Ripples in the Grande Ronde

Fall 2011

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

WATERSHEDS 101

by Leigh Collins, GRMW
Photos by GRMW staff

LEFT: Leigh Collins identifying skulls, scat, and tracks of mammals within the Grande Ronde Basin with students in kindergarten through third grade from the Grande Ronde Academy at Pioneer Park, May 5, 2011. RIGHT: Wallowa Resources Watershed Festival participants painting the watershed mural at the GRMW booth, June 24, 2011.

The Grande Ronde Model Watershed (GRMW) was proud to host and participate in multiple educational events in spring 2011 designed to help local students learn about watersheds in Union and Wallowa counties. The GRMW kicked off our spring events by spending an afternoon with sixth graders from Stella May Field School in Elgin. GRMW staff members taught students about erosion, water quality, fish habitat, plant identification, and aquatic insects while on site at the Blue Mountain 4-H Center.

During the same week in May, GRMW staff members took students from the Grande Ronde Academy on an outdoor learning adventure. The kindergarten through third-grade students joined the GRMW staff in Pioneer Park for fish printing, steelhead dissection, skull identification, and watershed mural painting.

Fourth- through eighth-grade students from the Grande Ronde Academy joined GRMW staff members, Oregon Department of Fish and Wildlife (ODFW) Wildlife Technician Dave Bronson, ODFW assistant project leader Mike Flesher, U.S. Forest Service biological technician Clayton Collins, and Trent Bray, local birder and business owner, for an exciting day of learning about water quality, fish habitat, birds, insects, and more at the Ladd Marsh/ Lake Tule access area.

The GRMW finished the school year by teaching second graders from Greenwood Elementary about how to identify skulls, scat, and tracks of animals in the Grande Ronde Basin during an outdoor day at Riverside Park.

During summer 2011, the GRMW has continued to participate in educational events to teach people about watershed health and the multiple factors that affect the Grande Ronde Basin Watershed. The GRMW presented at the Oregon Trail Interpretive Center, Free Fishing Day at Morgan Lake, the Wallowa Resources Watershed Festival, the Kokanee Festival, the Salmon Walk, Ladd Marsh Youth Day, La Grande Parks and Recreation Day Camp, and activities at the Wallowa State Park.

The GRMW has been fortunate to partner with multiple state and federal agencies, local schools, and community members to promote youth education. All insects used by the GRMW for educational activities were provided by ODFW Early Life History program biologists, and the Wallowa Fish Hatchery and Deer Creek Acclamation Facility hatchery provided steelhead used for dissections.

The GRMW has been able to share knowledge and information with local youth on several occasions and would love to be more involved. If you have an event that you would like for us to participate in, then please call Leigh Collins at 541.663.0570. A list of resources and our recent activities can be found at grmw.org/activities.

Continued on page 2

LEFT: Mike Flesher of the ODFW talks with Grande Ronde Academy (GRA) students about steelhead prior to dissection at the Ladd Marsh Tule Lake access area, May 6, 2011. RIGHT: Jesse Steele helps students from GRA identify aquatic insects at the Ladd Marsh Tule Lake access area, May 6, 2011.

WATERSHEDS 101

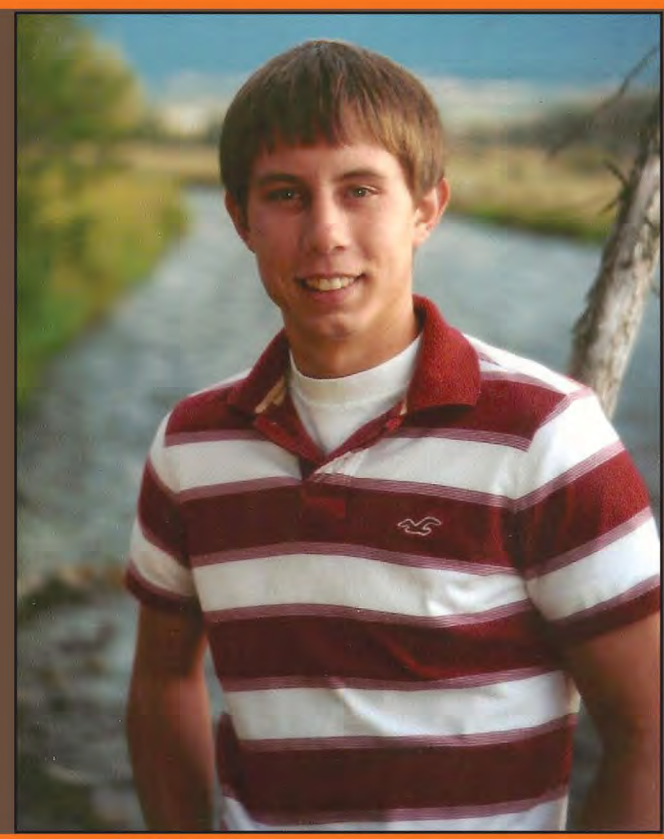
ABOVE: Free Fish day at Morgan Lake participants with their fish, June 11, 2011.

