

Original: Fish Division  
cc: Mr. Ruhl  
Mr. Beckman

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

ALBERT S. HAZZARD, PH.D.  
DIRECTOR

ADDRESS  
UNIVERSITY MUSEUMS  
ANN ARBOR, MICHIGAN

April 16, 1940

REPORT NO. 594

WINTER KILL IN PASINSKI POND, LIVINGSTON COUNTY

by

W. C. Beckman

(15)

Pasinski Pond is located in Livingston County on the property of William Pasinski, about 1 mile east of Howell, Michigan, and was built in 1930 by damming a small ravine. It has an area of about 4 1/2 acres and a maximum depth of about 5 feet. The water supply is spring run-off with a very little ground seepage. A pump close to the pond is run periodically during the summer to help maintain the water level. The owner has placed this private pond at the disposal of the Institute for Fisheries Research for experimental purposes. A forthcoming report will discuss in detail the past history of winter kill and subsequent stocking.

In May, 1938, thirty-two adult bluegills were planted in the pond. These spawned successfully that spring and presumably again the following year. In April, 1939, the writer began jaw tagging some of these fish. At intervals throughout the summer collections were made and more fish jaw tagged. The last collection was made in November.

In February, 1940, John Greenbank, of the Institute staff, while conducting an experiment on winter kill (details in a forthcoming report) reported a heavy fish mortality in the pond. He picked up a number of the fish which came up into the hole he had chopped in the ice. The fish were of the age group I and the young of the year (1939).

On April 5, 1940, the ice had melted sufficiently from the edge of the pond to permit the picking up of the dead fish. The collecting was done on April 5, 10, and 11. Four thousand four hundred fifty-nine bluegills and 787 bullheads were collected on April 5. Six of these were young of the year (1939). The probable explanation for the few young of the year fish is that they were heavier for their volume than the larger fish and sank to the bottom, where they could not be readily seen and recovered. On April 10, John Greenbank returned to the pond and picked up 6,660 bluegills and 470 bullheads. On April 11, Greenbank and the writer picked up an estimated 2,100\* bluegills and 150\* bullheads. A total kill of 13,123 bluegills and 1,407 bullheads were counted. The writer estimates that about 100 or so fish were not recovered.

Twelve recoveries of marked fish were made, 7 jaw tagged specimens and 5 specimens which had been marked with a loop of silver wire about the lower jaw.

The number of recoveries was much lower than expected. Five hundred and fifty yearling fish were marked, and population estimates based on recapture made during the summer (1939) approximated 30,000 bluegills of the age group I. According to this estimate, about one hundred and fifty marked fish should have been recovered. The probable reason for the small number of recoveries is that many of the tagged specimens had lost their tags due to decomposition. Another possible explanation is that the survival of tagged fish was much lower than believed. Still another possibility is that the population of yearling bluegills was underestimated and that a considerable number of fish of this age group, including several

---

\* Due to decomposition the number of fish was estimated and not counted as those on previous days had been.

hundred tagged specimens, are still alive. Seining and fyke netting in the near future should show if the original population estimate was correct, or if complete winter kill occurred.

If a complete kill has not occurred, studies on growth rate will be continued. If complete kill has occurred, a new planting of adult blue-gills should be made and the studies begun over again. It is hoped that a continuous aerator can be installed at the pond to prevent future winter kill. This aerator is to be built by the Forest Fire Experiment station this summer if the necessary arrangements can be made.

INSTITUTE FOR FISHERIES RESEARCH