

Leaving it to Beavers in Washington

Restoring Nature's Hydrologists

By Hannelore Sudermann

As we crunch through the snow in the hills above Winthrop, Steve Bondi '02 and Ryan Anderson '08 are eager to see evidence that their project to improve riparian habitat and provide late season water to the Methow Valley is working.

They're building dams, but with the help of nature's own unparalleled engineer—the beaver. The effort for a time seemed just a joke in the state capital—that of beavers building dams along rivers and streams in the Columbia River watershed to improve the hydrology of the region.

The effort [to restore beaver dams in the Columbia watershed] for a time seemed just a joke in the state capital...

“At the time, we couldn't tell if they were laughing at us or with us,” says Anderson, watershed restoration lead for the Washington State Department of Ecology Water Quality Program.

Bondi and Anderson, both of whom have master's degrees in environmental science, lead the hike in about a quarter mile past a split rail fence and a few slippery feet across a frozen stream. Bondi, stewardship director for the non-profit Methow Conservancy points to an area with aspen on one side, a frozen pond and conifers running up the hillside on the other. “You see Little Cub Creek going that way,” he says, pointing east. Then, waving his arm across, “And this is a beautiful spring-fed pond complex.”

He leads us down to the shore

and the edge of a 150-foot long dam behind which a large pond has formed. Another, shorter dam a few hundred feet off fronts a smaller pond. All this wasn't built in a summer, he warns. Beavers had disappeared from the site several years ago. But this summer a new group of beavers moved in, repaired it, and built the ponds up even higher.



Photo by Steve Hersey

Beavers are active through the winter, though most of their activity takes place underwater where they have stored wood they later take into their lodge to eat. But we found signs that at least one had been out since the snow had fallen. An aspen with a 10-inch diameter trunk had about three inches already whittled away. Fresh shavings lay on the snow.

The five beavers had been nuisances in another spot in the Methow Valley. “They would have been removed, one way or another,” says Bondi. Caught in large wire traps, they were collected as a family and housed at a holding facility in Winthrop before being deposited on public land about three miles downstream from where we are today. The drop site was

selected from a GIS color-coded map created by the Pacific Biodiversity Institute to consider stream courses, elevation, vegetation, and land use in finding priority areas for beavers.

“That's what has really impressed us at our office,” says Anderson. There has been a half century of effort in the west to remove nuisance beavers and put them on new sites, but no one was really thinking about how to help the beaver safely settle in. “It was more a hydrologist grabbing a beaver and dumping him out of a pickup, sort of saying ‘Best Wishes,’” Anderson says.

“The success rate is anticipated to be much higher than those old-style programs...”

Without a home, slow moving on land, quite odiferous, and with poor eyesight, these 40-pound rodents can be very vulnerable. “Beavers are a big chunky ball of fat with a fur coat on,” says Bondi. They're quite the treat for hungry coyotes, wolves, and even bears.

This beaver project is based on the knowledge of a seasoned field biologist. The animals are moved as a family unit, some thought is put into the relocation site, and they get temporary housing and food. “The success rate is anticipated to be much higher than those old-style programs,” says Anderson. The state DOE provided money to get the Methow project started, with hopes that it could serve as an example for other watersheds.

This summer when Bondi went

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looking for the five beavers, he found fresh mud, aspen on the ground, and drag marks to the water at this site. He hadn't expected the new crew to settle in here on private land. "Part of the fun whimsical mystery of all this is you can't control it all," he says. Fortunately this landowner is pleased to have the beavers back. Why wouldn't she be? The creatures

Their munching on the older aspen has caused dozens of new ones to shoot through the soil.

have restored a series of ponds and expanded the habitat for wildlife and waterfowl. Their munching on the older aspen has caused dozens of new ones to shoot through the soil.

"There are still some folk around who think the only good beaver is a dead beaver," says Bondi. "We're hoping to change that through outreach and education."

Much of the Methow River drainage is made up of loose boulders and rocks called alluvium. The beaver dams hold the water back, allowing it to seep through rocks into the aquifer rather than race down the streambeds in the spring. Later, when the streams are low and the rivers warm up, the water that the beavers had redirected comes out, cooling the rivers and providing better, fresher habitat for downstream fish like bull trout, Chinook, and steelhead.

Two centuries ago the Methow Valley was rife with beavers. With their dams and ponds surrounded by green foliage and trees, it must have been a very different landscape, says Bondi. "There are some of us here local who think from the Columbia to the head of the watershed in every direction was just solid beavers." Both Bondi and Anderson have read early

descriptions of the region written by explorers and trappers, including David Thompson, the Canadian who mapped the Columbia from its source to the Pacific Ocean. But in the 1820s and 1830s, "thousands upon thousands upon thousands of beavers were pulled from the Methow, Okanogan, Wenatchee, and Entiat areas," and their pelts were traded at Fort Okanogan, says Bondi. As much as 90 percent of the beaver population may have been removed—significantly altering the landscape and ecology.

The U.S. Forest Service also had an archived map from the Methow Valley in the 1930s which pointed out locations of beaver occupancy as well as sites where locals had remembered beaver dams dating back to the early 1900s. "There were places (high up in the hills) people couldn't believe," says Bondi. "These guys were everywhere around here."

In the past two years the project has captured and relocated more than 60 beavers.

The journals and maps described a landscape that is long gone. "But we're helping to restore elements of it," Bondi says. That caught the interest of the funding agents, including the National Fish and Wildlife Foundation, Audubon of Washington, the U.S. Forest Service, and the Yakama Nation.

"This is so much easier than other projects," says Bondi. The beavers are not listed as endangered, the ones that are relocated are considered nuisances by the landowners and would otherwise be eliminated, and they're being moved to public lands. No public hearings, no environmental impact assessments to fill out—it's amazing how little red tape there is, he says.

By contrast, for someone to

build a little dam up in the woods to achieve the same goals, the costs of permitting and federal requirements are almost as much as the Methow Conservancy's annual budget, says Bondi. As well, a man-made solution would require constant maintenance and management. This, instead, has worked for millennia without any human support. "Something like this will get a lot larger bang for the buck," says Bondi. "And it will affect a lot more than fish."

In the past two years the project has captured and relocated more than 60 beavers. Not all have stayed put or survived, but for the most part, things seem to be working. At least seven dams were built in 2008, and at last count, another six sites were active from the 2009 releases.

"They do everything that we need them to do," says Anderson. "When you think about it from a landscape perspective, from a biological perspective, and how it all interacts with the hydrology of the region, it starts to make a ton of sense."

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Wetlands Jokes

Why don't they build freeways through wetlands? Traffic would get all bogged down.

Why was the fen feeling bogged down? Because everyone loves Marsha.

What is black and yellow and red all over? A spotted salamander with a sunburn.

What do you call a guy with no arms and legs in a bog? Peat.

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