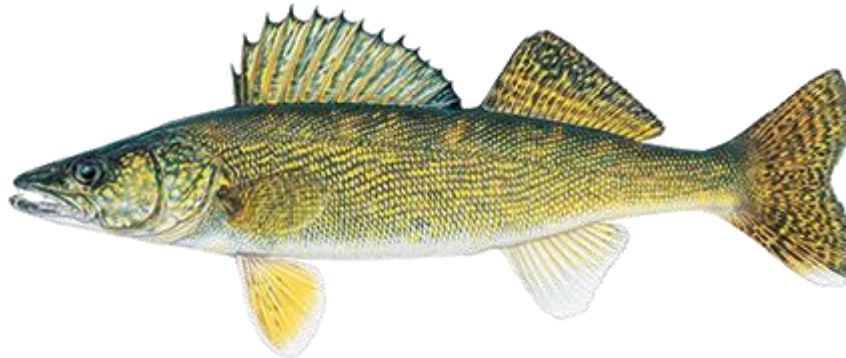




Michigan DNR Fisheries– Southern Lake Huron Management Unit

**Wiggins Lake– 2020 Fall Walleye and Northern Pike
Survey**

2020 Discretionary Survey Report



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On the cover: Walleye. Credit: Joe Tomelleri ©



Introduction

Wiggins Lake has a history of Walleye and Northern Pike stocking by the Michigan DNR on a semi-regular basis since 1979 (Table 1). Wiggins Lake is not within the 1836 ceded territory but is classified as a stocked lake within the Michigan DNR Inland Walleye Management Plan. The lake receives substantial stocking efforts by the MDNR. Anecdotal reports from anglers indicate that Wiggins Lake is considered a Black Crappie and Bluegill fishery. Most anglers do not target Walleye due to the low success rate. A comprehensive Status and Trends Lake survey was completed in 2009. Four Walleye and 32 Northern Pike were collected in that survey. Walleye total length (TL) ranged from 20.0 to 27.3 and fish were estimated to be age 4, 5, 7, and 10. The age 5 and age 7 fish correspond to years that were stocked with Walleye; whereas age 4 and age 10 do not correspond to years that Wiggins Lake was stocked with Walleye. Given the low number of Walleye captured, it is hard to draw conclusions. Northern Pike TL ranged 11.1 to 34.1 (8 of those fish were 24 in or greater in TL and legal for harvest). Northern Pike growth rate was 1.3 inches slower than the statewide average. Further documentation of Walleye natural reproduction and survival of stocked fish is warranted to evaluate the efficacy and necessity of our current management and stocking regime.

We surveyed Wiggins Lake on 7 October 2020 for Walleye and Northern Pike. Our objectives were to 1) document relative abundance, 2) document size structure, and 3) determine age and growth of Walleye and Northern Pike.

Study Area

Wiggins Lake is a 345-acre reservoir of the Cedar River (Tittabawassee River Drainage) in Gladwin County near the City of Gladwin in north-central Michigan (Figure 1). In addition to the Cedar River, Howland Creek and four unnamed tributaries flow into Wiggins Lake. At full pool, the maximum depth of Wiggins Lake is 25 feet, at the face of the water control structure, Chappel Dam. Nearly all of Wiggins Lake is shallow, with an estimated 90% of the lake having a depth of 15 feet or less. Aquatic vegetation is plentiful in the lake and thriving in the shallow, warm-water conditions.

Public access can be gained through the Michigan DNR boat access site located on the southwest shore of the lake. The access area is small and has a concrete skid pier, pit-toilet, and parking for boaters.

Methods

Boat electrofishing was used to collect Walleye and Northern Pike and surface water temperature was 55.0 F. One complete shoreline electrofishing pass was conducted after dusk. Electrofisher settings were generally tuned to 7 amps, a duty cycle of 40, and a pulse rate of 60. All Walleye and Northern Pike were netted, measured to total length (TL in inches) and a dorsal fin ray was removed for later age estimation using standard techniques. In the laboratory, a cross section of the fin ray is removed using a Dremel tool. Then the cross section is observed under a microscope to count the number of annuli—representing the age of the fish. Catch per unit effort (CPUE) was expressed in number of fish/species per hour of electrofishing. Lake surface water temperature was measured with a handheld temperature probe.

