MONTANA DEPARTMENT OF FISH, WILDLIFE AND PARKS
FISHERIES DIVISION
JOB PERFORMANCE REPORT

STATE:	MONTANA	**PROJECT TITLE:**	STATEWIDE FISHERIES INVESTIGATIONS
PROJECT NO.:	F-46-R-6	**STUDY TITLE:**	SURVEY AND INVENTORY OF COLDWATER AND WARMWATER ECOSYSTEMS
JOB NO.:	V-a	**JOB TITLE:**	FLATHEAD LAKE-RIVER SYSTEM STUDY

PROJECT PERIOD: JULY 1, 1992 THROUGH JUNE 30, 1993

BACKGROUND

The Flathead Lake/River system located in northwest Montana consists of Flathead Lake, the main Flathead River above Kerr Dam, that portion of the South Fork Flathead River below Hungry Horse Dam, the Swan River below Bigfork Dam, the Whitefish River below Whitefish Lake, and the North and Middle Forks of the Flathead River and their major tributaries as used for spawning and rearing. The system needs to be managed as one ecosystem due to the adfluvial nature of several of the major gamefish species in the system. These adfluvial fish also interact with lake and river resident stocks, further underscoring the interdependency of the lake and river fisheries.

The major sportfish species in the lake include westslope cutthroat trout (Oncorhynchus clarki), bull trout (Salvelinus confluentus), lake trout (Salvelinus namaycush), lake whitefish (Coregonus clupeaformis) and yellow perch (Perca flavescens). The major sportfish in the river are westslope cutthroat trout, bull trout, and mountain whitefish (Prosopium williamsoni). Scattered populations of largemouth bass (Micropterus salmoides) and northern pike (Esox lucius) occur in old oxbows of the river.

Flathead Lake

Flathead Lake, measuring 125,000 surface acres, is currently one of the most heavily fished water in Montana. The lake supports about 75,000 angler-days per year for trout and perch.

Kokanee (Oncorhynchus nerka) were once the predominant gamefish in the lake and abundant seasonally in the river but have declined dramatically in numbers in recent years due to a combination of hydropower impacts, predation, angling harvest and impacts from Mysis.

Flathead River

Flathead River and its forks support one of the most extensive adfluvial fishery in Montana. Westslope cutthroat and bull trout migrate as much as 140 miles to spawn in their natal stream.

PROJECT OBJECTIVES AND DEGREE OF ATTAINMENT

Lake Objectives

1. Influence management of water levels in the lake to minimize impacts on fish populations. Implementation of mitigation plans for operations of

Hungry Horse is being considered by the Northwest Power Planning Council. Objective were accomplished with state funds.

2. Maintain water quality at present levels as measured by the Montana Water Quality Bureau (WQB). Objective accomplished utilizing state funds through the cooperative participation and review with appropriate agencies.

3. Maintain aquatic habitat at a level capable of sustaining existing fish populations. Objective accomplished utilizing state funds through the cooperative participation and review with appropriate agencies to enforce stream and lake bed protection laws.

4. Maintain trout and salmon populations at present levels in face of projected increases of 35,000 angler days by 1992. Utilize hatchery plants if necessary. Objective attained to the degree of developing and implementing an experimental stocking strategy to restore the kokanee population with an initial plant of 250,000 yearling kokanee in 1993. Hatchery plants of 1 million kokanee yearlings under several release strategies will be made over the next 5 years.

5. Maintain the opportunity to catch large bull trout (>8 lb.) and lake trout (>15 lb.) at a catch rate of 0.1 fish/hour. Objective accomplished to the degree of developing and implementing a plan to restore the kokanee prey base and the monitoring of the seasonal lake fishery. Bull trout fishing was closed due to population declines and a petition to list the species under the Endangered Species Act.

6. Manage for a 12-14" kokanee and a catch rate of 1 fish/hour. Objective attained to the degree of developing and implementing an experimental stocking strategy to restore the kokanee population and annual monitoring of kokanee year-class strength.

7. Develop management strategies to compensate for the introduction of Mysis. Objective accomplished to the degree of monitoring the annual population status of the Mysis population and defining effects of Mysis on fish populations. Mysis appear to be stabilizing at a level one-fifth of peak densities.

