Wabascon Lake
Calhoun County, T01S/R08W/Sec 2,3
Kalamazoo River Watershed, Surveyed May 16-19, and August 8, 2022

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Environment

Wabascon Lake is a 70-acre natural lake located five miles north of the City of Battle Creek in Bedford Township, Calhoun County, Michigan (Figure 1). The lake is in line with Wabascon Creek, which is a warm transitional stream that flows east to west through the lake and then southwest into the Kalamazoo River. Wabascon Lake is divided into two main basins by a shallow middle section. The maximum depth of the shallower eastern basin is 35 feet and the deeper western basin has a maximum depth of 45 feet. There is a large island in the eastern basin and a smaller island in the shallow middle section. The shoreline drops off quickly in most areas (Figure 2). Most of the shoreline is natural and protected by wetlands. Substrate in the lake is a mix of peat and marl with muck predominating in deeper areas. Land cover types in the Wabascon Lake watershed are mostly agriculture (33%), wetland (30%), forested (29%), and urban (8%), but water, shrub, and grassland cover types are also present (less than 1% each; Figure 3; USGS 2024). The Michigan Department of Natural Resources (DNR) purchased land bordering the lake and built a small boating access site in 1974. This access site is located near the southeast end of the eastern basin and consists of a dirt parking area with approximately 20 parking spaces and a concrete slat ramp that can accommodate smaller boats.

History

The fish community in Wabascon Lake is dominated by Bluegill and other panfish. Largemouth Bass and Northern Pike are the primary predators and have historically been low in abundance. Because the lake is connected to Wabascon Creek, several stream species are present such as White Suckers and redhorse species. Bowfin also contribute to the predator population. Although the term rough fish has largely fallen out of use due to its negative connotations, the term is retained in this report as a useful shorthand for Bowfin, Common Carp, and White Sucker. It is important to recognize, that Bowfin and White Sucker are native species and valuable components of southern Michigan fish communities.

The fish community of Wabascon Lake was first surveyed July 29 through August 1, 1938 using gill nets and hook and line fishing. Catch rates were low. The most common species captured were Bluegill, Longear Sunfish, and Pumpkinseed, most of which ranged 4-6 inches. Limited numbers of Yellow Perch, Yellow Bullhead, and Black Crappie were also observed. Predators captured included three Northern Pike that were described as "very large" and four Largemouth Bass that ranged 6-11 inches.

To supplement sport fisheries, panfish and Largemouth Bass were stocked from 1938 through 1942 (Table 1). However, stocking warmwater fish species was discontinued, both in Wabascon Lake and statewide, after research documented that stocking was not required to maintain warmwater fisheries in Michigan (Cooper 1948). A total of 2,600 Northern Pike fingerlings were also stocked into the lake in 1960 (Table 1), to supplement the natural population and create additional angling opportunities, but the success of this stocking event was never evaluated. Although Lake Whitefish were previously stocked in the 1800s (Table 1) stocking was discontinued due to unsuitable habitat for this species.

The next fish community survey was conducted in late October 1979 using five trap nets set for two nights each (10 total net nights). Small panfish and bullheads were common. Bluegill were mostly small, with 4 to 6-inch fish comprising 81% of the total Bluegill catch by numbers. Some larger Bluegill were also observed, with 19 fish larger than eight inches and four fish larger than 10 inches. Rough fish comprised 10% of the total catch by weight. Biologists reported that the size structure of all fish species captured varied by net, with some nets catching only small fish and others catching only large fish. They concluded that the survey was likely biased and not representative of the fish community in Wabascon Lake.

A trap net and gill net survey conducted in June 1989 only captured 201 fish across all gears. Biologists noted that limited catches were likely caused by unseasonably cool temperatures. A total of 91 Bluegill averaging 6.8 inches were captured and growth rates were slightly above average compared to statewide surveys. Limited numbers of Pumpkinseed, Yellow Perch, Warmouth, and Black Crappie were also observed. Predators captured included one 7-inch Largemouth Bass and two Northern Pike that ranged 29-32 inches. Rough fish comprised 70% of the total catch by weight. This was a substantial increase from what was observed a decade earlier (10% in 1979) and was primarily due to 12 large Common Carp, a species not observed in previous surveys in Wabascon Lake.

Northern Pike stocking was initiated in 1991 due to the predominance of rough fish and limited numbers of predators captured in prior surveys of Wabascon Lake. A total of 10,450 fingerlings (2.2 to 4.2 inches) were stocked into the lake during 1991 through 1993 (Table 1) and a trap net survey was conducted in March 1995 to assess survival and growth of stocked fish. Four trap nets were set for two nights each (8 total net nights). Only five Northern Pike were captured during the survey, and based on scale aging samples, none of these fish were from MDNR stocking efforts. As a result, Northern Pike stocking was discontinued. A total of 417 Bluegill averaging 5.9 inches were captured and growth rates were near the state average. Bluegill size structure was scored using the DNR Schneider size structure score which rates populations based on the abundance of larger fish relative to total fish captured (see size structure index methods below; Schneider 1990). The Schneider size structure score was 3.0, which is considered acceptable. Pumpkinseed were also common, with 56 fish captured averaging 5.6 inches. More Largemouth Bass were observed than in past survey efforts despite both the gear used and season being suboptimal for capturing this species. A total of 36 Largemouth Bass averaged 10.6 inches and ranged 6-22 inches. The mean growth index is calculated by taking mean length-at-age for a fish species in a lake and subtracting the mean length-at-age from statewide surveys (see methods below; Schneider et al. 2000a). The growth index score for Largemouth Bass was slightly negative (-0.8) but considered average. A total of 37 Yellow Perch averaged 7.2 inches and no fish over 9 inches were observed. As in previous survey efforts, Yellow Bullhead were abundant in Wabascon Lake. Rough fish numbers were limited, with only 20 White Sucker and no Common Carp observed. Ice fishing pressure was reported to be high and most anglers were satisfied with the panfish sport fishery. Northern Pike stocking was discontinued. No other management changes were implemented.

A major fish kill occurred in Wabascon Lake during July 10-11, 2021. As a result, the DNR visited the lake to document the kill. Dead fish were found in Wabascon Lake, Wabascon Creek, and in Foster Lake, which is located just upstream of Wabascon Lake. Species impacted were Common Carp and White Sucker. The kill followed a rain event that substantially raised the water level of the local lakes. No signs of pollution were observed. The cause of the fish kill was not determined and no dead sportfish

were observed. A fish community survey was planned for 2022 to evaluate the effects of the fish kill. The purpose of this report is to summarize the results of the 2022 survey, which are described below in the Current Status section.