ABOVE: Leigh Collins speaks with campers at Wallowa Lake State Park about water quality, July 20, 2011.

ABOVE: An artist has fun with fish printing at Morgan Lake.

Scholarship Winners to Attend OSU

Scott DelCurto and Kyle Stangel



LEFT: Scott DelCurto of Cove, Oregon. Photo courtesy of Tammi DelCurto.
RIGHT: Kyle Stangel of Wallowa, Oregon. Photo courtesty of Kyle Stangel.

By Leigh Collins, GRMW

In partnership with Anderson•Perry & Associates (AP), the Grande Ronde Model Watershed (GRMW) presented two scholarships this spring to students from the Grande Ronde Basin for the 2011-2012 academic year. Applicants invited to apply included high school seniors who are attending a college or university in Oregon and plan to study engineering or natural resources. The recipients of the 2011 scholarships are Scott DelCurto, a Cove High School graduate, and Kyle Stangel, an Enterprise High School graduate.

DelCurto will attend Oregon State University this fall to pursue a dual major in natural resources and general agriculture. DelCurto is a Cove native and has participated in multiple school sports, the Associated Student Body, 4-H, and Future Farmers of America. DelCurto understands the importance of natural resources, having grown up on a small ranch in Cove and worked at Cherry Crest Farms for the last two years.

"I have experienced first-hand how natural resources affect our everyday life. I hope to do my part in conserving these resources for future generations," said DelCurto.

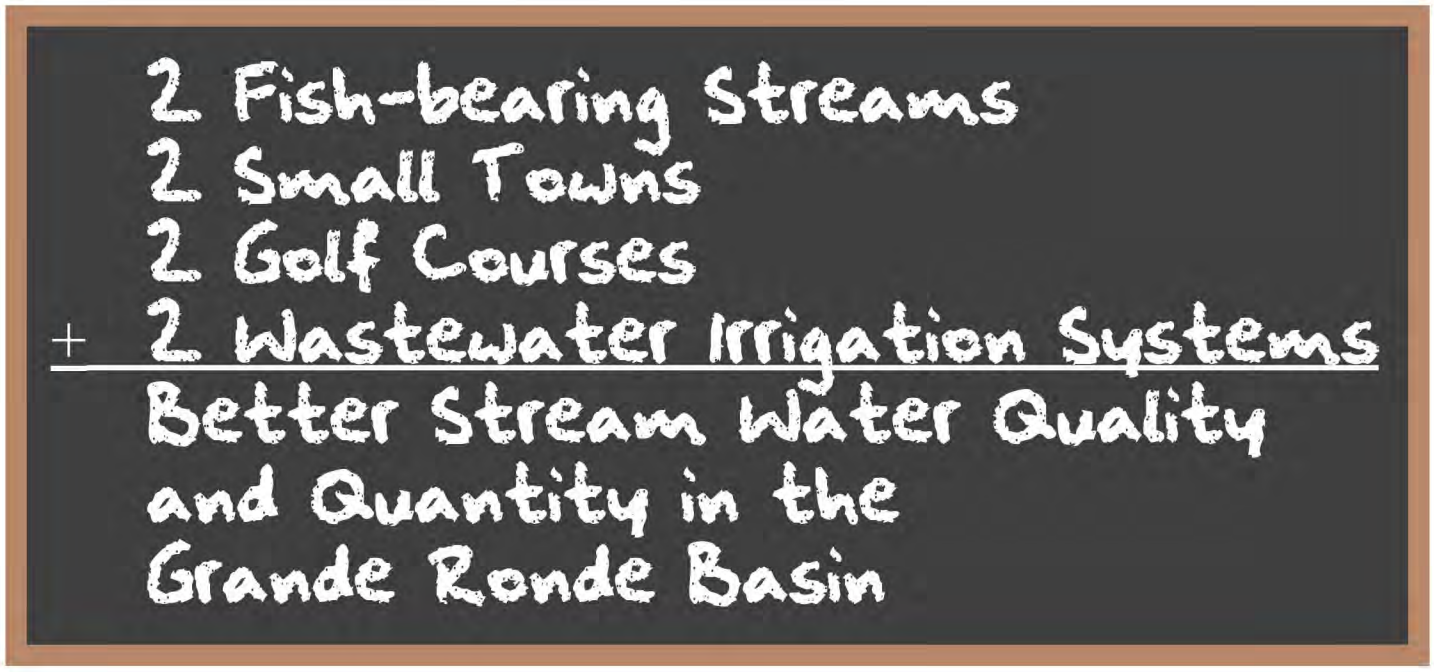
Stangel will also attend Oregon State University this fall to seek a degree in civil engineering. Stangel has been very active in the Wallowa County community, participating in numerous school-based sports, Future Farmers of America, student government, the National Honor Society, and Family, Careers and Community Leaders of America.

Stangel toured Slayden Construction and OBEC Engineering this spring and said that these visits reassured him about his choice to major in civil engineering. Stangel is planning to graduate in four years through OSU's engineering program. Stangel hopes to return to Eastern Oregon after the completion of his schooling, but he is not sure where his career may take him in the future.

The GRMW and AP are proud to contribute to Stangel and DelCurto's scholastic goals and look forward to assisting future graduates in years to come. ■

Doing the Math

by Coby Menton, Lyle Kuchenbecker, and Jeff Oveson, GRMW



Buffalo Peak Golf Course

A golf course designed and built with a special purpose in mind, the Buffalo Peak Golf Course in Union, Oregon, opened for play in September 2000 and utilizes the City of Union's treated wastewater effluent for irrigation. The Oregon Department of Environmental Quality (ODEQ), in concert with a diverse group of Union County citizens, established the Upper Grande Ronde Total Maximum Daily Load (TMDL) and Water Quality Management Plan during the same year. The TMDL essentially serves as an analysis of factors affecting water quality and establishes levels of various pollutants that can be present without violating state water quality standards. These levels often become targets, or standards, to achieve by employing specific water quality improvement actions.

The City of Union knew well in advance of the completion of the TMDL that it would result in restrictions on the discharge of treated effluent from the City of Union's wastewater treatment plant into nearby Catherine Creek, so city staff had been examining alternatives. One of these alternatives – namely, applying the treated effluent to a golf course – seemed to provide a reasonable solution. Buffalo Peak became one of more than 1,000 courses nationwide to employ this strategy. Buffalo Peak course Superintendent Rich Goodrick is glad to have the effluent for irrigation, but he also has to deal with a number of regulations regarding the application of this water. Because the treated effluent cannot be applied within 70 feet of neighboring private property nor within 70 feet of "fresh water," about 75 of the total 100 acres of the golf course are irrigated with treated effluent. The remaining 25 acres are irrigated with water directly from Catherine Creek, which arrives via a small ditch running through the lower end of the course from north to south.

During the water year from October 2009 through September 2010, the City of Union pumped 18,723,000 gallons of treated effluent to Buffalo Peak, or more than 206 million gallons over the 11-year-old project. This water neither contributed to water quality problems in Catherine Creek nor came from Catherine Creek or Union's domestic supply wells, a tremendous environmental benefit to a river that is challenged with both water quality and low flow issues.

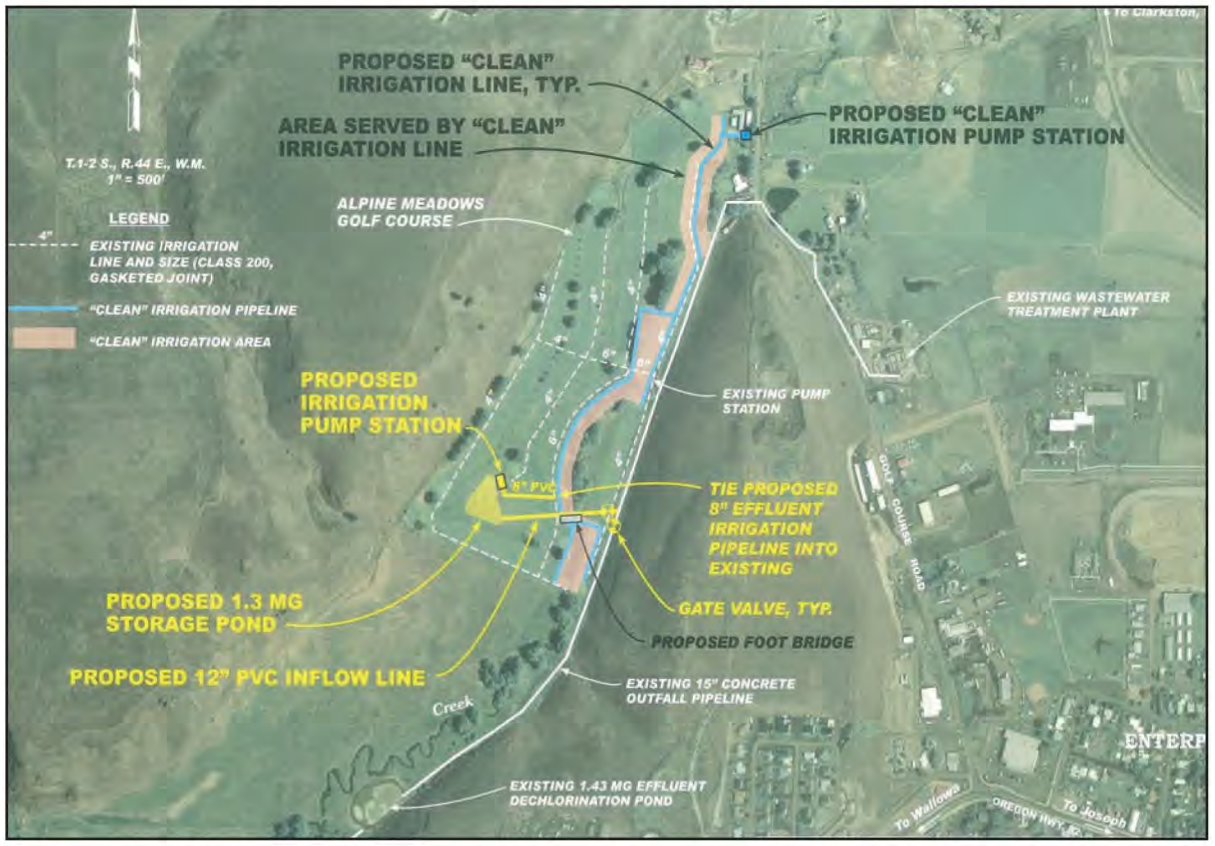
People unfamiliar with the application of treated effluent sometimes wonder if there are challenges associated with different nutrient levels or disease from the use of treated effluent. According to Goodrick, the golf course actually has more fungus-related disease problems where Catherine Creek water is applied than in the areas irrigated with treated effluent.

Ownership of the golf course has changed hands from the City of Union to Union County, but Goodrick has been aboard since the beginning and has been able to watch the development of both the course and the irrigation system. "It does what it's supposed to do," said Goodrick, "although the thing that affects us most is some of the marginal areas we're trying to irrigate." These are areas that were not originally part of the course fairways, many of which have been broadened to accommodate golfers with a tendency to hit golf balls somewhere other than right down the middle. There are times when, according to Goodrick, Buffalo Peak "has to put [the treated effluent] somewhere when I don't need it." Too much rain combined with too much treated effluent sometimes means spots on the course get more irrigation than they need. It's really just small-scale agriculture with a different objective that shares many of the same challenges as commercial agriculture. Irrigation, pests, disease, weather, and mechanical malfunctions all play a role, but farmers usually do not have to worry about 100 people showing up on a given day to inspect their fields.

