

MONTANA DEPARTMENT OF FISH, WILDLIFE AND PARKS

FISHERIES DIVISION
JOB PROGRESS REPORT

STATE: MONTANA PROJECT TITLE: STATEWIDE FISHERIES INVESTIGATIONS
PROJECT NO: F-46-R-4 STUDY TITLE: SURVEY AND INVENTORY OF COOLWATER AND WARMWATER ECOSYSTEMS
JOB NO: V-c JOB TITLE: SOUTH CENTRAL MONTANA WARMWATER FISHERIES INVESTIGATIONS

PERIOD COVERED: APRIL 1, 1990 THROUGH MARCH 31, 1991

JOB OBJECTIVES AND DEGREE OF ATTAINMENT

1.) To provide optimum conditions for walleye forage production on Bighorn Lake by implementing water-level control guidelines in cooperation with the Bureau of Reclamation.

A close working relationship was maintained with USBR personnel, and water level controls were achieved during the spring within constraints imposed by power demand and water availability. Met with the USBR and recommended changes in operation for next winter and spring that would benefit forage fish production in Bighorn Lake.

2.) To optimize water-level conditions in area irrigation reservoirs in order to enhance production of warm and cool-water species by formalizing and adopting water-level controls prior to the irrigation season on Lake Elmo, and other waters. (State funded).

Met with Billings Bench Water Association and Huntley Irrigation District concerning Lake Elmo and Anita Reservoir. Discussed water levels and habitat projects for both water bodies, and developed a working relationship with both groups.

3.) To improve habitat conditions for both warm and cool-water species in area bass ponds by installing artificial habitat and enhancing natural cover.

Assisted the Billings Fishing Club in installing underwater habitat structures in Anita Reservoir for largemouth bass and



catfish condos in Lake Elmo for channel catfish. Cabled large trees along the shoreline of Lake Elmo for fish habitat. Worked cooperatively with Big Horn County in installing an aeration system in Arapooish Pond to prevent winter kill of largemouth bass.

4.) To at least maintain the existing flow conditions in the Musselshell River by analyzing instream flow needs, and participating in the reservation process and pursuing other options which may supplement existing flows.

Formal application for instream flow water reservations for three reaches of the Musselshell River (Harlowton, Roundup and Mosby sections) and five tributaries (Careless Creek, American Fork Creek, Flatwillow Creek, Swimming Woman Creek and Big Elk Creek) were submitted to the Board of Natural Resources and Conservation.

5.) To maintain stream banks and channels in their present or improved conditions by administering existing laws.

Projects effecting stream habitat were dealt with through the Montana Stream Protection Act of 1963 (SPA) and the Natural Streambed and Land Preservation Act of 1975 (310). During FY91, two SPA's and 21 310's were processed for the lower Bighorn and Musselshell drainages.

6.) To maintain water quality at or above current levels as measured at U. S. Geological Survey water quality monitoring stations.

No significant water quality problems arose during this report period. Maintain contact with the local irrigation districts so affected waters can be monitored when herbicides are applied to area ditches.

7.) To develop at least 30 producing bass ponds in the region that are open to public use, supporting at least 15,000 man-days of angling per year by 1992.

Eleven ponds were stocked with 44,750 largemouth bass fingerlings, including three new ponds where bass had not been stocked in the past. More than 40 ponds in the region have been planted with largemouth bass since 1985.

8.) To acquire two new access sites on the Yellowstone River downstream from Billings. (State funded)

Two new access sites (Gritty Stone and Voyagers Rest) were acquired on the Yellowstone River between East Bridge FAS and Captain Clark FAS. Improvements were started at both sites in 1990, including signing and installing a boat ramp.



9.) To develop plans for construction of at least two new public fishing ponds in the region by 1992. (State funded)

Started working with the BLM on plans to enlarge a BLM pond just outside of Melstone to create a 56 acre public fishing lake.

