

The Fate of Two Great Rivers

.....○ A Canadian strip mine threatens native fisheries in northern Montana

▲ GORDON SULLIVAN

THEY STAYED IN the deepest part of the glide, finning just above the cobbled bottom in their jade-green world. A half dozen or more at first, but eventually in pairs, the trout bolted through the Flathead's swift current, driven by unyielding urges imprinted over 14,000 years of survival in these waters.

To me, spawning bull trout are different from other trout. They migrate with urgency, as if they somehow grasp just how close to extinction they've come. There was a time when native species like bull trout and Westslope cutthroat were plentiful in Montana waters. But that has changed.

Old stories tell of bull trout as long as your arm trashed in the bushes along our favorite rivers. At the time, anglers were caught up in the acrobatics of showy rainbows, or the line-snapping pull of brown trout, and we simply dismissed bull trout as a carnivorous detriment to species more to our liking.

However, scientific evidence supporting healthy trout fisheries changed our impressions. Biologists and ecologists—not to mention fly fishers—began to see native species as clear indicators of sustainable water quality, insect diversity, protected lands, clean rivers, beneficial aquatic flora, and an overall healthy ecosystem.

In many watersheds spread throughout northwest Montana, change came too late to offset the harmful impacts brought on by an unquenchable appetite for development. From logging, mining, and grazing livestock in the wrong ways, or grading roads in places better off left

► The proposed Lodgepole Mine in British Columbia sits at the headwaters of Montana's North Fork Flathead River (below).

Photo | Jay Nichols



alone, native trout habitat has suffered the consequences of our actions.

Today, only a few rivers remain on our planet where, from the edge of a drift boat, fly fishers can watch spawning bull trout, a fish currently listed as threatened under the Endangered Species Act (ESA). And there are few places left where genetically pure Westslope cutthroat, currently under petition for listing, can be caught with a fly.

Remarkably, two of Montana's northern watersheds, the Flathead and the Kootenai, are among those rare places. But they might not remain that way, if mining and gas corporations get their way in the Canadian headwaters of these rivers. [*Proposed coal mine development caused the nonprofit group American Rivers to add the North Fork of the Flathead River to its 2009 list of top ten endangered waterways.* THE EDITOR.]

Bulls in Peril

The Flathead Basin rests just south of Glacier National Park. It is comprised of three distinct branches which, after converging, empty into Flathead Lake, the largest natural freshwater lake in the Western U.S. The Flathead's South and Middle forks originate in the federally protected Bob Marshall Wilderness. But the North Fork, the most fragile and pristine of the three, begins approximately 25 miles north of Montana's border with British Columbia, on land presently open for mining.

Among the network of Canadian tributaries feeding the North Fork are Foisey, Crabb, and McLatchie Creeks, which flow from the western flank of Foisey Ridge. Today, the setting is primitive, unpeopled, and radiates with natural splendor—lush conifer forests, snow-dusted peaks, deeply cut drainages, and unequaled fish and wildlife habitat. Despite the lack of wilderness designation, the headwaters region is reminiscent of neighboring Glacier and Waterton Lakes national parks—both United Nations World Heritage Sites.

"The North Fork supports one of the last remaining strongholds for threatened bull trout throughout their native range. Spawning studies show that over 50 percent of the North Fork bull trout population reproduces in several tributaries in the Canadian headwaters, including Cauldrey, Cabin, Howell, Sage, and Kisheneh



Photo | Jay Nichols

▶ The Flathead Basin (above) is one of the last remaining refuges for endangered bull trout and Westslope cutthroat trout.

creeks, and the main stem river, traveling over 150 miles upriver from Flathead Lake to reach these critical habitats," reports Clint Muhlfeld, research aquatic ecologist with the United States Geological Survey's Northern Rocky Mountain Science Center in Glacier National Park.

