

Aquatic Invaders: Lake Trout



Lake Trout

Non-native lake trout in Yellowstone Lake threaten the survival of native Yellowstone cutthroat trout and species that depend on it.

History/Background

- During the time the park stocked fish, lake trout were introduced to Lewis and Shoshone lakes.
- In 1994, an angler caught the first verified lake trout in Yellowstone Lake.
- Lake trout probably were introduced into Yellowstone Lake several decades ago.
- One mature lake trout can eat approximately 41 cutthroat trout per year.
- The cutthroat trout population in Yellowstone Lake could fall to 10% of historic highs.
- Many wildlife species, including

the grizzly bear and bald eagle, may depend on the cutthroat trout for a portion of their diet.

- Most predators can't catch lake trout because the trout live in deep water, spawn in the lake, and are large.
- In 2009 & 2010, Yellowstone National Park contracted with a commercial gill-netting company to increase the catch of lake trout.

Current Status

- Gill-netting has removed more than 600,000 lake trout since the mid-1990s.
- Recreational anglers catch approximately 9,000 lake trout each year.

Outlook

With continued aggressive control efforts, fisheries managers expect to reduce lake trout numbers and lessen impacts to cutthroat trout.

structure, maturity, and potential new spawning areas—leading to more effective control. For example, scientists have discovered lake trout spawning areas.

Anglers contribute to lake trout management—they are encouraged to fish for lake trout, and are required to kill all lake trout caught in Yellowstone Lake and its tributaries. They have the most success in catching lake trout 15–24 inches long, which are found in shallow, near-shore waters in June and early July. Anglers have taken approximately 30 percent of the lake trout removed from Yellowstone Lake.

Cutthroat trout comprise about 80 percent of a mature lake trout's diet. Biologists estimate 41 cutthroat trout are saved each year for every mature lake trout caught.

About the photo: Erinn Hasselgren holds a 26.25 pound lake trout—the largest caught in Yellowstone Lake so far. Erinn was a volunteer with the Student Conservation Association, www.thesca.org

The lake trout is a large and aggressive predatory fish that can decimate cutthroat trout populations in Yellowstone Lake. If this happens, the impacts will reach far beyond the cutthroat trout population; it could be an ecological disaster.

Hydroacoustic work (using sonar-based fish finders) confirmed lake trout concentrations in the western portion of Yellowstone Lake. These surveys also revealed medium-sized (12–16 inches) lake trout tended to reside in deeper water (greater than 130 feet) than Yellowstone cutthroat. Now biologists can more easily target lake trout without harming cutthroat trout. Hydroacoustic data also provides minimum abundance estimates of both cutthroat and lake trout, which is invaluable information for long-term evaluation of control efforts.

Controlling Lake Trout

Lake trout gill-netting begins as ice is leaving the lake and continues into October. Since the mid-1990s, more than 600,000 lake trout have been caught. Gill net operations also provide valuable data—numbers, age

Increasing Suppression

In August 2008, a scientific review panel overwhelmingly agreed that the Yellowstone Lake cutthroat trout population is in serious trouble, but that suppression efforts could restore this population to healthy levels. They believe very little time remains to turn the situation around, and recommended park managers increase lake trout removal. To accomplish this, the park has contracted with a commercial gill-netting company to increase the take of lake trout. In 2010, working cooperatively with NPS crews, they removed over 34,000 additional lake trout from Yellowstone Lake during June. In 2011, the park hopes to expand commercial gill-netting and to test deep-water trap nets that have been successful in other large lakes.

Lake trout probably can't be eliminated from Yellowstone Lake. However, ongoing management of the problem can control lake trout population growth and maintain the cutthroat trout population, which is a critical ecological link between Yellowstone Lake and its surrounding landscape.