

MONTANA DEPARTMENT OF FISH, WILDLIFE AND PARKS

**FISHERIES DIVISION
JOB PROGRESS REPORT**

STATE: MONTANA PROJECT TITLE: STATEWIDE FISHERIES INVESTIGATIONS
PROJECT NO.: F-46-R-6 STUDY TITLE: SURVEY AND INVENTORY OF WARMWATER LAKES
JOB NO.: IV-a JOB TITLE: NORTHWEST MONTANA WARMWATER LAKES INVESTIGATIONS
PROJECT PERIOD: JULY 1, 1992 THROUGH JUNE 30, 1993

ABSTRACT

Warmwater fisheries habitat was maintained through existing statutes and laws. Habitat structure was added to regional lakes by local clubs and Department personnel to benefit differing age classes of largemouth bass. Illegal transplants of fish to new waters continues to be a very serious problem jeopardizing many established fisheries. Twelve regional waters contain new illegal introductions. Field work for a M.S. degree project identifying factors limiting bass production in Echo and Seeley lakes was completed. Reservoir and tributary fisheries work continued on Noxon Rapids and Cabinet Gorge impoundments under agreement with MDFWP, the U.S. Forest Service and Washington Water Power.

OBJECTIVES AND DEGREE OF ATTAINMENT

1. Establish and maintain fishable populations (catch rate = 0.25 fish/hour of smallmouth bass and burbot in Noxon and Cabinet Gorge reservoirs. Objectives partially accomplished and submitted in special segment report: Northwest Montana Coldwater Lakes Investigations, Noxon Rapids and Cabinet Gorge Reservoirs Segment, Project No. F-46-R-6 (Huston, 1993).
2. Identify populations with surplus fish that can be used for transplants. Objectives accomplished using state funding.
3. Attempt to acquire and develop access sites on all lakes and reservoirs with the potential for more than 500 mandays of fishing annually. First priority should be given to Lake Blaine and those lakes with adjoining Champion International or Plum Creek Timberlands property. Objectives were partially accomplished using state funding.
4. Minimize the impacts of land and water use on fisheries. Objectives were accomplished using state funding.
5. Define the impacts of fishermen use on specified fisheries and provide an increased opportunity to catch large bass (>12-14 inches) and northern pike (>28 inches). Objectives were accomplished using state funding.
6. Address the demand for new species introductions. Define the parameters of interspecific competition, participate in a walleye introduction EIS, halt the illegal spread of northern pike. Objectives were partially accomplished. Illegal introductions continue.
7. Enhance fish populations through the placement of artificial habitat. Objectives were accomplished using state funding.

8. Define the mechanisms of predator/prey relationships in area lakes. Reduce competition with game fish and reduce overabundant populations of non-game fish. Objectives were accomplished.
9. Encourage increased public knowledge and participation in resource decisions. Objectives were accomplished.

PROCEDURES

Standard floating and sinking monofilament gill nets 125-feet long by 6-feet deep were used for fish collection. Nets contained 25-foot panels of 3/4, 1, 1 1/2, 1 3/4, and 2-inch bar mesh. One-hundred foot by 6-foot beach seines were used primarily for juvenile fish collection. An 18-foot jon boat with boom mounted electrodes operating on a Coffelt VVP-IIC electrofishing box powered with 110 volt current was also used for sampling. We weighed and measured collected fish and extracted scales and stomach samples for future analysis. A list of waters with available species has been progressively compiled and updated (Appendix A).

Water quality and aquatic habitat were protected or enhanced by participation in the Natural Streambed and Land Preservation Act (NSLPA), the Lakeshore Protection Act (LPA), the Army Corps of Engineers (COE) 404 permit program, and Montana Pollution Discharge Elimination System (MPDES). Proposed projects were reviewed and mitigative measures recommended where appropriate.

