



Casey Campbell/Gazette-Times
Contractors pour concrete for a fish ladder around an intake dam on Griffith Creek, a tributary of Rock Creek west of Corvallis. The work is part of a \$750,000 project to open the city's 2,400-acre Rock Creek Watershed to migrating cutthroat trout.

Safe passage

By BENNETT HALL
Corvallis Gazette-Times

A project to open a city-owned watershed to migrating trout has broad environmental benefits

Drive up into the forested hills of the Rock Creek Watershed west of Corvallis and you'll cross the creek and its tributaries several times.

On the upstream side of each road crossing, a metal pipe 3 to 4 feet wide juts into the streambed, allowing the water to continue its journey down to Greasy Creek, the Marys River and eventually the Willamette. On the downstream side, erosion has scoured small plunge pools out of the creek, leaving the culvert's end perched two feet or more above the surface.

Fish can follow the culverts downstream, too — but they can't get back up. To a lovesick trout yearning to spawn in the tree-shaded gravel beds at the creek's headwaters, a perched culvert might as well be a locked bedroom door.

The citizens of Corvallis have been drawing water from the Rock Creek drainage for a century now, and for most of that time culverts, dams and other manmade structures have barred the upper reaches to migrating cutthroat trout that spend most of their life cycles in lowland rivers.

Now the city has joined with state and federal agencies and citizens' groups to reopen the Rock Creek system to fish passage in an effort to bolster native cutthroat populations and restore many of the watershed's natural functions.

The city is under no legal obligation to do so — the trout is not an endangered species — and the project comes with a substantial cost. So why did the City Council approve it?

"It seemed like, from the environmental point of view, the right thing to do," said Tom Penpraze, manager of the city's utility division. "We want to be good stewards of the land."

Righting old wrongs

The Rock Creek Watershed offers a case study in the unintended consequences of harnessing natural resources for public benefit. But it also provides an object lesson in the resilience of nature — and the power of human collaboration.

Corvallis started taking water from Rock Creek in 1908. In the 1920s, to safeguard the water source, the city began purchasing forestland along the creek and its tributaries on the east slope of Marys Peak, eventually acquiring close to 2,400 acres.

A 100 million-gallon reservoir behind an earthen dam on Rock Creek's main North Fork provides plenty of storage capacity, and two small intake dams on tributary streams funnel water into a treatment plant. From there, a pipeline carries the treated water downhill to the municipal distribution system.

Today the watershed supplies 30 percent of the city's needs, or about a billion gallons a year. It's a more cost-efficient source than the Willamette River, which provides the bulk of Corvallis' water, because gravity does most of the work of distribution.

But Rock Creek's dams and culverts impede fish passage, as well as altering the normal flow of silt, gravel and woody debris through the stream channels — all important factors in water quality and fish habitat.

This summer, the city teamed up with the Marys River Watershed Council on a three-pronged effort to address those problems:

- Fish ladders are being constructed around the intake dams.
- Undersized perched culverts are being replaced with much bigger in-stream culverts.

- More than 80 large logs are being placed in the stream channel to create spawning and rearing habitat.

The price tag for the project totals \$750,000 in cash and in-kind contributions. The city kicked in \$50,000 raised from a 2007 timber sale, a 28-acre thinning project on the watershed. But the rest of the money came from a variety of sources.

"We've been able to leverage more than \$500,000 in grants," Penpraze said. "We think that's a pretty good return on our investment."

The biggest grant came in the form of a \$448,000 check from the Oregon Watershed Enhancement Board, and the Oregon Department of Fish and Wildlife put up \$118,000. The U.S. Forest Service, which manages the headwaters of Rock Creek and its tributaries high on Marys Peak, also got into the act. The Siuslaw National Forest contributed \$60,000 in stewardship funds and is donating 83 trees for logjam creation, a gift valued at \$94,000.

"We kind of crossed all government and nongovernment lines with this," said Kami Ellingson, the watershed program manager for the Siuslaw National Forest.

Going with the flow

The new culverts will be a far cry from the claustrophobic pipes in place now. The corrugated steel ovals measure 10 feet high and 12 feet wide, big enough to drive a truck through. They're also big enough to accommodate an entire stream channel — rocks, gravel, fish and all — and eliminate the downstream "perching" effect that creates an artificial waterfall too high for trout to leap.

A future project will look for ways to mimic the natural flow of gravel and woody debris past the dams.

"Cutthroat use has not been real high within the watershed, and that's in part due to the flows as well as the barriers to passage," said Karen Fleck Harding of the Marys River Watershed Council, which is managing the project.

"Both the fish ladders and the culvert replacements will increase the ability of fish to move upstream."

Altogether, the project will open up eight miles of tributary streams on the upper slopes of Marys Peak. For cutthroat trout in Greasy Creek and the Marys River, that means access to high-quality spawning gravels, an expanded food source and a cool-water refuge from high summer stream temperatures.

Not just for fish

There are populations of cutthroat trout living above the dams and culverts in the Rock Creek basin now, according to fish biologist Steve Trask, a watershed council member who wrote seven grant applications to secure funding for the project.

Many of those fish tend to be small, growing to no more than 6 or 8 inches long, though trout living in the open water of the reservoir can get bigger. In contrast, the river-run cutthroat living below the barriers in Greasy Creek and the Marys River often grow much larger, reaching 14 inches in length.

Although the trout is not an endangered species, opening the upper reaches to fish passage should improve the overall health and size of the Rock Creek basin's cutthroat population, currently estimated at 1,700 adult fish.

"We're hoping to see a bump in the numbers up there," Trask said.

There's a remote possibility that steelhead and coho salmon, which have been spotted in Rock Creek in the past, could return to the basin, Trask said. But he added that it would be a mistake to think of this project as focusing solely on fish. It's really about returning the whole Rock Creek Watershed to a healthier, more natural state.

"Fish are one of our primary indicators of watershed function," he said. "It's not that this project is being done just for fish. It's really a top-down approach to restore watershed function."

Seeing the big picture

While much remains to be done, the Marys River Watershed Council has made great strides in the region, said Karen Hans of ODFW's Salmon Trout Enhancement Program, and the Rock Creek Watershed project builds on that success.

But in the grand scheme of things, she added, it's just one chapter in a much greater Oregon success story.

"All over the state, we've got groups like the Marys River Watershed Council all doing their part to restore some of this habitat. All these groups are doing one project at a time, and over time they're all going to add up," Hans said.

"Other states don't have that luxury," she added. "I've been to other states that have really struggled to find the money to do these kinds of projects."

That's what Oregon voters had in mind in 1998, when they set aside 7.5 percent of Lottery revenues for watershed projects aimed at restoring habitat for salmon and other fish while protecting the quality and quantity of the state's water supply. Since then, working with more than 60 local watershed councils, the Oregon Watershed Enhancement Board has distributed \$168.5 million for restoration projects around the state. Matching funds from other sources have magnified the impact of those grants at least threefold.

“This project is part of a statewide effort to make Oregon the kind of place we all want to live in,” said Wendy Hudson, OWEB’s regional program representative for the Willamette Basin. “Those values will probably continue to be important to Oregonians, especially as the population increases in this part of the state and open space becomes more of a premium.”

Closer to home, said the Marys River Watershed Council’s Harding, it just seemed like the right thing to do.

“This is where we draw our water,” Harding said. “This is going to improve fish passage in the watershed, and I think a lot of people in Corvallis are going to be excited about that.”

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