

COPY

INSTITUTE FOR FISHERIES RESEARCH

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ROUND LAKE

This lake was long known as a good fishing lake and was fished very extensively. In recent years, however, conditions have changed considerably and the lake no longer holds the reputation it once had. Round Lake lies between Torch Lake and Elk Lake in the Elk River chain. It is very much unlike the other two bodies of water. Every effort should be made to restore fishing to its former level in this lake. It should be capable of supporting a much larger fish population, in proportion to its size, than either Elk or Torch lakes. Several factors which will be discussed in this report undoubtedly tend to limit the present fish population.

Previous Surveys Koelz and Van Costen (1923) say of the Lake: "Round Lake is a small body of water connected with both Elk Lake and Torch Lake and conditions therein were noted only in passing between the two. Vegetation is abundant in parts of it at least and fish are so much more common here than in the two large lakes that most of the anglers fish in it by preference. Minnows, including the young of both species of black bass were abundant at the dock at Skegemog Point near the outlet into Elk Lake."

Acknowledgements We are greatly indebted to Mr. Zable of Zable Lodge for the use of a boat and for other valuable assistance rendered by him in connection with our work on the lake.

Location and Size This lake is located where Grand Traverse, Kalkaska, and Antrim counties meet. It has an area of 2561 acres.

Inlets and Outlets Torch River empties into Round Lake on the north side. This river flows from Torch Lake and carries a considerable volume of water. A number of small streams enter the lake on the southeast end. Some of these are trout streams.

Round Lake is directly connected with Elk Lake into which it drains. This connection is about a thousand feet wide and is deep enough to permit boats to pass through.

Pollution From all appearances the water is quite free from indications of pollution. Oxygen is fairly high. Although no special study of the pollution was made, it may be assumed that, so far as fish life is concerned, the water contains no injurious substances. The fish taken appeared to be in good condition.

Use of Water Unlike the other two lakes in the lower end of the Elk River chain this lake has relatively little resort development. Only a very few cottages are found here. Much of the shoreline is unsuited for development but some desirable locations for summer homes are present, especially in sections 13 and 18, Milton Township, Antrim County, and on either side of the Kalkaska-Grand Traverse county line.

The lake is used chiefly for fishing. Resorters from Torch and Elk Lakes often fish here. Boats pass through Round Lake in going between Elk and Torch Lakes.

Temperature The water is warm at all depths. When examined (August 14, 1931) the surface and bottom varied only two degrees Farenheit (72° to 70°). Evidently the lake is suited only to warm water species.

Oxygen Oxygen was found to be fairly high at all depths. It ranged from 7.7 parts per million at the bottom to 8.4 parts per million at the top.

Other Chemical Conditions Round Lake is quite alkaline. The water is relatively soft and no carbon-dioxide was found at any depth. Chemical analysis in the swamp area might give somewhat different results. It appears that the chemical and temperature conditions, so far as we have determined them, are quite favorable for fish of the warm water type.

Depth Generally this lake is quite shallow. The greatest depth found by our party was 29 feet. Almost the entire eastern half of the lake is less than 4 meters deep and no sharp drop-off occurs anywhere. A relatively small area of the lake is over 8 meters in depth. Since weed beds and oxygen occur at all depths, and since no drop-off is found, the entire lake may be regarded as shoal area.

Bottom The bottom for the most part is of sand and clay. In those areas which were submerged by the building of the dam at Elk Rapids the bottom is almost entirely of peat. Some gravel is present along the north shore and some stones are found on the south side near the county line. The bays generally are of peat.

Vegetation Almost the entire bottom is covered with weeds. An abundance of species is present as well as a large amount of vegetation. These extensive weed beds are very desirable and should help the lake support a large fish population.

Natural food Food is abundant. Minnows are plentiful and aquatic insects are quite numerous. Some clams and other mollusks are present. The food present in this lake is capable of supporting a large fish population.

Fertility Round Lake has considerable rich peat bottom along its margin. Torch Lake carries in some fertility. The abundance of weed beds is an indication of the fact that this lake is quite fertile.

Spawning grounds Some gravel is present along the north shore and a small amount is found on the south side at the county line. The gravel is sufficient to provide nesting sites for a relatively large number of nest building fishes.

Species of Fish Game Fish. In a survey made in 1891 (July 23 to 25)
Present grass pike, bluegills, sunfish, rock bass, and perch
 were taken. Our party took northern pike, perch,
small-mouth bass, large-mouth bass, pumpkinseed sunfish, and rock bass.
Small-mouth bass, perch, and rock bass appear to be most abundant. Our
net sets and seine hauls, however, indicated that food fishes in general are
not nearly so abundant as one would expect them to be in this lake.

