

Make Ripples in the *Ripples*!

Let the GRMW team know what you think!



As a publication supported by federal and state funding, and therefore by our taxpaying readers, the *Ripples in the Grande Ronde* is not just for the GRMW Program. It is a newsletter for the whole community dedicated to informing and educating readers about restoration efforts, research, and partnerships under way throughout the Grande Ronde Watershed aimed at improving habitat and native fisheries, improving water quality and supply, and fostering community development and cooperation. Please help us use the pages of the *Ripples* to enhance the conversation about habitat restoration work in our area by emailing me at grmw.ripples.editor@gmail.com or calling the GRMW office at 541-663-0570 with your questions, comments, story ideas, and feedback. If you have questions about the stories in this issue or about habitat restoration in general, then this is your chance to get answers from the experts at the GRMW; a future issue could include a question-and-answer article featuring our readers! Hope to hear from you soon! — *Margaret*



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



From the Archives

Odd Oregon Names and Their Histories
compiled by Heather Hall, GRMW

- Blowout Creek in Wallowa County came by its name from settlers camping near the creek who had a terrible time trying to get a campfire going because the wind blew so hard.
- Ewe Creek in Josephine County was to be named Yew Creek for the many yew trees that grew in the area, but was misspelled.



Minam Canyon, Photo by GRMW Staff

- A kettle of hominy overturned into the creek, thus the name Hominy Creek in Wallowa County.
- The city of Idea in Gilliam County was intended to be named Ida, after the postmaster's sister-in-law, but somewhere along the line the name was misspelled.
- Jenny Creek in Jackson County is named after a female mule who slipped and drowned in the creek.
- A packhorse bucked his pack, which contained a kettle, off his back into Kettle Creek in Wallowa County.
- Ramo Flat in Union County should have been spelled Raymou.
- In the summer of 1872, a pack train from Walla Walla carried a supply of whiskey to Wallowa County. The whiskey was for barter with the local American Indians for goods. The local residents became upset, went to the camp, broke open the kegs, and dumped the whiskey into the creek, which has since been known as Whiskey Creek.

Grande Ronde Model Watershed

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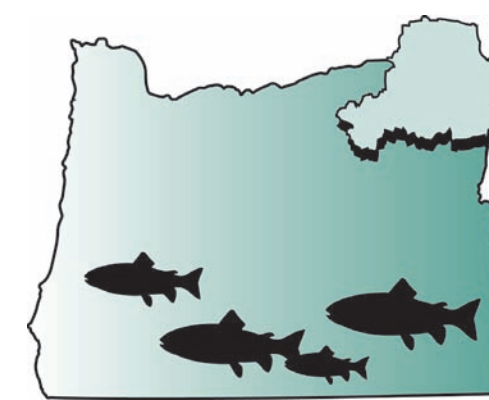
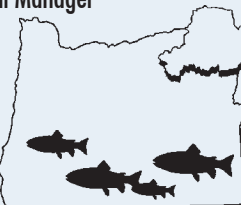
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Ripples