Current Status

Methods

To evaluate the effects of a recent (July 2021) fish kill, a fish community survey was conducted on Wabascon Lake during May 16-19, 2022. Methods followed those of the DNR Status and Trends program (Wehrly et al. In Revision). A total of two graded-mesh gill nets were set for two nights each (4 total net nights), three large-mesh fyke nets were set for three nights each (9 total net nights), and two small-mesh fyke nets were set for two nights each (4 total net nights). One seine haul (25 feet by 6 feet) was also conducted at the boat ramp, which was the only site suitable for seining. All fish were identified to species, counted, and measured for total length. Aging structures (scales or spines) were also collected from 10 fish in each one-inch length class for Bluegill, Black Crappie, Yellow Perch, Largemouth Bass, and Northern Pike, which comprised the major sportfish species. Weights for all fish species were calculated using length-weight regression equations compiled by Schneider et al. (2000), which were developed from statewide survey data. Limnological sampling was conducted on August 8, 2022 during the warmest part of the year when the lake was fully stratified and dissolved oxygen concentrations at depth are limiting. Limnological sampling included temperature and dissolved oxygen concentrations recorded at one-foot depth intervals at the deepest location in the lake (45 feet, western basin).

The relative abundance for each fish species was assessed using catch per unit effort (CPUE) calculated as the number of fish caught per net night (gill and fyke nets) or per seine haul. The CPUE data from this survey were compared to summary CPUE data from lakes surveyed in the Status and Trends program during 2001-2022 on both a statewide level and a regional level for the Southern Lake Michigan Management Unit (SLMMU). Weighted age compositions were calculated for each sportfish species using species-specific length-age keys and methods described by Schneider (2000b). A growth index was calculated for each species and age class by subtracting the statewide average mean length-at-age from that of the 2022 Wabascon Lake survey. Growth indices for age classes represented by a minimum of five fish were then averaged to provide a mean index of growth for each species (Schneider et al. 2000a). Mean growth index scores ranging from 1.0 to -1.0 are considered similar to the statewide average (except for Bluegill, where -0.5 to 0.5 is considered average), whereas scores less than -1.0 and greater than 1.0 (less than -0.5 and greater than 0.5 for Bluegill) are considered below and above the statewide average, respectively. Bluegill size structure was also rated using a combined index based on mean length, proportions of fish greater than 6.0 inches, 7.0 inches, and 8.0 inches collected using specific gear types, and mean growth index score (Schneider 2000a; Schneider 1990).

Results

A total of 969 fish representing 20 different species were captured in the 2022 survey (Table 2). Bluegill was by far the most abundant species and contributed 66% (643 fish) to the total catch. Catch rates for Bluegill were 48.3 fish per net night in large-mesh fyke nets and 50.8 fish per net night in small-mesh fyke nets. These catch rates were just above the median (50th percentile) values for SLMMU lakes (35.2 fish per net night and 20.0 fish per net night in large-mesh fyke and small-mesh fyke nets, respectively)

and above the 75th percentiles for lakes statewide (34.9 fish per net night and 46.0 fish per net night in large-mesh fyke and small-mesh fyke nets, respectively). Bluegill were relatively small, averaged 4.7 inches and ranged from 1 through 7 inches (Figure 5). The mean growth index was 0.0 (Table 3), which indicated average growth and mean length-at-age for Bluegill in Wabascon Lake was similar to statewide surveys (Figure 6). Although Bluegill up to age-6 were observed, the vast majority (83%) were ages 1 through 4 (Figure 7). Thus, the small size structure was likely due to a lack of older fish in the population. The Schneider size structure index score for Bluegill was 3.3, which is considered acceptable.

Pumpkinseed was the second most abundant species and contributed 9% (85 fish) to the total catch. The size structure of this species was similar to that of Bluegill, with an average of 5.5 inches and a range of 3 through 7 inches (Table 2). Other sunfish species observed included Warmouth, Rock Bass, and hybrid sunfish, all of which were captured in lower numbers (Table 2). One 9.0-inch Redear Sunfish was also observed. Given there are no records of Redear Sunfish being stocked into Wabascon Lake, and the species is not known to be native to the watershed, this fish was likely introduced through illegal transfer or stocking.

A total of 30 Black Crappie were captured in the 2022 survey (Table 2). Black Crappie averaged 8.6 inches but fish up to 12 inches were observed. The majority of Black Crappie (60%) were 8 to 9 inches, which is considered harvestable size. Growth was average, with a mean index score of -0.2. The catch rate in large-mesh fyke nets was 2.9 fish per net night, which is above the 25th percentile for SLMMU lakes (2.5 fish per net night) and the statewide median (2.5 fish per net night), and in the range considered average for both comparisons.

Only 10 Yellow Perch were captured, and all were 6-9 inches in length. Gill nets were the most efficient gear for capturing this species, and a CPUE of 2.3 fish per net night was near the median for statewide surveys (2.8 fish per net night) and just above the 25th percentile for SLMMU lakes (1.6 fish per net night).

Predator species, including Northern Pike, Largemouth Bass, and Bowfin, made up 30% of fish captured by weight in the 2022 Wabascon Lake survey, which was within the range of 20 to 50% recommended by Schneider (2000). Northern Pike were the most abundant predators in Wabascon Lake. A total of 32 Northern Pike were observed. Northern Pike were mostly captured in gill nets and large-mesh fyke nets. The average gill net catch rate (3.3 fish per net night) was between the median (2.5 fish per net night) and 75th percentile (4.5 fish per net night) for gill nets for the SLMMU and statewide surveys (same values for both). The CPUE in large-mesh fyke nets (2.0 fish per net night) was above the 75th percentile for SLMMU (1.3 fish per net night) and at the 75th percentile for statewide (2.0 fish per net night). Northern Pike were mostly small, ranged 17 through 21 inches, and were all age-2 fish that recruited from a single year class (2020). These fish averaged 19.3 inches, which is well above the statewide average of 17.7 inches at age-2 and resulted in a growth index score of +1.6. Only nine Largemouth Bass were observed. Large-mesh fyke net catch rates for Largemouth Bass averaged 0.7 fish per net night, which was below the 25th percentile for both the SLMMU (1.7 fish per net night) and statewide (1.3 fish per net night). All Largemouth Bass were smaller than the legal minimum size limit (14 inches), with a range of 3-12 inches. Seven of these fish were age-2 and one was age-5 and one fish was not aged. The growth index score for Largemouth Bass was -0.5, which indicated average growth, but all fish captured were smaller than statewide age-based average lengths.

