Project Summary
Rocky Mountains Cooperative Ecosystem Studies Unit

Project Title: Lake McDonald Fishery Investigations – Year 2

Type of Project: Research/natural resources

Funding Agency: National Park Service

Other Partners/Cooperators: USGS-BRD, US FWS

Effective Dates: June 17, 2003 – December 31, 2005

Funding Amount: $36,979

Investigators and Agency Representative:
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Project Abstract:

The indigenous fishery of Lake McDonald in Glacier National Park has been radically altered by a succession of habitat disturbances and ecological manipulations dating from the early 1900's. Park managers are particularly concerned about the welfare of the bull trout, a native char recently placed under the protection of the Endangered Species Act as a *Threatened* species. The native westslope cutthroat trout, a "Species of Special Concern" in Montana, is also imperiled in the lake. Field surveys and angler censuses carried out during the past 70-years have documented declines of both species' in Lake McDonald, mainly due to the entry of lake trout into the basin. Four other nonnative species are also present in the system. The movements, spatial relationships, and habitat utilization of lake trout and the native species, especially bull trout, are poorly understood. A comprehensive assessment of damage to aquatic and riparian habitats in the Lake McDonald basin has not been made. Information about the condition of historic spawning habitats is also lacking.

Purpose: This project addresses many of these information gaps. Basic life history and biological data will be collected for the various species of fish inhabiting Lake McDonald. Limnology studies will be carried out concurrently to gather information about the food base and related environmental factors that support the fishery. Selected bull trout and lake trout will be surgically implanted with acoustic transmitters and tracked throughout Lake McDonald in 2003 and 2004. Fish metrics will be measured and other types of data (i.e., food preferences, age and growth, etc.) will be obtained for bull trout and lake trout. This information will form the basis for the student's MS Thesis and contribute to the development of a strategic plan to be developed by the NPS for management of native and nonnative fish in Lake McDonald. Findings will also be applicable to several other lakes on the west side of the park that are similarly impaired. Knowledge and mitigation techniques that evolve from this work will also benefit other mountain Natural Area parks in the western U. S. that are dealing with introduced and invasive fish issues.

Outcomes with completion dates:
The Cooperator (Guy) at MSU will submit an Investigators Annual Report for work completed during the 2003 field season via the NPS Science web site on or before January 31, 2004. A final report will be forwarded to the NPS PI (Marnell) upon completion of the work on or before June 30, 2005.

Keywords: Glacier National Park, Lake McDonald, fisheries, lake trout, bull trout, westslope cutthroat trout

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Date Annual Report Received:
Date Final Report Received:
Publications, etc. on file: