# GRANDE RON



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

**▼**imilar to many stream channels in the Upper Grande Ronde River sub-basin, fish habitat in Limber Jim Creek was in a compromised state due to past management activities, including historic timber harvest, grazing, road-building,

## LIMBER CREEK Restoring Natural Processes

by Sarah Brandy, U.S. Forest Service

mainstem Limber Iim Creek had partially fallen Additionally, down. the sub-watershed had roads located in streambottom areas, which were closed to traffic but caused drainage issues and sediment input to stream channels.

beaver-trapping, and mining. These management activities diminished streamside stands of large trees that can be naturally recruited into the channel and floodplain, reducing the health and vigor of riparian vegetation, hydrologic function, and channel processes.

Habitat in Limber Jim Creek and its north and south forks is spawning, rearing, and designated critical habitat for Endangered

Species Act-listed threatened Snake River summer steelhead and spring Chinook. It also is foraging, migration, overwintering, spawning, rearing, and designated critical habitat for threatened Columbia River Basin bull trout as well as spawning and rearing habitat for redband trout, which are on the U.S. Forest Service (USFS) Regional Forester's Sensitive Species List.

Before the project, the condition of Limber Jim Creek, its tributaries, and associated floodplain was characterized by riparian vegetation dominated by sedge, rush, lodgepole pine, and alder. There were three culverts, one on mainstem Limber Jim, one on South Fork, and one on North Fork, that were barriers to fish passage at some flow levels and life stages of fish. Existing mining claims and dispersed recreation use that affected habitat were present in and near the channel. Two big game exclosures on

Pre-project instream habitat surveys found low amounts of large wood, and the wood that did exist was rapidly decaying "legacy wood" (an observed lack of any newly recruited wood). Limber Jim Creek also exhibited a low quantity and quality of pools and a high overall widthto-depth ratio. In addition, observations of the channel, floodplain, and wet meadow habitat showed that the channel was downcut, and these areas had lost connection to the floodplain and associated seasonal



Water impounded upstream of the new channel-spanning structure (courtesy of Joe Platz).

conditions.

Like many other early restoration efforts in the area, single sill logs and two log V weirs were placed in the stream between the late 1980s and early 1990s in an attempt to improve pool habitat. Similar to these methods applied elsewhere, attempted improvements in Limber Jim Creek produced limited results. In some locations, sill logs forced flow around the edges of the log located perpendicular to the stream, which eroded streambanks and widened the channel. In other areas, a limited amount of scour developed downstream of the structure, creating small pools that had no cover.

#### Rehabilitating Limber Jim

While planning and developing the latest Limber Jim Creek restoration project, USFS aquatic restoration specialist Joe Platz, who has been the lead at the La Grande Ranger District for almost a decade, took a watershed approach in identifying all limiting factors in the Limber Jim sub-watershed. Limber Jim Creek is in a Biologically Significant Reach that ranked as Tier II/medium-priority area by the Grande Ronde Model Watershed (GRMW) Atlas process, a process that identified and prioritized habitat restoration needs in the entire Grande Ronde River Basin. This ranking was based primarily on fish periodicity and fish life stage utilization by the scientific panel. After the GRMW implementation team reviewed and recommended that projects in Limber Jim Creek move forward, the USFS developed a proposal for funding for many important restorative actions to address issues with hydrology, habitat, roads, and riparian vegetation



BEFORE: Culvert before replacement (courtesy of Sarah Brandy).

flooding that would be expected during spring snowmelt and runoff and eliminate impacts to the stream and floodplain from recreation

The area where instream and floodplain restoration work in Limber Jim Creek occurred in 2017 is characterized as a low-gradient meadow system. The main objective of instream work was to improve the physical functionality of the wet meadow floodplain areas that had lost connection to the adjacent floodplain, which affected floodplain inundation, the water table, and wetland water storage.

One major objective that emerged during the planning phase of the Limber Jim Creek restoration was to restore the hydraulic grade of the system and reestablish the hydraulic connection to the historic floodplain. To achieve this objective, channel-spanning structures were designed using large wood and small-diameter racking material to achieve the same effect as a beaver dam in a meadow system. The goals of using this technique were to improve floodplain connection by impounding water, buffer winter and summer water temperatures, and slow channel velocity during run off.

