

## CONSERVING NATIVE YELLOWSTONE CUTTHROAT TROUT IN YELLOWSTONE LAKE (OR YELLOWSTONE GETS A VERY BIG BOAT)<sup>AFS</sup>

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Yellowstone National Park (YNP) contains 90 percent of the remaining range of Yellowstone cutthroat trout (*Oncorhynchus clarki bouvieri*). Until recently, Yellowstone Lake was the largest and most secure habitat for long-term perpetuation of this sub-species. Since the discovery of predatory lake trout in 1994, YNP fishery managers have been engaged in a large-scale gillnetting program in an effort to protect cutthroat trout by restricting the population growth of lake trout. As the amount of effort increased, so has the number of lake trout removed. Despite our rapidly escalating fishing effort between 1996 and 1999, it became apparent that existing YNP personnel and equipment were insufficient to effectively reduce lake trout numbers throughout the entire 90,000-acre Yellowstone Lake. Additional funds were approved for the 2000-2002, allowing us to purchase “a Very Big Boat.” This new fisheries vessel, designed specifically for gillnetting on Yellowstone Lake, was used throughout the 2001 field season, greatly improving the working conditions for employees and the efficacy of gillnet operations. The boat allowed a 3-fold increase in gill netting effort over 2000 and 6.5-fold increase over 1999. Preliminary results are very encouraging. Almost 15,500 lake trout were removed from Yellowstone Lake in 2001 using over 10,600 gillnet units (100 m of gillnet set/night). Catch per unit effort was reduced by more than half compared to 2000. An Idaho Department of Fish and Game hydroacoustic survey done in August of 2001 indicated that density estimates in the West Thumb area of the Lake, where the highest densities of lake trout exist, were reduced by 10 percent from previous surveys in 1997-1998. Mean total length of spawners also appears to be decreasing. However, we have by no means declared victory over the lake trout problem in Yellowstone Lake since the true extent of the lake trout population is not known. Given the available habitat in Yellowstone Lake it is apparent that lake trout will continue to expand if control efforts are eliminated. In 2002 we anticipate having 250 nets ready for use at ice-off. With an experienced crew and the boat in place, we anticipate an even greater effort during 2002. Newly acquired hydroacoustic equipment will allow us to determine areas of high

lake trout density, size ranges of the fish, and depths at which the fish are residing; allowing us to identify areas where effort could be increased or decreased to improve efficacy, and evaluate the effectiveness of our removal efforts by producing an index to estimate lake trout population size annually.