

# TOUGH LOVE

Why it makes  
sense to kill  
some fish in  
order to  
save others

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BY BRIAN MAROTZ

CATARACT CREEK, AT THE OUTLET OF WOODWARD LAKE IN THE BOB MARSHALL WILDERNESS, BY MICHAEL J. WOLF

# As Roxy Hollopeter settled into his chair, his first words to me were, “Poisoning a stream should be a hangin’ offense.”

I looked around for a rope, because I didn't think he was kidding. I was visiting the 91-year-old Kalispell resident whose letter to the editor, entitled “Bumbling Biologists,” had been printed in the *Daily Inter Lake* newspaper that day. The letter took Montana FWP to task for our proposal to use a chemical fish toxin in some wilderness lakes to kill rainbow and Yellowstone cutthroat trout. The nonnative fish threaten one of the last strongholds of westslope cutthroat trout in the South Fork of the Flathead River.

“Sportsmen and citizens must get together and stop this,” the letter had proclaimed, expressing a viewpoint common among those who remember how mining waste and chemicals damaged streams in Montana and elsewhere in the West. “The biologists have already ruined our fishing here with their stream poisoning. There are no salmon flies, mayflies, or hellgrammites left. Fish must eat to live, same as anything else.”

But what FWP was doing was entirely different, and I had made the visit to explain the difference to an obviously concerned citizen.

“Hello Mr. Hollopeter,” I said, when he

answered the front door. “I'm the ‘bumbling biologist’ you wrote about in the paper.”

“Speak up will ya? Rose! Come help me with this darned hearing aid!” His wife offered me coffee and cookies as she got him situated.

“I saw your letter to the editor in the paper today, and I see we've got something in common,” I said.

I'm sure he was wondering, *What could I possibly have in common with a whipper-snapper biologist who says he wants to poison streams?* I reminded him that he had written, “The biologists have planted all kinds of foreign fish... rainbow was one of the worst. If we don't keep [those fish] out of the primitive areas, we can say goodbye to fishing and hunting.”

That, I explained, is precisely the rationale for our proposal. Many of the 21 lakes FWP has targeted for eliminating hybrid trout over the next ten years are in the Bob Marshall Wilderness. Yes, it may seem preposterous to propose poisoning lakes in a wilderness area. I knew Hollopeter thought so. But our proposal is not as crazy as it seems, and I wanted him to understand why it makes sense.

Hollopeter told me he was born in 1912. His family came from Oregon by wagon train to the Swan River valley in 1916. Back then, State Highway 83 was a pack trail, with just a few Englishmen and Finlanders homesteading the area. Today the Swan Highway carries RVs outfitted with TVs and air conditioning, and the valley is dotted with a growing number of cabins and retirement homes. Times have changed dramatically for the people in the area.

And also for the westslope cutthroat trout, a species first recorded by Lewis and Clark. Once common throughout western Montana, the species has dwindled to roughly 10 percent of its historic range. The main reasons for the decline have been habitat loss, stream siltation, overfishing, competition from introduced fish such as brook trout, and hybridization with non-native rainbow trout. The South Fork Flathead River upstream of Hungry Horse Dam is arguably the most secure and intact stronghold for the species in the entire United States. Hungry Horse Dam, completed in 1952, has blocked the invasion of nonnative fish species moving upstream. However, the pure-strain cutthroat aren't completely protected from nonnatives or genetically polluted hybrids. Some mountain lakes have been “leaking” hybrids into the genetically pure cutthroat population downstream.

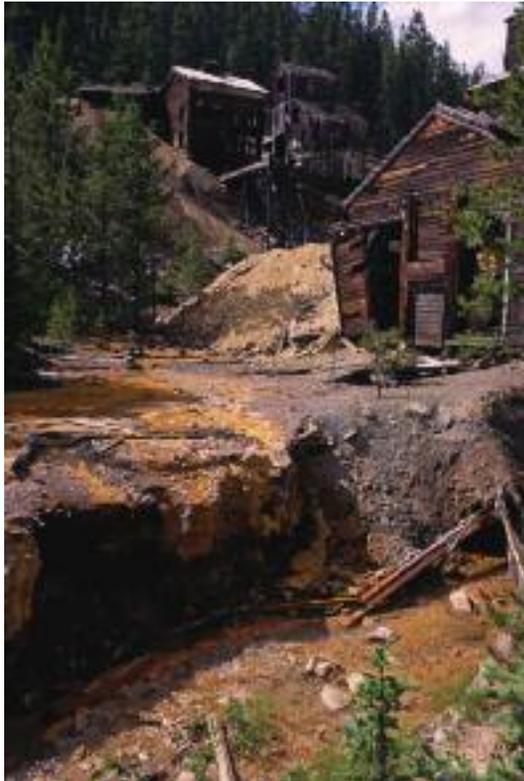
As I explained this problem to Hollopeter, he asked why the cutthroat/rainbow trout hybrids—“mule fish,” he called them—were a problem. “Mules are strong,” he argued. “What makes mule fish bad?”

