Project Summary
Rocky Mountains Cooperative Ecosystem Studies Unit

Project Title: Predicting Lake Trout Spawning Areas in Yellowstone Lake as a part of the Native Yellowstone Cutthroat Trout Preservation Program in Yellowstone National Park

Type of Project: Research/biological science

Funding Agency: National Park Service

Other Partners/Cooperators: USGS-BRD, Fish and Wildlife Coop Unit

Effective Dates: June 15, 2003 – December 31, 2007

Funding Amount: $29,268

Investigators and Agency Representative (include name, address, phone, email):

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Project Abstract:

Discovery of the voracious predator, lake trout *Salvelinus namaycush*, in Yellowstone Lake in 1994 raised serious concern throughout the environmental community. In other western lakes where lake trout have been introduced, native populations of trout have been seriously depleted or eliminated. The National Park Service has demonstrated their dedication to preserving the Yellowstone cutthroat trout in Yellowstone Lake by embarking on an ambitious lake trout removal program. Despite this effort, the size of Yellowstone Lake (88,000 surface acres) makes it impossible to effectively monitor the entire lake for areas of high densities of lake trout. If lake trout should pioneer new spawning areas in the main basin of the lake, an expanding subpopulation could remain undetected for several years. The most likely scenario for discovering new spawning sites is to monitor areas that show good spawning habitat potential during fall when lake trout are staging in preparation for spawning.

OBJECTIVES:

1) To predict potential lake trout spawning habitat in Yellowstone Lake using a combination of biological and geomorphic data and GIS/statistical analyses.

2) To develop a statistically valid monitoring program, using hydroacoustic surveys and GIS analysis, in order to detect use of potential spawning areas.

Outcomes with completion dates (reports, publications, workshops, videos, etc.):

All information collected during this study will be provided in electronic format to the Fisheries and Aquatic Sciences Section, Yellowstone Center for Resources. Final product describing overall research results will be in the form of a technical report and/or final Ph.D. Dissertation.

Keywords: lake trout, Yellowstone Lake, Native Yellowstone Cutthroat Trout Preservation Program, Yellowstone National Park, Yellowstone cutthroat trout

For Administrative use only:

Date Annual Report Received:

Date Final Report Received:

Publications, etc. on file: