



Wheeler Soil & Water Conservation District

Annual Report

July 1, 2013 - June 30, 2014

Our Work In The Water

Instream & Irrigation Improvements

Wheeler SWCD has systematically worked to replace or repair fish passage barriers including irrigation diversions and failing culverts with either bottomless arch culverts or bridges. Culverts that are set at the wrong angle or have been allowed to scour the streambed can pose a velocity or jump barrier to juvenile and adult fish species. Installation of bridges allows for a more natural streambed to occur. Wheeler SWCD is also working to improve instream and riparian habitat. Increases in streamside vegetation provide cooling shade, food and cover for fish and wildlife.

The **Badger Creek Diversion #1** project replaced the existing diversion on Badger Creek with a pre-fabricated steel diversion with a fish passage structure that will provide fish passage to all life stages of fish. The installed design maintains a maximum pool to pool jump height of 4.5 in and a velocity through the fish passage notch of less than 2 ft/sec. The 180 ft. section between the diversion and the fish screen that was ditched was converted to flow through 18 in Hancor pipe. This will eliminate current ditch loss caused by the shallow ditch gradient, porous soils, and evaporation.

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BEFORE: Badger Creek Diversion #1



AFTER: Badger Creek Diversion #1

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Thanks to our Partners

This Annual Report of the Wheeler Soil and Water Conservation District (WSWCD) reflects activities that occurred during the fiscal year - from July 1, 2013 to June 30, 2014. In the 2013-2014 fiscal year, the Wheeler SWCD completed nineteen projects, monitored nine previously completed projects and managed another 25 projects in various stages of completion. The successful implementation of projects would not be possible without the SWCD's partners. Cash or in-kind contributions were made by the Bonneville Power Administration (BPA) in partnership with the Confederated Tribes of Warm Springs, Oregon Watershed Enhancement Board (OWEB), Oregon Department of Agriculture, Oregon State Weed Board, U.S. Fish and Wildlife Service, U.S. Forest Service, Oregon Department of Forestry, Oregon Department of Fish and Wildlife, USDA Natural Resources Conservation Service, Mid-John Day - Bridge Creek Watershed Council, Bank of Eastern Oregon, Wheeler County Schools and, of course, the cooperating landowners.



ODA Water Quality Focus Area

Agricultural water quality has long been a focus of the Oregon Department of Agriculture and the Wheeler Soil & Water Conservation District. The District has worked diligently to address water quality concerns throughout the county and beyond, including leading the landowner advisory committee to develop the Middle John Day Agricultural Water Quality Management Area Plan. In the 2013-2015 Biennium, Oregon Department of Agriculture has asked all SWCDs to concentrate restoration and tracking efforts in a “Focus Area.” A Focus Area is a relatively small watershed within the Agricultural Water Quality Management Area in which the district can concentrate time, fiscal resources work and track progress. The Wheeler SWCD chose the Mountain Creek watershed for this attention. Mountain Creek is located east of Mitchell in southern Wheeler County.

