Little Tomahawk Lake
Presque Isle County, T33N, R2E, Section 22
Black River watershed, last surveyed June 2014

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Environment

Little Tomahawk Lake is a 22-acre natural lake located approximately 10 miles southeast of Onaway, Michigan in Presque Isle County. The lake has no obvious inlet but there is a small outlet which flows to Tomahawk Creek which is in the Black River sub-watershed and larger Cheboygan River watershed of Lake Huron.

Little Tomahawk Lake has a bowl basin which drops off to a maximum depth of approximately 25 feet (Figure 1). It has a generous littoral zone with fair amounts of submerged and emergent aquatic vegetation. The bottom substrate is primarily sand and marl, with pulpy peat in the deeper zones. Shoreline development is minimal, with nearly the entire riparian zone owned by the State of Michigan state forest system. One large private parcel and residence is located on the northeast shore (see photos).The lake-shoreline interface is predominantly wetland, with an upland forest component consisting of oak, aspen, and conifer trees.

A small unimproved public-access boat launch is located on the east shore (see Photos), and is only suitable for small boats, canoes, and kayaks; parking is very limited.

History

Little Tomahawk Lake has been stocked or surveyed by the State of Michigan on very few occasions dating back to the 1930s. Stocking records show that fingerling and adult smallmouth bass were stocked from 1938-1940. Largemouth bass fingerlings were stocked in 1936. Yellow perch fingerlings were stocked from 1933-1938, and bluegill were stocked on occasion from 1935-1939. Brook trout were stocked in this lake by MDNR on one occasion, in 1988. Warm water fish stocking in lakes was a common practice by management agencies during the pre-World War II era, regardless of whether the lake needed stocking.

The only fish survey completed on Little Tomahawk Lake prior to 2014 was done by Michigan Department of Conservation (MDOC) personnel on August 18, 1966. Alternating current boomshocking was done around one full circuit of the lake shallows during daylight hours. Minnows were observed to be numerous. Species that appeared to be abundant included largemouth bass and bluegill, less abundant were yellow perch, smallmouth bass, rock bass, golden shiner, and Johnny darter. The shoreline of the lake was entirely forested with the exception of one cottage on the northeast shore.

Current Status

The most recent fish community survey of Little Tomahawk Lake was conducted from June 9-12, 2014. Effort consisted of: 1 experimental gill-net lift, 3 large mesh trap-net lifts, 5 large mesh fyke-net lifts, and 1 small mesh fyke-net lift. A total of 634 fish were captured during the survey (Table 1).

This was considered a good number of fish for a small lake and limited sampling effort. The most abundant species in the catch was bluegill, followed by shiners, and largemouth bass. Panfish such as bluegill and pumpkinseed made up 47% of the survey catch by number and 38% by weight. Largemouth bass and northern pike, the only predators, comprised 17% of the total catch by number, but 58% by weight.

Bluegills are currently the most abundant panfish in Little Tomahawk Lake, and a good proportion (49%) is 7 inches or larger (Table 2), which is considered a desirable size for tablefare. Fair numbers of small bluegill were also collected. Growth of this species was slightly below average when compared to bluegill populations across Michigan (Table 1), but well within an acceptable range. Eleven year classes of bluegill were captured (Table 3), which is a considerable number of year classes. Thus, bluegill can get to large sizes in Little Tomahawk Lake by longevity.

Panfish diversity is relatively low in Little Tomahawk Lake, but sizes are generally desirable. Pumpkinseed sunfish were moderately abundant, with fish up through 9 inches present. Pumpkinseed growth is considered fast in the lake. Rock bass, a panfish common to most Michigan lakes, is absent from Little Tomahawk Lake.

The predator population is restricted to largemouth bass and northern pike. Largemouth bass are the top predator in Little Tomahawk Lake, and make up most of the biomass for predators. Six year classes of largemouth bass were sampled, and growth of this species was considered average to slightly below average when compared to other Michigan waters. Legal size (14 inches and larger) largemouth bass were relatively uncommon, and bass in the 9-13 inch size range were dominant. No large bass (18 inches and larger) were collected during the survey.

Four northern pike were collected in the 2014 survey and represented three age groups (Table 3). Northern pike numbers are likely limited by spawning success and water levels during the spring spawning period.

Other species typical to a warm water northern Michigan natural lake were found in Little Tomahawk Lake including blacknose shiners, black and brown bullheads, Iowa darters, and white sucker.

