Wisconsin Department of Natural Resources

2025 Electrofishing Summary Report
Koonz and Beaulieu Lakes
Shawano County
WBICS 189500 and 182000

Elliot Hoffman - Senior Fisheries Biologist
Paige Kudingo – Fisheries Biologist
647 Lakeland Rd. Shawano, WI
Phone: 920-420-9581
Email: Elliot.Hoffman@Wisconsin.gov
Paige.Kudingo@Wisconsin.gov
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Introduction

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

Survey Effort

Table 1. Survey information for Koonz and Beaulieu Lakes.

Site Location	Survey Dates	Water Temperature (°F)	Target Species	Total Miles Shocked	Number of Netters	Net Nights
Koonz Lake	06/01/2022	70	All	0.87	2	Boomshocker
Beaulieu Lake	06/01/2022	70	All	1.0	2	Boomshocker

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

Species	Total Number Captured	CPUE Total (number per mile)	Statewide Percentile	Overall Abundance Rating	Length Index	Length Index CPUE	Length Index Statewide Percentile	Length Index Abundance Rating
Black Crappie	27	14.4	72nd	Moderate - High	> 8.0 inches	2.1	49th	Moderate
Bluegill	786	420.3	96th	High	>7.0 inches	1.6	9th	Low
Largemouth Bass	30	16.0	53rd	Moderate	>14.0 inches	3.7	57th	Moderate
Pumpkinseed	96	51.3	93rd	High	>7.0 inches	0.5	53rd	Moderate
Yellow Perch	6	3.2	25th	Low	>8.0 inches	0	-	Low

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.

- **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

Koonz and Beaulieu Lakes were sampled according to Spring Electrofishing II protocols as outlined in DNR Fisheries Monitoring Protocols. The primary objective for these sampling periods is to count and measure 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 1.87 miles of shoreline. Gamefish and panfish were collected and measured throughout.

Results

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 1. Largemouth bass length frequency from electrofishing.