Summer 2009

in the Grande Ronde

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

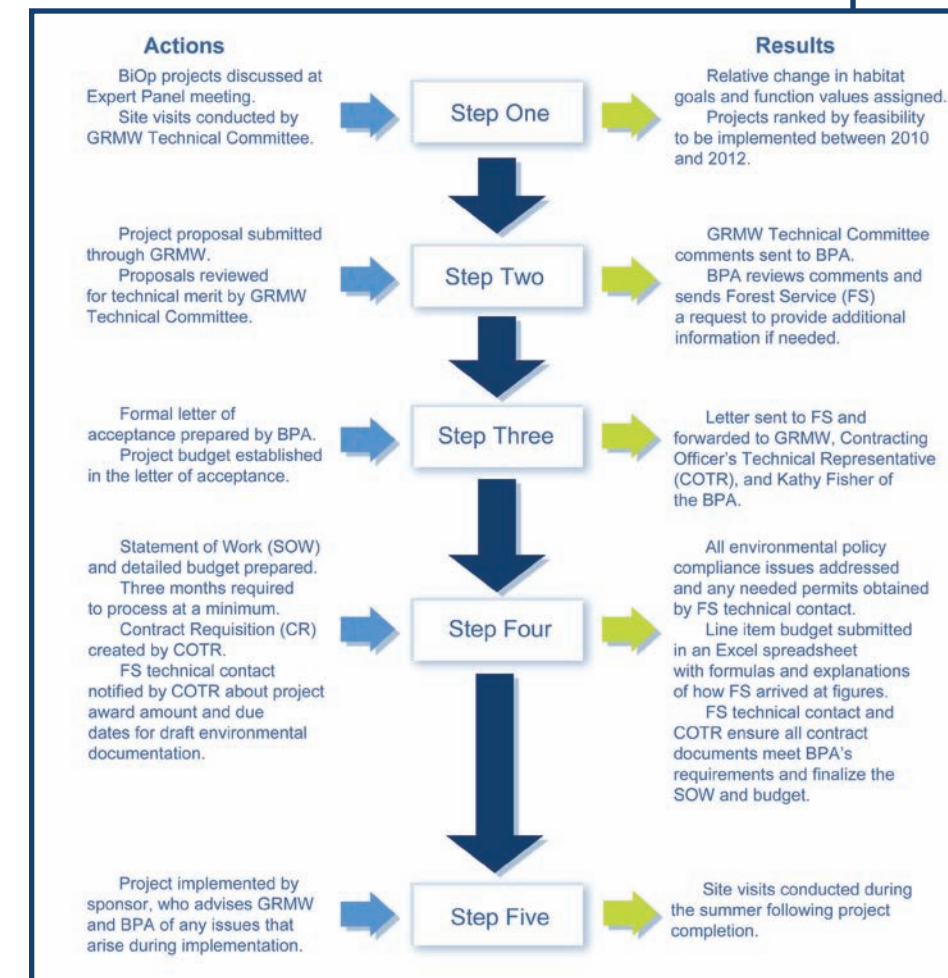
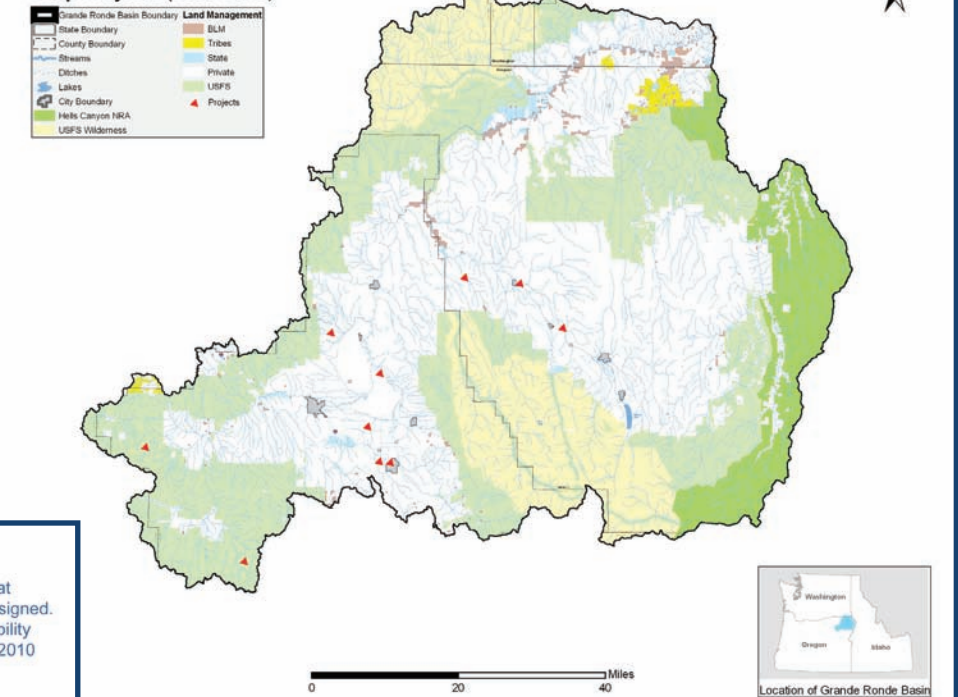
Becoming the BiOp

How a 1,000-page Policy Document Develops into Habitat Restoration Projects in the Grande Ronde Watershed

Graphics by Mason Bailie, GRMW
Text by Margaret McGladrey, Editor

As outlined in the cover story of the *Ripples*' Spring 2009 issue by Lyle Kuchenbecker, the GRMW solicits proposals for restoration projects once and sometimes twice a year. The GRMW solicitation process begins each year in early summer with the distribution of a project solicitation letter to a mailing list of prospective restoration partners.

Grande Ronde Basin BiOp Projects (2009-2010)



Separate from this project proposal process – in which solicitation notices are sent to potential partners in July and project proposals are due this year on October 12, 2009 – is the process of evaluating habitat restoration projects for implementation under the Biological Opinion (BiOp). Detailed further in the article that follows on page 2 of this issue, the BiOp is essentially the federal government's plan for action to protect fish populations and mitigate the effects of Columbia River hydroelectric dams on fish habitat. BiOp projects are evaluated according to the process illustrated in the flow chart at left, and some of the projects that have been selected for implementation in 2009 and 2010 are identified in the map above. Proposals for BiOp projects are submitted on an ongoing basis. They are usually reviewed by between four and five technical committee members who will provide recommendations. As indicated in the flow chart, each project selected for construction under the BiOp is reviewed by a series of technical experts for merit and feasibility. In this way, the projects implemented under the BiOp will benefit from the expertise of the local groups who propose them and meet the BiOp's regulatory requirements of the Bonneville Power Administration (BPA) and other agencies. So, the projects installed on the ground not only help improve the big picture for habitat restoration under the BiOp, but also work toward the GRMW's goals for restoration of the Grande Ronde Watershed in particular. ■

BiOp 101:

A Recipe for Healthy Habitat in the Grande Ronde and Beyond

by Michael Milstein, Public Relations
Bonneville Power Administration (BPA)

Much of the river channel reconstruction, wetland restoration, and other actions to reinvigorate salmon and steelhead habitat throughout the Grande Ronde Basin have their origin in a federal document that is as widely debated as it is important. The document is called a Biological Opinion, and it is an essential component of federal Endangered Species Act (ESA) safeguards that apply to 13 Columbia and Snake River salmon and steelhead stocks. In short, it is the federal recipe for protecting fish populations and offsetting the impacts of the major federal hydroelectric dams on the Snake and Columbia rivers.

