Wisconsin Department of Natural Resources

2025 Electrofishing Summary Report
Long Lake (Oasis), Waushara County
WBIC: 1000800

Lake Information

Acres: 45

Max. Depth: Fluctuates Greatly

Shoreline Miles: 2

Public Access: 1

Lake Class: Simple - Warm Dark

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Introduction

In 2025, the Department of Natural Resources (DNR) conducted a one night electrofishing survey of Long Lake in order to provide insight and direction for the future fisheries management of this water body. Primary sampling objectives of this survey were to characterize species composition, relative abundance, and size structure. The following report is a brief summary of that survey including the general status of the fish populations and future management options for Long Lake.

Survey Effort

Table 1. Survey information for Long Lake.

Site Location	Survey Dates	Water Temperature (°F)	Target Species	Total Miles Shocked	Number of Netters	Net Nights
Long Lake	5/12/2025	68	Bass and Panfish	1.9	2	Boomshocker

Table 2. Relative Abundance — catch per unit effort (CPUE)

Species	Total Number Captured	Average Length (Inches)	Length Range (inches)	CPUE/Mile	Statewide Percentile	Lake Class Percentile	Overall Abundance Rating
Bluegill	98	7.2	4.6 - 8.2	98	54th	50th	Moderate
Black Crappie	1	9.8	9.8	0.5	10th	-	Low
Yellow Perch	3	7.8	7.5 - 8.3	3	23rd	-	Low
Largemouth Bass	442	9.9	3.7 - 21.3	233	99th	100th	High

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 by 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.
- **Total abundance is a metric that describes population size and is estimated by mark and recapture.** In our study, all captured (insert species) were given a partial caudal fin (i.e., tail fin) clip and released. Each time the nets were checked, all (insert species) were examined for a partial caudal fin clip. The number of previously captured individuals (i.e., fin clipped) was recorded, and

proportions of marked individuals to unmarked individuals were used to estimate the total abundance of the (insert species) population.

- **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.
- **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 age at length is an index used to assess fish growth.** Calcified structures (e.g., otoliths, spines or scales) are collected from a specified length bin of interest (e.g., 7.0-7.5 inches for bluegill). Mean age is compared to statewide data by percentile with growth characterized by the following benchmarks: slow (<33rd percentile); moderate (33rd to 66th percentile); and fast (>66th percentile).
- **Relative weight is an index used to assess the plumpness (i.e., condition) of fish.** It is calculated by comparing the observed weight of a fish to the standard weight (i.e., predicted average weight) of that fish, given its length. A relative weight of 93 means it has average plumpness/weight compared to other fish of the same length. Relative weights above 93 mean they are plumper than average.

Survey Method

Long Lake was sampled according to spring electroshocking (SEII) protocols as outlined in DNR Fisheries Monitoring Protocols. The primary objective for these sampling periods is to count and measure adult bass and panfish. Other gamefish/panfish may be sampled but are considered by-catch as part of this survey. A boom shocker was used to electrofish 1.9 miles of shoreline. Panfish were collected in 1.0 miles and gamefish were collected and measured throughout.

Results

Bluegill

Bluegill (Lepomis macrochirus) is a very common panfish species distributed widely across many Wisconsin waterbodies. Bluegill typically spawn in nearshore areas consisting of sand/mud or gravel substrate at approximately 67-80°F water temperatures.

Figure 1. Bluegill length frequency from Long Lake.

