

NEWSLETTER

March 2012

Shasta Valley RCD

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Collaborative Forest Stewardship Project on Rainbow Ridge

by Kara Baylog, Watershed Coordinator at the Shasta Valley RCD

When travelers pass through Mount Shasta City along the Interstate 5 corridor, they will notice more than a few of the amazing sites of our viewshed. To the west, visitors to Mount Shasta as well as long-time residents can see the forest of Rainbow Ridge standing in front of Mount Eddy as a splash of solid green against the rocky alpine zones of the mountains.

Like most areas in Siskiyou County, in the past Rainbow Ridge was once subject to frequent, low intensity fires which served a natural function in the ecosystem. Decades of fire suppression have removed these low intensity fires from the ecosystem and allowed these lands to become overstocked with densely-packed fuels that could turn a small fire into a catastrophe. Today, several homeowners on Rainbow Ridge have expressed concerns over the fire safety and ecological health of their forests and want to take action.

Several Rainbow Ridge landowners had this in mind when reaching out to the Siskiyou Land Trust (STL)*, the Shasta Valley Resource Conservation District (SVRCD)** and the Natural Resource Conservation Service (NRCS)** for assistance.

Since 2007, SLT has been working with concerned Rainbow Ridge landowners in developing the concept of collaboratively managed forests. While this idea had remained conceptual, SLT teamed up with the SVRCD and NRCS to receive funding and bring in a Watershed Coordinator to develop a rough vision and move the project forward.

In January of this year, Rainbow Ridge landowners were contacted through a jointly produced newsletter; almost 200 separate landowners were contacted!

Later this year, with the help of several partners including the Mount Shasta Area Fire Safe Council, we will begin hosting a forest stewardship educational series, bringing in experts in fire safety and forest management to inform the community, including landowners on Rainbow Ridge, of the ecology of our forests and options available to them to reduce fire risk and promote healthy forests on their properties. Look for more information on this series as we update our website: http://svrkd.org/wordpress/?page_id=1121.

Currently, SLT, SVRCD and NRCS is focusing on one area near Mount Shasta, however this project has community-wide implications. Rainbow Ridge is a part of the Mount Shasta City Wildland Urban Interface (WUI), which is an important zone between uninhabited wilderness lands and city limits. A key strategy to reduce fire risk to Mount Shasta city is to first defend the areas from where wildfires will start and spread. Additionally, while the SVRCD, SLT and NRCS will be working directly with Rainbow Ridge landowners for this project, future projects many include organizing and coordinating collaborative forest management efforts in other regions of Siskiyou County, that are within the SVRCD district boundaries.

Anyone interested in learning more about the Rainbow Ridge Collaborative Forest Stewardship Project should contact **Kara Baylog**, the Watershed Coordinator at the Shasta Valley RCD (strawberria@gmail.com) or **Kathleen Hitt**, the Conservation Director at Siskiyou Land Trust (kathhitt@gmail.com). 530-926-2259

Coho Salmon Genetics Workshop

On February 15 & 16th, fishery experts from California, Oregon, Washington and Idaho came to Yreka to share their expertise on genetics and fish populations. Over the years, in spite of lots of restoration work in the Shasta River watershed, coho salmon numbers have continued to decline. Experts agree that there are too few fish to make a come back without some help.

In most cases, fish populations start spiraling downward and when there are few or no fish left, an expensive program to “recover” them is started. Siskiyou County, the Farm Bureau, the Shasta Valley RCD and others have been asking about other methods that could be used to increase numbers of fish, and be more economical than a broodstock program. This led to other questions about genetics. Are the Shasta River fish unrelated to other Klamath Basin coho? We assume that the remaining coho in the Shasta River are highly related (detrimental to having healthy, robust fish), so where could other less related fish be secured to add genetic variability to the offspring. And what sorts of techniques have been used in other areas to boost fish numbers, and what would be appropriate to use in the Shasta River?



To answer these questions and others, invited fishery experts came to share their experiences with local and state resource managers. Close to 100 people were in attendance each day of the workshop. The expert panel shared their thoughts on what might be next steps that could be taken here, as well as answering lots of questions from attendees.

Next steps include additional community outreach to assess support for a coho supplementation program, as well as working with the state and federal agencies for guidance on how a supplementation program could be developed. The outcome of any effort would be to demonstrate that salmonid recovery is an achievable goal through local efforts.

