Twin Lakes (Bois Blanc Island)
Mackinac County, T39N, R01W
Last surveyed 2012

Neal Godby, Fisheries Biologist

Environment

Twin Lakes are a pair of natural lakes totaling 680 acres in size, located in the southcentral portion of Bois Blanc Island (Figure 1). Bois Blanc Island is a 34 square mile island located in northern Lake Huron, east of St. Ignace and Mackinaw City. It is located southeast of Mackinac Island. The island is reached via a privately-owned car ferry operating out of Cheboygan, Michigan. There is one inlet to Twin Lakes, Twin Lakes Creek, which flows into the northwest side of the east basin. The outlet of Twin Lakes is Sucker Creek, which flows out of the southwest corner of the lake. Both the inlet and outlet are intermittent streams. Access to Twin Lake is via an unimproved road-ending located on the east side of the east basin (Figure 2).

The surficial geology of much of Bois Blanc Island, including the area surrounding most of Twin Lakes, consists of lacustrine sand and gravel. The middle part of the island, including the northern shore of Twin Lakes, 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 over bedrock allows for limited groundwater interaction. Much of the island is forested, with very little development.

Twin Lakes has two primary basins, or lakes. The east basin, also known as Duncan Lake, is closest to the access point and is very shallow (less than 2' deep). The deepest portion of the east basin is along the south shore, where there is an area of approximately 4 feet in depth. The substrate in the east basin is deep silt (muck). Vegetation in the east basin consisted primarily of sparse bulrushes.

The west basin, also known as Echo Lake, is deeper, with most of the center of the basin and the southcentral shoreline having depths of 5 to 6 feet. The deepest portion of the lake is in the narrows, or channel connecting the two basins. In this area, depths are 10 to 11 feet. The substrate in the west basin is rocks/cobble covered with a thin layer of silt. Vegetation in the west basin consisted primarily of sparse potamogeton.

The State of Michigan owns approximately 75% of the shoreline of Twin Lake. Most of this land is bog or lowland brush, with an area of northern white cedar along the south shore. There is also a stand of northern hardwoods along the eastern shore.

History

Twin Lake has not been surveyed previously according to Fisheries Division records.

Current Status

A general survey of Twin Lakes was conducted by Northern Lake Huron Management Unit staff July 9-12, 2012. Effort in this discretionary survey consisted of twelve large-mesh fyke net lifts, three

mini-fyke net lifts, and four inland gillnet lifts. A total of 572 fish were collected, representing eleven species of fish (Table 1) from six families (Centrarchidae - minnows; Amiidae - bowfins; Ictaluridae - bullhead catfishes; Centrarchidae - sunfishes; Esocidae - pikes; and Percidae - perches). Additionally, painted turtles (34) and snapping turtles (1) were encountered during the survey.

The most abundant game fish species in Twin Lake was pumpkinseed sunfish, which ranged from 2-9 inches in total length (Table 2). Panfish overall were abundant, also including rock bass and yellow perch, with size ranges similar to that of pumpkinseed sunfish (Table 2). There appears to be consistent recruitment of most panfish species, with a variety of age-classes present for each species: nine age-classes (3-11) of pumpkinseed sunfish; and eight age-classes (1-8) of rock bass. Yellow perch recruitment was consistent with five age-classes (1-5) represented, but no fish older than age-5 present in the catch.

Predator game fish species included largemouth bass, northern pike, smallmouth bass, and walleye. Smallmouth bass were a minor component of the predatory fish community, with only 3 individuals captured. Recruitment of northern pike appears consistent, with all age-classes present from age-2 to age-6, and fish up to 26 inches in length. Largemouth bass recruitment is more sporadic, with only 4 age-classes present in the catch from age-0 to age-6, up to 18 inches in length. Only one age class (age-1) of smallmouth bass was captured. Three age-classes of walleye (3, 4, and 8) were represented in the catch, perhaps indicative of sporadic natural reproduction of walleye originating from the illegal stocking of this species. Walleye up to 24 inches in length were captured.