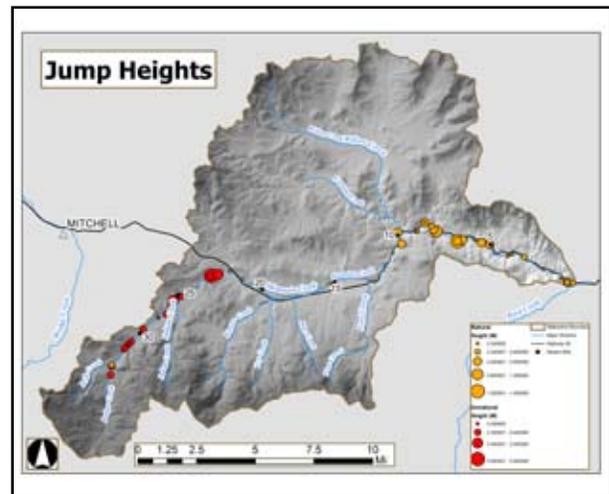
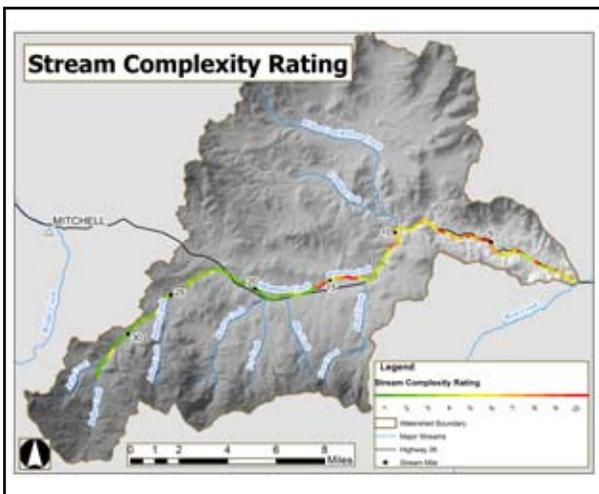
Mountain Creek has been the site of several conservation projects over the last ten years and has recently undergone an intensive evaluation process. The reach evaluation identified the severity of the limiting factors on a reach by reach basis and created an interactive GIS framework with the purpose

of improving the effectiveness of restoration work conducted within the Mountain Creek Watershed. Based upon data gathered in the reach evaluation on Mountain Creek, the Wheeler SWCD has developed an action plan of work elements that are aimed at addressing the limiting factors. The Wheeler SWCD will improve water quality by working with landowners within the watershed to remove agricultural impacts, allow riparian buffer vegetation to establish and grow, reduce stream and overland sediment flows, and improve upland forage.

When selecting Mountain Creek as the focus area, Wheeler SWCD also established measurable objectives. Those Water Quality Objectives are:

- Establish stream temperature baseline June 2013 – October 2013
- Determine stream flow baseline June 2013 – October 2013
- Increase stream flow by 10% by October 2016
- Reduce stream temperature to meet water quality standards by 2025
- Conduct annual monitoring at established site locations and revise objectives if deemed necessary by current year information
- Increase stream shading in buffer areas by 40% by 2025, with a progress update in 2019

The Oregon Department of Agriculture and Wheeler SWCD will use the measurable progress made in the Mountain Creek watershed to tell the story of agriculture and water quality, documenting the many accomplishments that agriculture has made toward meeting Oregon’s water quality goals.



The District's Board of Directors

At the January 2014 Wheeler SWCD Board meeting, Jeremiah Holmes was elected as Chairman of the Wheeler Soil & Water Conservation District. Jeremiah and his family have lived in the Spray area for six and a half years.

Wayne Lindquist was re-elected to the position of Vice-Chairman. Wayne grew up in South Dakota and moved to Wheeler County in 1995. He and his wife Peggy raise purebred Angus, purebred Charolais cattle and hay.

Matt Williams is the District's Secretary-Treasurer. He grew up in Twickenham, where he still lives and ranches today. Matt has served on the SWCD Board for 27 years.

Ted Molinari and his wife have lived outside of Fossil for the past 23 years. Ted has served on the SWCD board for 17 years.

Herb Jones has ranched east of Mitchell for 15 years. Herb has served on the Board for six years.

Jim Bob Collins ranches east of Mitchell and joined the Wheeler SWCD Board of Directors in 2011. Jim Bob's family has a long history with the Wheeler SWCD with his father and two uncles serving on the Board in the past.

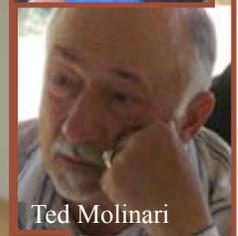
The District appreciates the service and dedication of the current Directors. Thank you for your service!



Jeremiah Holmes



Herb Jones



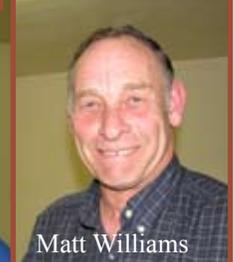
Ted Molinari



Jim Bob Collins



Wayne Lindquist



Matt Williams

Riparian Buffers in Wheeler County



Through the Conservation Reserve Enhancement Program (CREP), landowners or land managers can lease their riparian property for contract periods of 10 to 15 years and receive cost-share funding to make improvements such as tree and shrub plantings, fencing and off channel water developments.

