

WISCONSIN DEPARTMENT OF NATURAL RESOURCES

Fish Assemblage Assessment for Robinson Lake, Peterson Lake and Beef Slough; Lower Pool 4 Mississippi River

Buffalo County, October 2024
Waterbody Identification Code: 729600



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Introduction

The Mississippi River supports a diversity of fish including numerous game and non-game species. Many, such as walleye, largemouth bass, bluegill and yellow perch are highly sought after by anglers, while non-gamefish species can be important either commercially or may serve as forage for other fish species. Regardless of species designation, all native fish are important components to a healthy Mississippi River fishery.

The Mississippi River forms Wisconsin's western boundary beginning at Prescott, WI and runs 230 river miles before exiting the state near Dubuque, IA. Pool 4 is an impoundment of the Mississippi River resulting from the construction of Lock and Dam 4. It includes lower Pool 4, a 10-mile river reach below Lake Pepin that extends downstream to Lock and Dam 4 at Alma, WI. Lower Pool 4 has a mix of aquatic habitat types that include contiguous and isolated backwaters, secondary and tertiary channels, and the main channel and main channel border. For this assessment, a defined area of lower Pool 4 was surveyed, including Robinson Lake, Peterson Lake and Beef Slough, that would provide information about the fish assemblage during October 2024.

Methods

In October of 2024, the Department of Natural Resources (DNR) electrofished non-main channel areas of lower Pool 4, including backwater lakes, running sloughs and side channels. Daytime runs were selected by field staff based on their knowledge of lower Pool 4. Staff sought full spatial coverage and concentrated effort to maximize species richness and abundance. All fish were netted, identified and measured to the nearest tenth of an inch. A standard DNR direct current, double anode electrofishing boat with one dipper was used.

Results

27 sites were surveyed that totaled 300 minutes of electrofishing time (Figure 1). A total of 1,625 fish were collected that comprised 32 species. Bluegill were the dominant species (52.6% of the catch, mean length 4.3 inches (range=1.5-8.5 inches, N=855)), followed by largemouth bass (15.8%, mean length=8.7 inches; (range=2.8-19.1 inches, N=257)), yellow perch (7.2%, mean length=6.4 inches; (range=3.3-11.7 inches, N=117) and gizzard shad (4.3%, mean length=4.8 inches; (range=3.0-15.2 inches, N=69)).

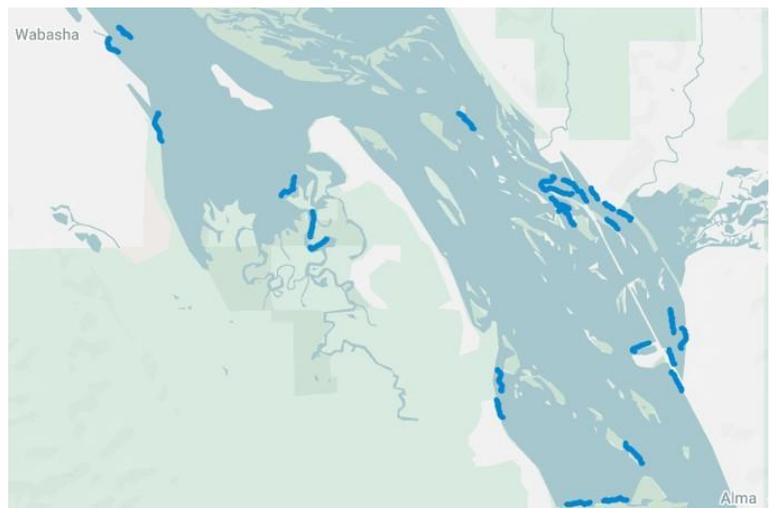


Figure 1. Blue lines represent electrofishing runs conducted on the Mississippi River, Lower Pool 4, during October 2024.

Summary and Conclusions

The 2024 lower Pool 4 fish assemblage survey provided similar results to previous surveys in addition to a few differences. There were 32 species captured this year which was the same as 2014 and 2018. This was higher than 2022 when 27 species were captured. Like 2014 and 2022, bluegill was the dominant species collected. Bluegill was the dominant species for three out of the four survey years and accounted for 26.5% of the catch in 2014 while increasing that percentage to 52.6% during 2024. Yellow perch was the dominant species in 2018 at 32.2%. It is interesting to note that largemouth bass was the most consistent species caught during the four survey years, varying in dominance from a high of 24.1% in 2018 down to 15.8% during 2024 (Figure 2).

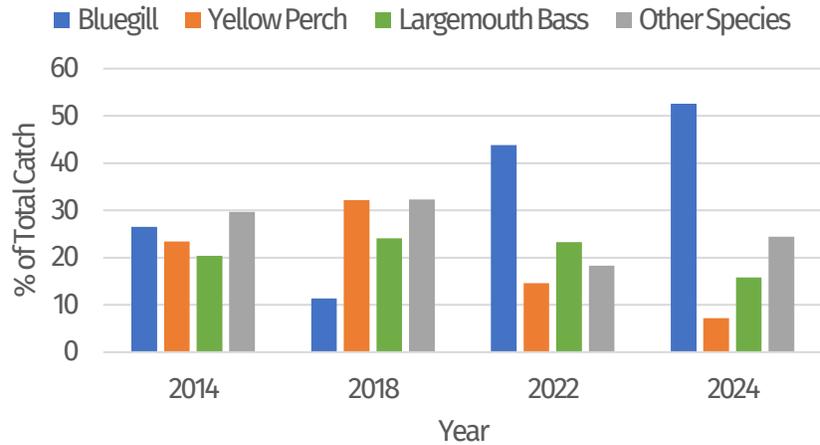


Figure 2. Percent of total catch, by year, for bluegill, yellow perch, largemouth bass and other species electrofished within Robinson Lake-Peterson Lake-Beef Slough, Pool 4, Mississippi River.

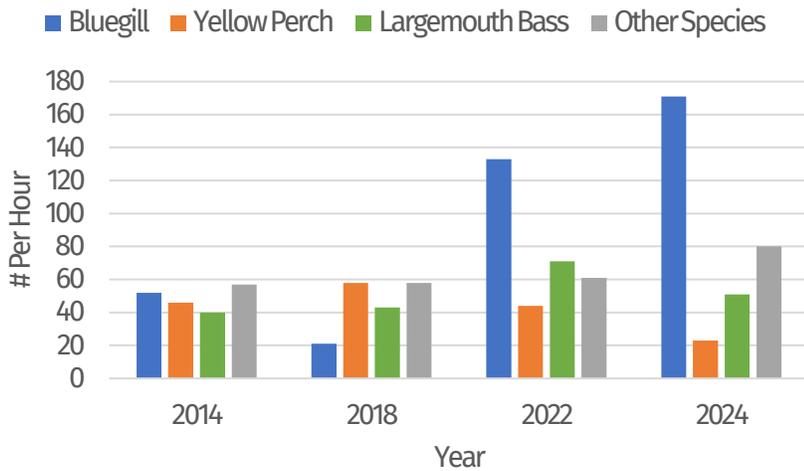


Figure 3. Catch per unit effort (# per hour), by year, for bluegill, yellow perch, largemouth bass and other species electrofished within Robinson Lake-Peterson Lake-Beef Slough, Pool 4, Mississippi River.

In 2024, our overall catch per unit effort (number of fish captured per hour), was 325. This was an increase of 7% from our 2022 survey when 309 fish per hour were captured. The total catch rate for 2024 was 44% higher than the average of the three previous surveys conducted in 2014, 2018 and 2022 when catch rates were 195, 180 and 309 fish per hour, respectively (Figure 3).