A Master of Science (M.S.) degree research project is nearing completion and identifies factors limiting largemouth bass production in Echo and Seeley lakes. Field season efforts concentrated on: nest counts, structure SCUBA surveys, snorkel transects, electrofishing and young-of-the-year age and growth (Walker-Smith, In Prep.).

Lion Lake was rotenone treated to remove undesirable warmwater species and restocked with westslope cutthroat trout.

The Miles City Fish Hatchery provided the region with young-of-the-year largemouth and smallmouth bass. These fish originated from a more divergent background and were utilized to infuse genetic diversity into some existing populations.

RESULTS AND DISCUSSION

Species Introductions

During the project period no lakes received transplants of bass from surplus populations as in previous years. In the past and likely in the future largemouth bass transplants will be made to supplement populations that suffer prolonged climatic conditions resulting in poor survival.

During the project period four lakes within the region were stocked with bass from Miles City Fish Hatchery to improve genetic diversity within existing populations (Table 1).

Table 1. Region One bass stocking summary, 1992.

Lake	Species	No. Fish	Length	Objective*
Cabinet Gorge Reservoir	Largemouth	25,000	2.1"	2
Noxon Rapids Reservoir	Largemouth	65,000	2.3"	2
Peterson Lake	Largemouth	1,025	3.3"	2
Horseshoe Lake	Smallmouth	821	3.0"	1

- *1. Augment low population level.
2. Provide genetic diversity.

Illegal fish introduction continue to plague fish management within the region. Yellow perch (*Perca flavescens*) are now established in Lake Mary Ronan following the illegal introduction in May of 1992. The Lake Mary Ronan fishery is one of the most valuable in the region with an estimated value of four million dollars. The lake is also the largest kokanee egg source for Montana.

During the report period new species have been discovered in waters where they were previously not present (Table 2).

Table 2. Waters containing new fish species in Region One (7/92 - 6/93).

Water	T	R	S	Introduced Species	Scientific Name
Upper Thompson Lake	27N	27W	30	smallmouth bass	<u>Micropterus dolomieu</u>
Upper Sunday Lake	33N	24W	07	largemouth bass	<u>Micropterus salmoides</u>
Hubbart Reservoir	25N	24W	07	yellow perch	<u>Perca flavescens</u>
Topless Lake	27N	28W	24	black bullhead	<u>Ictalurus melas</u>
Marl Lake	34N	26W	03	northern pike	<u>Esox lucius</u>
Rainbow Lake (Highway 2)	27N	27W	30	yellow perch	<u>Perca flavescens</u>
Sophie Lake	37N	27W	00	bluegill	<u>Lepomis macrochirus</u>
Loon Lake (Highway 2)	27N	28W	22	northern pike	<u>Esox lucius</u>
Flathead River (below Kerr Dam)				smallmouth bass	<u>Micropterus dolomieu</u>
Blue Lake	33N	25W	01	burbot	<u>Lota lota</u>
Corona Lake*	22N	25W	30	yellow perch	<u>Perca flavescens</u>
Flathead River* (below Kerr Dam)				walleye	<u>Stizostedion vitreum</u>

*Reported, not documented.

Montana Department of Fish, Wildlife and Parks continues to cooperated with Washington Water Power and the USFS on operations and inventory of Noxon Rapids and Cabinet Gorge reservoirs and tributaries (Huston 1993).

Access

No new fishing access sites were acquired during the report period. Negotiations were initiated on sites on Lake Five and Marl Lake. Negotiations were initiated for an easement at a site on Noxon Rapids Reservoir near Trout Creek.

A cooperative site development and maintenance agreement was finalized with Lincoln County for a county-owned site on Savage Lake. A site improvement project was completed on Noxon Rapids Reservoir (Flatiron Ridge) and site designs initiated on Smith Lake and Lake Mary Ronan using Dingell-Johnson motorboat funding. Six sites in the Thompson Chain of Lakes were identified for access development using D-J motorboat funding.

