

Wisconsin Department of Natural Resources 2025 Comprehensive Survey Report for Long Lake, Manitowoc County

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Photo Credit: DNR



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Introduction

Long Lake is a 119 acre drainage lake in west central Manitowoc County near the border of Calumet County. An outflow at the southern end of Long Lake connects it with Spring Creek and eventually the North Branch Manitowoc River. Long Lake has a maximum depth of 38 feet with approximately 3.25 miles of shoreline. Long Lake has one public boat launch located in Long Lake County Park in the northeast corner of the lake.

Parts of the shoreline of the lake are highly developed whereas other shoreline areas remain natural. Long Lake is part of a watershed that is dominated by agricultural lands (62%) and the lake is considered impaired due to excess phosphorus which has caused eutrophication, excess algal growth and a downgraded biological community. Long Lake is considered a simple warm dark lake.

Current fishing regulations for Long Lake follow statewide default regulations for all species except for panfish, which have a regulation of a 25 aggregate bag limit for all panfish species combined, but no more than 5 may be bluegill that was implemented April 1, 2026.

Fisheries surveys have been conducted on Long Lake since the 1940s using a combination of fyke netting and electrofishing as the primary gears to sample the fish community. Within the last 50 years, fyke netting surveys have been conducted in 1983, 2007, 2017 and 2022 with electrofishing surveys being conducted in 2007, 2011, 2017 and 2022. Results from these fish surveys have shown that largemouth bass and northern pike are the dominant gamefish found in the lake whereas bluegill and black crappie are the dominant panfish found in the lake. Other species found in Long Lake include black bullhead, brown bullhead, common carp, golden shiner, green sunfish, pumpkinseed, walleye, white sucker, yellow bass, yellow bullhead and yellow perch.

In 2025, the Wisconsin Department of Natural Resources (DNR) conducted a comprehensive fish survey of Long Lake to assess the current status of the fishery and provide direction for future fisheries management of this lake. Comprehensive fish surveys include both spring fyke netting and spring electrofishing surveys, with each gear targeting different species in the lake. Primary sampling objectives of these surveys were to characterize species composition, relative abundance, growth and size structure. The following report is a brief summary of the activities conducted, general status of fish populations, and future management options for Long Lake.

Survey Effort

As part of the 2025 comprehensive fish survey, Long Lake was sampled according to spring netting I (SNI) and spring electrofishing II (SEII) protocols as outlined in DNR Fisheries Monitoring Protocols. The primary objective for the SNI survey is to count and measure adult northern pike, walleye and panfish. The primary objective of the SEII survey is to count and measure adult largemouth bass and panfish. Other gamefish and/or panfish may be sampled in each survey but are not the primary focus.

Fyke nets were deployed shortly after ice-out in areas of the lake that contained spawning habitat or were likely travel areas for northern pike and walleye. All newly captured gamefish were given a partial fin clip. Length was measured for all gamefish and panfish species. Age structures (i.e., otoliths or fin rays) were collected from a subsample of northern pike, bluegill and black crappie for age and growth analyses. Spring electrofishing took place in late spring when water temperatures reached 60-70°F and largemouth bass and panfish moved shallow to spawn.

All species encountered were collected and enumerated and all gamefish and panfish species were measured for length. Table 1 provides information about survey dates, water temperatures and effort for the SNI and SEII surveys that were completed in 2025. Figure 1 shows maps of the fyke netting locations (yellow dots in A) and electrofishing stations (yellow lines represent dip all stations and black lines represent gamefish only stations) that were part of the 2025 comprehensive fish survey of Long Lake.

Table 1. Survey information for the 2025 comprehensive fish survey Long Lake, Manitowoc County.

Site Location	Survey Dates	Water Temperature (°F)	Target Species	Gear	Number of Nets	Effort
Long Lake	03/17/2025 – 03/22/2025	37 - 40	Northern pike/Walleye/Panfish	Fyke Net	5	24 net nights
Long Lake	05/13/2025	67	Largemouth bass/Panfish	Boomshocker	NA	1.0 miles dip all/1.95 miles gamefish only

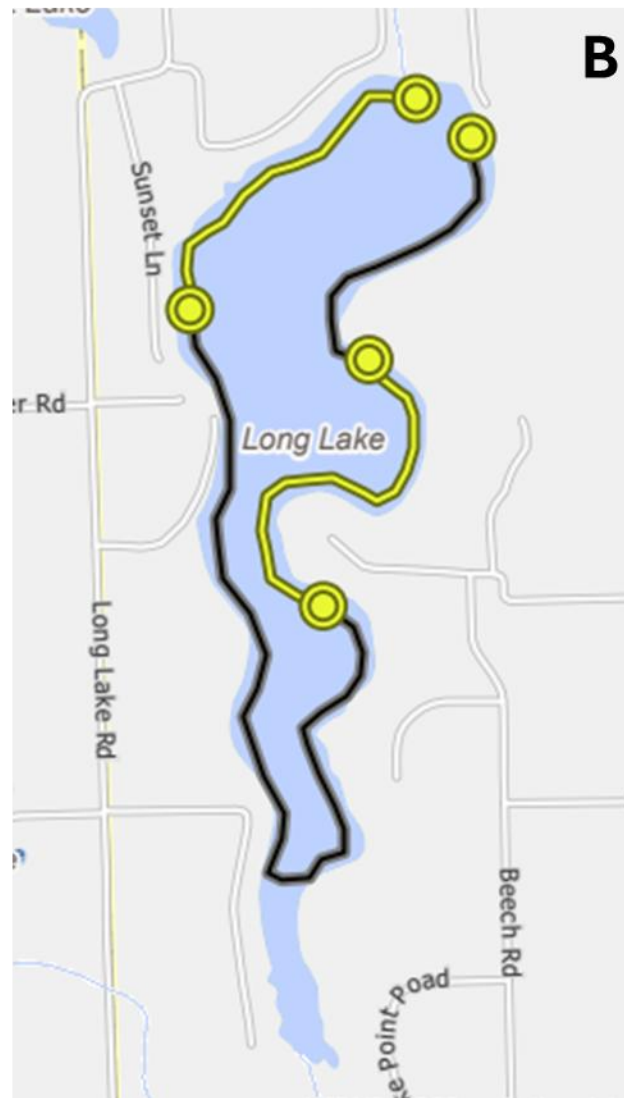
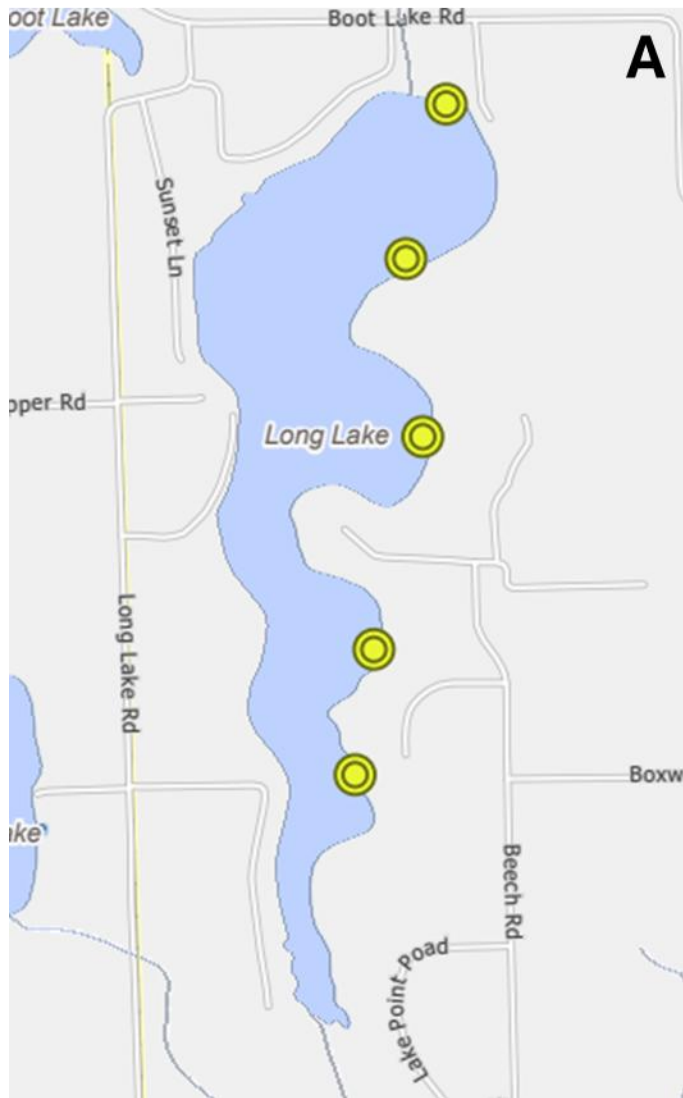


Figure 1. Map of fyke net locations shown as the yellow dots in A and electrofishing stations shown as yellow lines (dip all stations) and black lines (gamefish only stations) in B as part of the 2025 comprehensive fish survey of Long Lake, Manitowoc County.

