



Happy Angus range cattle enjoy access to an off-stream water trough in the Big Onion Grazing Allotment, west of Downey, Idaho. The range-improvement project was funded by a WQPA grant via the Portneuf SWCD and SWC, NRCS grant funds, and contributions from local ranchers. (photo courtesy Wade Egan)

2023 WQPA GRANT PROJECTS CONSERVE WATER, ENHANCE SOIL HEALTH AND IMPROVE RANGELANDS

By Steve Stuebner

A second consecutive year of state funding for the Water Quality Program for Agriculture (WQPA) cleared the way for the Idaho Soil and Water Conservation Commission to allocate another \$5 million for 51 conservation projects involving 43 conservation districts across the state in fiscal year 2024.

Much like last year, many of the state's conservation districts worked with SWC conservation professionals to put together project proposals in quick fashion.

"We had another phenomenal round of proposals this year with 80 total being submitted," said Loretta Strickland, WQPA Program Manager for SWC. "For me, one of the most exciting things about the revitalization of WQPA has been the nearly \$900,000 that has been infused into 43 of the 50 Districts around the state over the last two years in the form of administration funds to assist with carrying out the conservation projects."

The SWC Board of Commissioners approved the 51 projects in June so

the districts could move forward with project implementation this summer and fall.

Project requests included irrigation efficiency projects, new headgates, stockwater facilities, right-sized culverts at road crossings, pivots, livestock best management practices and more.

To highlight the benefits of the first round of WQPA projects approved in FY 2023, we are profiling a sophisticated Soil Health project being implemented by the Lewis District in Northern Idaho's Camas



Janette Mendenhall checks out a drill used for precision technology, biostimulant applications. The Soil Health project was made possible by a WQPA grant project via the Lewis District in Northern Idaho's Camas Prairie. (photo courtesy Eileen Rowan, SWC)

Prairie, a livestock water and range-improvement project sponsored by the Portneuf District in Southeast Idaho, and an irrigation efficiency project sponsored by the Jefferson District in Eastern Idaho.

Lewis District Soil Health project

Five producers participated in the first year of the Lewis District Soil Health Best Management Practices (BMP) projects, which came in at a modest cost of \$58,300. "I helped the district put the grant together, and we needed to provide a bit of a financial incentive for the producers to try some new things," said Eric Hasselstrom, who raises hay, grain, canola and cover crops on his farm ground near Winchester.

Hasselstrom and his wife, Sheila, also have a herd of sheep that grazes on their cover crops and adds organic material to their soil. They have been using no-till, direct-seed practices on their farm ground since the early

1990s.

Overall, Hasselstrom said the participating producers are working to reduce the amount of farm chemicals being applied to the soil while using alternatives to commercial fertilizer and herbicides. He's always thinking about how he can feed and nurture the microbes in the soil with bio-stimulants of various kinds. The soils in the area also have low pH, so they also are adding lime to the soil to raise pH and productivity.

"Our soils are out of balance, so we're low on fungi and organic material," he says. "We're working on getting the fungi levels back up to where they should be."

Using less nitrogen is good because they have excessive nitrates in the ground water, he noted.

The bio-stimulants "are making a world of difference," he says. "If you have enough good bugs (microbes),

they can keep the bad bugs down. And at the same time, you're reducing the use of synthetic fertilizers."

So far, about 4,270 acres of farmland have been treated with bio-stimulants; about 2,840 acres were treated with BioAgtiv; 2,846 acres received split treatment; 902 acres were treated with Reverse Osmosis

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Local ranchers meet up with a local contractor performing the juniper-mastication work along Yellow Dog Creek. Opening up the riparian area will benefit cattle, wildlife and range health. (courtesy Wade Egan)

water; 532 acres received Lime treatment, and 367 acres received Precision Ag treatment.

Local farmers are watching the results of the project, and at least three more landowners will be participating next year, with more funds available for bio-treatments, said Eileen Rowan, SWC water quality specialist.

"We're doing a lot of cutting-edge stuff, and we were pleased to see that the WQPA program would fund these innovative practices," Hasselstrom said.

Rowan has worked with farmers in the Camas Prairie area for decades, and she's impressed. "This stuff is real, and it really works," she says. "We have two years of data showing how it's working."

Overall results expected from the first year of the Soil Health WQPA project are as follows:

- A 13 percent decrease in nitrate-nitrogen-to-groundwater sources over time.
- A decrease in sediment flows of

1,636 tons per year.

- A reduction in nitrogen of 5,890 pounds per year.
- Decreases in phosphorus of 2,183 pounds per year to surface waters.

More projects are on tap for next year and more producers will be involved, Rowan said. "The results are just remarkable," she says.

Portneuf District stockwater, grazing improvements

In Southeast Idaho, south of Pocatello, the Portneuf District is working together with ranchers from the Marsh Valley Cattleman Corporation and the Natural Resources Conservation Service to make a number of improvements on Yellow Dog Creek and Bradley Mountain, west of Downey, Idaho.