While the dams may be physically the biggest and most obvious factors affecting fish that swim up and down the rivers, they are far from the only ones. The Biological Opinion, known within fish circles as “the BiOp,” not only includes measures to minimize the impacts of dams over the next 10 years, but also goes beyond dam-specific actions to address damage from decades of logging, grazing, overfishing, and predation by non-native species.



Historic Celilo Falls, Image Courtesy of the U.S. Army Corps of Engineers

Although the subject of intense debate and litigation, the latest version of the BiOp has more support from groups in the region, including all of the Northwest states except for Oregon and most of the affected tribes, than any version that came before it. It also dovetails with the direction of the Northwest Power and Conservation Council (NPCC), a planning group that develops and maintains a regional power plan and a fish and wildlife program to balance the Pacific Northwest’s environment and energy needs and that originally focused restoration efforts on local watersheds through groups such as the Grande Ronde Model Watershed (GRMW).

Implementing the Latest Version of the BiOp

In full, the BiOp is a nearly 1,000-page document that took years of work by biologists to complete and includes 73 specific actions designed to protect fish and rebuild their populations. The actions, known in ESA-talk as “reasonable and prudent alternatives” (RPAs), range from installation of new technology to improve fish passage at dams to protection and restoration of important fish spawning and rearing streams across the Columbia River Basin.

On the ground, it means that federal agencies such as the BPA, with the GRMW and other partners, must rebuild enough healthy fish habitat to dramatically boost fish survival over the next decade. This habitat restoration may come about as the result of a combination of many activities: acquiring water rights, creating riparian shade and plantings, resurrecting key spawning habitat, and improving the ability of fish to access once-blocked habitat areas.

Aggressive habitat restoration is now a cornerstone of the BiOp, along with upgrades at dams to reduce impacts on fish passing through the dams. Biologists and engineers spent decades scrutinizing the dams and how they affect fish and devised clever (and often costly) strategies to help fish traverse the dams safely. About 91 percent of juvenile fish passed Bonneville Dam safely in the 1990s. In more recent years, following installation of a newer generation of turbines and a passage system that carries young fish around turbines, about 96 percent passed safely.

Beyond the Dams: Habitat Restoration

Such improvements will continue under the BiOp, but biologists now see as much or more opportunity to boost fish survival by going beyond the dams to repair the long-term habitat damage that prevents fish from spawning and thriving in many places. Work in the Grande Ronde Basin will follow the sub-basin plan developed by the GRMW and adopted by the NPCC.

These efforts are supported by a mandate from the U.S. Congress to dedicate much of the BPA’s revenue from hydropower sales to benefit fish and wildlife affected by the dams. “The only way we’re going to get fish the help they need,” said Bill Maslen, fish and wildlife program director at the BPA, “is through a region-wide effort that extends into every watershed and has local communities solidly behind it.”

Meet the Project Partners



Women of the BiOp

Profile by Margaret McGladrey, Editor

The sensitivity of the legal, scientific, political, and economic considerations that pertain to the BiOp gives special significance to the people who work with the policy’s implications on a daily basis. While the BiOp is a comprehensive plan for restoring fish populations, it is ultimately the experts of the BPA, National Oceanic and Atmospheric Administration (NOAA) Fisheries Service, state agencies, and local groups like the GRMW who will act on the plan and decide which projects will best serve fish. The people charged with implementing it make the BiOp a “living document,” a framework that creates practical results through the decisions and knowledge of the team who works within it. Although the BPA’s habitat commitments are spread throughout the region to actions that address limiting factors for spawning and rearing habitat in the Columbia River tributaries, the 2008 BiOp specifies expanded BPA efforts to improve habitat in the Grande Ronde Basin, especially in the Upper Grande Ronde and Catherine Creek watersheds. The members of this integral BPA team partnering most closely with the GRMW to develop BiOp projects in the Grande Ronde Basin include Kathy Fisher, the Habitat Program Coordinator for the BPA’s Fish and Wildlife Division, and BPA Fish and Wildlife Division Project Managers Timmie Mandish and Tracy Hauser. Hauser is the Project Manager for the GRMW Program, and Mandish guides the GRMW technical review panel as well as assists Fisher in evaluating potential BiOp projects by lending her technical expertise. Fisher is the BiOp lead and has conducted workshops to evaluate potential benefits and future BiOp projects.

Ten years ago, Fisher began the first of her many subsequent BiOp-related assignments as the project manager for the draft and final 2000 BiOp. She continued to serve in this capacity through the ensuing court revisions of the BiOp in 2004 and 2008. Fisher was responsible for coordinating and resolving technical and policy issues between the groups involved with the BiOp, from the BPA’s own power generation, transmission, and fish and wildlife divisions to the other federal, state, tribal, and local agencies involved in the BiOp. When, in 2008, the BPA switched focus from BiOp development to actual implementation, Fisher was thrilled to be given the opportunity to ensure that 2008 BiOp requirements for tributary and estuary habitat improvements are met in her position as the Habitat Program Coordinator. In addition to serving as a central point of contact for habitat-related issues, Fisher works closely with BPA’s fish and wildlife project



Tracy Hauser, Kathy Fisher, and Timmie Mandish
Photo by GRMW Staff

managers (including Mandish and Hauser) and contracting representatives. The mother of a 26-year-old son, 23-year-old daughter, and a brand new granddaughter (born June 29, 2009), Fisher enjoys soccer, tennis, quilting, gardening, and hiking and walking.

Mandish has spent the past 10 years implementing and managing BPA habitat restoration projects on private lands. Her position with the BPA includes managing a variety of projects in the Umatilla River Basin as well as acting as BPA’s technical representative for the GRMW Program in the Grande Ronde Basin. In this role, Mandish acts as the BPA’s representative on the GRMW’s technical team and helps to evaluate BiOp projects to assure that they address the limiting factors identified in the BPA’s subbasin and species recovery plans as well as contribute toward the recovery of endangered and threatened species. When she is not working, Mandish can be found traipsing up and down streams with a fly rod in hand while lifting rocks and logs to find bugs, salamanders and “dinosaur bones” (sticks and rocks that look like dinosaur bones) for her 5-year-old son and trying to beat her husband to the prime fishing holes.

As Project Manager for the GRMW Program, Hauser currently oversees 22 different projects for the BPA’s Fish and Wildlife Division. The majority of these efforts are related to the BiOp, with a special focus on the Grande Ronde Basin fish research. Additionally, Hauser serves as the Columbia River Inter-Tribal Fish Commission (CRITFC) secondary Columbia River Fish Accords lead, in which capacity she is a liaison between the BPA and CRITFC in managing CRITFC accord projects. Her goal as secondary lead is to provide assistance to the tribes as they develop projects that the BPA and the tribes have negotiated 10-year commitments for under the accords. Hauser is also a “super user” of the BPA’s PISCES database that tracks all information related to the agency’s fish and wildlife projects. As a PISCES super user, Hauser helped with initial testing and development of the database and provides training to staff and contractors who utilize PISCES. Hauser is the mother of one daughter, as well as three cats and two birds. Her hobbies include flower gardening, biking, hiking, camping, and hanging out at the river.

Fish Online!

www.grmw.org

- Adult salmon counts at the dams
- Snake River Basin stream flows
- 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, July 28, 6:30 p.m.
Walla Community Center
2nd Street, Walla
- Tuesday, September 22, 6:30 p.m.
Elgin City Hall
8th Street, Elgin

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

Just the Beginning for End Creek

Revisiting the End Creek Fish Habitat and Wetland Restoration Project

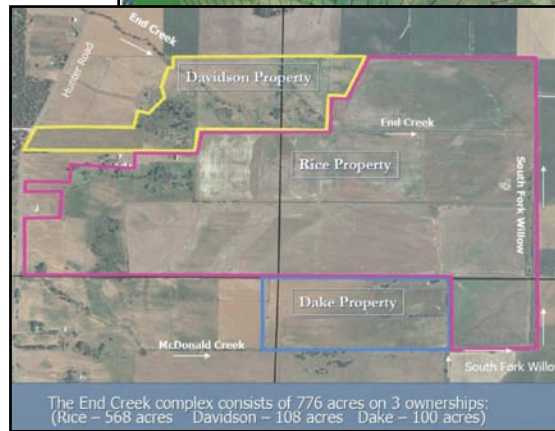
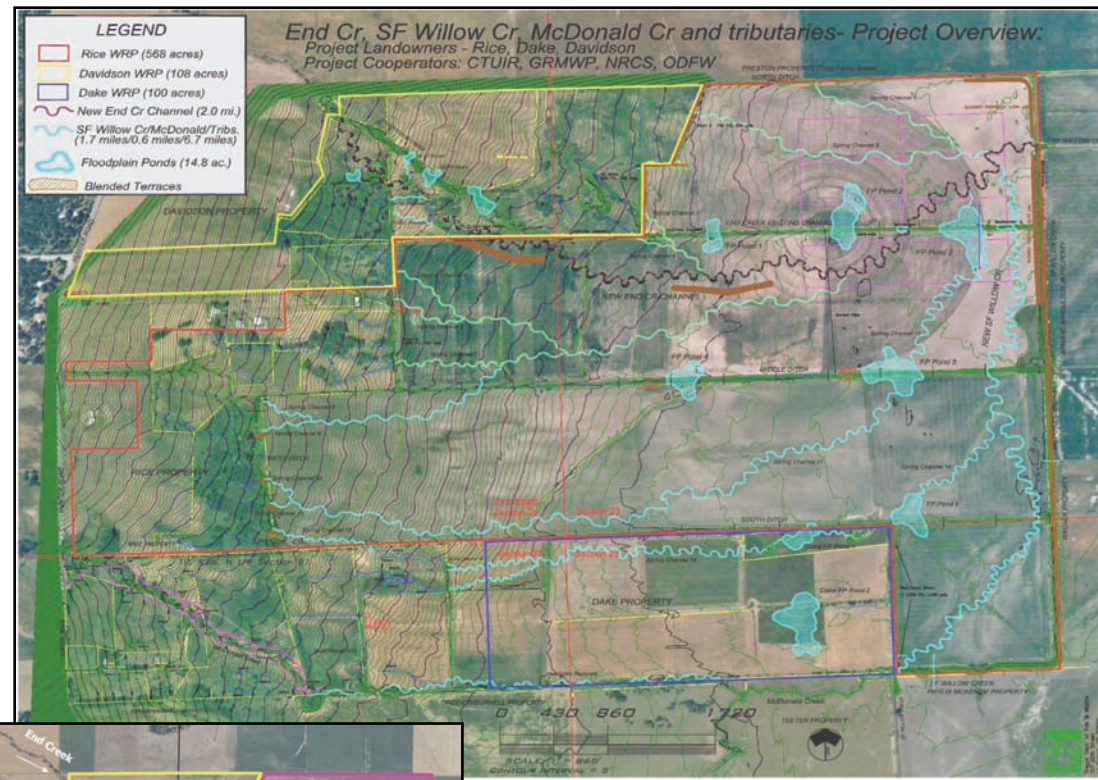
by:

