Conservation the Idaho Way

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PARTNERS EMPLOY HIGH-TECH DESIGN, REDUCE EROSION, & BENEFIT FISHERY ON SOUTH FORK OF THE SNAKE RIVER

By Steve Stuebner

As a project manager for Trout Unlimited in Idaho Falls, Matt Woodard reviews stream-alteration projects in the Eastern Idaho region on a regular basis. Recently, one project piqued his interest: a bank-stabilization project on the South Fork of the Snake River proposed by landowner Ray Peterson in the Twin Bridges area near Ririe.

Woodard approached Peterson about working together on a larger, more robust project to stop bank erosion next to the landowner's grain farm. The goal was to treat a large bend in the South Fork that was eroding on a regular basis and releasing an estimated 375 tons of sediment into the popular trout stream each year.

Over 20-plus years of owning the farm, Peterson says he has lost 8 acres of land from bank erosion.

"We were losing a little bit of our farm every day," he says. "The river was getting closer and closer to our house. Everyone knew it was a problem. Matt contacted me and asked if he could help, and I said I needed all the help I could get. We did it as a team. Matt knew a lot of the best people to work on the project and helped us fix the problem."

Over time, Peterson had lost over 8 acres of his land to erosion on the South Fork of the Snake River.

Woodard applied for a Section 319 water quality grant from the Idaho Department of Environmental Quality (DEQ) and Environmental Protection Agency – a highly competitive statewide grant program – and the money came through. The total project cost was $331,000; the 319 grant covered $198,665.

Woodard, who also is a farmer and chairman of the East Side Soil Conservation District, rounded up many partners to come up with matching funds totaling $133,000, including a $70,000 contribution from Peterson, and contributions from private individuals, the Jackson Hole One Fly Foundation, Snake River Cutthroats TU chapter, Upper Snake River Fly Fishers, East Side SCD and West Side SCD and Jefferson SCD.

"For me as the landowner, I'm really happy," Peterson says. "I think the project turned out really nice. We had a good team, and we worked through all the obstacles to get it done."

After receiving the green light on the 319 grant, Woodard worked on getting the project permitted with the Army Corps of Engineers and the Idaho Department of Water Resources. He partnered with Louis Wasniewski, an engineer with the Caribou-Targhee National Forest, to design the bank-stabilization project. And he hired Rockin' T Construction based in Swan Valley to serve as the contractor to implement the project.

"They've done a lot of stream-rebuilding projects for me," Woodard says. "They're one of the best in the business."

Doing a bank-stabilization project on the South Fork Snake River was a challenging prospect, Hicks says,

Matt Woodard, Trout Unlimited project manager on the bank stabilization project and East Side SWCD Supervisor, is passionate about trout and about conservation.

because "it's a big, powerful river. You're playing with a monster that has a couple of heads."

Rockin' T Construction had worked on a similar bank-stabilization project on the South Fork near the South Fork Lodge, and they used similar techniques to install a rock toe that extends out into the river to deflect water flows from the bank, and then a number of rock barbs that also deflect water from the bank, slow the water down, and create small micro-eddies behind the barbs, Hicks said.

"We used that same formula for this project," he said.

Construction work started in January 2017. About 1,800 feet of the eroding river corner would be treated with multiple rock barbs. Rockin' T Construction created a road at the bottom of the river corner

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for access, and started the rock work. At the upstream end of the project, they built a toe that extended about 25' out into the river to deflect water from the streambank, and then they built 8 spurs along the edges of the riverbank to further deflect the water from the bank.

The project engineer staked where the rock spurs should go, and then Rockin' T Construction roughed in the bottom layer of the barbs with huge rocks. In between the barbs, they placed large cottonwood trees horizontally with root-balls extending into the river to create cover and holding water for fish.

"You're taking rock that's ½ the size of a Suburban and placing it within one-tenth of a foot to the right location – you have to be very precise," Hicks says. "The location of those spurs is crucial for how they'll work when the high water comes."