Minnows were not captured in large numbers (only 22 fish total), but several species were observed. Species present in Wabascon Lake included Blackstripe Topminnow, Lake Chubsucker, Golden Shiner, Common Shiner, and Banded Killifish. Suitable seining locations were limited and reduced effort (only one seine haul) resulted in fewer minnows being captured.

White Sucker, Bowfin, and Golden Redhorse were caught in limited numbers (16 fish total). Common Carp continued to be present in Wabascon Lake, but only one individual was captured during the 2022 survey. Yellow Bullhead were abundant, with 80 fish observed averaging 9.7 inches and ranging 5 to12 inches. Bullhead species continue to contribute to the sport fishery.

During limnological sampling, air temperature was 75.0ºF and surface water temperature was 81.6ºF. Water temperature decreased with depth to a low of 45.7ºF at 28 feet (Figure 5). The thermocline, which is the depth in a lake when temperature begins to drop, was gradual, with water temperature starting to drop at 6.0 feet below the surface and continuing to decline through approximately 20 feet depth. Dissolved oxygen concentration was 7.9 ppm at the surface and dropped to anoxic conditions (less than 3.0 ppm) at depths greater than 12 feet. The temperature at 12 feet was 67.7ºF, which indicated there was no cold, oxygenated habitat in Wabascon Lake. Habitat for cool and cold water fish is limited. Fish with lower temperature tolerances would be subjected to a lack of oxygen at depths where lower temperatures are present in Wabascon Lake. Secchi Depth was 7.4 feet, which indicated light penetrates to 14.8 feet. The water was alkaline with a brown color, presumably from high levels of tannins.

Analysis and Discussion

Historically, fish community surveys conducted on Wabascon Lake have demonstrated average catch rates for most species when compared to both statewide and SLMMU values. Past surveys have also reported poor weather conditions or variable catch rates and include notes that catch rates may not adequately represent the fish community. The total number of fish captured in the 2022 survey was much larger than in past surveys and catch rates were generally higher for all species. Largemouth Bass were the exception, with very few fish captured in survey gears. Electrofishing is the preferred method for evaluating Largemouth Bass populations and this gear was not utilized in the 2022 survey. Although large-mesh fyke nets are not the preferred gear for Largemouth Bass, catch rates were low compared to other statewide and SLMMU surveys. Only one fishing tournament was registered on Wabascon Lake during 2014-2024. This tournament occurred in 2020, involved three teams of two anglers each, and targeted Largemouth Bass. Only one legal fish was weighed in at 1.64 pounds. Collectilvely, the available evidence supports the conclusion that Largemouth Bass numbers are limited in Wabascon Lake.

Bluegill catch rates were average for the SLMMU, but size structure appears to be limited by the longevity of the population. Fish ages-1-4 contributed the vast majority of individuals to the population while fish older than age-4 were rare. This could be due to high levels of harvest once fish reach the angler-preferred size of 6.8 inches (Gabelhouse 1984), which occurred around age-5 in the 2022 survey. Reports indicate that more anglers utilize Wabascon Lake during the winter season when periods of good ice permit, and as a result, winter harvest is likely greater than summer harvest. Wabascon Lake tends to freeze earlier than other lakes in the area and anglers report high ice fishing effort early in the season. Anglers also report good harvest rates, which likely results in selective removal of older age classes of Bluegill and other panfish. This may account for the reduced longevity and low density of older fish captured in the 2022 survey. Average to high densities of age-1-4 fish suggest that Bluegill recruitment

is consistent. Despite the high density of young fish and lack of larger fish, the Bluegill population does not appear stunted, as indicated by growth rates and length-at-age values similar to statewide and SLMMU averages. Thus, Bluegill present in Wabascon Lake have the potential to grow to larger sizes if they survive. Currently, the Bluegill fishery in the lake appears to be maintained by consistent recruitment, which replaces larger individuals harvested each year.

Black Crappie and Pumpkinseed also contribute to the panfish fishery. Black Crappie catch rates were below the median for regional lakes but still considered average. Some bigger fish were present, but most fish were in the 8-9 inch range. This was not driven by a single year class as fish age 4 through 6 were represented in this size class relatively evenly. The crappie fishery could improve as these fish grow. Pumpkinseed were abundant in Wabascon Lake. The Pumpkinseed were generally small with 95% of fish caught being 4 through 6 inches in length. Only the largest Pumpkinseed are likely contributing to the fishery. Growth rates were not assessed for Pumpkinseed so it is unclear if the small size structure is due to slow growth or high harvest rates of larger fish.

Northern Pike densities in the 2022 survey were at the high range of what is considered average compared to both SLMMU and statewide surveys. All Northern Pike captured were age-2, which indicated a particularly strong 2020 year class. Northern Pike are abundant in the Kalamazoo River, Battle Creek, and connected tributaries, and anglers reported good catches of young Northern Pike in these waters during 2022. Thus, spring conditions in 2020 appear to have produced a strong year class, both in Wabascon Lake and regionally. Northern Pike are known to run upstream into tributaries to spawn where there is connectivity. There is a dam located on Wabascon Creek downstream of Wabascon Lake that likely blocks upstream migration from the Kalamazoo River into Wabascon Lake. The Northern Pike year class captured in Wabascon Lake was likely produced in the upper portion of the Wabascon Creek watershed. This population appears to be experiencing rapid growth and should continue to provide fishing opportunities.

Yellow Bullhead were abundant in Wabascon Lake in 2022. Past surveys also documented high levels of abundance for this species. The Yellow Bullhead population contributes to the sport fishery in Wabascon Lake by providing additional harvest opportunities. Angler reports indicate this fishery was popular in the past and Wabascon Lake is expected to continue providing a high-density population of Yellow Bullhead suitable for harvest.

Catch rates in the 2022 fish community survey of Wabascon Lake may have been influenced by the bathymetry of the lake. Depths increased rapidly close to shore. This situation causes difficulties setting fyke nets and leads are generally shortened to set entrances to the nets at the appropriate depth. Shortened leads and steep drop-offs can result in reduced catch rates as nets fish a smaller segment of the littoral zone. Notes from the 2022 survey indicated that finding good locations to accommodate nets was difficult and led to suboptimal net sets. This likely also impacted past surveys. Larger fish may have been offshore where they were not vulnerable to entrapment gear, which would have resulted in these fish being underrepresented in the 2022 survey. Gill nets are generally more efficient under these conditions and were able to capture some fish in deeper water. For example, 90% of Yellow Perch, 67% of White Sucker, and 41% of Northern Pike were captured in gill nets indicating some species were more abundant offshore.

