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

STATE: Montana Project No: F-46-R-2
PROJECT TITLE: Statewide Fisheries Investigations Job No: III-a
STUDY TITLE: Survey and Inventory of Warmwater Streams
JOB TITLE: Northcentral Montana Warmwater Streams Investigations
PERIOD COVERED: July 1, 1988 through June 30, 1989

ABSTRACT

Warmwater fisheries investigations were conducted on the Missouri River below Morony Dam. The advisory group formed last year met to ensure adequate flows for resident and migratory fish in the Marias River below Tiber Reservoir. Stream preservation activities were conducted on 15 projects.

OBJECTIVES AND DEGREE OF ATTAINMENT

1. **To maintain a minimum flow of 500 cfs in the lower Marias River for habitat enhancement.** Progress made and summarized in this report.

2. **To ensure, within hydrologic constraints, that flows in streams supporting cool/warm water gamefish do not fall below past ten year averages.** Progress made for Marias River and summarized in this report.

3. **To maintain the Regions streambanks and channels in their present or improved condition. (State funded).** Progress made and summarized in this report.

4. **Maintain water quality at or above 1983 levels as measured at USGS water quality monitoring stations.** No discharge permit applications or pollution complaints were received for warmwater streams during the report period.

5. **To assess existing sauger, walleye and freshwater drum populations to determine population densities in the Missouri River between Morony Dam and the Marias River.** During the reporting period, we acquired an 18-foot jet boat, a 115-HP

outboard, a 3500-watt 220-volt generator, and a Coffelt VVP-15 rectifying unit. This allowed us to sample the Missouri River below Morony Dam; a summary of this work is included in the report.

6. **To maintain sauger populations in the Missouri River to provide 10,000 angler days use annually.** See Objective 5 above.

7. **To determine angler use and harvest of fish species and maintain at least the existing quality of fishery in the lower Marias River.** No work scheduled until FY90.

8. **To increase and diversify angling opportunity in the upper 50 miles of the Marias River and lower 10 miles of Cut Bank Creek. (State funded).** Planned stocking of smallmouth bass and/or sauger was not attempted. No smallmouth bass have been planted in these waters in the past so a Preliminary Environmental Review must be prepared before the introduction proceeds. Transplanting of sauger from the Missouri and lower Marias Rivers was not performed to prevent the introduction of an additional predator into Lake Elwell.

9. **To determine walleye distribution and angler harvest in the Missouri River between Holter Dam and Great Falls.** Work completed and summarized last year displayed low angling pressures and a low walleye population density between Holter Dam and Great Falls. Additional data acquisition did not appear necessary to provide management of this resource.

10. **To evaluate need and develop fishing access sites on the Missouri River downstream from Morony Dam. (State funded).** Through cooperation with Parks Division and Great Falls chapter of Walleyes Unlimited a permanent access at Carter Ferry was donated to MDFW&P.

11. **To acquire public fishing access sites on the lower Marias River. (State funded).** The Montana Department of Highways has created a permanent public access at Loma Bridge in cooperation with MDFW&P.

PROCEDURES

Evaluation of plans for water manipulation in Tiber Reservoir and the Marias River below Tiber Dam were made by the advisory board established during the last reporting period. Board menmbers include representatives from the Bureau of Reclamation, sportsman's clubs, county commissioners, landowners and the Department of Fish, Wildlife and Parks. Instream flow recommendations were developed using the wetted perimeter method (Nelson 1984). Recommendations and alternatives for projects involving stream banks and channels were made through participation in the Stream Protection Acts. Fish populations in the Missouri River were surveyed by electrofishing. Walleye and sauger were tagged to determine angler harvest and movement.

FINDINGS

Lower Marias River minimum flow

Past studies have determined that 500 cfs is necessary in the lower Marias River to attract spawning sauger (Gardner, 1987). To meet this goal, an advisory group of irrigators, sportsmen and FWP representatives worked in cooperation with the Bureau of Reclamation to develop operating guidelines. However, due to drought conditions, discharge from Tiber Dam had to be reduced to 300 cfs for 8 months beginning in August 1988 (Gardner 1988).

Stream Preservation

A total of 15 applications involving hydraulic projects on warmwater streams were reviewed and commented upon. All these projects were reviewed thrcugh the provisions of the 1975 Natural Streambed and Land Preservation Act.