Growth rates of all fish species were either in the acceptable range or above average. The mean growth index compares lengths at age of the catch to statewide mean lengths at age. The mean growth indexes for northern pike (-0.4) and yellow perch (-0.3) indicate somewhat slower growth, but both are still in the acceptable growth range. Mean growth indexes for pumpkinseed sunfish (+1.2), rock bass (+0.8), and walleye (+4) indicate that these species are growing well in Twin Lakes, and are larger than the statewide average for those species at a given age. On average, the walleye in Twin Lakes are 4 inches longer than the statewide average length at age!

Water chemistry analyses were not done for this survey.

Analysis and Discussion

Twin Lakes has a diverse fish community, with a number of game fish species present. Most species were low to moderate in overall abundance, but diversity of the catch and the good size of some of the fish are important in this waterbody. Although much of the lake is shallow, particularly the east basin, there is enough deeper water to allow overwinter survival.

Unfortunately, the better fishing water (west basin) is difficult to access by boat because of the very shallow east basin. We did, however, observe several people fishing the lakes. These anglers were primarily in canoes or small boats with trolling motors that can get through the shallow water in the east basin. There are also several homes and cottages along the shore which provide access for the homeowners.

The large brown bullhead in the catch were of special note. Bullhead up to 16 inches were present, with approximately 89% of those fish 12 inches or longer. Many (approximately 58%) of the bullhead

captured would qualify for a Master Angler award, which requires a minimum entry length of 14 inches.

A parasite called black spot, or black grub, was noted on the yellow perch. Black spot is caused by a parasite burrowing into the skin, which causes a black cyst to form. Cooking kills the parasite, so the fish are safe to eat.

As mentioned above, walleye growth in Twin Lakes was outstanding. On average, walleye in the catch were four inches larger than the statewide average length at age! The DNR has no records of walleye being stocked in this lake, so the walleye are likely from illegal stocking of the fish by private individuals. The exceptional growth rates of the walleye are likely due to their relatively low abundance.

Twin Lakes provide an opportunity for a unique fishing experience. The west basin is somewhat difficult to access, but anglers can be rewarded with a diverse catch and some quality-sized fish. Access is limited to canoes or shallow-draft boats with trolling motors due to the shallow nature of the east basin. Due to its remote island location and relatively difficult access, Twin Lakes isn't a destination fishery, but can provide good opportunity for island residents and visitors looking for a unique angling experience.

Management Direction

1. Maintain current general fishing regulations for Twin Lakes. The statewide regulations are appropriate for this waterbody.
2. Periodically (every 3-5 years) stock 1,500 to 3,000 spring fingerling walleye (about 2 to 4 per acre). This low-level stocking rate and periodicity can help maintain this component of the fishery at a fairly low investment. Assistance from island residents will be sought for transportation of the fish to the island.

