MONTANA FISH, WILDLIFE & PARKS

FISHERIES DIVISION
JOB PROGRESS REPORT

STATE:	MONTANA	PROJECT TITLE:	STATEWIDE FISHERIES INVESTIGATIONS
PROJECT NO.:	F-46-R-7	STUDY TITLE:	SURVEY AND INVENTORY OF COLDWATER LAKES
JOB NO.:	II-a	JOB TITLE:	NORTHWEST MONTANA COLDWATER LAKES INVESTIGATIONS

PROJECT PERIOD: JULY 1, 1993 THROUGH JUNE 30, 1994

BACKGROUND

The coldwater lake fisheries resource in northwest Montana is comprised of 412 coldwater lakes, ranging from low elevation valley floor lakes to high elevation mountain lakes. The survey and inventory of this fishery resource is an ongoing effort to update the management programs to maintain or improve coldwater lakes fisheries.

OBJECTIVES AND DEGREE OF ATTAINMENT

1. To manage lake and reservoir water levels to minimize impacts on fish populations. Objective accomplished utilizing state funding.

2. To maintain water quality at present levels as measured by Water Quality Bureau. Objective accomplished utilizing state funding.

3. To maintain aquatic habitat at a level capable of sustaining existing populations. Objective accomplished using state funding.

4. To increase the opportunity to catch larger trout (14" at 0.5 fish/hour) in specified lakes. Objective accomplished. Large trout management regulations and the introduction of Girrard strain rainbows have increased opportunities in several lakes.

5. Provide lake fisheries to sustain an increase of 32,600 angler days by 1992 through natural reproduction and hatchery plants. Provide kokanee fisheries for 12"-14" fish at a catch rate of 1 fish per hour. Objective partially accomplished. Sizes of mature kokanee (*Oncorhynchus nerka*) remained stable in most Region One kokanee lakes. Kokanee appeared to slowly be increasing in length in Crystal Lake in 1994 after three

years of poor growth. This is likely due to a decrease in stocking levels and reestablishment of Flathead Lake stock kokanee. New kokanee fisheries have been established in Dickey Lake and Lake Five. As a result of poor spawning and egg take for kokanee in 1991, MDFWP has expanded egg taking efforts and disease testing at several sites including Ashley, Swan, and possibly Middle Thompson and Bull lakes.

6. To provide a variety of trout sizes and species for angling and prey on stunted salmon. Objective partially accomplished. Dickey Lake now supports a very acceptable kokanee (10-13 inches) and Girrard (Duncan strain) rainbow (16 inches to 12 pounds) fishery.

7. To manage regulations and stocking to protect or expand species of special concern. Objective accomplished with state funding.

8. To develop management plans to adapt to the introduction of *Mysis* and other unwanted species. Objective partially accomplished.

9. Coordinate with other agencies to maintain fisheries and water quality at or above present levels. Objective was accomplished using state funding.

10. To encourage public participation in understanding the problems and strategies of resource management. Objective accomplished. Draft management plan completed on Thompson Chain of Lakes.

11. Attempt to acquire and provide facilities on all lakes and reservoirs capable of sustaining more than 300 man days of fishing per year on a priority basis at the rate of one lake per year. Objective was accomplished using state funding.

12. To survey small lakes within the region with the intent to adjust population density and species distribution to maintain or increase fishing opportunity. Objective partially accomplished. Inventoried ten small lakes. In general, species composition is trending toward non-game species except in those lakes most recently chemically rehabilitated.

RECOMMENDATIONS

Recommendations for work items in fiscal year 1993 are listed below:

1. Status of rainbow trout (*O. mykiss*) and cutthroat trout populations should continue to be monitored in Lake Koocanusa and compared to fish numbers in the 1978-1981 era which was immediately before kokanee became established.

2. Continue surveying small lakes within the region as the need or opportunity arises.

3. In cooperation with the U.S. Forest Service and/or Bonneville Power Administration funded Hungry Horse Reservoir mitigation, chemically rehabilitate Blue Lake or Hidden Lake near Stryker, Montana and Kilbrennan Lake near Troy, Montana to remove undesirable nongame fish and re-establish sport fisheries.

4. Continue to monitor success of planting kamloops or Girrard (Duncan strain) rainbow trout in a wide variety of lake habitats ranging from lakes of several thousand acres surface area down to less than 100 surface acres.

5. Continue regulating water levels in Ashley Lake to provide good flows for the outlet stream without deleterious effects upon the lake fishery.

6. Continue monitoring of kokanee populations in region lakes every one to four years on a scheduled basis to detect population changes. Much of this data can be obtained during kokanee spawning efforts.

7. Assist as needed the Flathead Lake Salmon Hatchery kokanee spawning efforts.

8. Finish genetic analysis of selected kokanee stocks used for planting in regional lakes. To date analysis has been made of kokanee from four lakes but has yet to be completed for Koocanusa/Kootenai River/Kootenay Lake. In addition, genetic analysis is yet to be accomplished on fish being reared in hatcheries (Creston National Hatchery and Flathead Lake Salmon Hatchery) originating from the states of Colorado and Wyoming.

9. Monitoring of the Lake Mary Ronan fishery will be emphasized as it supports a major sport fishery and kokanee egg collection. This lake was illegally planted with yellow perch (*Perca flavescens*) in spring 1992. Data to be collected includes kokanee year class strengths, angler catch data, kokanee egg collecting, numbers of rainbow and cutthroat trout spawning in tributaries and abundance of yellow perch.

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