- Lyle Kuchenbecker, Project Planner, Grande Ronde Model Watershed (GRMW)
- Vance McGowan, Fish Habitat Biologist, Oregon Department of Fish and Wildlife (ODFW)
- Allen Childs, Fish and Wildlife Biologist, Confederated Tribes of the Umatilla Indian Reservation (CTUIR)

Returning to the subject of an article in the Spring 2007 issue of the *Ripples*, the GRMW team is revisiting the End Creek fish habitat and wetland restoration project not only to assess the success of the project, but also to provide an example of the kinds of projects that the Biological Opinion (BiOp) will implement in the Grande Ronde Basin. The GRMW team and other partners are currently working on BiOp projects that reconstruct channels and create wetlands just like the End Creek project does. BiOp projects specifically target fish populations that have been identified as being the most depressed and in danger of extinction. In the Grande Ronde Basin, the highest priority populations are those of the Catherine Creek and the Upper Grande Ronde chinook and steelhead targeted by the End Creek project.

Project Snapshot

Completed in 2006, the End Creek fish habitat and wetland restoration project encompassed 776 acres of land on three private parcels in the northwestern portion of the Grande Ronde Valley. The goal of the project was to restore the natural character and function of End Creek, South Fork Willow, McDonald Creek, and spring-fed tributaries with accompanying riparian and wetland vegetation, well connected floodplain, and stable, natural stream channels. Water quality, fish habitat, and wetland-riparian habitat restoration were key drivers for the project. All told, the project included constructing 8.43 miles of restored channel, filling in ditches (channel reclamation) along nearly three miles of channel, installing rock and log structural elements, planting and seeding native species, and weed control.



The project was implemented in a cooperative effort by the landowners, the ODFW, the Natural Resource Conservation Service (NRCS), the CTUIR, and several cooperating/funding agencies including the GRMW, the Bonneville Power Administration (BPA), and the Oregon Watershed Enhancement Board (OWEB).

Goals and Benefits of Habitat Restoration Work

By restoring this channel along End Creek to its natural conditions, this project, like many other GRMW efforts, aims to restore populations of fish species listed in the Endangered Species Act (ESA). The End Creek project is focused on Snake River summer steelhead in particular. In order to demonstrate that channel reconstruction is beneficial to fish, the project team monitors changes in the population itself, such as juvenile fish production and changes in habitat. Channel reconstruction projects are a relatively recent approach to restoration work, having been applied only in the last seven to eight years in this area. Monitoring the effects of habitat restoration projects over time is essential to understanding whether this methodology is effective and is vital in consideration of the public moneys invested in these projects.

Monitoring Project Success

While it is difficult to monitor the actual fish populations and tie the population changes to the restoration work itself, the project team can use juvenile population trends and habitat changes as an indicator of whether or not the project is helping. One of the most critical elements to monitor in terms of habitat is stream temperature, which is affected by riparian vegetation, channel structure, and stream flow. Typically, streams in the Grande Ronde Basin experience elevated temperatures during the warm summer months, July through early September. By monitoring the stream temperature and groundwater levels, the team can assess the project's potential effect on fish populations. If the project lowers stream temperatures, then it is creating better and more productive conditions for salmonids (coldwater fish). Higher groundwater levels indicate more water storage in the soil profile for release into the streams through the low-flow period, from mid-summer through fall. More late-season flow creates lower stream temperatures, as water takes longer to warm up in increased quantities.