Once the rock barbs were roughed in, they would allow the stream current to push things into place naturally and see how things looked before working on the next layer, Hicks said. "The project engineer would come and look and see how the flow was looking, and then we could adjust as necessary. You want to see those back-eddies being created between the spurs to know that it's going together correctly."

Installing rock barbs.

The window for construction in Winter 2017 didn't last long because of the epic snowfall in the Upper Snake region. The Bureau of Reclamation had to start dumping water out of Palisades Reservoir in February to make room for incoming snowmelt.

"We were fortunate that we had enough time to get all the big rock spurs set before high water came," Woodard says.

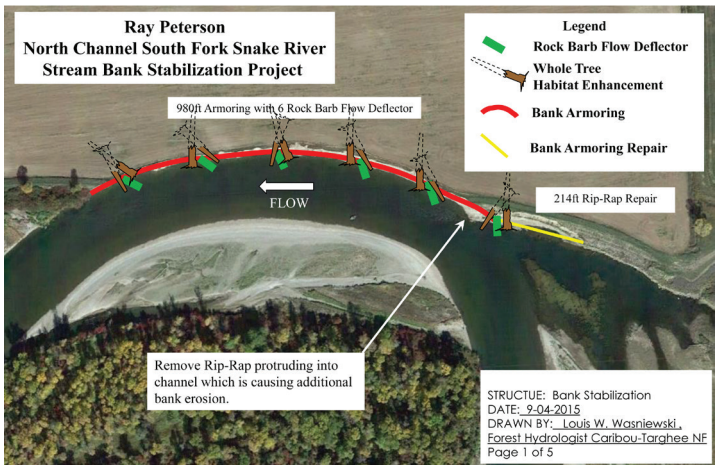
The high water flying through the project "was one heck of a test," Hicks adds. "At that point, it comes down to the quality of the river material and the design work."

By March 2017, high river flows up to 25,000 cfs continued through June, and then summer flows were too high for any work until December of 2017. They resumed work at that time to complete the barbs and vegetation work.

"We'd rough-set the rock and make an elongated half-circle and then fine-tune the rock, put in another layer of smaller rock and then fill with vegetation and finer materials to finish," Hicks said.

"They kind of linked the rocks together like a giant Lego set," Woodard adds. "The layered construction has a chinking effect. It all has to hold together under extreme hydraulic pressure from the big river flows on the South Fork."

The project also called for a major revegetation aspect to stabilize the bank in combination with the rock work. More than 320 five-gallon potted plants were installed in the project area, including sand bar willow, booth willow, bebb's willows, red osier dogwoods, narrow-leaf cottonwood, golden currant and hawthorn, Woodard said.



Fourteen large root-balled plants were installed, including willow, sandbar willow, red osier, dogwood, and narrow-leaf cottonwood. Approximately 15 pick-up-loads of cuttings were incorporated into the project, including willows, dogwoods and cottonwoods. All the cuttings were planted by volunteers from the local Snake River Cutthroats TU chapter, the local BLM office, and the Caribou-Targhee National Forest.

In January 2018, Hicks installed an additional 60 truck-loads of large rock for added reinforcement. Additional vegetation included 29 deep-rooted red osier dogwoods, 6 mid-rooted red osier dogwoods and 65 mid-rooted golden currant. This summer, more plantings are planned to finish stabilizing the bank.

In a tour of the project site in May 2018, it was difficult to see the rock barb work because most of the project was under water, once again, from a big snowpack winter in the Upper Snake. "All of the barbs were underwater but we could see

Closeup of the rock barb.

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PARTNERING WITH BEAVER FOR RESTORATION

BDA workshop held near Hailey a huge success

Idaho hosted its first beaver dam analogues (BDA) workshop in Hailey in June, thanks to the generous support of the NRCS Sage Grouse Initiative, Working Lands for Wildlife Initiative, Pheasants Forever, Joe Wheaton's ET-AL Lab, Wood River Land Trust, and Utah State University.

Field staff and partners from various agencies gathered at the Wood River Land Trust and The Nature Conservancy's Rock Creek Ranch to learn how to use BDAs to restore wet meadow habitat in sagebrush landscapes.