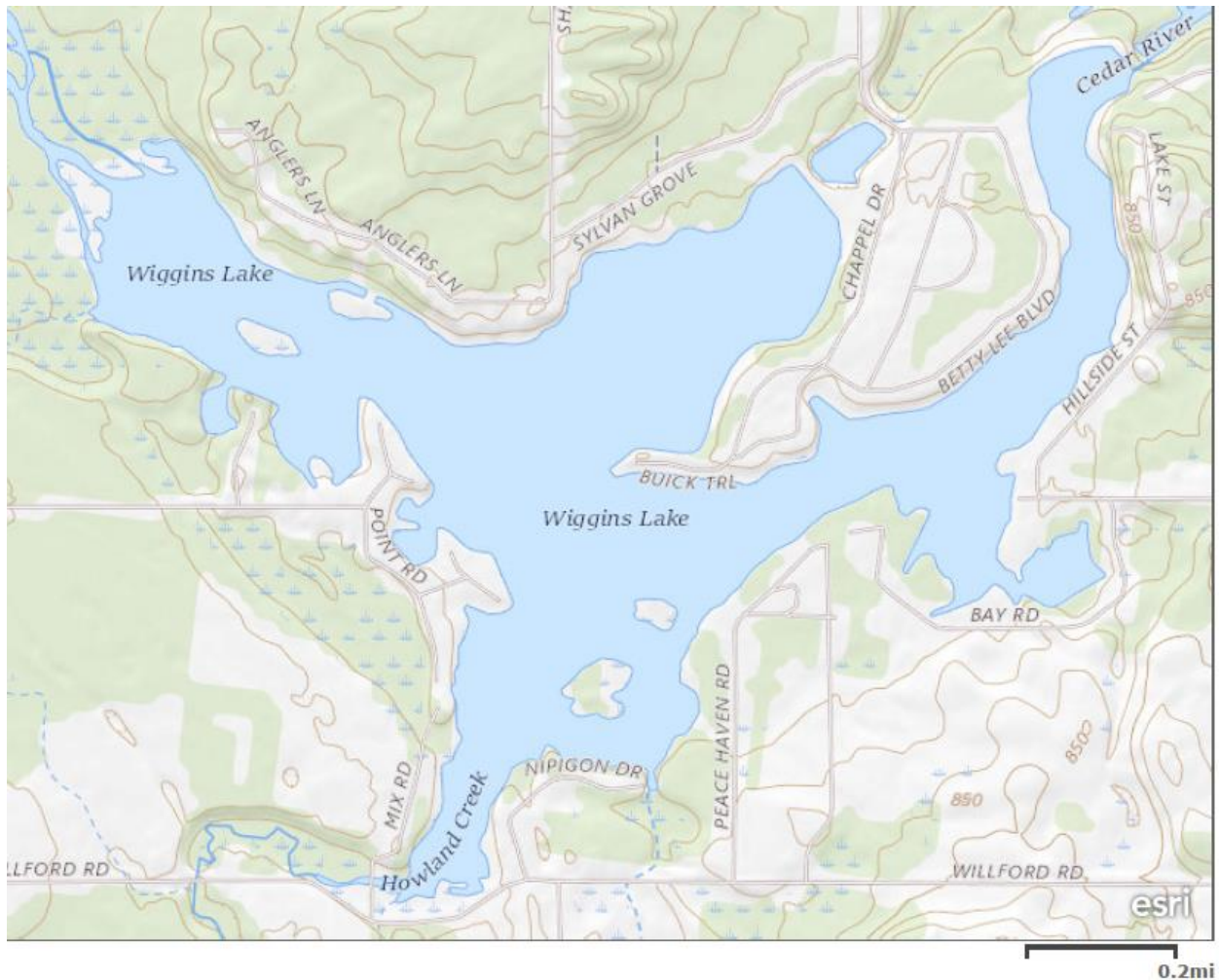


Figure 1. Wiggins Lake in Gladwin County, Michigan.

