

MONTANA DEPARTMENT OF FISH, WILDLIFE AND PARKS
FISHERIES DIVISION

JOB PROGRESS REPORT

STATE: MONTANA PROJECT TITLE: _____
PROJECT NO.: F-38-R-5 STUDY TITLE: WATER RESERVATIONS --
JOB NUMBER: 3 MISSOURI RIVER
JOB TITLE: LITTLE MISSOURI INSTREAM FLOW
PROJECT PERIOD: JULY 1, 1989 THROUGH JUNE 30, 1990

JOB OBJECTIVES AND DEGREE OF ATTAINMENT

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

The Little Missouri River and three of its tributaries, Beaver Creek, Little Beaver Creek and Box Elder Creek were selected as sites to obtain existing biological and stream profile information to identify data needs. Two survey sites were established within the reach of each stream. One site is located in the basin mid-range and a second site located further downstream. The wetted perimeter method was utilized to gather stream profile and stage/discharge data at various flows.

Biological information was collected throughout the study reach for each stream. This included collection and tagging of spring spawning game fish to document what species are utilizing the streams for spawning. Water temperature and water quality data were also collected during summer months to determine if these factors are potentially limiting. Different habitat types were identified and habitat preferences of the different life stages of selected sport and non-game fish species were documented. Late summer seining was conducted to determine resident fish present and success of migratory or resident sport fish spawning and rearing.

2. To determine species composition and distribution and the relative abundance of fish populations.

Qualitative fish population data were obtained on four streams within the Little Missouri River Basin area. Seining, electrofishing, and passive capture methods were employed to determine species composition, distribution and relative

abundance. Catch per unit effort was recorded for game fish, although sporadic and seasonal distribution precluded quantitative population estimates.

3. To collect stream profile data on streams where fish population assessments are made.

Using the wetted perimeter method, stream profile and flow data were obtained on four sections on each of the four streams. This information will be used in conjunction with a water availability study being prepared by USGS to make instream flow recommendations.

4. To compile existing recreational data as may be available and perform an economic analysis of recreational use.

The Little Missouri River Basin is in one of Montana's more isolated areas. Recreational use is minimal compared to other areas of the state. The Department's 1982-85 angler use survey showed the following use in fishermen days: 1982 (422); 1983 (1,051); 1984 (414); 1985 (1,648). A current Department economic survey is being conducted on the warmwater lakes and streams in the state. The Little Missouri Basin will be included in that survey. Questionnaires have been sent to licensed fishermen and results are being received and tabulated.

5. To summarize the impacts of the reservation on existing and potential water users in the basin.

This objective was not completed during report period.

6. To summarize the acquired data base into individual write-ups of the streams which will be included in the reservation application.

This activity was not completed during the report period.