

THOSE BUSY BEAVERS OF TIN CUP CREEK

ITD, restoration experts rebuilt some riffles and back they came

By Steve Stuebner

Tin Cup Creek drains the south side of 9,800-foot Caribou Mountain, north of Soda Springs, sprinting down timbered canyons and then slowing down to walking speed as it flows through a sweet mountain meadow, making a series of S-turns along the way.

After traveling about 5 miles, the creek enters a large concrete culvert, where it crosses under a bridge on Idaho State Highway 34, and continues down-canyon.

Here, several beaver dams posed an issue for the Idaho Transportation Department (ITD). A beaver dam downstream of the culvert, on the south side of the two-lane highway, was backing water into the culvert, creating problems for an impending bridge inspection.

"The water was so high that it could have caused some potential destabilization problems," said Mark Porter, maintenance foreman for ITD District 5 in Pocatello. "We removed the downstream beaver dam so bridge inspectors could inspect the bridge."



Tin Cup Creek before



Tin Cup Creek after: riffles were no more than just-built when back came the beavers.

ITD officials also removed a beaver dam on the upstream side of the highway, which de-watered a section of Tin Cup Creek going upstream into national forest land. Corey Lyman, a fisheries biologist for the Caribou-Targhee National Forest, noticed the change out in the field.

"That section of Tin Cup Creek is very much a beaver zone," Lyman said. "The riparian area is very intact because of the beavers."

Tin Cup Creek also has strong ecological values, supporting native Yellowstone cut-throat trout, boreal toads and the northern leatherside chub, a species of concern that's often found in the presence of beaver ponds. The Tin Cup area also is grazed by sheep and cattle, supports recreation, and is managed for multiple use.

Lyman contacted ITD officials and inquired about the beaver dam removals. He was concerned about the loss of the beaver dam upstream of the highway be-

cause it backed up water 1,600 feet in the creek channel. Without the beaver dams, the creek becomes a down-cut channel, he said.

"Once we were finished with the project, the beavers came in and built dams right on top of our riffles one week later," Porter said.

"Pretty amazing."

"We got with ITD officials, and they were more than willing to put a plan together to create a situation where the beavers could rebuild," he said. "We work with ITD quite a bit. It's been a good working relationship."

Turns out that Lyman had a keen interest in the section of Tin Cup Creek directly

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upstream of the highway. He was heading up a stream-restoration project covering over four miles of the creek for the Caribou-Targhee National Forest with Trout Unlimited and multiple funding partners.

Together, ITD officials and Lyman crafted a plan to build two rock riffles in Tin Cup Creek that would create a situation in which beavers would likely be enticed to rebuild dams at the top of the riffle structures.

“Once we were finished with the project, the beavers came in and built dams right on top of our riffles one week later,” Porter said. “Pretty amazing.”

Earlier this year, Lyman drew up detailed drawings for ITD to follow in building the rock riffles. The riffles would be built in the same locations where beaver dams had been in place historically, but both of them were placed upstream of the highway bridge and culvert. The ITD stream-alteration work was approved under Lyman’s existing permits with the Idaho Department of Water Resources and Army Corps of Engineers, allowing the work to proceed this summer.



ITD officials built the rock riffle structures over a period of two days in mid-July. Lyman was impressed with the speed with which they worked. “They had 10 guys driving trucks making 45-minute runs to pick up loads of rock, and they knocked it out quick,” he said. “If it’d been anybody else, it would have taken a week.”

The first riffle was built 60 feet long, with a 0.7 percent slope, a rock ramp-type structure that’s 4-5 feet tall at the top, and then tapers down to the stream surface water level. It would take about 350 cubic yards of material to make that riffle; half of it would be 10-18 inch rip-rap, and the rest pit run rock up to 8 inches or smaller.



From left, Corey, Mark and Kelly talking atop the completed second riffle.

The second riffle was smaller, 20 feet in length at a 3.25 percent slope. It would require 100 cubic yards of material; half of it would be 10-18 inch rip-rap, and the rest pit run rock up to 8 inches or smaller.