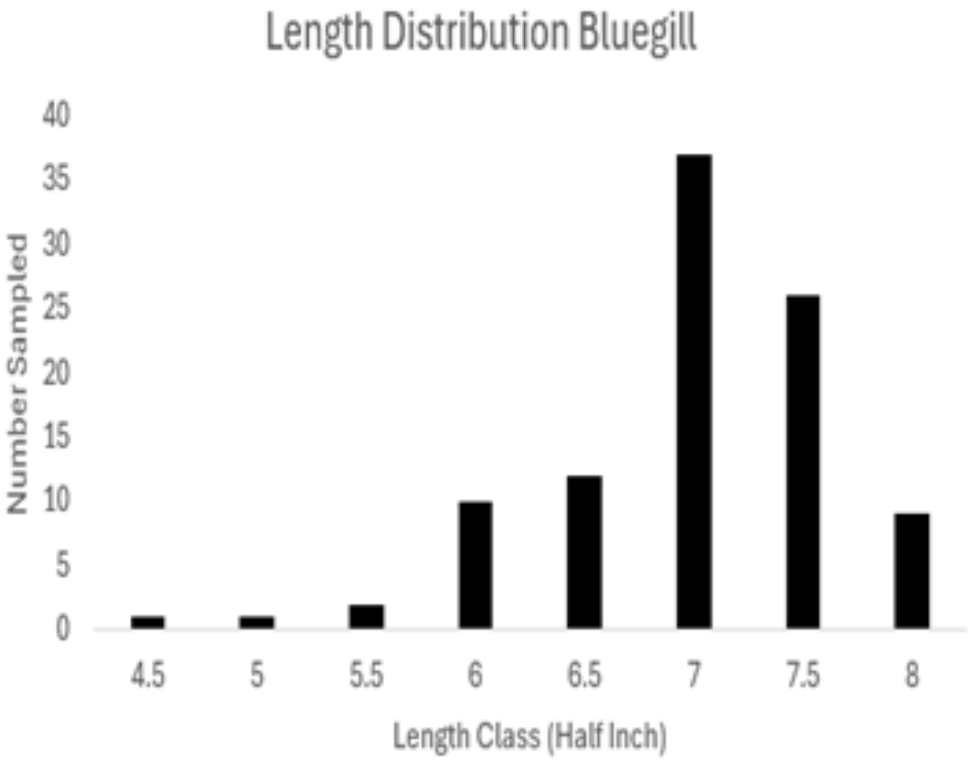

Table 3. 2025 size structure metrics for bluegill on Long Lake.

Total Number Measured	**Average Length (inches)**	**Length Range (inches)**	**Stock and Quality Size (inches)**	**Stock Number**	**Quality Number**
98	7.2	4.5- 8.2	3 and 6	98	94

Table 4. Electrofishing number per mile for bluegill on Long Lake.

1997	**2019**	**2025**	**Historical Average**	**2025 Statewide Percentile Rank**	**2025 Abundance Rating**
145	79	98	107	54th	Moderate

Table 5. Proportional stock density for bluegill on Long Lake.

1997	2019	2025	**Historical Median**	**2025 Statewide Percentile Rank**	**2025 Abundance Rating**
30	29	96	96	99th	High

Table 6. Average age for Long Lake bluegill at 6 inches

Sex	Count	Average Length	Average Age	Age Range	Lake Class Rating	Regional Rating
Male	14	6.6	6.4	4 - 7	Below Avg.	Below Avg.
Female	11	6.5	6.4	5 - 7	Below Avg.	Below Avg.
All	25	6.55	6.4	4 - 7	Below Avg.	Below Avg.

Largemouth Bass

Largemouth Bass (Micropterus salmoides) are a common predatory fish species found in many Wisconsin waterbodies. Largemouth bass typically spawn in shallow nearshore areas consisting of sand/mud or gravel substrate at approximately 60-70°F water temperatures. Electrofishing is the preferred sampling gear for largemouth bass. All results presented for largemouth bass are from spring electrofishing surveys.

Figure 3. Largemouth bass Length distribution from Long Lake.

