

MONTANA DEPARTMENT OF FISH, WILDLIFE AND PARKS

FISHERIES DIVISION
JOB PROGRESS REPORT

STATE: MONTANA

PROJECT TITLE: STATEWIDE FISHERIES INVESTIGATIONS

PROJECT NO.: F-46-R-2

STUDY TITLE: SURVEY AND INVENTORY OF WARMWATER LAKES

JOB NO.: IV-a

JOB TITLE: NORTHWEST MONTANA WARMWATER LAKES INVESTIGATIONS

PROJECT PERIOD: JULY 1, 1988 THROUGH JUNE 30, 1989

ABSTRACT

The Department provided supervision in a baseline study by Washington Water Power to minimize impacts of water level fluctuations on fisheries in Noxon Rapids and Cabinet Gorge Reservoirs (Huston 1989). Surplus largemouth bass (Micropterus salmoides) were transplanted to augment populations in Church Slough and to aid a Boy Scout habitat improvement project in McGilvray Lake. A preliminary literature search was conducted on largemouth bass cover enhancement and on smallmouth bass (Micropterus dolomieu) introduction. Illegal introductions of exotic fish continue to plague the region. Northern pike (Esox lucius) were documented in four new lakes in FY1989. A channel catfish (Ictalurus punctatus) was collected for the first time west of the continental divide in Montana in Woodland Park Pond. The Montana Fish and Game Commission (1989) adopted a policy for the introduction of walleye (Stizostedion vitreum) beyond their existing range in Montana.

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 accomplished and submitted in special segment report: Northwest Montana Coldwater Lakes Investigations, Noxon Rapids and Cabinet Gorge Reservoirs Segment, Project No. F-46-R-1 (Huston, 1989).
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 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 northern pike 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 nongamefish. Objectives were accomplished.
9. Encourage increased public knowledge and participation in resource decisions. Objectives were accomplished.

PROCEDURES

Standard floating and sinking 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 mesh. One-hundred foot by 6-foot beach seines were used primarily for juvenile fish collection. An 18-foot john boat with boom mounted electrodes operating on 110 volt current was also used for sampling. Collected fish were weighed, measured, and scales and stomachs extracted for future analysis. A list of waters with available species has been progressively compiled and updated.

Water quality and aquatic habitat were protected or enhanced by participation in 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 scoping process to solicit public comment was employed during FY1989 to identify tentative fishing regulation issues and problems. Restrictive regulations to increase the opportunity to catch large pike and bass were discussed during public meetings in fall 1987, and approved regulations were implemented March 1, 1988.

RESULTS AND DISCUSSION

Species Introductions

Several warmwater lakes in Region 1 have been identified as having a surplus of warmwater fish species available for transplant into other waters. Lakes with the greatest potential for procuring surplus largemouth bass are Rattlebone, Parker, Savage, and Carpenter lakes. In the past, largemouth bass transplants have been made to re-establish populations following a natural disaster or to introduce as a predator fish species in a lake inhabited by an overabundance of prey species. In most instances, warmwater lakes are self-sustaining and do not require augmentation. Surplus largemouth bass were collected from Woodland Park Pond in April and May of 1989 with cooperation from the Western Montana Bassmasters. A fishing contest and seining effort collected 52 largemouth bass ranging from 3-17.5 inches. The bass were

transplanted into Church Slough and McGilvray Lake. The bass supplemented the population in Church Slough while the bass in McGilvray Lake were utilized for a Boy Scout habitat improvement project. Approximately 500 largescale suckers and northern squawfish were also removed from Woodland Park Pond. A 7.25 pound channel catfish was also collected which was the first confirmed report of the specie west of the continental divide in Montana. During July, 1989, Western Montana Bassmasters is scheduled to collect largemouth bass from Rattlebone Lake by angling. Fish will then be transported by the Department to Murphy Lake to enhance existing populations which are depressed by yellow perch (Perca flavescens) competition.

The Department developed a policy on walleye stocking in Montana based on an environmental assessment conducted by OEA Research (Colby and Hunter, 1989). This policy was signed by the Montana Fish and Game Commission August, 1989. The policy recommends no walleye introductions west of the continental divide in Montana based on potential impacts to existing salmonid fisheries.

A literature search on smallmouth bass habitat requirements, food habits, and smallmouth bass/salmonid interactions was completed for preparation of an environmental assessment of the potential for introducing smallmouth bass beyond their current range in western Montana.

The region confirmed additional lakes containing illegal introductions of exotic fish. New lakes with documented northern pike populations include Lower, Middle, and Upper Thompson lakes, and Marl Lake. Channel catfish were also discovered in Woodland Park Pond which was the first occurrence west of the continental divide in Montana. There continues to be an increasing number of lakes with illegal introductions of northern pike along with other warmwater fish. Table 1 is a list of known species distribution for Region 1 lakes.

News articles were also written describing the problems of illegal fish introductions.

Access

The Department purchased fishing access sites on Lower and Upper Thompson lakes. The sites were purchased to coordinate with the current access site on Middle Thompson Lake and because Plum Creek Timberlands, the current owner, is starting to sell its lakeshore property in the area. A change from corporate to private ownership could dramatically decrease current access opportunities. Lower Thompson Lake provides fishing for largemouth bass and yellow perch as well as trout and kokanee (Oncorhynchus nerka) while upper Thompson Lake provides fishing for northern pike, largemouth bass, yellow perch, and trout. The Department has initiated negotiations with Plum Creek to purchase an access site on Loon Lake in the same area. Loon lake provides fishing for largemouth and smallmouth bass.

The Department has surveyed sites and is negotiating with Champion Timberlands for an access site on Horseshoe Lake near Kalispell. The lake provides fishing for smallmouth bass.

Habitat Proection and Enhancement

A total of 190 LPA applications, some requiring Department recommendations for mitigation, were processed through regional county agencies (Flathead 100, Lincoln 6,

and Lake 84). There were a total of 48 COE 404 permits and violations for regional lakes and streams. Approximately 25 MPDES applications were reviewed, and 23 Water Quality Bureau turbidity exemptions were processed for the region.

Fish populations were enhanced and habitat loss was mitigated by enlisting the aid of Washington Water Power, the U. S. Forest Service, the Western Montana Bassmasters, and other sportsman groups to place habitat improvement structures in Noxon Rapids Reservoir, Echo, Murphy, and Middle Thompson lakes. Additional placementd areplanned during FY1990. Christmas tree clusters with cement anchors were most commonly used in Echo Lake. In Murphy Lake root wads were submerged in strategic locations and shoreline trees were felled and anchored in littoral areas of Noxon Rapids Reservoir.

Fishing Regulations

In an effort to provide increased opportunity to catch large bass, more restrictive regulations of 5 bass only 1 >12" in length were placed on five waters in 1988 (Abbot, Peterson, and Echo lakes and Church and Fennon sloughs). In addition, Abbot, Peterson, and Echo lakes were restricted to catch-and-release bass fishing during spawning (May 1 - June 15). The standard district-wide bass regulation is 5 fish daily and in possession.

The region proposed a reduction in the standard northern pike limit from 15 fish daily to 5 fish, only 1 >28" during the fishing regulation setting process in fall, 1987. The proposal was withdrawn due to negative public comment. The majority of dissenters were trout fishermen who wished to reduce northern pike populations due to concerns over potential impacts on trout. A number of pike fishermen favored more restrictive northern pike regulations, however, they were in the minority.

Predator/Prey Relationships

Predator/prey relationships were briefly addressed in work conducted in Noxon Rapids Reservoir (Huston 1989). Liberal northern pike limits have been maintained in the past on other lakes to reduce the competition between pike and other game fish. Anglers have also been permitted to fish through the ice with spears or up to three attended setlines (tip-ups) on Echo, Blanchard, Lion, Lower and Upper Stillwater lakes. The means of taking was also expanded on March 1, 1988, to allow the use of spears by persons submerged in water (divers in summer) on Echo, Blanchard, and Lion lakes. Seasonal gill netting for trout, salmon, and northern pike in Swan Lake will give us specific data on food habits and age and growth when completed.