“Basically, we placed large rocks in the channel of the creek, and built rock riffles behind it with more rock,” Porter said. “We protected the banks with rip rap and willows. But we didn’t really alter the creek otherwise. We placed the rocks in the existing channel to create rock riffle dams.”

Porter has a lifetime of heavy equipment experience from working construction in a family business. “I did some restoration and remediation work when I worked for my dad’s company,” he said. “We had a good plan, and it helped that I had experience doing this kind of work before. It was pretty much a slam dunk.”

Alissa Salmore, an environmental planner for ITD District 5, worked on the project behind the scenes with Lyman and Porter. She said Porter “is a rock star. We’re lucky to have him.”

It also helped to have Lyman’s expertise. “He knew exactly what he wanted to do,” she says. “And he drew up the plans to make it work.”

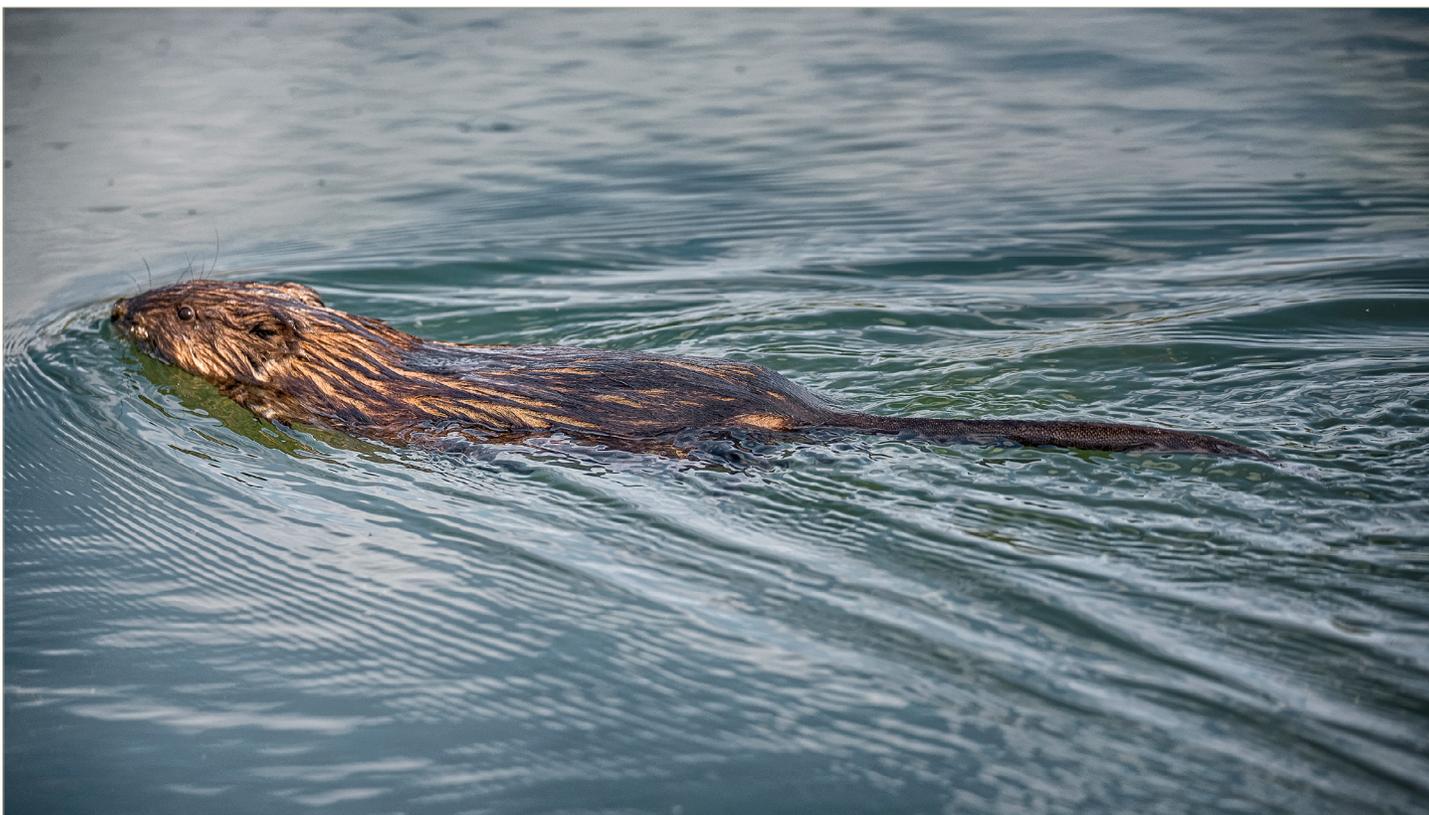
Plus, Tin Cup Creek is worth keeping in good condition because of its ecological values, she noted. “It’s a fabulous stream with an intact riparian system and excellent biodiversity.”

