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Cutthroat enemy: Dreaded lake trout

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Among the attractions of Yellowstone National Park, the cutthroat trout of Yellowstone Lake over the years have been almost as prominent as the geyser fields and bears.

In a setting like no other, park visitors have been flocking to Fishing Bridge and other points along the lake to view the trout and to fish for them almost from the time Yellowstone was set aside as America's first national park. The brightly colored cutthroats — the only trout native to the region — were beautiful and abundant. Their population once was estimated at 4 million, and they have been an important link in the park's overall ecosystem.

While the sport fishery brought millions of dollars into the park and various local economies, the

cutthroats also provided nutrients for some 40 species of wildlife, including bears, bald eagles and ospreys.

In recent years, that natural order has been disrupted. Nonnative lake trout (mackinaw) were discovered in Yellowstone Lake in 1994, and soon afterward cutthroat numbers began to plummet. The decline in Yellowstone cutthroats is a serious concern, and efforts to restore the natives by several governmental agencies and the private sector are underway.

"They're the only indigenous trout in the region; they've been there for thousands of years," said Dave Sweet, chairman of the Wyoming Council of Trout Unlimited, who recently made a presentation to the Cutthroat Chapter of TU in Denver to raise awareness of the decline.

"They're such an integral part of the national park that losing them would be a tragedy," Sweet said.

While the origin of the lake trout is unknown, the consequences have been unmistakable. The lake-trout population has exploded while the cutthroats have been devastated.

By most estimates, the cutthroat population has dropped to 10 percent of historic levels. The best population data come from Clear Creek, where spawning cutthroats from the lake have been monitored for decades. Historically, 50,000 to 70,000 cutthroats entered the creek to spawn every spring. For the past 10 years, that number has dropped to fewer than 1,000, according to information provided by TU. During the past four years, it has been fewer than 500.

Though whirling disease and drought might be contributing factors, lake trout appear to be the primary cause. They're top-of-the-line predators that live an average of 25 years and grow very

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large. They're capable of eating even mature cutthroats, as evidenced by stomach samples of lake trout that have been netted from the lake.

Lake trout live in deep water much of the year and successfully spawn in the lake, rather than moving up inlet streams. Consequently, they're not available to bears, raptors and other wildlife. They also have altered that part of the ecosystem.

Aware of the potentially dire consequences of a lake-trout invasion, the National Park Service began gill netting them from the lake almost as soon as they were discovered. About 450,000 have been removed during the past 15 years. The number of netted lake trout has steadily increased. In 2008 alone, 75,000 were removed; in 2009 the number was 100,000.

Even so, the netting of adult fish has been insufficient in a lake such as Yellowstone that has 110 miles of shoreline and covers 136 square miles. Targeting lake trout in the egg or fry stages, rather than as adults, holds considerable promise, and scientific research is being directed toward that objective.

The East Yellowstone Chapter of TU, based in Cody, Wyo., began fundraising two years ago, upon learning researchers in Bozeman, Mont., had been studying some methods that might be used to kill lake-trout eggs on their spawning beds before they hatch. Possibilities include vacuum technology, electrical fields, ultraviolet light and sonic waves.

To date, $26,000 in private contributions has been raised. The National Park Service, U.S. Geological Service and U.S. Fish and Wildlife Service, in turn, have contributed about $300,000 toward funding the research. The private National Fish and Wildlife Foundation and Jackson Hole One Fly have added another $60,000. An additional $400,000 might be needed to complete the effort.

The research is directed toward Yellowstone Lake, but it potentially could be useful in Colorado's Blue Mesa Reservoir and other waters across the western United States where nonnative lake trout are having negative effects o n other species such as rainbow trout and kokanee salmon.

While the research progresses, the National Park Service has hired a large-scale commercial netter with extensive experience in Lake Michigan to continue removing adult lake trout from Yellowstone Lake. That might keep the lake-trout population in check until the technologies required for a more permanent solution are developed.

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