MONTANA DEPARTMENT OF FISH, WILDLIFE AND PARKS
FISHERIES DIVISION

JOB PROGRESS REPORT

STATE: Montana
PROJECT NO: F-46-R-1
JOB NO: II-f

TITLE: STATEWIDE FISHERIES INVESTIGATIONS
TITLE: SURVEY AND INVENTORY OF COLDWATER LAKES
TITLE: MID-MISSOURI RESERVOIRS STUDY

PROJECT PERIOD: JULY 1, 1988 THROUGH JUNE 30, 1989

OBJECTIVES

1. To maintain densities of rainbow trout in Canyon Ferry and Holter reservoirs and densities of rainbow trout and/or kokanee in Hauser Reservoir based on an index of abundance of an average of 15 yearling or older fish captured per 125 feet of experimental gill net set during the spring.

2. To quantify downstream escapement of hatchery reared rainbow trout from the three reservoirs.

3. To monitor distribution and food supply of sport fishes in the three reservoirs.

4. To identify extent of natural reproduction occurring in the reservoir complex and identify areas where reproduction could be enhanced.

5. To provide for a stable salmonid fisheries with an average catch rate of 0.30 fish/hour in Canyon Ferry Reservoir and 0.40 fish/hour in Hauser and Holter reservoirs.

6. To provide for an average winter catch rate of 2.0 yellow perch/hour with an average size of 8.5 inches and an annual harvest of 300,000 in Canyon Ferry Reservoir.

7. To determine status of walleye populations in Hauser and Holter reservoirs.

8. To maintain requested instream flows in the Missouri River and minimize the loss of fish over mid-Missouri River dams during spill periods.

9. Develop a comprehensive five year management plan for the mid-Missouri Reservoir complex.

DEGREE OF ATTAINMENT

Objective 1

A total of approximately 1,000,000; 200,000; and 325,000 rainbow trout fingerlings (3-5 inches) were stocked into Canyon Ferry, Hauser and Holter reservoirs, respectively, during 1988. As part of an ongoing strain evaluation program, Canyon Ferry Reservoir received about 750,000 Arlee, 125,000 Eagle Lake and 125,000 Desmet rainbow trout. Hauser and Holter reservoirs received only Arlee rainbow trout. Rainbow trout in the three reservoirs were sampled with floating and sinking 6 X 125 foot experimental gill nets (3/4 to 2 inch mesh) set at standardized locations during the spring and the fall. All gill net data has been entered into computer files. Because efforts have been primarily directed toward the development of comprehensive five year management plans for the reservoir complex, summarization of gill net data has not been completed. These data will be included in a future annual progress report.

Objective 2

All rainbow trout stocked into the reservoir complex during 1988 were marked with either fluorescent pigment or a fin clip. In addition, all spray marked fish were marked with tetracycline to evaluate retention of fluorescent pigment marks. Rainbow trout collected from gill netting, electrofishing and creel census activities were examined for these various marks. All marking data has been entered into computer files and will be included in a future annual progress report when analyses are completed.

Objective 3

Areal distribution of reservoir fishes were monitored with floating and sinking 6 X 125 foot experimental gill nets (3/4 to 2 inch mesh) set at standardized locations during the spring and the fall. Distribution of fish species by depth was determined by using a bank of four vertical gill nets set monthly from May through October at permanent sampling stations located in the lower end of each reservoir. These data have been entered into computer files and will be included in a future annual progress report when summaries are completed. Zooplankton densities were determined in each reservoir by making vertical plankton net tows biweekly at permanent sampling stations from mid-April through late November. Zooplankton collections have not been analyzed. Collections will be stored and analyses will be undertaken only if the data is determined to be needed to further understand the fish population dynamics in the reservoir complex.

Objective 4

Two tributaries to Canyon Ferry Reservoir and two tributaries to Hauser Reservoir were electrofished during the spring and the

fall to monitor spawning runs and to identify barriers to migration. Drift nets were installed weekly from mid-June through late July in four tributaries to Canyon Ferry Reservoir and one tributary to Hauser Reservoir to monitor emigration of rainbow trout fry. These data will be included in a future annual progress report when analyses are completed.

Objective 5

A partial creel census was conducted on the three reservoirs from late April through late November. A total of 6,387 anglers were interviewed. A more comprehensive creel census was conducted on the Canyon Ferry tailrace from mid-September through late November. A total of 350 anglers were interviewed. These data have been entered into computer files and will be included in a future annual progress report when analyses are completed.

Objective 6

A partial creel census was conducted on the three reservoirs from early January through late March. A total of 1,317 anglers were interviewed. These data have been entered into computer files and will be included in a future annual report when analyses are completed.

Objective 7

Tagging kits were distributed to interested anglers and members of the local walleye club for use on Hauser and Holter reservoirs. In addition, walleye were tagged in Holter Reservoir during "tagging parties" conducted by the local walleye club. Approximately 120 walleye in Holter Reservoir have been tagged to date. Tags are being distributed to evaluate growth, movement and angler harvest. Indices of abundance for walleye were monitored using experimental gill nets set at standardized locations during the spring and the fall. Results will be presented in a future annual progress report.

Objective 8

The annual meeting of the Upper Missouri Advisory Committee was attended to discuss projected reservoir operations for the year and to review relicensing plans for Hauser and Holter dams by the Montana Power Company. Study proposals were submitted to the Montana Power Company as part of the relicensing process by the Federal Energy Regulatory Commission.

Objective 9

Considerable project effort was expended on the development of comprehensive five year management plans for the mid-Missouri Reservoir complex. Public scoping meetings were held in Great Falls, Helena and Bozeman during November to determine what were the issues and problems associated with the management of the

mid-Missouri Reservoir Complex. Based on public comment received at these meetings, preliminary documents presenting a series of management alternatives for Canyon Ferry, Hauser and Holter reservoirs were completed. Because of the complexity of the management issues on Hauser Reservoir and the attention shown by various special interest groups, priority has been placed on first completing the final management plan for Hauser Reservoir. The preliminary document for Hauser Reservoir was submitted to a committee representing diverse interest groups for review. Revisions to the document following this review have been made. A questionnaire that addresses all of the major issues presented in the revised document has been distributed to approximately 1,300 interested parties. This questionnaire was developed to help select the preferred courses of action for the management of Hauser Reservoir. The final management plan for Hauser Reservoir will be considered for adoption by the Fish and Game Commission in mid-September, 1989. The next management plan scheduled to be completed will be for Canyon Ferry Reservoir.

Prepared by: Mark Lere

Date: July, 1989

Waters Referred to:

Canyon Ferry Reservoir	17-8832
Hauser Reservoir	17-9056
Holter Reservoir	17-9136