References

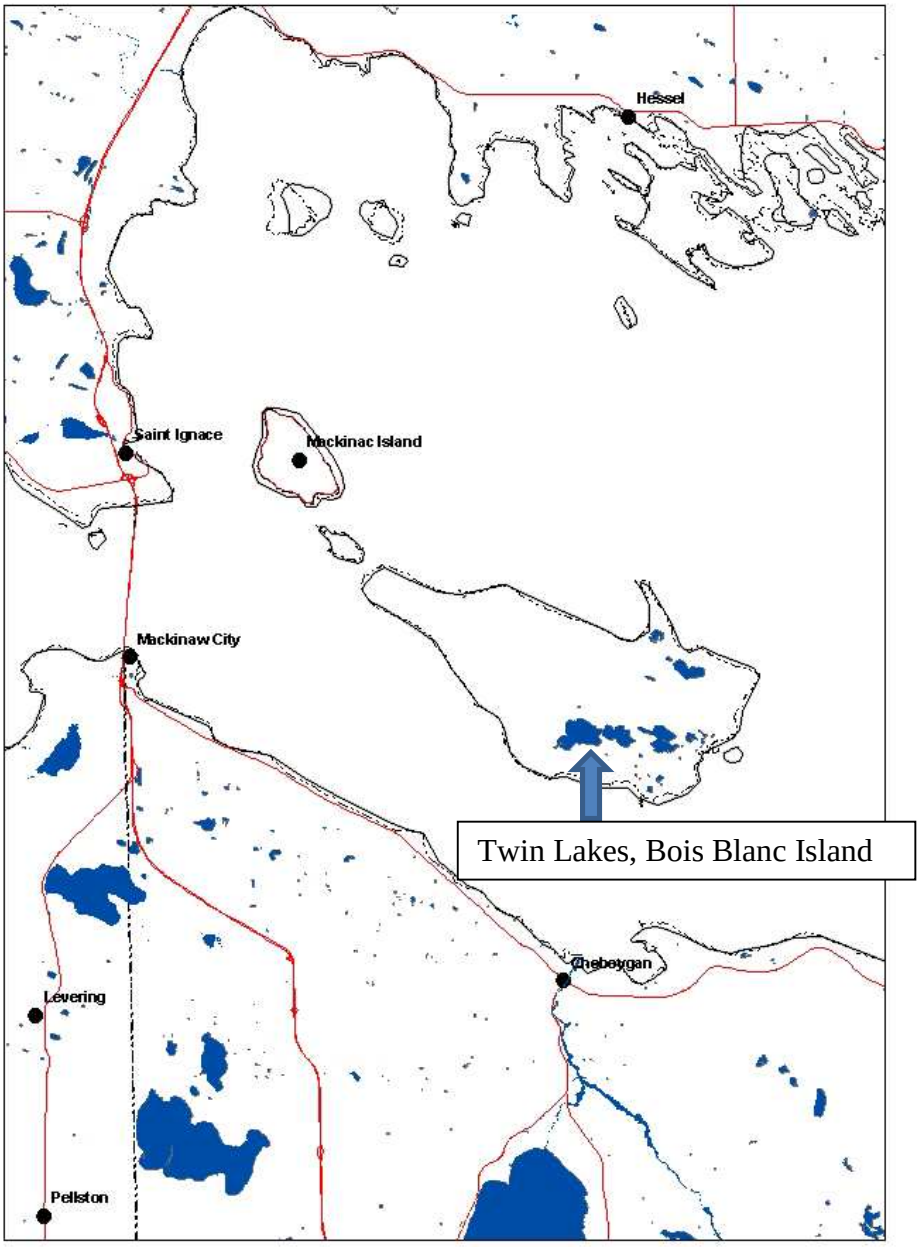

Figure 1. Location of Twin Lakes (Bois Blanc Island), Mackinac County, Michigan.