Collectively, results of the 2022 fish community survey indicated that the 2021 fish kill did not have a substantial impact on the sport fishery of Wabascon Lake. The fish kill mostly affected rough fish, such as White Sucker and Common Carp, which are targeted by bow fishers but largely ignored by hook-and-line anglers. Although it is likely that relative abundance of rough fish species was higher prior to the 2022 fish kill, these species comprised 10% of fish captured by weight in the 2022 survey, which was within the range observed in past surveys (10-70%). The 2021 fish kill did not appear to impact other fish species in Wabascon Lake. Most sportfish species were present in good numbers and recruitment (age-0-1 fish) was documented for all species observed following the fish kill. Although limited numbers of older Bluegill, Largemouth Bass, and Northern Pike could have been influenced by the 2021 fish kill, no mortality was observed when DNR staff visited the lake and surrounding waters immediately following the kill. Because Wabascon Lake has good connectivity to other waterbodies, both upstream and downstream, fish can leave the lake during periods of stress. These connections create refuges from high stress events and provide resiliency to pollution and poor water quality conditions.

Management Direction

Currently, no management changes are proposed for Wabascon Lake. The lake maintains an acceptable sport fishery and the 2021 fish kill did not substantially affect most fish species targeted by anglers. Fish stocking or regulation changes do not appear to be warranted and would be unlikely to improve the sport fishery. Given that recruitment was documented for all sportfish species following the 2021 fish kill, stocking does not appear to be necessary. Natural reproduction is expected to continue to support an adequate sport fishery and replace any fish lost in 2021. The DNR will continue to protect fish habitat through review of Michigan Department of Environment, Great Lakes, and Energy (EGLE) permit applications for proposed projects both on and surrounding the lake. The DNR will also continue to collaborate with the surrounding township (Bedford Township) to explore potential dam removal and stream improvement opportunities in several public parks that would increase fish population connectivity with Wabascon Lake.

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Table 1. Stocking history for Wabascon Lake, Calhoun County.

Species	Year	Number	Life Stage
Lake Whitefish	1876	20,000	Swim-up Fry
Bluegill	1934	2,000	5-month
Largemouth Bass	1934	800	4-month
Yellow Perch	1935	3,000	8-month
Bluegill	1938	40,000	4-month
Largemouth Bass	1938	600	5-month
Bluegill	1939	29,000	4-month
Largemouth Bass	1939	500	5-month
Smallmouth Bass	1939	2,000	4-month
Bluegill	1940	50,000	4-month
Bluegill	1941	19,000	4-month
Largemouth Bass	1941	1,600	5-month
Bluegill	1942	6,000	3-month
Largemouth Bass	1942	7,000	3-month
Northern Pike	1960	2,500	Fingerling
Northern Pike	1991	3,500	Fingerling
Northern Pike	1992	5,200	Fingerling
Northern Pike	1993	1,750	Fingerling

Table 2. Fish species captured and relative abundance in the 2022 Status and Trends survey of Wabascon Lake.

Species	Number	Total Weight (lbs)	Average Length (inches)	Length Range (inches)
Black Crappie	30	12.4	8.6	1 - 12
Banded Killifish	1	0.0	2.5	2 - 2
Bluegill	643	71.4	4.7	1 - 7
Bowfin	3	12.1	22.2	18 - 25
Blackstripe Topminnow	11	0.0	2.0	1 - 2
Common Carp	1	3.1	18.5	18 - 18
Common Shiner	1	0.0	2.5	2 - 2
White Sucker	12	12.5	13.1	6 - 17
Golden Redhorse	1	1.9	17.5	17 - 17
Golden Shiner	4	0.7	8.0	7 - 8
Hybrid Sunfish	4	0.4	5.0	4 - 5
Lake Chubsucker	5	0.9	6.7	5 - 7
Largemouth Bass	9	2.0	6.9	3 - 12
Northern Pike	32	49.8	19.3	17 - 21
Pumpkinseed	85	11.9	5.5	3 - 7
Rock Bass	4	1.7	8.3	7 - 8
Redear Sunfish	1	0.7	9.5	9 - 9
Warmouth	32	8.2	6.5	4 - 9
Yellow Perch	10	2.3	8.1	6 - 9
Yellow Bullhead	80	36.9	9.7	5 - 12
Grand Total	969	228.6	6.1	1 - 25

Table 3. Mean length at age and growth index score for five species that age structures were collected for during the 2022 fish survey on Wabascon Lake.

Age	Black Crappie	Bluegill	Largemouth Bass	Northern Pike	Yellow Perch
Growth Index Score	-0.2	0.0	-0.5	1.6	-0.9
Age -1	-	1.8	-	-	-
Age -2	-	3.6	6.6	19.3	-
Age -3	7.9	4.4	-	-	-
Age -4	8.7	6.3	-	-	-
Age -5	9.2	7.0	12.0	-	7.6
Age -6	9.4	7.2	-	-	8.7
Age -7	12.2	-	-	-	8.1
Age -8	-	-	-	-	-
Age -9	10.7	-	-	-	-
Age -10	10.6	-	-	-	-

