



L-R, SWC water quality specialist Joe Peterson, Owyhee District Supervisor John Cossel, Owyhee District Chair Andrea McRae, Landon Brezenski and Jack Precht check out the new headgate for the 26.9 Lateral project. (Courtesy Owyhee Conservation District)

TWO NEW IRRIGATION EFFICIENCY PROJECTS SAVE WATER, IMPROVE WATER QUALITY IN JUMP CREEK AREA IN THE OWYHEE CONSERVATION DISTRICT

By Steve Stuebner

Officials with the Owyhee Conservation District were very pleased with two ag conservation projects that were installed this spring, and on top of that, they won two more WQPA grants that will be implemented in the next year.

The 26.9 Lateral project replaced two miles of an open ditch canal with about 15,000 linear feet of pipeline, reducing water use by about 42 percent. Completed in spring 2023, the partnership project was co-funded by the South Board of Control, Natural Resources Conservation Service (NRCS) and a \$300,000 Water Quality Program of Agriculture

(WQPA) grant from the Idaho Soil and Water Conservation Commission.

The project also has water quality benefits that will accrue to Jump Creek, a popular recreation area in the Owyhee foothills and a water quality limited stream.

"It turned out perfect – it's made a big difference for our producers," said John Eels, Administrator of the South Board of Control, noting that the 26.9 lateral project benefitted nine producers who grow crops on about 650 acres of land.

The open ditch canal had heavy seepage losses, Eels said. With the

enclosed pipeline, they are saving about 4 cubic feet per second of water flow, and any unused water goes back into the canal, he said.

"It's pretty magnificent," he said, noting that he had worked as a ditch-rider on that canal for many years.

The SWC WQPA grant literally saved the project, added Tate Walters, NRCS District Conservationist for Owyhee County. "As inflation hit and supply chain issues occurred during the Covid pandemic, pipeline prices went through the roof," Walters noted. "The WQPA grant made the difference between the project happening or not."



Owyhee District Supervisor and hay farmer John Cossel explains the benefits of the irrigation efficiency projects during a recent tour of the projects. (Courtesy Owyhee Conservation District)

The project “turned out great,” Walters says. The South Board of Control did the construction with its own crews during the winter months.

NRCS completed the design and engineering for the open canal-to-pipeline

conversion project, and it worked together with John Cossel, an Owyhee County hay farmer and a District Supervisor, to convert a 40-acre field from flood irrigation to pressurized irrigation with wheel lines.

“It’s perfect,” Cossel said. “I redid my whole farm to convert from gravity flood irrigation to pressurized irrigation with wheel lines. It used to take me 14-18 days to water my fields, and now I can do it in 8 days.”

Cossel said he’s still getting three cuttings of hay from his fields, and then the irrigated pastures will be available for cattle as winter feed

when they return from federal grazing allotments in the fall. He is part

of the Chipmunk Grazing Association.

The overall sprinkler conservation project cost about \$100,000, officials said, and a WQPA grant funded \$22,295 of that cost.

As for water quality benefits from the project, estimates indicated that it would result in a net reduction of sediment by 735 tons per year, reduced nitrogen by 2,352 pounds per year, and reduced phosphorous by 1,176 pounds per year in Jump Creek.

“As our State and the Pacific Northwest at large continues to battle with drought conditions, the Owyhee Conservation District feels this project will have an immediate impact on water quantity savings as well as improve water quality in Jump Creek and the Snake River,” Owyhee District

The WQPA grant for the 26.9 Lateral project “literally saved the project,” said Tate Walters with NRCS. “The WQPA grant made the difference between the project happening or not.”

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officials said. “With the conversion of the open lateral to buried pipeline, multiple producers have committed to then convert their irrigation practice from furrow/gravity to a sprinkler system adding further benefits towards water quantity savings and water quality improvements.”

Jump Creek is currently not supporting its intended beneficial uses due to high amounts of sediment loading from agricultural fields and drains in the area, District officials said. No specific best management practices are referenced in the Agriculture Implementation Plan pertinent to Jump Creek, but rather, any and all practices that can reduce sediment loading are desired, officials said.

The flood irrigation-to-wheel lines project will reduce sediment flows into Jump Creek by 14 tons per year, reduce phosphorous by 23 pounds per year and nitrogen by 45 pounds per year.

“Both of those projects turned out fantastic – they’re so impressive,” said Andrea McRae, Chair of the Owyhee District Board of Supervisors. “Everything is improved for the end-user, we’re saving water, and we’re going to see water quality benefits as well on Jump Creek and the Snake River.”

About the Owyhee District

The Owyhee Soil and Water Conservation District was organized in 1953 (name changed later to Owyhee Conservation District). At that time, producers in the Owyhee District focused on raising beef cattle, dairy cattle and sheep, along with hay, grain, and pasture. Farmers and ranchers turned to the District for help with livestock water developments, grazing management, Halogeton and brush control, erosion control, irrigation improvements, and aid in reducing salt and alkali concentrations.