RECOMMENDATIONS

Collect population size structure data (Proportional Stock Density Indices) from prioritized lakes within the region. Lakes would be targeted for assessment based on the statewide creel and additional information. This type of information would strengthen our small data base on regional bass lakes. Regulations could then be evaluated and appropriate recommendations made to benefit the anglers.

Habitat enhancement structures need further evaluation. A literature search would aid in recommending the most efficient structures and local experiments could be conducted if necessary. Local bass clubs could potentially help with evaluation.

An environmental assessment on the introduction of smallmouth bass west of the continental divide will need to be completed. A preliminary literature search indicates that smallmouth bass are suitable in some regional waters. A list of locations will be developed and prioritized with emphasis on closed basin systems. Interest among regional anglers is ever increasing and a diversity of species would be very favorable.

LITERATURE CITED

- Colby, Dr. P. and Hunter C. 1989. Environmental assessment of the introduction of walleye beyond their current range in Montana. Prepared for Montana Department of Fish, Wildlife and Parks.
- Huston, Joe E. 1989. Statewide fisheries investigation, Northwest Montana coldwater lakes investigations, Noxon Rapids and Cabinet Gorge reservoirs segment, F-46-R-2, Job II-a, July 1, 1988 through June 30, 1989. Montana Dept. of Fish, Wildlife and Parks, Kalispell, MT, U.S.A.
- Montana Fish and Game Commission. 1989 Policy on introduction of walleye beyond their existing range in Montana. Montana Department of Fish, Wildlife and Parks, Helena, MT.

Prepared by: Scott Rumsey

Date: July 10, 1989

Waters referred to:

| | |
|---|--------------------------------|
| Abbot Lake 07-5180 | Alvord Lake 11-7840 |
| Blanchard Lake 7-5400 | Cabinet Gorge Reservoir 5-8512 |
| Carpenter Lake (a/k/a Tetrault) 11-8060 | |
| Church Slough 7-5710 | Echo Lake 7-6180 |
| Estes Lake 7-6280 | Foy lake 7-6420 |
| Glen Lake 11-8380 | Horseshoe Lake 7-6800 |
| Lake Blaine 7-5380 | Leon Lake 11-8760 |
| Lion Lake 8-9140 | Little McGregor Lake 5-9096 |
| Lower Stillwater 7-7600 | Lower Thompson Lake 5-9152 |
| Murphy Lake 11-9280 | Noxon Rapids Reservoir 5-9328 |
| Parker Lake 7-8200 | Rattlebone Lake (no code) |
| Rogers Lake 7-8400 | Savage Lake 11-9480 |
| Topless Lake 11-9830 | Upper Stillwater Lake 7-9440 |
| Upper Thompson Lake 5-9760 | Woodland Park Pond 7-9575 |

Key Words: warmwater lakes; artificial habitat structures, burbot, smallmouth bass, largemouth bass, northern pike, exotic species introductions, water level fluctuation, fishing access acquisition

Table 1. Known species distribution list, April 1989, Montana Department of Fish, Wildlife and Parks, Region 1, Kalispell, MT.