It's not that hybrids can't do well in wilderness lakes, I replied, but that they can dilute the genetics of pure westslope cutthroat. We're losing the pure strain awfully fast, and once they're gone, they're gone for good. This species has been drastically reduced in its historic range, and the South Fork Flathead River has become an increasingly important reservoir of genetic purity. We don't want to risk ruining that population too, because there should be at least a few places in Montana where genetically pure westslope cutthroats thrive.

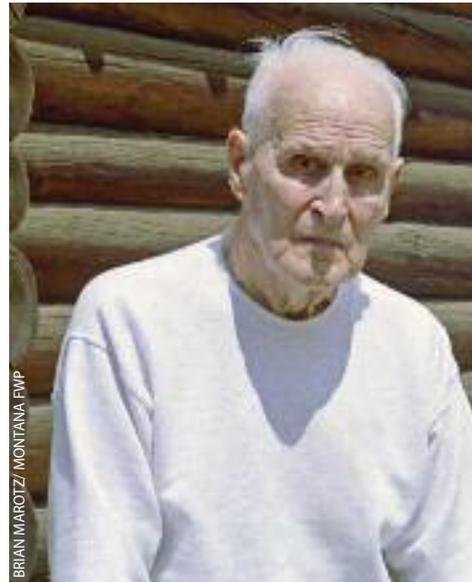
**LEAKY LAKES** Rainbow trout and rainbow-cutthroat hybrids are spilling from the outlets of mountain lakes (left) down into the South Fork Flathead River. There, they could interbreed with pure westslope cutthroat (right), threatening the long-term survival of the native species in one of its last remaining strongholds.



MICHAEL J. WOLF



JEFF ERICKSON



BRIAN MAROTZ / MONTANA FWP



MONTANA FWP

**HANGIN' OFFENSE** Some concerned Montanans, such as Kalispell resident Roxy Hollopeter (above), have opposed fish removal for fear it will ruin streams and lakes, similar to when copper and silver mines (left) damaged waters throughout the state. FWP biologists maintain that chemical fish removal is the only way to rid some wilderness lakes of rainbow trout, originally stocked by horse and barrel, which are interbreeding with native westslope cutthroat trout.

“Protecting the remaining cutthroat is the only way we can retain a pure gene pool if we want to restore wild spawning runs in their historic range,” I added.

Even the state’s captive cutthroat brood stock (fish that produce eggs and young fish that are reared and then stocked) held at the Washoe Park state fish hatchery in Anaconda periodically need to be infused with wild genes to maintain genetic diversity and wild behavioral traits. Last May, FWP biologists captured wild westslope cutthroat males from streams in the South Fork to fertilize eggs from the brood stock.

Hollopeter agreed it made sense to protect such a valuable native species. “There should be someplace left for every creature in nature,” he said.

Then he began to reminisce about years ago when westslope cutthroat were abundant in local streams.

“Once, when I was a kid, there was so much splashing going on in the creek out back I had trouble sleeping,” he said. “I got down there early next morning and saw so many cutthroat trying to spawn that all I could see was fish and no water.”

I agreed such a sight should be available to

*Brian Marotz is an FWP fisheries biologist in Kalispell.*

people in the future and explained that’s what FWP was trying to preserve. Still, he wasn’t convinced. It was the poisoning aspect that stuck in his craw. “I’ve seen what those wildcat miners did to Snowshoe Creek, near Libby. The rocks looked painted red and the insects died and never came back. Now you biologists want to poison more!”

Then he recalled how federal officials once tried to wipe out wolves, coyotes, and porcupines.

“They used 10-80 [poison] hanging in salt blocks to kill the porcupines,” he said. “It worked well, but the rain made the poison run to the ground, so it killed lots of deer and elk, too. The coyotes died when they ate the porcupines, and birds died when they ate all those carcasses. Man thinks he knows best, but nature only works when we leave it alone.”