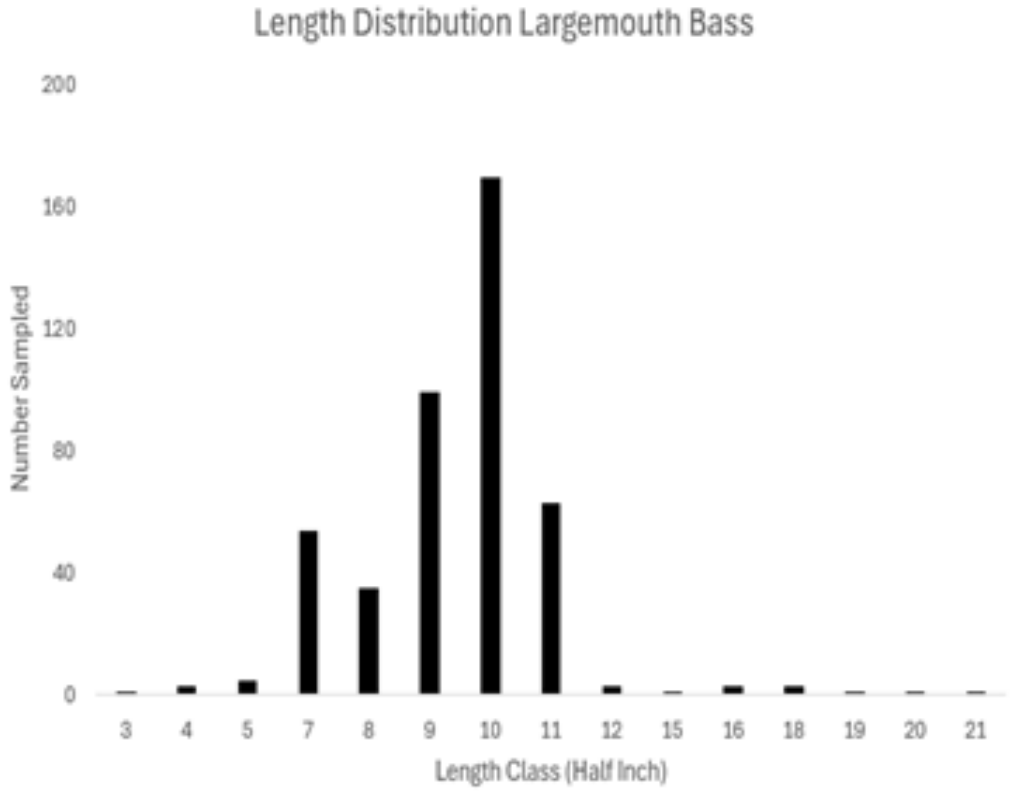

Table 7. 2025 size structure metrics for largemouth bass on Long Lake.

Total Number Measured	Average Length (inches)	Length Range (inches)	Stock and Quality Size (inches)	Stock Number	Quality Number
442	9.9	3.7 - 21.3	8 and 12	379	13

Table 8. Electrofishing number per mile for largemouth bass on Long Lake.

1997	2019	2025	Historical Average	2025 Statewide Percentile Rank	2025 Abundance Rating
11	77	233	107	99th	High

Table 9. Proportional stock density for largemouth bass on Long Lake.

2008	2016	2025	Historical Median	PSD	Percentile Rank	Size Rating
Too Few	2	3	2.5	3	1st	Low

Table 10. Average age for Long Lake largemouth bass at 11 inches.

Sex	Count	Avg. Length	Average Age	Age Range	Lake Class Rating	Regional Rating
Male	9	11.6	7.1	7 - 8	Below Avg.	Below Avg.
Female	2	11.0	8	8	Below Avg.	Below Avg.
All	11	11.5	7.3	7 - 8	Below Avg.	Below Avg.

Discussion/Recommendations

Bluegill

Abundance has increased since the 2019 survey from 79 to 98 per mile. This is a moderate abundance statewide at 54th percentile but low compared to most healthy fisheries in the area. Little to no fishery existed from approximately 2006 - 2017 because of extreme low water. Current size structure is high with a PSD = 96 and ranks in the 99th percentile statewide. Even though the ranking is high, this is an indication of an unbalanced population consisting of mostly large fish and very few small fish coming up. Age structures show below average growth taking 6.4 years to reach the 6 inch length group. An over abundant largemouth bass population is likely starting to suppress the number of small bluegills which should result in an increase in growth rates. Angler reports of abundant catch/harvest of 6-7 inch bluegills the last couple years points to a couple large year classes likely hatched around the time of our last survey in 2019. An ideal management option would be to

increase the total abundance to around 250 per mile and balance size structure (PSD = 50-60). A citizen resolution was introduced at the spring hearings in 2025 to reduce the panfish bag limit from 25 down to 10. It passed with 87% in favor. It is being introduced again in 2026 as a Conservation Congress warm water committee advisory question. DNR survey results showed that the growth and average length do not currently meet the criteria set up by the panfish committee. Future monitoring results may show different.