KNOWN SPECIES DISTRIBUTIONS - REGION 1

April, 1989

x = present xx = fishable population

| Waterbody Name | River Drainage | Location T R S | Brook Trout | Grayling | Kokanee | Largemouth Bass | Smallmouth Bass | Northern Pike | Perch |
|-----------------------------|-------------------|-------------------|----------------|----------|---------|--------------------|--------------------|------------------|-------|
| Abbott Lake | Flathead | 27 19 07 | | | | xx | | xx | x |
| Alvord Lake | Kootenai | 32 34 36 | | | | xx | | | xx |
| Ashley Lake | Flathead | 28 23 01 | | | xx | | | | xx |
| Blanchard Lake | Flathead | 30 22 02 | | | | xx | | xx | xx |
| Blue Lake | Flathead | 27 19 06 | | | | x | | | |
| Bowman Lake | Glacier Pk | 37 21 00 | | | xx | | | | |
| Bull Lake - Troy | Kootenai | 29 33 15 | | | x | xx | | x | |
| Burke Lake (Yaak Dist.) | Kootenai | 37 33 07 | xx | | | | | | |
| Burnt Lake | Flathead | 33 24 17 | x | | | | | | |
| Cabinet Gorge Reservoir | Clark Fork | 27 34 19 | | | | x | | x | x |
| Church Slough | Flathead | 28 20 31 | | | | xx | | xx | x |
| Clark Fork Rv (FH to ID) | Clark Fork | 27 34 24 | | | | | | x | |
| Crystal Lake | Kootenai | 18 17 07 | | | xx | x | | | xx |
| Cyclone Lake | Flathead | 34 21 15 | | x | | | | | |
| Dickey Lake | Kootenai | 34 25 14 | | | x | x | | xx | |
| Dog Lake | Flathead | 33 23 31 | x | | | | | xx | |
| Double Lake | Flathead | 28 19 23 | | | | x | | | |
| Duck Lake | Flathead | 33 24 15 | xx | | | | | | |
| Echo Lake | Flathead | 27 17 08 | | | | xx | | xx | x |
| Egan Slough | Flathead | 28 20 19 | | | | | | xx | x |
| Eli Lake | Clark Fork | 27 27 32 | | | | x | | | |
| Estes Lake | Flathead | 26 19 20 | | | | x | | | |
| Fannon Slough | Flathead | 27 20 16 | | | | x | | xx | |
| Finger Lake | Flathead | 33 24 22 | xx | | | | | | |
| Fire Lake | Flathead | 33 24 07 | x | | | | | | |
| Fish Lake | Kootenai | 34 24 29 | xx | | | | | | |
| Flathead Lake | Flathead | 22 19 00 | | | x | x | | x | |
| Flathead Lake (Polson Bay) | Flathead | 22 20 00 | | | | x | | | xx |
| Flathead River - lower | Flathead | 19 25 34 | | | | x | | | x |
| Flathead River - Lk to GSB | Flathead | 27 20 34 | | | | | | x | |
| Flathead Rv Sinkholes-Lower | Flathead | 18 22 15 | | | | xx | | x | |
| Flathead Rv Sloughs-Lower | Flathead | 19 23 00 | | | | x | | xx | |
| Glen Lake | Kootenai | 36 26 21 | | | xx | | | | |
| Graves Creek | Flathead | 27 17 06 | | xx | | | | | |
| Grouse Lake | Kootenai | 30 34 11 | xx | | | | | | |
| Half Moon Lake | Flathead | 31 19 03 | | | | x | | | |
| Handkerchief Lake | Flathead | 27 18 01 | | xx | | | | | |
| Hidden Lake | Flathead | 22 13 19 | | | | | | x | |
| Holland Lake | Flathead | 20 16 35 | | | x | | | | |
| Horseshoe Lake - Ferndale | Flathead | 26 19 15 | | | | x | xx | | |
| Horseshoe Lake - Hwy. 2 | Kootenai | 27 28 23 | | | | x | x | | |
| Hungry Horse Reservoir | Flathead | 29 19 00 | | x | | | | | |
| Island Lake | Kootenai | 29 26 30 | | | | xx | | | xx |
| Jessup Mill Pond | Flathead | 29 20 11 | x | | | | | | |
| Kicking Horse Reservoir | Flathead | 20 19 30 | | | | xx | | | |
| Kilbrennan Lake | Kootenai | 33 33 28 | xx | | | | | | |
| Kintla Lake | Glacier Pk | 36 20 00 | | | xx | | | | |
| L.Flathead Rv Sinkholes | Flathead | 18 22 15 | | | | xx | | x | |
| L.Flathead Rv Sloughs | Flathead | 19 23 00 | | | | x | | xx | |
| Lagoni Lake | Flathead | 33 24 26 | | | | | | x | |

