Web site features history of the Columbia River

The story of the Columbia River is one of salmon and power. Once one of the world's great salmon rivers, it became one of the world's great hydropower rivers. The Columbia River power system today generates enough electricity on average to power eight cities the size of Seattle. Hydropower, however, came at a cost far beyond mere dollars. Thousands of miles of historic salmon habitat were lost, and salmon runs already hit hard by overfishing and destruction of spawning habitat were decimated.

In its Columbia River History Project, the Northwest Power and Conservation Council captures the history of this mighty river and its tributaries, describing changes that occurred over time and the modern struggle to recreate some of the salmon abundance while the river continues to produce about half of the Pacific Northwest's electricity.

The web site describes the salmon and power story through a collection of entries arranged in alphabetical order and supplemented with photos, interactive maps, and a timeline. Cross-referencing is indicated by words in hypertext. Log on to www.nwpcc.org and click on "Columbia River History Project."

This newsletter is funded by the Bonneville Power Administration and the Oregon Watershed Enhancement Board

Snowpack bodes well for Grande Ronde smolts

This winter's snowpack is good news for salmon and steelhead smolts, which will ride the spring flows to the Pacific Ocean. The abundance of water will help improve survival for young Grande Ronde Basin salmonids, some of which will travel hundreds of miles downstream and over eight mainstem dams to the sea. As of February 11, 2008, the Grande Ronde Basin's snow water equivalent was 130 percent of normal, while total precipitation measured 126 percent of normal.

The Natural Resources Conservation Service operates a network of snow and precipitation gauges in the western United States. The Snow Survey Program provides mountain snowpack data and streamflow forecasts for the western United States. Common applications of snow survey products include water supply management, flood control, climate modeling, and conservation planning.

To access snow survey data in the Grande Ronde Basin, go to http://www.wcc.nrcs.usda.gov/reports/SelectUpdateReport.html. Select "Oregon," then press "Create Report" at bottom of page. The resulting table gives snow water equivalent and year-to-date precipitation data in current, average, and percent of average amounts. Data applicable to our part of Oregon is the third set of data labeled "Grande Ronde, Powder, Burnt, Imnaha." You may also access reports by visiting the Grande Ronde Model Watershed's web site, www.grmw.org.

Facts about Union County

From the Archives

- *Union County is 2,038 square miles.*
- *Between 1840 and 1870, more than 300,000 emigrants passed through Union County on the Oregon Trail.*
- *The first post office was established in 1864.*
- *Between 1876 and 1908, 35 sawmills were operating.*
- *In 1862, the first dam was constructed on the Grande Ronde River at "Oro Dell," just above La Grande, to power a sawmill.*
- *Union County separated from Baker County in 1864. Union County was named for its inhabitants' loyalty to the North during the Civil War.*

Grande Ronde Model Watershed

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Ripples in the Grande Ronde

Winter 2008

RIVERS UNITING NEIGHBORS·QUARTERLY NEWS FROM THE GRANDE RONDE MODEL WATERSHED

Where straight *just isn't* cool

The 6-Ranch puts the crook back into the Wallowa River

by Coby Menton, GRMW

Much of the Wallowa River between Enterprise and Minam was moved, straightened, and channelized to accommodate transportation, agriculture and to minimize the impact of seasonal floods. While this was effective at achieving those objectives, fish and wildlife habitat, riparian vegetation, hydrologic function, and water quality declined as a result.

Building on the success of the Wallowa River restoration projects on property owned by Doug McDaniel, Craig and Liza Nichols will be partnering with the Grande Ronde Model Watershed to implement a channel restoration project on their property known as the 6-Ranch, located a couple of miles downstream of Enterprise and adjacent to State Highway 82. Much like the successfully implemented McDaniel projects, the partners will take a straight, channelized section of the Wallowa River and rebuild a natural meandering section of river.

This idea of channel restoration is not new to the Nichols, as they have been contemplating this project for a decade. Initial efforts struggled to gather momentum for a variety of reasons. Implementing a locally untried restoration method and gathering funds to implement a project that would utilize unproven methods made this project previously unachievable.

