

July 23, 1932

Report 162

SURVEY OF LONG LAKE, MASON COUNTY,
WITH RECOMMENDATIONS FOR IMPROVING THE FISHING

- Size and location This lake, as its name indicates, is long and narrow. It has a maximum length of a little less than 1-1/3 miles and a maximum width of less than 1/4 mile. It is located one mile east and 1/4 mile north of Walhalla. The area is 114 acres. (Sec. 10 and 15, T 18 N, R 15 W, Branch Twp.)
- Inlets and outlets The only inlet is a trout stream. It rises three or four miles east of the lake and enters on the east side. The outlet from Emerson Lake, near Long Lake, enters the inlet a short distance before it reaches Long Lake. The outlet is near the north end. It flows to the west, and enters Waldon Creek which flows into the Pere Marquette River from the north.
- Water The water is clear and clean. No evidence of pollution was seen. Fish taken from the lake appear to be in good condition.
- Use of water There is some resort development, chiefly on the west side of the lake. Boats can be obtained here and some cottages can be rented. The Chicago Junior Boys' Camp has a number of cottages on the southwest end.
- Temperature The surface water was fairly cold when examined. Temperatures in the upper 13 feet were found to vary little (66 degrees at surface

and 64 degrees at 13 ft.). All water below 13 feet was found to be 55 degrees or less. The bottom temperature is 43 degrees. A large part of the lake is suitable only for cold water species.

Oxygen Oxygen is fairly high in the warm upper layer. Considerable is also present in the lower cold water area. A small amount was found at the bottom (about 53 feet).

Other A limited amount of carbon dioxide was present in the cold water
chemical area. None occurred at the surface. The water is moderate in
conditions hardness and clearness. It is quite alkaline at the surface and
almost neutral at the bottom.

Depth The dropoff is quite near the edge but, since the margin is quite
long in proportion to the area, a considerable proportion of the
lake is shoal area. The depth contours, in general, line up with
the shore. A long narrow area has a depth of over 30 feet. The deepest part of
the lake is evidently toward the south end. The maximum depth found is (about
60 feet) located directly in front of the Chicago Junior Boys' Camp about midway
between the east and west shores.

Bottom A narrow margin of sand extends along the shore. The bottom
between this sand and the dropoff is marl. Bottom beyond the
dropoff is pulpy peat.

Vegetation Vegetation is fairly abundant on the shoal and slope. Pondweeds are plentiful near the inlet and at the north end. In general pondweeds predominate on the shoal and muskgrass is dominant on the slope. There is no vegetation in the deeper water.

Natural Food Minnows are not very abundant on the shoal but many were seen beyond the shelf. Crayfish, aquatic insects, and clams are quite common. Food is moderately abundant.

Productivity The lake is fairly productive. The bottom below the shelf is of rich pulpy peat. Considerable food and vegetation is also present on the sand and marl bottomed shelf.

Spawning grounds Very few spawning beds were seen. The shelf is quite narrow and has a fairly soft bottom in many places. No gravel was found in the lake.

Species of fish present

Game fish Nets and seines indicate that fish are only moderately abundant in this lake. Perch are fairly common. Local residents state that there are several kinds of perch present, and that they can differentiate very easily between the local yellow perch and the Lake Michigan perch which have been planted in Long Lake in the past. Local perch are reported to remain small while the Lake Michigan perch reach a larger size. We do not yet have enough evidence on the perch problem to confirm or deny this opinion.

Largemouth and smallmouth bass are common but do not appear to be especially abundant. Northern pike, sunfish, bluegills, rock bass, and calico bass were also taken.

Cisco have been reported but a number of persons who know the lake more or less intimately state that they have never seen cisco in the lake and question the presence of the species. We obtained none.

Coarse fish Common suckers and brown bullheads are present. Many suckers are also seen in the inlet and the outlet. Bullheads do not appear to be abundant.

Obnoxious fish No undesirable predatory species were seen or reported.

Forage fish The blunt-nosed minnow was not found here. Other species are present.

Cover There is very little protection except that provided by vegetation. During the winter almost no cover is available for the young fish.

Predators The lake apparently contains very few undesirable predators.

Laws and Long Lake is listed as a pike lake. Pike predominate.

Regulations

Acknowledgments Boats and valuable assistance were provided by Mr. Phelan who owns the boat livery on the west side of the lake.

Recommendations

1. Stocking This is listed as a pike lake. Should shelter be provided, however, stocking with bass and bluegills, in our opinion, would help build up the fishing. Stocking with 500 each of largemouth and small-mouth bass, 1,000 bluegills, and 1,000 perch--all fingerlings, appears desirable.

A fairly large portion of the lake is suitable for cold water fishes. This is not utilized to any extent now. A trout stream enters the lake and another trout stream flows from the lake. Both of these are trout streams. For this reason stocking the lake with rainbow or brown trout is considered not desirable. Experimental planting of 500 lake trout fingerlings or 5000 fry each year for 3 years is recommended.

2. Brush shelters Brush shelters are very desirable, for the encouragement of bass and bluegills. Shelters are especially desirable in this lake because of the number of northern pike present. The construction of 30 shelters similar to the one shown in the general report is recommended. These should be placed near the dropoff, half on the shoal and half hung over the slope. The latter should be hung so that one end is in at least 20 feet of water. The shelters should be placed all around the lake at intervals of about 500 feet.

3. Food increase The desirable blunt-nosed minnow was not found here. Stocking with 2000 of these minnows is recommended. If planted, slab devices will be needed to encourage their spawning. The construction of 10 slab arrangements is recommended. When, and if, the minnows become well established as a result of the plant, 30 additional devices could be

used to advantage.

4. Vegetation and Considered unnecessary.

Fertility

Increase

5. Spawning bed The bottom is fairly soft around most of the lake. Con
Improvement struction of 50 spawning boxes is recommended. These
should be placed in water from 2 to 5 feet deep and should
be placed some distance apart.

6. Water Level Water level appears to remain quite normal. Efforts to
increase the level or to keep it constant need not be made.

It appears desirable, however, since northern pike are quite common in the lake, and since the connecting streams are trout streams, to construct a brush screen near the lake, in both inlet and outlet to prevent the pike from entering the streams. The brush should be placed in the streams in such a manner that it will permit the water to pass through but will not permit the passage of the pike.

7. Predator Control Few predators were seen here. Control now appears
unnecessary.