10.) To intensify management of existing urban area pond fisheries (Lake Elmo, Josephine, Arapooish, Chief Joseph, Broadview) by developing artificial reef projects, fishing docks, etc. to maximize the productivity of these fisheries.

Conducted two habitat enhancement projects in Lake Elmo in cooperation with the Billings Fishing Club. Placed an aeration system in Arapooish to prevent winter kill of bass. Introduced an additional fish species to Chief Joseph Pond. Trapped and removed stunted crappie from Lake Josephine, and transplanted them to Lake Elmo.

11.) To convert marginal trout fisheries such as Glaston and Lebo Lake into productive warm and cool-water fisheries, and diversify the existing trout fishery at Cooney Reservoir by developing a two-story fishery supporting both walleye and trout.

Plans to stock additional tiger muskie in Lebo Lake and Glaston Lake were unsuccessful because fish were unavailable. Stocked 50,000 walleye fingerlings into Cooney Reservoir. Continued monitoring the development of the fisheries in all these lakes. Captured the first "legal" sized (> 30 inches) tiger muskie in Lebo Lake in the fall of 1990.

12.) To broaden and diversify existing warm-and cool-water fishing opportunities by developing a yellow perch fishery in the area and exploring potential for new species introduction. (State funded)

No good yellow perch ponds have yet been identified. Plans to introduce tiger muskie into Broadview Reservoir were unsuccessful because fish were unavailable. Introduced channel catfish into one new lake and made a second plant into two catfish lakes started in 1989.

13.) To monitor developing warm-and cool-water fisheries and to make recommendations to enhance the forage base where necessary.

Monitored forage fish production in Bighorn Lake in cooperation with Wyoming Game and Fish. Started EA to introduce emerald shiners into the lake, found they were not a good forage species for this environment. Planned to transplant spottail shiners into Bighorn Lake from Fort Peck Reservoir, but were unsuccessful due to low water conditions at Fort Peck. Will make another attempt to collect spottails



in the future.

14.) To create a smallmouth bass fishery in the lower Bighorn River capable of supporting 10,000 angler days of use per year.

Planted 50,000 smallmouth bass into the lower Bighorn River in July 1990. This was half our request, but all that was available. Surveyed smallmouth bass from the 1986, 1989 and 1990 plants by electrofishing the river. Collected one young-of-year smallmouth in the Yellowstone River indicating some natural reproduction was occurring.

15.) To develop a walleye egg source in Bighorn Lake or Cooney Reservoir. (State funded)

Collected 6.3 million walleye eggs from Bighorn Lake during April 1990. Planted over 5 million fry and 124,000 fingerlings back into the reservoir. Sampled walleye from the 1988 and 1989 plant while shocking for mature walleye in the spring.

16.) To develop contingency plans for walleye and bass fingerling production ponds in the region. (State funded)

Objective 16 was abandoned during FY91 in order to see whether Miles City can meet the needs of the region before trying to develop any new rearing ponds. FY91 was the first year the hatchery became fully operational since reconstruction, and efforts to raise walleye and bass were successful.

17.) To determine the amount of fishing effort expended and success rate for warm- and cool-water species in the region's mixed-species fisheries by utilizing existing warden and parks division contacts in the field and supplementing with fisheries division follow-up where necessary. (State funded)

Objective 17 was abandoned during FY91. This program has not provided much usable data on warm- and cool-water fisheries within the region. Plans are to rely more on the state-wide mail survey for this information. A joint creel study involving Montana, Wyoming and the National Park Service is being planned for Bighorn Lake next year.

18.) To increase public awareness of the availability of warm- and cool-water fishing opportunity and the resource that provides them. (State funded)

A bass pond database was maintained and used in directing the public to planted ponds. Worked with media to promote warm- and cool-water fisheries on public waters such as Lake Elmo.



SUMMARY

Objectives 16 and 17 were abandoned during FY91. Progress was achieved on all other objectives.

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