A required component of the program is excluding livestock or any type of use for the life of the contract. Landowners are also responsible for fence maintenance and keeping weeds to a minimum within the buffer area.

The program is funded and managed by the USDA Farm Services Agency office in Condon and is facilitated by the Wheeler Soil & Water Conservation District's Conservation Specialist. Responsibilities include helping landowners navigate the program paperwork, assessing the property to see if it qualifies and writing the conservation plan.

This year 9.3 miles and 225 acres were enrolled in the program in Wheeler County. Since CREP began in Oregon, over 76.8 miles and 1,124 acres of riparian exclusion buffers have been enrolled in Wheeler County.

For more information regarding the CREP program, contact Herb Winters, WSWCD Conservation Specialist, at 541/468-2990.



Wheeler SWCD's Staff & Partners

Judy Potter serves the Wheeler Soil & Water Conservation District as the District Manager, overseeing all operational, personnel and fiscal components of the District.



Judy

inventories, developing maps, administering a weed control cost-share program and leading the invasive species education and outreach program.

Debra Bunch is the Watershed Technician for the Wheeler SWCD. Debbi serves as coordinator for the Mid-John Day-Bridge Creek Watershed Council, as well as writing grants, project management, monitoring, managing the OWEB small grant program in Wheeler County and serving as the lead for the education and outreach program.



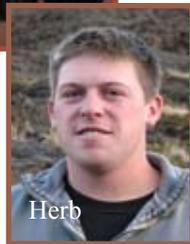
Debbi & Joan

Gabe Williams continues to contract with the District to design and implement the complex in-stream and irrigation projects.



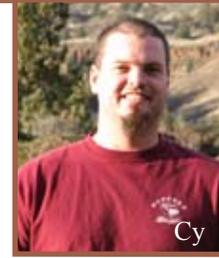
Gabe

Herb Winters is the Conservation Specialist, working with landowners to navigate the Farm Service Agency Conservation Reserve Enhancement Program. He is also the project manager for the engineered projects.



Herb

Cy Miller is the Wheeler SWCD Weed Technician. Cy is assisting landowners by conducting weed



Cy



Damon

Joan Field is the Administrative Assistant, and is responsible for WSWCD board meeting Director packets and minutes, quarterly and annual reports provided

to the Oregon Dept of Agriculture (ODA), Biennial Review and LMA oversight, and assists the District Manager and staff with a variety of 'business of the District' tasks.

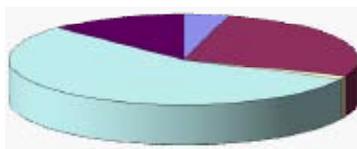
Damon Brosnan is the NRCS District Conservationist for Wheeler County. He coordinates all of the USDA programs for Wheeler County landowners.



Wheeler SWCD Financial Statement

July 1, 2013 ~ June 30, 2014

Revenues



- ODA Grants
- OWEB Grants
- USFWS/USFS Contracts
- BPA Grants
- Other/Misc Income

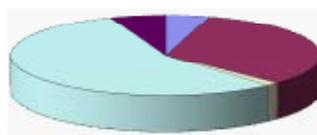
Beginning balance July 1, 2013..... \$445,856

REVENUES:

Oregon Dept of Ag Grants	\$70,930
OWEB Grants	\$445,916
USFWS/USFS/BLM Contracts	\$20,000
BPA Contracts	\$928,348
Other/Misc Income	\$219,348
TOTAL REVENUES.....	\$1,695,210

Expenses

- ODA Grants
- OWEB Grants
- USFWS/USFS Contracts
- BPA Grants
- District Operating Costs



EXPENSES:

ODA Grants	\$70,930
OWEB Grants	\$503,368
USFWS/USFS/BLM Contracts	\$20,200
BPA Contracts	\$856,786
District Operating Costs.....	\$90,037
TOTAL EXPENSES	\$1,541,321

Ending balance June 30, 2014..... \$599,745

Work In the Uplands

Upland Improvement

The Wheeler Soil & Water Conservation District works diligently in the uplands to address overall watershed health. Uplands make up about 98% of the watershed and can have a significant impact on stream function.