Members of the ODFW and the CTUIR staff collected the data presented here. Eastern Oregon University students are conducting additional, ongoing water quality monitoring under the direction of Dr. Anna Cavinato, chemistry professor and member of the GRMW Board of Directors. Baseline monitoring began in 2006, prior to project implementation, and will continue for several years into the future. The ODFW and CTUIR team are monitoring stream temperature, groundwater elevations, vegetation recovery, and various photo-points as well as conducting juvenile fish population surveys and steelhead spawning.



The newly constructed End Creek channel just after construction in 2006, with Mt. Harris in the background. The old channelized stream reach, which was filled in, is to the left of the new channel. Photo by Allen Childs, CTUIR

Temperature

The project team established two water temperature monitoring sites along End Creek. One site is located upstream of the project area, and the other is on the lower reach to "bracket" the project area and provide a basis to evaluate changes in water temperatures over time. Streams nearly always become warmer as they flow downstream. The bracketing of the project is the effort to measure the success of the project in reducing the amount of temperature increase between the area above and below the project. Although they have very limited pre-project temperature data, the team hopes, over time, to see a trend of the gap narrowing between the top and bottom stations. When the gap narrows, more productive habitat becomes available farther downstream. More quantity of productive habitat usually translates into the potential for growing more fish.

Pre-project and recent water temperature data indicate an increase in temperature from the upstream to downstream sampling locations. In 2003, a 7.9 degree C difference (a seven-day average maximum) between the upper and lower sampling locations was measured. The difference has varied from a minimum difference of 3.0 degrees C in 2004 to 6.3 degrees C in 2007. Post-project temperature monitoring is limited to few years in duration and therefore restricts the project team's ability to truly assess water temperature trends. Due to annual air temperature variations, several years of temperature data will be required to determine project effects.

Fish Populations

In 2005, CTUIR staff initiated pre-project juvenile fish monitoring to establish a baseline from which to evaluate project goals, objectives, and biological response to project actions designed to restore and enhance summer steelhead spawning and rearing habitat. The CTUIR team selected fifteen sites along End Creek, South Fork Willow, McDonald Creek, and spring-fed tributaries in order to monitor the presence or absence of fish species

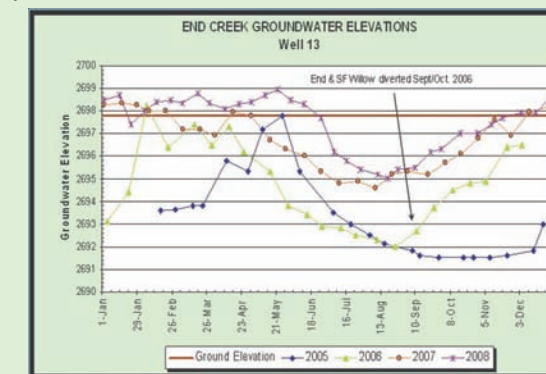
End Creek: 2009 Monitoring Report

and their distribution throughout the system. A yardstick for measuring change in juvenile fish populations is the density of juvenile salmonids per square meter area. The density of rainbow/steelhead (*Oncorhynchus mykiss*) salmonids in three monitoring sites above and within the project area have not changed significantly this recently after the channel was reconstructed. As riparian streamside vegetation becomes established, water temperatures become colder, and channel habitat becomes more complex, the density of juvenile fish can be expected to increase.

Groundwater

Fifteen shallow groundwater wells were installed throughout the project area in 2005, prior to construction of the new channels. Beginning in February 2005, water level measurements have continued through 2008 and will continue into the foreseeable future.

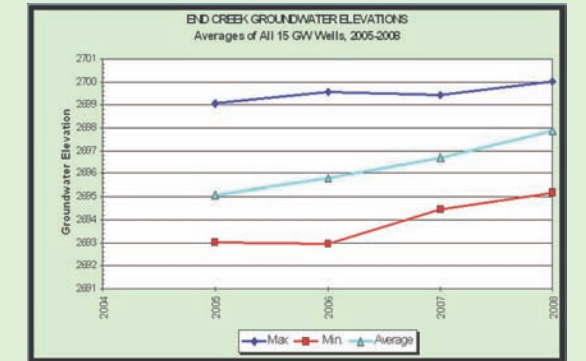
Higher groundwater levels can translate into significant benefits for fish species, wetland plant species, and the availability of late-season water. More water storage within the soil profile can result in increased late-season stream flows and a corresponding drop in water temperatures, both of which are very beneficial to coldwater fish species. When groundwater levels are above, at, or near the surface of the ground for longer periods, the conditions promote the establishment of wetlands and benefit wetland-dependent species.



The results of these measurements of groundwater levels include 2005-08 data from Well 13 that shows increasingly higher groundwater levels during the dry summer and fall periods. Even though 2007 was an especially dry year, the data from 2007 revealed a groundwater level between two and six feet higher than levels recorded in 2005.