Metric Descriptions

- **Catch per unit effort (CPUE) is an index used to measure fish population relative abundance, which simply refers to the number of fish captured per unit of distance or time.** For netting surveys, we typically quantify CPUE as the number and size of fish per net night. For electrofishing, we quantify CPUE as the number caught per mile of water electrofished. CPUE indexes are compared to statewide data by percentiles and within lake trends. For example, if a CPUE is in the 90th percentile, it is higher than 90% of the other CPUEs in the state. Percentiles for lake class specific CPUEs are presented in the text and not shown in the tables.
- **Proportional Stock Density (PSD) is an index used to describe the size structure of fish populations.** It is calculated by dividing the number of quality size fish by the number of stock size fish for a given species. PSD values between 40 - 60 generally describe a balanced fish population. Percentiles for PSD values presented in tables are statewide percentiles. Lake class specific percentiles are not available for PSD metrics.
- **Length frequency distribution (LFD) is a graphical representation of the number or percentage of fish captured by half-inch or one-inch size intervals.** Smaller fish (or younger age classes) may not always be represented in the length frequency due to different habitat usage or sampling gear limitations.
- **Mean Length at Age is an index used to assess fish growth.** Calcified structures (e.g., otoliths, spines, or fin rays) are collected from fish of all sizes that are present in the sample. Mean lengths at ages are calculated as the average length of all fish of a given age.

Results

Northern Pike

Northern pike spawn in shallow vegetated areas shortly after ice out when water temperatures are 35 - 40°F. Fyke netting is the preferred gear for sampling northern pike. All results presented for northern pike are from spring fyke netting surveys.

Table 2. Size structure metrics for northern pike captured in the 2025 fyke netting survey of Long Lake.

2025 Total Number Measured	Average Length (inches)	Length Range (inches)	Stock and Quality Size (inches)	Stock Number	Quality Number	PSD	2025 Statewide Percentile Rank	2025 Size Rating
50	23.6	13.8 – 35.0	14 and 21	49	33	67	77th	High

Table 3. Relative abundance (CPUE) trends for northern pike captured in fyke netting surveys of Long Lake.

2025 Total Number Captured	1983	2007	2017	2022	2025	Historical Median	2025 Statewide Percentile Rank	2025 Abundance Rating
86	0.4	3.4	15.1	8.6	3.6	3.6	71st	Moderate - High

Table 4. Size structure (proportional stock density [PSD]) trends for northern pike captured in fyke netting surveys of Long Lake.

1983	2007	2017	2022	2025	Historical Median
100	73	88	92	67	88

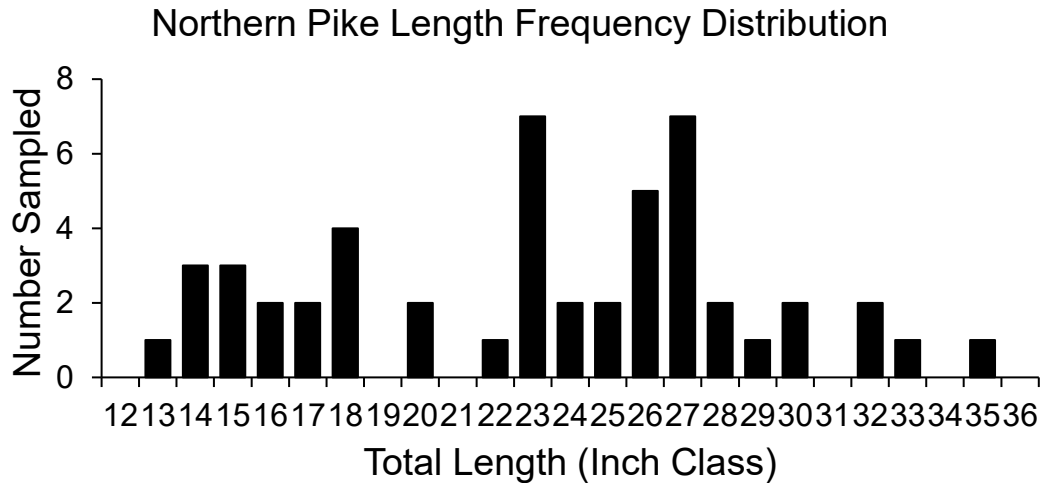


Figure 2. Length frequency distribution depicting the number of northern pike captured in one inch size intervals in the 2025 fyke netting survey of Long Lake.

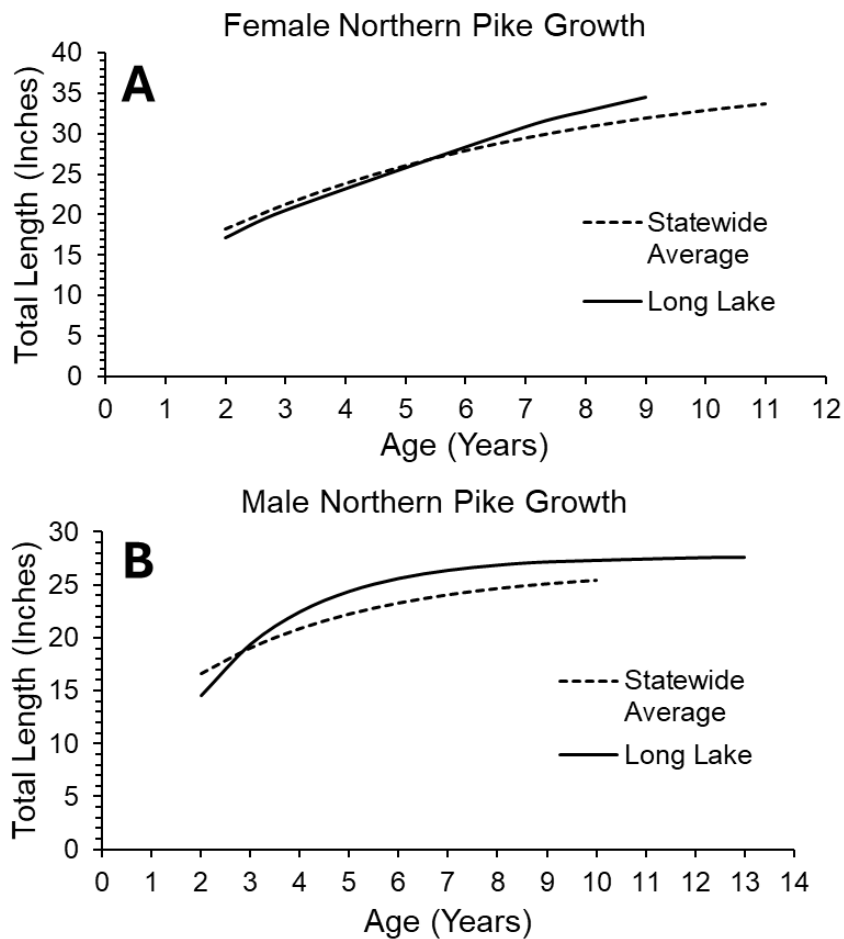


Figure 3. Predicted length at age (solid line) for female (A) and male (B) northern pike captured in the 2025 fyke netting survey of Long Lake. Dashed lines represent the statewide average lengths at age for male and female northern pike.

