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DIVISION OF FISHERIES
MICHIGAN DEPARTMENT OF CONSERVATION
COOPERATING WITH THE
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PARTIAL FISHERIES SURVEY OF LITTLE PAW PAW AND BARTON
LAKES, KALAMAZOO COUNTY

by

W. F. Carbine and G. N. Washburn

Introduction

Partial surveys of Little Paw Paw and Barton lakes were made on July 8 and 9, 1943. Both lakes were thought to be suitable for trout. Little Paw Paw Lake was suggested as having trout possibilities by Conservation Officer V. D. Winey of Kalamazoo County. Mr. William J. Kirk, Route 1, Vicksburg contacted Dr. Hazzard and told him that he believed Barton Lake had trout possibilities.

Location and Drainage

Little Paw Paw Lake is located about 5 miles east of Lawton and about 4 miles southeast of Mattawan in Texas Township (T. 34S., R. 12 W., Secs. 5, 6, 31 and 32). No road leads directly to the lake shore, the nearest road is within 100 yards of the lake. The best road (blacktop, gravel and sand) leading to Little Paw Paw Lake runs east out of Lawton for a little over 3 miles then north for about a mile, east for about a mile and a half then southeast past the lake. It is our understanding (information from O. H. Clark) that the state is attempting to provide access to the lake by acquiring a fishing site on the northeast shore.

Little Paw Paw Lake has one inlet that drains a tamarack swamp at the northeast end of the lake. Lawton Creek, the outlet of this lake is a trout stream (classed as brook trout water by Mr. J. Marks) and is planted with brook, brown and rainbow trout. Lawton Creek is a tributary of Paw Paw Creek which flows into Lake Michigan.

Barton Lake is about two miles southwest of Vicksburg (T. 4 S., R. 11 W., Secs. 23, 26, and 27) and can be reached by a good blacktop road (county road) running two miles west and a mile and a half south of Vicksburg.

Barton Lake receives the drainage of Howard and Rawson lakes from the south and Gourdneck and Sunset lakes to the north. The outlet of Barton Lake forms a branch of the Portage River which is a tributary of the St. Joseph River which flows into Lake Michigan.

Acknowledgments

Conservation Officer V. D. Winey showed the writers every courtesy and offered his assistance during the survey. Mr. E. C. Palmer who has a place on Little Paw Paw Lake let us use his boat and Clarks Resort on Barton Lake kindly offered us one of their boats.

Past and Present Use

Both lakes are open to the public for fishing although the state does not own any of the land on either lake. Marl has been removed from both of these lakes in the past, but this practice has been discontinued.

Little Paw Paw Lake is not used to any great extent for fishing, boating or bathing. There is no boat livery on the lake and only about a dozen private boats. At present there are only two or three cottages on the lake.

Barton Lake is rather heavily fished both in the summer and in winter. There are several resorts and boat liveries on the lake. Several good beaches are used extensively by bathers. Many cottages are to be found along its shores.

Physical Characteristics

Extent of the Drainage

Little Paw Paw Lake has one small inlet that drains a tamarack marsh at the east end. Springs are present all along the north shore of the lake. Lawton Creek forms the outlet of the lake. This stream is classed as a trout stream by District Supervisor J. Marks.

Barton Lake has several inlets. One enters from Howard and Rawson lakes and another from Sunset Lake. The outlet and main drainage is Portage Creek.

Temperature and Chemical Characteristics

Temperature and Chemical Conditions

A temperature series taken from top to bottom in the deepest depression in Little Paw Paw Lake showed the presence of a thermocline. The thermocline extended from about 15 feet to 25 feet. A thermocline was also present in Barton Lake and was located between 18 and 27 feet. The results of temperature and chemical analyses are given in the table on page 4.

Oxygen was found in sufficient quantities to support fish life in Little Paw Paw Lake to depths of about 45 feet as of July 8, 1943. It is probable that, as the summer progresses, the amount of deeper water suitable for fish life will diminish. As this lake supports a population of cisco it is very probable that trout will be able to survive the year around.

CHEMICAL AND TEMPERATURE OBSERVATIONS OF LITTLE PAW PAW AND BARTON LAKES, JULY 8 AND 9, 1943

Little Paw Paw Lake					Barton Lake				
Depth (feet)	Temperature (°F.)	Oxygen (parts per million)	M. O. alkalinity (parts per million)	pH	Depth (feet)	Temperature (°F.)	Oxygen (parts per million)	M. O. alkalinity (parts per million)	pH
0	76	8.1	210	8.2	0	80	7.1	176	7.8
10	74	-	-	-	0	80	7.2	-	-
15	73	-	-	-	10	75	8.8	-	-
18	66	-	-	-	10	75	8.8	-	-
20	64	-	-	-	15	73	-	-	-
25	56	8.6	214	8.2	17.5	72	-	-	-
27.5	55	-	-	-	20	67	3.8	178	7.2
30	54.5	7.0	-	-	27.5	58	0.8	-	-
40	50	5.4	-	-	30	57	-	-	-
45	-	2.7	-	-	40	55	-	-	-
50	49	1.5	-	-	50	54	0.0	196	7.2
55	48	tr.	213	7.6	52	-	-	-	-
56.5	-	-	-	-					

The temperature and chemical properties of the water of Barton Lake are favorable to warm-water fishes at all times of the year. The deeper, colder waters (under 20 feet in depth) of Barton Lake will not support fish the year around because of the deficiency of oxygen.

The water in both lakes is alkaline and moderately hard.

Pollution

No source of pollution could be found at Little Paw Paw Lake. Barton Lake, however, has several sources of pollution. Sewage from Vicksburg and waste from a paper mill enter the lake through the stream that flows through Vicksburg and Sunset Lake. We did not investigate this matter of pollution.

Biological Characteristics

Fish Present

The following fishes are supposed to inhabit Little Paw Paw Lake according to Officer Winey: bluegill, pumpkinseed, perch, largemouth bass, cisco, and

and occasionally brown and rainbow trout are taken. Barton Lake has largemouth bass, black crappie, perch and bluegills.

Recommendations

Before any definite management proposals are made, we recommend that Little Paw Paw Lake be mapped and inventoried. This lake is very probably capable of supporting trout as shown by the presence of cisco and by the presence of sufficient oxygen below the thermocline. Perhaps oxygen samples should be taken during August to further delimit the depth at which fish will live. At the time of the inventory the stream entering the lake should be checked to determine whether it can be used for trout spawning.

It should be kept in mind when future recommendations are made, providing the lake can support trout, that it is possible for fish to move out of and into the lake by way of the outlet stream, Lawton Creek, which in itself is a trout stream. Migratory trout may leave the lake.

Barton Lake on the other hand will not support trout because of the absence of oxygen in and below the thermocline. Therefore, there is no special reason to map and inventory this lake at present.

Conservation Officer, V. D. Winey has agreed to supply us with a series of scales from the various game fish inhabiting Little Paw Paw Lake.

INSTITUTE FOR FISHERIES RESEARCH

By W. F. Carbine and G. N. Washburn

Report approved by: A. S. Hazzard

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