The **Twickenham Declining Habitat** project cut 45 acres of juniper, collected specific native seed and redistributed it to 30 new acres, and implemented a 300 acre prescribed burn.

All heavy fuels along the northern boundary of the landowner's property were removed. This was done by cutting and piling juniper and

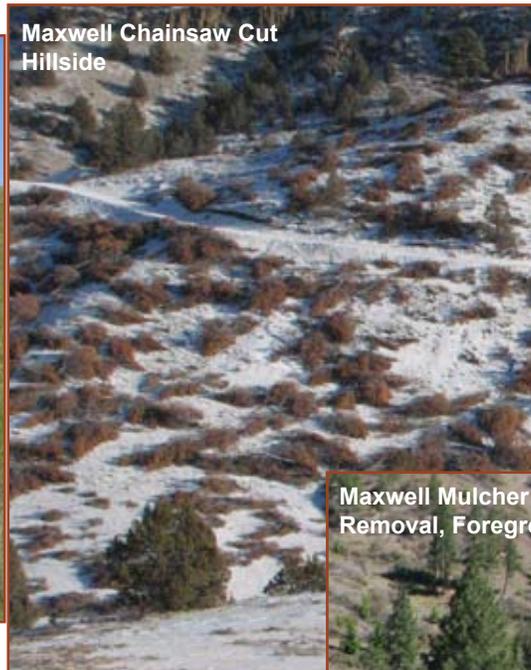
predominantly devoid of viable seed. The prescribed burn will lower the heavy fuels by removing brush and juniper. The burn also removed dead grasses and allowed for easier application of the first year of range seeding. The landowner did not graze the area for the year leading up to the burn. The area will be managed for grazing through a grazing management plan.

The **Maxwell Juniper** project removed 300 acres of western juniper in the Bridge Creek watershed. The project also treated 128 acres of noxious weeds including Medusahead, Houndstongue and Yellow Starthistle. The landowner is using a mulching head on an excavator to

grind the trees where they stand. This method reduces the need to treat downed trees by piling and burning at a later date. The mulching treatment reduces the danger posed by the high flame lengths that can be seen with whole dead trees. Some areas of this project were not accessible by the excavator due to steep hillsides. These were treated with a chainsaw and fuels generated from this activity will be addressed through prescribed burns.



Twickenham Secar Grass Stand



Maxwell Chainsaw Cut Hillside



Maxwell Mulcher Removal, Foreground

heavy brush in small burn piles that were later burned in the late fall/winter season to avoid soil damage. Part of this project was to collect specific native seed for two years and redistribute that seed over 100 acres of identified rangeland. Both hand and mechanical seed collectors were to be used to collect seed on the 13 acres identified for collection. It was planned for the seed to be cleaned and stored until the later fall/early winter. Two attempts were made to collect the Secar using both hand and mechanical methods. The year before the grant was awarded 168 pounds were collected from approximately 4 acres. This supported the seed collection estimates in the grant. However the first year of the grant (2011) yielded less than a pound of viable seed and in most areas no seed heads were observed. In 2012 the collection sites were monitored on a weekly basis for viable seed production, but no seed developed. 2013 had similar results; very few plants developed seed heads and those that did were

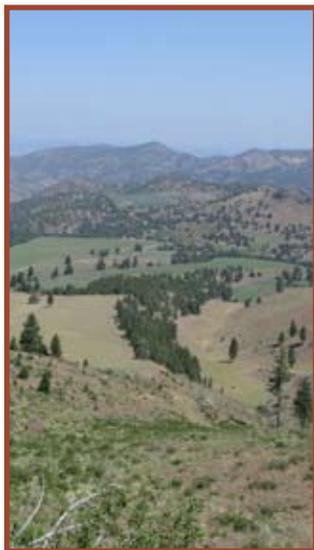
The district implemented several successful **Noxious Weed Cost-Share** grants that treated 549 acres of Scotch Thistle in the Rowe Creek, 150 acres of Leafy Spurge along the John Day River, 404 acres of Yellow Starthistle and 128 acres of Medusahead in Upper Bridge Creek. Approximately 1370 acres of weed control projects are being planned in cooperation with the Oregon State Weed Board, Umatilla National Forest and Ochoco National Forest for 2014-2015. Additional cost-share