Alpine Meadows Golf Course

Trout Creek, a small tributary to the Wallowa River, is like many small streams in eastern Oregon. Steelhead spawn and rear in it, and juvenile Chinook salmon rear in the lower reaches near its confluence with the Wallowa. Unlike most small streams, Trout Creek also courses through Alpine Meadows Golf Course, a 9-hole municipal course, the only one in Wallowa County.

Since the mid-1930s, Alpine Meadows has been irrigated with water from Trout Creek, first with flood irrigation and later with sprinklers, but that is all about to change. A partnership between the City of



ABOVE: Conceptual design plan for the Alpine Meadows Golf Course in Enterprise, Oregon. Image courtesy Adnerson•Perry and Associates, Inc., of La Grande, Oregon.

Enterprise, Alpine Meadows Golf Club, Bonneville Power Administration's Fish and Wildlife Program, and Grande Ronde Model Watershed will begin construction on a project designed by Chas Hutchins, an engineer with Anderson•Perry & Associates. This project will take advantage of the new wastewater treatment facility designed by Troy Baker, another Anderson•Perry engineer, and built for Enterprise in 2009. The golf course project will utilize the treated effluent for irrigation on the golf course, leaving valuable fresh water in Trout Creek for fish and wildlife. It will also eliminate the need for annual in-stream maintenance near the present pump station that adds sediment and impairs fish passage. The outcome? More and cleaner water in Trout Creek, a green golf course, and less treated effluent flowing into the Wallowa River. Oh, and a pond to make golf "much more interesting," in the words of Gregg Sturtevant, Alpine Meadows Golf Course superintendent. It should be noted that Sturtevant is fully aware that golf balls do not float, but that the Alpine Meadows pro shop does sell new golf balls.

The project itself is fairly simple. Actions include excavating a new pond to hold the treated effluent, which will be diverted from the existing pipeline that presently runs underground parallel to the course on its way to the Wallowa River. A new pump station will be built and connected to the existing irrigation system (with some modifications), the old pump station will be removed, a new footbridge will support the pipeline transporting the effluent to the pond, and a small freshwater system will be installed adjacent to Trout Creek, where use of the treated effluent is prohibited by Oregon DEQ regulation.

Sturtevant will manage the project while utilizing the volunteer efforts of club members and staff. Sturtevant takes a holistic view of the project; he said, "If we can improve stream banks, improve flow, and make conditions better for fish and wildlife while maintaining the golf course, then we're all better off in the long run." Another benefit Sturtevant sees is less maintenance. "Using a clean water source means less maintenance on our irrigation," Sturtevant said. "Trout Creek water contains sediment that wears out both pumps and sprinklers." The project will be under construction this fall and is slated to be completed in 2012. ■

Spring Chinook Salmon Spawning in a Stream Near You

by Joseph Feldhaus, ODFW

Fisheries biologists with the Oregon Department of Fish and Wildlife (ODFW), the Confederated Tribes of the Umatilla Indian Reservation, and the Nez Perce Tribe have been out walking streams looking for Chinook salmon and counting salmon redds, which are pockets of gravel where Chinook lay their eggs. These salmon counts occur every year from mid-August to mid-September. In the Upper Grande Ronde River Basin, biologists complete one survey a year in the Grande Ronde River above Starkey store, Catherine Creek, Lookingglass Creek, Bear Creek, the Lostine River, and the Wallowa River between Joseph and Enterprise. In the Imnaha River, biologists survey 32 river miles once a week from August 25th to September 8th between Freezeout Creek and Blue Hole. Biologists also complete surveys in the Minam and Wenaha rivers. These annual surveys provide the baseline data that biologists use to monitor the size and health of the local spring Chinook salmon returns.

The biologists who complete these surveys would like to say "thank you" to the many landowners who have graciously allowed them access to streams for the annual Chinook surveys. If you have any questions about the Chinook surveys, contact Joseph Feldhaus (ODFW) at 541.962.3724 (joseph.feldhaus@state.or.us). Results from this year's surveys will be included in a future issue of the Ripples.

