



Montana Fish, Wildlife & Parks

Region One
490 North Meridian Rd.
Kalispell, MT 59901
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FAX: 406-257-0349
Ref: JS046-11
October 5, 2011

Ladies and Gentlemen:

Montana Fish, Wildlife & Parks (FWP), Region 1, has completed an environmental assessment (EA) proposing to conduct a 3-year study to assess the efficacy of using modified electrofishing equipment to destroy nonnative lake trout embryos in Swan Lake, Montana. Information obtained from the study will help determine the feasibility and effectiveness of alternatives for managing the lake trout population in Swan Lake.

Based on the comments received during the public comment period for the draft EA, I recommend that the proposed project be implemented. A copy of the decision notice is enclosed. Please direct your questions or comments to Fisheries Biologist Leo Rosenthal, FWP, 490 N Meridian Road, Kalispell, MT 59901, (406) 751-4548 or e-mail to lrosenthal@mt.gov.

Sincerely,

James R. Satterfield Jr., Ph.D.
Regional Supervisor

/ni

Enclosure

c: *Governor's Office, Attn: Mike Volesky, PO Box 200801, Helena, MT 59620-0801
*Environmental Quality Council, PO Box 20, Helena, 59620-1704
*Dept. of Environmental Quality, Planning, Prevention & Assist., PO Box 200901, Helena, 59620
*Dept. of Environmental Quality, Permitting Compliance, PO Box 200901, Helena, 59620-0901
*Montana Fish, Wildlife & Parks - Director's Office: Reg Peterson; Fisheries: Bruce Rich; Rebecca Cooper; & Legal Unit: Jessica Fitzpatrick
*DNRC, PO Box 201601, Helena, 59620-1601 (Patty Greene)
*DNRC, Bob Sandman, Kalispell
*Montana Historical Society, SHPO, 225 North Roberts, Veteran's Memorial Bldg., Helena, 59620
*Montana State Library, 1515 East Sixth Ave., Helena, 59620-1800
*Adam McLane, Montana Environmental Information Center, PO Box 1184, Helena, 59624
George Ochenski, 4 Harrison Road, Helena, 59601
*Wayne Hirst, Montana State Parks Foundation, PO Box 728, Libby, 59923
*Montana State Parks Association, PO Box 699, Billings, 59103
*Joe Gutkoski, President, Montana River Action Network, 304 N 18th Ave., Bozeman, 59715
*Representatives Joe Read, Janna Taylor, Daniel Salomon, Scott Reichner, Mark Blasdel
*Senators Verdell Jackson, Shannon Augare, Carmine Mowbray
*Flathead County Commissioners, 800 S Main Street, Kalispell, MT 59901
Lake County Commissioners, 106 Fourth Avenue E, Polson, MT 59860
Interested Parties

*E-mailed



Montana Fish, Wildlife & Parks

ENVIRONMENTAL ASSESSMENT AND DECISION NOTICE FOR THE Use of Modified Electrofishing Equipment to Destroy Lake Trout Embryos in Swan Lake, Montana

October 5, 2011

Project Proposal and Justification:

Montana Fish, Wildlife & Parks (FWP), in collaboration with Montana Cooperative Fishery Research Unit (MTCFRU) at Montana State University, proposes to conduct a 3-year study to assess the efficacy of using modified electrofishing equipment to destroy nonnative lake trout embryos in Swan Lake, Montana. Electrofishing is a standard and accepted method for non-lethally sampling fish; however, available data show that a voltage gradient of about 15 volts per inch or less is lethal to embryos (fertilized eggs) of many fish species during early development. The first two years of the proposed study would involve collecting eggs and sperm from adult lake trout, subsequently placing fertilized lake trout eggs in experimental enclosures in Swan Lake at depths of about 15 to 30 feet, and exposing the experimental enclosures with eggs to a voltage gradient of about 15 volts per inch. This phase of the experiment would also evaluate the effects of various environmental conditions on the efficacy of using modified electrofishing equipment to destroy lake trout embryos. Information gained would be used to perform an experimental destruction of lake trout embryos at a larger spatial scale (e.g., entire spawning sites) during the third year of the proposed study. Collection of eggs and sperm from adult lake trout would occur concurrently with ongoing FWP lake trout management activities on Swan Lake. The proposed study would occur annually for three years during September, October, and November starting in 2011. Funding has been secured for the first year of the proposed study, and obtaining funding for additional years will depend on the relative success of the first year of study. Information obtained from the proposed study will help determine the feasibility and effectiveness of alternatives for managing the lake trout population in Swan Lake (e.g., suppression of the population).

Lake trout were first detected in Swan Lake in 1998. The lake trout population has increased over time and represents a considerable threat to the popular kokanee and bull trout fisheries. Previous research efforts in Swan Lake have investigated the size and age structure of the lake trout population, and a current project examines the use of gillnetting as a tool to reduce lake trout numbers. The proposed study investigates the use of a common fisheries application (electrofishing) as a potential tool to assist fishery managers with alternative ways to control undesirable fish species.

Location of Project:

This project will be conducted on Swan Lake, located approximately 10 miles southeast of the city of Bigfork, Montana. Swan Lake drains to the Swan River, a major tributary to Flathead Lake.