KNOWN SPECIES DISTRIBUTIONS - REGION 1

April, 1989

x = present xx = fishable population

| Waterbody Name | River Drainage | Location T R S | Brook Trout | Grayling | Kokanee | Largemouth Bass | Smallmouth Bass | Northern Pike | Perch |
|----------------------------|-------------------|-------------------|----------------|----------|---------|--------------------|--------------------|------------------|-------|
| Lake Blaine | Flathead | 29 20 25 | | | x | xx | | xx | x |
| Lake Five | Flathead | 31 19 09 | | | | x | | | xx |
| Lake Mary Ronan | Flathead | 25 22 11 | | | xx | xx | | | |
| Lake McDonald | Glacier Fk | 32 18 00 | | | x | | | | |
| Lake Monroe (L. Ashley) | Flathead | 27 23 04 | | | | | | xx | |
| Lindbergh Lake | Flathead | 18 17 02 | | | x | | | | |
| Lion Lake | Flathead | 30 19 09 | | | | x | | xx | x |
| Little Bitterroot River | Flathead | 20 22 00 | | | | | | xx | |
| Little Loon Lake - Hwy. 2 | Kootenai | 27 28 14 | | | | xx | x | | |
| Little McGregor Lake | Flathead | 26 25 04 | xx | | | x | | | x |
| Logan Creek | Flathead | 31 23 29 | | | | | | x | |
| Lone Lake (Mid. Ashley Lk) | Flathead | 28 24 36 | | | x | | | x | |
| Lonepine Reservoir | Flathead | 22 24 00 | | | | | | xx | x |
| Loon Lake - Ferndale | Flathead | 26 19 10 | | | | x | x | x | xx |
| Loon Lake - Hwy. 2 | Kootenai | 27 28 22 | | | | xx | x | | |
| Lost Coon Lake | Flathead | 30 22 02 | | | | x | | xx | |
| Lost Lake | Flathead | 26 21 08 | x | | | | | | |
| Lost Lake | Clark Fork | 27 27 26 | x | | | | | | |
| Lost Lake - Happy's Inn | Kootenai | 27 27 07 | x | | | | | | |
| Lower Blossom Lake | Clark Fork | 21 32 30 | xx | | | | | | |
| Lower Martin Lake | Flathead | 32 24 10 | | | | | | x | |
| Lower Stillwater Lake | Flathead | 32 23 00 | | | | | | xx | x |
| Lower Thompson Lake | Clark Fork | 26 27 11 | | | x | xx | | x | xx |
| Lynch Lake | Kootenai | 28 26 14 | x | | | x | | | xx |
| Marl Lake | Flathead | 34 26 03 | | | | | | x | |
| Martin Lake - Stryker | Kootenai | 34 25 04 | x | | | | | | |
| McCaffery Lake | Flathead | 27 19 18 | | | | xx | | | |
| McWeneger Slough | Flathead | 28 20 06 | | | | | | x | |
| Middle Thompson Lake | Clark Fork | 26 27 04 | | | xx | xx | | x | xx |
| Miller Lake | Kootenai | 25 29 00 | x | | | | | | |
| Milnor Lake | Kootenai | 31 33 28 | | | | x | | x | |
| Mud Lake | Flathead | 27 19 10 | x | | | x | | x | |
| Murphy Lake - Fortine | Kootenai | 34 25 05 | | | | xx | | x | x |
| Ninepipes Reservoir - I.R. | Flathead | 19 20 02 | | | | xx | | | xx |
| Noxon Rapids Reservoir | Clark Fork | 26 33 00 | | | | xx | x | x | x |
| Pablo Reservoir | Flathead | 22 20 27 | | | | xx | | | |
| Parker Lake | Flathead | 26 20 30 | | | | x | | | |
| Peterson Lake | Flathead | 27 19 07 | | | | xx | | xx | x |
| Pothole Lakes | Flathead | 27 19 00 | | | | xx | | | |
| Rainbow (Dog) Lake | Clark Fork | 20 25 03 | | | | | | xx | x |
| Rainbow Lake - Hwy. 2 | Kootenai | 27 27 30 | | | | x | | | |
| Rattlebone Lake | Flathead | 34 25 22 | | | | x | | | |
| Red Meadow Lake | Flathead | 34 23 34 | | xx | | | | | |
| Rogers Lake | Flathead | 27 23 31 | | xx | | | | | |
| Savage Lake | Kootenai | 31 33 27 | | | | xx | | | |
| Skyles Lake | Flathead | 31 22 33 | | | | x | | | |
| Slee Lake - private | Kootenai | 31 33 00 | | | | x | | | |
| Smiley's Slough | Clark Fork | 20 26 28 | | | | x | | | |
| Smith Lake | Flathead | 27 22 00 | x | | | | | | xx |
| Smith Lake - Whitefish | Flathead | 32 22 32 | x | | | | | | |