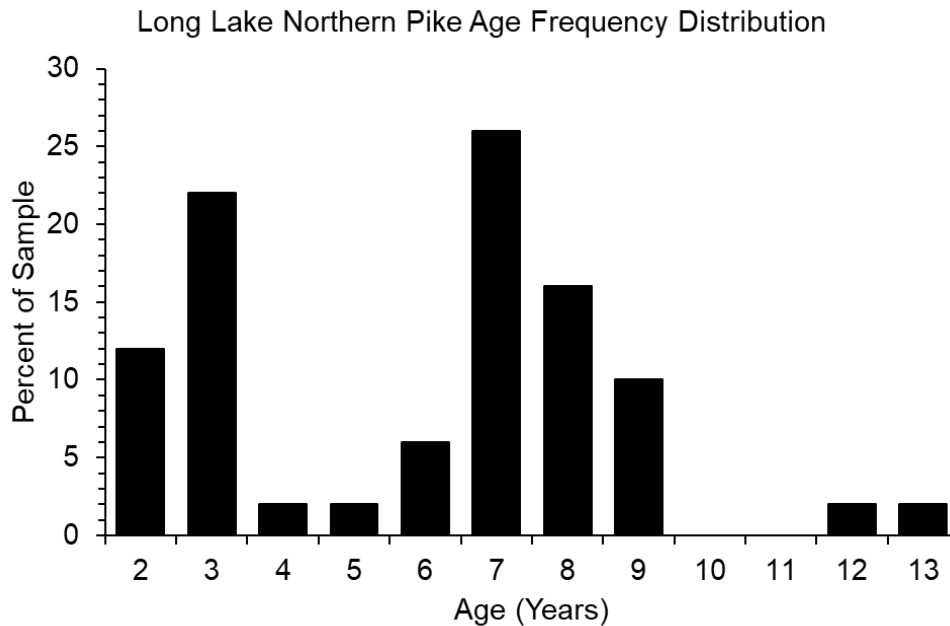


Figure 4. Age frequency distribution for northern pike captured in the spring 2025 fyke netting survey of Long Lake.

Catch rates of northern pike in the spring 2025 fyke netting survey were moderate - high at 3.6 northern pike per net night (Table 3). This catch rate ranks out in the 71st percentile for all lakes in Wisconsin and ranks out just above the 75th percentile for simple warm dark lakes (Table 3). Despite declines in northern pike catch rates in 2025 compared to the 2017 and 2022 fyke netting surveys, a catch rate of 3.6 northern pike per net night is still the median catch rate for all fyke netting surveys of Long Lake (Table 3). Significant northern pike stockings between 2008 – 2019 likely contributed to the very high catch rates observed in the 2017 and 2022 fyke netting surveys.

Size structure and growth rates of northern pike were again above average in the 2025 fyke netting survey. The average size northern pike captured in 2025 was 23.6 inches with northern pike as large as 35.0 inches being captured (Table 2; Figure 2). Northern pike PSD in the 2025 fyke netting survey was 67, which ranks out in the 77th percentile for all lakes in Wisconsin (Table 2). Interestingly, the northern pike PSD in the 2025 fyke netting survey was the lowest PSD in fyke netting surveys going back to 1983 (Table 4). The lower PSD observed in 2025 is more indicative of a balanced population with a more even mix of small and large individuals. Both male and female northern pike in Long Lake are growing at or above the statewide average growth rates for northern pike (Figure 3). Nearly all ages of northern pike from ages 2 – 13 were sampled in the population in 2025 (Figure 4). Only ages 10 and 11 were missing from the population (Figure 4). Interestingly, nearly 40% of the northern pike captured were estimated to be age-5 or younger (Figure 4), meaning they were naturally reproduced given the last stocking of northern pike took place in 2019.

Walleye

Walleye spawn in shallow areas with rocky substrates typically dominated by cobble and gravel when water temperatures are 40 - 50°F. Fyke netting is the preferred gear for sampling walleye. All results presented for walleye are from spring fyke netting surveys.

Table 5. Size structure metrics for walleye captured in the 2025 fyke netting survey of Long Lake.

2025 Total Number Measured	Average Length (inches)	Length Range (inches)	Stock and Quality Size (inches)	Stock Number	Quality Number	PSD	2025 Statewide Percentile Rank	2025 Size Rating
9	23.0	17.6 – 26.4	10 and 15	9	9	100	100th	High

Table 6. Relative abundance (CPUE) trends for walleye captured in fyke netting surveys of Long Lake.

2025 Total Number Captured	1983	2007	2017	2022	2025	Historical Median	2025 Statewide Percentile Rank	2025 Abundance Rating
9	0.1	0.2	1.8	4.2	0.4	0.4	16th	Low

Table 7. Size structure (proportional stock density [PSD]) trends for walleye captured in fyke netting surveys of Long Lake.

1983	2007	2017	2022	2025	Historical Median
100	63	100	100	100	100

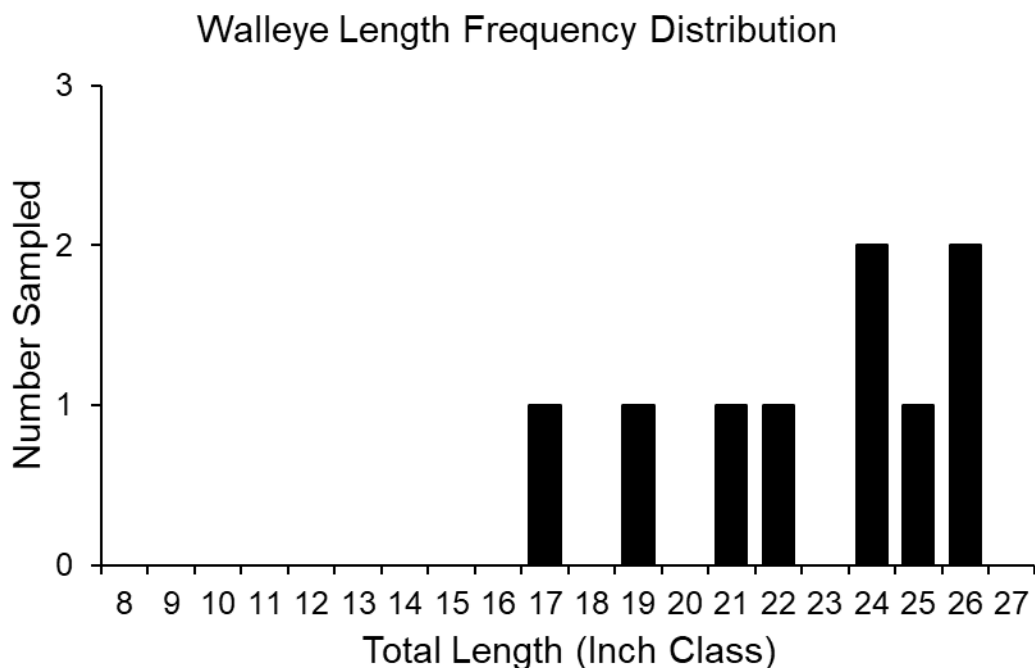


Figure 5. Length frequency distribution depicting the number of walleye captured in one inch size intervals in the 2025 fyke netting survey of Long Lake.

Catch rates of walleye in the spring 2025 fyke netting survey were low at just 0.4 walleye per net night (Table 6). This catch rates ranks out in the 16th percentile for all lakes in Wisconsin but ranks out near the median for simple warm dark lakes (Table 6). Catch rates of walleye in the 2025 fyke netting survey were much lower than catch rates in the 2017 and 2022 fyke netting survey but were higher than earlier fyke netting surveys going back to the 1983 (Table 6). However, fyke nets in the 2025 survey were set earlier in the spring compared to the 2017 and 2022 fyke netting surveys and pulled when water temperatures were much cooler than those in the 2017 and 2022 surveys, which could have led to the lower catch rates for walleye in 2025 compared to 2017 and 2022. For example, fyke nets were set on March 17, 2025, compared to April 5, 2017 and April 8, 2022. Furthermore, fyke nets were not pulled until water temperatures were 45°F in 2022 and 48°F in 2017 compared to nets getting pulled when water temperatures were only 40°F in 2025. Fyke nets in the 2025 survey were likely pulled too early in the spring and when water temperatures were too cold to get a fully representative sample of the walleye population. It should also be noted that 10 walleye were capture in the spring bass panfish survey, which is more than what was captured in the fyke netting survey.