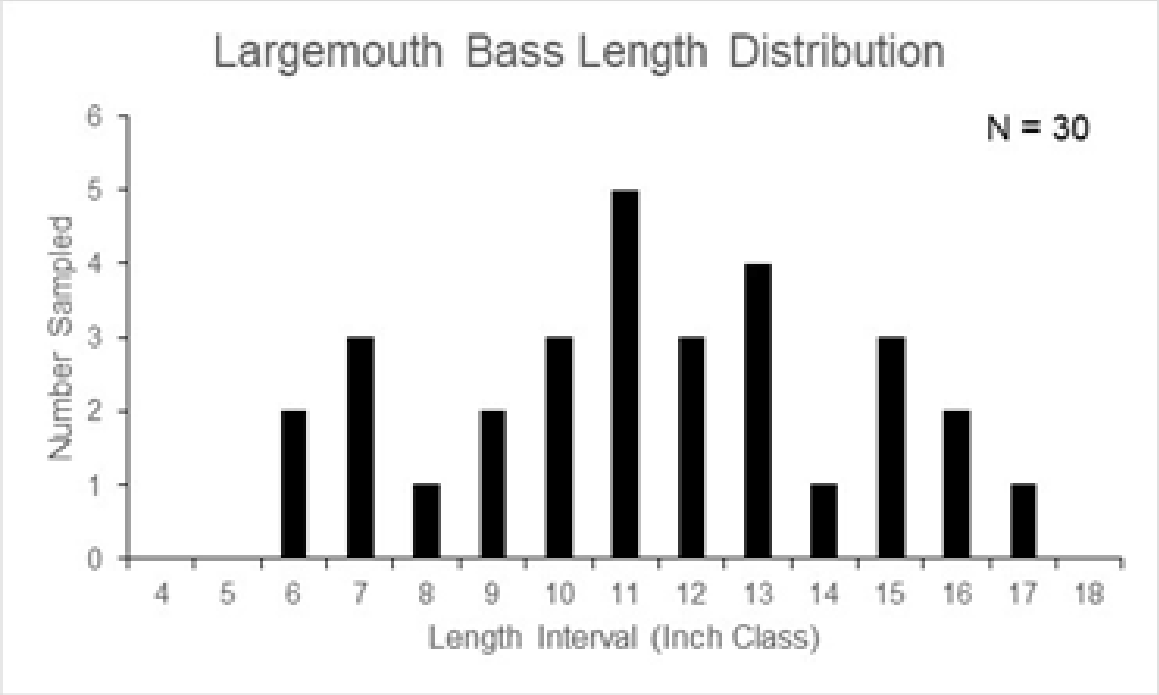

Table 3. 2025 size structure metrics for largemouth bass on Koonz and Beaulieu Lakes.

Total Number Measured	Average Length (inches)	Length Range (inches)	Stock and Quality Size (inches)	Stock Number	Quality Number
30	11.8	6.5 - 17.1	8.0 and 12.0 inches	25	14

Table 4. Electrofishing number per mile for largemouth bass on Koonz and Beaulieu Lakes.

Total Sampled	2006	2015	2020	2022	2025	Historical Median	2025 Statewide Percentile Rank	2025 Abundance Rating
30	20.7	54.6	0	4.0	16.0	16.0	53rd	Moderate

Table 5. Proportional stock density for largemouth bass on Koonz and Beaulieu Lakes.

2006	2015	2020	2022	2025	Historical Median	2025 Statewide Percentile Rank	2025 Abundance Rating
39	42	-	0	56	42	**78**	**High**

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 2. Bluegill length frequency from electrofishing.

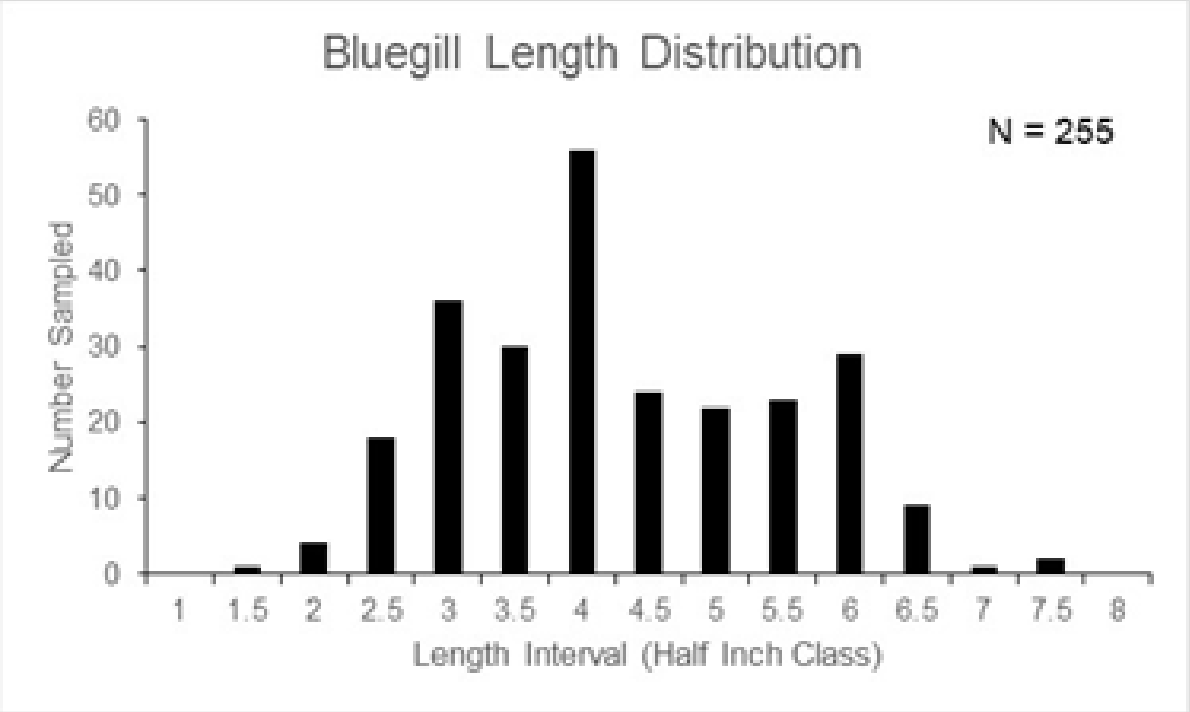

Table 6. 2025 size structure metrics for bluegill on Koonz and Beaulieu Lakes.

