

Tower Pond

Cheboygan County, T34N, R1E, Section 3
Black River watershed, last surveyed 2012

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Environment

Tower Pond is a small impoundment on the Upper Black River near the town of Onaway, Michigan in Cheboygan County. The dam that originally created the impoundment was built by a private owner in 1917-1918 and currently has a 20 foot head (Godby et al. 2013 In Press). Today, Tower Dam impounds approximately 52 pond acres (Matt Tonello, Department of Natural Resources GIS Specialist, personal communication), and has 1,900 acre-feet storage based on historical records. The dam has been used for hydroelectric power generation since it was built, and the most recent license settlement agreement was established in 1994. This thirty year agreement (1994-2024) was established between the Federal Regulatory Energy Commission (FERC) and Wolverine Power Supply Cooperative. Tower-Kleber Limited Partnership is the current dam owner. The current license agreement states that the dam must operate at approximate run-of-river mode which is defined as the inflow discharge to the pond must be equal to the released outflow discharge.

The land around Tower Pond is partially developed. The Upper Black River, which is a popular Michigan brook trout stream, enters the impoundment from the south shore after flowing under the M68 Highway bridge (Figure 1). Upstream of the highway, the water is considered the Black River, while downstream, the water is considered Tower Pond. Near the south end, the pond constricts under a railroad bridge before entering a small but deeper basin near the dam. Most of Tower Pond is very shallow, vegetated, and covered with an organic based substrate of silt. In a recent survey, the deepest location found on Tower Pond between the railroad and the highway was approximately 10 feet. Most of the pond is less than 5 feet deep. Access to Tower Pond is somewhat limited. There is a small township park and unimproved small boat launch on the west shore. Anglers can also get to the waterbody at the dam and railroad trestle.

Three current DNR Fisheries Orders are associated with this pond, and these are Orders 210, 214, and 219. Fisheries Order 210 designates the Upper Black River a designated trout stream from "Tower Dam Pond upstream". Fisheries Order 214 allows for the liberal harvest of northern pike (5 fish daily, no size limit) in the "Black River upstream of Tower Pond [includes Tower Pond] and tributary streams only". Finally, Fisheries Order 219 states that Tower Pond is a "designated trout stream open to northern pike spearing" from December through March 15. The underlying theme to these regulations, from a historical standpoint, is the protection of over-wintering brook trout that have migrated downstream from the Black River, and the facilitated harvest of northern pike in the pond. Summarizing, the fishing regulations were put in place over time to reduce angler harvest of large brook trout and to reduce predation on brook trout from northern pike.

Based on these regulations, Tower Pond is open to all fishing gear types and tackle from the last Saturday in April each year through September. Thus, the fishing regulations for the pond parallel that of the popular trout stream that flows into it. Anglers are not allowed to fish it beyond this period, with

the exception that northern pike can be speared from December 1 through March 15. The complexity of these regulations dates back many decades and is based on some evidence and some perception.

History

Prior to 1967, Tower Pond was designated as trout water but was open to winter spearing of northern pike by Director's Order. In 1967, this Director's Order was abolished statewide for simplification of regulations. Eight years later in 1975, a public petition was circulated locally to open Tower Pond to northern pike spearing once again. Some anglers opposed the re-opening of the pond to spearing out of fear that brook trout would be taken illegally by anglers during the winter pike spearing period. DNR biologists at the time felt that the number of brook trout that over-wintered in Tower Pond was insignificant compared to the population of trout that overwintered in the Black River upstream of the pond. This was a locally controversial topic of the time and helped spur the first fish community survey at Tower Pond.

Historical notes indicate that the pond in 1976 was considered to have a general lack of depth and lack of quality habitat. Panfishing was considered poor by some anglers, and a few northern pike could be caught in the summer months. Brook trout were occasionally caught by anglers early in the fishing season in some years, but catches were typically few. DNR Fisheries Division surveyed Tower Pond in early- to mid-April 1976. Effort consisted of 10 experimental gill net lifts, 5 trap net lifts, and one-hour of AC boomshocking. The purpose of the survey was to "determine over-winter use of brook trout" in Tower Pond. Based on netting results, a panfish community was virtually lacking in Tower Pond in 1976, as very few rock bass, bluegill, and pumpkinseed were collected. Some yellow perch were collected, including some large fish, but numbers were low.