Missouri River between Morony Dam and the Marias River

We electrofished the Portage Coulee Section on two dates in September 1988 to determine the relative abundance of various fish species in the Missouri River between Morony Dam and the Marias River. A total of 8 fish species were captured during the September sampling (Table 1). On both days, we collected more sauger than all other fish species combined. Mean length of the sauger was over 15 inches and the average weight exceeded 1 pound. Rainbow trout, brown trout, and walleye comprised most of the other sport fish sampled. The greatest mean weight observed from the September catch was for freshwater drum. We tagged 93 sauger and 12 walleye in the section. To date, 1 tagged sauger has been reported caught by anglers. Goldeye numbers in the catch are not representative of their actual abundance in the river.

Table 1. Catch statistics from electrofishing surveys of the Portage Coulee Section on the Missouri River, MT in 1988.

Date	Species	Number	Mean length (range) (inches)	Mean Weight (range) (pounds)
9/8	Freshwater drum	6	17.4(15.3-20.5)	3.43(1.92-6.50)
	Ling	1	20.7 -	1.28 -
	Goldeye	1	15.5 -	1.44 -
	Rainbow trout	3	18.0(14.5-20.4)	2.03(1.18-2.90)
	Brown trout	12	14.2 (9.5-20.6)	1.35(0.34-3.18)
	Mountain whitefish	1	16.5 -	1.66 -
	Walleye	8	15.5(10.5-19.4)	1.38(0.40-2.66)
	Sauger	52	15.1(12.1-18.7)	1.07(0.53-2.00)
9/9	Freshwater drum	2	17.5(17.0-17.9)	3.35(2.70-4.00)
	Goldeye	2	14.8(14.5-15.1)	1.19(1.17-1.20)
	Rainbow trout	5	13.8 (8.4-19.0)	1.13(0.26-2.08)
	Brown trout	4	11.9 (8.9-18.6)	0.91(0.26-2.43)
	Mountain whitefish	1	18.7 -	2.45 -
	Walleye	6	14.8 (8.0-17.0)	1.21(0.26-1.46)
	Sauger	42	15.9(13.2-19.1)	1.30(0.76-2.61)
11/4	Rainbow trout	6	19.8(15.6-25.5)	3.45(1.42-6.60)
	Brown trout	15	18.7(14.8-25.2)	2.71(1.42-6.75)
	Walleye	2	15.9(15.2-16.5)	1.32(1.14-1.50)
	Sauger	2	16.5(16.4-16.5)	1.44(1.38-1.50)

Sampling in the section occurred once again in November; however, the purpose of this electrofishing trip was obtaining samples of fish tissue for analysis in the National Contaminant Biomonitoring Program. Catch statistics from November sampling suggest a greater proportion of trout in the section than we observed in September. This may be due to brown trout moving into the section later in the fall during spawning migrations and the target species to be collected was trout.

DISCUSSION AND RECOMMENDATIONS

The advisory group formed to develop operating guidelines for maintaining sufficient flows in the Marias River below Tiber Dam should continue to function to ensure adequate flows for spawning sauger and shovelnose sturgeon from the Missouri River. Although no discharge permit applications or pollution complaints were received during the report period, these will be handled on a case by case basis as they arise.

ACKNOWLEDGEMENTS

The authors thank Paul Hamlin and Les Everts for performing the electrofishing surveys on the Portage Coulee Section of the Missouri River downstream from Morony Dam.

LITERATURE CITED

Gardner, William M. 1988. Middle Missouri River Basin - Instream flow studies. Montana Department Fish, Wildlife and Parks. Job Progress Report, Project No. F-38-R4, Job No. II. 15 pp.

Gardner, William M. 1987. Middle Missouri River Basin - Instream flow studies. Montana Department Fish, Wildlife and Parks. Job Progress Report, Project No. FW-2-R 016, Job No. 1-B. 17 pp.

Nelson, Fred A. 1984. Guidelines for using the wetted-perimeter (WETP) computer program of the Montana Department of Fish, Wildlife and Parks. Montana Department of Fish, Wildlife and Parks, Bozeman, Montana. 58 pp.

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Principal Fish Species Involved:

Sauger, walleye, shovelnose sturgeon, channel catfish, smallmouth bass, burbot, northern pike and freshwater drum.

Code Numbers Of Waters Referred To In Report:

14-1080 Cut Bank Creek Sec. 01
14-3240 Marias River Sec. 01
14-3280 Marias River Sec. 02
17-4880 Missouri River Sec. 07
17-4896 Missouri River Sec. 08