

The Clark Fork Comes Home

Previously choked by a dam and 3 million tons of toxic sludge, Montana's largest river exhales—and the trout are moving in.

THE CLARK FORK RIVER FLOWS approximately 310 miles and is Montana's largest river by volume. Named for explorer William Clark, the river drains an extensive region of the Rocky Mountains in western Montana. The Clark Fork begins near the Continental Divide and the town of Butte, and meanders north-northwest through vast mountain valleys before emptying into Lake Pend Oreille in northern Idaho. Offering some of the most pristine vistas anywhere, it's also been one of the most polluted rivers in the Lower 48, but a huge cleanup effort and the removal of the Milltown Dam have yielded signs of returning health.

A Century of Toxicity

The Milltown Dam was built in 1907 at the confluence of the Clark and Blackfoot rivers, and a year later, a massive flood washed millions of tons of mining and smelting waste—copper, lead, zinc, cadmium, and arsenic—downstream

from Butte. The toxic soup settled eight miles north of Missoula, Montana, in the 180-acre reservoir behind the Milltown Dam. There it remained unmolested until 1983, when the Clark Fork Superfund site was established by the EPA after dangerous levels of arsenic were found in local well water and traced to the toxic sediments trapped behind the dam. The contaminated sludge helped the 120-mile stretch from Butte to Missoula earn the dubious honor of being one of the largest (area wise) EPA Superfund sites in the nation.

In 2003, the EPA and the state of Montana approved a plan to remove the Milltown Dam and the 3 million tons of toxic sludge in the reservoir. The plan called for the Milltown Dam to be removed, one half in the spring of 2008 and the other half in the spring of 2009. Beginning in 2007, the reservoir was lowered 10 feet and sediment excavation began. The EPA estimated

The area just upstream of the former Milltown Dam site bears the scars of sediment removal but will soon be part of the Milltown State Park.

the excavation process would take three years. From October 2, 2007, to September 24, 2009, a trainload of 45 cars—each carrying approximately 100 tons of excavated sediment—rumbled back and forth almost every day from the excavation site to the dump site, located upstream near Anaconda, Montana. The train ran on 90 miles of track built specifically to aid with the removal of the poisonous soil.

During the removal of the sediment, the Clark Fork was diverted around the cleanup site and into a bypass channel.

On December 16, 2010, with the sediment removal process complete and the dam removed, the Clark Fork River returned to its natural waterway and to its free-flowing state.

A River's Rebirth

Today, after the removal of the Milltown Dam and the contaminated soil, the Clark Fork is showing encouraging signs of health. "We're seeing increasing populations of cutthroat and rainbow



According to surveys, the Milltown Dam blocked more than 200,000 adult fish per year from the upper reaches of the Clark Fork watershed.

trout several miles above the confluence of the Clark and Blackfoot rivers," said Montana Fish, Wildlife, and Parks biologist Dave Schmetterling. Prior to the dam removal, Schmetterling said that annual fish-migration research showed that 200,000 adult fish were unable to travel above the dam to their ancient spawning grounds. "With the dam gone, these species can now migrate through the entire watershed."

Proof of Schmetterling's claim came first-hand from a fishing trip this past September, when he joined guide Joe Cummings. Together, they floated a stretch of the river 17 miles above the confluence of the Clark Fork and Blackfoot. "I was astounded to see rainbows and especially cutthroats rise to our dry flies," said Schmetterling. "I never expected to see trout repopulate this far upstream of the Milltown Dam so quickly."

Cummings added that he first discovered a few adult rainbow trout right after the first stage of dam removal in 2008, and the rainbows have increased in numbers each year since. According to Cummings, this stretch of the Clark Fork had traditionally been vacant of trout except for sparse pods of browns.

While remaining optimistic, Schmetterling is cautious about predicting immediate increases of trout populations throughout the Clark Fork. "The potential problem is copper. It's extremely toxic to fish and other aquatic life." He says that in 2009, when the last portion of the dam was removed, an undetermined amount

of sediment was flushed downstream. As a result, he expects the bug picture to continually evolve and perhaps fluctuate as the river bottom changes with each spring runoff and the sediment disperses and settles. Despite Schmetterling's concerns, an annual report published in May 2011 by the EPA stated the insect population along the Missoula reach of the Clark Fork is recolonizing, with increases of bug life

from Warm Springs to the confluence with the Bitterroot River west of Missoula.

A Slow Process

Nationwide, dam removal is still a fairly new concept, while removing a dam is sometimes as simple as well-placed explosives, the process leading up to that moment is always laborious. For example, Karen Knudsen, executive director the Missoula-based Clark Fork Coalition, says that it took 22 years of haggling just to develop a cleanup plan for the Clark Fork and to agree on who pays for what. Once the plan was endorsed by the EPA, Knudsen says dam removal became a viable option.

The work around the Milltown Dam site is still ongoing; most of it nowadays is concentrated on restoring the floodplain just upstream of the site that was exposed during sediment removal. Much of the work involves planting native vegetation, such as willows and cottonwoods, that will prevent erosion and help clean the soil. A new 542-acre Montana State Park is being developed along the banks of the Clark Fork as part of the project's three R's—Remediation, Restoration, and Re-development. "The return of the restored floodplain, new park, and healthier river system will be a tremendous asset for generations to enjoy," notes Ms. Knudsen. She believes that the ongoing restoration of the Clark will boost the area's economy by attracting new tourist dollars and be a magnet for river recreation, such as fly-fishing for rainbows and cutthroats.

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Milltown State Park

A 542-ACRE STATE PARK IS BEING CONSTRUCTED near the confluence of the Clark Fork and Blackfoot rivers, just above the site of the former Milltown Dam. Plans for the Milltown State Park include a system of trails and bridges that will connect surrounding communities to the park—which will turn the former waste site into a hub of community activity. The park will also include a viewing platform built on the bluff overlooking the confluence of the two rivers. When complete in the summer of 2012, the park will combine a variety of recreational outdoor activities, heritage tourism, and environmental education.

"As the Superfund cleanup work at the Milltown site nears completion, our vision is coming into sharper focus. The goal has always been to restore the original habitat by planting trees, and to make it more user friendly by building trails, bikeways, a pedestrian bridge, and creating interpretive stations that will help celebrate and explore the site's rich human and natural history," said Michael Kustudia, manager of Milltown State Park.

The human history of this area runs deep in the history of United States and predates white settlement. Meriwether Lewis passed through the area on July 4, 1806, followed by the Mullan Expedition. Prior to that, Native American tribes, such as the Salish and Kootenay, used the area for hunting and ceremony for centuries.

The new Milltown State Park is the result of more than eight years of public process and planning that ran parallel to the removal of the Milltown Dam and contaminated soil. —MH



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