Tried-and-true activities known to restore physical and biological stream processes were implemented. These strategies included removing and re-contouring one mile of stream-bottom road; replacing two culverts that were preventing fish passage and removing one culvert on a closed road; improving fish passage to eight miles of upstream habitat; constructing large wood structures over 3.2 miles of stream and adjacent floodplain; planting seedlings and cuttings along two miles of stream; reconstructing three elk exclosures; and placing boulders to limit streamside recreation vehicle access.



AFTER: The project replaced the culvert with a concrete bridge. The channel through the bridge simulates natural stream width and gradient (courtesy of Joe Platz).



Although placing wood in the stream for restoration is not a new method, Platz said that using smaller-diameter large trees and large quantities of smaller slash was a unique way to create the loose "seal" of these structures that simulates the effects of a beaver dam in backing up water, which in many cases produced immediate results. Platz used a total of 1,700 trees over the 3.2-mile area targeted for instream restoration. Each site involving installation of channel-spanning structures required two dump-truck loads of slash as racking material and larger trees with rootwads for ballast weight to loosely seal the structures so that water would back up behind these structures. An immediate effect of some of these structures was an increased wetted width and an increased pool depth of the channel upstream at July/August base flows. The expected long-term effects include recruitment of wood and debris material, substrate, and fines that will build up behind these structures. These structures were not highly engineered and were not dug into banks or the stream bed. They are meant to restore natural processes, including allowing flows to move material around in the channel and settle out on meander bends and gravel bars. These natural processes ultimately will provide roughness to the channel to build the streambed back of a set-back made of boulders (courtesy of Joe Platz). up so that it is interacting with the valley-bottom meadows and floodplain.

latz discussed two concerns while on site during the field review of instream activities: 1) are channel-spanning structures affecting fish passage at any life stage? and 2) will channel avulsions occur around constructed structures? Initial observations found juvenile and resident fish moving through restored areas even at base flows. Members of the GRMW partnership, including Tim Bailey with the Oregon Department of Fish and Wildlife, thought that adult steelhead returning to tributaries like Limber Jim Creek to spawn in the spring would not have an issue migrating through these areas at higher spring flows. In addition, the racking material that consists of branches and green needles will break down, and flow will move through or around structures to provide for upstream and downstream migration of juveniles and resident fish. To address the second question, Platz placed more trees than initially planned on the floodplain in areas where an avulsion could occur. These additional trees increased the roughness of the floodplain and were placed where they could slow and back water during spring runoff, when the potential for high flows could cause erosion and potentially cut new channels. During follow-up visits, the team also discussed that channel avulsions within the floodplain would not be considered a failure of restoration efforts because they could

Physical and biological responses to this instream restoration work will be monitored. A similar design with



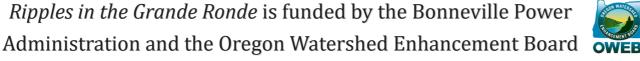
BEFORE: A view of access to a dispersered campsite before installation



cause channel braiding, which would add channel complexity. AFTER: Boulders and trees used to set back recreational vehicle access and protect the stream bank (courtesy of Joe Platz).

Continued on page 8, LIMBER JIM











# RESTORING FISH HABITAT AND PROTECTING FARM FUTURES

by Jessica Humphreys, The Freshwater Trust

If you have traveled Highway 82 between Wallowa and Lostine during the past year, then you've probably noticed some significant changes happening across hundreds of acres of roadside fields. Miles of trenches have been dug and 16 pivots have been constructed as part of a large-scale

water efficiency project on the Wolfe Family Farm. Completed in December 2017, this project is part of an even broader effort in the Grande Ronde River Basin to improve habitat for native Chinook and steelhead populations while maintaining the productivity of working lands. As early adopters of conservation programs, Woody and Megan Wolfe have worked with many local restoration partners. including The Wallowa Land Trust and the Nez Perce Tribe, to enhance conditions for native wildlife on their property. The Lostine River

Conservation Project is their most recent conservation effort and was accomplished in partnership with the Oregon Water Resources Department (OWRD), The Freshwater Trust, The Columbia Basin Water Transaction Program, and the Nez Perce Tribe.

