

# Flaming Gorge Reservoir

## Summary of the 2010 Survey



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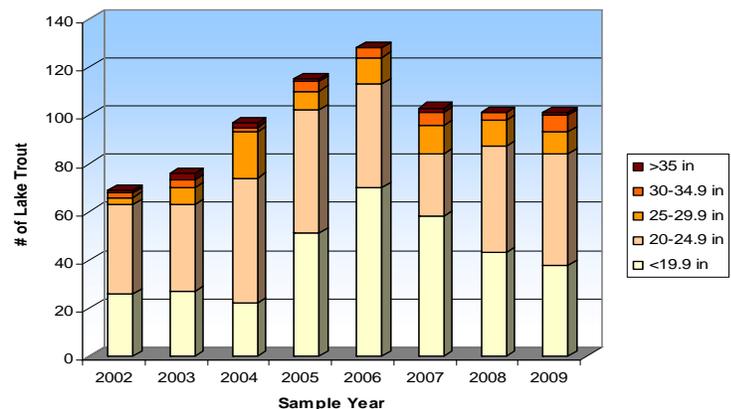
These data summarize netting and hydroacoustic sampling in 2010. These data allow us to create a long-term trend used to monitor and predict changes in the fishery. Netting data is collected with gillnets in May by UDWR and WYGF biologists. Nets are set at the same locations and time periods throughout the reservoir each spring. Hydroacoustic surveys sample pelagic kokanee salmon during the night of the new moon in August. This sonar-based sampling tool allows biologists to get real-time abundance estimates for kokanee along 45 standardized transects over the entire length of the reservoir.

Although not showcased here, rainbow trout and smallmouth bass remain a huge component to the Flaming Gorge fishery. Approximately 450K catchable Eagle Lake strain rainbow trout are stocked annually. Creel data collected in 2009 indicated the average rainbow trout harvested was 16.25 inches and 1.5 lbs. About 76K Kamloops strain rainbow trout were stocked into Flaming Gorge in the fall of 2009, followed by another 37K in 2010. This particular strain is well known for its exceptional growth rates, aggressiveness, and pull on the end of the line.

Burbot have now been found throughout the reservoir. Although netting catch rates declined slightly from 1.05 fish/net hr in 2009 to 0.73 fish/net hr in 2010, this illegally introduced species is still a concern for fishery managers. Burbot reproduce rapidly and are an opportunistic predator. During the winter of 2010-11, 500 burbot were captured, tagged with internal tags, and released around the reservoir for the Burbot Bash Ice Fishing Tournament. During the January tournament, 4,022 burbot were harvested for bulk weight of over 3-tons! Fish ranged in size from 8 inches to almost 34 inches. Of fish caught, six had tags. Based on those results, Utah State University calculated a population estimate of 289,000 burbot in the iced region of the lake, extending from about Anvil Draw up into the inflows. Burbot continue to prey on crayfish, but several of the large burbot (>30 inches) harvested during the tournament also had adult kokanee in their stomachs.

This chart shows the number of lake trout, per size group, captured in experimental netting performed reservoir-wide. Total catch has remained relatively stable from 2007-2010, although a slight increase was observed for fish <20 inches in 2010. The highest overall catch for lake trout occurred in 2006, when 128 lake trout were sampled. Both management agencies stress the importance of harvesting abundant predators like small lake trout and burbot due to their impacts on the forage base.

Length Frequency for Lake Trout Captured in Experimental Gillnets During May 2003 to 2009, Flaming Gorge Reservoir



This chart shows the long-term trend of pelagic kokanee less than 350 mm (13.75 inches) in Flaming Gorge. Kokanee are a dual purpose fishery; the primary forage for lake trout and highly sought by anglers. Alarmingly, 2007 and 2008 abundance estimates were at all time lows at 384K and 406K kokanee, respectively. A huge rebound occurred in 2009 when the reservoir-wide estimate climbed to an all-time high of 1.3 million kokanee, mostly a result of good recruitment. Unfortunately in 2010, estimates dropped back down to 589K.

Wild recruitment for kokanee occurs in Sheep Creek and the Green River, but 95% of their overall recruitment is a result of in-reservoir spawning stocks. Kokanee are also raised and stocked by hatcheries (UDWR, WYGF, and the US Fish and Wildlife Service) to help bolster wild recruitment. Young-of-the-year kokanee abundance was at its highest in 2009. If this 2009 year class makes it through subsequent years, 2012-2013 could be exceptional kokanee fishing on Flaming Gorge.

Kokanee Salmon Abundance and Size Distribution on Flaming Gorge Reservoir, as Estimated by Hydroacoustic Surveys Completed from 1996 to 2009 (excluding 2004)