Size structure of walleye was again above average in the 2025 fyke netting survey. The average size walleye captured in 2025 was 23.0 inches with walleye as large as 26.4 inches being captured (Table 5; Figure 5). Walleye PSD in the 2025 fyke netting survey was 100, which ranks out in the 100th percentile for all lakes in Wisconsin (Table 5). Walleye PSD has been 100 in four of the five fyke netting surveys the DNR has conducted in Long Lake.

Largemouth Bass

Largemouth bass typically spawn in nearshore areas with sand or gravel substrate when water temperatures are 60 - 70°F. Electrofishing is the preferred gear for sampling largemouth bass. All results presented for largemouth bass are from the spring electrofishing survey.

Table 8. Size structure metrics for largemouth bass captured in the 2025 electrofishing survey of Long Lake.

2025 Total Number Measured	Average Length (inches)	Length Range (inches)	Stock and Quality Size (inches)	Stock Number	Quality Number	PSD	2025 Statewide Percentile Rank	2025 Size Rating
95	13.8	6.1 – 21.3	8 and 12	94	74	79	80th	High

Table 9. Relative abundance of largemouth bass captured in the 2025 electrofishing survey of Long Lake.

CPUE Total	Percentile Rank	Overall Abundance Rating	Length Index	Length Index CPUE	Statewide Length Index Percentile Rank	Length Index Abundance Rating
32.9	75th	Moderate - High	≥14.0 inches	16.9	94th	Very High

Table 10. Relative abundance (CPUE) trends for largemouth bass captured in electrofishing surveys of Long Lake.

2025 Total Number Captured	2007	2011	2017	2022	2025	Historical Median	2025 Statewide Percentile Rank	2025 Abundance Rating
97	16.1	39.5	34.5	29.6	32.9	32.9	75th	Moderate - High

Table 11. Size structure (proportional stock density [PSD]) trends for largemouth bass captured in electrofishing surveys of Long Lake.

2007	2011	2017	2022	2025	Historical Median
100	74	88	67	79	79

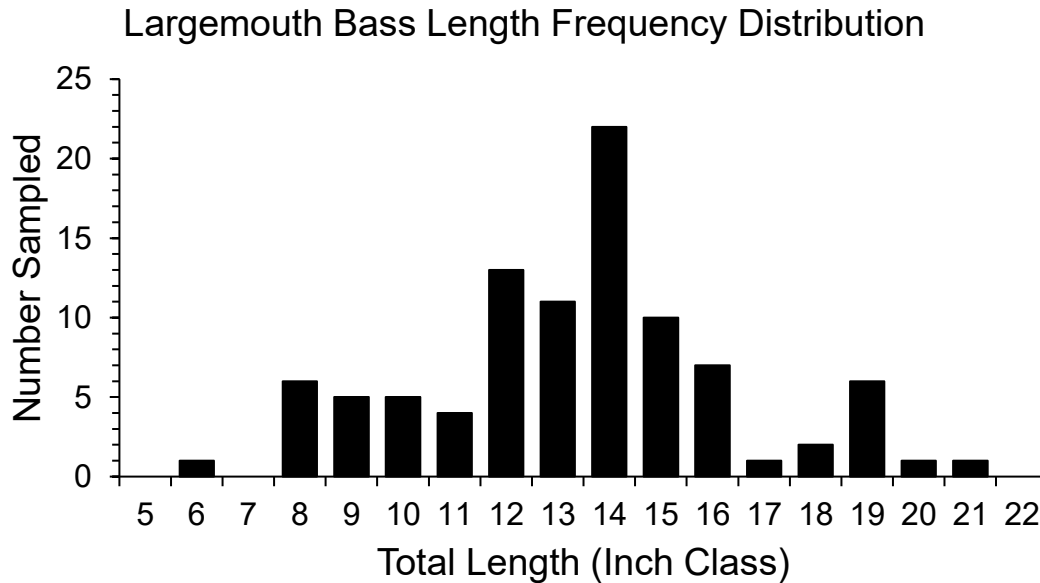


Figure 6. Length frequency distribution depicting the number of largemouth bass captured in one inch size intervals in the 2025 electrofishing survey of Long Lake.

Catch rates of largemouth bass in the spring 2025 electrofishing survey were moderate – high at 32.9 largemouth bass per mile of shoreline (Table 9; Table 10). This catch rates ranks out in the 75th percentile for all lakes in Wisconsin and ranks out near the median for simple warm dark lakes (Table 9; Table 10). Catch rates of largemouth bass in the 2025 electrofishing survey were similar to catch rates in the previous three electrofishing surveys which ranged from 29.6 – 39.5 largemouth bass per mile of electrofishing (Table 10).

Size structure of largemouth bass was very good in the 2025 electrofishing survey. The average size largemouth bass captured in 2025 was 13.8 inches with largemouth bass as large as 21.3 inches being captured (Table 8; Figure 6). Largemouth bass PSD in the 2025 electrofishing survey was 79, which ranks out in the 80th percentile for all lakes in Wisconsin (Table 8). Furthermore, the catch rate of legal-size largemouth bass (i.e., largemouth bass ≥ 14.0 inches) was 16.9 bass per mile of shoreline (Table 9). This catch rate of legal-size largemouth bass ranks out in the 94th percentile for lakes in Wisconsin, indicating a very high catch rate of large bass in Long Lake (Table 9). Largemouth bass PSD has been high in all historical electrofishing surveys of Long Lake, ranging from 67 – 100 in all spring electrofishing surveys that have been completed since 2007 (Table 11).

Bluegill

Bluegill typically spawn in nearshore areas with sand or gravel substrate when water temperatures are 67 - 80°F. Electrofishing is the preferred gear for sampling bluegill, but fyke nets can also be a useful gear for sampling bluegill, especially larger bluegill. Therefore, results from both electrofishing and fyke netting will be presented for bluegill.

Table 12. Size structure metrics for bluegill captured in the 2025 fyke netting and electrofishing surveys of Long Lake.

Gear	2025 Total Number Measured	Average Length (inches)	Length Range (inches)	Stock and Quality Size (inches)	Stock Number	Quality Number	PSD	2025 Statewide Percentile Rank	2025 Size Rating
Fyke Netting	602	6.0	3.9 – 8.5	3 and 6	602	343	57	49th	Moderate
Electrofishing	67	6.4	3.5 – 8.7	3 and 6	67	45	67	85th	High

Table 13. Relative abundance of bluegill captured in the 2025 electrofishing survey of Long Lake.

CPUE Total	Percentile Rank	Overall Abundance Rating	Length Index	Length Index CPUE	Statewide Length Index Percentile Rank	Length Index Abundance Rating
67.0	43rd	Moderate	≥7.0 inches	31.0	86th	High

Table 14. Relative abundance (CPUE) trends for bluegill captured in electrofishing surveys of Long Lake.

2025 Total Number Captured	2007	2011	2017	2022	2025	Historical Median	2025 Statewide Percentile Rank	2025 Abundance Rating
67	43.6	235.4	94.8	137.0	67.0	94.8	43rd	Moderate

Table 15. Size structure (proportional stock density [PSD]) trends for bluegill captured in electrofishing surveys of Long Lake.

2007	2011	2017	2022	2025	Historical Median
3	56	54	53	67	54

Table 16. Relative abundance (CPUE) trends for bluegill captured in fyke netting surveys of Long Lake.

2025 Total Number Captured	1983	2007	2017	2022	2025	Historical Median	2025 Statewide Percentile Rank	2025 Abundance Rating
1,782	88.4	12.9	21.3	14.1	74.3	21.3	95th	Very High

Table 17. Size structure (proportional stock density [PSD]) trends for bluegill captured in fyke netting surveys of Long Lake.

