

INSTITUTE FOR FISHERIES RESEARCH
DIVISION OF FISHERIES
MICHIGAN DEPARTMENT OF CONSERVATION
COOPERATING WITH THE
UNIVERSITY OF MICHIGAN

ALBERT S. HAZZARD, PH.D.
DIRECTOR

February 7, 1938

ADDRESS
UNIVERSITY MUSEUMS
ANN ARBOR, MICHIGAN

REPORT NO. 453

REPORT ON CREEL CENSUS ON MANISTEE LAKE, KALKASKA COUNTY,
SUMMER OF 1936, AND WINTER OF 1936-37

Creel census data for fishing in Manistee Lake, Kalkaska County, are available for the summer of 1936 and for the preceding and succeeding winters.

The information indicates that the catch per hour in Manistee Lake was decidedly lower than for the state as a whole, or for the hatchery district including Kalkaska County, but that the fish taken from Manistee Lake had a larger average size than had the fish from lakes in the other areas mentioned.

Winter fishing was apparently responsible for the removal of about 75 to 100 fish per season. The winter caught fish were exclusively northern pike and walleyes. If the lake were closed to winter fishing, the number of fish per acre remaining would not be much greater. The fish removed in winter are relatively large fish, however.

It is possible that a catch of bass and panfish would be somewhat lower if these large piscivorous fish were not removed in winter.

Perch are generally associated with pike and walleyes. Almost no perch were taken in Manistee Lake, suggesting that few are present. It is possible that the lake is better suited for bass and bluegills than for pike.

Handwritten notes:
see report on Manistee Lake
in the file

The trend of the catch for the two winter seasons suggests that walleyes may be gradually increasing in number as compared with northern pike.

Creel census returns from Manistee Lake for the winter of 1935-1936 are summarized in Report No. 369. Between December 31 and March 27 fishing in this lake yielded a total of 33 northern pike and 19 walleyes according to the census taken by Camp Kalkaska. The fish were caught at the rate of 0.1 fish per hour. No fish were taken in 84 of the 125 fisherman-days listed. This catch represented about one fish per 16 acres.

Creel census was also taken in the summer of 1936 and in the succeeding winter. Data on the summer fishing are given in Tables 1, 2, 3 and 4. The records do not cover the entire fishing season and are probably not complete for the period covered. They should be adequate, however, to give a fair picture of the fishing.

A total of 1808 legal-sized fish were taken in Manistee Lake in 824 fisherman-days. They were taken at the rate of 0.8 fish per hour and had an average length of about $9\frac{1}{4}$ inches.

A variety of species were caught. Sunfish predominated with walleyes, bluegills, and bass also represented in the catch in significant numbers. There is some question regarding the ability of the census takers to differentiate between the two species of bass and between bluegills and sunfish. For both groups the two species might better be considered jointly rather than by individual species. The fish of each species had a relatively large average size.

The lake attracted fishermen from a wide variety of localities. Residents represented 31 counties; non-residents were from six states and Canada. Only 140 of the fisherman-days were by what might be termed "local" residents (80 from Kalkaska County, 60 from Antrim County). Wayne County and Ingham County were well represented.

Forty-one per cent of the fishing was by non-residents, chiefly from Indiana and Ohio. Manistee Lake is undoubtedly of very considerable value as a resort lake.

Reliable information for fishing in the rest of the county (general census) is not available for 1936, for the records for Kalkaska County were very few during that year. For non-trout waters in the state as a whole, according to the 1936 general creel census, the catch per hour was 1.7. The fish caught in the state averaged 8.4 inches in length compared with 9.2 inches for fish in Manistee Lake. The catch per hour in Manistee Lake was much lower than average, but the fish caught in this lake were somewhat above average size.

For non-trout waters in the hatchery district including Kalkaska County, the catch per hour was 1.5 and the average length of fish caught was 8.3. Fishing in Manistee Lake was therefore also lower in catch per hour than fishing elsewhere in the area, but here too, the fish in Manistee Lake have a considerably larger average size than those taken in the general area.

Fishing during the winter of 1936-37 was also checked by a crew from Camp Kalkaska. The camp estimates that 91 per cent of the anglers^{were} contacted during this period. Records indicate a catch of 97 fish (55 northern pike and 42 walleyes) for the winter fishing period. These fish were taken at the average rate of 0.23 per hour, a decided improvement over the previous winter. Data on the winter fishing are recorded in Table 5.

It is impossible to compare the summer and winter fishing so far as total catch is concerned, because the percentage of fishermen contacted in summer is not known.

If it is considered that Manistee Lake is better suited for bass and bluegills than for pike and if it is desired to improve summer fishing for bass and bluegills, winter fishing by spear and line is probably beneficial in removing pike which are natural predators and competitors of these fish which it is desired to encourage. A change in classification to "all other lakes" class would also be appropriate to further discourage pike and to permit better protection of bass and bluegills.

