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## CUTTHROAT TROUT STRUGGLE FOR PERSISTENCE IN THE FACE OF AN EXPANDING LAKE TROUT POPULATION IN YELLOWSTONE LAKE

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Lake trout *Salvelinus namaycush* were discovered in Yellowstone Lake in 1994. The ecological threat of this non-native fish was immediately recognized and efforts to control lake trout were initiated the following year. The objective of the removal program is to reduce lake trout to the point where their effect on native Yellowstone cutthroat trout (*Oncorhynchus clarkii bouvieri*) is minimized. Lake trout capture techniques have focused on mechanical methods, mostly gill netting, and more recently electrofishing. Despite removal of almost 350,000 lake trout since 1995, with 76,140 removed in 2008 alone, all indicators point toward continued population growth. Catch per effort of juvenile lake trout has steadily increased since 2002 with 2008 being the highest on record (5.0 lake trout/100 m gill net set per night) since 1998. However, cutthroat trout have not shown a positive response to lake trout removal efforts. Numbers of spawning cutthroat trout in Clear Creek, a tributary to Yellowstone Lake, are at the lowest levels ever recorded and the lakewide cutthroat trout assessment catches are averaging 40 percent fewer cutthroat trout over the past 5 yrs when compared to pre-lake trout years. In 2008 a panel of experts convened to assess the current status of cutthroat trout and review lake trout removal efforts in Yellowstone Lake. The panel concluded that while current

levels of suppression have slowed lake trout population growth, more is required if a healthy cutthroat trout population is expected to persist in Yellowstone Lake. They concluded it was imperative that we immediately increase suppression efforts, and develop/implement lake trout monitoring.