

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

STATE: Montana Project No: F-46-R-3  
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, 1989 through June 30, 1990

ABSTRACT

Warmwater fisheries investigations were conducted on the Missouri River below Morony Dam and the Dry Fork Marias River. The relative abundance of sauger in the Missouri river appears to be lower than in 1988. The advisory group met to request adequate flows for resident and migratory fish in the Marias River below Tiber Reservoir. Significant precipitation helped maintain flows well above 500 cfs. Stream preservation activities were conducted on 11 projects.

OBJECTIVES AND DEGREE OF ATTAINMENT

1. To maintain a minimum flow of 500 cfs in the 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. Progress made and summarized in this 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 the fishery in the lower Marias River. This objective was canceled.
8. To increase and diversify angling opportunity in the upper 50 miles of the Marias River and 10 miles of Cut Bank Creek (State funded). Plans to introduce smallmouth bass and sauger were not pursued because of possible forage limitations. This may occur in the future if the forage situation improves in Lake Elwell.
9. To determine walleye distribution and angler harvest in the Missouri River between Holter Dam and Great Falls. Objective achieved in FY89.
10. To evaluate need and develop fishing access sites on the Missouri River downstream from Morony Dam (State funded). Objective achieved in FY89.
11. To acquire public fishing access site on lower Marias River (State funded). Objective achieved in FY89.

#### PROCEDURES

Evaluations of plans for water manipulation in Tiber Reservoir and the Marias River below Tiber Dam were made by the advisory board, which includes representatives from the Bureau of Reclamation, sportsman's clubs, county commissioners, landowners, and the Department of Fish, Wildlife, and Parks. The Dry Fork Marias River was electrofished using a backpack shocker. Fish populations in the Missouri River were surveyed by electrofishing using an 18-foot jet boat, equipped with a 3500-watt 220-volt generator, and a Coffelt VVP-15 rectifying unit. Recommendations and alternatives for projects involving stream banks and channels were made through participation in the Stream Protection Act (SPA) and Natural Streambed and Land Preservation Act (SB310).

## FINDINGS

### Lower Marias River

A minimum flow of 500 cfs in the Lower Marias River has been identified as necessary to attract spawning sauger and preserve the integrity of the river. During 1989, the advisory board met with the Bureau of Reclamation to request these flows be maintained. Flows during the report period held well above 500 cfs, due in part to significant precipitation.

### Dry Fork Marias River

The Dry Fork Marias River was electrofished on July 12, 1989 to determine whether or not game fish from the Marias River use this tributary as a spawning stream. Numerous lake chub and longnose dace were taken along with fewer numbers of white sucker, longnose sucker and flathead chub. The only game fish found were young-of-the-year burbot.

### Habitat Protection

Eleven applications on the Marias River in Liberty County were reviewed under the Natural Streambed and Land Preservation Act of 1975. All applications were processed within the category of an annual operating plan. Also, one application was processed in Teton County on Deep Creek.

### Missouri River between Morony Dam and the Marias River

We collected information on both game and non-game species by electrofishing the Portage Coulee section (Table 1). Catch statistics for non-game species in 1989 did not reflect relative abundance since fish were selectively netted. Sauger catch rates declined sharply from the last reporting period. Catch per unit effort declined from 13.1 sauger/hour in September 1988 to 2.3 sauger/hour in August 1989. Angler reports also suggest a decrease in sauger numbers in the section. Mean length of the sauger was 15.5 inches and the average weight exceeded 1 pound, which is similar to that obtained in 1988. In 1988-89, a total of 108 sauger and 13 walleye have been tagged in the section. To date, 2 tagged sauger and 1 walleye have been reported caught by anglers. Rainbow trout, brown trout, and walleye comprised the other sport fish sampled; catch rates also declined for these species.

As part of the Montana Power Company's FERC relicensing activities, EA Engineering, Science, and Technology, Inc. was contracted to conduct fisheries and instream flow studies below Morony Dam to Fort Benton. Objectives of this study include 1) determining spring, summer, and fall fish population and total

Table 1. Catch statistics from electrofishing surveys of the Portage Coulee Section on the Missouri River, Montana, 23-24 August 1989.

Species	Number of fish	<u>Length (inches)</u>		<u>Weight (pounds)</u>		Mean condition Factor
		mean	range	mean	range	
Freshwater drum	9	17.3	(14.8-21.9)	3.29	(1.46-7.25)	57.93
Goldeye	53	11.4	(9.4-14.7)	0.49	(0.20-1.11)	30.96
Rainbow trout	3	14.6	(13.5-16.4)	1.01	(0.79-1.33)	32.17
Brown trout	3	11.2	(7.0-13.9)	0.58	(0.13-0.92)	35.18
Mountain whitefish	1	15.1	-	1.44	-	41.82
Walleye	1	17.1	-	1.72	-	34.40
Sauger	15	15.5	(13.3-18.6)	1.14	(0.65-2.03)	29.85
Shorthead redhorse	11	17.6	(15.2-20.1)	2.33	(1.64-3.38)	42.23
White sucker	1	13.1	-	1.03	-	45.82
Longnose sucker	27	13.8	(7.8-19.7)	1.26	(0.15-2.82)	39.78
Carp	8	22.7	(3.8-27.7)	7.76	(0.05-12.5)	56.74
Western silvery minnow	14	3.7	(3.5-4.1)	0.03	(0.01-0.05)	49.33
Mottled sculpin	3	3.7	(3.2-4.2)	0.04	(0.03-0.05)	77.31
Emerald Shiner	1	3.0	-	0.01	-	37.04

biomass estimates on several reaches, 2) evaluating the use of this section by pallid sturgeon, and 3) evaluating habitat conditions in the section under different flow regimes as they relate to sauger and other pertinent species' life history requirements. Department personnel were heavily involved in designing the study plans and in reviewing FERC relicensing documents. Montana Power also provided funding to the Department to hire a temporary biologist to oversee and assist in their fisheries studies.

#### 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 work with the Bureau of Reclamation through the Marias Management Committee to maintain 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. The MDFWP will continue to cooperate in design development of MPC's relicensing studies on the fishery downstream from Morony Dam.

#### ACKNOWLEDGEMENTS

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#### Principal Fish Species Involved:

Sauger, walleye, smallmouth bass, burbot, lake chub, and longnose dace, freshwater drum, goldeye, longnose sucker, western silvery minnow.

#### Code Numbers Of Waters Referred To In Report:

14-1080 Cut Bank Creek Sec. 01  
14-1280 Deep Creek  
14-1520 Dry Fork Marias River  
14-3240 Marias River Sec 01 (Lower)  
14-3280 Marias River Sec 02 (Upper)  
17-4880 Missouri River Sec. 07  
17-4896 Missouri River Sec. 08