Non-game fish were very abundant in the survey. White suckers were considered highly prolific, as nearly 1,200 suckers were collected with many large specimens present. Bullheads were also common while a small number of smallmouth bass were caught.

Northern pike were represented well during the spring 1976 survey, with nearly the entire catch less than 24 inches, and most less than 20 inches in length. Pike growth was more than two-inches below the statewide average for this species.

Twenty-one brook trout ranging in length from 8-16 inches were collected during this survey as well. Thus, there was evidence that some Black River brook trout migrated downstream and over-wintered in Tower Pond. It was assumed that the few fish that over-wintered in the pond would return to the river at some point, but the question was at what time and how far would they migrate upstream? To answer this, biologists floy-tagged eight of the brook trout caught in Tower Pond during the 1976 survey. Returns of tagged fish were not forthcoming, as only one of the eight tagged fish were returned by an angler "far upriver."

Based on the netting results and pressure from local fisherman, Tower Pond was re-classified as non-trout status in January 1977. This opened the pond up to year around harvest of all species, despite the general lack of a quality fish community. A one-month long creel survey was completed at the pond by DNR in the winter of 1977. During this time, only three brook trout were found creeled. As 1977 progressed, angler reports trickled in to DNR managers regarding the poor brook trout catches that summer in the Black River and its tributary Canada Creek. Anglers often attributed the poor catches to

the removal of Tower Pond's designated trout stream status the winter before. The DNR biologist at the time did not agree as he stated that the poor catches in the river were more likely attributed to natural swings in the brook trout population and past severe winter weather. Managers at this time also recognized that very few brook trout over-wintered in the pond. In fact, one local biologist wrote the following; "all of the following information we have indicates to me that there are so few trout taken in the off season that a special regulation would be superfluous".

DNR Law Enforcement Officers, however, voiced increasing concern for the brook trout of Tower Pond in March of 1979. Officers felt that brook trout were being harvested in good numbers in the pond and that anglers typically were seeking out both brook trout and northern pike for harvest. It was at this time that DNR Law Enforcement Division recommended to Fisheries Division that Tower Pond should be re-classified as designated trout stream status, while also allowing for winter pike spearing (January and February). Following this recommendation, Fisheries Division made a three-part plan for Tower Pond which included: 1) another fish community survey in 1979, 2) a white sucker removal in Tower Pond to reduce competition with this species, and 3) a brook trout tagging study to determine movement of brook trout between Tower Pond and the Black River system. Item one was completed, while the other items were never accomplished.

DNR Fisheries Division performed the second fish survey of Tower Pond in mid-April of 1979. Sampling effort consisted of 24 large mesh trap net lifts (50 foot leads). The results of this survey showed little change from the 1976 survey. Very large numbers of bullheads and white suckers were collected. A few smallmouth bass were caught again. Panfish such as rock bass, bluegill, and pumpkinseed were again represented in the catch in low numbers.

Northern pike were collected in similar numbers in 1979 compared to the 1976 survey, but a relatively higher proportion of larger pike were collected. Most pike were still less than 20 inches long and growth was still considered very slow (almost two inches less than state average). Four brook trout were collected during the spring 1979 trap-netting effort and ranged in length from 11-14 inches.

By 1981, public complaints regarding overharvest of brook trout in Tower Pond continued. DNR Law Enforcement Division officers also felt that the legal harvest of brook trout in the pond was having an impact on the population of brook trout locally. As a result, Fisheries Division performed a randomized, stratified creel census on Tower Pond for the month of February 1981. At this time, fishing was open for all species. Eight angler counts were made including four on weekends, and four during the week. All shanties were checked for occupancy. The purpose was to evaluate catches and pressure as they related to the past trout regulations. The total estimated number of hours fished during the month was 989. An estimated 103 brook trout were caught during the month based on a true catch of 7 brook trout, with an average size of 8.4 inches. The catch of yellow perch was also estimated at 30 fish for the entire month. No northern pike were recorded during the month creel period, but a modest number of pike were reported harvested the first two weeks in January 1981. Some anglers believed that many more brook trout were present in the pond in winter 1981 compared to previous years.