For the most part, I agreed. People often make a mess of things trying to “improve” the natural world. But the project FWP was proposing was designed to correct a problem already set in motion by humans long ago: the introduction of nonnative fish into waters where they don’t belong.

Next, I told Hollopeter about the compounds being proposed for fish removal. Biologists have selected rotenone and antimycin as the preferred toxins because

the chemicals break down rapidly and only kill gill-breathing organisms (by preventing oxygen from crossing the gill filaments). Even though an eagle or osprey that eats a dead fish isn’t harmed, FWP removes all floating fish after a chemical treatment to prevent scavenging. We also use potassium permanganate to neutralize the toxin at a lake outlet so that gill-breathing creatures downstream aren’t harmed.

As heavy-handed as our project seems, chemical fish removal has a proven track record worldwide as a safe and effective fish management tool. No other technique—netting, no-limit fishing regulations, electroshocking—can completely rid a lake or stream of fish. And if you don’t remove them all, they will soon repopulate. If there were any other way to protect native westslope cutthroat, we’d do it.

“It’s like if you had knapweed in your yard,” I said to Hollopeter. “You’d want to keep it from spreading. We’re doing the same thing with antimycin and rotenone, to surgically remove those ‘weed fish’ in some lakes and streams.”

Like many gardeners and farmers, Hollopeter was familiar with rotenone.

“Heck I’ve swam cows through it, used it on my garden,” he said.

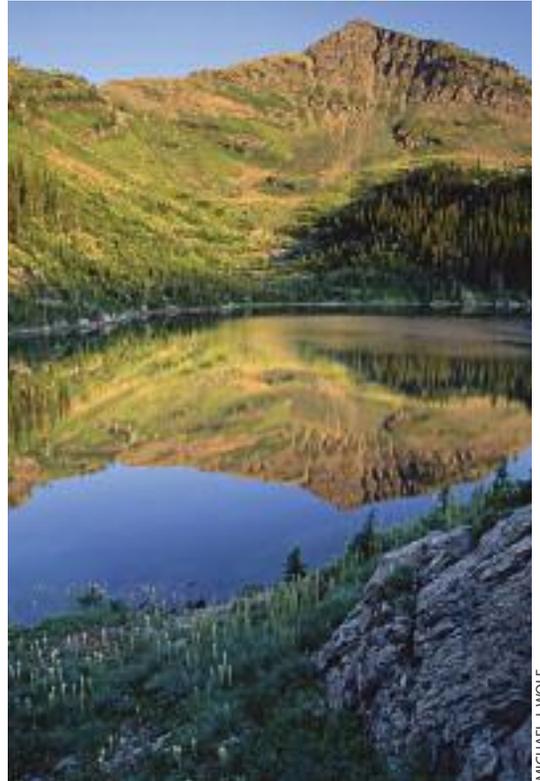
Then he paused. “But if you kill all the



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MICHAEL J. WOLFE

**NO OTHER CHOICE?** FWP wants to drop antimycin into more lakes from helicopters, which is cheaper and less harmful to fragile lakeside vegetation than using pack mules. Above: FWP biologists mark hatchery-reared westslope cutthroats to be stocked in a lake where rainbows have been removed. Though some wilderness advocates say the chemical has no place in the Necklace Lakes (right) and other waters, FWP says it's the only way to protect cutthroat populations downstream.

insects and little shrimp, what will the fish eat when you put fish back in the lake?"

It's true the chemicals can kill gill-breathing invertebrates as well as fish, but the insect populations rebound rapidly. When we do a fish removal, we document the entire species assemblage in the lake or stream before treatment and do all we can to make sure every species rebounds afterwards. Lakes are treated just before ice forms in the fall, and the hatchery-reared pure westslope cutthroat are then placed in the lake in spring. Because many amphibians leave mountain lakes during fall, or burrow in the lake bottom until spring, they don't get hit with the toxins. And FWP lab experiments show that amphibians can survive the low concentrations of chemicals we use to kill fish. We also ensure that some small fish are available for fish-eating birds by stocking small cutthroat.

Hollopeter was familiar with planting fish in wilderness lakes. He and a U.S. Forest Service horse packer planted the first cutthroat trout in Van Lake, in the Swan Valley, back in the late 1920s. Back then, both cutthroat species—westslope and Yellowstone—were lumped together as "western spotted trout" or "royal native black-spotted trout." No one realized or cared that the two native species might crossbreed and threaten each

other's existence.

Hollopeter told me he was also hired to help plant rainbow trout in Smoky Lake (now part of what are called the Necklace Lakes) and Lena Lake. I remarked that those lakes were now being considered for chemical treatment because the rainbow trout threaten the pure westslope cutthroats farther downstream in Big Salmon Lake, in the heart of the Bob Marshall Wilderness.

He put his head in his hands when I told him this. But I wasn't blaming him. He had just been doing his job, and back then people didn't know about the problems of fish hybridization.

I then told Hollopeter about other parts of the project that were being debated. The Bonneville Power Administration, the U.S. Forest Service, and FWP are jointly preparing an Environmental Impact Statement for the lake rehabilitation project. One of the questions posed by the EIS is whether it is appropriate to use aircraft to carry the toxins to lakes in wilderness areas.

The main concern is that airplanes or helicopters would ruin the quiet wilderness experience for hikers. The counterargument is that pack stock, which can be used to carry the toxins and equipment to some lakes, aren't allowed in the Jewel Basin

Hiking Area, which has lakes proposed for rehabilitation. And some wilderness lakes have no trails at all and can only be treated using aircraft. Also, the horse traffic and prolonged human activity needed to treat lakes from the ground can damage fragile vegetation more than aircraft treatments would. There is also cost to consider, and aircraft treatments are less expensive.

Another question raised by the EIS and many wilderness advocates is whether or not lakes that historically had no fish should remain fishless after nonnative fish are removed. The argument there is that a fishless condition is the true way to recreate the wilderness setting for these lakes.

Yet many people now consider catching native fish in a remote lake, even if historically there were no fish there, as an important part of their wilderness experience. Moreover, it's nearly impossible to keep a lake completely fishless. If just two nonnative trout of the opposite sex survived the treatment, then the problem population could recover, requiring additional chemical treatments. Then there's the possibility that someone angry about the lack of fish might stock a lake illegally, potentially introducing a problem species or a fish disease. Any of these possibilities would compromise the goal of protecting

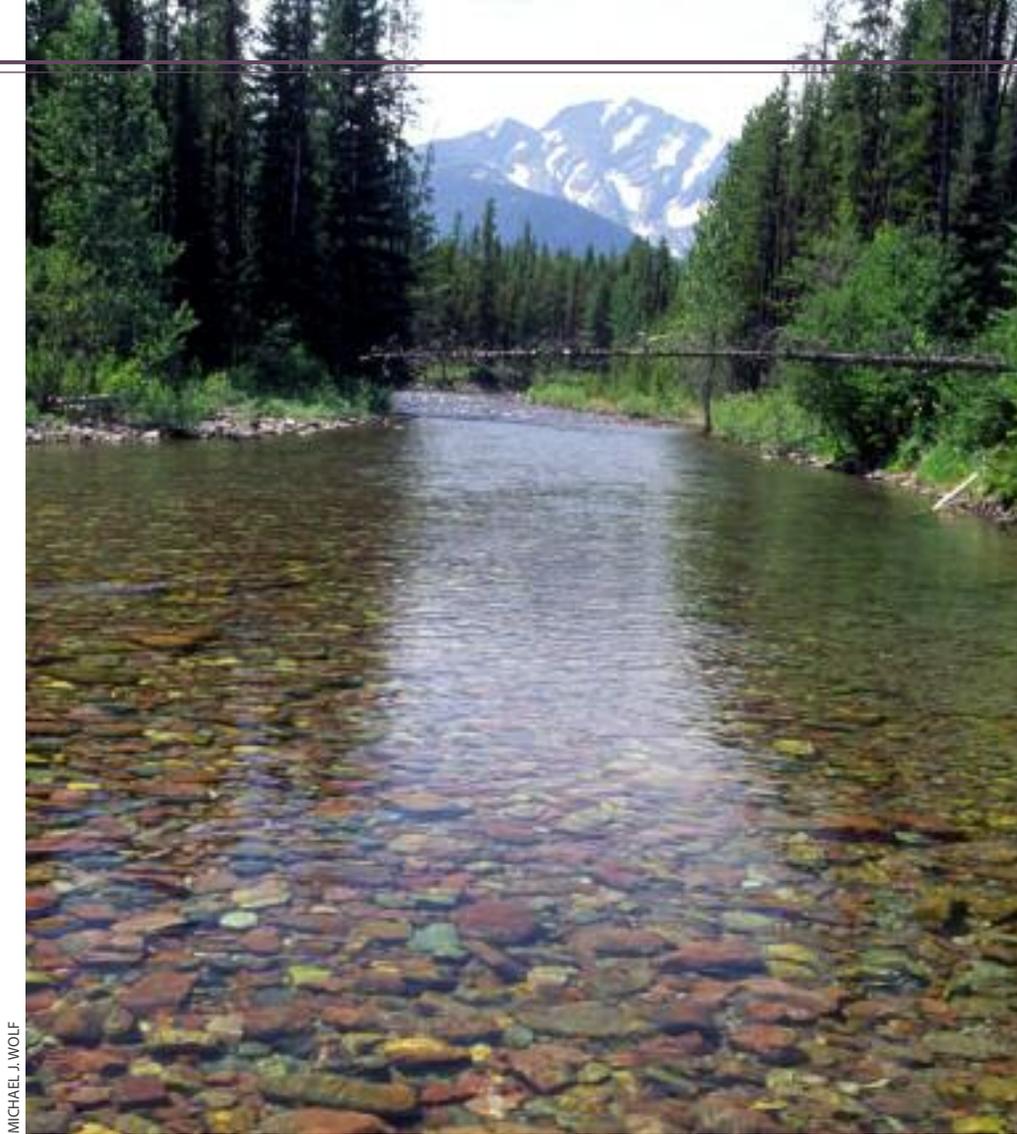
westslope cutthroat for future generations.

Several weeks after that first visit, I returned to see Hollopeter. He had asked me to come back when the weather warmed and drive him up to his old home-  
stead, which he hadn't seen for years. We got in my truck and headed up the hill. Though we could see the clearing from a forest road halfway up the mountain, we couldn't reach the old home property. The land had since been subdivided and was built up with huge log homes sporting NO TRESPASSING signs.

"Doggone it, everything's changed," said Hollopeter, as I turned the truck around and headed back to his house. "If I would have known, I would have hung on to more of this land."

Hollopeter has seen many changes in this area of Montana over the past several decades. And he's seen that much has been lost. He told me he now agrees that it makes sense for FWP to take steps—even those as seemingly drastic as "poisoning" lakes—to prevent yet another part of this natural world from disappearing. 🐻

EDITOR'S NOTE: *The Environmental Impact Statement for rehabilitating wilderness lakes is in its final draft stage and will be released for public comment later this year. A final EIS is scheduled to be released by the end of 2004.*



MICHAEL J. WOLF

**GENETIC POLLUTION** Once home only to pure westslope cutthroat, Big Salmon Creek (above) is now seeing increasing numbers of rainbow trout leaking from Lena and the Necklace lakes upstream. Those fish also threaten the pure population of westslope cutthroat in Big Salmon Lake downstream.

## LETTERS

*Continued from page 2.*

*due to mild winters, good calf recruitment, and fairly restrictive hunting regulations.*

*As for elk transplants, during the early 1980s I moved roughly 80 elk into the Yaak area from the National Bison Range at Moiese as part of a herd management and reduction program. Those elk were distributed into three areas of the Yaak River drainage. I believe those transplants helped speed up the overall elk population growth and expansion process in the Yaak, but now suitable habitat has been filled. Transplanting more elk into the area, or anywhere that habitat*

*can't support more animals, would be a put-and-take approach to elk management.*

### More access needed to public lands and waters

The penultimate coming issue for recreationists in Montana will be access. We need to open up this state if we want to address the problems of overcrowding and not lose the beneficial economic impact of tourism. To entertain the idea of limiting hunting or fishing licenses is to turn our back on the unquestionable premier source of income for our state, or any state.

We have more than enough quality land and water to handle

a great many more sportsmen, which would greatly assist our economy. But we need more access. For example, the Ruby and Boulder rivers have miles and miles of blue-ribbon quality fishing but almost no access. Some public bridges are up to 7 miles apart. To make matters worse, some are illegally posted with NO TRESPASSING signs.

Montana needs to develop

more programs like Block Management to increase public access, and counties need to enforce the state's stream access laws to stop landowners from posting signs or erecting barbed wire on bridges, where public access is legally protected. We need to keep Montana open and free.

DENNIS GRUNDMAN  
Secretary, Montana Public Lands/  
Water Access Association, Big Sky



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