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Wheeler Soil & Water Conservation District

2013-2014 Key Accomplishments

By the Numbers



7

Number of monitoring stations on Mountain Creek. These stations were installed to establish baseline flow and temperature data and to document any changes of flow or temperature associated with the reintroduction of Mountain Creek into three miles of historic channel.

47

Number of project applications submitted, applying for project funding in 2014-2015

86,025

Feet of riparian fencing installed in projects & through the Conservation Reserve Enhancement Program



10

New and updated policies, resolutions, and plans were reviewed or adopted by the Wheeler SWCD Board of Directors



549

Acres of Scotch Thistle treated in the Rowe Creek Watershed. This work is in conjunction with a larger project that will remove over 1,000 acres of Western Juniper on 10 properties.

75 / 3

Number of fourth, fifth and sixth graders and high school counselors at the Tri-County 4-H Camp that learned about stream function by experiencing the Stream Simulation Table



19,900

feet of open irrigation ditch converted to pipe in 2013-2014



1,377

NUMBER OF QUARTERLY NEWSLETTERS COPIED AND MAILED TO LANDOWNERS & AGENCIES.

ARE YOU ON OUR MAILING LIST?

Uplands, continued

funds are being sought for follow-up projects and new weed infestations.

In June 2013, the Weed Technician discovered one site of Yellow Flag Iris (*Iris pseudacorus*) growing on the bank of the John Day River east of Spray. This was the first site of Yellow Flag Iris in Wheeler County. The discovery quickly led to the treatment of this site with assistance of funding from the Oregon State Weed Board and the landowner. The site was monitored to ensure the weed does not spread.

Two biological control agent releases were made for diffuse knapweed. *Larinus minutus* is a weevil that attacks the seed heads of the plant.

Education and outreach is an important part of this program and the Weed Technician has submitted several articles to the Wheeler SWCD Quarterly Newsletter. He also meets with landowners in the county to help them identify and inventory noxious weeds and assist them with management and treatment options.

Wheeler SWCD partners with the Mid John Day-Bridge Creek Watershed Council to implement OWEB's **Small Grant Program**. Small grants are usually \$3,000-5,000 projects that can be implemented quickly. The program is a good way for new landowners to get a feel of working with the district before trying to implement a more complex project.

Five small grants were completed in the 2013-2014 year. The **Maddock Upland** and **Lost Valley Upland**

projects were similar upland improvement grants that installed cross fencing to facilitate even utilization of rangeland forage. The Maddock project installed 1350 feet and the Lost Valley project 1100 feet of cross fencing that will assist landowners with proper grazing management. Each project also developed one spring and installed one trough that services two pastures.

The **Dodd Juniper Removal** and **Circle Bar Juniper Removal** projects eliminated 17 acres and 40 acres of juniper, respectively. Both projects occurred in the Bridge Creek Watershed, west of Mitchell. The Dodd project reseeded 17 acres of disturbed ground and the Circle Bar project reseeded 40 acres.

The **Keyes Creek Upland Improvement** project removed 32 acres of western juniper, and constructed 3,190 feet of cross fencing. 1,900 feet of this will allow the landowner to better manage livestock access to Keyes Creek, a tributary to Bridge Creek.