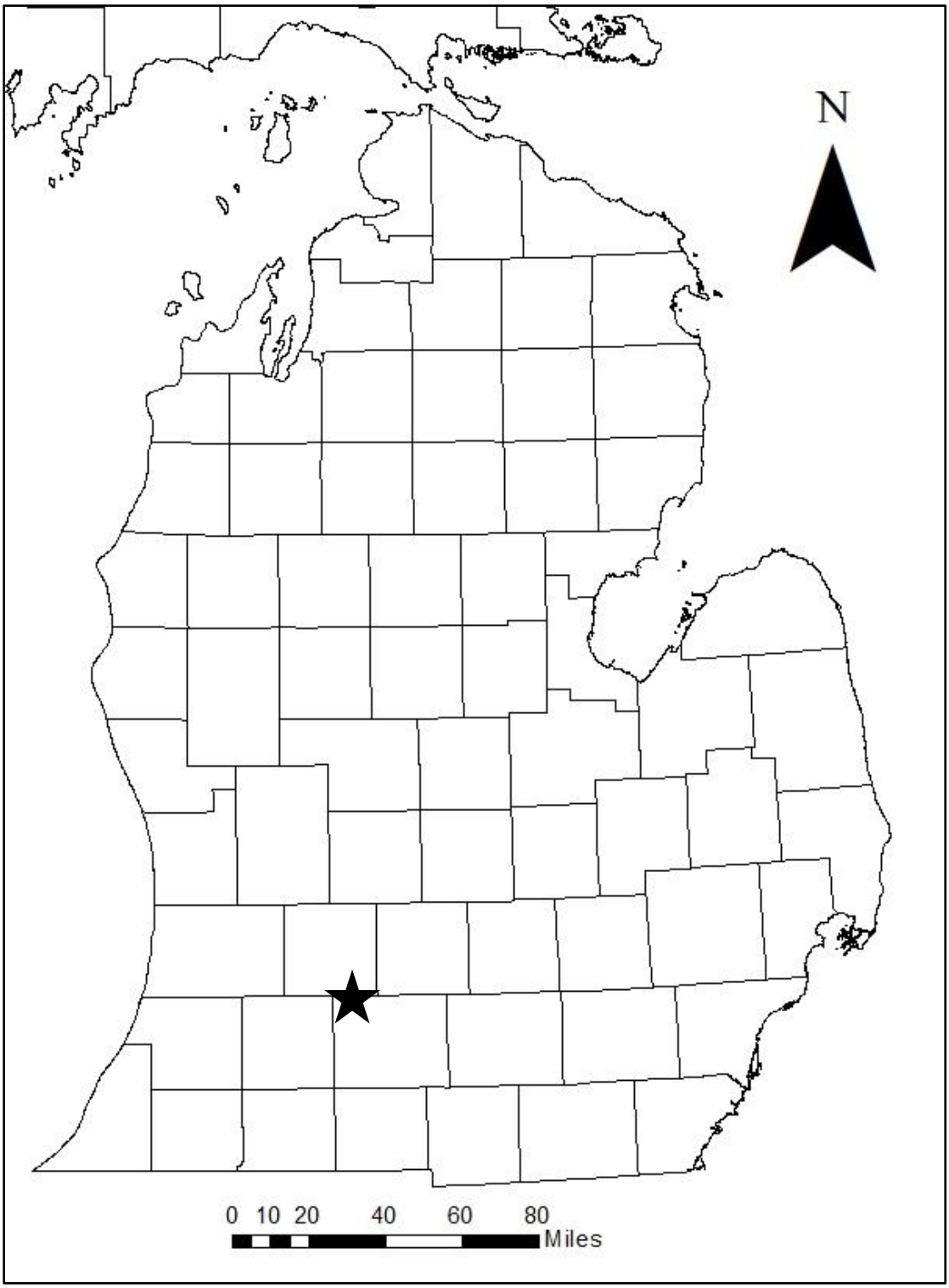

Figure 1. General location of Wabascon Lake in Calhoun County, Michigan. The black star indicates location of Wabascon Lake.

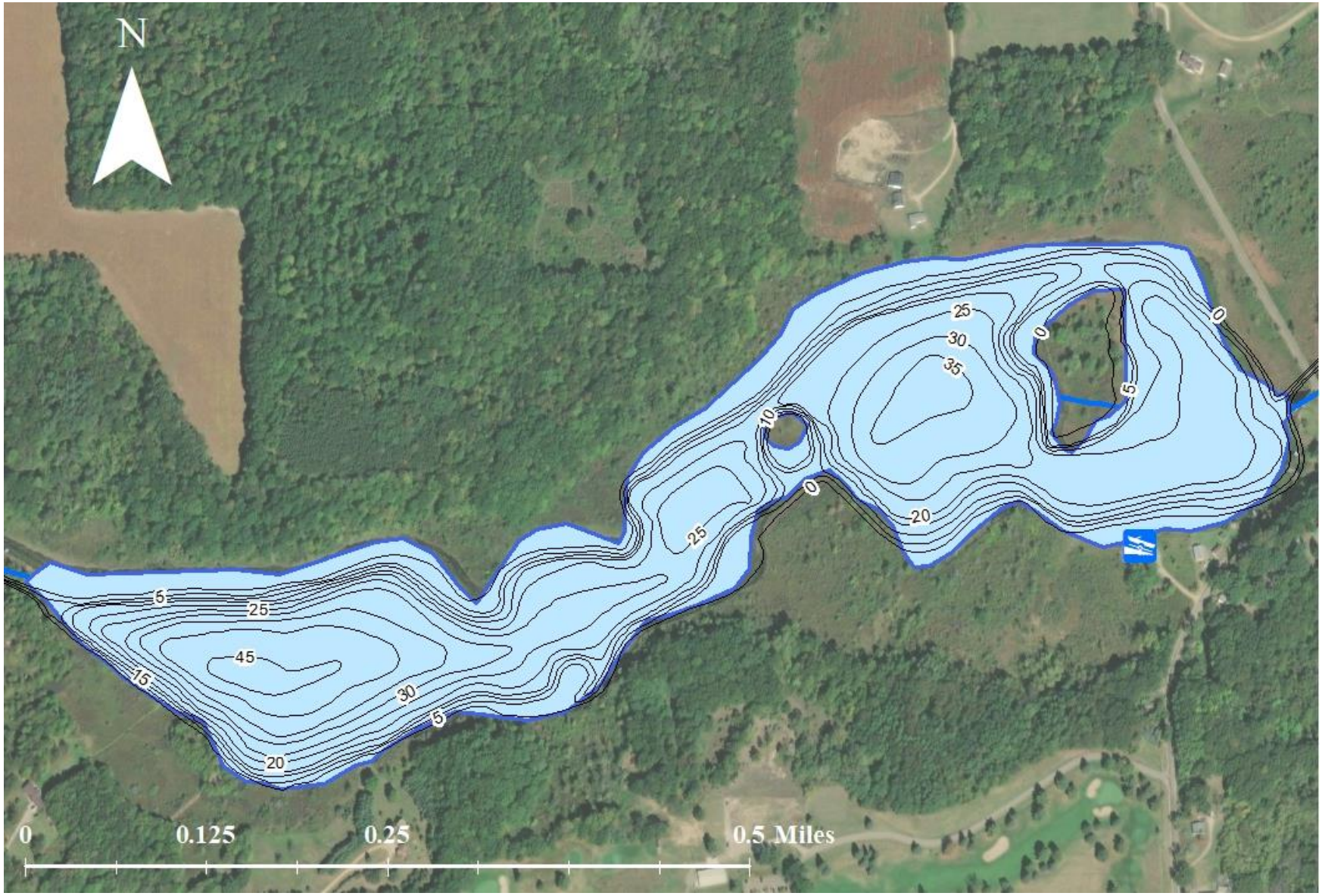

Figure 2. Lake contour map for Wabascon Lake in Calhoun County. Contour lines represent depth in feet.

