

Project Summary

Rocky Mountains Cooperative Ecosystem Studies Unit

Project Title: Scientific Review Panel Evaluations of Cutthroat Trout Conservation Strategies

Discipline: Natural
Type of Project: Technical Assistance
Funding Agency: National Park Service
Other Partners/Cooperators: Montana State University
Effective Dates: 5/1/2013 - 4/30/2018
Funding Amount: \$24,675

Investigators and Agency Representative:

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Project Abstract: The Yellowstone Lake drainage above the upper falls at Canyon represents the largest remaining undisturbed habitat for genetically pure Yellowstone cutthroat trout (YCT) in existence. Cutthroat trout in this area are highly valued ecologically, economically and socially. They are a valuable food source for several species of birds and mammals, including grizzly bears, otters, eagles, white pelicans, and osprey. Cutthroat trout are the basis for an extensive sport fishing economy in communities surrounding YELL, with anglers coming from all over the world to angle for these wild native fish. Lake trout were discovered in Yellowstone Lake in 1994. They are highly predatory and in other lakes in the western United States where they have been introduced, cutthroat trout have been virtually eliminated. In 1995, a professional panel of experts projected that without control of lake trout in Yellowstone Lake, native cutthroat trout will be reduced to a mere fraction of historical levels or functionally eliminated. However, with effective suppression, cutthroat trout could be maintained at a population size which would sustain the ecological integrity of the system. Since lake trout dwell in deep waters, they are not available as prey for most mammals and birds. Allowing lake trout to replace cutthroat trout in Yellowstone Lake would have severe consequences on the overall status of the YCT subspecies, the Yellowstone Lake ecosystem, and the sport fishery.

Since 1994 biologists have discovered areas used for spawning and have removed over 1.1 million lake trout from Yellowstone Lake. However, catches have continued to increase each year. In 2008, 2011, and 2012 the park convened fisheries scientists to critically review on-going lake trout suppression efforts and provide guidance for improvements. The scientific reviews concluded that while great strides have been made, a significant increase in removal effort was needed to control lake trout numbers. During the 2012 field season, contract netters removed over 180,000 lake trout using both gill and trap nets. NPS crews removed another 122,000 for a total of over 300,000 lake trout removed. Population modeling has suggested this level of removal would be enough to begin to reduce the lake trout population, but it remains unclear if this is the case.

Our specific objective is to use the best available science to develop guidance for future cutthroat trout preservation activities on Yellowstone Lake. MSU will provide for logistical support including travel, lodging, meeting space, and other accommodations to hold facilitated workshops in Mammoth Hot Springs, WY; Chico, MT; Bozeman, MT (or other suitable location) where science review panels will be convened each year to provide critical review of the cutthroat trout preservation program in Yellowstone National Park.

Outcomes with Completion Dates: Final/annual products for this agreement will be provided in the form of brief written report describing progress made. 30 APRIL 2018- Final Report Due.

Keywords: Cutthroat Trout, conservation, Yellowstone Lake, Yellowstone National Park, Montana State University