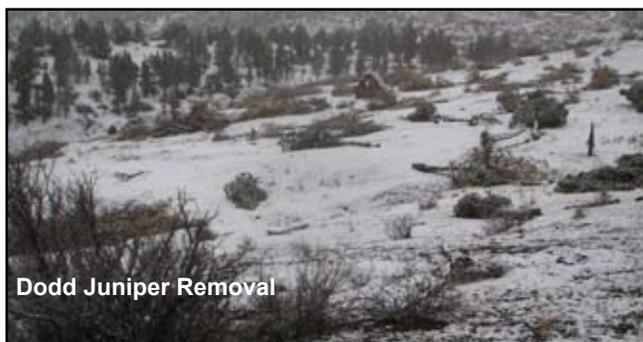
Leafy Spurge on the John Day River



Treated Scotch Thistle Rosettes



Lost Valley Trough and Cross Fence



Dodd Juniper Removal



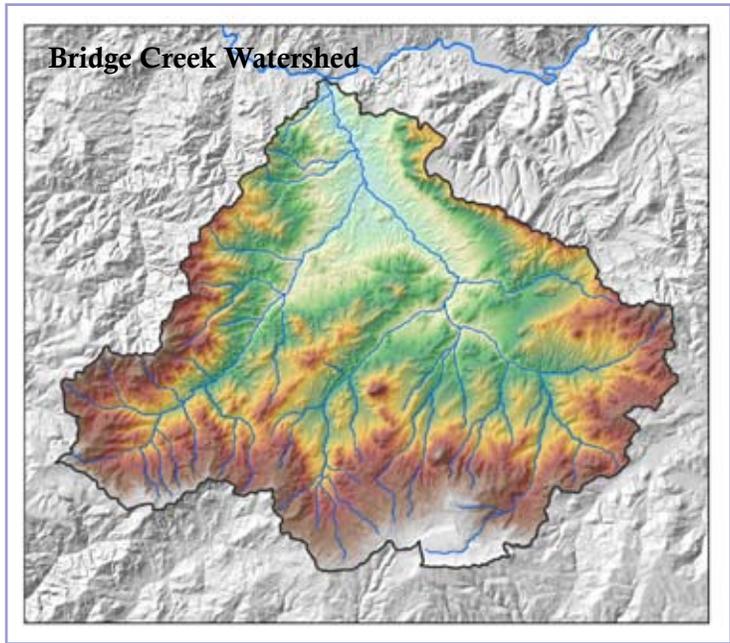
Keyes Creek Juniper Removal

Bridge Creek Watershed Assessment

Bridge Creek, a tributary of the John Day River, is located in Wheeler County in North Eastern Oregon. The Bridge Creek watershed drains a total of 269 square miles and contains 69 miles of summer steelhead (*Oncorhynchus mykiss*) spawning habitat. Wheeler Soil and Water Conservation District (SWCD) staff surveyed 23.6 miles of the mainstem of Bridge Creek during the summer of 2013.

The purpose of this reach evaluation is to identify the severity of the limiting factors on a reach by reach basis and create an interactive GIS framework with the purpose of improving the effectiveness of restoration work conducted within the Bridge Creek watershed.

Steelhead are currently listed as a threatened species. The overall health of the steelhead population in the middle Columbia River along with limiting factors and guidelines for recovery were detailed in “Conservation and Recovery Plan for Oregon Steelhead Populations in the Middle Columbia River Steelhead Distinct Population Segment.”



The on-the-ground survey classified the stream into individual units (riffle, pool, etc.) with unique characteristics (shading, erosion, substrate, etc.) measured for each unit.

This survey data was digitized into a spatial database where each of the individual measured parameters could be visualized throughout the surveyed reach. That spatial database formed the backbone of the analysis work in developing the Bridge Creek Watershed Assessment. Existing data for the watershed was examined, using the Mid-Columbia Recovery Plan and the John Day Subbasin Plan and the spatial database in order to identify areas of the watershed that would most benefit from restoration work.

Uplands analysis was completed using an advanced methodology for assessing priority juniper areas along with analysis of sites near stream roads within the watershed. Recommendations for areas to focus restoration efforts were presented in the published assessment.

The assessment includes information on the history of land use in the watershed and provides future project recommendations.

Copies of the Bridge Creek Watershed Assessment are available from the Wheeler Soil & Water Conservation District. Please contact the office by phone at (541) 468-2990 or by email at WheelerSWCD@gmail.com.