Total Number Measured	Average Length (inches)	Length Range (inches)	Stock and Quality Size (inches)	Stock Number	Quality Number
255	4.5	1.7 - 7.6	3.0 and 6.0	232	41

Table 7. Electrofishing number per mile for bluegill on Koonz and Beaulieu Lake.

Total Sampled	2006	2015	2020	2022	2025	Historical Median	2025 Statewide Percentile Rank	2025 Abundance Rating
786	350.0	108.6	5.0	78.0	420.3	108.6	96th	High

Table 8. Electrofishing proportional stock density for bluegill on Koonz and Beaulieu Lake.

2006	2015	2020	2022	2025	Historical Median	2025 Statewide Percentile Rank	2025 Abundance Rating
18	32	100	18	18	18	26th	Low

Black Crappie

Black Crappie (Pomoxis nigromaculatus) are a common panfish species distributed widely across many Wisconsin waterbodies. Black crappie typically spawn in nearshore areas consisting of detritus, sand/mud or gravel substrate at approximately 58-68° F water temperatures.

Figure 3. Black Crappie length frequency from electrofishing.

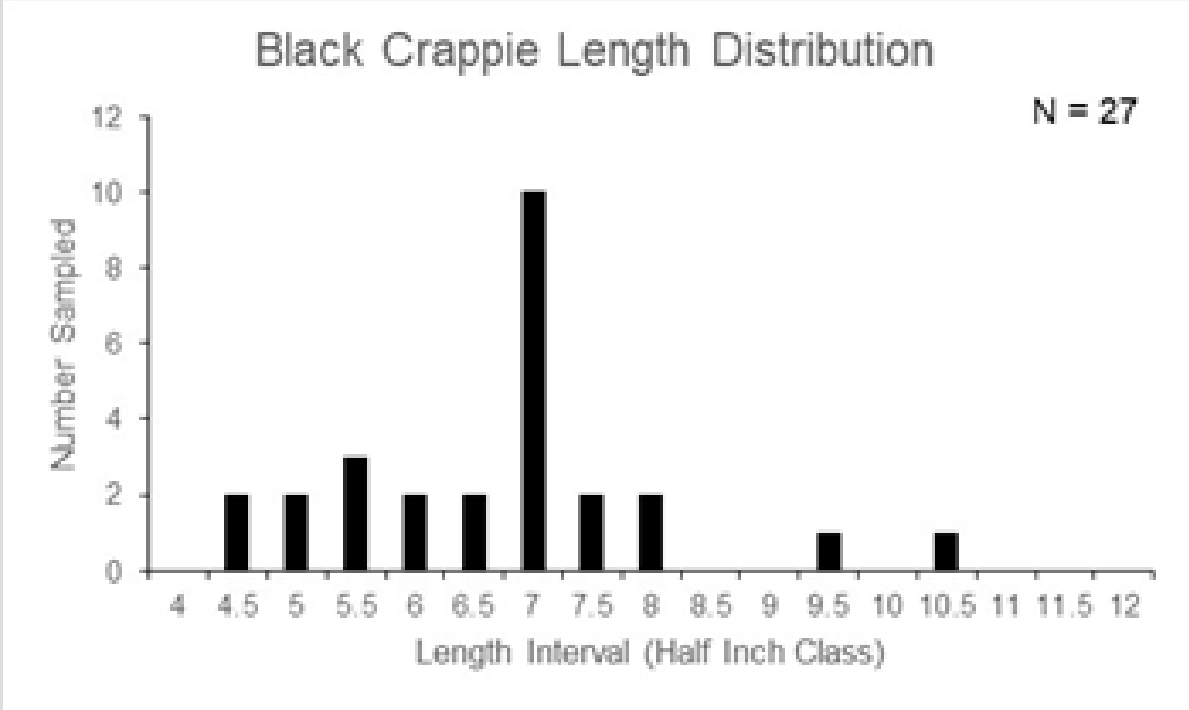

Table 9. 2025 size structure metrics for black crappie on Koonz and Beaulieu Lakes.