"Remarkably, the most important spawning area for bull trout north of the border is the river section near the mouths of Foisey and McLatchie creeks, where 34 percent of the North Fork's entire population spawned the last time we checked," Muhlfeld says. "When we turn to surveys conducted on Westslope cutthroat trout, a species of special concern in Montana, several tributaries throughout British Columbia, including Foisey Creek, provide crucial spawning habitats and contain genetically pure populations. These headwater areas offer cold, clean water, silt-free streambeds, and diverse and connected habitats, which are critical for growth and persistence of these native trout populations."

Tragically, the critical spawning habitat Muhlfeld identifies is also immediately adjacent to Cline Mining Corporation's (clinemining.com) proposed Lodgepole open pit coal mine.

The mine targets 40 million tons of high-grade coal buried inside a towering ridge situated between Foisey, McLatchie, and Lodgepole creeks.

Operations could last 20 years if the coal market holds. Getting at the coal requires the removal of an entire mountaintop, the heaping of massive waste dumps, and the digging of settling ponds located directly upstream from sensitive spawning habitat.

In public meetings, Cline engineers have reported that huge waste dumps may not be stable in the unsettled geology underlying the Canadian Rockies. Adding to the potential failure of the dumps is the immense problem of handling polluted water originating from overland runoff.

Immense Impacts

For millions of years, natural hydrology within the Canadian Rockies has mastered the movement of both surface and subsurface water, but little is known about exactly how the intricate system works.

Mining plans call for the open pit to reach a final depth of 300 feet below the river streambed, which will immensely impact the area's hydrology.

"We are very concerned about the areas of upwelling and the uncontrollable exchange of water between the enormous settling ponds and the river, as well as erosion and sedimentation running off of the mine, waste dumps, settling ponds, and roads," says Erin Sexton, a scientist from the

University of Montana's Flathead Biological Station.

If contaminated water and sediment find their way into the spawning tributaries or the river, at least three generations of juvenile trout maturing in the Canadian section of the North Fork could be affected.

"Any influx of tainted water will greatly affect the river's overall water quality and will eventually make its way to Flathead Lake, within 48 to 72 hours," Sexton adds.

The Flathead River system is a migratory fishery, with the huge lake

The Foisey Creek samples showed a thriving population of insects, no less than 50 different species, as opposed to only a few highly tolerant species left surviving on Michelle Creek, after mining at the Coal Mountain site.

Justin Lawrence is a professional fly-fishing guide on the Flathead River. Emphatically, he shares the concerns of Muhlfeld and Sexton.

"It is sad that just as the Flathead River is beginning to come into its own as a native trout fishery following decades of scientific work and

The reservoir is internationally famous for its bull trout fishery, one of the few left where the population is great enough to allow for an annual harvest. The success of the reservoir as a native fishery is directly correlated to spawning on Lodgepole Creek and the Wigwam River. The Wigwam drainage, according to Montana Fish, Wildlife and Parks fisheries biologist Mark Deleray, accounts for 80 percent of the bull trout spawning for Kootenai. Lodgepole Creek makes up the remaining 15 percent.

Like those of the North Fork Flathead, Kootenai tributaries also depend on sustainable water quality and silt-free streambeds.

"A lot of the emphasis is placed on the Flathead drainage," says Muhlfeld, "but the entire Lodgepole, Wigwam, and Kootenai system will suffer equally if the mine goes in. Sediment loading from both dust and erosion along the road may seriously compromise the habitat that supports this international fishery. Increased sedimentation from land use practices is one of the foremost causes for the original decline of bull trout populations across this species' ancestral territory."

"Fly fishers from across the country should pay close attention to this emerging issue," Lawrence says. "Not just because we stand to lose two of the west's best native fisheries, but for the precedent that will be set for our trans-boundary waters."

"A river is more than an amenity, it is a treasure. It offers a necessity of life that must be rationed among those who have power over it."

Oliver Wendell Holmes, Jr.

serving as the rearing grounds for native trout. Any impact on the lake's water quality ripples throughout the entire Flathead ecosystem.

To sustain the mine, a coal-washing plant and sizable loading and storage facilities will be built in the presently pristine environment. Maintenance and office buildings, parking lots, new roads, dry tailings piles, a high-voltage transmission corridor, and massive fuel storage tanks will add to the growing infrastructure.