Environmental and Social Impacts:

Electrofishing is a common fisheries tool used to collect fish for a wide variety of fish surveys. However, past research has shown that electrofishing can be lethal to fish embryos during early

stages of development. Though lake trout embryo mortality is the objective of the proposed project, other aquatic species may be present during the treatment. For the proposed study, underwater video will be used to determine the presence of fishes (other than lake trout embryos) within areas affected by the experiment and to evaluate species behavior associated with the electrofishing process. If the methodologies developed in this study are adopted by FWP for future lake trout control at larger spatial scales, methods may be used to ensure that the influence on nontarget fishes are minimized (e.g., mild physical disturbance of spawning sites prior to treatment with electricity).

An experimental evaluation of the use of modified electrofishing equipment to destroy lake trout embryos may cause public controversy over the removal of lake trout. Fish removal projects have in the past caused public controversy, mainly over the use of fish toxicants or netting; however, neither fish toxicants or gill nets are being proposed in this project. Electrofishing is a commonly used fisheries tool and rarely is lethal to developed aquatic organisms. Some anglers may be temporarily disrupted, precluded from fishing in chosen locations, or disturbed by sampling activities. However, these disruptions will be restricted to a very short period of time (i.e., three to four weeks in the autumn) and experiments will be conducted at a very small spatial scale.

Public Involvement:

In compliance with the Montana Environmental Policy Act, a draft environmental assessment (EA) was prepared and released for a 21-day public comment period from September 8 through September 29, 2011. Legal ads were placed in local and surrounding area newspapers, a news release was released by FWP, and notices were mailed to selected persons, legislators, and several conservation groups. The EA was available for viewing at the Montana State Library in Helena, the Flathead County Libraries in Kalispell and Bigfork, the Swan Ecosystem Center in Condon, and Swan Lake Trading Post in the town of Swan Lake. Copies of the EA were also available at the FWP Region 1 headquarters in Kalispell and electronically on the FWP web site.

Public Comments/Responses:

FWP received nine written comments by mail or email. Of the written comments, six supported the proposed action, one individual suggested the use of another fish species (burbot) to control lake trout, one individual provided history on the fishery of Swan Lake but provided no opinion on the proposed project, and one individual believed that the proposed project was premature, as more research was necessary to determine what types of other aquatic species were present in the study location.

Several key comments/questions were raised during the public comment period, and responses to them are as follows:

Without knowing basic baseline data about the invertebrate populations in Swan Lake there can be no way to know which species are being displaced or possibly killed by the electrical charges.

It is likely that a number of benthic (bottom-oriented) fish and invertebrate species are present in Swan Lake. Although a complete list has not been compiled with regard to the proposed study location, a number of fish and invertebrate species have been observed in past underwater surveys. No endangered, threatened, or sensitive species other than bull trout have been identified. For the proposed study, underwater video will be used to determine the presence of fishes (other than lake trout embryos) within areas affected by the experiment and to evaluate

species behavior associated with the electrofishing process. Additionally, the small scale of this experiment will likely negate any deleterious effects associated with the electrofishing treatment. Swan Lake is 3,239 surface acres in area and the entire lake trout spawning area comprises only 0.1% (5.5 acres) of the total area. The first two years of the proposed project will only involve working on a portion of the lake trout spawning area, thus further reducing the overall impact the electrofishing treatment will have on other aquatic species. The treatment area will be inspected by SCUBA or videography to observe and collect any dead invertebrates.

It is a little unclear what will occur the third year of the study.

The first two years of the study will involve refining the modified electrofishing equipment to best apply the treatment to the experimental enclosures. If, by the third year, the equipment has been refined to the point in which the electrical current can be applied over a larger area, then the objective of the project will be to apply the electricity to the length of the lake trout spawning area. This portion of the project would determine the efficiency in which this newly developed tool could be used in an actual lake trout spawning area. Development of a cost effective, feasible tool for managing invasive lake trout populations is desirable for many fisheries professionals in the western United States.

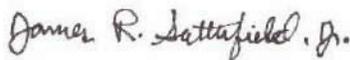
Are crayfish considered benthic invertebrates and are they being evaluated in this study?

Little is known about the effects of the modified electrofishing equipment on benthic (bottom-oriented) aquatic organisms. Crayfish are present in Swan Lake and would be considered a benthic species in the context of this experiment. Similar to the other aquatic organisms listed in the EA, effects on crayfish would be evaluated during the experiments through the use of underwater video.

Decision Notice:

Tools necessary to manage for undesirable fish species are currently limited. Many agencies throughout the country are faced with invasions of unwanted fish in water bodies that either contain sensitive native fish stocks or highly popular sport fishes. Newly introduced lake trout pose an imminent threat to the native bull trout and kokanee populations of Swan Lake. Because of the immediacy of this threat, FWP has been conducting research in Swan Lake since 2005 and has been exploring management alternatives to reduce the lake trout population. This project further aids fisheries managers by investigating another tool that could possibly provide a cost-effective way to manage lake trout.

Based on the comments received during the public comment period for the draft EA, I recommend that the proposed project be implemented.



October 5, 2011

James R. Satterfield, Jr., Ph.D.
Regional Supervisor

Date