Survey Dates

September 6: Grande Ronde River, Minam River Fly In, and Wenaha River pack trip

September 7: Catherine Creek and Wenaha River pack trip

September 8: Imnaha River and Wenaha River pack trip

September 9: Lostine River and Wenaha River pack trip

September 12: Wallowa River and Hurricane Creek

September 13: Big Sheep Creek and Lick Creek

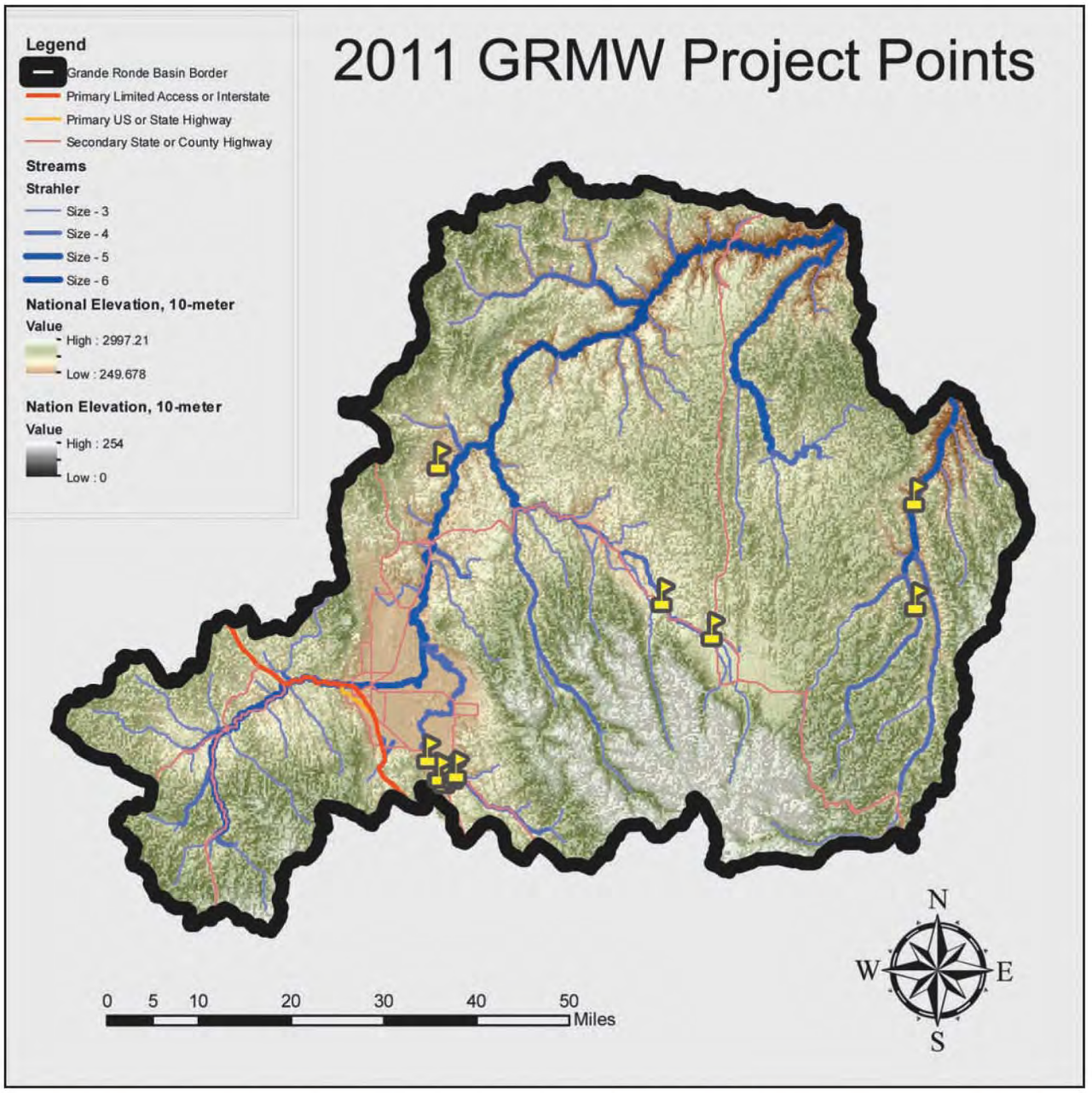
September 14: Catherine Creek

September 15: Wenaga River Day trip

September 19: Lostine River

An Update on Active GRMW Projects

By Coby Menton and Lyle Kuchenbecker, GRMW
Map by Mason Bailie, GRMW



Catherine Creek Davis Dam Fish Passage

The project involves the reconstruction of two irrigation diversion dams and installation of fish ladders on Catherine Creek at the Upper and Lower Davis Dams. The construction contract was awarded to Mike Becker General Contractor. Work began in early August 2011 and is expected to be completed in November.

Cost: $1,700,000

Catherine Creek Godley Diversion Fish Passage

The project involves the installation of a fish ladder on the Godley Diversion on Catherine Creek in the City of Union. Additional work includes modifications to the diversion structure and streambed stabilization work. The construction contract was awarded to Gyllenberg Construction. Work began in early August 2011 and will be completed in early September.

Cost: $60,000

North Fork Cabin Creek Culvert Replacements

The project involves the replacement of three culverts that are barriers to fish passage on the North Fork Cabin Creek. The culverts at two of the sites were replaced with bridges by the Union County Public Works Department in 2010. The construction contract for the third site was awarded to Iron Triangle LLC. Work will begin in early September 2011.

Cost: $76,000

Trout Creek/Alpine Meadows Irrigation and Habitat Improvement

This project involves improving water quality and quantity in Trout Creek, a tributary to the Wallowa River near Enterprise, Oregon. Treated wastewater effluent from the City of Enterprise will be used to irrigate the Alpine Meadows Golf Course in place of surface water from Trout Creek. Golf course staff, volunteers, and specialty subcontractors will complete construction. Work will begin in the fall of 2011, and the project will be completed in the summer of 2012.

Cost is $277,000.

Wallowa River/Cross Country Canal Diversion Structure Replacement

