



*Aerial view of Muddy Springs Creek in July 2021 (courtesy Upper Salmon Basin Watershed Project)*

## CUSTER SWCD WORKS TO RESTORE STREAMS IN MULTIPLE PARTNERSHIP PROJECTS

By Steve Stuebner

In 2021, the Custer Soil and Water Conservation District (SWCD) worked with eight different state and federal agencies and 15 private landowners to install a variety of conservation projects to enhance fish and wildlife habitat and water quality.

The Custer SWCD is careful to ensure that conservation projects also benefit the landowners involved so they can continue to ranch, raise livestock and add value to their ag operations as part of the projects.

“Our projects improve the resource, but we always make sure that we accommodate our producers and add value to their business,” says Wayne Baker, Chairman of the Custer SWCD Board of Supervisors.

Last year, the Custer SWCD spent about \$740,000 on conservation projects in Custer County. Many of those dollars will have a positive impact in the local community, said Karma Bragg, the long-time District Manager of the Custer SWCD.

In this article, we’ll touch on a number of stream-restoration projects that the Custer SWCD has worked on recently, including a restoration project on Muddy Springs Creek, new Jack fencing on Stanley Creek in the Stanley Basin and improvements to Garden Creek near Challis.

Although these projects differ in size and complexity, the one thing they have in common is the multiple partners that provide technical support to the District including

but not limited to the Bureau of Reclamation, Idaho Department of Fish and Game, Natural Resources Conservation Service (NRCS), Idaho Governor’s Office of Species Conservation, and the most critical partner, private landowners.

“We do some pretty big projects and some pretty amazing ones,” Baker said. “Karma (Bragg) juggles it all and figures out a way to make it all fit.”

The District also does a great job with education outreach each year in partnership with Sarah Baker, University of Idaho Extension Educator based in Challis, Rosana Rieth with NRCS, and Jackie Ingram, outreach educator for the Idaho Rangeland Resources Commission.

“Our education programs would not be possible without the support of



multiple volunteers,” Bragg says.

### Muddy Springs Creek restoration work

Muddy Springs is a spring-fed creek in the Pahsimeroi River watershed that’s been part of prior restoration efforts dating back to the early 2000s, including the new habitat complexity project that was just completed in 2022. The projects have brought new life to Muddy Springs after it had been diverted for irrigation for nearly a century.

“Muddy Springs may appear to be a simple little spring-fed system now, but there is a long story behind this little stream,” Bragg notes. The projects involved “re-plumbing” the irrigation systems for approximately 7 individual landowners.

The Custer SWCD has been working together with many landowners and agency partners to restore and improve streams like Muddy Springs Creek in the Pahsimeroi to benefit imperiled salmon and steelhead stocks and resident fish in the Upper Salmon River watershed over the last 20+ years. This effort has included irrigation water savings, installing irrigation fish-screens built by the IDFG Screen Shop, and addressing fish passage barriers.

The Pahsimeroi-11 conservation project reconnected the upper reach of Muddy Springs by consolidating P-11 and P-12 irrigation diversions together with P-9, and closing the P-9 ditch.

Then, a new irrigation diversion was created on the Pahsimeroi River, restoring water flows to Patterson/Big Springs Creek for 10 miles. This fully reconnected Muddy Springs and Duck Creek to the Pahsimeroi River.

The first year after the P-9 diversion/



*Habitat complexity work on Muddy Springs Creek (courtesy Brian Hamilton, USBOR).*

head gate was removed, Chinook salmon responded by moving up Patterson/Big Springs Creek and digging 69 redds (spawning nests) that year.

In 2004, the Custer District began installing Jack fence on both sides of Muddy Springs for about three miles to protect the streambank habitat from cattle impacts to the head of the springs. The project was accomplished under an agreement with the Custer SWCD using Bonneville Power Administration salmon-restoration funds. Ranch owner Scott Hayes is one of three landowner partners associated with the project. His ranch is located on the banks of the Pahsimeroi River, where Muddy Springs flows into the Pahsimeroi River.


After 18 years of being managed as a riparian enclosure without livestock grazing, the streambank habitat along Muddy Creek did not bounce back quite as much as expected, she says. Muddy Springs has been measured as high as 24 cubic feet per second of water flow. It has the potential to provide over-wintering habitat for salmon smolts and best case, future salmon spawning habitat. But more riparian cover and shade are needed in the lower reach of Muddy Springs,

Bragg says.

“We’re doing the Muddy Springs habitat complexity project in phases,” Bragg says. “The Custer Board of Supervisors wanted to proceed with caution in a three-phase approach because we’ve never done a project like this before. But the landowner is supportive, so it seemed like a good fit.”

Starting in the spring of 2021, the Custer District began the design phase on its first in-stream riparian-enhancement project on Muddy Springs. Hayes supported having the enhancements completed to improve salmon, steelhead and resident fish as well as the habitat for wildlife: deer,

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*Cottonwood trees are sprouting already in the newly fenced-off section of Garden Creek. (Courtesy Custer SWCD).*

elk, geese, ducks and pheasants.

The Custer District contracted with Quadrant Engineering to design the habitat-improvement features on three-quarters of a mile on Muddy Springs to add diversity and complexity to the streambank habitat, mainly with the installation of woody debris and tree revetments, anchored to the streambank. The project was completed in February 2022. Doing the work in the winter had less impact on the stream banks because the ground was frozen.

“We did something very innovative up there - we feel good about it,” Hayes says. “It’s going to benefit fish, water quality, provide shade and cover for fish and wildlife, increase oxygen levels in Muddy Springs, and more.”

Bragg describes the habitat improvement project on Muddy Springs as a “cherry on top” of two decades of stream-restoration work in the Pahsimeroi River Valley.