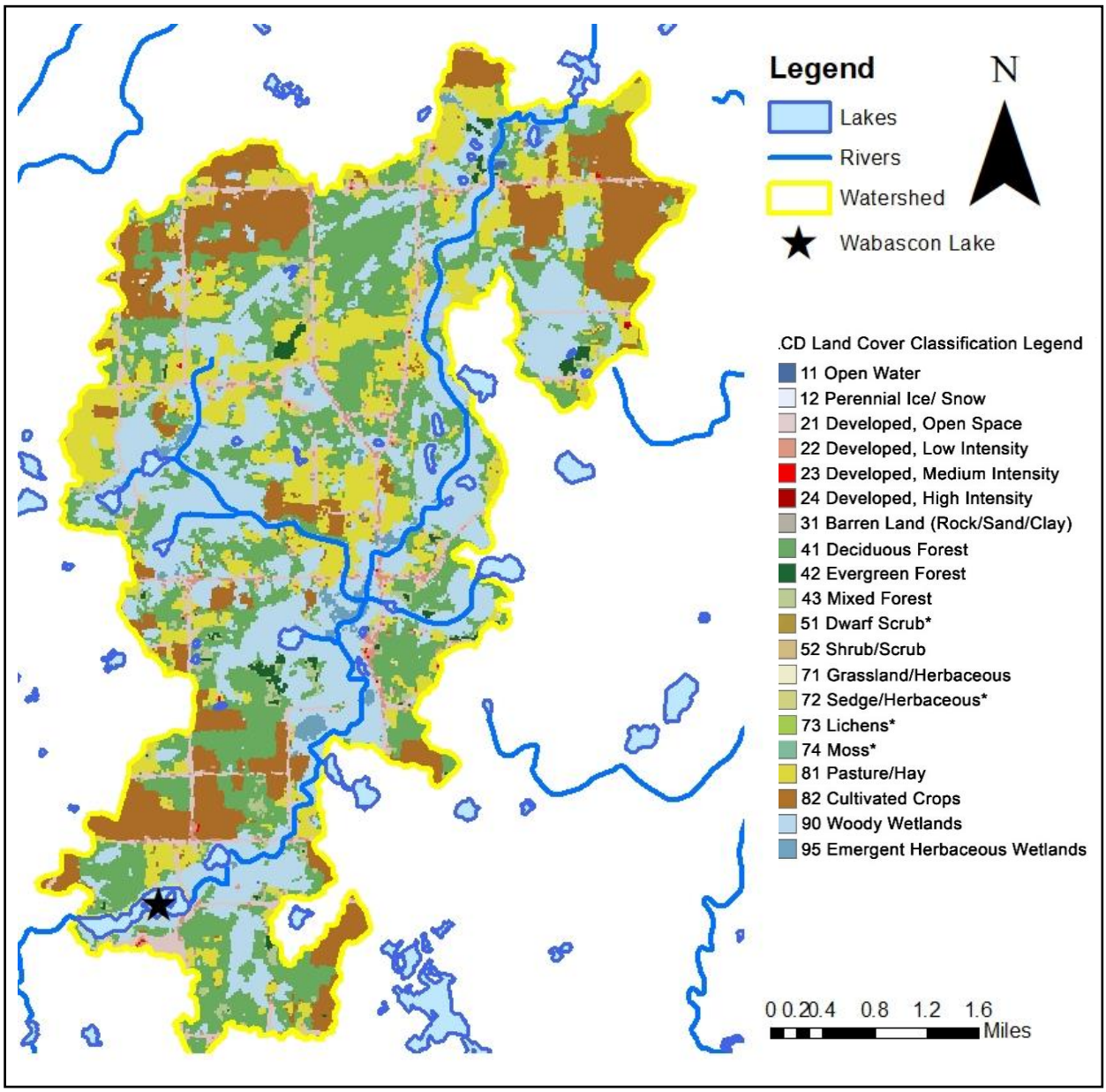

Figure 3. Land use in the Wabascon Lake watershed. Lakeshed map and land cover type from 2023 imagery (USGS 2024) for Wabascon Lake. The black star indicates location of Wabascon Lake.

