END OF YEAR PERFORMANCE REPORT

STATE: MONTANA PROJECT TITLE: _____

PROJECT: F-46-R-4

STUDY VII

JOB #: A

JOB TITLE: WATER RESERVATIONS - MISSOURI RIVER BASIN

PROJECT PERIOD: JULY 1, 1990 - JUNE 30, 1991

JOB OBJECTIVES AND DEGREE OF ATTAINMENT:

1. To compile existing biological and stream profile data to identify data needs.

Compilation of existing biological information and stream profile data was completed for the Missouri River and its tributaries downstream from Fort Peck Dam and for the Little Missouri River and three of its tributaries. Information was collected for 18 streams. Biological data was also collected for each of the streams or, where the information was already available, summarized for those streams. Several low gradient warmwater streams did not lend themselves to the use of stream profile data. Other methods were used to determine instream flows on these streams.

2. To determine distribution, species distribution and relative abundance of fish populations where needed.

This type of information was already available for several streams. Intensive field studies were conducted on the Little Missouri River and three of its tributaries to obtain this information. These field studies were conducted through a cooperative agreement with the Cooperative Fisheries Research Unit at Montana State University in Bozeman. Similar information was also either collected or, where already available, summarized for the tributaries to the Missouri River below Fort Peck Dam.

3. To collect stream profile data as appropriate on streams where fish population assessments are or will be completed.

Except for low gradient, prairie streams in the Little Missouri Basin, stream profile data was obtained on all of the streams where we had fish population information.

4. To summarize existing recreational data as may be available in the Missouri Basin below Fort Peck Dam and in the Little Missouri Basin and perform an economic analysis of recreational use.

5. To summarize the impacts of the reservation on other existing and potential water users in the Lower Missouri Basin.

This analysis was completed as part of the public interest section of our application for instream flow reservations in the Missouri River Basin below Fort Peck Dam and in the Little Missouri River Basin.

6. To help coordinate work in the Little Missouri Basin so that data acceptable for inclusion in an instream flow reservation application is collected, analyzed, and compiled in a suitable and timely manner.

Through coordination with the Cooperative Fisheries Unit at Montana State University, two graduate students were funded to collect necessary fish and stream profile data under the supervision of the Cooperative Fisheries Unit leader. The students utilized electrofishing, seines and hoop nets to make fish population collections. Stream profile measurements were made at several locations until it became evident that this type of method could not be used to recommend instream flows on these prairie streams.

7. To respond to requests for additional information or clarification of information contained in the reservation application for streams above Fort Peck Dam which will be submitted by July 1, 1990.

This objective required only very limited activity.

8. To participate in other instream flow and/or water-related activities in the Missouri Basin as may be required.

DFWP participated on a steering committee for the drought management issue of the State Water Plan.

Coordinated Department efforts with regard to the listing of the pallid sturgeon as an endangered species and in its recovery program.

9. To assemble instream flow write-ups on individual stream reaches for the reservation application.

During this report period, an application for instream flow reservations on 18 streams in the Missouri River Basin below Fort Peck Dam and in the Little Missouri Basin was completed and submitted to the Board of Natural Resources and Conservation. The application contained the stream write-ups. The deadline for submission was July 1, 1991. Our application was submitted June 28, 1991.

10. To determine water availability in the Missouri Basin below Fort Peck Dam and in the Little Missouri River Basin.

A cost-share agreement was completed with the U.S. Geological Survey to conduct water availability analyses in the two basins. A total of 21 stream reaches on the 18 streams was analyzed during the report period and the information was included in the instream flow reservation application.

11. To implement a pilot water leasing program in the Missouri Basin and/or other river basins as appropriate.

The pilot water leasing program was begun following signing of the water leasing bill by the Governor in May 1990. The activities in FY 91 included pursuing candidate streams for leasing possibilities; meeting with landowners to determine interest in leasing; meeting with other water users on potential leasing streams to provide them information on the program; and seeking (Board) approval (as required by law) approval from the Board of Natural Resources and Conservation (as required by law) to study one additional stream.

The three streams which we have approval to study from the Board are shown below with their current status.

1. Swamp Creek - a tributary to the Big Hole River near Wisdom, Montana where a 3.38 cfs water right would be leased to provide additional flows for the dwindling fluvial Arctic grayling population in the Big Hole Basin.

Status - price negotiations with the water right holder failed to reach an acceptable agreement between the two parties. We are currently not pursuing leasing on this stream.

2. Big Creek - a tributary to the Yellowstone River near Emigrant where "salvaged" water would be leased to benefit the Yellowstone cutthroat trout which spawn in the stream. The salvaged water would become available from conversion of six inefficient irrigation ditches to a gravity pipeline and sprinkler system.

Status - no work has begun on pipeline construction. The Soil Conservation Service is conducting feasibility studies on the system itself as well as determining the amount of salvaged water which might become available with the new project. Actual construction is probably several years in the future.

3. Mill Creek - a tributary to the Yellowstone River near Pray, Montana, where a new gravity pipeline system is about to be completed. Because the pipeline sprinkler system would be more efficient than the gravity irrigation systems currently in use, there is a potential for individual water users to "salvage" water currently being used and to make that water available for instream flows. Leasing individual water rights on this stream is quite complicated because not all water users in the project area have converted their water use to the

pipeline sprinkler system. In addition, because of the size of Mill Creek, several water rights will have to be leased to provide adequate instream flows in Mill Creek. Leasing sufficient water in Mill Creek will benefit the Yellowstone cutthroat trout which spawn in the stream.

SUMMARY

Except for objectives 7, 8 and 11, all of the objectives were completed during the report period. Completing these objectives resulted in submission to the Board of Natural Resources and Conservation on June 28, 1991 and application for instream flows in the Missouri River Basin below Fort Peck Dam and in the Little Missouri River Basin.