KNOWN SPECIES DISTRIBUTIONS - REGION 1

April, 1989

x = present xx = fishable population

| Waterbody Name | River Drainage | Location T R S | Brook Trout | Grayling | Kokanee | Largemouth Bass | Smallmouth Bass | Northern Pike | Perch |
|---------------------------|-------------------|-------------------|----------------|----------|---------|--------------------|--------------------|------------------|-------|
| Smokey Lake | Flathead | 33 24 17 | x | | | | | | |
| Sophie Lake | Kootenai | 37 27 15 | | | | xx | | x | |
| Spar Lake | Kootenai | 29 34 21 | x | | xx | | | | |
| Spill Lake | Flathead | 27 19 07 | | | | x | | | |
| Spoon Lake | Flathead | 31 20 03 | x | | | | | | |
| Stillwater River | Flathead | 28 21 00 | | | | | | xx | |
| Sunrise Lake | Flathead | 30 23 13 | | | | | | x | |
| Swan Lake | Flathead | 25 18 14 | | | xx | x | | xx | |
| Swan River - Porcupine Cr | Flathead | 27 20 36 | | | | | | x | |
| Swan River - backwaters | Flathead | 27 19 32 | | | | x | | | |
| Swimming Lake | Flathead | 28 20 14 | | | | x | | | |
| Swisher Lake | Kootenai | 37 27 17 | x | | | | | | |
| Sylvan Lake | Kootenai | 25 29 24 | x | | | | | | |
| Sylvia Lake | Flathead | 30 25 20 | | xx | | | | | |
| Tally Lake | Flathead | 30 23 00 | | | | | | x | |
| Tamarack Lake | Flathead | 36 24 36 | | | | x | | | |
| Tetrault Lake | Kootenai | 37 27 27 | | | | xx | | | |
| Thompson Falls Reservoir | Clark Fork | 21 29 08 | | | | x | | x | |
| Troops Lake - private | Kootenai | 31 33 16 | | | | x | | | |
| Upper Blossom Lake | Clark Fork | 21 32 30 | xx | | | | | | |
| Upper Foys Lake | Flathead | 28 22 23 | | | | x | | | x |
| Upper Martin Lake | Flathead | 32 24 10 | | | | | | x | |
| Upper Red Meadow Creek | Flathead | 35 21 05 | | x | | | | | |
| Upper Slee Lake - private | Kootenai | 31 33 06 | | | | x | | | |
| Upper Stillwater Lake | Flathead | 33 23 00 | | | | | | xx | x |
| Upper Sunday Lake | Flathead | 33 24 07 | | | | x | | | |
| Upper Thompson Lake | Flathead | 27 27 30 | | | | xx | | x | xx |
| West Lake (private) | Flathead | 31 19 16 | | | | x | | | |
| Whitefish Lake | Flathead | 31 22 00 | | | | x | | xx | |
| Whitefish River | Flathead | 28 21 00 | | | | | | xx | |