Analysis and Discussion

Little Tomahawk Lake is a small natural lake in northeast Michigan with moderate productivity. It has a vegetated littoral zone and a relatively deep basin. The lake has a largely undeveloped shoreline with the exception of one private residence.

The current fish community of the lake can be generally characterized as having : 1) a panfish community of low diversity but acceptable sizes, 2) a naturally-reproducing predator population consisting of largemouth bass and northern pike which both exhibit average growth rates, 3) a non-game fish community low in species diversity and abundance.

Little Tomahawk Lake exhibits a good quality panfish community and offers anglers the opportunity to catch bluegill and pumpkinseed. Panfish diversity is low, because species typical to many northern Michigan lakes (e.g. yellow perch, black crappie, rock bass) are absent. The absence of these latter species means that more resources are available for bluegill and pumpkinseed. The only predators of

the lake are largemouth bass and northern pike. Largemouth bass of a variety of sizes and ages can be found and are vital in helping balance the panfish community through predation. The average growth rates and general lesser abundance of larger bass may indicate that some harvest may be occurring. Based on survey results, this species should afford anglers an opportunity to catch good numbers of mid-size bass. Northern pike densities are not high, and their abundance is likely limited by water levels during spring spawning periods. The few pike that survive in the lake can grow to legal size (24 inches and larger).

The non-game fish community of Little Tomahawk Lake is low in diversity and consists of shiners, darters, bullheads, and white suckers.

Management Direction

No change in fisheries management is recommended for Little Tomahawk Lake at this time. The current Michigan statewide standard fishing regulations are appropriate for this lake. Access for anglers is fair through a small two-track on the east side of the lake. The relatively limited access to the lake complements the natural character of this small waterbody. This lake sits amid a group of natural lakes (Francis, Big Tomahawk, Shoepac, Loon) and floodings (Tomahawk Creek Flooding) in southwestern Presque Isle County. These waterbodies as a group are important to anglers not only for fishing, but for camping destinations as well. The Department of Natural Resources should continue to preserve and protect the public land surrounding Little Tomahawk Lake and protect the lakes wetland interface from further development.

References

Figure 1. Little Tomahawk Lake depth map.

