

Questions and Answers Regarding Lake Trout in Flaming Gorge Reservoir

What is the basic issue with Lake Trout in Flaming Gorge Reservoir?

Once they obtain a large enough size (e.g., 25 inches), Lake Trout are highly-effective predators that prey heavily on Kokanee and Rainbow Trout. The predator/prey relationship must be managed to maintain balance between all species. The relationship in Flaming Gorge is on the verge of imbalance due to the high number of predators, specifically Lake Trout less than 28 inches. Population surveys completed over the last three decades have shown an increase in the abundance of small Lake Trout (e.g., less than 28 inches). If the existing population of small fish is not reduced, there could be too much competition to sustain Trophy Lake Trout. Angler harvest is the most viable option for reducing numbers of small Lake Trout.

Why is this situation such a concern?

The Wyoming Game and Fish Department (WGFD) and the Utah Division of Wildlife Resources (UDWR) manage Flaming Gorge Reservoir to provide fishing opportunities for a variety of anglers. The majority of anglers visit the reservoir to fish for Kokanee and Rainbow Trout. Kokanee and Rainbow Trout are also important forage that helps maintain the Lake Trout population in Flaming Gorge Reservoir. The available forage fish population in Flaming Gorge Reservoir, including Kokanee and Rainbow Trout, is limited. If an over abundant population of small Lake Trout suppresses the available forage not only would there be negative impacts to the trophy Lake Trout population there could also be negative economic impacts to local economies.

Is there a solution for this issue?

Yes. We are engaged in a long-term effort to keep the fishery in balance with the help of anglers. Anglers are encouraged to target and harvest Lake Trout less than 28 inches. Reducing the population of small Lake Trout will reduce competition between the remaining Lake Trout and reduce predation forage species (e.g., Kokanee and Rainbow Trout). Small Lake Trout are delicious and provide substantial fillets when you consider the liberal limit of 8 fish, only one over 28-inches. As with all species, anglers are encouraged to review the fish consumption guidelines for mercury that are available on the WGFD webpage.

How will you know how many Lake Trout to remove?

Kokanee populations have been monitored annually since the 1980's. Using those estimates and Lake Trout population trend data obtained from annual netting, WGFD and UDWR will monitor changes in predator/prey and keep the public updated on the findings. Regulations will be adjusted if necessary.

Why not reduce the number of Kokanee that anglers can keep?

The limit for Kokanee on Flaming Gorge Reservoir is conservative at three per day and in possession. Additionally, the reservoir is closed to the possession of Kokanee from September 10 to November 30 to protect them when they are most vulnerable; during the spawn. Angler harvest is not the primary reason for decreased Kokanee survival. Most Kokanee are not surviving long enough to show up in anglers' catch. According to hydroacoustic survey data, the majority of Kokanee are consumed by predators before they reach two years of age.

Will the predator-prey balance be restored once Lake Trout die off due to reduced prey?

Not likely. Lake Trout evolved under extremely cold and unproductive conditions in their native range. They are long-lived and can survive during periods of poor food availability. They do not die readily of starvation, a trait called "predatory inertia."

Burbot are predators, what is their impact on Kokanee and Rainbow Trout?

Burbot predation on Kokanee and Rainbow Trout is a concern as well, but data suggests their impact may be less significant compared to Lake Trout. Kokanee and Rainbow Trout primarily show up in Burbot stomachs during the winter when their habitats overlap. That said, Burbot predation on Kokanee and other species is

one of the reasons the WGFD and UDWR require all Burbot caught from the reservoir to be killed. Angler harvest is the best tool available for controlling the populations of both Burbot and small Lake Trout.

Why not just stock more Kokanee?

The WGFD, UDWR and US Fish and Wildlife Service (USFWS) stock up to 1.6 million three-inch Kokanee and nearly 900,000 eight-inch Rainbow Trout annually to maintain the fishery in Flaming Gorge Reservoir. Although there is no significant natural reproduction of Rainbow Trout, in-lake spawning Kokanee are thought to contribute significantly to fish returning to anglers and maintaining the Lake Trout population. Reducing the numbers of Lake Trout less than 28 inches in Flaming Gorge will increase the survival of both Kokanee (e.g., natural and hatchery origin) and Rainbow Trout.

Does the agency want to eradicate Lake Trout at Flaming Gorge Reservoir?

Absolutely not. Anglers have identified Lake Trout as an important part of the Flaming Gorge fishery, especially the trophy component. Anglers regularly catch Lake Trout exceeding 30 pounds and the Utah state record Lake Trout, caught at Flaming Gorge Reservoir, is currently 51.5 pounds. Lake Trout over 28 inches are considered trophy size and are therefore protected by a conservative limit of one fish per day. Since Lake Trout are a long-lived species, relatively few need to exceed 28 inches to maintain a high-quality trophy fishery. Recent age and growth data revealed that the growth rate of Lake Trout is decreasing. To ensure that some Lake Trout exceed 28 inches, the agencies established the liberal 8 fish limit on Lake Trout less than 28 inches to encourage harvest of smaller fish and promote faster growth of the remaining Lake Trout. With careful management and public support, Flaming Gorge Reservoir can maintain the trophy fishery while enhancing the Kokanee and Rainbow Trout fisheries.

Will increasing harvest of small Lake Trout create poor trophy Lake Trout fishing in the future?

Actually, the opposite is true. When comparing age and growth data from 1992 to 2016, Lake Trout are currently growing much slower, a result of increased competition between small Lake Trout (e.g. < 28 inches). For example, in 1992 it took four years for a Lake Trout to reach 18 inches, now it takes six years. Additionally, it used to take seven years for a Lake Trout to reach 28 inches, now it takes 14-16 years, suggesting competition between Lake Trout less than 28 inches is limiting growth. Since Lake trout are a long-lived species capable of reaching 50 years of age, relatively few individuals need to exceed 28 inches each year to maintain the trophy fishery. Anglers catching and releasing small Lake Trout thinking they will one day be 50 lbs are mistaken. The practice will actually only aide in the struggle for Lake Trout to obtain a trophy length. Harvesting smaller fish leaves the remaining fish with more food and better growth rates.

Why do you spend time and money sampling the Lake Trout population? Why not just interview fishermen about what they catch?

When conducting long-term biological research, consistency in sampling methods is vital for developing valid conclusions. Maintaining similar methods year-to-year allows biologists to assess changes in fish size, distribution, and abundance. Lake Trout are measured and weighed to calculate their condition, an important indicator of fish health and prey abundance. Stomach contents are sampled to determine what they are eating and if preferred prey items have changed. Angler surveys are used to assess angler preferences, use, and catch/harvest trends to further refine management decisions.

What can I do as an angler to help?

Most anglers visiting Flaming Gorge fish for Kokanee and Rainbow Trout. These species provide good catch rates and table fare. The same is true of smaller Lake Trout during the spring, fall and winter months. Anglers that take the time to target, catch, and keep small Lake Trout will not only enjoy tasty fillets, but will also help protect the overall health of the fishery. You can find "Tips For Catching Small Lake Trout" and recipes for cooking small Lake Trout at the following WGFD website <https://wgfd.wyo.gov/Regional-Offices/Green-River-Region/Flaming-Gorge-Management>.

For more information, contact the Wyoming Game and Fish Department in Green River, Wyoming at 307-875-3223 or the Utah Division of Wildlife Resource in Dutch John, Utah at 435-885-3164.