Based on this one-month creel survey, DNR officials stated: "It appears that the regulation had the desired result. It probably reduced the number of pike in the system and provided fishing opportunities. I do not feel that an estimated catch of 103 brook trout is excessive and it should not damage the Black

River fishery. No large trout were seen in the census but some up to 16 inches long were reported creel in January".

Despite these sentiments, a proposal to re-classify the entire Tower Pond as designated trout stream status all the way to the dam was again initiated in the fall 1981. This proposal became fisheries law in 1982. The biologist stated this was done based on social reasoning as compared to having a biological basis behind the law. The change was supported by Law Enforcement Division, Headwaters Chapter of Trout Unlimited, and some local fishermen. In opposition was a vocal group of local sucker fishermen. DNR Fisheries stated that "We feel that the winter fishery for brook trout in Tower Pond is not compatible with these management objectives (top quality brook trout fishery) for the Black River." Along with the regulation change came discussions to chemically treat Tower Pond, remove unwanted species, and stock brook trout. These management recommendations were never enacted.

Reports and management actions for Tower Pond were sparse from 1983 through 2011, although anglers continued to express different views on fishing regulations for this water. DNR officials attended a township hall meeting in 1985 for Tower Pond where many anglers expressed their desire to see fishing regulations liberalized once again. Anglers also expressed their desire to have Tower Pond stocked with panfish. No regulation changes occurred as a result of this meeting, and Tower Pond continued to be the only "lake" in Michigan with a designated trout stream status.

Reports by DNR in January 1991 counted 45 ice shanties on Tower Pond during the winter pike spearing season. At this time, reports of anglers landing many northern pike in Tower Pond continued to surface. In the last decade (2000-2010), reports of large northern pike speared in Tower Pond continue to surface.

Current Status

The local fisheries management unit has recently expressed concern over having the need for this complex, special regulation on Tower Pond today. In recent years, Fish Division has expressed a need to simplify regulations where possible, and Tower Pond has always been considered a major "outlier" in the DNR fishing guide. According to Law Enforcement Division officers, anglers still fish on Tower Pond in the winter for northern pike, and some anglers state that brook trout are occasionally observed through the ice. Large northern pike have recently been caught in Tower Pond in recent winters, but fishing pressure generally consists of a handful of winter ice fishing shanties.

Should DNR Fisheries Division, through formal public process, once again liberalize fishing regulations for good in Tower Pond? Is there an opportunity to simplify regulations while still protecting trout and providing more fishing opportunity at Tower Pond? These are questions that prompted a Fisheries Division fish community survey of the pond in April 2012.

The latest survey of the fish community was made in late April and early May at Tower Pond by DNR Fisheries Division. Sampling effort consisted of 2 large mesh trap net lifts, 8 large mesh fyke net lifts, and 4 experimental gill net lifts. Effort was widely distributed throughout the pond and biologists believe the species catch composition provided an accurate picture of the fish community. A total of 1,211 fish were captured in three days of sampling (Table 1). Similar to results in past years, non-game species such as bullheads and white suckers dominated the catch, comprising 94% of the catch by number. All other species were caught in low numbers in the survey.

Panfish collected were rock bass, yellow perch, rock bass, and black crappie. This was the first time black crappie and largemouth bass were collected in survey efforts. Panfish were not only sparse in the catch, but not impressive in sizes except for yellow perch (Table 2). Some quality size yellow perch were caught in the survey with fish up to 13 inches collected. Bluegill were collected in the 1979 survey, but not in 1976 or 2012 (Table 3). Smallmouth bass were again found in Tower Pond, but still in low numbers.

Northern pike comprised 2% of the catch by number (Table 1), but more by weight. Fair numbers of larger pike were collected during the survey and growth was considered average for this species. Currently, there is no size limit on pike at Tower Pond. In addition, pike growth has not changed significantly at Tower Pond from the 1970s to today (Table 3). Pike densities remain fairly stable, although there appears to be slightly more larger pike (24 inches and larger) in the population today than during the 1970s (Table 4).

Only one brook trout was collected during the 2012 spring netting survey and it was 15 inches long and age four. The relative catch of brook trout declined between the surveys (Table 4). This could be explained by: 1) a true decline, 2) the 2012 survey was slightly later in the spring than the 1970s surveys, and brook trout may have migrated upstream already, 3) degraded habitat in the pond today (silt and shallow water) reducing the availability of quality habitat for adfluvial brook trout.