Since the 1950s, the Owyhee District’s programs have grown and



New irrigation wheel lines replace an old flood irrigation system on John Cossel’s hay farm near Jump Creek. (courtesy Owyhee District)

changed to meet the needs of today’s modern farming and diversified area. Producers now grow livestock and forage, sugar beets, potatoes, field and sweet corn, orchards, onions and beans – among the most common crops seen today.

Intensive farming occurs in the valleys along the Snake River while livestock and rangeland grazing dominates the higher elevations. Now, the District is focused on the natural resource issues involving water quality/quantity, soil health of rangelands, healthy riparian areas and crop lands, preserving wildlife and creating habitat, and controlling noxious weeds.

With ongoing drought conditions

still affecting portions of the state, Owyhee’s focus on water quality and quantity issues play a large factor in the natural resource priorities at hand, officials said.

Two more WQPA grant projects to be implemented this year

The Owyhee District applied for and won two additional WQPA grants on 2023 – the Bailey Road Pipeline project (\$135,000 grant) that would convert an old concrete open ditch canal to an enclosed pipeline, and an irrigation efficiency project (\$130,000 grant).

The Bailey Road Pipeline project will apply funding from WQPA, the Owyhee Watershed Council, NRCS,

and the Reynolds Creek Irrigation District to replace approximately 7,100 feet of a dilapidated concrete ditch. Currently, the concrete ditch conveyance system is broken, missing large chunks, and earthen in multiple locations due to old age and loss of structural integrity, District officials said.

The ditch was installed in 1967 with an estimated 30-year lifespan. After more than 50 years of use, the Reynolds Creek Irrigation District looks to continue their implementation efforts and convert this old system to a buried pipeline.

Reynolds Creek Irrigation District has been working to convert all of the canals in the district to an enclosed pipeline. The District already has replaced nearly 4,100 feet of cracked and worn out cement ditch with new irrigation pipe. This current project will directly tie into the work that has already been done by the District, officials said.

The proposed project will directly benefit five landowners for a combined 550 acres, officials said. However, following implementation this project, roughly 15 water users in the district will benefit from the efficiency improvements made. This shovel-ready project is planned for installation following irrigation season this fall/winter of 2023/24. It is the third phase of the irrigation district's infrastructure overhaul overall.

"Considering that a large majority of our state is faced with the challenge of replacing aging irrigation infrastructure, the Owyhee Conservation District feels that the impact made by this piping project will have an immediate effect on water quantity savings in an area plagued by ongoing and worsening drought conditions," District officials said. "By putting the water in an enclosed delivery pipeline, the proposed project will eliminate current water losses and help reduce



Jump Creek canyon is a super popular scenic destination in the Owyhee Front near Marsing. Water quality improvements on farm fields below will benefit Jump Creek and the Snake River. (courtesy Steve Stuebner)

the electricity that is used to pump water to the Reynolds farming area."

The second WQPA grant to be implemented in 2023 involves working with producer Gordon Trout near Jump Creek to convert a 42-acre field from flood irrigation to pivot irrigation. Trout is contributing \$64,158 to the \$194,000 project. Two pivots will be installed along with irrigation equipment and infrastructure, officials said. The pivots will increase water efficiency by 80 percent.

"The 42-acre parcel is currently irrigated through siphon tubes and leaky gated pipe," officials said. "The parcel directly borders Jump Creek. The project will provide immediate benefits to Jump Creek and the lower Jump Creek sub-watershed. The landowner plans to grow corn, an intensive row crop, for 1-2 more seasons and then convert to a long term alfalfa rotation."

The Owyhee District has been working on making water-quality



Left, Oteco pivot track filler in action. Right, pressurized irrigation system on the 26.9 Lateral canal provides a turnout at farm fields with pressure-relief valves and air vents to protect the new pipeline (courtesy Owyhee District).

improvements to Jump Creek for more than a decade, officials said. However, more work needs to be done, officials said.

Expected benefits from the Trout pivot project include reducing sediment flows by 44 tons per year, reducing nitrogen by 70 pounds per year, and reducing phosphorous by 141 pounds per year.

The Trout shovel-ready project is planned for installation following this irrigation season in the winter of 2023-24.

Two new pieces of equipment to benefit the Owyhee District

The Owyhee District Board of Supervisors has purchased new equipment in the last year to be rented out to producers in the community for a fair price. The two pieces of equipment include an Oteco pivot track filler and a verminator machine to combat gopher infestations, a common problem in the area.

McRae really likes the Oteco pivot track-filler. "That's the coolest little piece of equipment I've ever seen," she said.

Repeated passes by pivot sprinklers compacts the soil, she noted, and sometimes the wheels of pivots can

get buried in soft and wet ground, causing erosion and operational issues. The pivot track-filler drops gravel into the pivot tracks to provide a more robust surface to keep the pivot sprinkler at the proper elevation to do its work most efficiently.

"It's amazing how much gravel you can use to fill those tracks," she said.

The Oteco pivot track filler costs \$200/day to rent, and the verminator costs \$50/day to rent.

For more information about the Owyhee District, please contact Ali Brezenski, alib.ocd@gmail.com or 208-880-6284.

Steve Stuebner writes for Conservation the Idaho Way on a regular basis.

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