A \$55,000 WQPA grant, combined with an NRCS CSP grant and local cost-share funds, are resulting in the following:

- Installing a large solar boosting station and more than 7 miles of high-

pressure water pipeline

- Six off-stream stockwater tanks for cattle

- Fencing-off more than a mile of Yellow Dog Creek and a spring development from cattle use

•The removal of 12 acres of juniper trees along Yellow Dog Creek to open up the area for cattle use, wildlife and range health. A local contractor used the mastication method for removing junipers, meaning they ground the trees into chips from the top-down.

- Installed 24,000 gallons of water storage.

"This project was designed to improve the overall health of both private and public land in the area, where grazing conditions have been deteriorating over the last 30 years due to reduced water resources," an article in the Portneuf District newsletter said.

"The Big Onion has been hit with frequent droughts and an ever-increasing brush-load demanding more water from the land. As brush

and trees have gotten bigger combined with some back-to-back dry years, water was harder to find and was causing livestock and wildlife to concentrate in lower drainage's and smaller areas."

The new water developments are making several thousand acres of rangeland available for grazing for the Marsh Valley Cattleman Corporation on the Big Onion grazing allotment because of the water pipelines and stock tanks.

"The project has turned out awesome so far," said Wade Egan, a local rancher who is participating in the project. "My family has been grazing up on that mountain for over 80 years, and this project is making the biggest improvement our range has ever had."

"The cattle look better, and now we've got water 1,000 feet higher than we had before, opening up all kinds of rangeland feed for our cattle. This a big win for everyone involved."

There are six producers involved with Marsh Valley that are benefitting from the project, Egan said. Wildlife will benefit as well. More than half of the



A WQPA grant funded three new headgates with automation for the Parks and Lewisville Irrigation Co. via the Jefferson SWCD. This is the Missionary Branch of the canal system. (courtesy Jefferson SWCD).

area lies on private land, so the private landowners are shouldering the cost of a lot of the improvements along with the NRCS CSP funding.

The Marsh Valley ranchers are hoping to do more pipelines and off-stream water developments in the future. "This is a big win for everything," Egan said.

Taylor Uphoff with NRCS and Charity Staggs with the Portneuf District agreed.

"This is a big collaboration between the

producers, the Portneuf District and NRCS," Uphoff said. "The landowners have been very excited about the project, and they're doing a lot of the work themselves with their own equipment."

The NRCS also has developed a new grazing management plan for the area, which should help with rangeland improvements and cattle weight-gain.

"Overall, it's a big win for conservation," Uphoff said.

Jefferson District - New irrigation headgates

The Jefferson District secured funding for two irrigation projects in 2022, and they're seeing those projects come to fruition in the spring of 2023.

Parks and Lewisville Irrigation Company serves 5,700 acres with more than 200 shareholders. New headgates with automated gate controls have been installed on the North Branch, South Branch and Missionary Branch of the irrigation system.

The new gates replace old wooden



Marsh Valley ranchers installed a 8,000-watt solar booster system for pumping water uphill to off-stream cattle troughs with a USDA rural development grant.



*New automated headgates on the South Branch of the Parks and Lewisville canal system, funded by a WQPA grant via the Jefferson SWCD.
(photo courtesy Jefferson SWCD)*

slat gates that were hazardous for the watermaster to control because he had to manually move boards in a swiftly moving canal to control water flow. Switching water from one shareholder to another was slow and cumbersome, officials said.

New headgates made of cement and steel with the automated SCADA system allows the watermaster to monitor flow continuously through his cell phone and to move the gates using his phone to send commands to computerized controls, said Linda Patterson, Jefferson District administrator.

"The new overshot gates allow debris

to be removed easily. Every inch of water is controlled and utilized in real time," she said. "The watermaster is immediately aware of any changes and can adjust accordingly. The new system saves water, spreads it farther in less time, with less expense and less exposure to possible physical injury."

About \$50,000 in WQPA funding made the project possible. The Parks and Lewisville Irrigation Company combined this with funding from other grant sources to complete the headgate construction.

In the second Jefferson District WQPA project, the Allred Pipe project involved a single producer with a very

convoluted 340-foot ditch set-up that served one farm field of 80 acres. "There was the danger of a passerby stumbling into the ditch as it had a narrow siphon going under a road. The farmer had to clear debris from the siphon with a pitchfork," Patterson said.

A farmer, with promise of WQPA funds, was able to pipe a portion of the ditch, replacing the siphon with a new, larger pipe placed diagonally under a county road directly to the field it serves. The Jefferson County Road Department installed the new culvert, and the landowner paid for it, she said.

"Irrigation is more efficient, taking two days now," Patterson said. "Sinks in the field are no longer a problem, as the water flows faster and water

doesn't sit in the fields as long. New, covered grates allow access if the owner needs to clean the pipe."

The project was well worth the \$10,433 the ditch owner put in, she said, realize the time savings spent irrigating. "Also, for his peace of mind knowing no one can drown in the previously open ditch and siphon," Patterson said.

The total WQPA funding was \$31,200, "for which the producer is grateful, as he would not have been able to fund it on his own," she said.

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

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