Analysis and Discussion

Tower Pond is a small, shallow impoundment on the popular Black River. This river is famous for its wild brook trout populations and is a designated trout stream throughout its entirety upstream of Tower Pond Dam. In most years, the lower reaches of the river prior to entering the pond are too warm to hold trout in the summer months. However, these lower reaches can be wintering sites (slower water) for some brook trout that inhabit the lower river. Overall, it is not known what proportion of brook trout in the upper river use the lower river reaches and Tower Pond in the winter. What is known is that the upper river (many miles upstream) holds a high quality wild brook trout population. This is based on many surveys done through the decades in the Black River watershed. It is not uncommon for individual riverine trout in some systems to migrate downstream and inhabit lentic systems (MDNR Fisheries Division, 2008, Status Review Response), and this occurs in nearby Black Lake.

Fishing regulations have changed three times at Tower Pond since 1967. The pond was designated as a trout stream in 1967, thus no anglers could fish it through the ice with the exception of those spearing northern pike. By 1977, it was de-classified as a designated trout stream so all anglers could fish on the pond at any time and with any tackle type. By 1982, regulations had reverted back to those placed on it in 1967. These regulations remain in place today and may have no biological basis. Throughout this period, northern pike regulations remained liberal, allowing anglers to keep five pike of any size. However, pike anglers could only fish during the open trout season (last Saturday in April through September 30) or during the winter spearing period. This spearing period was only two months in the winter for most of these decades. Recently, the open season for northern pike spearing was extended, allowing anglers to harvest these fish December 1 through March 15.

Whether or not there was support for maintaining such complex regulations at Tower Pond through the decades is an arguable subject. Fish Division records from the 1970s and 1980s state that there may be

little biological basis for such complex regulations for this small waterbody. Public opinion and reports suggest the regulation was essential, yet this was a period when the complexity of fishing regulations was less scrutinized.

Today, fishing pressure does not appear to be heavy at Tower Pond. Some anglers utilize the pike fishery during the open winter spearing period. Very few angler reports are associated with this pond today, and anglers infrequently call the local management unit trying to ascertain the current regulations and their historical foundation. The fish community in the pond is not highly attractive, and most anglers who use it are fishing for northern pike. Brook trout numbers collected during the surveys were not high, and certainly represent an insignificant proportion of the wild brook trout in the entire Black River and its tributaries.

We believe that simplifying fishing regulations at Tower Pond will increase angler opportunity, yet will have little if any negative impact on the population of brook trout in the entire Black River watershed. In fact, if anglers are allowed to fish for pike with more tackle types, and at more times of the year, it could help the brook trout population by reducing the population of predatory northern pike.

Management Direction

Our recommendation is to reduce the fish regulation complexity associated with Tower Pond. The following are recommendations which would be part of the public scoping phase associated with changing fishing regulations in the State of Michigan by DNR.

1. Maintain Tower Pond's association with Fisheries Order 214, which allows for the liberal harvest of northern pike of all sizes, currently. This will help to ensure that pike are maintained at low levels in Tower Pond.
2. Change the designated trout stream status of the Black River to exclude Tower Pond. Change the wording so that the downstream end of the designation is M-68 Highway. This will de-classify the pond as trout stream status and allow all users to fish the lake throughout the entire year, without gear limitations.
3. Remove Tower Pond from Fisheries Order 219, which recognizes the pond as a trout stream, but allows anglers to spear pike on the pond during winter months. Accomplishing step two essentially eliminates the need for this order to recognize Tower Pond.
4. Modify Fisheries Order 200 to designate Tower Pond from M-68 Highway downstream to Tower Dam as a Type E trout lake. A Type E trout lake can be fished with all tackle types throughout the year and anglers are allowed to have a daily possession of 3 brook trout with a minimum size of 15 inches.

References

Godby, N.A. Jr., T.C. Wills, T.A. Cwalinski, and B. Bury. 2012 In Press. Cheboygan River Assessment. Michigan Department of Natural Resources, F-82-R-7, Study 232224, Lansing, MI.