Results

Three Walleye (CPUE= 1.3/hr) and 22 Northern Pike (CPUE=9.8/hr) were collected. Walleye TL ranged from 12.5 to 12.7 in. Both fish were estimated to be age 2 and likely correspond to a 2018 stocking event (Table 1). Northern Pike TL ranged from 9.0 to 22.9 in, were smaller than the harvestable TL (i.e., 24 in), and growth was 2.6 in slower than the statewide average. Without definitive marking of stocked fish (e.g., oxytetracycline marking) it is difficult to differentiate stocked and naturally produced fish.



Table 1. Fish stocked by the MI DNR in Wiggins Lake, Gladwin County, 1979-2020.

Year	Species	Age	Average Length (inches)	Number
1979	Northern Pike	Small fingerling	N/A	3,000
1981	Northern Pike	Small fingerling	2.05	3,500
1982	Northern Pike	Small fingerling	4.02	4,000
1983	Northern Pike	Small fingerling	2.87	2,100
1984	Northern Pike	Small fingerling	2.99	1,200
1985	Northern Pike	Small fingerling	3.46	4,000
1986	Northern Pike	Small fingerling	3.74	5,500
1987	Northern Pike	Small fingerling	4.02	700
1988	Northern Pike	Small fingerling	4.49	4,000
1989	Northern Pike	Small fingerling	3.98	2,500
1989	Walleye	Small fingerling	1.81	18,056
1990	Northern Pike	Small fingerling	3.50	5,500
1991	Walleye	Small fingerling	2.24	13,113
1992	Walleye	Small fingerling	1.97	10,667
1992	Northern Pike	Small fingerling	4.02	1,500
1993	Northern Pike	Small fingerling	3.74	1,300
1994	Walleye	Small fingerling	1.73	8,662
1994	Northern Pike	Small fingerling	3.35	2,000
1995	Walleye	Small fingerling	1.81	21,264
1996	Northern Pike	Small fingerling	2.99	1,200
1996	Walleye	Small fingerling	1.69	23,842
1998	Walleye	Small fingerling	1.77	8,289
1999	Northern Pike	Small fingerling	2.99	2,400
2000	Walleye	Small fingerling	1.26	18,315
2002	Walleye	Small fingerling	1.34	18,837
2004	Walleye	Small fingerling	1.43	21,034
2006	Walleye	Small fingerling	1.90	27,520
2012	Walleye	Small fingerling	2.00	17,479
2014	Walleye	Small fingerling	2.19	44,322
2016	Walleye	Small fingerling	2.08	20,428
2018	Walleye	Small fingerling	1.64	33,328



Table 2. Estimated age, number, and total length (TL) range of Northern Pike captured in Wiggins Lake 7 October 2020.

Age	Number	TL range (in)	Statewide average TL (in)
0	2	9.0-9.6	9.3
1	2	13.4-13.5	13.5
2	9	17.1-22.6	19.0
3	6	17.3-22.9	20.0
4	1	18.4	18.4
5	2	20.5-21.2	20.9

Conclusions

The high number of small Northern Pike captured coupled with the slow growth rate indicates that there may be an overpopulation of Northern Pike in Wiggins Lake. A liberalized Northern Pike regulation should be explored to reduce the number of Northern Pike and increase the average length of Northern Pike in Wiggins Lake. The regulation proposal is going through the process to becoming a regulation during the 2022-2023 fishing season. The 2009 survey also indicated that Northern Pike were growing slower than the statewide average. The low abundance of Walleye captured in both the 2009 survey and this survey indicate that stocking small fingerling Walleye is not producing a fishery in Wiggins Lake and should be abandoned.



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