

Lake Mary, Bois Blanc Island
Mackinac County, T39N R01W, Sec. 3

Neal Godby, Fisheries Biologist

Environment

Lake Mary is a 120-acre natural lake located in the northeast corner of Bois Blanc Island. Bois Blanc Island is a 34 square mile island located in northern Lake Huron, east of St. Ignace and Mackinaw City (Figure 1). It is located to the southeast of Mackinac Island. The island is reached via a privately-owned car ferry operating out of Cheboygan, Michigan.

Lake Mary is a fairly shallow lake, with most of the lake 2-3 feet deep, with some 5-6 foot holes on the west side of the lake. The deepest part of the lake is 6-10 feet in depth in the center of the lake and along some of the east shoreline.

A township park is located on the north-central shore of the lake (Figure 2). The park includes an unimproved ramp for launching boats, as well as a fishing pier. A road ending less than half a mile to the east of the township park also allows for launching small boats.

The surficial geology of much of Bois Blanc Island, including the area surrounding Lake Mary, consists of lacustrine sand and gravel. The middle part of the island consists of thin to discontinuous glacial till over bedrock. Till is unstratified, unsorted glacial deposits of clay, sand, boulders, and gravel; till has moderate permeability and the thin glacial till allows for limited groundwater interaction. Much of the island is forested, with very little development.

The State of Michigan owns approximately 41% of the shoreline of Lake Mary. Primary cover types of the surrounding area are paper birch and lowland brush.

History

Previous fisheries management on Lake Mary is limited to a hook and line survey conducted in 1995. According to that survey write-up, "the (DNR Fisheries Division) District 5 crew fished Lake Mary for 1 ½ hours and caught 30 yellow perch. Also caught 10 rock bass and when aged the perch were above state average while the rock bass were just under."

"Fishing pressure was moderate and it seemed like the fish populations were abundant. Due to (a) short day on lake, crew isn't sure of what other species are in the lake. Lake was generally quite shallow, observer did not note water exceeding 6 to 7 feet in depth" (Fisheries Division files).

Growth data show that the mean growth index for yellow perch during that survey was +0.1, meaning that on average the yellow perch were 0.1 inches longer than the state average length at age for that species. Three age classes of yellow perch were captured (age-1, -2, and -3). The mean growth index for rock bass for the 1995 survey was -0.6, indicating slower growth. Only two year classes (age-5 and -6) of rock bass were captured.

The state owned the land where the township park is currently located until about 2006, when ownership was transferred to the township. A fishing pier had been located at that location when it was under state ownership, but was removed in 2001 due to concerns about liability, maintenance, and safety. The township built the current pier when it gained ownership.

Current Status

Lake Mary was surveyed July 9-11, 2012, by personnel from the Northern Lake Huron Management Unit. Survey effort consisted of six large mesh fyke net lifts, two mini-fyke net lifts, and four inland gill net lifts. A total of 785 fish were collected, representing five species (Table 1). Rock bass were the most abundant species, followed by brown bullhead, yellow perch, smallmouth bass, and pumpkinseed. Three snapping turtles were also collected during the survey. Game fish species were all growing at approximately state average growth rates (Table 1).

Rock bass had a good distribution of sizes in the catch, with fish up to 10 inches in length observed (Table 2). Rock bass up to age-11 were captured. Although less abundant than rock bass, pumpkinseed sunfish, smallmouth bass, and yellow perch were also fairly well distributed among the size groups. Reproduction appears to be consistent, with most year classes represented among the fish species - pumpkinseed had ages 2-6, rock bass ages 1-11, smallmouth bass ages 1-8, and yellow perch ages 1-10. Yellow perch appeared to be most susceptible to year class failures, as ages 3, 6, 7, 8, and 9 were absent in the catch.

Lake Mary appears to get moderate fishing pressure, based on angler reports and our observations during the survey. The fishing pier at the Township Park, in particular, seemed to get a lot of fishing use by children.

Analysis and Discussion

Lake Mary has a good panfish population, comprised of rock bass, pumpkinseed sunfish, and yellow perch. Yellow perch, although not abundant, were present in the catch up to 14 inches in length. Rock bass were present up to 10 inches in length, but numbers of fish 8 inches and larger were reduced. This indicates that angler harvest may be cropping off larger individuals.

Smallmouth bass were the only predator game fish captured during the survey. Although not overly abundant, the size distribution of the catch was adequate, with fish up to 16 inches present. The fact that all species are growing at about the statewide average indicates a fairly good balance between predators and prey.

Due to the shallow nature of the lake, one would expect that it may be prone to periodic winter kills. Fairly consistent year classes of most species, however, suggest that any winterkills would likely be only partial kills.

Lake Mary is a good place to take kids or others who are new to the sport to fish. Good numbers of panfish can provide high catch rates, and the lake can be fished either from a boat or from the fishing pier at the township park. Due to its remote island location, Lake Mary isn't a destination fishery, but provides good opportunity for island residents and visitors.