MDNR Fisheries Division 2008. Status Review Response: Petition to List Coaster Brook Trout Under the Endangered Species Act, response to USFWS-73 FR 14950, March 20, 2008, Lansing, MI, http://www.michigan.gov/documents/dnr/Response_to_USFWS_Status_Review_brook_trout_May_19_243175_7.pdf.

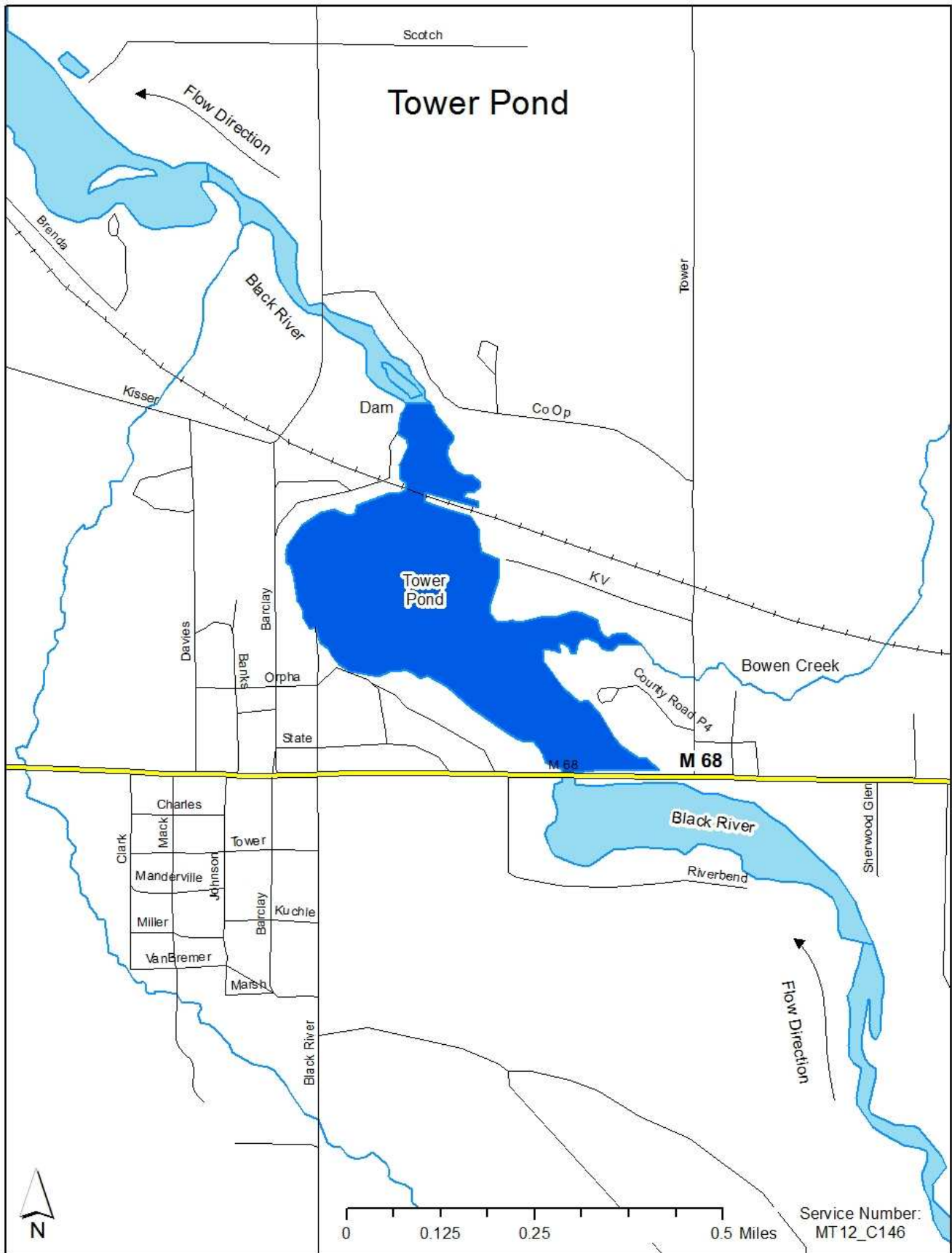


Figure 1: Tower Pond location map.

Table 1.-Species catch and relative abundance of fishes collected during the Tower Pond fish community survey, April 29-May 2, 2012.

