

INSTITUTE FOR FISHERIES RESEARCH

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FISH DIVISION

CLAM LAKE

This long narrow body of water is quite different from the lake just above it and the one below it in the chain. It is a productive lake and provides fishing for many resorters living on Torch Lake near by.

Previous Investigations Bollman in 1888 made efforts to determine the kind of fish in this lake. Other than giving the species present and their abundance, he has very little to say about the lake in general. He states that "its waters are dark and its fauna is more southern in character than that of Torch Lake". A report on the species present in 1891 was also made.

We know of no other surveys made of Clam Lake previous to our investigations in the summer of 1931.

Location and Size Clam Lake lies between Lake Bellaire and Torch Lake. It forms the boundary line between Helena and Forest Home Townships. This lake has an area of 427 acres. It has a length of about 3 1/2 miles and an average width of about 0.2 mile.

Inlets and Outlets Clam Lake has two inlets at its southeast end. One of these, Grass River, is fairly large. It drains Bellaire Lake and the Intermediate chain of lakes. Finch Creek, entering at the extreme southeast end of the lake, is a trout stream. This creek rises in the northern part of Kalkaska County.

The outlet, Clam River, empties into Torch Lake. This river is very short, only a few hundred yards long. Boats can pass through both Clam and Grass Rivers.

Pollution Clam Lake appears to be quite clean and no pollution which would be injurious to fish life was observed.

Use of Water Fishing is fairly extensive. Many resorters living on Torch Lake fish here. A dozen or more summer homes are found along Clam Lake, chiefly along the south shore. A boat and motor repair shop is found near the outlet. A general store and post office is located at the mouth of Clam River, a very short distance from Clam Lake.

Some ice is cut here in winter for summer use.

Temperature No stratification of the water occurs. When examined (Aug. 25th, 1931, Air temperature 76 degrees) the surface water was 72 degrees and the bottom temperature 70 degrees. Evidently the water is not suited for cold water fishes. Water entering this lake through Grass River is warm, since it is mostly surface water from Lake Bellaire. Finch Creek is a trout stream and its water is undoubtedly fairly cold, but it is too small to have any very noticeable effect on the temperature of Clam Lake.

Oxygen Oxygen is high. Over 8 parts per million were found at both top and bottom.

Other Chemical Conditions Clam Lake is quite alkaline and is about medium in hardness. No carbon-dioxide was found at any depth. Chemical analyses, to the extent that they have been determined by our party, indicate that conditions (chemically) are well fitted for fish life.

Depth This lake is relatively shallow. It has an average depth of about 20 feet and a maximum depth of 29 feet was found. It is quite similar

to Round Lake in depth. Both lakes are shallower in their upper half and deepest in the half nearest the outlet. The maximum depth found in both is the same.

Bottom The bottom below the dropoff is of clay. In places it is mixed with a little marl. The shoal areas generally are of marl. Sand occurs in three locations, two on the north side and one on the south. Some gravel is present on the north side about a half mile above the outlet. The two bays near the inlet, and a part of the south shore in the marshy region near the east end, have a wide margin of peat. The marl is mixed with a considerable amount of fertile substance making good weed beds possible.

Vegetation Weed beds are extensive here. Some vegetation occurs over most of the lake bottom. The weed beds, both above and below the dropoff are a decided asset to the lake. Aquatic vegetation tends to increase protection and food for the fishes, and, unless decay is extensive, it tends to increase the oxygen supply at times of year when this increase is most needed.

Natural Food Food is plentiful. Insects, minnows and clams are abundant. The food of this lake should support a fairly large fish population.

Fertility Although no detailed study of the basic fertility was made, one may safely assume that this is a relatively rich lake. The abundance of vegetation and food leaves no doubt in one's mind regarding this matter. This is a fortunate condition not only for the lake itself but for Torch Lake as well since the water passes from the lake almost directly into Torch Lake.

Spawning
Grounds Some gravel is present along part of the north shore. Since this lake was investigated in late summer, long after the fish had left their nests, we do not know to what extent this gravel is being utilized. It is not nearly so extensive in this lake as it is in the three lakes

in the chain below Clam Lake.

Species of Fish Present.

Game Fish This lake contains only warm water species. None of the cold water fishes such as lake trout, whitefish and cisco were found here. Finch Creek, an inlet, is a trout stream but evidently the trout are not found in the lake, at least during the summer months.

Bollman (1888) reported the following species for Clam Lake: Northern pike common, perch, large-mouth bass and bluegills abundant, and rockbass common. Grass pike, rock bass, perch and bluegills were reported in 1891.

Out net sets and seine hauls (1931) indicated that northern pike are common, large-mouth bass and perch are fairly abundant, bluegills are quite common, and rockbass and pumpkinseed sunfish are fairly abundant. Small-mouth bass and long-eared sunfish are present in limited numbers. An occasional muskellunge is taken. The northern pike netted by our party were of legal size but were not large. Bluegills reach a fair size but are not so abundant as they were years ago. In general fishing is still fair in this lake but it has declined considerably in recent years.

Coarse Fish No coarse fish were reported by Bollman in 1888. Bullheads were reported in 1891. A few brown bullheads and a few suckers were taken by our party. Both are present in fairly limited numbers.

Obnoxious Fish Long-nosed gar are found in the lake but are evidently not abundant. Only one small one was taken by our party. Other obnoxious species were not found here. None were reported by local residents.

Forage Fish Bollman reported the following species: horned dace common, Johnny darters common, Iowa darters present, blunt-nosed minnows abundant, spot-tailed minnows present but rare. Our seining indicates the following:

blunt-nosed minnows abundant, log perch, Johnny darters and straw-colored minnows common, black-nosed shiners, common shiners, Menona killifish, Iowa darters and muddlers present.

Forage fish are relatively abundant.

Predators A few kingfishers were seen by our party. A limited number of long-nosed gar are present. Predators are not abundant and presumably have very little effect on the fish population. Predators other than the ones mentioned above were not seen.

Cover The weed beds provide considerable protection for the young fish. A few deadheads and snags are also present. The cover in this lake is fairly satisfactory.

Water Level Water level is quite constant. The chief inlet, Grass River, maintains a fairly even flow of water and the other inlet, Finch Creek, is too small to change the level of the lake to any noticeable extent. A constant level is desirable.

Laws and Regulations Although a considerable number of pike are present, bass, perch, sunfish, bluegills and rockbass predominate. This lake is at present designated as a pike lake.

RECOMMENDATIONS

In a lake such as this, provided with an abundance of cover, vegetation and food, and having some gravel present, we can suggest only a very few further improvements. Fishing is not quite as good as it should be, in view of the many desirable characteristics of the lake. An analysis of the situation seems to point to overfishing, together with under-stocking as being the chief reason for the

decrease in recent years.

Stocking Fairly heavy stocking of the water is needed. 5000 each of large-mouth bass, bluegills, and perch should be planted. This represents an average of about 35 fish of all species per acre. Since the entire lake is relatively shallow, and is productive, this figure does not seem at all excessive.

Rearing Since this lake and other lakes in the region call for a large annual stocking with fish, the construction of some rearing ponds
Ponds somewhere in the vicinity is highly desirable.

Predator Predatory fish and birds are very few, and special efforts to
Control control their numbers need not be made. Should the gar become abundant, spearing parties could to advantage be organized to reduce their numbers.

It has been rumored that from time to time someone has been setting nets in this lake near the east end. These lakes will not stand up under continual netting.

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