The project involves the reconstruction of an irrigation diversion and headgate structure on the Wallowa River near Lostine. Large woody material and rock cross-vanes will be installed to improve habitat and fish passage conditions. The construction contract was awarded to Partney Construction based in La Grande, Oregon. Work began in late July and will be completed in November 2011.

Cost: $199,000

Big Sheep/Buhler Diversion Structure Replacement

This project involves the reconstruction of an irrigation diversion and headgate structure on Big Sheep Creek near Imnaha. Large woody material and rock cross-vanes will be installed to improve habitat and fish passage conditions. The construction contract was awarded to Henderson Logging based in Wallowa, Oregon. Work began in late July and will be completed in November 2011.

Cost: $68,000

Imnaha River/Marr Habitat Improvement Project

This project involves fish habitat improvement along a severely eroding bank of the Imnaha River downstream of Imnaha. Bank-stabilizing logs, engineered log jams, and streamside planting will provide improved habitat in the project area. The construction contract was awarded to Steve Lindley Contracting based in Union, Oregon. Work will begin in September and will be completed in November 2011.

Cost: $77,000.

Little Creek E. Bryan Street Culvert Replacement

The project involves the replacement of a culvert on Little Creek in the City of Union. The existing culvert frequently plugs with ice and debris, which causes out-of-channel flooding and fish mortality. The culvert will be replaced with a bridge constructed by the Union County Public Works Department with assistance from the City of Union. Work will be completed in late-September and early October 2011.

Cost: $133,000

Meet the Intern

Tessa Hanson

by Jeff Oveson, GRMW
Profile photo by GRMW staff

For the past summer, Tessa Hanson's official title has been "Biological Science Technician." As a seasonal employee in the Bureau of Reclamation's Student Temporary Employment Program (STEP), Tessa has been stationed at the Grande Ronde Model Watershed (GRMW) and worked with a wide variety of partners. Before the advent of so many official-sounding job titles, Tessa would have been called a summer intern. Among her responsibilities, Tessa has been taking flow measurements on Little Creek in Union County, working with private landowners to gain access for surveyors and a variety of scientists who are working on the Catherine Creek Tributary Assessment, and participating in fish salvage operations to remove and relocate fish around ongoing stream restoration projects.