INSTITUTE FOR FISHERIES RESEARCH

By R. W. Eschmeyer
Assistant Aquatic Biologist

Table 1

General Data on Fishing on Manistee Lake, Kalkaska County, Summer of 1936

Date	No. of Fishermen	No. Taking No Fish		No. Legal Fish	No. of Hours	Average Size	Catch Per Hour	No. of Fish Per Fisherman	Hours Per Fisherman Day
		No.	%						
July	454	162	36	1038	1224.25	9.0	0.8	2.3	2.7
August	276	92	33	660	843.50	9.3	0.8	2.4	3.1
September	69	35	51	100	162.75	9.4	0.5	1.4	2.6
October	25	20	80	10	71.50	13.3	0.1	0.4	2.9
Totals or Averages	824	309	38	1808	2322.0	9.2	0.6	2.2	2.8

Table 2

Species, ✓ Number and Sizes of Fish Caught in Manistee Lake, Kalkaska County, Summer of 1936

Date	Largemouthed Bass		Smallmouthed Bass		Bluegills		Sunfish		Yellow Perch		Rock Bass		Bullheads		Pike Perch		Northern Pike	
	No.	Ave. Size	No.	Ave. Size	No.	Ave. Size	No.	Ave. Size	No.	Ave. Size	No.	Ave. Size	No.	Ave. Size	No.	Ave. Size	No.	Ave. Size
July	16	14.3	38	15.9	59	7.4	815	7.7	2	11.0	14	8.0	5	7.8	86	18.3	3	21.0
August	18	15.5	21	14.0	62	8.9	494	7.8	2	7.3	8	7.9	5	14.0	38	18.2	12	23.8
Sept.	8	13.5	3	13.0	6	6.0	73	7.8	...	...	...	...	...	...	7	18.6	3	19.7
October	...	...	5	11.4	2	8.3	...	...	...	...	...	...	...	...	2	14.5	1	30.0
Totals or Averages	42	14.4	67	13.6	129	7.7	1382	7.8	4	9.2	22	8.0	10	10.9	133	17.4	19	23.6

* ✓ It is possible that the census takers could not differentiate between bluegills and sunfish or largemouthed and smallmouthed bass.

Table 3

Residence of Resident Anglers,
Manistee Lake, Kalkaska County, Summer of 1936

County	July	August	September	October	Total
Allegan	4	...	...	...	4
Alpena	...	...	1	...	1
Antrim	31	24	4	1	60
Berrien	1	...	...	...	1
Branch	1	...	...	...	1
Bay	...	...	1	...	1
Calhoun	3	3	...	...	6
Crawford	3	...	1	1	5
Eaton	6	...	...	...	6
Genesee	10	18	...	...	28
Grand Traverse	...	...	...	5	5
Gratiot	1	2	...	...	3
Ingham	17	29	2	...	48
Ionia	...	...	1	...	1
Isabella	3	...	...	...	3
Jackson	5	11	...	...	16
Kalamazoo	6	...	...	...	6
Kalkaska	31	20	20	9	80
Kent	6	...	2	...	8
Lake	...	2	...	...	2
Lapeer	1	...	...	...	1
Midland	1	...	...	...	1
Oakland	2	2	...	...	4
Presque Isle	...	1	...	1	2
Saginaw	...	1	2	...	3
Shiawassee	5	1	...	2	8
St. Clair	3	...	...	...	3
Van Buren	1	...	...	...	1
Washtenaw	3	2	1	...	6
Wayne	90	48	18	3	159
Wexford	...	3	2	...	5
Unknown	2	1	3	...	6
Total	236	168	58	22	484

Table 4
 Residence of Non-resident Anglers,
 Manistee Lake, Kalkaska County, Summer of 1936

States	July	August	September	October	Total
California	2	...	...	...	2
Canada	1	...	...	...	1
Illinois	9	...	...	...	9
Indiana	102	61	10	3	176
Iowa	2	...	...	...	2
New York	5	1	...	...	6
Ohio	97	46	1	...	144
Total	218	108	11	3	340

Table 5

Data on Winter Fishing In

Manistee Lake, Kalkaska County, Winter of 1936-37

	January	February	March	April 1-15	Totals or Ave.
1. Number of fishermen	33	38	5	4	80
2. Number taking no fish	18	23	0	0	41
3. Number of fish caught (legal)	35	23	31	8	97
4. Number of hours fished	176.0	187.0	33.0	18.0	414.0
5. Catch per hour	0.2	0.12	0.9	0.4	0.23
6. Catch per fisherman	1.1	0.6	6.2	2.0	1.2
7. Ave. No. of hrs. per fisherman	5.3	4.9	6.6	4.5	5.2
8. Per cent taking no fish	55	61	...	...	51
9. Average size of all fish caught	18.8	21.8	29.3	16.5	22.7
10. Catch by species	...	...	...	...	...
Northern Pike--no. taken	22	12	17	4	55
Average size	19.1	24.5	34.0	16.5	24.7
Walleye--no. taken	13	11	14	4	42
Average size	18.4	18.8	23.6	16.5	20.0