor enthusiast, Joe enjoys spending time with his wife Tiffany on the local rivers and creeks, hiking with their three dogs, mountain biking, and skiing.

Even more recently, Dr. Rod Wittler has been temporarily reassigned from

Reclamation's Denver Technical Service Center to the TRRP Office as Acting Modeling and Analysis Branch Chief. Rod's experience with the Program dates back to the mid-1990s when he became involved with the Flow Evaluation Study, eventually as one of the co-authors of the Report (more about him and several other new employees in another issue).

The science part of the program has received a boost in several other important areas. The Scientific Advisory Board is now fully staffed with five highly experienced individuals: Dr. Clair Stalnaker (retired U.S. Geological Survey senior scientist and co-author of the Trinity River Flow Study); Dr. Mike Merigliano (riparian ecologist with the University of Montana); Dr. Mike Sale (environmental systems group leader with the Oak Ridge National Laboratory); Mr. Josh Korman (fisheries biologist with Ecometric Research Associates); and Dr. Ned Andrews (senior physical scientist with the U.S. Geological Survey). These scientists, along with about 50 other resource specialists and scientists affiliated with the Program, recently met in Eureka to develop and refine the conceptual resource models which will lead to a comprehensive monitoring and evaluation plan for the Restoration Program in the coming year.

WES Environmental Camp-Bar 717

Weaverville Elementary School (WES), through the efforts of faculty and parents, established an environmental education field camp in 1999 for its entire sixth grade class. The camp is held at the Bar 717 Youth Ranch near Hyampom in Trinity County. Approximately 60 students, two teachers, and a dozen parent chaperones attend the camp for a week each September.

A critical element of the program is to educate students about the issues surrounding salmonid habitat and riparian health in the overall context of watersheds and the Trinity River Restoration Program (TRRP). The faculty turned to the TCRC and its NRCS partner to teach about these resource issues, because of our technical expertise in the area. The program taps local resource professionals as “visiting teachers” to the Camp, including scientists



Dr. Robert Sullivan, TRRP Wildlife Biologist, "What is this critter?"

from the TRRP, NRCS, the RCD, and Trinity County Natural Resources Division.

The rudimentary program that was developed in 1999 for the inaugural year of the camp has been expanded

and improved upon every year. In 2003-2004 the curriculum centered on students conducting actual field measurements within Hayfork Creek. Students use field tools to measure the health of the stream, including turbidity, temperature, stream flow, dissolved oxygen, channel profile and inventories of stream habitat, macro-invertebrates, riparian vegetation and wildlife. Back in the classroom, students also learn about the salmon life cycle, anatomy, and their role in the ecosystem. The Camp's success is tied to willingness of professionals in our community offering to serve as instructors. This year students also learned about forestry, traditional uses of native plants, wildlife, soils, orienteering and fossils.

Teachers guide the curriculum so as to better support California Content Standards.

Stream Flow Monitoring Station



Salmon Festival

This year's Salmon Festival was held on October 16 at Lee Fong Park and was sponsored by the Weaverville Chamber of Commerce, the Trinity County Resource Conservation District, and the Trinity Arts Council with funding from the Trinity River Restoration Program and the California Department of Fish and Game, as well as the help of the Americorps Watershed Stewards Project.



The 2nd Weaverville Community Forest Meeting

**November 9, 2004
Weaverville Fire Hall, 7-9 p.m.**

There have been some interesting developments since the last meeting in May, where values and goals important in the management of this land were identified, and we want to share them with you.

The next step will be to discuss the timing and sequence of implementation and methods of making sure that the vision for the community forest remains central to a stewardship contract with BLM.

Light refreshments will be served

Wetland Restoration Gets Underway in Weaverville

What used to be just a vacant lot in the Trinity Alps Industrial Park is quickly being converted into a series of wetlands under the supervision of the RCD. Heavy equipment work began in September. District personnel hope to have the first phase of planting completed in November as a part of a multi-year program to restore several acres of wetlands that lay between Lance Gulch and Weaver Creek on county-owned land at the east edge of Weaverville.

Thanks to the vision of the Board of Supervisors, over 50 acres of flood prone lands were set aside in a conservation easement a couple of years ago. That set in motion a collaborative venture between the County, Natural Resources Conservation Service (NRCS) and the District. Engineers, biologists and construction managers came together to design the wetlands. Today the RCD is busy making those plans a reality. Wildlife began to show up to check out the new wetlands as they were still being constructed – frogs took up residence and herons stopped by to check on this new supply of food on a day in mid-October.



“The design is as much art as it is science,” said Pat Frost, District Manager and wetland scientist. “We took a basic engineering design developed by the NRCS and have been tweaking it to add complexity to the wetlands – a little island here, a deeper hole there, and some boulders or logs to create a little more diversity for fish and wildlife.” Innovative planting materials are being used in the design, including large mats that



have wetland plants embedded in them. These mats will be rolled out onto the surface of the newly excavated wetlands to stabilize the soil and establish a diverse plant community. At the same time native plant seeds will be spread over critical areas and covered with straw mulch. Then a variety of wetland plants from the District’s nursery will be installed. Subsequent plantings are being funded through a grant from the California Department of State Parks, through their Habitat Restoration Program.