8. Encourage public participation in resource issues and decisions. Objective accomplished through dissemination of information at public meetings and ratification of the Hungry Horse Fisheries Mitigation Implementation Plan.

9. Increase angler compliance with existing laws. Objective accomplished through education at public meetings and through coordinated effort of the enforcement division, utilized state funds. Posters on bull trout identification, regulations and release techniques were developed and distributed in cooperation with Confederated Salish and Kootenai Tribe.

10. Provide public access to popular use areas and develop more low water boat ramps. The review and implementation of development projects at existing sites and identification of sites needed for future acquisition. Objective accomplished with state funding.

River Objectives

1. Maintain, within legal limits, instream flows sufficient to maintain or enhance existing fish populations. Objective accomplished as described in the mitigation plan for operation of Hungry Horse which was finalized by the Northwest Power Planning Council and is now being implemented. Funds have been authorized for a selective withdrawal structure on the dam which

will assist in maintaining optimum water temperatures for trout in the river below. Accomplished partially with state funds.

2. Maintain spawning and incubations flow discharges from Hungry Horse Dam as calculated by Special Projects studies. Objective accomplished. Flow restrictions for 1992 were lifted when surveys detected no spawning activity.

3. Maintain streambanks and channels in present or improved condition. Objective accomplished through the annual monitoring of streams and through the cooperative participation and review with appropriate agencies to enforce stream bed protection laws. Utilized state funds.

4. Maintain water quality at or above present levels as measure by WQB and U. S. Geological Survey (USGS). Objective accomplished.

5. Maintain fish habitat at or above present levels. Objective accomplished through the annual monitoring of spawning habitat in the main Flathead, North and Middle Fork Flathead Rivers.

6. Maintain fish populations that will provide use and harvest at present levels. Objective accomplished through the monitoring of cutthroat and bull trout populations in the North and Middle Fork tributaries. Present use was measured with a year long angler census conducted on the main stem Flathead River, North Fork and Middle Forks of the Flathead River.

7. Provide river access sites 4-6 hours (floating time) apart. Secure public access on currently used private ground. Objective accomplished through review of access plans in coordination with the USFS. State funded.

8. Increase public awareness of the unique nature and problems of the adfluvial fisheries. Objective accomplished through public meetings and through implementation of the Upper Flathead System Fisheries Management Plan.

9. Increase compliance with existing angling regulations. Objective accomplished through education at public meetings, informational posters and through coordinated effort of the enforcement division.

RECOMMENDATIONS

1. Negotiate Flathead Lake level management or mitigation with Montana Power Company to maintain levels that are sufficient to maintain or enhance fish populations at existing levels.

2. Negotiate river flows with NPPC to maintain levels that are sufficient to maintain or enhance fish populations at existing levels.

3. Proceed with the implementation of the strategies of five-year Flathead River and Lake Fisheries Management Plan with the cooperation of the CS&KT.

4. Evaluate the feasibility of using hatching reared yearling I+ kokanee releases in the lake in an effort to restore and increase kokanee numbers to meet angler demands. Assess and identify the impact of the Mysis population in the lake on kokanee and other fish species.

5. Monitor trout species in the lake and river to evaluate the effectiveness of new regulations on bull and lake trout in controlling harvest and to monitor present growth conditions. Acoustical data should be summarized by depth intervals oriented to both the surface and to the bottom.

6. Annually monitor the bull trout spawning escapement by enumerating redds on selected streams in the North and Middle Fork River drainage as part of a system population evaluation.

7. Monitor bull, cutthroat and lake trout populations through netting surveys and a cooperative angler tagging program to establish annual population status levels and catch rates to aid in the maintenance of fish populations that can sustain acceptable use and harvest levels.

8. Annually monitor stream bottom substrate composition and population estimates of juvenile bull trout and cutthroat trout on selected streams in the North and Middle Fork River drainage to assess fish embryo survival as stream environments change resulting from man's activities.

9. Close angler harvest of all bull trout in the river system until spawning redd counts return to average levels for two years.

Prepared by: Delano A. Hanzel
Date: September 8, 1993