Questions and Answers Regarding Lake Trout in Flaming Gorge Reservoir

Why should all anglers be concerned about Lake Trout numbers in Flaming Gorge Reservoir?
The Wyoming Game and Fish Department (WGFD) and the Utah Division of Wildlife Resources (UDWR) manage Flaming Gorge Reservoir (FGR) to provide fishing opportunities for a variety of anglers, the majority of which visit the reservoir to fish for Kokanee Salmon and Rainbow Trout. Kokanee Salmon and Rainbow Trout are not only prized sportfish but also the forage that helps maintain the trophy Lake Trout population. The forage fish population in Flaming Gorge Reservoir, including Kokanee Salmon and Rainbow Trout, is limited. 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). As the population of Lake Trout increases the number of Kokanee Salmon and Rainbow Trout they consume also increases. If the population of small fish is not reduced, there will be fewer forage fish to sustain trophy Lake Trout and fewer Kokanee Salmon and Rainbow Trout available for anglers.

Why are managers concerned with Lake Trout numbers in Flaming Gorge Reservoir?
Once Lake Trout obtain a large enough size, they 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. In FGR, this relationship is on the verge of imbalance due to the increase in the number of predators, Burbot and Lake Trout, but especially Lake Trout <28 inches. When Lake Trout reach a length of 25-inches, they typically consume fish. If the existing population of small fish (< 28-inches) is not reduced, there will not be enough Kokanee Salmon or Rainbow Trout to support both the Lake Trout population and the salmon and trout recreational fishery.

Is there a solution for this issue?
Yes. Angler harvest is currently the most viable option for reducing numbers of small Lake Trout. 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 fish and reduce predation on forage species (e.g., Kokanee and Rainbow Trout). Small Lake Trout are delicious and provide substantial fillets when you consider the liberal limit on fish <28-inches. As with all species, anglers are encouraged to review the fish consumption guidelines available on the WGFD webpage.

How will managers make sure that small Lake Trout are not over harvested?
Populations of Kokanee Salmon, Rainbow Trout, small Lake Trout and trophy Lake Trout are monitored annually. With a wealth of historical information, managers have known targets where a balance of predators and prey is likely. 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 Salmon that anglers can keep?
Angler harvest is not the primary reason for decreased Kokanee Salmon survival. Most Kokanee are not surviving long enough to be caught by anglers. According to hydroacoustic survey data, the majority of Kokanee are consumed by predators before they reach two years of age. Furthermore, the daily and possession limit for Kokanee Salmon on FGR is conservative. Additionally, Kokanee Salmon harvest is closed from September 10 to November 30 to protect them when they are most vulnerable; during the spawn.

Why not just stock more Kokanee?
The WGFD, UDWR and US Fish and Wildlife Service stock approximately 1.6 million three-inch Kokanee Salmon and nearly 900,000 eight-inch Rainbow Trout annually to maintain the fishery in FGR. Although there is no significant natural reproduction of Rainbow Trout, in-lake spawning Kokanee Salmon are thought to contribute significantly to fish returning to anglers and help maintain the Lake Trout population.

Reducing the numbers of Lake Trout less than 28 inches in FGR will increase the survival of both Kokanee salmon (e.g., natural and hatchery origin) and Rainbow Trout.

Will increasing harvest of small Lake Trout create poor trophy Lake Trout fishing in the future?
No. 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, it used to take seven years for a Lake Trout to reach 28 inches, now it takes 14-16 years. 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 who catch and release 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, better growth rates and a much higher likelihood of becoming the next state record.

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 fishery, especially the trophy component. 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 daily and possession limits on Lake Trout less than 28 inches to encourage harvest of small fish and promote faster growth of the remaining Lake Trout. With careful management and public support, FGR will maintain the trophy fishery and excellent salmon and trout fisheries.

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 long 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 Salmon and Rainbow Trout?
Burbot predation on Kokanee Salmon and Rainbow Trout is a concern as well, but data suggests their impact is less significant compared to Lake Trout. Salmon and trout primarily show up in Burbot stomachs during the winter when their habitats overlap. That said, Burbot predation on Kokanee Salmon and other species is one of the reasons the WGFD and UDWR require anglers to kill all the Burbot they catch. Angler harvest is currently the best tool available for controlling numbers of Burbot and small Lake Trout.

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 checked 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 FGR will fish for Kokanee Salmon and Rainbow Trout. These species provide good catch rates and excellent table fare. The same is true of small Lake Trout. Anglers will catch them incidentally, while pursuing other species, but those anglers that take the time to target, catch, and harvest 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 link: 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.