The Wallowa River/6-Ranch Habitat Restoration Project will include:

1. Constructing nearly 4,000 feet of sinuous restoration channel, including the excavation of nearly 26,000 cubic yards of material.
2. Installing 26 pieces of large wood in the restoration channel to stabilize channel banks and improve fish habitat. Additional woody material will be placed on constructed floodplains.
3. Installing 29 rock structures in the channel to maintain channel elevation and river bank integrity.
4. Replanting all disturbed areas with native grasses, shrubs and hardwoods.
5. Filling in the current river channel with materials generated from restoration channel excavation.
6. Enrolling the completed project in a conservation easement to protect the investment in the project.

Restoration efforts on the 6-Ranch will be completed in three phases. In 2007 several critical components were completed during Phase I with the intent of having all necessary permits obtained by the spring of 2008. These components included site survey; preliminary and final design; removal/fill permit applications submitted to both the Oregon Department of State Lands and the U.S. Army Corps of Engineers; Endangered Species Act consultation biological assessment submitted to both the National Marine Fisheries Service and the U.S. Fish and Wildlife Service; and cultural resources documentation submitted to the Oregon State Historic Preservation Office.

Phase II will involve construction, which is scheduled to begin in the summer of 2008. Instream work in this section of the Wallowa River will be limited to a 45-day period from July 1 through August 15 to minimize risk to fish. This 45-day period will be a busy time with channel excavation, large wood and rock installation, and reclamation of the old channel

Pictured here is the existing Wallowa River channel near the top of the project site. The river is nearly a continuous riffle, lacking aquatic habitat diversity. Pool, tail-out, riffle, and glide sequences expected in this valley are not present, and is the result of past channel relocation and dikes. Photo by Coby Menton.

all scheduled to happen. Phase III will involve extensive planting, which will be split into two seasons, the fall of 2008 and spring of 2009.

Given local, state and regional efforts to improve and restore resident and anadromous fish populations, this project will provide a multitude of benefits to complement those efforts. Recognized stressors to fish populations include degraded or simplified instream habitat, compromised riparian (near stream) vegetation diversity, and simplified hydrologic function. The 6-Ranch project has a variety of objectives addressing those stressors, including:

1. Improved instream habitat by constructing a channel complete with components much as they would occur in natural conditions. Components include pools, riffles, runs and glides. The current channel is nearly a continuous riffle – shallow, wide and with fast-moving water. Wood and rock structures will improve habitat diversity in the reconstructed channel.
2. Improved hydrologic function and water quality by changing channel conditions. A channel that can seasonally occupy its floodplain during high-flow times will deposit sediment above the streambank. Water will then be stored in this floodplain, allowing for the delayed release of cooler and cleaner water back into the river through the soil. Wetlands, once an important part of the riparian function along this river, will again exist.
3. Improved riparian condition and function by altering channel and hydrologic conditions. While the current riparian conditions are actually pretty good, water-tolerant plants are anticipated to become more prominent and displace the current vegetation, comprised largely of dryland grasses and shrubs. The post-construction planting plan will give this process a jump start.

Throughout Phase I of the project, the amount of support and partnerships developed has been impressive. A multitude of partners including the landowners, the Bonneville Power Administration, and the Oregon Watershed Enhancement Board have committed funding to the project. Funding applications have been submitted to the National Oceanic and Atmospheric Administration and Eco Trust and are pending. Anderson Perry & Associates Inc. of La Grande, Ore., completed the initial survey and design. The Nez Perce Tribe has completed the cultural resources assessment while a contract biologist has completed biological consultation services. While much of this may be confounding to the average reader, the point is that cooperation has occurred at the private, local, state, tribal, and federal levels.

While land management practices in the past have contributed to degraded habitat conditions exemplified in this article, it is important to remember that we have all benefited from those actions. The Wallowa River was moved to accommodate infrastructure and agriculture that benefit the entire community. The Grande Ronde Model Watershed and restoration partners in this region opportunistically restore habitat with willing landowners and land managers. The Wallowa River/6-Ranch Habitat Restoration project is an example of this.

So, when you're traveling along Highway 82 next summer, keep an eye open along the river. What will look like a mining operation will actually be the restoration of once productive chinook salmon, steelhead and resident fish habitat.