The Lostine River is a snowmelt-dominated system, with peak flows occurring in June and July and then declining precipitously starting in early August. Natural low flows coupled with significant irrigation withdrawals and diversion structures have created sometimesimpassable conditions for Chinook during August and September. Since the early 2000s, the Lostine River has been the focus of efforts to increase late-season flows to facilitate passage of migrating Chinook. In 2016, The Freshwater Trust was awarded a \$1.49 million grant from OWRD to support the conversion of 872 acres of predominantly flood-irrigated land to a pressurized pivot sprinkler system on the Wolfe Family Farm. This conversion increased irrigation efficiency, agricultural production, and instream flows for Endangered Species Act-listed fish species in the Lostine River. The landowners contributed significant financial and in-kind support to match the grant funds, including excavating and installing more than 30,000 feet of mainline to serve the new pivots. The Wolfe family also worked with the Columbia Basin Water Transaction Program and The Freshwater Trust to permanently protect a portion of the conserved water instream and temporarily transfer some of their late-season



New pivot on the Wolfe Farm, July 2017 (courtesy of Jessica Humphreys).



water during the 2016 and 2017 irrigation seasons. By engaging in water transfer and leasing programs, the landowners were able to help finance portions of the project not covered by the OWRD grant.

As a result of the Lostine River Conservation Project, 3.8 million gallons of water were conserved, resulting in 6.6 cubic feet per second in the Lostine River and more than 60 acres of previously unirrigated land receiving water rights for new production. In order to facilitate the transfer of conserved water instream and to new farm acres, the project utilized Oregon's conserved water statute, which was passed in 1987. OWRD states that the intent of the statute is "to promote the efficient utilization of water to satisfy current and future needs both out-of-stream and instream. The statues define 'efficient utilization' as use without waste, upgrading of irrigation equipment to comply with modern irrigation practices, or other methods used to meet both current and future water needs at the least cost." The multi-faceted approach of the Lostine River Conservation Project effectively used the statute and public funding sources to facilitate habitat restoration that, while occurring on private land, has significant public benefit. In addition to the conserved water, formerly flood-irrigated acres that could not use pivot irrigation were converted to wildlife habitat, and the water rights will be transferred instream. In combination with the



Excavated trench for mainline, April 2017 (courtesy of Aaron Maxwell).



The Wolfe Family Farm (courtesy of Jessica Humphreys).

conserved water and a downstream point of diversion associated with the project, this land conversion effort will result in the protection of up to 11 cubic feet per second flow in the river for the benefit of aquatic species.

his project builds on the innovative conservation work that has already taken place on the Wolfe Family Farm. Past projects include an easement with the Wallowa Land Trust that protects 463 acres of land and 3.5 miles of the Lostine and Wallowa Rivers and provides a separate three-acre easement allowing the Nez Perce Tribe to operate a fish weir on the Lostine River. Since 2000, the Nez Perce Tribe has invested tens of millions of dollars in restoring the Chinook run on the Lostine River. The weir and associated facilities established by the Bonneville Power Administration by a perpetual easement on three acres owned by the Wolfe Ranch have been essential to their efforts. The section of the Lostine River that flows below the weir provides for a significant tribal fishery. All spring Chinook harvested by tribal fisherman on the Lostine River comes exclusively from this section of the river. By improving habitat conditions for Chinook and steelhead in this critical area, the project helped ensure that a culturally and economically significant tribal fishery remains viable.

As sixth-generation Wallowa County farmers who depend on the land for their livelihood, Woody and Megan Wolfe are continuously looking to the future. By investing in irrigation infrastructure upgrades in combination with innovative grazing, cover cropping, and crop rotation techniques, the Wolfe Ranch is improving production, building resiliency, and promoting sustainable farming for generations to come. The Lostine River Conservation Project demonstrates that it is possible to engage in conservation without jeopardizing the integrity of agricultural production that is the backbone of rural communities.