Largemouth Bass

Abundance of 233 per mile is a significant increase from 77 per mile in 2019 and much too high, ranking in the 99th percentile statewide and 100th percentile when compared to same lake class. Largemouth bass abundance has increased 3 fold from 2019 survey; largemouth bass were stocked in 2017. The size structure of PSD = 3 and average size of 9.9 inches is extremely low and a sign of an overabundant stunted fishery. The PSD of 2 in the 2019 survey was because of the recent stocking in 2017 in an attempt to reestablish the fishery after the severe drought wiping out the fishery from approximately 2006 - 2017. The 2019 survey showed only recently stocked young fish. Presently, since no 13-14 inch fish were sampled, we took age structures from 11 and 12 inch fish. These structures showed well below average growth rates taking on average 7.3 years for fish to reach 11.5 inches. Regional averages show fish that are 7 years old should be 15.4 inches. Some fish that have escaped the bottle neck have shown good growth potential with 2 fish sampled larger than 20 inches. An ideal management option would be to reduce abundance to around 70/mile and increase the size structure PSD $\geq$ 60%. The statewide 14 inch largemouth bass size limit was removed to encourage harvest of largemouth bass and hopefully improve size structure.

Yellow Perch

This type of survey is typically not effective in assessing the yellow perch population, but we can compare catch rates with other similar surveys. There were 3 total perch captured in our 1 mile station ranging from 7.5 - 8.3 inches. This is low and ranks in the 23rd percentile. Recent high water and flooded wood should provide good habitat for yellow perch and if bass numbers go down, we should see an increase in their abundance.

Black Crappie

This type of survey is typically not effective in assessing the black crappie population. We only sampled 1 black crappie in the entire 1.9 miles of shoreline sampled. This ranks in the 10th percentile statewide. Recent high water and flooded wood should provide good habitat for black crappie and if bass numbers go down, we could see an increase in their abundance.

History

Long Lake, township of Oasis, is near a watershed divide and has a history of extreme water fluctuations and fish winterkills. Following 3 consecutive severe winterkills in the late 1970's a lake district was formed in 1978 in an attempt to come up with a plan to improve recreational opportunities. Long Lakes lowest elevation on record is 1093.11' in 1964. Highest elevation on record is 1103.17' in 2019. Which is a fluctuation

of 10.06 feet. An aeration unit was installed in 1983, and a stocking program was enacted in 1984 by the DNR in an attempt to establish a viable sport fishery. Surveys done 1985-87 confirmed the stockings were successful. Species stocked were northern pike, largemouth bass, yellow perch and bluegill. A shocking survey in the fall of 1997 found a low density quality largemouth bass fishery and an abundant slow growing bluegill fishery. These 2 species made up 96% of the fish sampled. Northern pike, walleye, pumpkinseed, yellow perch, black crappie and white suckers made up the remaining percentage. The fishery established in 1984 with the aid of an aerator and stocking lasted until ~2006 when water elevations fell to 1093.48'. The fishery was non-existent until largemouth bass and bluegill were likely stocked by the public in 2017. A total of 280 fish and only 2 species were collected during our survey 2019. The catch was almost evenly made up of bluegill (142) and largemouth bass (138). A sample of 11 inch largemouth bass was taken for ageing purposes. All fish in this 11 inch class were 2 years old and likely stocked in 2017, though no stocking records exist. A few age classes of bluegill exist likely from private stocking. Some carryover may have taken place but would has generally been very limited. The lake association applied for a stocking permit to stock golden shiners in 2024 as a potential food source for the largemouth bass. They were asked to hold off until after we completed survey in 2025. Golden shiners were stocked shortly after survey in spring 2025.