“I think it’s a win-win,” Hayes says. “It’s what I’d call a naturalist project to benefit fish and wildlife along Muddy Springs. We had quite a bit of riparian recovery after Muddy Springs was fenced off, but I wasn’t satisfied with the results. I’m hopeful that this project will take us to a whole new

level.”

The work on Muddy Springs complements other conservation projects in the Pahsimeroi Basin, Bragg says. Riparian fencing and livestock management projects have improved the Pahsimeroi River from the mouth to Hooper Lane. Bridges were installed by the Custer District at Hooper Lane to provide fish passage and access to spawning habitat upstream.

### **Garden Creek Rehabilitation Project**

North of Challis, two undersized culverts were getting choked with the debris during snowmelt and spring runoff, causing water to jeopardize a flume serving the Gini Canal and causing sediment and debris into Garden Creek.

While the need to address the plugged culverts would have to be part of the fix, the Custer District partnered with the Custer County Commissioners and the Piva family to improve the road and enhance the riparian habitat alongside Garden Creek as well.

To allow ranch-vehicle passage and cattle movement across Garden Creek, a bridge was installed below the existing culvert crossings to improve fish passage and eliminate

sedimentation into Garden Creek. Custer County secured a 99-year easement for the project to address wetland mitigation requirements for a County Road Project above town on Garden Creek

In addition, approximately 2,600 feet of Jack post-and-pole riparian fence were installed on both sides of Garden Creek, and an off-site stock-water system with water troughs was developed on both sides of the creek, providing a place for cattle to drink without impacting the stream.

All of that work has been completed, Bragg said. Vegetative plantings in the riparian area behind the new fence will be put in this spring through a partnership with the Natural Resources Conservation Service (NRCS). The Custer County Weed Department has been instrumental in helping prepare the site for optimum planting conditions.

The conservation project restored about 1,250 feet of stream and riparian area on Garden Creek. “Even in the last year since we completed that initial work, we’re already seeing cottonwood trees and other native plants re-sprouting,” Bragg said.

### **Stanley Creek fencing project**

Historically, Stanley Creek was believed to have contained some of the best Salmonid-rearing habitat in mid-Valley Creek. Three Stanley Basin permittees from the Stanley Grazing Association worked together with the Custer District, NRCS and Sawtooth National Recreation Area (NRA) to complete a major riparian fencing project in 2021.

The cost of materials and some labor reimbursement was provided by NRCS, Custer SWCD and the Sawtooth NRA, and the grazing permittees provided cost-share in the form of labor to complete the construction of approximately 7,950 feet of Jack post-and-pole fence and approximately 10,000 feet of laydown wire fence to

protect the riparian area on Stanley Creek.

"This was something that was needed to be done for quite a while," said Mitch Wilson, a Challis rancher and Stanley Basin grazing permittee. "We wanted to make a statement with this project to show people that we're invested in taking care of Stanley Creek and ensuring that we have a long-term opportunity to graze livestock in the Stanley Basin for years to come."

As part of the fencing project, the ranchers removed the old log worm fence that had been built along Stanley Creek after the Sawtooth NRA was created in 1972. The project protects approximately 350 riparian acres on a stream that is used for spawning by Chinook salmon, steelhead and resident fish.

### Education outreach

The Custer District partnered with Sarah Baker, University of Idaho Extension Educator in Challis, to present a number of education programs to Challis students in 2021.

The Custer District was pleased to host the annual 5th grade Outdoor Conservation Tour with an in-person event in the early summer. "It is great to be getting back to the normal educational activities after the pandemic altered many events," Bragg says.

An Outdoor Conservation Tour was held in the Pahsimeroi River area,



*New lay-down wire fence protects Stanley Creek in the Sawtooth National Recreation Area (Courtesy Custer SWCD).*

starting on Dowton Lane. Students were split into four groups and rotated to hands-on presentations. They learned about rangeland from Jackie Ingram, plant identification from Sarah Baker, technical equipment from Tim Dodds with NRCS, and soils from Rosana Rieth with NRCS.

The tour also featured a tour of the Parkinson Seed Farm. Students got a first-hand look at the large farm equipment and gained an understanding of how the equipment is used. The students also learned about grain from Janiel Parkinson and the seed potato operation from Doug Parkinson. Students enjoyed seeing the greenhouse and grinding wheat. The Parkinson family sent each student home with a potato, a loaf of homemade bread and a little bag of wheat that could be eaten as cereal.

"The outdoor tour is always a great day for students to learn about hands-on agriculture and the wise use of natural resources," Bragg says.

### Poster and Speech contests

Several Challis High School students

received cash awards by presenting a winning speech about the "Healthy Forests, Healthy Community" theme. Emma Shook took 1st place, \$100 cash; Alec Richey, 2nd, \$75; and Alden Stewart, 3rd, \$50. The students also received cash awards from the IASCD Division VI.

Thirty 5th and 6th graders participated in a poster contest this year, focusing

on the same theme: "Healthy Forests, Healthy Community." Winning entries were created by Emma Westergard, 1st place, \$50; Lauren Windsor, 2nd, \$35; Briana Sanchez, 3rd, \$25.

The Custer District held its first Home School Ag Day for elementary students during Ag Week. Each family group created farm "habitat boxes" from miscellaneous materials. "It was great fun to see how many different ideas the young people came up with," Bragg says.

During the event, Tori O'Neal, the newest member of the Custer SWCD Board of Supervisors, spoke to students about potato processing. The day ended with distributing "tortillas in a bag." Students made their own tortillas and filled them with beef and other agricultural products for a healthy snack.

For more information, go to: [www.custerdistrict.org](http://www.custerdistrict.org).

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

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