# MEET THE BOARD: Larry Cribbs by Jeff Oveson, GRMW

The son and grandson of loggers with uncles and cousins who also were loggers, Larry Cribbs' life in the woods was seemingly preordained. Born in Salem during World War II when most hospitals were commandeered to serve wounded soldiers. Larry's mother gave birth in a private home that had been converted into a maternity ward. There were a number of these homes in a neighborhood near the Oregon State Capitol that were used to take care of civilians who required the services of a hospital. A sister, Sharon, was born a couple of years later, and the family moved to Enterprise when Larry was 8 years old. He spent a lot of his childhood in the woods with his family, scrapping around on the logging jobs in which his father was employed or hunting and fishing.

Larry moved to La Grande with his mother and sister in 1958, where he graduated from high school in 1960. During that time, Larry spent most weekends and summers in the Wallowa County woods, but he often went to Union after school to drive a D8 Cat while cleaning up the log yard at the mill owned by Pat Hoffman.

Following high school, Larry enrolled in Eastern Oregon College, where one of his projects included planting some of the trees that are still standing on the hill just north of Inlow Hall as well as trees that were later removed for the construction of the Hoke Union Building in the heart of what is now the Eastern Oregon University campus. It seems that if he couldn't be in the woods, then he would bring the woods to him.

Two key components of Larry's makeup, guns and the woods, have been part of his life since early childhood and are hard-wired into his being. Even the way he says "the woods" tells you something about him and his connection to the places where he has worked

and wandered throughout the majority of his 75 years. He has lived in Union County for a long time, but his heart might still be in Wallowa

County. For Larry and his wife, Shirley, there just is no place like Wallowa County.

Larry explains that when he was growing up, being able to repair your tools was an essential part of ownership, saying, "If you couldn't fix them, you couldn't use them." Larry evolved well beyond being able to fix his own guns. He has been a master gunsmith for many years, building rifles that have earned their shooters eight of the 10 national records for accuracy. Two of those records still belong to marksmen who were shooting guns Larry built for them. Larry's philosophy is reflected in the quality of the firearms he builds; "attention to detail" is his motto.



Larry in his shop with his dog, Brody (courtesy Alex Borgerding).

Larry served in the U.S. Army and then returned to the woods of Wallowa County to build roads and drive a logging truck. He worked for a number of logging outfits and, at one point, lived with three other young loggers in Pendleton, closer to the job they were working. It was there, by fortunate happenstance, that Larry met Shirley, a young Native American woman raised on the Umatilla Indian Reservation. Shirley would become his wife and the mother of their two sons, Chris and Mike. They still tromp around in the woods together in their fiftieth year of marriage.

Larry bought his own logging truck in 1969. I queried him about the risk involved, and Larry was matter-of-fact, saying, "All you had to do was stay fairly sober and show up for work." He added that he and most of his fellow owner-operators considered themselves professionals. They took good care of their trucks, they showed up when and where they were supposed to, and they made a decent living. He rattled off the names of a number of truck drivers I recognized from my boyhood, all friends and colleagues he respected.

Spring breakup, when the woods are too wet and soft for logging, happens every year. Larry said it used to last about five months, so he would take his truck out on the road, hauling freight all over the place. It was during one of these long trips, far away from Shirley and the boys, when he got out of his truck in San Diego and called home. Both boys had activities that day, and he was disappointed not to be there, so he drove back to Eastern Oregon, sold his truck, and became a partner in Round Up Truck Sales in Pendleton. He was there for six years until he grew tired of the commute from La Grande and joined Eagle Truck and Machine. He would work there for 30 years, spending much of that time managing their shops in La Grande and Hermiston.