Coarse Fish. Common suckers were taken by our party and also
in 1891 investigations. No other coarse fish were taken by either party.
The suckers are present in some numbers but are not abundant.

Obnoxious Fish. Unfortunately this lake contains quite a few
long-nosed gars. A number of them were seen by our party. This species
was not found by the 1891 party.

Forage Fish. Forage fish are rather abundant. Blunt-nosed minnows
were taken in rather large numbers. Rosy-fronted minnows and common
shiners are common. Straw-colored minnows, log perch, and Johnny
darters are also present.

Predators Kingfishers are quite numerous on Torch River and in
 the swampy margins of Round Lake. Other fish-eating
birds were not seen. The amount of damage done here by the birds cannot
be definitely determined but they can hardly be credited with the change in
fishing which has come about in recent years.

The gar pike is far more destructive and objectionable than the kingfishers can possibly be. This fish is present in considerable numbers and undoubtedly presents a serious problem. We cannot say that this species is entirely responsible for the rapid decline in the number of food fish, but it has evidently played an important part in the affair.

Aside from the two predators mentioned above the lake appears to have no fish-eating birds or obnoxious fishes.

Cover The abundance of vegetation, together with the numerous snags and stumps which are present in the submerged areas, provide excellent cover for the fish. Snags should not be removed from the shoal area.

Water Level The dam at Elk Rapids has raised the water level and submerged some land which formerly adjoined the lake. This is true especially of the swamp land on the southwest end of the lake and the land near the Torch River outlet. The water level now is virtually constant.

Laws and Regulations This lake has no special designation. This is consistent with the fact that bass, perch, and rock bass are the predominating species present.

RECOMMENDATIONS

Our examination of this lake reveals that relatively few changes need to be made to improve this lake, but of these, two are quite important.

Evidently natural production has not kept up with the removal of fish and heavy stocking is necessary. Also, the gar pike need to be reduced in number.

Stocking

Extensive fishing and predators have evidently been responsible for the marked depletion in fish population. Many people are of the opinion that spearing with jack lights (now prohibited) in the past, in Torch River and elsewhere, has been detrimental to this lake. At any rate, fish should be much more abundant than they are now.

In view of the fact that cover, food, and vegetation are plentiful, and because this lake has not been stocked to any great extent in the past, we recommend stocking with what may appear to be an excessive number of fish but which, in reality, is a very conservative estimate, considering the acreage of suitable fish habitat.

Stocking of 25,000 large-mouth bass fingerlings and an equal number of small-mouth bass fingerlings, and 15,000 each of bluegill and perch fingerlings is here recommended. This total of 80,000 fingerlings averages less than 32 per acre.

The lake is too warm for the cold water fishes, and any planting of such fishes would be wasted effort.

Rearing Ponds

The large number of fingerling fish needed for this and other lakes of the region leads one to conclude that the construction of rearing ponds somewhere near these lakes would be highly desirable.

Predator Control Several factors help make this problem a serious one.

Some of the creeks flowing into this lake through the swamp at the southeast end are trout streams. These were not examined by our party and their importance as trout streams is not known by the writer. We suspect, however, that the gar can, and very likely do, pass up these streams for some distance, and take some toll of the fish present. Barriers cannot be placed in the creeks for some distance above their mouths because of the submerged conditions of the region, but they could probably be placed just above the swamp. These streams should be carefully examined, to determine if it would not be desirable to put in some sort of a barrier to keep the lake fishes out of the stream, and to retard the trout from dropping down into the lake in the spring.

The removal of the gar from Round Lake, or the reducing of their numbers, presents a problem that is both difficult and important. Spearing parties, organized by conservation officials in some other parts of the state have proved quite successful. However, because of the abundance of snags along much of the margin of this lake, night spearing with jack-lights would be extremely difficult in these parts of the lake where the gar are apt to be most concentrated. Such parties, if conducted in the winter, might prove fairly successful. Netting for the gar would need be done very carefully to avoid taking too many desirable fish. Nets cannot be set in some parts of the lake because of the abundance of snags.

Spearing for gar provides considerable sport and local individuals or sporting organizations should find occasional spearing parties quite

entertaining as well as beneficial. Such parties, except in seasons when spearing is permitted on our inland lakes, would of course be under the immediate direction of a conservation official.

Increase of gravel for spawning, and increase of food, cover, and vegetation are not considered to be needed.

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