Presentations from the Workshop are posted on the Shasta Valley RCD website at: www.svrcd.org. Go to the Genetics Workshop tab and click the drop down for Presentations. The proceedings were video taped and will be posted as soon as editing is completed.

Associate Directors

The RCD is searching for dedicated individuals who are interested in helping the district further its mission and goals. Associate Director's can provide the district with extra expertise and can also contribute by serving on various working groups or committees. Contact the RCD office for more information on how you can help.



Shasta Valley Tailwater Reduction Program

In December 2006, the SVRCD was awarded a grant from the State Water Resources Control Board for planning and implementation efforts to reduce water quality impacts associated with irrigation tailwater returning to the Shasta River. The project was named: Shasta Valley Tailwater Reduction: Demonstration and Implementation Project (Phase 1) with a goal to “keep warm tailwater out of the river AND cool water in the river”.

In the Shasta Valley, most farmland is flood irrigated. Water is diverted from the river and travels in irrigation ditches or pipelines, sometimes many miles to its place of use. It’s then “turned out” onto the fields, and sheet flows across fields as a means of irrigating. Water that does not get used by the plants, either evaporates, goes to deep percolation, or runs-off as tailwater. Agricultural run-off or “tailwater” is identified in the Shasta River TMDL as being major contributor to poor water quality conditions in the river due to the tailwater coming back to the river hot and carrying nutrients picked up while flowing across the field. Since 1991, the Shasta Valley RCD (SVRCD) has been working at ways to reduce tailwater returns and improve water quality throughout the valley while ensuring that agricultural operations would remain productive.

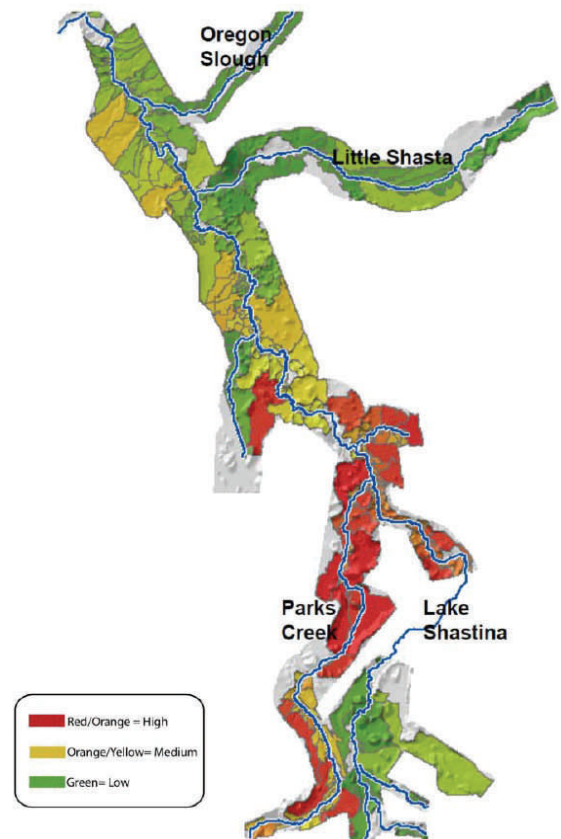
This grant allowed the SVRCD to develop a planned approach to prioritize and guide efforts to tackle tailwater return impacts to the Shasta River. This watershed-wide planning approach was accomplished by capturing detailed topographic data via aerial survey for use in defining “tailwater neighborhood” drainage areas, as well as for the creation of tailwater accumulation and tailwater impact models. A Technical Advisory Committee (consisting of landowners, agencies, and other stakeholders) met numerous times in 2007/08 to develop the criteria used to prioritize the most important tailwater return areas in the watershed based on estimated quantity, temperature impacts and proximity of each tailwater return to salmonid rearing habitat.

Once tailwater neighborhoods were prioritized for impacts, outreach to individuals in high priority tailwater areas was started in the hope of developing projects to reduce tailwater returns. A list of potential projects was created and each one scored based on the screening criteria developed by the Technical Advisory Committee to ensure the project would be consistent with the funding requirements.