The new End Creek channel in June 2009. The old channel is no longer visible. Photo by Allen Childs, CTUIR



Although we are still in the early stages of monitoring, groundwater elevations are dramatically higher in nearly all of the wells following the diversion of water into the new stream channels. Maximum groundwater levels, which occur during spring runoff, are about one foot higher in 2008 than they were in 2005. Minimum groundwater levels, which occur during the dry summer season, are over two feet higher. Average levels are about three feet higher than before the project was implemented.

Water Quality

Dr. Cavinato's first-term general chemistry classes have been monitoring water quality at the sites since 2005. Students monitor for nitrates, phosphates, iron, calcium, manganese, total suspended solids, and dissolved oxygen. Overall, water quality is good and has not changed significantly from pre- to post-project.

Conclusions

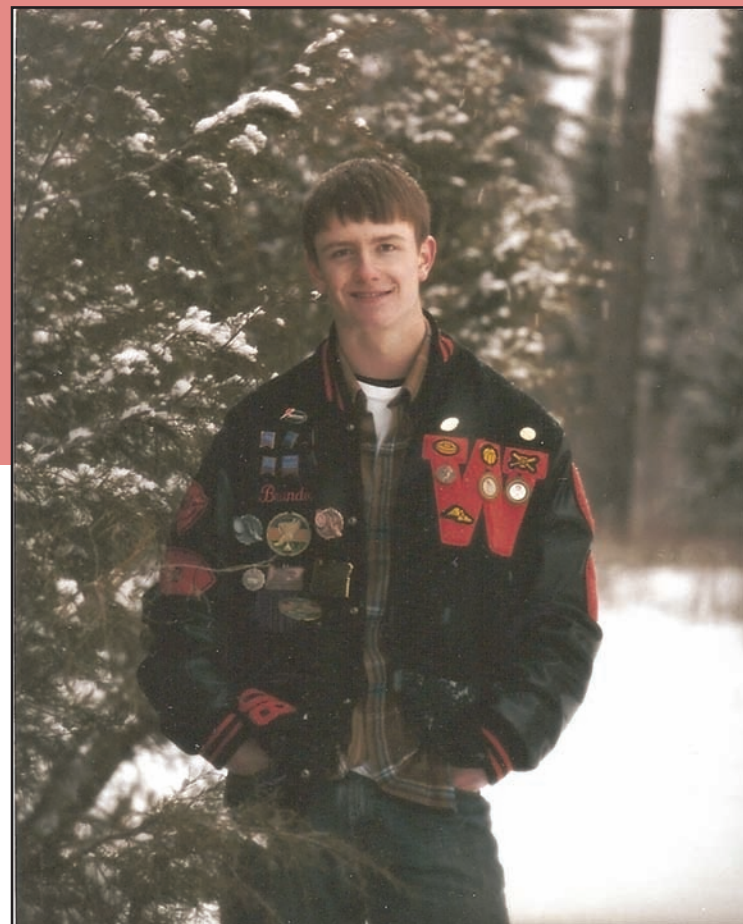
Reestablishing historic stream channels with the addition of wood and re-vegetation plantings has jumpstarted the restoration process that is taking place with the End Creek project. The most notable, measurable changes identified by the last three years of post-project monitoring are increases in groundwater levels. Significant water temperature reductions and increases in fish populations are not evident at this point, but are expected over time as vegetation matures, stream channels stabilize, and in-channel habitat becomes more diverse. Endangered Snake River summer steelhead as well as a multitude of native fish and wildlife species will be the ultimate beneficiaries of this project to restore habitat on End Creek.



Congratulations!

Anderson·Perry & Associates, GRMW Announce Winner of Inaugural Scholarship Award:

Brandon Mahon of Wallowa, Oregon



*Photo by Walter Klages,
Photographer, Enterprise, Oregon*

by Jeff Oveson, GRMW

Anderson·Perry & Associates (AP) and the Grande Ronde Model Watershed (GRMW) have announced the winner of the inaugural scholarship award presented jointly by AP and the GRMW. The very deserving recipient is Brandon Mahon of Wallowa, who will receive \$1,500 for his college education.

Brandon just completed his freshman year at Oregon State University, where he is pursuing dual degrees in Civil Engineering and Forest Engineering. Brandon graduated from Wallowa High School (WHS) in 2008 with a 4.0 grade point average. In his young college career, Brandon has carried well over a 3.0 grade point average while tackling a very challenging course of study. In addition to his academic activities, Brandon has participated in many different intramural sports each season and is a member of several clubs, including the American Society of Civil Engineers and the Society of American Foresters. After receiving his bachelor's degrees, Brandon plans to earn a Master of Engineering degree before pursuing a career as a Professional Engineer, preferably somewhere in Oregon.

The valedictorian of his class at WHS, Brandon is among the fourth generation of his family to have graduated from WHS. He joins his two older brothers Garrett and Drew, along with his mother Kathy, as WHS grads. Father Mike owns and operates a timber management company that also employs Garrett and Drew, and Kathy is a long-time realtor in Wallowa County. Brandon enjoys outdoor activities, such as hiking, fishing, and hunting.