In order to determine the likely impact of the proposed Lodgepole Mine, scientists have turned to a similar operation, Coal Mountain Mine, located on nearby Michelle Creek. In preliminary studies, researchers collected water quality and aquatic insect samples from Michelle Creek and compared them to Foisey Creek. Michelle Creek showed seriously elevated levels of nitrogen and phosphorous, as well as a staggering amount of selenium, more than 50 times higher than samples from other tributary streams in the region. Selenium accumulation in trout results in deformities as well as impeded reproduction.

In addition, samples from Foisey Creek firmly support Muhlfeld's conclusion about the unique biodiversity around the proposed mine.

mindful use by fly fishers, we stand to lose it all due to industrialization on the upper North Fork," Lawrence says.

"Fly fishers travel to the Flathead River from all over the country and leave amazed by the quality experience a healthy native fishery can provide. To see it jeopardized is a real shame."

Further Fallout

The Lodgepole Mine and its surrounding infrastructure will tremendously impact water quality and aquatic life throughout the entire Flathead Basin. But the impact on Montana fisheries doesn't stop there. Once operation begins atop McLatchie Pass, coal will be hauled more than 30 miles down the opposing drainage to the town of Elko, B.C., for shipping. As many as six massive haulage trucks per hour will join a parade of service vehicles, some transporting diesel and other hazardous materials, along with hundreds of employee vehicles per shift. The gravel road for most of its course parallels Lodgepole Creek, another key bull trout and cutthroat spawning tributary. The creek feeds the Wigwam River, which empties into Lake Kootenai reservoir, and eventually the Kootenai River.

Crossing Boundaries

In 2007, the Canadian Environmental Assessment Agency announced the commencement of the review process for the proposed Lodgepole Mine. Fisheries and Oceans Canada has been assigned responsibility for ensuring that a comprehensive study is completed.

Among the agency's options is to recommend to Canada's Environment Minister, Jim Prentice, that the mine proposal be referred to mediation, or be reviewed by an independent panel, as opposed to the national government's bureaucracy.

Trout fishers and scientists have joined with Montana's Governor Brian Schweitzer and U.S. Senator Max Baucus to call for the most rigorous review possible under Canadian law.

"The review needs to take into full account the mine's probable impact on Montana water quality, economy, and important trout fisheries," Lawrence

says. "For decades, Montana-based biologists and scientists have studied the Kootenai and Flathead basins as native species were brought back. This data must find its way into the final mix if our fisheries and businesses are to be protected."

Fly fishing in a place like Montana transcends the boundaries of mere sport, or even country. Instead, for those who live here and those who travel thousands of miles to enjoy our trout streams, the final experience is often weighed against the wildness still present on rivers like the Flathead and Kootenai. There is no place left on the North American continent that holds more inland grizzly bears than the headwaters of these two rivers, and it figures that, where the terrain is still wild enough to harbor grizzlies, it is wild enough for spawning bull trout and West-slope cutthroat.

Before we trade our last remaining wilds for something as temporary as 20 years of coal mining—according to Cline officials, coal will be shipped directly to China to fuel its competitive steel industry—consider the value of an outdoor fishing heritage, or the worth of a father teaching his children how to cast a fly on a native trout stream.

As Canadian officials decide the fate of the Kootenai and Flathead basins in the months to come, they hold in the balance not just the future of native trout but an important part of our future as fly fishers.

Montana Senator Max Baucus said it best in a recent interview regarding the Lodgepole Mine.

"We have to rely on the leaders in Canada to make the right decision and engage the best science available to support that decision. People on both sides of the border are watching carefully, and there is no more powerful court in the land than the court of public opinion."

For more information on this critical issue, and the future of these two Montana rivers, visit the National Parks Conservation Association web site at npca.org/northernrockies/flathead_river.html.

Gordon Sullivan is a Montana native, professional photographer, and environmental author. His latest book is *Saving Homewaters: The Story of Montana's Streams and Rivers* (The Countryman Press, 2008).



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