A total of six projects were funded through this process and approved in 2010 by the RCD board for implementation. Five were irrigation efficiency projects, where open ditches were replaced with pipelines and/or leaky turn-outs were replaced. One project was a riparian buffer project in an area where sheet flow returned to the river. Piping of the irrigation ditches is intended to improve water use efficiency for landowners (reducing the amount of water needing to be diverted for irrigation while improving irrigation management capabilities), assisting in improving irrigation quality while reducing the amount of tailwater returning to the Shasta River. The riparian buffer project is a demonstration of how a well-protected riparian zone can shade and cool remaining tailwater before it re-enters the river. Most of the projects were implemented in the Fall 2011, with the last funded project currently under construction within the Shasta River Water Association. The Phase 1 grant expires March 31, 2012 and all project-funded tasks will be completed by then.

Through this grant, the RCD has provided a total of \$441,914.50 of implementation dollars (and helped secure an additional \$202,238 in matching dollars) in the effort to reduce impacts associated with irrigation tailwater. To demonstrate project effectiveness, the grant mandated an extensive monitoring effort be included to capture details regarding quantity, temperature and nutrients of both the river and tailwater that returned to the river both pre-project and post project. Post-project monitoring will be completed during the irrigation season of 2012 to evaluate if project implementation had the desired effect on river conditions.

Based on the successful planning efforts in the Phase I Grant, the RCD was able to secure a Phase 2 grant in 2010 (which has the same goals and objectives as Phase 1). The RCD is currently updating its potential tailwater reduction projects list. If you have a tailwater reduction project that would keep warm water out of the river and cool water in the river and you would like the RCD to consider it for funding please contact **Lisa Unkefer** at 530-859-2782.



Tailwater Neighborhood Impacts Score Map

Drought Conditions Spur Groundwater Awareness

Water conditions are not looking good for 2012. While there is still time for additional precipitation, the odds aren't favorable. 2001 was another well-known bad water year. One thing from that year that seems to have been forgotten were the impacts to groundwater in some areas of the county.

That summer, a lot of people in Siskiyou County found that wells they relied on for household water and irrigation were not able to meet their water needs as they had in previous years. Quite a few wells, in fact. According to information collected by the county that year (following the declaration of a drought emergency by Sacramento) 162 wells in the county that had gone dry received funding assistance to be deepened, including 57 agricultural wells and 89 domestic wells. A lot of people were hurting. For us, the good news is that glacier melt from Mt. Shasta must have carried us in the Shasta Valley, as most of the wells needing to be deepened were in the Scott Valley and Tulelake areas.

Currently, we seem to be stumbling along at about 50% of normal snow pack for this time of year, with the winter almost over. Will Shasta Valley groundwater be up to the task again this year? With surface water supply less and less able to meet demand, increased groundwater usage to make up the difference is resulting in some unexpected and undesirable consequences.

Why worry?

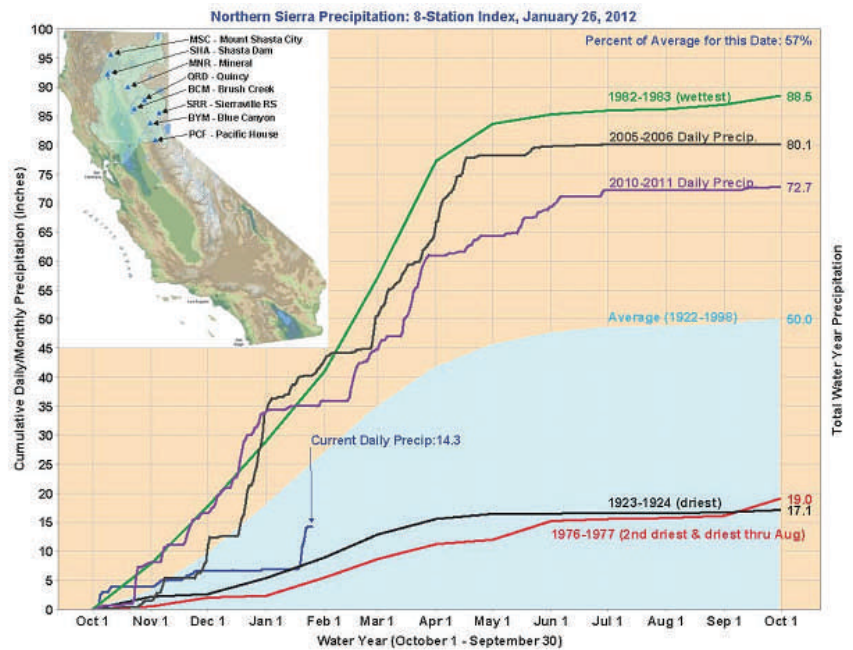
For that question there are two answers. First, Sacramento is having to face up to the problem of groundwater issues in the Central Valley and coastal California, and the result is new legislation intended to address shortcomings in groundwater management. Even though the major problems are elsewhere, the legislation is statewide. What the Central Valley needs, we get too.

