

Original: Fish Division ✓
cc: Education - Game
Institute for Fisheries
Research
G. P. Cooper
R. S. Marks
R. G. Fortney
Branch County Conservation Club
ADDRESS
UNIVERSITY MUSEUMS ANNEX
ANN ARBOR, MICHIGAN

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

ALBERT S. HAZZARD, PH.D.
DIRECTOR

Report No. 1241

January 30, 1950

A CHECK ON THE POPULATION OF YOUNG GAME FISH IN
MARBLE LAKE, BRANCH COUNTY

By Gerald P. Cooper

ABSTRACT

Test plantings of fin-clipped hatchery bluegill fingerlings have been made in Marble Lake, Branch County: 10,000 on November 17, 1948 and 10,000 on September 15, 1949. It is expected that another such planting will be made in 1950. The purpose is a demonstration to anglers of the extent to which plantings of this magnitude will contribute to future fishing. Anglers will be able to recognize the hatchery fish in their creels in the future, by the absence or partial regeneration of the particular fin.

A field check, by netting, was made at the lake on August 29-31, 1949, on which dates the only marked hatchery fish in the lake were yearlings, survivors from the 1948 planting. Seining took one of the fin clipped yearlings as compared to 200 wild bluegills of this age. Netting also took about 750 young bluegills--the result of natural reproduction. Additional field checks will be made in the future.

*recopy this - game
quit - Education
This copy is for
C. B. ...
2-4-50*

Marble Lake, Branch County (T. 6,7 S., R. 5 W., Secs. 21, 28, 29, 32, 33, 4 and 5), was selected by the Branch County Conservation Club in March, 1948 as the subject for an experiment on the value of planting warm-water game species. Interest in this experiment developed because that club was not completely in sympathy with the Department's new policy of discontinuing maintenance plantings of warm-water species, and the experiment was set up as a demonstration of the value of hatchery plantings of bluegill fingerlings in maintaining sport fishing for that species. Members of the club have agreed to cooperate by keeping creel census records of their fishing on the lake.

An Institute lake survey party made an inventory of Marble Lake in the summer of 1948 (see I.F.R. Report No. 1195 by I. A. Rodeheffer and Jason Day), and the information thus obtained, especially on the abundance of young game and pan fish, will be of value in following the planting experiment. The first experimental planting in the lake was made on November 17, 1948 of 10,000 bluegill fingerlings, young-of-the-year, average length about 2 inches, marked for identification by the removal of the left pelvic fin. The hatchery crew had clipped off (with scissors) the left pelvic fin from each of these 10,000 fish. The second experimental planting was made on September 15, 1949, of 10,000 fingerling bluegills, average length about 1 inch, with the right pelvic fin clipped.

Experience has shown that when a fin of a fish is clipped off close to the body, the fish can be recognized during its lifetime by the absence of this fin, or if the fin does partly regenerate it will be recognizable as such by deformity. Thus fishermen at Marble Lake should be able to recognize any survivors from these marked plantings which they might take by angling (during the next 4 to 8 years, the average life span of the bluegill); and checks on the survival of these marked fish can also be made by periodically collecting samples from the lake by nets.

A field party from the Institute, including Donald Peterson and Emanuel Hackel, made a netting check on Marble Lake on August 29 to 31, 1949. (Note that this was prior to the second planting.) Their field records and comments are summarized in the remainder of this report.

1. The following, local, interested parties were contacted: Walter Mutchler, the Conservation Officer; Mr. McKenzie; Mr. Mains; and Mr. Curtis.

Mr. McKenzie told us that the 10,000 bluegills (2") that were stocked in November, 1948 were all put in at the cove on the west shore, west and slightly south of the public fishing site.

Mr. Mains was of the opinion that the lake should continue to be stocked with bluegills. (He stated that Branch County sells a disproportionately high number of fishing licenses, and felt that they should get some return.) He said that due to the long period of dredging operations, there was insufficient suitable area for breeding in Marble Lake and therefore it should be stocked.

Mr. Curtis, who rents cabins and boats at the lake, reported the fishing, in general, to be good this year. Of the bluegill fishing, he said, "At the first part of the season, the average fisherman caught his limit."

2. The lake has been dredged since the map survey was made in 1941, and therefore some of the shoreline areas should be remapped. Along most of the shoreline, there is an abrupt drop from 2 to 8 feet in depth. This necessitated spending some time looking for suitable areas for seining. Numerous hauls were made at various points around the lake, from beyond the drop-off to the shoreline, using a 30-foot, 1/4-inch mesh, bag seine. Seining was very difficult because of the sharp drop-off due to dredging and the lack of shoal area. Yet, even though seining was inefficient because of physical handicaps, significant results were obtained--many fish collected.

3. Of the 10,000 bluegills marked and planted in November, 1948, only one was found, and this was in the vicinity of the original planting site. Approximately two hundred unmarked bluegills in this size group (2.6"-4.5"), and apparently same age group (I), were obtained in our seining operations. These unmarked yearling bluegills were, by necessity, some of the survivors from natural reproduction.
4. Seven hundred fifty young-of-the-year bluegills were picked up in the seining, which would seem to indicate good natural reproduction in the lake. All of these fish had to be wild fish, since there were no young-of-the-year hatchery bluegills in the lake on this date.
5. Two trap nets were set in deep water with little success which is not unusual at this period of the summer even in lakes with large populations of game fish. High and low water temperatures both appear to result in less activity on the part of fish and therefore fewer captures in trap nets.
6. The bluegills taken by all methods were as follows:

<u>Age group</u>	<u>Size</u>	<u>Number</u>
0	1"-2.5"	750 (approx.)
I	2.6"-4.5"	200 (+ 1 marked)
II	4.6"-5.5"	5
III and above	5.6" and above	5

7. The total fish collection by seine and trap net was:

Bluegill	<u>Lepomis m. macrochirus</u>	987 fish, 1-6 inches
Pumpkinseed	<u>Lepomis gibbosus</u>	3 fish, 4-6 inches
Black crappie	<u>Pomoxis nigro-maculatus</u>	39 fish, 1-10 inches
Largemouth bass	<u>Micropterus salmoides</u>	68 fish, 1-5 inches
Rock bass	<u>Ambloplites r. rupestris</u>	3 fish, 3-7 inches
Yellow perch	<u>Perca flavescens</u>	96 fish, 1-4 inches

Logperch	<u>Percina caprodes semifasciata</u>	45 fish, 1-3 inches
Common shiner	<u>Notropis cornutus</u>	17 fish, 1-6 inches
Northern creek chub	<u>Semotilus a. atromaculatus</u>	1 fish, 2 inches

8. Further field checks of this type will be made on Marble Lake in the future.

INSTITUTE FOR FISHERIES RESEARCH

Gerald P. Cooper

Report Approved by A. S. Hazzard

Report Typed by B. J. Bair