Larry had a sideline as well, publishing *Everyone's Outdoors*, a magazine advocating multiple uses of natural resources. "Consider that we grew up in the natural resource industries," said Larry. "We looked at the world around us and knew we were building something for the future. We saw schools,



# A Year in Review fiscal year 2017 GRMW projects

This article provides snapshot descriptions of most of the projects (GRMW) 2017 fiscal year. The projects outlined here required a high level of collaboration across state, federal, tribal, and non-governmental organization lines, so we want to thank our project partners. These entities or individuals have invested vast amounts of time, money, and resources to ensure the success of these endeavors. Also, we would like to thank our regulatory partners: the National Marine Fisheries Service (NMFS), U.S. Army Corps of Engineers, Oregon Department of State Lands, State Historic Preservation Office, Oregon Department of Environmental Quality, Nez Perce Tribal (NPT) Historic Preservation Office, Umatilla Tribal Historic Preservation Office, U.S. Fish & Wildlife Service, Union County Planning Department, Wallowa County Planning Department, and Oregon Department of Fish & Wildlife (ODFW) Fish Passage. Ideally, we would like to recognize everyone involved in making these projects a reality (the list would stretch far too long to include here), but you know who you are. Thank you for your time, diligence, and support in bringing these undertakings to life. These projects are at the heart of what we do at the GRMW, illustrating the commitment of all of our partners to keeping our watershed healthy and improving our surroundings for generations to come.

**Bird Track Springs**: Located along a two-mile reach of the Upper Grande Ronde River, the restoration plan for this project includes promoting an island-braided channel and floodplain system and enhancing groundwater and hyporheic functions that moderate and improve water quality.

Sponsored by: Confederated Tribes of the Umatilla Indian Reservation (CTUIR)

Partners: Bureau of Reclamation, U.S. Forest Service (USFS), GRMW, Natural Resources Conservation Service (NRCS), Jordan Creek Ranch, Oregon Watershed Enhancement Board (OWEB), Oregon Department of Transportation, Bonneville Power Administration (BPA)

Status: Funding secured; construction begins in summer 2018

**Lostine River Tulley-Hill**: The Tulley-Hill ditch diversion did not meet fish passage criteria as currently applied by the ODFW and NMFS for Endangered Species Act-listed fish, including Chinook salmon, steelhead trout, and bull trout as well as several other aquatic species. This project has converted the existing structure to a roughened channel diversion and fishway restoring access to 29 miles of habitat upstream.

*Sponsored by*: NPT

Partners: GRMW, ODFW, Wolfe Ranch, BPA, OWEB, Perry Johnston

Status: Complete

Five Points Phase III: Five Points Creek provides spawning and rearing habitat for Snake River Basin summer steelhead and redband trout as well as critical habitat for bull trout. Historic timber harvest. railroad grade, and road construction had removed larger conifers from the valley bottom, reducing future recruitment of large wood into the stream. Historic grazing also had caused impacts to the riparian area. This project has improved the riparian area and increased wood in the stream through planting and large wood additions, creating potential rearing habitat for spring Chinook.

Sponsored by: USFS Partners: GRMW, BPA Status: Complete

Limber Jim Habitat Restoration (see front page for more **information**): The Limber Jim Creek Restoration Project is located in the Upper Grande Ronde River. Limber Jim Creek is spawning and rearing habitat for Snake River Basin Chinook salmon, summer steelhead, bull trout, and redband trout. The project placed wood within two miles of Limber Jim Creek, partially removed six sill logs, removed one culvert, re-contoured 0.82 miles of closed road, reconstructed three elk exclosures, and controlled access to three dispersed recreation areas. Approximately 4,500 deciduous seedlings, 15,000 conifer seedlings, and 15,000 deciduous cuttings were planted within the project area.

Sponsored by: USFS Partners: GRMW, BPA Status: Complete

**Upper Grande Ronde Culvert Replacements**: Limber Jim, North Fork Limber Jim, and North Fork West Chicken Creeks contain culverts in severe need of replacement. This project replaced the culverts with arch pipes or concrete box culverts that are robust and fish-friendly.

Sponsored by: USFS

Partners: CTUIR, GRMW, OWEB, BPA

Status: Complete

Beaver Creek Dam Fish Passage: During the 1915 construction of the dam for the La Grande Reservoir, fish passage was not a consideration. The goal of this project was to remove fish passage barriers at five diversion structures, open approximately 12 miles of native habitat to aquatic species, and augment instream flows, while continuing to protect the City of La Grande's drinking water source.