1983	2007	2017	2022	2025	Historical Median
45	6	69	26	57	45

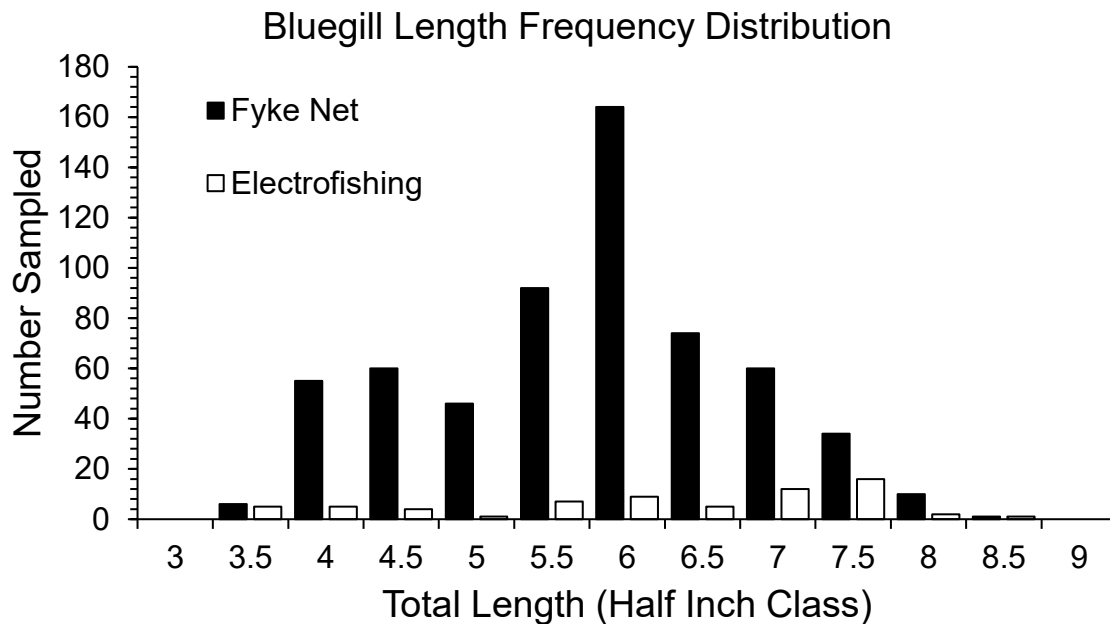


Figure 7. Length frequency distribution depicting the number of bluegill captured in half inch size intervals in the 2025 fyke netting survey (black bars) and electrofishing survey (white bars) of Long Lake.

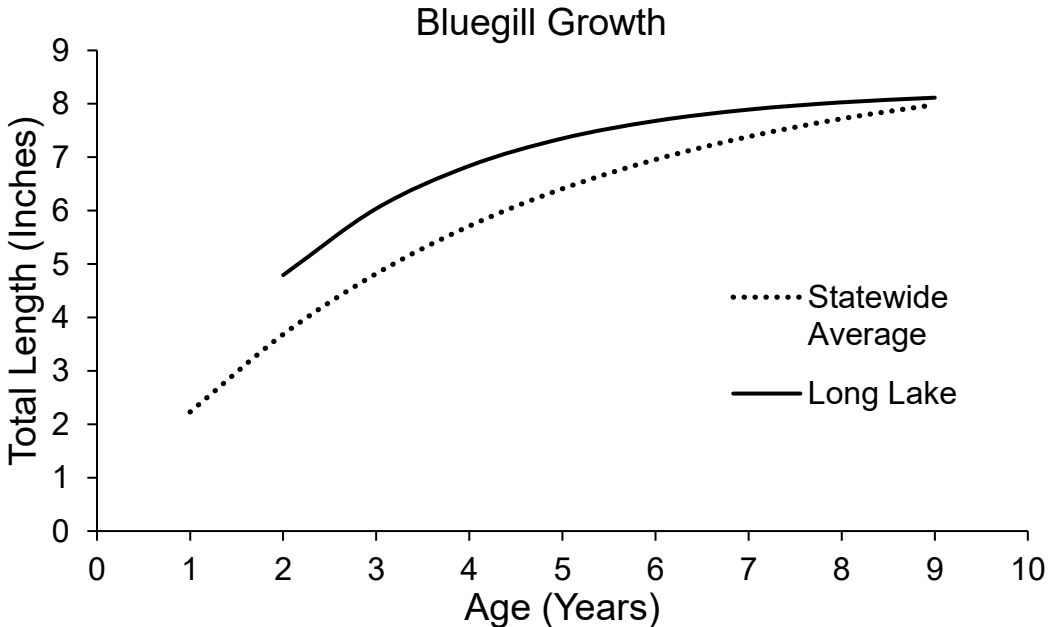


Figure 8. Predicted length at age (solid line) for bluegill captured in the 2025 fyke netting survey of Long Lake. Dashed lines represent the statewide average lengths at age for bluegill.

Catch rates of bluegill in the spring 2025 electrofishing were moderate, whereas size structure was high in this survey. Catch rates of bluegill in the

electrofishing survey were 67.0 bluegill/mile of electrofishing, which ranks out in the 43rd percentile for all lakes in Wisconsin and ranks in between the first quartile and median for simple warm dark lakes (Table 13). Catch rates of bluegill in the 2025 electrofishing survey were lower than catch rates in historical electrofishing surveys, although historical catch rates were shown to be highly variable (Table 14). Long Lake continues to support a high-quality bluegill fishery as the average size bluegill captured in the 2025 electrofishing survey was 6.4 inches, bluegill PSD in the 2025 electrofishing survey was 67, which ranks out in 85th percentile for lakes in Wisconsin and bluegill up to 8.7 inches long were captured (Table 12; Figure 7). Furthermore, catch rate of bluegill ≥ 7.0 inches were 31.0 per mile of electrofishing, which ranks out in the 86th percentile for lakes in Wisconsin (Table 13). It should also be noted that a PSD of 67 is slightly higher than the bluegill PSD in the last 3 electrofishing surveys (Table 15).

Catch rates of bluegill in the 2025 fyke netting survey were very high at 74.3 bluegill per net night (Table 16). This catch rate ranks out in the 95th percentile for lakes in Wisconsin (Table 16). Catch rates of bluegill in the 2025 fyke netting survey were much higher than catch rates observed in most other historical fyke netting surveys (Table 16). Bluegill size structure in the 2025 fyke netting survey was very similar to the size structure in the electrofishing survey with the average size bluegill being captured being 6.0 inches, bluegill PSD being 57 and bluegill up to 8.5 inches being captured (Table 12; Figure 7). A bluegill PSD of 57 in fyke netting surveys ranks out in the 49th percentile for lakes in Wisconsin (Table 12). Bluegill PSDs in historical fyke netting surveys have been highly variable, with the PSD of 57 from the 2025 fyke netting survey falling out near the long-term median PSD of 45 (Table 17). Bluegill continue to grow very fast in Long Lake with growth rates being much higher than the statewide average (Figure 8).

Black Crappie

Black crappie typically spawn in nearshore areas with sand or gravel substrate, often near emergent vegetation when water temperatures are 58 - 68°F. Fyke netting is the preferred gear for sampling black crappie. All results presented for black crappie are from the spring fyke netting survey.

Table 18. Size structure metrics for black crappie captured in the 2025 fyke netting survey of Long Lake.

2025 Total Number Measured	Average Length (inches)	Length Range (inches)	Stock and Quality Size (inches)	Stock Number	Quality Number	PSD	2025 Statewide Percentile Rank	2025 Size Rating
324	8.2	4.8 – 10.4	5 and 8	322	221	69	58th	Moderate

Table 19. Relative abundance (CPUE) trends for black crappie captured in fyke netting surveys of Long Lake.

2025 Total Number Captured	1983	2007	2017	2022	2025	Historical Median	2025 Statewide Percentile Rank	2025 Abundance Rating
1,367	39.1	4.4	94.1	56.5	57.0	56.5	96th	Very High

Table 20. Size structure (proportional stock density [PSD]) trends for black crappie captured in fyke netting surveys of Long Lake.

