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December 20, 1943

REPORT NO. 915

PRODUCTION OF FATHEADED MINNOWS AT THE WOLF LAKE HATCHERY

by

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On May 1, 1943, Pond No. 17 was partially drained. An estimated 35,000 fatheaded minnows were left in the pond as brood stock (Report No. 877). This pond was not fertilized nor were the fish fed during the summer of 1943. Special spawning devices were not placed in the pond.

At the same time an estimated 116,000 fatheaded minnows were placed in Pond No. 24 as brood stock and food for walleyed pike. The results of this experiment will be discussed in another report.

An unknown number of fatheaded minnows found their way into Pond No. 18 through the bubbler from Pond No. 17 during the winter of 1942-1943 and the summer of 1943. Pond 18 was stocked with small bluegill fingerlings in the fall of 1942 and was not drained until the fall of 1943.

The following observations on the spawning habits and growth of the fatheaded minnow were made during the summer of 1943.

May 27. Dr. Hazzard and Mr. O. H. Clark found fathead eggs on the under surface of rocks and sticks in Pond No. 17.

June 20. Dr. Hazzard and the writer found fathead eggs on the under-surface of rocks, sticks and stumps in Ponds 17 and 24. A number of the stumps and sticks were floating from several inches to a foot above the bottom. Young fatheads of several sizes (size range 0.3 inches to 0.7 inches) were found in Pond 17.

July 8-9. Mr. Washburn and the writer noted a few fathead eggs on the undersurface of stones in Pond 17; Young of several sizes (including newly-hatched fry) were found in Ponds 17 and 18.

July 31. Dr. Allison and the writer observed young of several sizes in Ponds 17 and 18. Newly-hatched fry were seen in several places in each pond. No eggs were found, which indicates that spawning had apparently ceased just a short time before these observations were made.

August 18. Dr. Brown and the writer found fatheads very abundant in Ponds 17 and 18. The size ranged from 1/2 to 2 inches. The bluegills (yearlings) in Pond 18 had spawned. The largest bluegills observed would run between 4 and 5 inches in length. These bluegills were apparently not feeding on the fatheads to any extent. Schools of fatheads less than an inch in length were observed to swim past many large bluegills. The bluegills made no attempt to feed upon these minnows.

On October 14-15, 1943, Mr. Washburn, Wolf Lake hatchery crew members, and the writer drained Ponds 17 and 18. Because of the large number of minnows to be handled, the varying amount of debris present, and the presence of polywogs and aquatic insects, it was decided that it would be impractical to obtain an accurate estimate of the number of minnows by weighing. Instead, a volumetric estimate was made. Two random samples of minnows were counted and then all minnows were dipped into pails and the number of gallons of minnows recorded. Approximately the same amount of water was placed in each pail before being filled with minnows.

The total estimated production of fatheaded minnows in Pond 17 was approximately 450,000, or 354,000 per acre. This estimate is believed to be minimal because ample allowance was made for water and debris. These minnows ranged from 0.7 to 2.8 inches in length and averaged 1.2 inches.

The total estimated production of fatheaded minnows in Pond 18 was approximately 264,000, or at the rate of about 100,000 per acre. These minnows varied from 1.1 to 3.0 inches in length and averaged 1.6 inches.

The fatheads in Pond 17 were definitely overcrowded and appeared thin when compared to those from Pond 18. The minnows in Pond 17 averaged 15,000 per gallon, while those from Pond 18 averaged 2,200 per gallon.

The production obtained for Pond 18 compares favorably with that obtained in Pond 17 in 1942 (118,000 per acre), and with the maximum yield published for this species. The production obtained in Pond 17 is high for this species in Michigan and compares favorably with production figures (473,000 per acre) obtained by the Ohio Division of Conservation for the bluntnosed minnow. The bluntnose has about the same spawning requirements as the fathead.

A total of 582,000 fatheads were placed in Pond 9 at Wolf Lake and will be used in the walleyed pike experiments next year. Mr. Marks and Mr. Lydell have received a supply of fatheads and plan to raise them next year for bass food.

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