Species	Number	Percent by number	Length range (in.)
Brown bullhead	1,029	85	8 – 13
White sucker	107	9	--
Rock bass	30	3	4 – 8
Northern pike	22	2	16 – 32
Yellow perch	9	<1	7 – 13
Largemouth bass	4	<1	12 - 17
Pumpkinseed	4	<1	6
Smallmouth bass	4	<1	14 – 17
Black crappie	1	<1	11
Brook trout	1	<1	15
Total	1,211		

Table 2.-Length-frequency distribution of game fishes collected during the 2012 netting survey at Tower Pond.

Length (in)	Brook trout	Pumpk. sunfish	Rock bass	Black crappie	Largemouth bass	Yellow perch	Northern pike
1							
2							
3							
4			2				
5			3				
6		4	18				
7			5			1	
8			2				
9						1	
10						3	
11				1		1	
12					1	1	
13						2	
14					1		
15	1						
16					1		2
17					1		2
18							3
19							2
20							2
21							2
22							1
23							1
24							2
25							
26							1
27							1
28							
29							1
>=30							2

Table 3.-Mean length (inches) at age for various game fishes of Tower Pond for years surveyed in 1976, 1979, and 2012. Number in parentheses represents number aged.

Species	Age group	1976 April	1979 April	2012 April/May
Yellow perch	I	-	-	-
	II	4.6 (2)	-	-
	III	6.2 (1)	-	-
	IV	8.5 (1)	-	-
	V	-	-	10.3 (4)
	VI	9.8 (1)	-	7.9 (1)
	VII	-	-	11.7 (2)
	VIII	-	-	-
	IX	-	-	-
	X	-	-	13.4 (2)
Brook trout	I	-	-	-
	II	8.0 (1)	-	-
	III	10.1 (16)	12.1 (4)	-
	IV	13.6 (3)	-	14.6 (1)
	V	16.2 (1)	-	-
Northern pike	I	13.2 (10)	15.6 (10)	-
	II	17.6 (7)	18.7 (13)	18.0 (7)
	III	19.5 (7)	24.1 (3)	20.8 (6)
	IV	24.4 (2)	25.9 (3)	22.3 (2)
	V	23.7 (1)	27.1 (3)	26.9 (4)
	VI	-	33.0 (1)	28.0 (3)
Rock bass	I	-	-	-
	II	-	-	-
	III	5.0 (3)	-	4.4 (1)
	IV	6.2 (1)	6.9 (8)	-
	V	7.8 (1)	7.1 (2)	6.4 (13)
	VI	8.3 (1)	8.0 (1)	6.9 (8)
	VII	-	9.8 (1)	7.5 (4)
	VIII	-	-	8.3 (2)

Table 3.-continued.

Species	Age group	1976 April	1979 April	2012 April/May
Smallmouth bass	I	-	-	-
	II	-	12.6 (1)	-
	III	-	-	-
	IV	-	14.1 (1)	-
	V	-	14.5 (1)	14.7 (1)
	VI	-	16.3 (1)	15.5 (1)
	VII	-	-	15.0 (1)
	VIII	-	-	-
	IX	-	-	17.1 (1)
Largemouth bass	I	-	-	-
	II	-	-	-
	III	-	10.9 (2)	-
	IV	-	-	-
	V	-	15.3 (1)	12.0 (1)
	VI	-	-	15.4 (2)
	VII	-	-	-
	VIII	-	-	17.0 (1)
Bluegill	I	-	-	-
	II	-	-	-
	III	-	5.9 (9)	-
	IV	-	6.5 (10)	-

Table 4.-Length-frequency distribution of northern pike and brook trout collected during the various survey efforts at Tower Pond.

Length (in)	Bk trout 1976	Bk trout 1979	Bk trout 2012	N pike 1976	N pike 1979	N pike 2012
1						
2						
3						
4						
5				1		
6						
7						
8	1			1		
9	5					
10	6			2		
11	1	1				
12	5	2		1		
13	1			4	4	
14	1	1		3		
15			1	1	4	
16	1			3	4	2
17				1	5	2
18				1	4	3
19				4	3	2
20				3		2
21					1	2
22				1		1
23				1	4	1
24				1		2
25					4	
26				1		1
27					1	1
28						
29						1
30						1
31					1	
32						1