

Original: Fish Division

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AN ATTEMPT TO TAKE LAKE TROUT FROM  
BIRCH LAKE, CASS COUNTY

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Ten thousand lake trout fingerlings were planted in Birch Lake in the fall of 1937 and 1000 yearlings of each brook and rainbow trout were planted in this lake the following spring (1938). While reports indicate that the rainbow and brook trout are doing very well, no reports of any nature have been received regarding the lake trout.

On August 24, 25 and 26, 1939 an attempt was made to net lake trout. The reason for a search at this time of year is quite obvious. Due to the temperature conditions (thermal stratification) all of the cold water species present should be confined to the deeper waters where favorable temperatures are found.

A temperature series taken near the center of the lake (3 P.M., 8/25/1939) was as follows:

Surface Temperature . . . . .	24.6° C.
15 feet . . . . .	23.3
30 " . . . . .	14.0
45 " . . . . .	7.6
60 " . . . . .	6.4
75 " . . . . .	6.0
90 " . . . . .	5.9

The upper limit of suitable temperatures for trout was about at the 25 foot level. We therefore confined most of our net placements to water of 25 feet or more in depth.

Four gill nets were used. Two of these were of the standard 125 foot experimental type and two were of a 4 inch stretch mesh. The details of the sets made along with the fish taken is given in the following table.

<u>Net Sets:</u>	First set	5:00-7:00 P.M., 8/24/39
	Raised	7:00-9:00 A.M., 8/25/39

No. 1 Large mesh net (4 in. stretch). Approximately 200 feet long. Set on east shore of lake in front of Harvey's cottage. Depth: 25 to 50 feet.

No fish taken.

No. 2 Large mesh net. Set lakeward from net No. 1. 60 to 80 feet deep.

1 - Cisco.

No. 3 Experimental gill net. Set 500 feet from head of outlet in southwest portion of the lake. Depth: 20 to 50 feet.

7 - Cisco (average 280 mm S.L.)

1 - Brook trout (403 mm S.L.) - taken in 45 foot depth.

No. 4 Experimental gill net. Set lakeward from No. 3.

4 - Cisco (average 280 mm S.L.)

<u>Net Sets:</u>	Set	10:30 A.M., 8/25/39
	Lifted	7:00-8:30 A.M., 8/26/39

No. 5 Large mesh gill nets. Set at point of bay in northwest area of lake. Depth: 18 to 40 feet.

2 - Rainbow trout (480 mm S.L., 2 lb. 14 oz.) largest trout released.

2 - Suckers (563 mm S.L., 4 lb.)

No. 6 Experimental gill net set lakeward from No. 5. 35 feet deep.

1 - small perch

No. 7 Large mesh net—approximate center of lake. Depth: 100 feet.

No fish.

No. 8 Experimental gill net—southeast bay of lake. Depth: 35 feet.

8 - Cisco

1 - Brook trout (403 mm total length)

As can be seen, no lake trout were taken. The brook and rainbow trout (taken between 25 and 50 feet) were unusually fine fish and showed remarkable growth. One rainbow trout released would weigh between  $3\frac{1}{2}$  and  $4$  pounds.

There was no information collected to confirm reports that some of the rainbow trout spawned this spring. A small inlet draining a swamp on the east side was investigated. The water flowing had a temperature of  $16.4^{\circ}$  C. The stream was reported to contain rainbow trout late in the fall and reports of small trout having been seen in the swamp above were heard. At the time of the investigation the stream was a mere dribble, running probably less than a gallon per minute and became intermittent 100 yards from the lake. Observations should be made this fall and next spring to see evidence of trout spawning. Those fish taken had well developed eggs.

The presence of a large number of cisco in the deeper water indicates the suitability for lake trout and although the first attempt to establish this species was probably a failure, we are convinced that another planting should be made. The presence of large bass and trout would make the planting of small fish unreasonable. If possible the lake trout should be in their second year.