Bridge Creek Survey Example Site #7

Unit	1324	1325	Unit	1326
Reach	74	74	Reach	74
Unit Type	Riffle	Lateral Scour Pool	Unit Type	Riffle
Length (m)	17.1	15.0	Length (m)	11.0
Width (m)	2.3	2.2	Width (m)	1.4
Depth (m)	0.1	0.4	Depth (m)	0.1
Slope (%)	1.5	0	Slope (%)	1.5
Shade [r] (deg)	20/20	00/05	Shade [r] (deg)	40/30
Active Erosion (%)	50	35	Active Erosion (%)	0
Silt/Organics (%)	10	15	Silt/Organics (%)	10
Sand (%)	90	15	Sand (%)	10
Gravel (%)	40	35	Gravel (%)	40
Cobble (%)	40	40	Cobble (%)	40
Boulder (%)	0	0	Boulder (%)	0
Bedrock (%)	0	0	Bedrock (%)	0
Boulder Count	0	0	Boulder Count	0
Wood [j/m] (#)	0/0	0/0	Wood [j/m] (#)	0/0

Looking Downstream - Unit #1324 & 1325

Looking Upstream - Unit #1326

Instream & Irrigation, continued

Badger Creek Diversion #2 replaced the existing diversion on Badger Creek with a concrete encased steel headgate structure approximately 60 ft upstream of the current diversion location. Additionally, 55 ft of the stream channel was regraded with a stream simulation consisting of large rock and cobbles for long-term channel stability. The stream bank was

clumps, 12 logs, and 12 rocks were used. The rocks were used as ballast for the logs.

Mountain Creek Habitat #3 addressed the 0.7 miles of historic channel just upstream of the work done in Phase #2 (2012-2013). The agricultural operations combined with a lack of channel forming flows have left the historic channel undersized and in need of restoration. Bank pullbacks and terracing was completed along 3100 ft of stream. Rootwad revetments were completed along 925 ft of streambank. Additionally 14 logjam structures were installed and anchored with ballast stones.

Phase #3 addressed one undersized culvert and replaced it



Badger Creek Diversion #2



Jones Before: Eroding Streambank



Jones After: Juniper Rootwads



Bridge-Bear Trough Installation



Mountain Creek #3 After: Bridge



Mountain Creek #3After: Logjam Structure



Bridge-Bear Riparian Fence

lined with rootwads, rocks and willow clumps for bank stabilization.

The 112 ft. section between the new diversion and the fish screen was piped using 18” Hancor. This will eliminate current ditch loss caused by the shallow ditch gradient, porous soils, and evaporation.

The **Jones Habitat** project design incorporated a variety of low impact bioengineering bank stabilization techniques. Rootwads were used extensively in the design combined with whole trees and willow clumps. The installation of the rootwads was done with minimal soil disturbance using an excavator.

The project area encompassed a total stream length of just over 5,000 ft. Of this 5,000 ft, active bank stabilization work occurred on 1500 ft. on a total of 19 different sites. A total of 160 rootwads, 77 whole trees, 125 willow

with a bridge. Just as the two previous phases, the restored channel section was enrolled into the CREP program upon completion of the stream work.



Bridge-Bear Russian Olive Treatment

Bridge-Bear Habitat Phases #1 and #2 project had three distinct elements.

1. Construction of an off-stream watering system. This system consisted of installing 8,800 ft. of 2” PVC pipe and eight (8) Ritchie CT-6 watering troughs. Concrete pads were constructed for each of the troughs. The water

Instream & Irrigation, continued

for this system was provided by an existing well.

2. Removal of Russian olive from the project area. This was accomplished by using a combination of girdling, chemical application, and manual removal. The progress of the Russian olive removal proceeded faster than expected and the majority of the entire project reach was treated in 2012. Several follow ups will be necessary to ensure that the species is completely eradicated.

3. The third element of this project involved the construction of 3720 feet of heavy duty fence around the east side of the upper portion of

ensures that the water diverted is what is needed on the fields.

