

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

STATE: Montana Project No: F-46-R-1  
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, 1987 through June 30, 1988

ABSTRACT

Warmwater fisheries investigations were conducted on the Marias River above and below Tiber Dam. An advisory group was formed to ensure adequate flows for resident and migratory fish in the Marias River below Tiber Reservoir. Two sections of the Marias River above Lake Elwell were electrofished to determine species composition, relative abundance, and movement. Walleye tagged in the upper Marias River show varied movement patterns. Stream preservation activities were conducted on nine projects. A creel survey on the Missouri River between Holter dam and Ulm showed very light use by walleye anglers.

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 received during 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.** Because of a lack of suitable sampling gear, field activities planned to meet Objectives 5 & 6 were not carried out. However, considerable progress was made in obtaining appropriate sampling gear. During the report period an 18-foot jet boat with 115-HP outboard, a 3500-watt 220-volt generator, and a Coffelt VVP-15 variable voltage pulsator were acquired. It is hoped that limited sampling can be conducted early in FY89 if the new boat can be outfitted for electrofishing before fall 1988.
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 accomplished due to unavailability of hatchery fish. Transplanting of sauger from the Missouri and lower Marias was not accomplished due to inadequate manpower.
9. **To determine walleye distribution and angler harvest in the Missouri River between Holter Dam and Great Falls.** Progress made and summarized in this report.
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

An advisory board consisting of personnel from the Bureau of Reclamation, Sportsman's Clubs, County Commissioners, landowners and Department of Fish, Wildlife and Parks was formed to evaluate plans for water manipulation in Tiber Reservoir and the Marias River below Tiber Dam. 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 upper Marias River were surveyed by electrofishing. Walleye were tagged with cinch-up tags to determine angler harvest and movement.

## FINDINGS

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. Electrofishing surveys conducted during spring 1988 near the mouth of the Marias River to monitor sauger and shovelnose sturgeon spawning runs are summarized by Gardner (1988).

### Stream Preservation

A total of nine applications involving hydraulic projects on warmwater streams were reviewed and commented upon. Of these, seven projects came under the 1963 Stream Preservation Act and two projects under the 1975 Natural Streambed and Land Preservation Act. The projects were in Teton and Pondera Counties.

### Upper Marias River and Lower Cut Bank Creek

Fish populations in the Marias River above Lake Elwell were surveyed by electrofishing in April. Seven species were collected in the two shocking sections (Table 1). The numerous walleye captured in the F-Bridge section were believed to be mature spawners moving upstream from Tiber Reservoir. Four walleye tagged in the upper end of the reservoir near the Devon pumping station were captured while shocking the river 4-13 days later.

Table 1. Species composition, number and size of fish sampled by electrofishing in the Marias River above Lake Elwell, April, 1987.

Section	Species*	Number	Length Range (Avg)	Weight Range (Avg)
<u>Naismith Section</u>	Wf	4	9.5-17.0 (13.0)	0.40-1.86 (1.01)
	Rb	6	9.6-21.9 (18.9)	0.30-3.75 (2.76)
	FhC	2	--	--
	LnSu	14	6.8-15.2 (12.7)	0.15-1.60 (1.00)
	WSu	8	8.4-20.2 (12.5)	0.22-3.60 (1.14)
<u>F-Bridge Section</u>	WE	355	9.9-28.0 (15.8)	0.50-8.00 (1.41)
	Wf	3	12.0-14.4 (13.6)	0.75-1.14 (1.00)
	Rb	12	14.9-22.0 (18.0)	1.37-3.90 (2.34)
	NP	1	(33.0)	(Approx.10#)
	FhC	11	—	—
	LnSu	36	6.8-18.1 (12.4)	0.12-2.25 (0.99)
	WSu	18	8.1-17.3 (12.8)	0.20-2.80 (1.17)

\*Species abbreviations: Wf-mountain whitefish; Rb-rainbow trout; FhC-flathead chub; LuSu-longnose sucker; WSu-white sucker; WE-walleye; NP-northern pike

A total of 63 walleye were tagged in April in the F-Bridge section to monitor harvest and movement. To date, 5 of these (all males) have been caught by fishermen and no clear pattern of movement has emerged. Three tag returns indicated upstream

movement and summer residency as the fish were caught in August and September. Two tagged fish were caught in May and August in the Reservoir.

The upper Marias River and lower portion of Cut Bank Creek supports an abundant supply of forage fish but low numbers of game fish. Efforts to establish sauger and smallmouth bass will be made when hatchery fish become available or transplants can be made.

#### Missouri River Upstream from Great Falls

A roving creel clerk interviewed 2050 anglers who fished 5444 hours on the Missouri River between Holter dam and Ulm (approximately 56 river miles) during April through September 1987. Nearly all anglers interviewed were fishing for trout hence the results of the survey are presented by Hill et al. (1988). None of the anglers reported fishing specifically for walleye while eight anglers indicated they were fishing for trout and walleye. All these anglers were fishing in the 2.5 mile section immediately below Holter dam and most (6 of 8) were encountered during April. They reported fishing 27 hours total and none had caught a walleye. These anglers were likely fishing for mature walleye that reportedly concentrate below the dam during the spring spawning season. Annual spring and fall electrofishing surveys indicate that a very sparse population of walleye inhabits the river between Wolf Creek Bridge (about 2.5 miles downstream from Holter dam) and the town of Cascade.

### 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.

Sauger and smallmouth bass will be requested for the upper Marias River and Lower Cut Bank Creek. If sauger aren't available through hatchery sources, attempts to collect and transfer adult fish from the Missouri River will be made.

## ACKNOWLEDGEMENTS

The authors thank Bill Gardner and Jose Serrano-Piche for the electrofishing surveys they conducted on the Marias River upstream from Tiber Reservoir. Jan Boyle conducted the creel survey on the Missouri River between Holter dam and Ulm.

## LITERATURE CITED

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Hill, William J., Stephen A. Leathe, and Alfred Wipperman. 1988. Northcentral Montana trout stream investigations. Montana Department Fish, Wildlife and Parks. Job Progress Report, Project No. F-46-R-1, Job No. I-q.

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 pages.

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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. 08  
17-4896 Missouri River Sec. 09