Top left: Standing at approximate project center looking toward upstream end of project area. Diverse mature vegetation exists, but young age class vegetation is absent from site. Notice the old river channel in foreground. Old channels are evident throughout the project area. Top right: Near the top end of project site looking downstream. Vegetation is characterized by upland species in an area that likely contained wetland and water tolerant vegetation prior to channelization. Right: Standing on railroad tracks looking at downstream project area. The new channel will course through field in center of picture near existing trees. Proximity to railroad and Highway 82, and protection of that infrastructure, are important design objectives. Photos by Coby Menton, GRMW.

Meet the Board

GRANDE RONDE MODEL WATERSHED

Anna Cavinato

Spartiacque: The dividing line between two adjacent river systems, such as a ridge.

Alveo fluviale: The channel containing or formerly containing the water of a river.

There is probably only one member of the Grande Ronde Model Watershed Board of Directors who would be comfortable with these Italian words and their English interpretations. Her name is Anna Cavinato. Anna is just completing her first year as a director representing Eastern Oregon University, having previously served as an alternate.

A Professor of Chemistry, Anna joined the EOU faculty in 1992 on a part-time basis and became a full-time faculty member in 1998. She attained both her bachelor and doctoral degrees in her native Italy, after which she served as a research professor at the Center for Process Analytical Chemistry at the University of Washington. She was also an Assistant Professor of Chemistry at the University of Memphis and received postdoctoral training at Oak Ridge National Laboratories and at the University Tennessee Medical School.

Anna brings a special perspective and a level of excitement to the Grande Ronde Model Watershed. True to her profession, believes that "educating people, helping them understand how to utilize their land in a sustainable manner, should be the goal of everyone."

Anna is the mother of three children. Christina, 20, is a sophomore at the University of Oregon. Laura, 18, is a freshman at Lewis Clark State College in Lewiston. Marco, 12, is a 7th grader at La Grande Middle School. Anna's husband, David Mayes, is the owner of DSquared Development, Inc., a small firm that developed and manufactures near infrared sensor spectrometers that measure moisture and protein in grains as they are being harvested.

Fish Online!

www.grmw.org

- Adult salmon counts at the dams
- Snake River Basin streamflows
- Snow and precipitation reports
- Habitat enhancement projects
- Meetings, activities and events
- Past issues of "Ripples" and more!

Grande Ronde Model Watershed

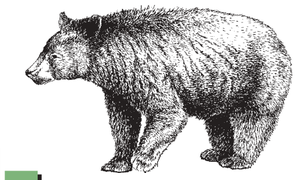
Upcoming Board Meetings

The public is welcome to attend

- Tuesday, February 26, 6:30 p.m.
  Elgin Community Center, 10th St, Elgin
- Tuesday, March 25, 6:30 p.m.
  Wallowa Community Center, 2nd St, Wallowa
- Tuesday, April 22, 6:30 p.m.
  Elgin Community Center, 10th St, Elgin
- Tuesday, May 27 , 6:30 p.m.
  Wallowa Community Center, 2nd St, Wallowa
- Tuesday, June 24, 6:30 p.m.
  St. Mary's Catholic Church, 12th St, Elgin

Meeting dates are subject to change.
Please call 541-663-0570 to confirm. Thank you!

Bear Creek



Rerouting roads and water troughs

by Lyle Kuchenbecker, GRMW

There have been many changes to the landscape in northeast Oregon since European settlement began in the 1800s. Historic activities and uses have profoundly altered the watersheds, wetland habitats, and streams in the Grande Ronde Basin. Settlement activities actually began as early as the 1820s and 1830s. The first significant human activity to affect the watersheds was beaver trapping, which dates back to the early 1800s.

Beavers were the first dam builders and were quite efficient at constructing hundreds, maybe even thousands, of dams throughout the Grande Ronde. The net effect was retaining large quantities of water in wetlands, and small impoundments that released water slowly throughout the summer helping to maintain streamflows and cool water temperatures. Beavers were nearly eliminated in the Grande Ronde before 1850 and their demise, in effect, eliminated the dam construction and maintenance crew, and consequently the dams and water storage.

