

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

STATE: MONTANA PROJECT TITLE: STATEWIDE FISHERIES  
INVESTIGATIONS

PROJECT NO.: F-46-R-5 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, 1991 THROUGH JUNE 30, 1992

**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. Implimentaion 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 by utilizing hatchery plants of 3 to 5 million kokanee fry under several rearing and release strategies.
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.
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.
8. Encourage public participation in resource issues and decisions. Objective accomplished through dissemination of information at public meetings and public input by implementing drainage management 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.
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 is being finalized in an implementation plan being reviewed by the Northwest Power Planning Council. Accomplished with state funds.
2. Maintain spawning and incubations flow discharges from Hungry Horse Dam as calculated by Special Projects studies. Objective accomplished.
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.

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 using site funds through education at public meetings 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 riverflows with NWPPC 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 late-summer O+ or spring 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.

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