Habitat Protection and Enhancement

Lakeshore protection applications, some requiring Department recommendations for mitigation, were processed through regional county agencies. Comments were submitted on COE 404 permits for regional lakes and streams. NSLPA permits were reviewed and recommendations made.

Fish populations were enhanced and habitat loss mitigated by enlisting the aid of Washington Water Power, USFS, Western Montana Bassmasters, Echo Lake Bassmasters, Clark Fork Bass Anglers, Noxon Rod and Gun Club and other local groups to purchase and install bass habitat structures. Waters receiving structure improvements include: Echo Lake, Middle Thompson Lake, Peterson Lake and Halfmoon Lake.

Department personnel placed numerous Christmas tree structures and pallets in Echo Lake during June of 1993 to further evaluate their effectiveness for enhancing warmwater fish habitat.

Washington Water Power, the Clark Fork Bass Anglers, Noxon Rod and Gun Club, Cabinet Ranger District of Kootenai National Forest (USFS) and the DFWP entered into a partnership agreement in December 1990 regarding fish habitat enhancement in Cabinet Gorge and Noxon Rapids reservoirs. The agreement stated that Washington Water Power and the USFS will initially purchase \$10,000 of artificial bass structures. The other partners would then provide \$7,000 of in-kind services including labor, miscellaneous equipment and additional supplies for the project. The project total is \$17,000. Installation of the structures has been completed.

RECOMMENDATIONS

There is an increasing demand for baseline population and habitat data on the 114 warmwater lakes within the region. As time allows we need to collect population indices for prioritized waters. This information would help confirm a need for different management such as regulations changes.

The number of bass fishermen and interest among them is ever increasing. Tournament requests, requests for special regulations, and concern over specific fisheries continue to come in at a greater frequency. Complaints about illegal spear fishing are also more frequent as are complaints about mortality or injury to fish during tournaments. A more conservative policy will need to be evaluated that will reduce potential impacts from the above issues.

Habitat enhancement structures need additional evaluation. It is the intent of the aforementioned M. S. graduate study to evaluate the use of different structure types.

A more extensive genetic sample of regional bass populations would be desirable. This would identify populations needing additional genetic diversity that could be infused through stocking.

Illegal introductions of warmwater fish is causing severe impacts to many fisheries. Statutes and penalties addressing the action need to be reinforced to further discourage illegal transplants.

LITERATURE CITED

- Huston, Joe E. 1993. Northwest Montana coldwater lakes investigations, Noxon Rapids and Cabinet Gorge Reservoirs segment, July 1, 1989 through June 30, 1990, Project No. F-46-R-3, Job No. II-a, Montana Dept. of Fish, Wildlife and Parks, Helena, MT.
- Walker-Smith, Kate. In Preparation. Comparison of limiting factors for reproduction, recruitment and growth of largemouth bass in Seeley and Echo Lakes, Montana. M.S. degree thesis, University of Montana, Missoula, Montana.

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Waters referred to:

Echo Lake 7-6180
Middle Thompson Lake 5-9232
Noxon Rapids Reservoir 5-9328
Seeley Lake 4-7260
Lake Mary Ronan 7-7700-03
Lake Blaine 7-5380
Cabinet Gorge Reservoir 5-8512
Lion Lake 8-9140
Peterson Lake 7-8245
Horseshoe Lake 7-6800
Upper Thompson Lake 5-9760
Upper Sunday Lake 7-8980
Hubbart Reservoir 7-6840
Topless Lake 11-9830
Marl Lake 11-9120
Rainbow Lake 5-9392
Sophie Lake 11-9620
Loon Lake 11-8940
Flathead River 7-1560
Blue Lake 7-5420
Corona Lake 5-8616
Halfmoon Lake 8-8700

Key Words: warmwater lakes; artificial habitat structures, smallmouth bass, largemouth bass, northern pike, exotic species introductions