Settlement practices that followed, over the last 180 years or so, incrementally contributed to the condition of our watersheds today. Activities such as stream channelization, farming, logging, grazing, mining, road construction, urbanization and noxious weeds have all had adverse impacts to varying degrees on watersheds. This is not an indictment of these activities, for they were essential to the settlement and economy of northeast Oregon. One must take into account the times, societal issues, economic conditions and peoples needs, and not rush to judgment.

Times have changed, however. Today there is an increasing emphasis on restoring and preserving the sustainability of natural resources while maintaining traditional uses. The Bear Creek Project is an example of one such restoration activity.

The development of a transportation network over the last three quarters of a century throughout the forests of eastern Oregon was primarily driven by timber harvest to supply a growing nation with forest products. Although there are many benefits of roads in the national forests such as recreational and fire suppression access, there are roads that are no longer needed or are contributing to watershed problems.

Before the current emphasis on watershed health, roads were constructed primarily with cost efficiency in mind and with consideration to how timber would be harvested from forest lands. Unfortunately many roads were constructed following streams, often in very close proximity to the stream, itself.

Roads were built in the draw bottoms, often because that was the shortest route and so logs could be skidded downhill during timber harvest. The initial construction of roads adjacent to streams removes vegetation that provides shade and a source of large wood important for instream habitat diversity. The roads often constrict the channel, reduce stream and floodplain interaction, and inhibit the establishment of riparian vegetation. Additionally, as long as the roads are used, they can be chronic sources of sediment.

So…what to do with draw-bottom roads to minimize watershed impacts? Answer: it depends on the road. Considerations include the impact the road is having on the adjacent stream, the need to maintain access, available alternative locations, and cost versus benefit to address the problem.

Located within the Starkey Experimental Forest on Bear Creek, the Bear Creek Restoration Project addressed road and grazing impacts on national forest lands. Bear Creek contains steelhead spawning and rearing habitat and is a major steelhead producer in the Meadow Creek system, a tributary of the Grande Ronde River. U.S. Forest Service fish sampling in 1999 found that the highest density of steelhead juveniles in the Meadow Creek system occurred in Bear Creek.

The La Grande Ranger District completed the Bear Creek Restoration Project in 2007. The work included the obliteration and rehabilitation of 1.6 miles of draw-bottom roads, construction of 1.1 miles of ridge-top road, large wood placement, and the construction of a livestock watering facility.

Road rehabilitation work consisted of removing culverts, obliterating and re-contouring the roadbed, and seeding and mulching. A portion of the work (0.6 miles) was done in 2004 with the remainder completed in 2007. Conifers were also planted in the obliterated roadbed in 2004. Conifers will be planted in the roadbeds obliterated in 2007 in spring 2008.

Above: Original forest roads accessing parts of the Starkey Experimental Forest were located immediately adjacent to Bear Creek and tributaries. Roads located this close to streams are chronic sources of sediment and inhibit the establishment of riparian vegetation. Top left: The original livestock water troughs were installed adjacent to the stream, which tended to attract and congregate livestock in the riparian area. U.S. Forest Service photos.

Additional restoration work was prescribed and completed in conjunction with the road obliteration and restoration. An excavator was used to transport 92 pieces of large down-wood from adjacent forest stands and placed in 1.1 miles of Bear Creek and tributary channels. The purpose of large wood placement was primarily to discourage livestock use of the riparian areas and to also provide added diversity to the stream channels.

Many years ago a livestock water trough was located in the riparian area very close to the stream. The trough was fed by an adjacent spring. The practice of developing livestock water sources from springs, even adjacent to drainages, was not unusual if livestock water sources were widely dispersed and hard to find. However, the result in this case was that the trough concentrated livestock use in the riparian area.

Recent advancements in solar water pumping technology have provided a remedy to this problem. Small, relatively inexpensive solar pumping systems are now available that will pump water upslope and away from the streams at remote sites such as this. Forest Service range staff installed a system that consists of a vertically buried culvert (well), submersible solar powered pump, solar panels, and transmission line to a trough located 300 feet upslope and away from the stream. Additionally the spring source has been protected by a small exclosure fence.

The Bear Creek Restoration Project was planned and implemented by La Grande Ranger District personnel Brad Lovatt, Mark Gomez and Aric Johnson. Partney Construction completed the road obliteration and instream wood placement. The total cost of the project was $178,435. Funding came from the U.S. Forest Service (73%), the Bonneville Power Administration Fish and Wildlife Mitigation Program (23%) and the Oregon Watershed Enhancement Board (4%).