*Sponsored by*: City of La Grande

Partners: OWEB, GRMW, OWRD, USFS, BPA

Status: Complete/ongoing (Phase I complete, Phases II and III to be

completed at a later date)

Fence Reconstruction within Grande Ronde Watershed: This project is located within the Upper Grande Ronde Watershed in Union County. There are 29 miles of livestock exclosure fencing within the watershed on USFS land that protects 21 miles of stream. This project has reconstructed those fences to exclude livestock from entering habitat for Chinook salmon, steelhead, and bull trout. There are 9.5 stream miles of pods (small exclosures that protect plantings from all ungulates) that also have been reconstructed.

Sponsored by: USFS Partners: GRMW, OWEB

Status: Complete



#### ... continued from page 3, LIMBER JIM

similar objectives is currently underway in the meadow channels of Sheep Creek and Chicken Creek in the upper Grande Ronde River. Drone flights are planned for the spring during high flows to measure areas of floodplain inundation. Stream temperatures will continue to be monitored to determine whether the expected buffering effect happens as expected floodplain functions increase. Project partners included the Confederated Tribes of the Umatilla Indian Reservation, the Bonneville Power Administration, the USFS, and the GRMW.

#### ... continued from page 6, LARRY CRIBBS

roads, jobs, healthy families, all because of natural resource utilization." Larry feels strongly that local, hands-on natural resources management has been lost to outside interests.

The Blue Mountain Natural Resources Institute (BMNRI) was yet another one of Larry's sidelines. Based on a partnership between the U.S. Forest Service, industry, and conservation groups, BMNRI was successful in developing and implementing timber harvests utilizing low-impact equipment to reduce compaction of forest soils. BMNRI was working on private and public lands until it fell victim to budget cuts and politics after a decadelong run. Larry remains understandably proud of playing a major role in the establishment of one of the first collaborative natural resources organizations in Eastern Oregon.

As BMNRI was fading, the Grande Ronde Model Watershed (GRMW) was just beginning, and Larry was there from the start. He was a key player in developing the GRMW's partnership with the Confederated Tribes of the Umatilla

Indian Reservation and worked with the commissioners from both Wallowa and Union Counties in the formation of the GRMW. Larry remains on the GRMW Board of Directors, the only member to have served from the GRMW's foundation. Larry believes that the county commissioners' active role on the GRMW Board of Directors provides a political identity and strength that would be absent without their involvement.

Larry's record of public service goes well beyond the 25 years that he has served on the GRMW Board. He's been a determined advocate and a fierce adversary, depending on where you sit at the table. ■

#### ... continued from page 7, 2017 PROJECTS

#### **Upper Grande Ronde Carcass Addition:**

Given the high potential that fish in the Upper Grande Ronde River will face food shortages, this project seeks to add steelhead carcasses to three locations in the Upper Grande Ronde River along a temperature and fish assemblage gradient. The goal of this project is to evaluate whether and to what degree carcass supplementation influences juvenile salmonids and to determine where in the basin carcass additions have the greatest effect on target species.

Sponsored by: Oregon State University

Partners: GRMW, OWEB, ODFW, Columbia River

Inter-Tribal Fish Commission *Status*: Active/ongoing

#### Whiskey Creek Courtney Restoration

**Project**: The goal of this restoration project is to restore natural processes, habitat complexity, and floodplain connectivity to improve water storage and reduce stream flows, which will improve habitat for rearing juveniles during low summer flows. The next generation of land managers on the Courtney Ranch, Kevin and Sherry Ludviksen, are very committed to enhancing and protecting fish habitat.

Sponsored by: GRMW

Partners: Union Soil and Water Conservation District, NRCS, BPA, OWEB, Kevin and Sherry Ludviksen

*Status*: Active ■

#### Grande Ronde Model Watershed UPCOMING BOARD MEETINGS

### Tuesday, March 20th, 2018 5:00 p.m.

Elgin Community Center 260 North 10th St. Elgin, OR 97827

The public is welcome to attend.

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

#### Grande Ronde Model Watershed

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