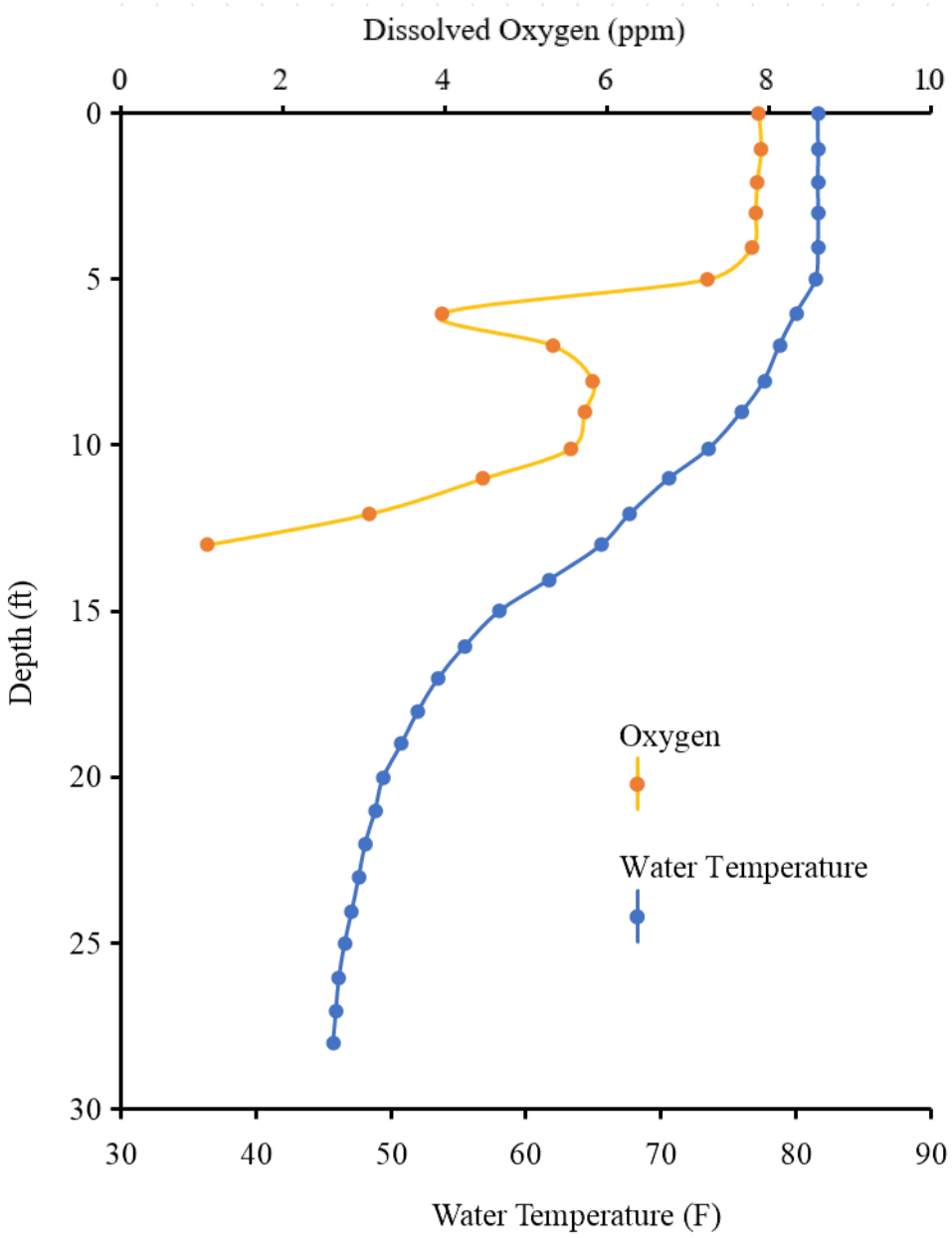

Figure 4. Results of the most recent water temperature and dissolved oxygen profile for Wabascon Lake. Profile was completed on August 8, 2022.

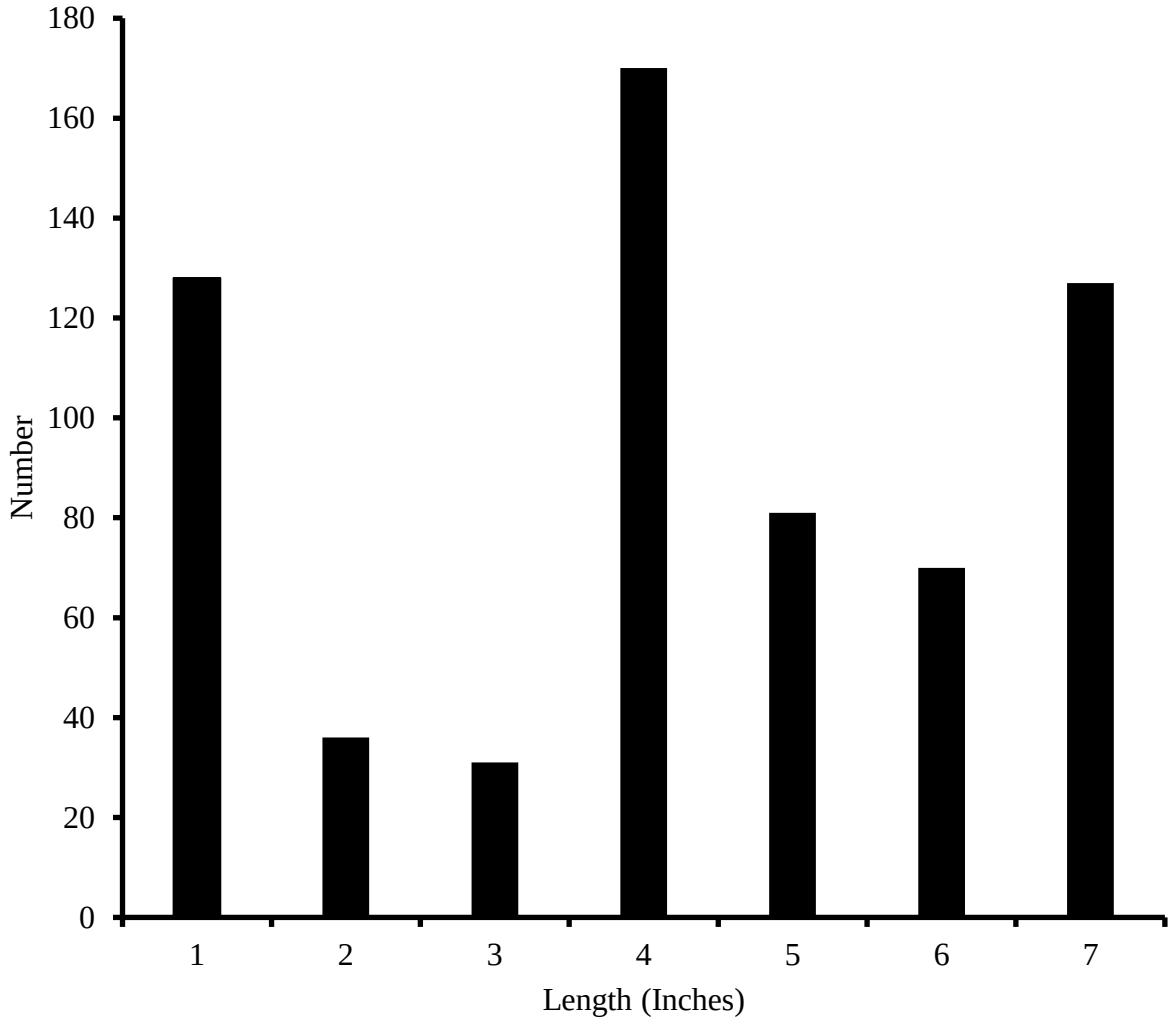

Figure 5 Length frequency of Bluegill captured across all gears in the 2022 survey on Wabascon Lake, Calhoun County.