For the inaugural scholarship presented by AP and the GRMW, applications were evaluated from young people who currently or intend to attend institutions of higher education in Oregon. Students who attend either private or public institutions for two- or four-year degrees were eligible, as long as engineering and/or sciences were their major emphasis of study. AP and the GRMW hope to make the scholarship program an annual event and will coordinate any such effort with the local high schools.

As one of the Northwest's most diverse civil engineering firms east of the Cascade Mountains, AP has offered a complete range of engineering, surveying, and natural resources services, from initial site surveys and right-of-way mapping through the planning, public involvement coordination, design, permitting, and construction contract administration phases of projects from its office in La Grande, Oregon, since 1975. ■

Selecting efforts is no mere roll of the dice. The BiOp examined each individual fish stock and the factors affecting it and then used that information as the basis for deciding which improvements should be made in what places. For instance, the BiOp concluded that a lack of healthy habitat limits fish populations in the Grande Ronde Basin. Therefore, the BiOp calls for a significant 23 percent increase in Snake River spring and summer Chinook survival on Catherine Creek and the upper mainstem of the Grande Ronde River.

Federal agencies look to local groups such as the GRMW to figure out how to best bring about this objective and provide support and funding to those groups along the way. The BiOp will boost funding in the Grande Ronde Basin by about \$1 million a year, specifically to benefit ESA-listed Snake River Chinook and steelhead. The broader goal is that the many habitat actions put forth in the BiOp will do more than simply restore rivers and rebuild fish populations. These actions are also aimed to help knit ecosystems back together and support rural economies that depend on sustainable natural resources.

The BiOp Debate: Why Not Remove the Dams?

However, like anything involving salmon and water in the Pacific Northwest, the BiOp is a contentious issue. It was drawn up by the National Oceanic and Atmospheric Administration (NOAA) Fisheries Service, the federal agency with jurisdiction over endangered salmonids, as part of an ESA process that begins with a federal proposal. In this case, the proposal was to continue operating the Columbia River hydropower system. Any time a federal proposal could jeopardize the survival of ESA-listed species, as is the case with the hydropower system, the effects of the proposal must be examined in a BiOp document. The BiOp identifies RPAs that minimize the impacts of the proposal and allows the proposed action to go forward without jeopardizing the species.

Although breaching the four major dams on the Snake River is often held out as a simple fix for salmon, the BiOp and various other studies have concluded that this is not the case. At best, breaching the Snake River dams would help only four of 13 salmon stocks in the Columbia Basin. Even then, if this action were taken, removing dams would not in and of itself restore salmon. Instead of this option, NOAA settled on a comprehensive approach that included not only major improvements at dams to enhance fish survival but also steps to help fish species throughout their life cycles.

Removing dams would also undermine the region's ability to absorb growing amounts of renewable wind power. Since wind is unpredictable, another energy source must be rapidly available to fill in gaps when the wind does not blow. Hydropower is ideal, because it can ramp up and down quickly to complement wind power supplies, which other sources such as nuclear or coal plants cannot do. This ability to respond instantly to the rapidly shifting supply of wind power is critical because electricity flowing into the grid must match the amount people are using. Otherwise, the system collapses into blackouts.

The Future of the BiOp

Previous BiOp documents concerning the Columbia River dams have been regularly challenged in federal court by environmental groups and others who argue that the RPAs do not go far enough to mitigate the dams' effects on fish habitat. The current BiOp is now in its third iteration, after U.S. District Court Judge James A. Redden twice turned down earlier versions.

The latest version differs from those that preceded it both in process and in form. Judge Redden directed what evolved into a landmark collaboration among agencies, states, and tribes to find a common resolution to the region's long-standing debate over salmon and dams. Last year, the collaboration led to the Columbia River Fish Accords, an historic agreement among the BPA, the U.S. Army Corps of Engineers, the U.S. Bureau of Reclamation, states, and tribes, including the Warm Springs, Umatilla, Yakama, and Colville tribes.



Chinook Leaping, Image Courtesy of BPA



Chinook Smolts, Image Courtesy of BPA

The Accords brought the tribes and federal and state agencies together around a common strategy for fish that includes even more extensive actions to reopen, repair, and protect essential habitat. Together, the BiOp and Fish Accords will dedicate nearly \$100 million a year for 10 years to protecting fish, much of it in the form of habitat projects. Today, close to a third of the electric rates charged by the BPA now cover operations to benefit fish. Under the BiOp and the Fish Accords, the BPA will work with the GRMW on three-year cycles to evaluate accomplishments and examine opportunities for even more habitat restoration during the next three years.

The BiOp is now at a key crossroads. The Obama administration is reviewing progress on the BiOp and is expected to notify Judge Redden of its position in coming months. In the meantime, federal agencies, tribes, watershed groups, and others across the Columbia River Basin are proceeding with their commitments to the region, to each other, and to salmon. ■

For more details on the Biological Opinion, visit:
www.salmonrecovery.gov

Questions about the Biological Opinion for the GRMW staff? Email them to:
grmw.ripples.editor@gmail.com