Management Direction

1. Maintain current general regulations for Lake Mary. The statewide regulations are appropriate for this waterbody

References

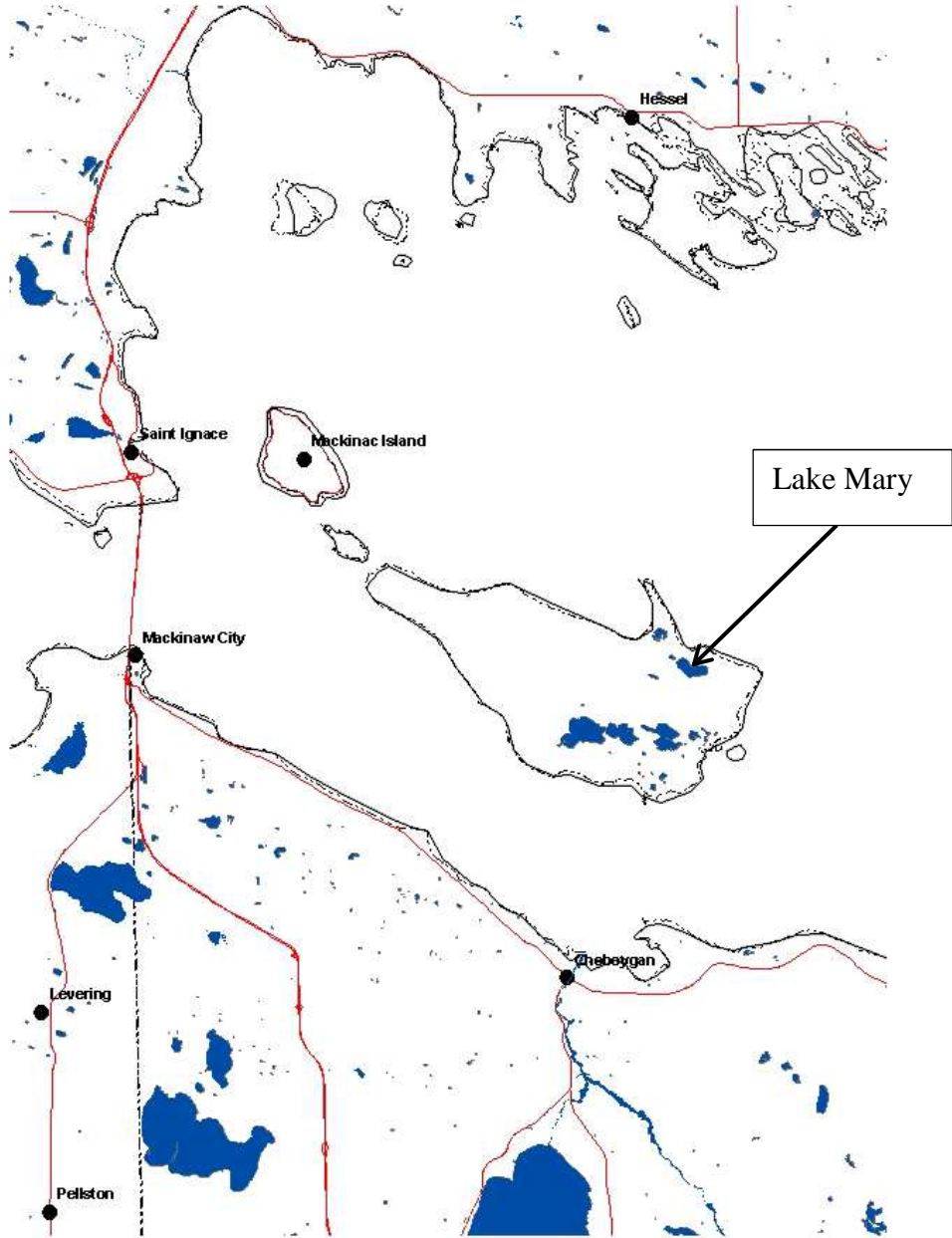


Figure 1. Map of Bois Blanc Island, showing location of Lake Mary.