The Bear Creek Project is one of hundreds of restoration projects completed on public as well as private lands in the Grande Ronde Basin. Each project by itself may seem insignificant, but cumulatively projects will improve watershed conditions and habitat for threatened anadromous and resident fish. It has taken nearly 200 years to get to where we are today. We won't remedy watershed problems in the Grande Ronde or restore threatened fish populations in the short-term, but through continued and long-term efforts, agencies and landowners will make incremental progress toward improved watershed health.

Top right: During construction, the spring was fenced to exclude livestock. A submersible solar pump was installed in the bottom of a metal culvert buried vertically down to the water source. Water will be pumped via a pipeline up to a new trough 300 feet upslope and out of the riparian area. Left: A total of 1.6 miles of draw-bottom road were obliterated, contoured into the slope, mulched, seeded and planted with conifers. Culverts were removed to restore natural drainage. Just over a mile of new road was constructed on ridgetops to maintain recreational and commercial access. U.S. Forest Service photos.

A network of note

Network of Oregon Watershed Councils convenes in Hood River

Jeff Oveson honored for service

The 2007 Watershed Council Gathering took place in beautiful Hood River, Ore., on November 13–16. This year's event was sponsored by 24 different organizations, many of which were on hand to meet and greet the 195 people that attended the four-day event. A key local supporter and participant was Brett Moore on behalf of Anderson Perry & Associates Inc., a consulting engineering firm to the Grande Ronde Model Watershed. Additional exhibitors displayed new products and services to watershed councils during networking breaks and lunch periods.

Keynote speakers inspire participants

On Wednesday morning, Hood River County Commissioner Les Perkins recommended watershed councils as a model for addressing other challenging needs such as sustainable local energy production and distribution. On Thursday afternoon, former Governor John Kitzhaber provided a passionate reminder of the importance of council restoration efforts and the perseverance necessary to accomplish lasting change. Thursday evening, Charles Hudson of the Columbia River Inter-Tribal Fish Commission offered a powerful and personal message about the commitment we are making to changes that will affect our grandchildren. On Friday morning, Angus Duncan of the Bonneville Environmental Foundation outlined a broad social and natural context within which councils must work to address future challenges.

Watershed project tour kicks off conference

A tour of watershed projects kicked off the four-day conference. The tour was co-sponsored by the Hood River Watershed Group, the Network of Oregon Watershed Councils, and the Pacific States Marine Fisheries Commission. Over 50 participants enjoyed presentations and tours at four restoration sites in the Hood River watershed. Many tour participants had previous restoration experience and used the tour as a way to learn from the experience of other restoration practitioners.

Organizational and technical workshops inform conference participants

Hood River County Commissioner Les Perkins welcomed approximately 135 conference participants to the Hood River area on Wednesday morning. He said that during his seven years as a county commissioner he has seen firsthand the unique attributes of the watershed councils in making decisions. "Their collaborative nature allows voices from all perspectives to contribute," Perkins said. After the morning address it was a busy day of workshops and training sessions. Approximately 65 volunteers and presenters helped organize and conduct 12 organizational and technical training workshops. Workshop participants indicated that the sessions were right on target and met their expectations of training needs. Among those presenting educational perspectives on project management was Lyle Kuchenbecker of the Grande Ronde Model Watershed.

Policy discussions provide councils with new perspectives and ideas for the future

Two separate panels that included representatives from the Governor's office, state natural resource agencies, conservation organizations, tribal interests, the timber industry, agriculture, and watershed councils engaged the participants and each other in policy discussions about the Oregon Plan for Salmon and Watersheds. On Thursday, panelists discussed the origins and evolution of the Oregon Plan. That discussion provided a backdrop for Friday's panel, which challenged Oregon natural resource leaders to provide new ideas and strategies to continue to make the Oregon Plan an internationally recognized approach to salmon recovery and watershed restoration. Both panels generated lively discussions and identified watershed councils as leaders for conservation in their local communities.