Total Number Measured	Average Length (inches)	Length Range (inches)	Stock and Quality Size (inches)	Stock Number	Quality Number
27	6.9	4.7 - 10.8	5.0 an 8.0	25	4

Table 10. Electrofishing number per mile for black crappie on Koonz and Beaulieu Lake.

Total Sampled	2006	2015	2020	2022	2025	Historical Median	2025 Statewide Percentile Rank	2025 Abundance Rating
12	0	9.2	8.0	12.0	14.4	10.6	72nd	Moderate - High

Table 11. Electrofishing proportional stock density for black crappie on Koonz and Beaulieu Lake.

2006	2015	2020	2022	2025	Historical Median	2025 Statewide Percentile Rank	2025 Abundance Rating
-	94	40	42	16	41	28th	Low

Pumpkinseed

Pumpkinseed (Lepomis gibbosus) are a common panfish species distributed widely across many Wisconsin waterbodies. Pumpkinseed typically spawn in nearshore areas consisting of sand or gravel substrate at approximately 60-70° F water temperatures.

Figure 4. Pumpkinseed length frequency from electrofishing.

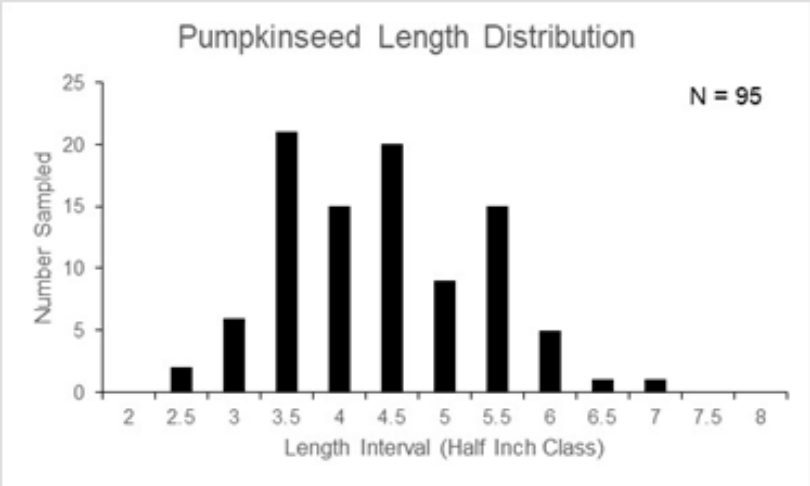

Table 12. 2025 size structure metrics for pumpkinseed on Koonz and Beaulieu Lakes.

Total Number Measured	Average Length (inches)	Length Range (inches)	Stock and Quality Size (inches)	Stock Number	Quality Number
96	4.6	2.7 - 7.4	3.0 and 6.0	93	7

Table 13. Electrofishing number per mile for pumpkinseed on Koonz and Beaulieu Lake.

Total Sampled	2006	2015	2020	2022	2025	Historical Median	2025 Statewide Percentile Rank	2025 Abundance Rating
28	14.0	3.8	2.0	28.0	51.3	8.9	83rd	Moderate - High

Table 14. Electrofishing proportional stock density for pumpkinseed on Koonz and Beaulieu Lake.

2006	2015	2020	2022	2025	Historical Median	2025 Statewide Percentile Rank	2025 Abundance Rating
14	100	100	68	8	68	18th	Low

Yellow Perch

Yellow Perch (Perca flavescens) are a common panfish species found throughout many Wisconsin waterbodies. Typically, yellow perch spawn in areas of emergent or submergent vegetation or submerged brush at approximately 45-50°F water temperatures.

Table 15. 2025 size structure metrics for yellow perch on Koonz and Beaulieu Lakes.