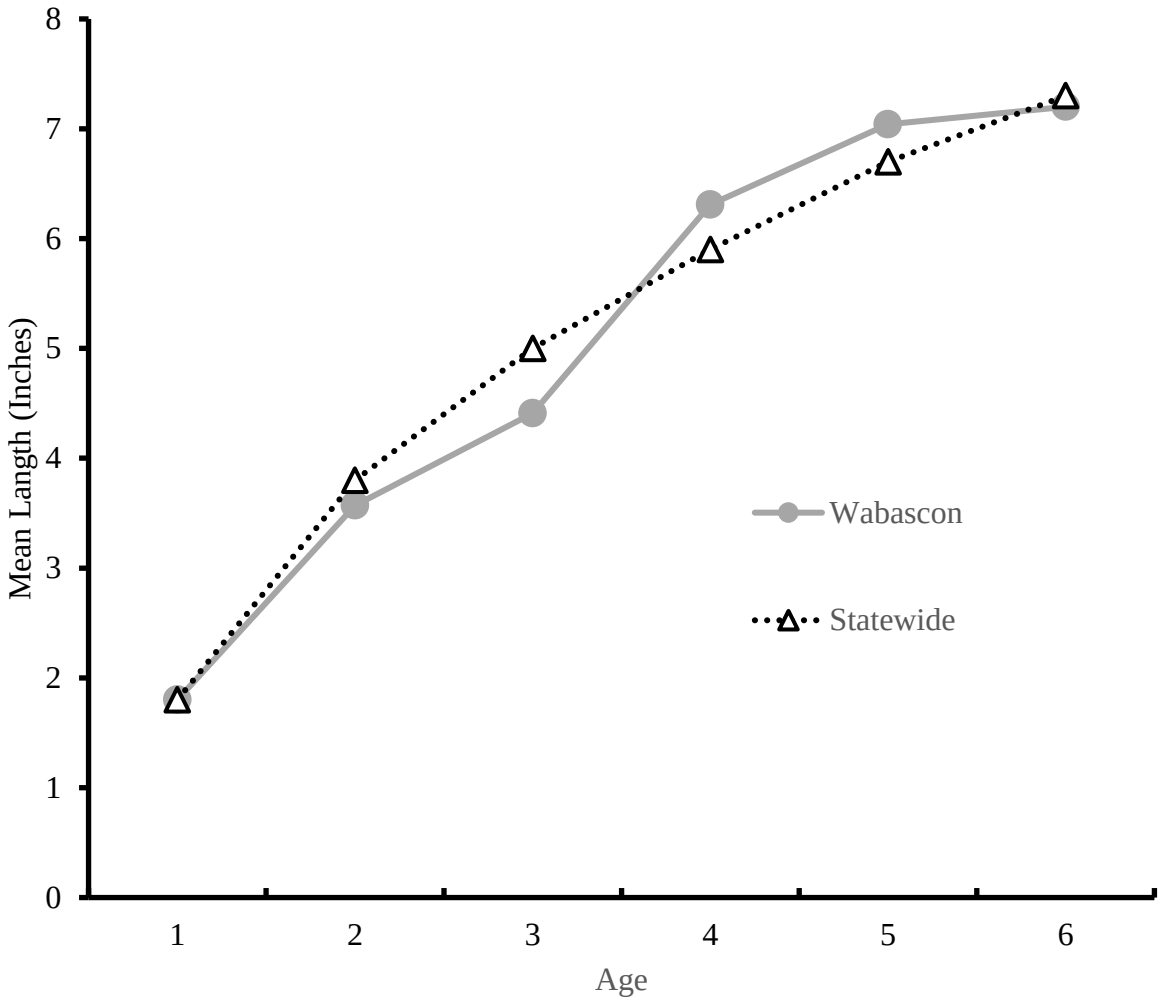

Figure 6. Mean length-at-age for Bluegill collected in the 2022 Wabascon Creek survey compared to the statewide average. Only two age-6 Bluegill were collected to calculate the average length-at-age.

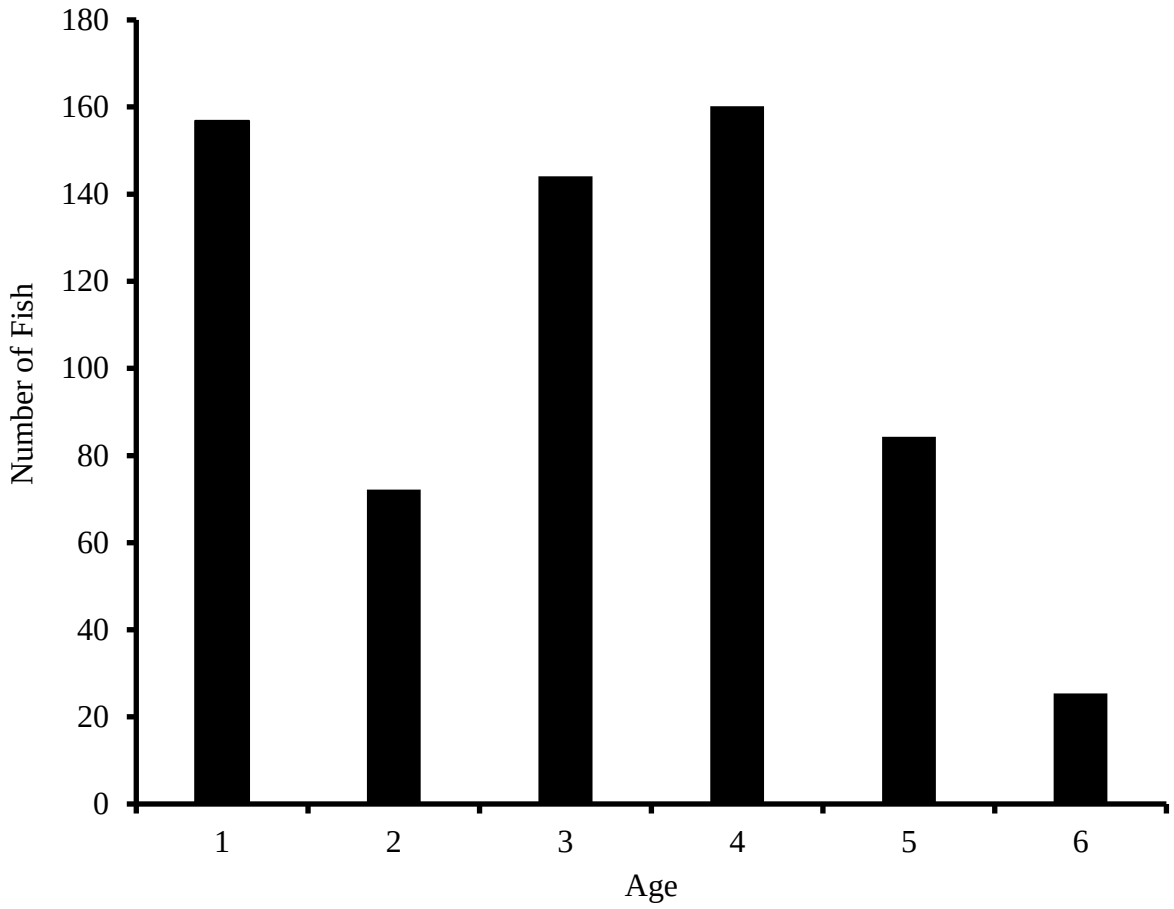

Figure 7. Number of Bluegill caught by age class across all gears in the 2022 survey of Wabascon Lake.

Received January 22, 2025; Approved March 21, 2025
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Benjamin Rook, External Reviewer
John Bauman, SFR Facilitator
John Bauman, Desktop Publisher and Approval