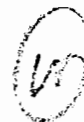


INSTITUTE FOR FISHERIES RESEARCH
DIVISION OF FISHERIES
MICHIGAN DEPARTMENT OF CONSERVATION
COOPERATING WITH THE
UNIVERSITY OF MICHIGAN



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REPORT NO. 533

A THIRD EXAMINATION OF MICHIGAN INLAND LAKES IN WHICH
PLANTINGS OF GREAT LAKES SHINERS (NOTROPIS ATHERINOIDES) HAVE BEEN MADE

During 1933, 1934, and 1935 the Michigan Department of Conservation introduced into various inland lakes of Michigan numbers of the Great Lakes Shiners (Notropis atherinoides atherinoides). A summary of the plantings which have been made in lakes which were later examined is given in Table 1.

From August 29 to September 1 Mr. W. F. Carbine assisted by Edwin L. Cooper examined these nine lakes in an effort to determine whether or not the species had become established in sufficient numbers to make it important in the ecological set up on these lakes. Data pertaining to these examinations are given in Table 2.

To date five examinations of these lakes have been made. Four of these were made by Mr. Gerald P. Cooper during 1934 and 1935. His findings are summarized in Table 3; (also see Institute Reports Nos. 264 and 323a).

From the data obtained by Mr. Cooper it seems safe to say that natural reproduction has occurred in some of these lakes. The only additional data obtained by Mr. Carbine comes from one specimen taken in Crystal Lake in Oceana County on August 30, 1938. As there appear to be five annuli present on the scales of this fish, it may represent one of the original planting.

This species of fish is a popular bait fish, and is sold quite generally in the region by bait dealers, so there has probably been incidental introduction into these lakes by fishermen.

After three years these seining should indicate whether or not the shiner is able to maintain itself in inland lakes. However, it must be pointed out here that to date the examinations which have been made were rather cursory, and because of the fish's schooling habit, it would be quite possible for the persons who were conducting the examination to miss the species entirely. Mr. Carbine feels that in order for the examinations to have any significant value at least a day at each lake should be spent in trying to collect them. He makes the suggestion that more thorough examination of these lakes be made this year.

INSTITUTE FOR FISHERIES RESEARCH

By **Walter R. Crowe**
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Table 1

Summary of Plantings of Great Lakes Shiners in Lakes
Which Have Been Examined

Lake	County	Number of Fish Planted		Total
		1933-'34	1935	
Gull	Kalamazoo	160,000	....	160,000
Fremont	Newaygo	400,000	....	400,000
Houghton	Roscommon	250,000	....	250,000
Higgins	Roscommon	250,000	....	250,000
Blanche	Newaygo	50,000	....	50,000
Crystal	Oceana	100,000	....	100,000
Cadillac	Wexford	250,000	500,000	750,000
Mitchell	Wexford	....	500,000	500,000
Missaukee	Missaukee	....	500,000	500,000

Table 2

Data Pertaining to Examination of Nine Lakes Made in August-September 1938 by Carbine and Cooper

Lake	County	Point of Examination	Date	Time	Hours	Areas
Houghton	Roscommon	1 mi. N. W. Heights	9/1/1938	2:30 - 3:15 PM	3/4	300 x 20 ft.
Houghton	Roscommon	Warren Beebe's Landing	9/1/1938	8:45 - 9:40 PM	1	800 x 20
Houghton	Roscommon	Mouth Backus Creek	9/1/1938	7:15 - 7:45 PM	1/2	200 x 20
Houghton	Roscommon	Mouth Denton Creek	9/1/1938	11:30 A.M. - 1:15 PM	1 3/4	350 x 20
Houghton	Roscommon	West Shore, (Muddy Bay)	9/1/1938	3:20 - 3:40 PM	1/3	150 x 20
Higgins	Roscommon	S. W. Shore	9/1/1938	10:00 - 11:15 AM	1 1/4	500 x 20
Higgins	Roscommon	W. Shore, across from state park	9/1/1938	5:00 - 5:15 PM	1/4	500 x 20
Higgins	Crawford	N. E. Shore	9/1/1938	6:15 - 6:45 PM	1/2	350 x 20
Higgins	Roscommon	S. W. Shore	9/1/1938	4:25 - 4:55 PM	1/2	300 x 20
Missaukee	Missaukee	South shore	8/31/1938	9:00 - 10:00 PM	1	350 x 20
Missaukee	Missaukee	E. shore at Lake City	8/31/1938	7:30 - 9:00 PM	1 1/2	600 x 20
Blanche	Newaygo	Public camp ground	8/30/1938	9:30 - 11:00 AM	1 1/2	400 x 30
Fremont	Newaygo	Mouth of Darling Cr. and Fremont Tourist Park	8/30/1938	11:45 AM - 12:45 PM	1	500 x 30
Fremont	Newaygo	Small inlet on W. side	8/30/1938	1:15 - 2:30 PM	1 1/4	400 x 50
Gull	Barry	W. shore N. of golf course	8/29/1938	2:30 - 4:30 PM	2	120 x 20
Gull	Barry	Rd. between Kalamazoo and Barry County	8/29/1938	6:30 - 7:15 PM	3/4	200 x 46
Gull	Barry	N. shore	8/29/1938	4:45 - 6:00 PM	1 1/4	600 x 50
Gull	Kalamazoo	S. W. - Indian Pt. Bay	8/29/1938	12:45 - 1:30 PM	3/4	700 x 50

Table 2 (Continued)

Lake	County	Point of Examination	Date	Time	Hours	Areas
Crystal	Oceana	Entire lake shore	8/30/1938	3:15 - 6:00 PM	2 3/4	2000 x 30
Cadillac	Wexford	South shore	8/31/1938	2:30 - 3:00 PM	1/2	200 x 20
Cadillac	Wexford	N. shore	8/31/1938	11:30 - 12:30 PM	1	200 x 20
Cadillac	Wexford	N. shore, at old mill site	8/31/1938	10:00 - 11:00 AM	1	250 x 30
Canal joining Cadillac and Mitchell lakes	Wexford		8/31/1938	12:30 - 1:45 PM	1 1/4	400 x 200
Mitchell	Wexford	N. shore, white sands	8/31/1938	5:00 - 6:00 PM	1	400 x 200
Mitchell	Wexford	E. shore, Big Cove	8/31/1938	4:30 - 5:00 PM	1/2	100 x 20
Mitchell	Wexford	S. shore, Muddy Bay	8/31/1938	3:45 - 4:15 PM	1/2	100 x 10
Mitchell	Wexford	South shore	8/31/1938	3:05 - 3:35 PM	1/2	500 x 20
					Total 28 plus	

Table 3

Summary of the Recovery Records of Great Lakes Shiners
 During Four Checkups Made in 1934 - '35 By Gerald F. Cooper

Lake	County	Date of Examination	No. obtained	Age
Blanche	Newaygo	4/5/1935	1	* yg. of 1934
Fremont	Newaygo	4/5/1935	32	* yg. of 1934
Fremont	Newaygo	10/20/1935	184	* yg. of 1934
Houghton	Roscommon	7/28/1935	7	* yg. of 1934
Higgins	Roscommon	11/18/1934	1	yg. of 1934 - deep gash on back, (bait)
Higgins	Crawford	7/28/1935	1	* yg. of 1934
Higgins	Crawford	7/28/1935	2	yg. of 1933 - original plant?
Outlet Higgins	Roscommon	10/24/1935	42	* yg. of 1935
Outlet Higgins	Roscommon	10/24/1935	1	yg. of 1932 - original plant?

* Probably represent instances of natural reproduction in the lake.