The overarching goal of this project is to build wetland habitats that are attractive to wildlife and people alike – a place where residents and visitors to Weaverville can go for a short stroll, to view wildlife or take a class on a field trip. For more information, give the District a call at 623-6004 or visit our www.tcrd.net for updates on the progress of this exciting new project.

Featured Employee Bernadette Cooney



What do you get when you mix together the following ingredients?

- A Bachelor's degree in Environmental Sciences;
- A Graduate degree in Forestry from North Carolina State;
- Three years' Peace Corps Service teaching forestry practices in Honduras;
- Extensive experience managing nurseries; and
- An outdoor enthusiast, who enjoys cycling, skiing or kayaking.

You get a good introduction to Bernadette Cooney, the District's Revegetation Coordinator. Bernadette, who goes by Berna, joined the District this summer bringing her work experience, love of the outdoors and wonderful sense of humor to the Revegetation program. Berna's background is a great fit for the District as we begin to include projects like the Trinity Alps Industrial Park Wetland (page 6 of this issue).

Her skills complement the expertise of the other staff in the Revegetation program, and all of us know you'll give her a warm welcome when you meet her on the job or around town.

District Manager's Corner--Pat Frost

My dad learned about land stewardship from his dad growing up on the family farm. My introduction to conservation came from walking the same fencerows, wood lots and stream banks 20 years later. I listened to their stories of what had changed and what had stayed the same on that land over the years – and what they did to manage the natural resources that had been handed down to them.

That type of connection to the landscape has changed for many of us. Most of us, including our children live in towns today. Forests and streams, fields and lakes are places visited now and then on a family outing or a school field trip. There aren't as many opportunities to watch the landscape around us over time – to take note of how our land stewardship practices improve and maintain the health of the natural world around us. Anyone who has been a part of our annual trip with the Weaverville Elementary School Sixth Grade Classes to Bar 717 Camp knows that I am a strong advocate for observing nature, writing about it in a journal and sharing those observations from one year to the next. The Upper Class at Coffee Creek School makes these year-to-year observations when they look at the before and after photographs of a fuels reduction project near their school.

The *Conservation Almanac* chronicles many of our projects. For example, this issue has articles that cover our education projects with school children, and the wetland restoration project at the Trinity Alps Industrial Park in Weaverville. I want to link these two very different types of activities: on-the-ground stewardship projects, like wetland restoration, with our education projects. We will call this link our **Conservation Legacy** program. Here's how it will work:

The District designs and implements restoration projects on public lands. Sometimes we're lucky and the projects are close to a town and a school. Local students will spend time during the school year out in the field on selected projects with District staff and other professionals involved in the projects.



At first glance these may appear to be recreational field trips, but in reality **Conservation Legacy** will be an education program that applies classroom knowledge with real-world experience. Students will use some of our projects as living laboratories. "Using their scientific research, geography, social studies, language arts, problem-solving and design skills on real tracts of public land gives students the opportunity to apply academic concepts in meaningful ways. Everything is 'hands-on'," explains Dan Hayes, education specialist and a friend of mine, who developed a similar program in St. Augustine, Florida.

Many students have not been exposed to the natural world around us as part of an educational program, so this will be a new and exciting experience for them. It is my hope that this program will give the students practical skills that they would not get in a classroom setting – "hands-on" experiences in a variety of careers including engineering, surveying, forestry, chemistry, biology and public relations. Students will have the opportunity work with the District on: resource inventories, water quality monitoring, growing native plants, planting restoration sites, habitat maps, wildlife surveys, photo-monitoring, interpretive trails, and educational kiosks.

Conservation Legacy will be an opportunity for teachers and their students to adopt local conservation projects as living laboratories and help with the design, implementation and maintenance of them over time. Hopefully students will learn to think about and manage the land as a legacy to be passed from class to class and generation to generation. The District also will learn more about what is working and what we need to change, so that we all can be better stewards of our shared legacy – the wonderful natural world that has drawn us to Trinity County.

Trinity County RESOURCE CONSERVATION DISTRICT

Established 1956

District Board Meetings

Third Wednesday

5:30 PM

Open to the Public

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The Trinity County Resource Conservation District (TCRCD) is a special district set up under state law to carry out conservation work and education. It is a non-profit, self-governing district whose board of directors volunteer their time.

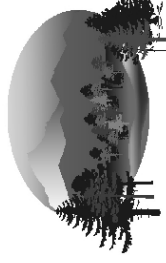
The TCRCD Vision

TCRCD envisions a balance between utilization and conservation of our natural resources. Through economic diversity and ecosystem management our communities will achieve and sustain a quality environment and healthy economy.

The TCRCD Mission

To assist people in protecting, managing, conserving and restoring the natural resources of Trinity County through information, education, technical assistance and project implementation programs.

Trinity County Resource Conservation District
P.O. Box 1450
Weaverville, CA 96093



TCRCD Board of Directors are

**Mike Rourke, Rose Owens, Patrick Truman,
Colleen O'Sullivan, and Greg Lowden.**

The RCD is landowners assisting landowners with conservation work. The RCD can guide the private landowner in dealings with state and federal agencies. The RCD provides information on the following topics:

- **Forest Land Productivity**
- **Erosion/Sediment Control**
- **Watershed Improvement**
- **Wildlife Habitat**
- **Water Supply and Storage**
- **Soil and Plant Types**
- **Educational Programs**



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