The **Lower Bridge Creek Connectivity** project decommissioned the existing diversion on Bridge Creek and transferred both landowners' water rights from Bridge Creek to the mainstem of the John Day River. This transfer will ensure the ability of the landowners to use their water right while allowing more water to remain in Bridge Creek. The project also installed two



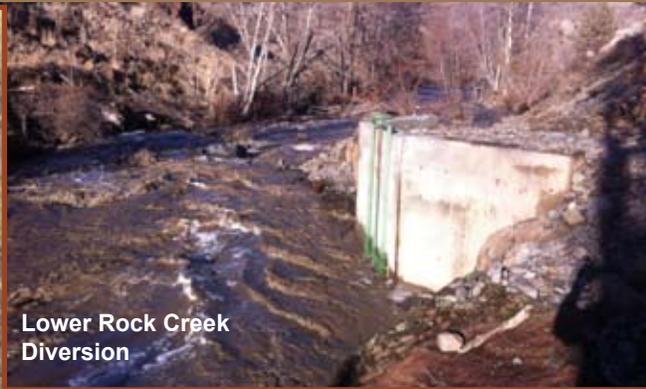
Dove Meadow Pipeline



Lower Bridge Connectivity Installed Pivot



Willow Creek Pipeline During Construction



Lower Rock Creek Diversion

Bridge Creek. The fence was tied into the existing fence where needed. Two water gaps were provided for the landowner.

The **Willow Creek Pipeline** installed a water control structure at the base of the landowner's dam along with a total length of 10,340 ft. of PVC pipe. The size and total length of the pipe installed. **Dove Meadow Pipeline** project converted a total of 3,220 feet of open ditch into an enclosed pipeline system. The pipe systems improve irrigation efficiency by eliminating water loss through the soil and to evaporation. This

high efficiency pumps, two pivots and the PVC mainline infrastructure to operate the system.

Lower Rock Creek Diversion was improved by installing a headgate structure combined with grade control that will eliminate the need for annual in-stream construction activities. The grade control is in the form of a large rock matrix installed according to the gradation table listed on the designs. The water is directed towards the headgate in order to increase scour and prevent aggradation in front of the intake structure. The fish screen was also replaced as part of this project.

◆◆◆

MISSION STATEMENT

To maximize economic and environmental watershed values for Wheeler County residents by developing, conserving and protecting water, soil, plant structures and other natural resources.

~ **Improve the health of the watersheds through holistic measures that enhance water quality and quantity, soil health and conservation for beneficial uses**

- Promote implementation of the Mid-John Day Agricultural Water Quality Management Area Plan.
- Promote and implement USDA Programs.
- Assist and promote watershed council activity.
- Seek funding for projects.
- Provide technical assistance to the public.
- Set strategic priority work areas.
- Implement District projects.
- Initiate major offensive against invasive species.
- Form or maintain partnerships with federal, state and local agencies and tribes.
- Promote relevant research and monitoring.
- Conduct watershed assessments/action plans/conservation planning.

~ **Provide education and outreach to the public**

- Produce newsletters and annual report.
- Organize tours and workshops for students, landowners and land managers.
- Participate in community activities.
- Partner with local schools to further natural resource educational opportunities.
- Develop funding source for public education activities.
- Provide AgWQMAP fact sheets and information for distribution.

~ **Manage the business of the district in an efficient and effective manner**

- Encourage staff and director development by attending workshops, conventions and training sessions.
- Meet state filing requirements for budget, audit and reports.
- Hold monthly board meetings and December annual meeting.
- Seek secure funding by exploring creative and productive ways to finance district operations and fund employee positions.
- Develop operational policies and procedures.

BOARD MEMBERS

Jeremiah Holmes,
Chair

Wayne Lindquist,
Vice-Chair

Matt Williams,
Sec. Treasurer

Ted Molinari
Herb Jones

James Robert Collins
Zone 2, Vacant

ASSOCIATE BOARD MEMBERS

Amy Derby
Rusty Rutherford

Non-Profit
US Postage
PAID
Permit #8
Fossil, OR

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