A BDA is a very simple structure that mimics the kind of structure a beaver would build. Through natural processes these structures can greatly increase habitat complexity and water storage capacity.

Though the use of beavers as restoration agents is not a new concept, beaver assisted restoration has recently been championed as an alternative, cheap, and effective option for restoring wet meadow and mesic habitats across the sagebrush sea.

Wet meadow habitats, or "green strips", provide critical refugia to a suite of wildlife species during the hot dry summer months. They also provide a reliable water source for cattle if they are maintained properly. Ongoing wet meadow restoration efforts are increasing the landscape footprint of this valuable resource.

Particularly in the face of a changing climate and uncertain snow packs and water availability, cheap but effective restoration goes a long way. Private landowners are seeing positive results by implementing these practices.

The workshop in Hailey highlighted the use of beaver mimicry structures and taught students not only how to build them, but also how to "read the stream" to assess such things as structure location and treatment options.

Agencies, organizations, and private landowners across the state are coming together to partner on habitat restoration projects that not only benefit wildlife, but people, as well. As we move forward in time, these collaborative efforts will have a net positive affect on the critters and communities scattered out across the high desert of Idaho.

Workshops like these are a valuable tool that resource managers and landowners can add to their "conservation toolboxes" to ensure the preservation of sagebrush landscapes. There are a number of resources available to landowners interested in implementing BDAs.

For more information, contact Derek Mynear with the Conservation Commission at Derek.Mynear@swc.idaho.gov or by phone at 208-488-5470 (cell).

Derek is a sagebrush landscape restoration specialist whose job it is to guide landowners through the process, and to provide them with technical and financial assistance. ❑

FISHERY BENEFITS, *cont. from Pg. 2*

Plantings on the streambank are already coming up nicely.

the back-eddies working behind the rock structures," Woodard said.

Hicks says he's learned a lot over 30 years of working on stream-bank stabilization projects in Idaho. Back in the 1980s, the typical fix was to install rip-rap on one side of a river, only to have a new issue arise on the opposite streambank.

"The technology has jumped forward a century in the last 30 years using these rock barbs and high-tech designs," he says. "Now you can do a great job, have great habitat and have a great project with the right design and budget."

Dave Pisarski, program coordinator for DEQ's 319 grant program, participated in the project tour recently. "It was hard to evaluate because the river was so high," he says. "We couldn't see the barbs and bank work that was under water, but the landowner was there, and he was very happy. By all accounts, the project was well-done. I'll swing by there later this summer to see how it looks at lower water."

Pisarski noted that Woodard is well-regarded by his TU conservation partners and local soil and water conservation districts alike. "If you talk to any of the district people or farmers, they're very complimentary," he said. "They think of him as a straight-shooter."

Woodard was the 2016 recipient of the Idaho Association of Soil Conservation District's Doyle L. Scott Award, recognizing him for his outstanding leadership and exceptional personal contributions in natural resources conservation. Scott was a highly respected district supervisor and Commission administrator.

It's interesting to note that the project location at Twin Bridges is downstream of the highly popular day trip fishing section of the South Fork, from Swan Valley to Byington. "It's kind of an under-rated section of the South Fork," Woodard says. "But there's plenty of good habitat down there."

Woodard is pleased about the project outcome, particularly "shutting off the flow of 375 tons of sediment into the South Fork each year. Sediment is not a good thing for fish. It was just a great group of partners to put some long-lasting conservation on the river. It's going to be a benefit for everyone who floats and fishes the South Fork." ❑

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

Meet Crystal Rosen

Our new administrative assistant, Crystal Rosen, joined the Commission in June from the Dept. of Health & Welfare. Born in Italy to active duty military parents, Crystal spent her childhood abroad. After being a nomad for many years, Idaho is now home.

Crystal's 2 year old son, Zain is a constant source of entertainment and wonder, and her motivation for most everything in life. She's looking forward to being a part of a partnership working to keep Idaho beautiful so that Zain can share the wonders of nature she values. Welcome, Crystal!

IDAHO SOIL & WATER CONSERVATION COMMISSION

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