Tessa was raised in La Grande after her parents, Mari and Mark, moved from Denver when she was a first grader. Mari is a Kindergarten Aid at Central Elementary, and Mark recently joined the Army Corps of Engineers after 10 years working with the Oregon Department of Transportation as an engineer.

Having just finished her sophomore year at Oregon State University (OSU), Tessa is excited about being a student in the relatively new Ecological Engineering program at OSU, a program designed to teach engineering from an ecological systems perspective. She likes that the OSU administration takes student input to heart in designing curricula that ensure students will meet their educational objectives, including curricula in watershed restoration and alternative fuels. Her interest in watershed restoration and biology led her to apply for the summer job with the Bureau of Reclamation, hoping that she could get a first-hand look at watershed restoration in action.

One of the surprises for Tessa has been the involvement of so many partners in watershed restoration, including federal and state agencies, tribes, local groups like the Union Soil and Water Conservation District, and the GRMW. It's not unusual that she would be surprised; she works from the GRMW (a private non-profit) office for the Bureau of Reclamation (a federal agency) alongside another STEP employee, James Agren, who works for Bureau of Reclamation out of the Union Soil and Water Conservation District office, both of whom often coordinate their work with Oregon Department of Fish and Wildlife employees.

The two months on the job have given Tessa some perspective on the big picture. "The key to successful watershed restoration is the private landowner," Tessa said. "For all the organizations and agencies that participate in watershed restoration, a project is within their scope of work, but for landowners, a project is often in addition to their already busy lives. Truly successful restoration projects restore watersheds and benefit landowners at the same time."

Fall term at OSU begins the third week of September. Does Tessa plan to stay in the Ecological Engineering program? "Yes," she said, "but I'm not certain what I want to do after I graduate, although I am interested in sustainable architecture and conservation biology." Tessa adds that the summer's work has more or less cemented her desire to work in some ecology-related field and validated her choice of curriculum. As for many college students, work experience and exposure to heretofore unfamiliar disciplines can be a game-changer.

Fish Online!

www.grmw.org

- Education activities and resources
- Guidelines for project proposals
- Project information databases
- Meetings, activities, and events
- Past issues of *Ripples* and more!
- For real-time stream flow data, visit:

http://apps.wrd.state.or.us/apps/sw/hydro_near_real_time/

Grande Ronde Model Watershed

Upcoming Board Meetings

The public is welcome to attend

- **Tuesday, September 27: 5:00 p.m.**
  Elgin Community Center
  260 North 10th Street
  Elgin, Oregon

- **Annual Planning Session**
  December 6
  9:00 a.m. - 3:00 p.m.
  Ascension School Conference Room
  1006 Church Street
  Cove, Oregon

Meeting dates are subject to change. Please call 541.663.0570 to confirm. Thank you!

From the Archives

Union, Oregon

compiled by Heather Hall, GRMW

ABOVE: The Union Country Museum in Union, Oregon.
Image courtesy Finetooth, Wikimedia Commons

The first permanent settlement in the city known as Union was established in 1864. Conrad Miller is said to be the first person to build a home there. Bringing apple and pear trees from Vancouver, Washington, he established one of the first nurseries in the Grande Ronde Valley. Because of the beauty of the valley and its abundance of natural resources, many settlers followed. Many of the early cabins were built with logs harvested from along the banks of Catherine Creek.

A post office was established in 1864 in a store owned by J. Chapman. A hotel, school, and several churches followed.

At one time, Union was the main freight transfer station for shipments to the mining operations in Baker County. Many of the early Union settlers made their living by hauling supplies with their teams of oxen and horses.

Today, Union is still a small, charming town of approximately 2,000 residents. Catherine Creek State Park, located approximately eight miles southeast of Union, is a local attraction and keeps visitors coming year around.

Our Mission

The mission of the Board of Directors of the GRMW is to develop and oversee the implementation, maintenance, and monitoring of coordinated resource management that will enhance the natural resources of the Grande Ronde River Basin.

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Grande Ronde Model Watershed

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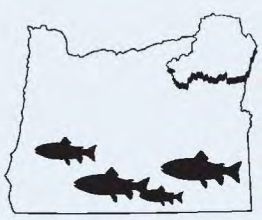

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