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Dr. Roelofs

INSTITUTE FOR FISHERIES RESEARCH
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ALBERT S. HAZZARD, PH.D.
DIRECTOR

ADDRESS
UNIVERSITY MUSEUMS ANNEX
ANN ARBOR, MICHIGAN

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AN EXAMINATION OF DOLLAR AND TOTE ROAD LAKES, NEAR COMINS, OSCODA COUNTY

by

Eugene Roelofs

These two lakes lie northeast of Comins on the property of State Senator Carl DeLano. They are small lakes and are, at present, not very productive, at least of vegetation. The lakes were examined with the hope of working out a means of increasing productivity. Mr. DeLano has offered to make such improvements as seem advisable.

The lakes were visited on October 22, 1941 by Mr. DeLano, C. J. D. Brown, and E. W. Roelofs.

Dollar Lake

Dollar Lake occupies a 12-15 acre basin of the "pot-hole" type. Its shoreline is largely sandy, but there is a tremendous accumulation of pulpy peat in the lake so that the sand has a layer of pulpy peat over it. This layer begins at a depth of water of about 6 inches and becomes thicker as the water deepens. In three or four feet of water, the pulpy peat is extremely soft, offering little or no foothold for vegetation.

The lake has a maximum depth of 18 feet; the thickness of the pulpy peat bottom is not known.

The water in Dollar Lake is clear; the bottom can be seen at a depth of 10 or more feet. It is soft (methyl orange alkalinity is 46 parts per million) and slightly alkaline (pH 7.5).

Samples of the two major bottom soils were tested for certain available plant nutrients. The results are given below, in parts per million:

Soil	Phosphorus	Potassium	Calcium	Iron
Sand	0.5	5.0	Trace	10
Pulpy peat	0.75	5.0	125	10

This nutrient supply is capable of supporting abundant vegetation. However, plants are very limited in the lake. Scattered bulrushes are found on the sandy margin. White water lilies are common where a thin layer of pulpy peat covers sand. Floating-leaf pondweed (Potamogeton natans) grows to some extent on the soft bottom in 2-3 feet of water. There is a small patch of cattails on the east end and a few yellow water lilies on the west end of the lake. No other plants were observed.

The fish food problem was not investigated but by comparison with similar conditions in other lakes, it seems safe to assume that fish food organisms are few in numbers. The vegetation present is not the type which harbors quantities of food organisms and the bottom is too soft for their support.

According to Mr. DeLano, there are pumpkinseeds, perch, and largemouth bass in the lake. Growth studies have not been made, but large perch are reported. Spawning facilities for the three species seem adequate.

Management Suggestions

The chief factor responsible for the lack of vegetation is the soft bottom. Plant nutrients are not abundant, but should be adequate. Fertilizer applications, in so far as they might effect plant growth, do not seem advisable.

Brush shelters might improve cover conditions but it is doubtful that they could be anchored in the soft bottom.

Mr. DeLano reports that he is in a position to pump the pulpy peat out of the lake. This would be a very interesting undertaking. It would certainly do the lake little or no harm and would undoubtedly result in improved conditions for plant growth, and perhaps for fish food as well as fish.

Tote Road Lake

This lake lies directly west of Dollar Lake. It differs from Dollar Lake in many respects. It is nearly a half a mile long, but rather narrow, occupying perhaps 50 acres. It has a relatively larger shoal area, but no more vegetation. The shoals are marl and deeper parts of the lake have a pulpy peat bottom, with a mixture in the intermediate zone. The maximum depth is 18 feet.

The water in Tote Road Lake is also clear. It is highly alkaline (pH 8.3) and moderately soft (M.O. alkalinity is 90 p.p.m.)

Samples of the three types of bottoms show the following available plant nutrients, expressed in parts per million.

Soil	Phosphorus	Potassium	Calcium	Iron
Marl	0.0	2.5	200+	0
Pulpy peat	2.5	2.5	Trace	Trace
Marl and pulpy peat	0.25	5.0	200+	10

These tests indicate that, except for the marl bottom, the nutrient supply is adequate. Marl bottoms may contain phosphorus and iron but, due to the high alkalinity, these elements are in an unavailable form.

Fertilizer applications, therefore, would be a loss since any phosphorus added would soon be absorbed by the bottom and would be unavailable to the plant.

Plants are relatively scarce in Tote Road Lake. Leatherleaf and Carex lasciocarpa occupy most of the shoreline. There are scattered bulrushes on the marl shoals. The marl and pulpy peat bottom on the drop-off supports yellow water lily and Potamogeton natans. There is some Chara on the shoals and drop-off but dense beds are absent. Potamogeton gramineus var. is present, but the extent of its growth is not known since only one floating plant was observed.

The lake contains pumpkinseeds, perch, and largemouth bass, according to Mr. DeLano. Several bass were seen during the visit. Scale samples sent in by Mr. DeLano, while not adequate for a conclusive growth rate study, do indicate good growth of bass and perch. Two 4-year old bass averaged 10 1/2 inches; four 5-year old bass averaged 11 1/2 inches; a 9-year old perch was 13 3/4 inches.

Management Suggestions

Mr. DeLano reports that Tote Road Lake remains "cold" during the summer. This suggests that the lake might possibly be suitable for trout. At least, an investigation would be worth while, and is necessary before planting can be advised.

Such an investigation should include the preparation of a map showing the outline, contours, and bottom types, and a biological survey giving water temperature, oxygen conditions, other chemical characters, the abundance of fish food organisms, the kinds and abundance of fish, further studies on the growth rate of fish, and the distribution of vegetation.

Following this inventory, more definite plans or suggestions could be made. It is suggested that the installation of brush shelters be delayed until a survey is completed.

The two lakes could be inventoried at the same time. A contour map of Dollar Lake made with a heavy sounding lead would give some idea of the pumping operations necessary to remove the semi-fluid pulpy peat. The surveys should be made during middle or late summer in order to obtain maximum water temperature and oxygen conditions at their worst from the fisheries standpoint in Tote Road Lake.

A survey, such as carried out by the Institute for Fisheries Research, would cost approximately $150.00. This figure includes labor, equipment and materials, and field expenses for the group.

INSTITUTE FOR FISHERIES RESEARCH

By Eugene W. Roelofs

Report approved by: A. S. Hazzard

Report typed by: V. Andres