Total Number Measured	Average Length (inches)	Length Range (inches)	Stock and Quality Size (inches)	Stock Number	Quality Number
6	5.2	3.4 - 7.5	5.0 and 8.0	3	0

Table 16. Electrofishing number per mile for yellow perch on Koonz and Beaulieu Lake.

Total Sampled	2006	2015	2020	2022	2025	Historical Median	2025 Statewide Percentile Rank	2025 Abundance Rating
6	0	5.4	8.0	64.0	3.2	5.4	25th	Low

Table 17. Electrofishing proportional stock density for yellow perch on Koonz and Beaulieu Lake.

2006	2015	2020	2022	2025	Historical Median	2025 Statewide Percentile Rank	2025 Abundance Rating
0	0	0	0	0	0	-	Low

Discussion/Recommendations

Largemouth Bass

Koonz and Beaulieu Lakes supports a moderate density largemouth bass population with a catch rate of 16.0 per mile of electrofishing. A catch rate of 16.0 per mile ranks in the 53rd percentile when compared to other lakes statewide. Relative abundance comparisons from the past survey indicate that density of largemouth bass has improved since the fish kill in 2020 but has not reached levels seen pre-fishkill. Protection of Koonz and Beaulieu Lakes largemouth bass population is critical in maintaining a balanced fishery between the bluegill and largemouth bass, with bluegills being a main prey species for the largemouth bass.

Bluegill

Koonz and Beaulieu Lakes support a high density bluegill population with catch rates 420.3 bluegill per mile of electrofishing from the boomshocker survey. A catch rate of 420.3 per mile ranks in the 96th percentile when compared to catch rates statewide. Catch rates of bluegill greater than 7.0 inches was 1.6 per mile which ranks in the 9th percentile and below average when compared to other lakes statewide. Size structure of bluegill was characterized as low. Length data which resulted in a PSD value of 18 is ranked in the 26th percentile when compared to other lakes throughout the state. Population trends from the previous surveys indicate that densities of bluegill in Koonz and Beaulieu Lakes have rebounded since the fish kill in 2020. Historically Koonz and Beaulieu Lakes had high densities and low size structure for bluegills. Increasing predators in Koonz and Beaulieu Lakes may give the bluegills a chance to grow to larger sizes if densities can be lowered.

Black Crappie

The lakes support a moderate-high black crappie population with catch rates 14.4 per mile of electrofishing from the boomshocker survey. This catch rate ranks in the 72nd percentile when compared to catch rates statewide. Size structure of black crappie in Koonz and Beaulieu Lakes was characterized as low. Length data which resulted in a PSD value of 16 is ranked in the 28th percentile when compared to other lakes throughout the state and lower than the historical average of 41. Population trends from the previous surveys indicate that densities of black crappie have increased but size structure has not rebounded since the 2020 fish kill.

Pumpkinseed

Koonz and Beaulieu Lakes support a high density pumpkinseed population with a catch rate of 51.3 per mile of electrofishing, which ranks in 93rd percentile when compared to other lakes in the state. Furthermore, catch rates of pumpkinseed greater than 7.0 inches is 0.5 per mile of electrofishing, which ranks in the 53rd percentile. Abundance levels of pumpkinseed have increased since the last survey in 2022 and are above the historical levels observed in the past. Size structure metrics indicate a PSD value of 8, which ranks in the 18th percentile when compared to lakes statewide.

Yellow Perch

Yellow perch densities in Koonz and Beaulieu Lakes are at low levels with sampling of 3.2 yellow perch per mile of electrofishing, which ranks in the 25th percentile statewide. However, size structure of yellow perch in Koonz and Beaulieu Lakes is low with no fish over 8.0 inches captured in the surveys. Historically there has been moderate densities of yellow perch, and the size structure has been poor, with fish not being observed greater than 8.0 inches.

Other Species and Information

Koonz and Beaulieu Lakes supports a fishery similar to many other lakes in the area of central Wisconsin with the main fish species being largemouth bass and panfish. The only other species captured in our survey were northern pike and yellow bullhead. Over the past decade the lakes had significant rising of water levels while also a significant fish kill in 2020. Future management of the lake would be to preserve the existing flooded woody habitat and potentially add fish sticks as well.