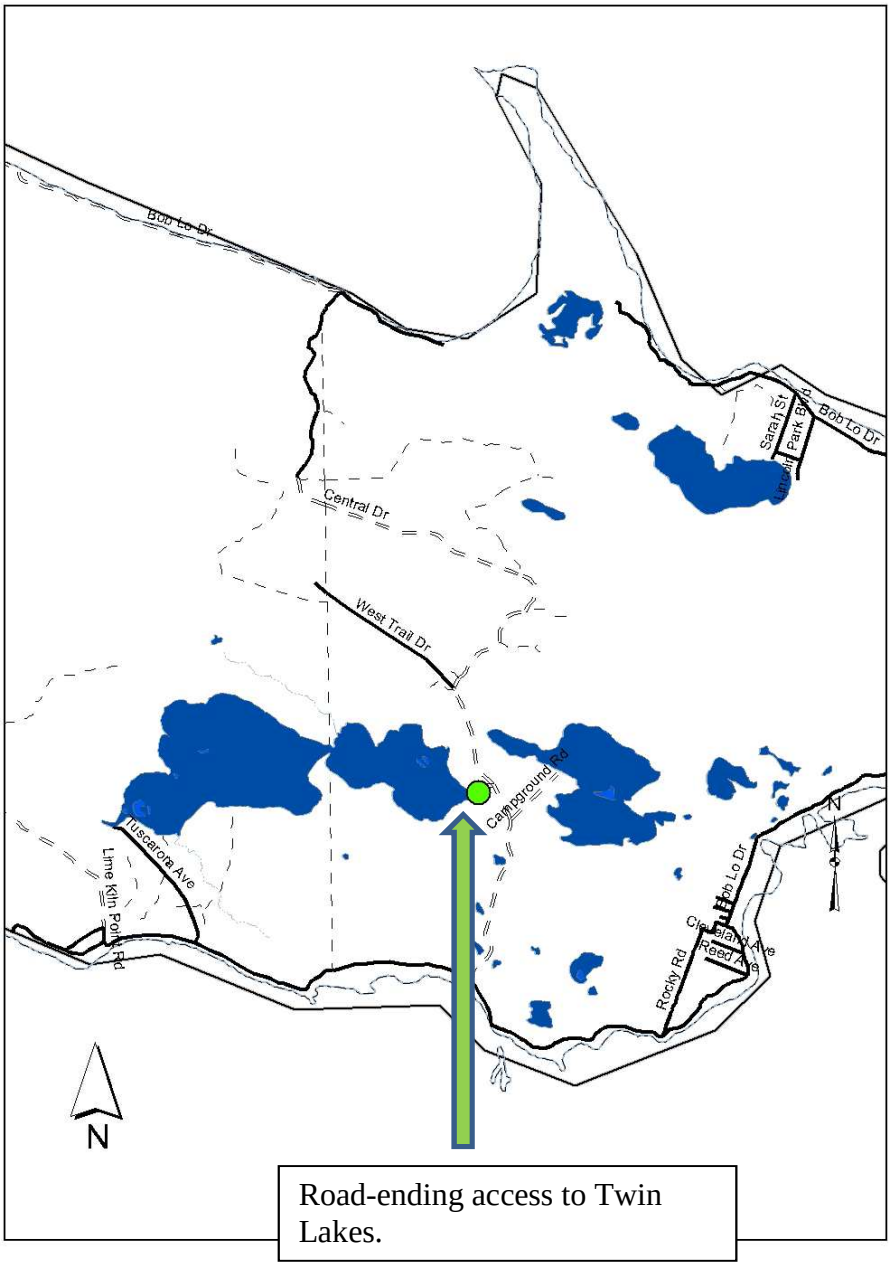

Figure 2. Location of road-ending access on Twin Lakes, Bois Blanc Island.

Table 1. Species, percent by number, percent by weight, length range, and growth rate of fish captured during the July 9-12, 2012, survey of Twin Lakes, Bois Blanc Island. *Growth rate is a comparison of observed lengths at age to statewide averages.

Species	Number	Percent by number	Length range (in.)	Growth rate*
Bluntnose minnow	220	36.2	1-3	--
Bowfin	4	0.7	20-27	--
Brown bullhead	19	3.1	10-16	--
Common shiner	6	1.0	2-3	--
Largemouth bass	38	6.3	1-18	--
Northern pike	40	6.6	17-26	-0.4
Pumpkinseed sunfish	85	14.0	1-9	+1.2
Rock bass	81	13.3	2-9	+0.8
Smallmouth bass	3	0.5	6-9	--
Walleye	18	3.0	16-24	+4
Yellow perch	58	9.6	1-9	-0.3

Table 2. Length-frequency of game fish collected in Twin Lakes, Bois Blanc Island, during the July 9-12, 2012, survey.

Inch Group	Large-mouth bass	Northern pike	Pumpkin-seed sunfish	Rock bass	Smallmouth bass	Walleye	Yellow perch
1	10						14
2	10		7	1			3
3	5		3	33			1
4				3			2
5			9	14			1
6	1		5	14	1		20
7			12	7			13
8			28	2	1		3
9			19	7	1		1
10	2						
11							
12							
13	2						
14	4						
15	1						
16						2	
17	2	1				3	
18	1	1				3	
19		4				7	
20		4				1	
21		11				1	

22		7					
23		9					
24		2				1	
25							
26		1					