

*Special Report*  
Original: Fish Division  
cc: Dr. F. S. Burlingame:  
Conservation Officer Greer  
J. G. Marks  
R. W. Eschmeyer  
Mr. Ruhl

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

ALBERT S. HAZZARD, PH.D.  
DIRECTOR

May 11, 1938

ADDRESS  
UNIVERSITY MUSEUMS  
ANN ARBOR, MICHIGAN

REPORT NO. 472

REPORT ON THE BLUEGILLS FROM  
MINNEWAUKON LAKE, STURGIS, MICHIGAN

It has become increasingly obvious that some of our lakes contain too many fish. For some time this problem seemed significant only in our relatively unproductive northern waters, but it is now evident that there is also an overabundance of fish in some of our southern lakes. Late in 1936 Mr. C. J. Bradt of the Marcellus Rod and Gun Club indicated that members of the Club believed Miller Lake (Marcellus Township, Cass County) to be overstocked with bluegills. An examination of the fish from this lake by the Institute indicated that their beliefs were correct.

Recently Dr. F. S. Burlingame, president of the Eastern Division of the St. Joseph County Fish and Game Association, wrote to Dr. G. W. Bradt about a lake near Sturgis, asking him to pass the information on to the Fish Division. Dr. Burlingame reported that in this lake, Minnewaukon Lake, the bluegills failed to reach "any size." The letter adds:

"This lake has an area of 100 acres and has between 25 and 30 cottages around it. It is a very popular lake in our vicinity."

The only information available in the Institute files on this lake is a record of three anglers in 1928 (general creel census) and the brief description in the Michigan Lakes and Streams Directory. Two of the anglers took one large-mouthed bass each in 3 hours of fishing; the other took 6 legal bluegills (and 25 undersized bluegills) in 5 hours. The Lakes and

Streams Directory gives the following information:

"Minnewakan (or Johnson's)--St. Joseph co., Sherman twp., near Sturgis, near US-112, 160 acres. A road touches lake. Slight resort development, boat livery, good swimming, sand and gravel beach, dense woods, islands, hilly land, lake much frequented. Large- and small-mouth bass, bluegills, perch, pike."

Dr. Hazzard and the writer visited Minnewaukon Lake on April 11th to obtain specimens for a study of the rate of growth, but the fish had not yet come onto the shoal and the seining was unsuccessful. Conservation Officer Arthur G. Greer obtained 14 bluegills on the 27th for the Institute. Scales of these fish have been examined and the age has been determined as follows:

<u>Total Length in Inches</u>	<u>Sex</u>	<u>Age (Growing Seasons)</u>
4.7	Female	8
4.9	Male	7
5.2	Male	7
5.3	Female	8
5.5	...	7 or 8
5.7	...	8
5.9	Male	8
5.8	Male	8
5.9	Male	9
6.0	Male	8
6.1	Male	8
6.2	Male	8
6.2	Male	8
6.4	Male	8

The number of fish examined is small, but it is large enough to tell the story--Minnewaukon Lake is undoubtedly badly overstocked with bluegills, and the poor fishing in this lake, as in some other lakes, is undoubtedly due to an overabundance of fish. The bluegills were growing very slowly; in fact their growth is probably the slowest recorded to date by the Institute. For comparison, the growth of bluegills as determined for several other lakes in southern Michigan is listed below.

Lake	Size in inches at different ages					
	1 yr.	2 yrs.	3 yrs.	4 yrs.	5 yrs.	6 yrs.
Wintergreen, Kalamazoo Co.	2.0	...	7.5	8.7	8.8	9.4
Deep, Barry County	0.8	2.2	4.8	7.4	9.3	...
Cassidy, Washtenaw County	0.8	2.2	4.0	5.7	6.7	6.9
Mill, Washtenaw County	0.8	1.9	3.1	4.4	5.5	6.1
Mirror, Washtenaw County	0.8	2.2	3.9	5.4	6.5	6.7
Baker, Barry County	0.7	1.9	3.4	5.0	6.1	6.6

A population such as the one in Minnewaukon Lake would obviously not be improved by stocking with more small bluegills. If effective at all, such stocking would be injurious rather than beneficial. Minnewaukon Lake has been stocked with bluegill fingerlings heavily and repeatedly. For the last four years the stocking records for this lake are listed as follows:

<u>Year</u>	<u>No. Bluegills Planted</u>	<u>Age</u>
1934	10,000	4 mo.
1935	15,000	3 mo.
1936	5,000	4 mo.
	5,000	5 mo.
1937	40,000	4 mo.

If the lake area is 100 acres, the fish were increased in 1937 by 400 fingerlings per acre.

It is believed that definite changes can be made in Minnewaukon Lake to improve the fishing and that such changes should be initiated. The question is one of increasing the food or decreasing the number of fish. Since the first does not appear to be practicable, efforts should be made to decidedly reduce the bluegill population. This might be done most conveniently by encouraging heavy fishing before and during the spawning season. Such action could probably not be taken, however, under current regulations.

It is therefore suggested that the hatchery personnel in charge of fish operations in the area seine out as many bluegills as possible of the breeders (and smaller fish) during the spawning season and that they

destroy the nests, after the eggs have been deposited, by using a rake or by some other means. It is believed that a destruction of most of the nests and of most of the breeding fish for a few years will be decidedly beneficial. Since the matter of overpopulation appears to be one of our most serious problems, the work on Minnewaukon Lake would probably help suggest steps to be taken on other lakes where the conditions are similar. Any publicity which might result would probably be helpful in convincing more of our anglers that in some lakes fishing is poor because there are too many fish.

INSTITUTE FOR FISHERIES RESEARCH  
A. S. Hazzard, Director



By R. W. Eschmeyer  
Assistant Aquatic Biologist