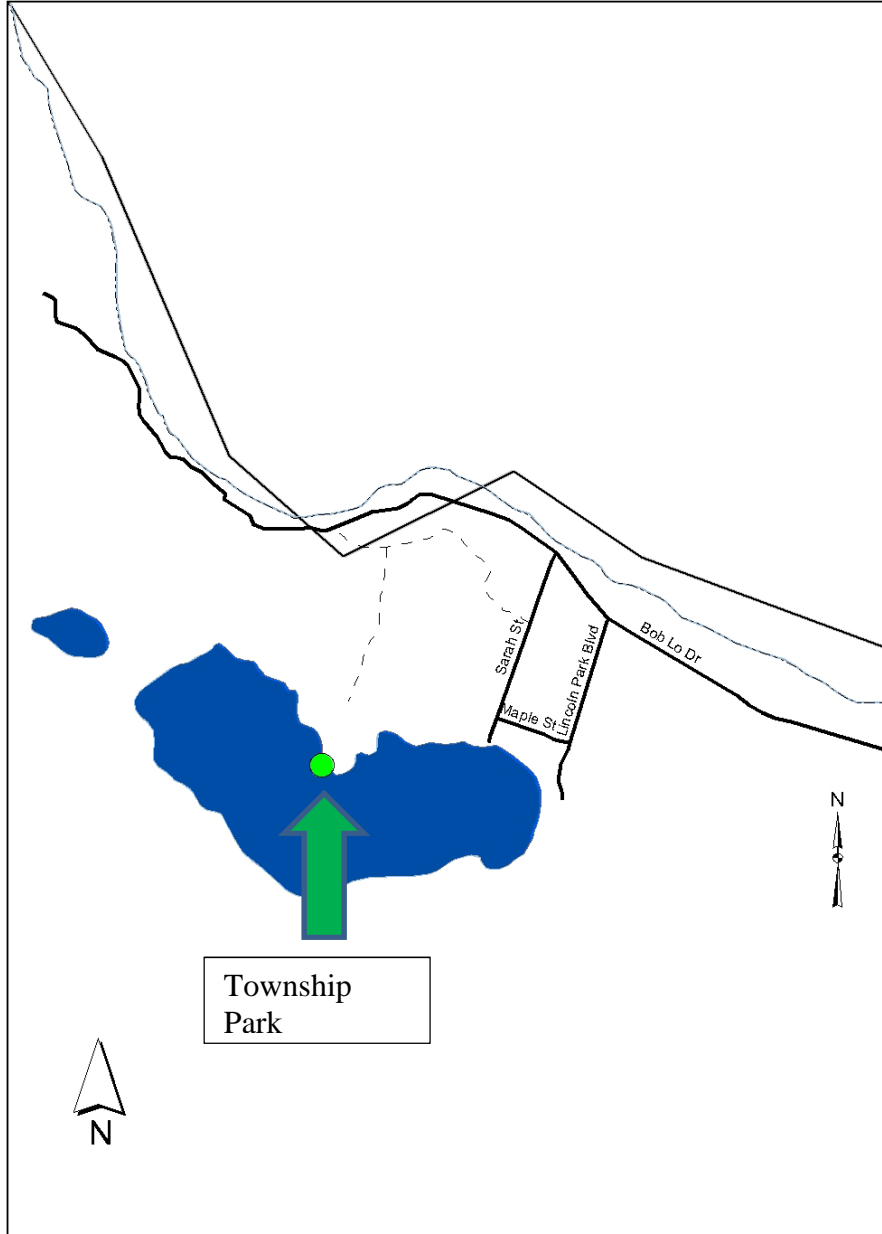


Figure 2. Location of Township Park on Lake Mary, Bois Blanc Island.

Table 1. Species, number, percent by number, percent by weight, length range, and growth rate of fish captured during the July 9-11, 2012, survey of Lake Mary, Bois Blanc Island. *Growth rate is a comparison of observed lengths at age to statewide averages.

| Species | Number | Percent by number | Percent by weight | Length range | Growth rate* |
|---------------------|---------------|--------------------------|--------------------------|---------------------|---------------------|
| Brown bullhead | 124 | 15.7 | 27.2 | 6-13 | -- |
| Pumpkinseed sunfish | 24 | 3.0 | 1.5 | 3-8 | +0.1 |
| Rock bass | 579 | 73.5 | 64 | 2-10 | 0 |
| Smallmouth bass | 27 | 3.4 | 5.1 | 4-16 | -0.3 |
| Yellow perch | 31 | 3.9 | 2.1 | 3-14 | -0.1 |

Table 2. Length-frequency of game fish collected in Lake Mary (Bois Blanc Island) during the July 9-11, 2012, survey.

| Inch Group | Pumpkinseed sunfish | Rock bass | Smallmouth Bass | Yellow perch |
|-------------------|----------------------------|------------------|------------------------|---------------------|
| 1 | | | | |
| 2 | | 43 | | |
| 3 | 1 | 4 | | 16 |
| 4 | 16 | 33 | 9 | 8 |
| 5 | 3 | 77 | 2 | 1 |
| 6 | | 149 | 1 | 1 |
| 7 | 2 | 201 | | 1 |
| 8 | 2 | 52 | 3 | |
| 9 | | 15 | 6 | |
| 10 | | 5 | 2 | 2 |
| 11 | | | 1 | 1 |
| 12 | | | 1 | 1 |
| 13 | | | | |
| 14 | | | | 1 |
| 15 | | | 1 | |
| 16 | | | 1 | |