Meeting highlights network accomplishments, solicits feedback from councils

The annual meeting of the Network of Oregon Watershed Councils began with words from John McDonald (Oregon Association of Conservation Districts) and Tom Byler (Oregon Watershed Enhancement Board). Hearing from two of the network's major partner organizations helped reinforce the importance of outreach efforts for both councils and the network. John Moriarty, network statewide coordinator, provided an in-depth look at the background and history of the Network of Oregon Watershed Councils and its accomplishments. This included thanking an amazing list of people and organizations for their support and contributions over the years. The meeting concluded with a panel discussion that included both current and past network board members. The panel asked watershed councils to provide input and ideas to the board about different strategies to attract both human and financial resources to the network. The discussion reinforced the importance of developing an advisory council for the network board.

Rep. Patti Smith presents awards to network and watershed council volunteers

The event came to a close on Friday with State Representative Patti Smith presenting awards to both network and watershed council volunteers, thanking them for their service to Oregon watershed councils. Each award winner was presented with a certificate of appreciation and the book, *Rivers of America*, signed by author and photographer Tim Palmer. Bud Baumgartner of the Calapooia Watershed Council and Rennie Ferris of the MidCoast Watersheds Council shared the honor for the 2007 Watershed Council Members of the Year. Jeff Oveson, executive director of the Grande Ronde Model Watershed Council, was presented with the 2007 Network Member Volunteer of the Year award. John Runyon of Portland was presented with the 2007 Network Community Volunteer of the Year award.

Credit where credit's due

End Creek Project wins Riparian Challenge Award

by Cecilia Noyes, GRMW

The Grande Ronde Model Watershed was confident that the End Creek Project complex would become a winning example of stream re-channelization and wetland creation. We just didn't realize that official recognition would come so soon. This past September, the End Creek Project won the Western Division American Fisheries Society's 2007 Riparian Challenge Award.

The End Creek Project would not have happened without dedicated professionals and committed, forward-looking landowners. The project was developed and implemented by landowners Joel and Susan Rice, Dan and Tracy Davidson, and Ron and Nancy Dake; the Oregon Department of Fish and Wildlife; the Confederated Tribes of the Umatilla Indian Reservation; Natural Resource Conservation Service; Union Soil and Water Conservation District; and several cooperating/funding agencies including the Grande Ronde Model Watershed, the Bonneville Power Administration, and the Oregon Watershed Enhancement Board.

The End Creek Project complex included approximately 776 acres within three contiguous private land parcels in the Willow Creek watershed within the upper Grande Ronde River subbasin. The project area has three streams – End Creek, South Fork Willow Creek, and McDonald Creek – along with several spring-fed tributaries. Private lands in the project area had a long history of agricultural cultivation, channelization/ditching, and wetland conversion. These management practices resulted in unstable stream channels, excessive erosion, elevated water temperatures, loss of riparian and wetland vegetation, and poor fish habitat.

Center photo: Four of the End Creek Project partners admire the 2007 Riparian Challenge Award. L to R: Allen Childs (Confederated Tribes of the Umatilla Indian Reservation), Jeff Oveson (Grande Ronde Model Watershed), Dr. Joel Rice (landowner), and Vance McGowan (Oregon Department of Fish and Wildlife).

The overall goal of the project was to restore the natural character and function of End Creek, South Fork Willow Creek, and McDonald Creek with accompanying riparian and wetland vegetation; a well connected floodplain; and stable, natural stream channels. Water quality, fish habitat, and wetland-riparian habitat restoration were key drivers for the project.

Project activities included construction of new stream channels, construction and contouring of floodplain ponds, instream placement of rock grade-control structures, installation of rootwad revetments, placement of large woody debris, ditch reclamation, fish salvage, terrace construction, and revegetation with native species. Conservation easements were established on 638 acres of wetland habitat.

To read more about the End Creek Project complex, take a look at the Spring 2007 Ripples issue (the link to the issue on the GRMW web site is http://www.grmw.org/publications/newsletter/ripples_2007.shtml#sp 2007). The End Creek Project won the Riparian Challenge Award in the category "Other (conservation agencies, consultants, or private industry) - Best Riparian Project." The award announcement can be found on the WDAFS web page at http://www.wdafs.org/committees/Riparian_Watersheds_Habitat/Riparian_Watersheds_Habitat_comm.htm.