Lyman’s project on the Caribou-Targhee National Forest is expected to be done in three phases over three years. They’re adding more meanders to the stream to

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Mark Porter working on a riffle.



BEAVERS, cont. from Page 2

match historical conditions in the 1950s. Lyman has aerial photos from that time period. He estimated that about 1,500 feet of stream channel length had been lost through widening, straightening and down-cutting of the channel over time.

Portions of the willows on the stream-banks had been accidentally sprayed with 2, 4-D in the mid-1960s while the Forest Service was spraying sagebrush.

“Since 1978, the channel appears to be in a recovering mode. However, most outside meanders are vertical, raw and eroding and are not likely to recover for many decades without intervention,” Caribou-Targhee officials wrote in the Environmental Analysis.

Lyman has completed the first year of work on the project. Streambanks will be stabilized using natural materials such as sedges and willows, harvested on site, and they’re adding woody debris to the inside channels of the stream banks, by anchoring Douglas fir trees to the banks.

“We’ve brought in over 600 trees for that aspect of the project,” Lyman said. “Overall, we’re mimicking on Tin Cup Creek what

beaver have done in that area over time.”

Lee Mabey, a fisheries biologist for the Caribou-Targhee National Forest, said the Forest Service aspect of the project has cost about \$130,000 so far. Project partners include the U.S. Fish and Wildlife Service, Desert Fishes Habitat Council, Western Native Trout Initiative, Trout Unlimited chapters in Idaho Falls and Jackson, Wyo., Caribou County and sheep and cattle permits.

The ITD project is being funded by the District 5 maintenance office. Most of the work was accomplished by in-house staff with in-house labor. The rock materials were the only outside cost, totaling about \$9,500 for both riffle structures and the rip-rap. The heavy equipment and dump trucks were all provided by ITD.

“If we’d done it without all of those in-house services, it would have cost at least four times that amount,” Porter said.

For more information about the Tin Cup Creek project, contact Mark Porter or Allissa Salmore at ITD in District 5, 208-233-3300 or Cory Lyman with the Caribou-Targhee National Forest: clyman@fs.fed.us. □

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Steve Stuebner is a regular contributor to Conservation the Idaho Way.

COMMISSION MONTHLY DISTRICT REPORT & UPDATE

After a seemingly never-ending summer, Fall has arrived in Boise. Fall has arrived where you are too. This month begins our annual Fall Division meetings around the state.

In addition to local field staff, this year we'll bring along all the usual Boise folks and a few others, as well. Commissioner Slichter will join us at Division 1 (in Worley) and 2 (in Nezperce) meetings this week. The following week Commissioner Trebesch will attend the Division 3 meeting (Cascade). Finally, the last full week of October will see Commissioner Roemer attending the Division 4 meeting (Burley), Chairman Wright the Division 5 meeting (Pocatello), and Commissioner Radford, the Division 6 meeting (Salmon).

We look forward to seeing all of you soon.

Final District Allocations in November

The Commission will meet in Boise on November 2nd to consider the recommendation of the District Allocation Work Group on this year's Local Match Allocations.

