

INSTITUTE FOR FISHERIES RESEARCH  
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TROUT FISHING POSSIBILITIES IN SOUTHERN MICHIGAN

by

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"Why can't we have trout fishing in southern Michigan instead of driving two or three hundred miles north?"

This question has been asked Conservation Department officials even more frequently of late. There are at least two good answers to the lack of trout streams in the southern counties, particularly those in southeastern Michigan, and both of them relate to temperature. Experiments have shown that brook trout usually do not thrive in water which reaches or exceeds 75°F. At least five degrees below this temperature probably represents the ideal peak for any species of trout.

The climate of lower Michigan is considerably warmer than that of northern trout country, so that the cooling effect of spring water is less evident in streams which might otherwise be suitable. Springs of any size in the southeastern part of the state are rare, due to the nature of the soil. This condition is not confined to southern Michigan, however, as certain streams in the Upper Peninsula are also deficient in springs and, in spite of the cooler climate, warm above the toleration point for trout.

In southeastern Michigan the soil is largely loam with considerable clay at, or near, the surface. Water tends to drain off rapidly and springs of any size are rare. In a survey of the Huron River system begun in 1938, only six short tributary streams, mostly less than five feet wide, were found which were cold enough for trout and nearly all of these are closed to public fishing. A few larger spring-fed streams are found in the area around Jackson and Marshall, but these mostly flow through good farming country and have been dredged to the point where the water is exposed to the warming effect of the sun and few pools and little productive bottom remain. The same is true of much of the Dowagiac River system in southwestern Michigan.

Parts of southern Michigan, such as the Allegan area, are sandy and here we have numerous springs and cold water in spite of high air temperatures. Sandy surface soil, though it usually makes for poor food production in a stream bottom, does collect and store the surface moisture and may yield up the cooled water in springs.

Although it is believed that the production of the few cold southern Michigan trout streams can be markedly increased by creating pools, cover and better food and spawning conditions by modern stream improvement methods, the best way to provide trout fishing in this part of the state may be through the discovery and development of trout lakes. Birch Lake, Cass County, furnishes the best evidence for this so far. In 1936 the Conservation Department was advised that plantings of bass, bluegills, walleyes and perch had apparently done no good in this lake, and a request for lake trout was made. A few years ago this application would have been accepted and a planting of lake trout would have been made with doubt on the part of the fish culturist but with high hopes

by local fishermen. In line with present policies a survey of this lake prior to trout planting was requested of the Fish Division's research branch.

In July of 1937, a party of fisheries biologists from the Institute for Fisheries Research under the leadership of David Chandler made the survey which showed at least 50 per cent of the area of Birch Lake to be over 25 feet in depth and with summer temperatures in this deep water ranging from 57° to 44°F. Also in this deep water the oxygen supply varied from 4.6 to 8.2 parts per million, ample for trout. Furthermore, lake herring (ciscoes) were abundant and presumably would furnish an excellent food supply for trout, especially in the summer months when both of these fish seek the cold water areas. Spring-fed areas along the shores might also provide spawning grounds for certain species of trout. The only serious defect seemed to be the presence of bass, perch, garpike, and other predacious warm-water fish. With this in mind, plantings of trout were mostly confined to larger sizes (advanced fingerlings or yearlings from 5 to 12 inches in length). The Wolf Lake Hatchery provided the following stock in the years 1937 to 1940 inclusive:

	Lake trout	Rainbow trout	Brook trout
1937	10,000 (9 months old)	...	...
1938	...	1,000 (yearlings)	1,000 (yearlings)
1939	...	...	...
1940	790 (2-year-olds)	2,000 (yearlings) 5,000 (2-year-olds)	...

A creel census was conducted on Birch Lake during the summer of 1941 by C. Troy Yoder of the Institute, and the total catch of fish,

based on a 50 per cent sample of the fishermen was calculated as follows: 1,918 rainbow trout, 544 largemouth bass, 144 smallmouth bass, 5,368 bluegills, 994 yellow perch, and 873 other fish (including rock bass, sunfish, etc.).

This experiment proves that legal-sized rainbow trout planted in late fall or through the ice in late winter give good results in terms of the number recovered by anglers in the following years. Most of the catch was made up of ten-to fourteen-inch fish from the 1940 plantings, but several from the 1938 planting produced rainbows up to 7 pounds 3 ounces. The fish were generally fat and in good condition. Although some brook trout from the original planting have been caught and a few lake trout have been reported, it seems evident that rainbows are best adapted to this lake.

An interesting feature of the census was the number of warm-water fish which were also taken. Apparently the introduction of trout has made a part of the lake productive of game fish which prior to the planting was mainly occupied by ciscoes. It is possible but not likely that continued planting of trout might decrease the yield of warm-water fish in such a lake. Creel census planned for the next several years should answer this question as well as give more information on the success of various types of trout plantings.

How many lakes of this type are present in southern Michigan is not yet known. Not all deep lakes have sufficient oxygen in the cool water for trout. Stunted populations of perch, sunfish, etc., may have to be eliminated from some before trout plantings will succeed. The presence of pike or walleyes may prevent good results in others found to have cold water and sufficient oxygen. Since the "discovery" of Birch Lake, at least seven other lakes in southern Michigan with

similar possibilities have been located through surveys and experiments with trout have been planned for them, also. While it is too early to be sure, the Conservation Department anticipates that the needs of southern Michigan trout fishermen may be supplied in part by developing suitable lakes.

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