1983	2007	2017	2022	2025	Historical Median
22	57	44	80	69	57

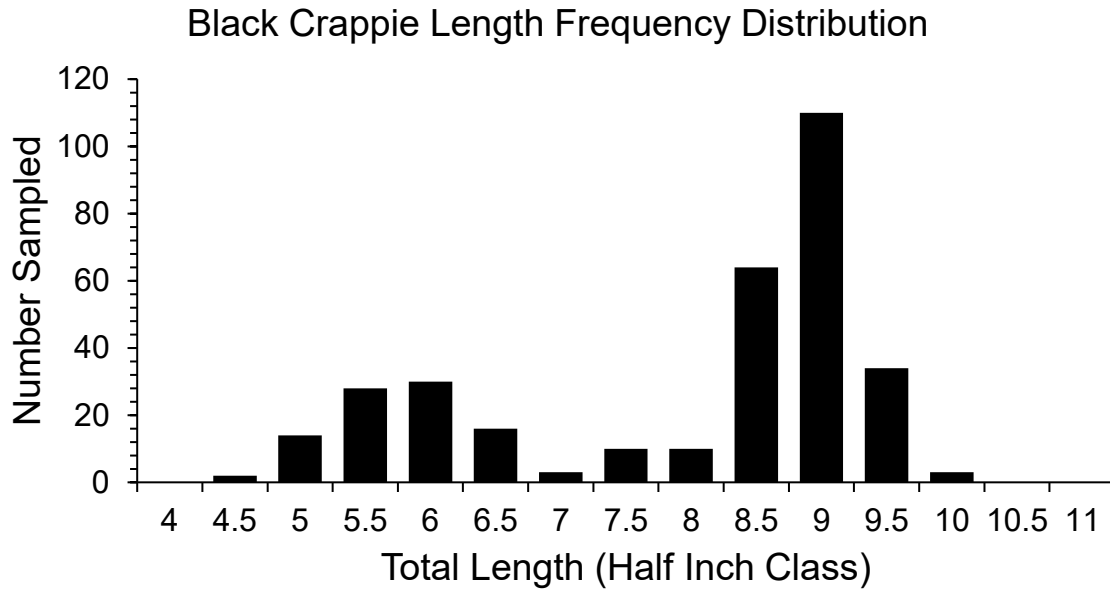


Figure 9. Length frequency distribution depicting the number of black crappie captured in half inch size intervals in the 2025 fyke netting survey of Long Lake.

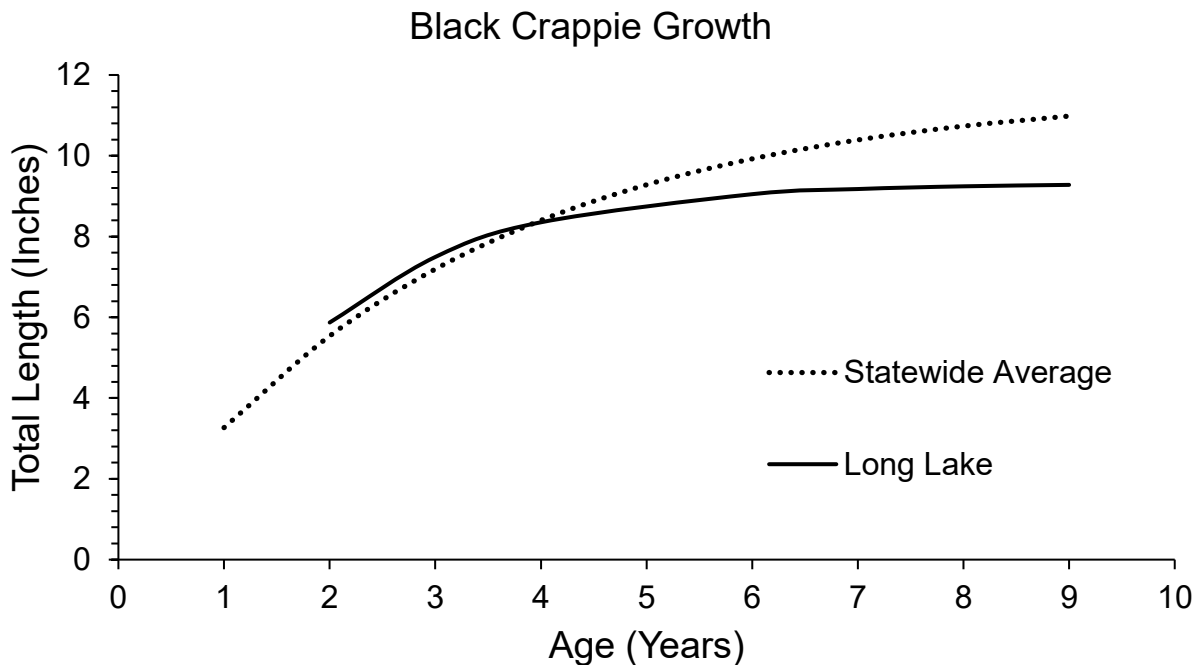


Figure 10. Predicted length at age (solid line) for black crappie captured in the 2025 fyke netting survey of Long Lake. Dashed lines represent the statewide average lengths at age for black crappie.

Catch rates of black crappie in the spring 2025 fyke netting survey were high at 57.0 black crappie per net night (Table 19). This catch rates ranks out in the 96th

percentile for all lakes in Wisconsin and ranks out at the 90th percentile for simple warm dark lakes (Table 19). Catch rates of black crappie have been high in most historical fyke netting surveys with catch rates in the 2025 survey being very close to the long-term median catch rate of 56.5 black crappie per net night (Table 19).

Size structure of black crappie captured in the 2025 fyke netting survey was moderate with the average size crappie captured being 8.2 inches, black crappie having a PSD of 69 and black crappie as large as 10.4 inches being captured (Table 18; Figure 9). A black crappie PSD of 69 in the 2025 fyke netting survey ranks out in the 58th percentile for lakes in Wisconsin (Table 18). Furthermore, a PSD of 69 is higher than most PSDs observed in historical fyke netting surveys and higher than the long-term median PSD of 57 (Table 20). Black crappie growth rates are near the statewide average through age-4, but then growth essentially stops with most black crappie reaching about 9 -10 inches long as their maximum size (Figure 10).

Yellow Perch

Yellow perch typically spawn in nearshore areas with abundant vegetation or coarse woody habitat when water temperatures are 45 - 50°F. Fyke netting is the preferred gear for sampling yellow perch. All results presented for yellow perch are from the spring fyke netting survey.

Table 21. Size structure metrics for yellow perch captured in the 2025 fyke netting survey of Long Lake.

2025 Total Number Measured	Average Length (inches)	Length Range (inches)	Stock and Quality Size (inches)	Stock Number	Quality Number	PSD	2025 Statewide Percentile Rank	2025 Size Rating
6	8.3	7.3 – 10.4	5 and 8	6	4	67	91st	High

Table 22. Relative abundance (CPUE) trends for yellow perch captured in fyke netting surveys of Long Lake.

2025 Total Number Captured	1983	2007	2017	2022	2025	Historical Median	2025 Statewide Percentile Rank	2025 Abundance Rating
6	49.8	2.4	0.1	1.1	0.3	1.1	20th	Low

Table 23. Size structure (proportional stock density [PSD]) trends for yellow perch captured in fyke netting surveys of Long Lake.

1983	2007	2017	2022	2025	Historical Median
0	6	14	29	67	14

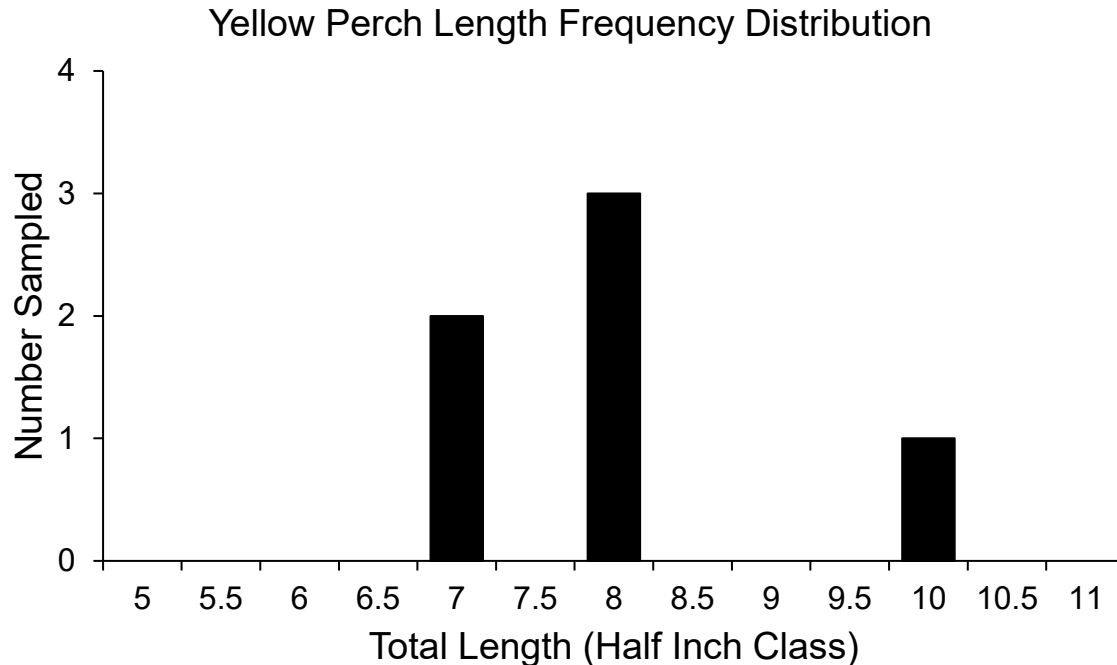


Figure 11. Length frequency distribution depicting the number of yellow perch captured in half inch size intervals in the 2025 fyke netting survey of Long Lake.