In the past few years we have tried and succeeded in getting processing district reports in September, although in past years it was typically after the IASCD annual conference. This year's final district allocations won't be that late, but it will be about mid-November before allocations hit district accounts. Thanks for your patience.

Local forestry and fire grants available

The Idaho Department of Lands (IDL) recently announced that districts (and non-profit groups, local and state agencies, tribes and educational institutions) can apply for grants of up to \$240,000 each to help protect, enhance and conserve forests in Idaho.

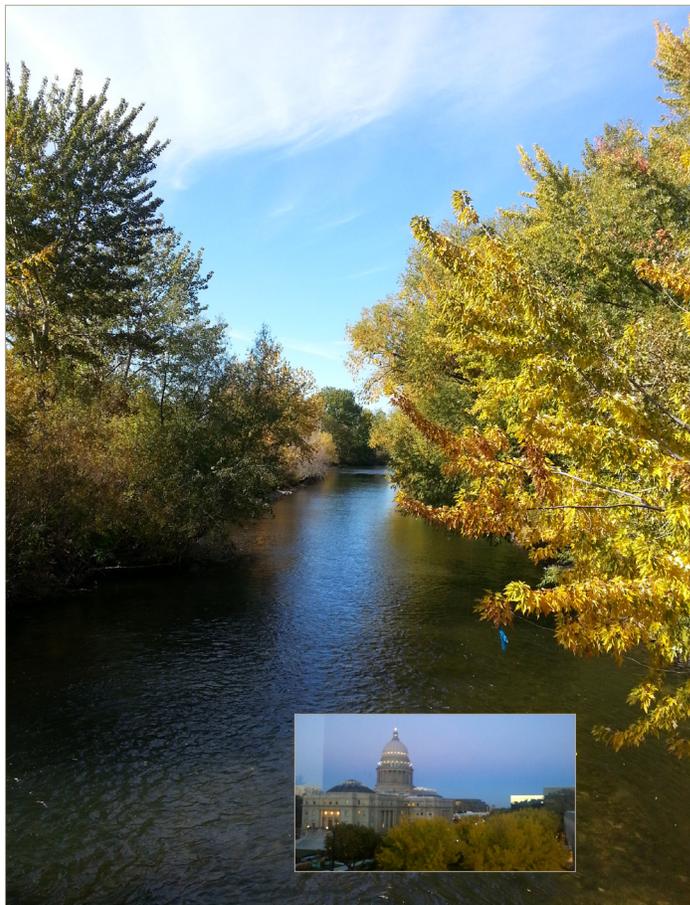
The Landscape Scale Restoration, Western Fire Managers, and Hazard Fuels Reduction Grants fund activities that support local or state initiatives and address issues identified in county wildfire protection plans or the Idaho Forest Action Plan. The Idaho Forest Action Plan is a long-term, coordinated strategy for reducing threats to Idaho's forests while increasing the social, economic and environmental benefits they provide.

The Idaho Department of Lands (IDL) is requesting project pre-proposals for the grants. Within each grant program, a limited number of project pre-proposals will be selected for full development and competition with other applicants across the West.

IDL will hold a webinar on October 30, 2017 to explain the types of projects that qualify and how to build successful project pre-proposals. To sign up for the webinar, e-mail Jennifer Russell at jrussell@idl.idaho.gov.

Project pre-proposals are due January 22, 2018. More information about the grants and examples of past projects can be found at:

<http://www.idl.idaho.gov/grants/index.html>



The IDL administers the grants, which are funded through the U.S. Forest Service State and Private Forestry branch.

We're Hiring!

And last but not least, we have announced openings for 2 Soil Conservationist jobs (Rigby and Pocatello) and for a Soil Technician (Coeur d'Alene). The positions will be open until 5 pm on October 20th and we hope to have all three hired in time to attend the IASCD conference in November.

For more info: www.swc.idaho.gov/about-us. Please encourage qualified folks to apply. ☐

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