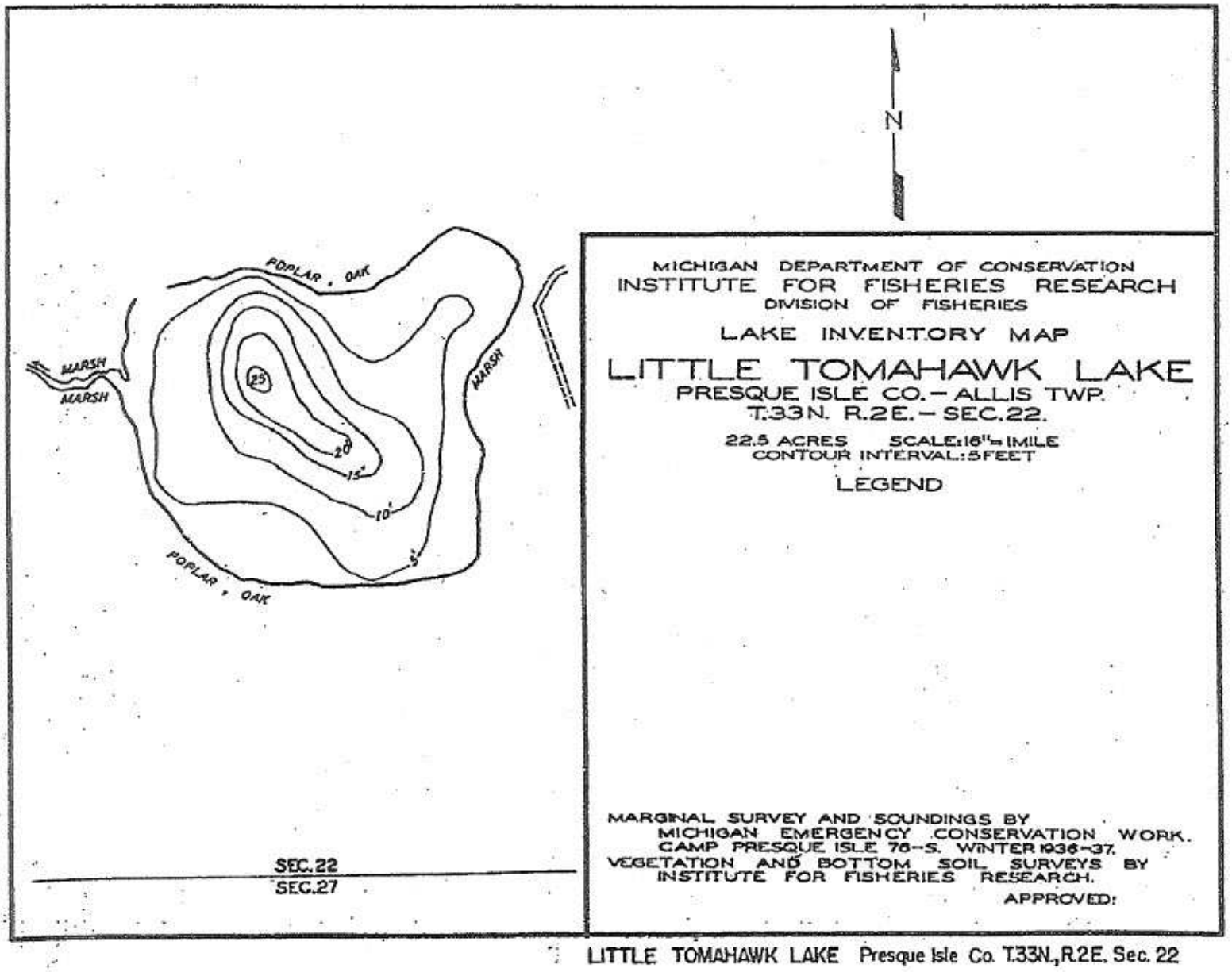

Photo 1. Little Tomahawk Lake Boat Access

Photo 2. Little Tomahawk Lake Shoreline

Photo 3. Little Tomahawk Lake Shoreline

Photo 4. Single Residence

Table 1. Species and relative abundance of fishes collected with survey gear at Little Tomahawk Lake, June 9-12, 2014.

Common Name	**Number**	**Percent by number**	**Length Range** *(inches)*	**Weight (lbs)***	**Percent by weight**	**Mean growth index** (inches)**
Bluegill	271	42.7	1-9	59.4	33.9	-0.5
Blacknose shiner	220	34.7	1-2	0.5	0.3	
Largemouth bass	102	16.1	7-17	85.8	49.0	-0.6
Pumpkinseed	27	4.3	2-9	7.8	4.5	+0.4
Black bullhead	4	0.6	11-13	3.5	2.0	
Iowa darter	4	0.6	1	0.0	0.0	
Northern pike	4	0.6	23-27	15.4	8.8	
Brown bullhead	1	0.2	11	0.7	0.4	
White sucker	1	0.2	17	2.1	1.2	
Total	634			175.2		

* calculated based on length-weight relationships

**based on a comparison to statewide growth for that species (inches)

Table 2. Length-frequency distribution of certain game fishes collected during the early June 2014 survey at Little Tomahawk Lake.

Length (in)	Bluegill	Pumpkinseed	Northern Pike	Largemouth bass
1	44			
2	12	1		
3	4	1		
4	1			
5	32	2		
6	44	11		
7	90	9		1
8	39	2		5
9	5	1		18
10				18
11				17
12				21
13				13
14				8
15				
16				
17				1
18				
19				
20				
21				
22				
23			1	
24			1	
25				
26				
27			2	
28				
29				
30				

Table 3. Average total weighted length (inches) at age, and growth relative to the state average, for fish sampled from Little Tomahawk Lake June 2014. Number of fish aged is given in parenthesis. A minimum of five fish per age group is statistically necessary for calculating a Mean Growth Index, which is a comparison to the State of Michigan average.

	Age										
Species	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	Mean Growth Index
Bluegill	1.8 (6)	2.5 (4)	3.7 (4)	5.4 (10)	5.4 (1)	7.0 (11)	7.2 (16)	8.3 (10)	8.7 (3)	9.2 (2)	9.5 (1)	-0.5
Largemouth bass		8.1 (3)	10.0 (18)	11.7 (26)	13.3 (11)	14.0 (5)	17.0 (1)					-0.6
Northern pike			24.5 (2)	24.1 (1)	27.0 (1)							
Pumpkinseed sunfish			5.5 (1)	5.6 (8)	6.4 (10)	8.2 (5)						+0.4