Catch rates of yellow perch in the spring 2025 fyke netting survey were low at 0.3 yellow perch net night (Table 22). This catch rates ranks out in the 20th percentile for all lakes in Wisconsin and ranks out near the first quartile for simple warm dark lakes (Table 22). Catch rates of yellow perch in the 2025 fyke netting survey were similar to catch rates in the previous three fyke netting surveys which ranged from 0.1 – 2.4 yellow perch per net night (Table 22).

Size structure of yellow perch was very good in the 2025 fyke netting survey. The average size yellow perch captured in 2025 was 8.3 inches with yellow perch as large as 10.4 inches being captured (Table 21; Figure 11). Yellow perch PSD in the 2025 fyke netting survey was 67, which ranks out in the 91st percentile for all lakes in Wisconsin (Table 21). Yellow perch PSD in the 2025 fyke netting survey was much higher than the PSD in all historical fyke netting surveys of Long Lake (Table 23).

Pumpkinseed

Pumpkinseed typically spawn in nearshore areas with sand or gravel substrates when water temperatures are 55 - 65°F. The DNR does not have standard sampling protocols for pumpkinseed, but few pumpkinseed have been captured in electrofishing surveys of Long Lake so only data from fyke nets will be presented.

Table 24. Size structure metrics for pumpkinseed captured in the 2025 fyke netting survey of Long Lake.

2025 Total Number Measured	Average Length (inches)	Length Range (inches)	Stock and Quality Size (inches)	Stock Number	Quality Number	PSD	2025 Statewide Percentile Rank	2025 Size Rating
17	5.6	2.1 – 7.1	3 and 6	16	8	50	62nd	Moderate

Table 25. Relative abundance (CPUE) trends for pumpkinseed captured in fyke netting surveys of Long Lake.

2025 Total Number Captured	1983	2007	2017	2022	2025	Historical Median	2025 Statewide Percentile Rank	2025 Abundance Rating
32	2.9	0.3	0.1	0.8	1.3	0.8	60th	Moderate

Table 26. Size structure (proportional stock density [PSD]) trends for pumpkinseed captured in fyke netting surveys of Long Lake.

1983	2007	2017	2022	2025	Historical Median
9	0	100	50	50	50

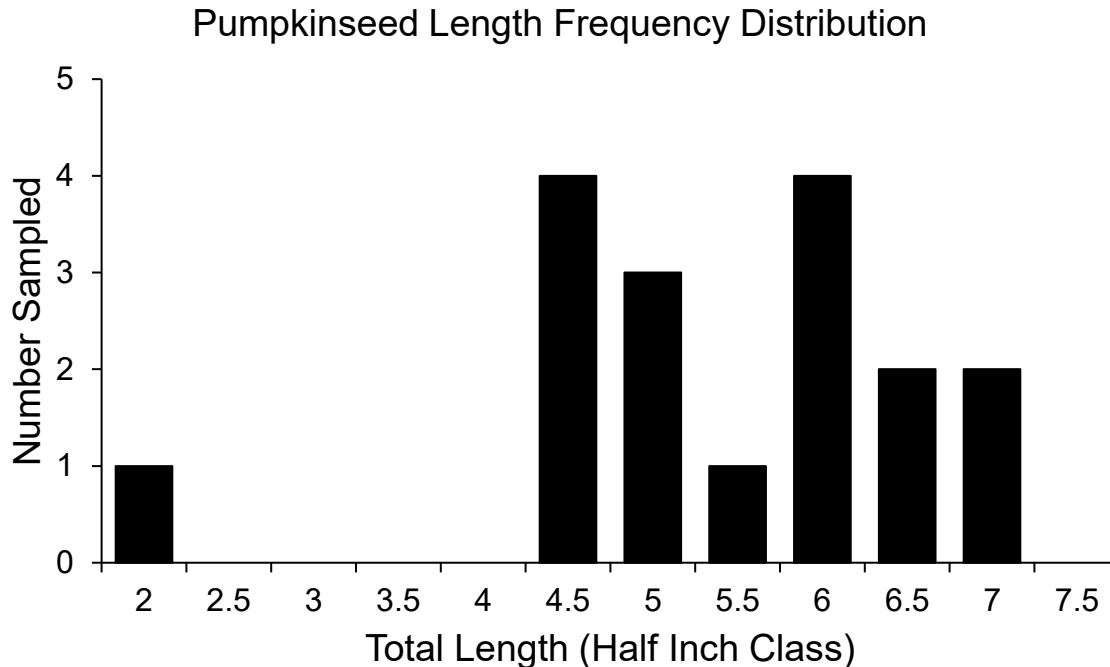


Figure 12. Length frequency distribution depicting the number of pumpkinseed captured in half inch size intervals in the 2025 fyke netting survey of Long Lake.

Catch rates of pumpkinseed in the spring 2025 fyke netting survey were moderate at 1.3 pumpkinseed per net night (Table 25). This catch rates ranks out in the 60th percentile for all lakes in Wisconsin (Table 22). Catch rates of pumpkinseed in the 2025 fyke netting survey were similar to catch rates in all historical fyke netting surveys which ranged from 0.1 – 2.9 pumpkinseed per net night (Table 25).

Size structure of pumpkinseed was moderate in the 2025 fyke netting survey. The average size pumpkinseed captured in 2025 was 5.6 inches with pumpkinseed as large as 7.1 inches being captured (Table 24; Figure 12). Pumpkinseed PSD in the 2025 fyke netting survey was 50, which ranks out in the 62nd percentile for all lakes in Wisconsin (Table 24). Pumpkinseed PSD in historical fyke netting surveys was highly variable, ranging from 0 – 100 (Table 26). As such, pumpkinseed PSD in the 2025 fyke netting survey ranked out as the median PSD of all historical fyke netting surveys conducted on Long Lake (Table 26).

Yellow Bass

Yellow bass typically spawn in nearshore areas with sand or gravel substrates when water temperatures are 60 - 75°F. The DNR does not have standard sampling protocols for yellow bass, so data from both fyke nets and electrofishing will be presented.

Table 27. Size structure metrics for yellow bass captured in the 2025 fyke netting and electrofishing surveys of Long Lake.

Gear	2025 Total Number Measured	Average Length (inches)	Length Range (inches)	Stock and Quality Size (inches)	Stock Number	Quality Number	PSD
Fyke Netting	5	10.5	10.2 – 10.7	4 and 7	5	5	100
Electrofishing	8	10.3	9.4 – 11.0	4 and 7	8	8	100

Table 28. Relative abundance (CPUE) trends for yellow bass captured in electrofishing surveys of Long Lake.

2025 Total Number Captured	2007	2011	2017	2022	2025	Historical Median
8	0.0	0.0	0.0	7.0	8.0	0.0

Table 29. Relative abundance (CPUE) trends for yellow bass captured in fyke netting surveys of Long Lake.

2025 Total Number Captured	1983	2007	2017	2022	2025	Historical Median
5	0.9	3.3	0.1	0.5	0.2	0.5

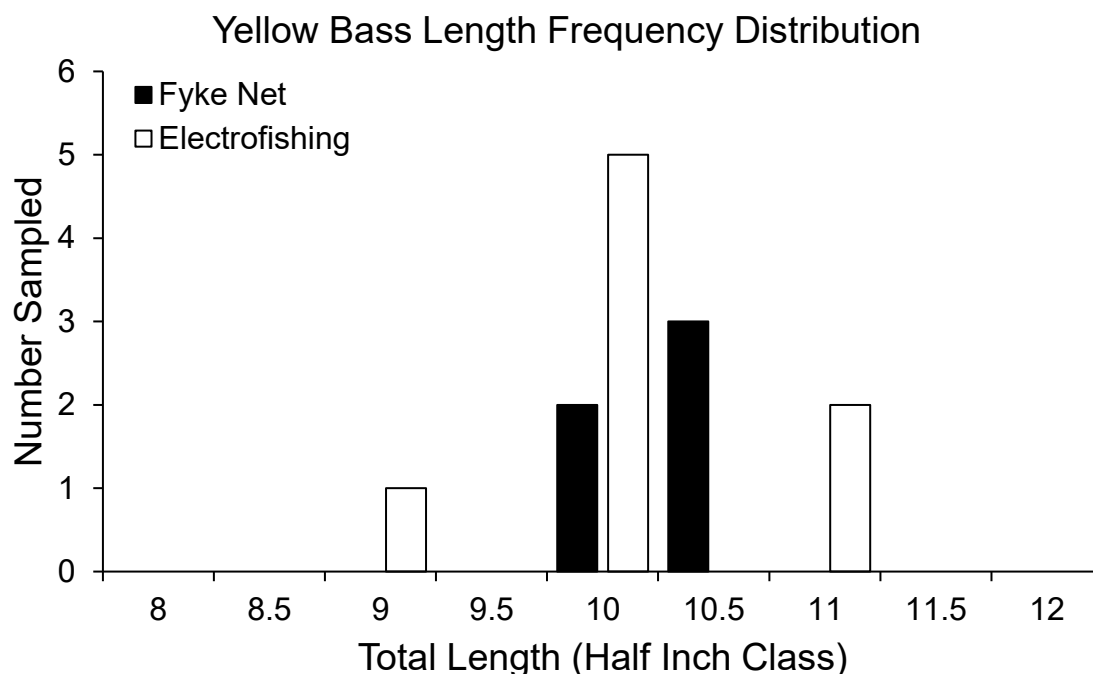


Figure 13. Length frequency distribution depicting the number of yellow bass captured in half inch size intervals in the 2025 fyke netting survey (black bars) and electrofishing survey (white bars) of Long Lake.

Long Lake is somewhat unique in that it supports a population of yellow bass. Given the rarity of this species, statewide percentiles are not available. Catch rates of yellow bass in the spring 2025 electrofishing survey were 8.0 yellow bass per mile of electrofishing, which is the highest of any electrofishing survey on record (Table 28). Catch rates of yellow bass in the 2025 fyke netting survey were 0.2 yellow bass per net night, which ranks out in the middle of historical catch rates that have ranged from 0.1 – 3.3 yellow bass per net night (Table 29). Size structure of yellow bass was very good in both the 2025 fyke netting and electrofishing survey with yellow bass captured in both surveys ranging in size from 9.4 – 11.0 inches and yellow bass having a PSD of 100 in both surveys (Table 27; Figure 13).

Discussion

Despite declines in northern pike catch rates in 2025 compared to the 2017 and 2022 fyke netting surveys, Long Lake continues to support a healthy northern pike population. Significant northern pike stockings between 2008 – 2019 likely contributed to the very high catch rates observed in the 2017 and 2022 fyke netting surveys. Size structure and growth rates of northern pike were again above average in the 2025 fyke netting survey. Both male and female northern pike in Long Lake are growing at or above the statewide average growth rates for northern pike. Nearly 40% of the northern pike captured in the 2025 fyke netting survey were estimated to be age-5 or younger, meaning they were naturally reproduced given the last stocking of northern pike took place in 2019. The prevalence of young northern pike in Long Lake

suggests the population should be able to sustain itself through natural reproduction in the future.

Long Lake continues to support a low – moderate density walleye population that is sustained through stocking. Walleye have the potential to grow to large sizes on Long Lake as >50% of the walleye captured in the spring 2025 fyke netting surveys were ≥ 24.0 inches long. Historically, Long Lake was stocked with small fingerlings that were 1-2 inches long at the time of stocking (Table 27). Starting in 2021, the DNR switched to stocking large fingerling walleye (i.e., walleye that were 7-8 inches long at the time of stocking) in Long Lake in hopes that stocking larger walleye would result in better survival of stocked fish and more adults in the population (Table 27). Given the recent switch to stocking large fingerling walleyes, only walleye from one large fingerling stocking event (i.e., the 2021 large fingerling stocking) would have been mature in the spring of 2025. Future surveys should show whether the switch to stocking large fingerling walleye resulted in an increase in the number of adult walleye in Long Lake.

Long Lake continues to support a healthy largemouth bass population. Catch rates of largemouth bass were again high in the spring 2025 electrofishing survey. Good numbers of legal-size largemouth bass including two that were ≥ 20.0 inches were captured in the 2025 electrofishing survey. No specific management recommendations are needed for largemouth bass at this time.

Long Lake continues to support abundant populations of a variety of panfish species. Catch rates of bluegill were moderate to high in 2025 depending on gear used with bluegill shown to be growing at very fast rates and the bluegill population showing a very good size structure. Black crappie catch rates in the 2025 fyke netting survey were again very high. Growth rates of black crappie were showing density dependence with black crappies topping out at just 9-10 inches long. Reducing the number of black crappie in Long Lake should help improve growth rates and increase the number of larger black crappies in the Lake. Pumpkinseed, yellow perch and yellow bass all provide additional fishing opportunities for anglers fishing in Long Lake.

Recommendations

1. Continue to monitor the density and age structure of the northern pike population in future surveys to ensure the population can sustain itself and provide a fishery through natural reproduction.
2. Continue to evaluate walleye stocking to ensure stocking results in a fishable population of walleye in Long Lake. Future comprehensive surveys should include more targeted fyke netting effort a little later in the spring when water temperatures are above 40°F and walleye are more likely to move shallow to spawn. This will ensure significant netting effort takes place at optimal walleye spawning temperatures to fully evaluate stocking.
3. Maintain good numbers of largemouth bass in Long Lake to help keep panfish populations from increasing in abundance.

4. Evaluate the new panfish regulation in future surveys of a total aggregate bag limit of 25 panfish, but no more than 5 may be bluegill that went into effect on April 1, 2026. The goal of this regulation is to protect the quality bluegill population from overharvest while trying to reduce the number of black crappie that are showing signs of density dependent growth.
5. Consider adding wood along the shoreline to provide additional habitat for a variety of fish species in Long Lake.

Table 27. Stocking history of Long Lake, Manitowoc County from 2000 – 2025.

Species	Year	Age Class	Mean Length (Inches)	Number Stocked
WALLEYE	2025	Large Fingerling	7.7	636
WALLEYE	2023	Large Fingerling	8.0	636
WALLEYE	2021	Large Fingerling	6.7	636
NORTHERN PIKE	2019	Large Fingerling	7.7	1,001
WALLEYE	2019	Small Fingerling	1.8	7,842
WALLEYE	2017	Small Fingerling	1.7	4,447
NORTHERN PIKE	2017	Large Fingerling	8.3	900
NORTHERN PIKE	2015	Large Fingerling	8.9	831
WALLEYE	2015	Small Fingerling	1.7	4,434
YELLOW PERCH	2015	Yearling	6.0	1,180
NORTHERN PIKE	2013	Large Fingerling	8.3	792
WALLEYE	2013	Small Fingerling	2.0	4,195
NORTHERN PIKE	2012	Large Fingerling	12.0	294
WALLEYE	2011	Small Fingerling	1.9	4,615
WALLEYE	2010	Large Fingerling	7.0	500
WALLEYE	2009	Small Fingerling	1.8	4,185
NORTHERN PIKE	2008	Yearling	20.0	280
WALLEYE	2005	Small Fingerling	1.4	5,980
NORTHERN PIKE	2005	Small Fingerling	3.1	2,997
NORTHERN PIKE	2004	Large Fingerling	11.0	260
WALLEYE	2003	Small Fingerling	1.5	5,995
NORTHERN PIKE	2003	Small Fingerling	3.4	1,000
NORTHERN PIKE	2002	Fall Yearling	13.0	250