The second reason is a little less obvious, but can be summed up in the old saying: "the wise man learns from his mistakes; the truly wise man learns from others mistakes". In the Central Valley, the problems resulting from subsidence (the ground sinking as groundwater levels drop), along with the ongoing costs to deepen existing wells to reach water as water levels dropped were the major consequences of the mistaken belief that the groundwater could meet all possible demand.

In the Shasta Valley, noticeable subsidence isn't likely, but it would still be good to learn from other's mistakes, because in other ways the problems associated with overdrafting groundwater here may be even worse than in the Central Valley.

The porous water-bearing material filling the Shasta Valley isn't very thick, and right below it is the Hornbrook layer, a marine layer (named for the sandstone near Hornbrook) over 1000 feet thick, which yields water very slowly and the water from it tends to be salty (or worse). Groundwater usage here in excess of safe yield will likely mean that people can't drill their wells much deeper should groundwater fall, without hitting the Hornbrook layer with its very poor quality water. And what water they find will probably be in short supply. Roughly half of the 16,000 people living in the Shasta Valley rely on groundwater for domestic use. And persons relying on surface water for irrigation may discover that river flows drop off in proportion to the rate that groundwater in the Shasta Valley is pumped out and the water table drops, decreasing or stopping flows from springs that feed the river.

All of this suggests that it would be wise to fully understand the capabilities of groundwater in the Shasta Valley, something we have been working towards for nearly 6 years. If you'd like to learn more, or assist us in learning more about groundwater in the valley, please contact **Dave Webb** at 530-926-2460, or by email at dwebb@dishmail.net.



Shasta River Water Trust Has Kick-off Meeting

The Shasta Valley RCD in partnership with The Nature Conservancy (TNC) held an informational workshop on January 24th to kick-off the Shasta River Water Trust program.

While the concept of water trusts is fairly new, the Scott River Water Trust has been successfully doing deals with water users in the Scott River Watershed for 5 years. Borrowing from what has been learned in the Scott and from similar efforts in the Columbia River Basin Watershed, the Shasta River Water Trust (WT) is interested in talking with interested landowners on potentially leasing or purchasing water to provide instream flows during critical times of the year.

The goal of the program is to provide water users in the Shasta River watershed with an incentive-based approach to water exchanging that helps relieve landowners from regulatory pressures while fairly compensating them for the water they leave in the river for fish.

“Water is the life blood of Siskiyou County’s agricultural community and if we’re going to bring back the salmon, we need to make sure it’s done in a way that insures our agricultural community is kept whole. I hope this program is one tool that can be used to bring the salmon back and keep our ranches intact,” describes Water Trust coordinator Amy Campbell.

For more information contact Amy Campbell at: (530) 926-3281.

SVRCD Welcomes New Board Member

Chris Robertson of Montague was recently appointed to the SVRCD Board. He owns and works an agricultural property in the Shasta Valley. His family roots are from North Eastern California, in a family that now spans six generations. As a youth Chris spent each summer working the family ranch in Modoc County. His grandfather taught resource conservation to his family as a way of life. His grandfather worked the farm, and served as the president of the Soil Conservation District for decades.

Chris says: “I have been watching resource issues unfold for decades in the Klamath Basin. I believe that conservation issues in



Siskiyou County are being watched by a great many interested parties around the world, and understand the gravity of the work of the SVRCD.” Prior to purchasing the farm in Montague, Chris worked in the information technology (IT) world in the San Francisco Bay Area.



Kara Baylog, South County Watershed Coordinator

Kara Baylog is based out of Mount Shasta and will be serving as the Watershed Coordinator for projects in the southern part of the SVRCD jurisdiction. This includes the towns of Dunsmuir, McCloud, Mount Shasta and Weed.

Kara is originally from the northeast and became interested in aquatic ecology and water quality while growing up on the coast of the Atlantic and later working in environmental consulting in the Appalachian Mountains. Before returning to school for her masters degree in Environmental Science and Policy, she served as an intern with the US Geologic Survey out of the Bishop Field Office. She is excited to be back in the west, working and living in this beautiful and unique landscape. When not working on natural resource management issues in the southern county, she is usually out skiing, climbing mountains or biking.

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