

WISCONSIN DEPARTMENT OF NATURAL RESOURCES

Fish Assemblage Assessment For Upper Pool 5

Mississippi River

Buffalo County, October 2023

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 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, Iowa. Pool 5 is an impoundment of the Mississippi River resulting from the construction of Lock and Dam 5. It includes Upper Pool 5, a 5-mile river reach that extends downstream from Lock and Dam 4 at Alma, WI. Upper Pool 5 has a mix of aquatic habitat types that include contiguous and isolated backwaters, secondary and tertiary channels, the main channel and main channel border. For this assessment, Upper Pool 5 was surveyed to provide information about the fish assemblage during September and October 2023.

Methods

During September and October of 2023, the Department of Natural Resources electrofished non-main channel areas of Upper Pool 5, including backwater lakes, running sloughs and side channels. Daytime runs were selected by field staff based on their knowledge of Upper Pool 5. Sampling sought full coverage of the area by spacing runs appropriately. All fish were netted, identified and measured for length.



Results

27 sites were surveyed that totaled 300 minutes of electrofishing time (Figure 1). A total of 1,708 fish were collected that comprised 33 species. Bluegill were the dominant species (36.9% of the catch), followed by largemouth bass (20.4%), yellow perch (16.5%), golden redhorse (5.1%) and gizzard shad (2.6%).

Figure 1. Blue lines represent electrofishing runs conducted on the Mississippi River, Upper Pool 5, during September and October 2023.

Summary and Conclusions

This year's Upper Pool 5 fish assemblage survey provided similar results to previous surveys in addition to a few differences.

Overall, more species were captured this year (33 species), compared to 2020 and 2016 when 22 and 27 species were captured, respectively. Similar to 2016, bluegill was the

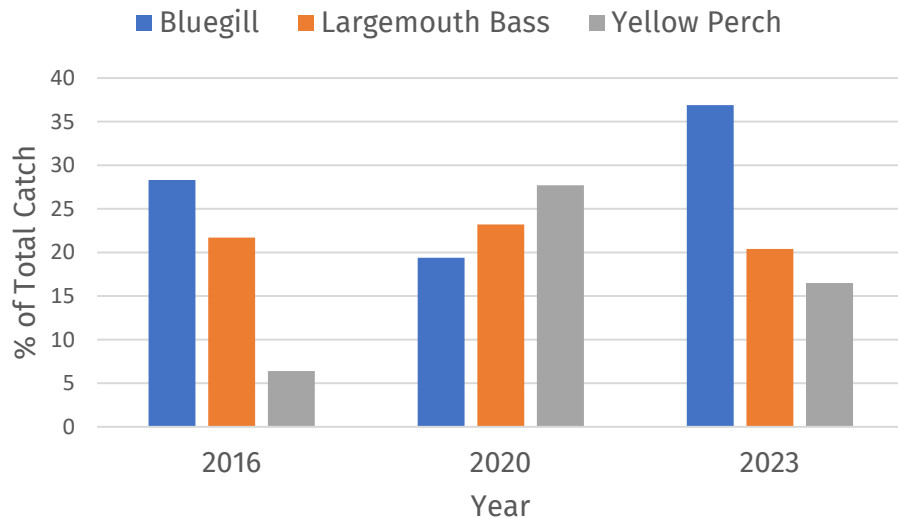


Figure 2. Percent of total catch, by year, for bluegill, largemouth bass, and yellow perch

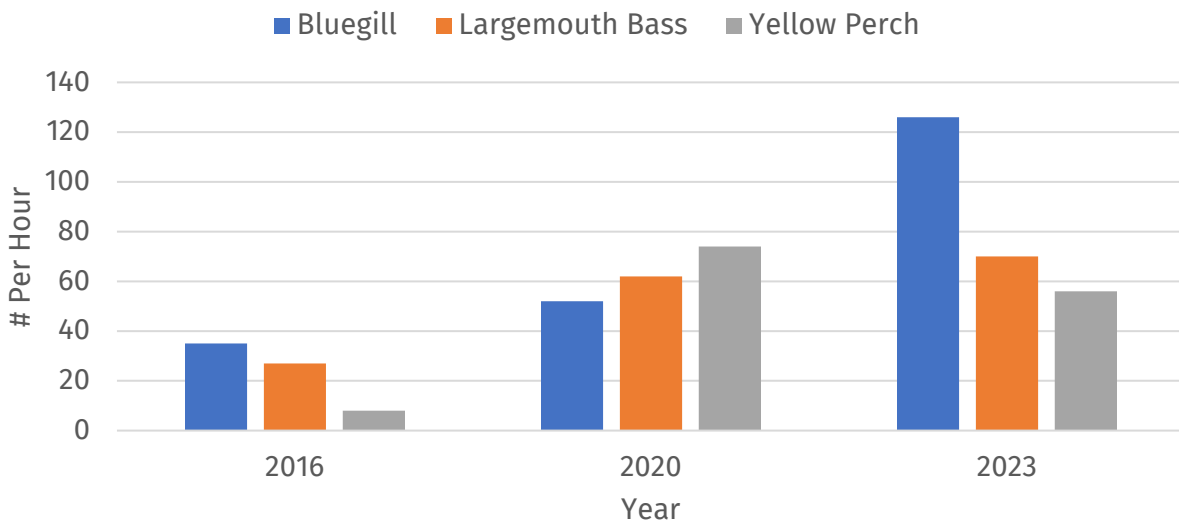


Figure 3. Catch per unit effort (# per hour), by year, for bluegill, largemouth bass, and yellow perch electrofished within Upper Pool 5, Mississippi River.

dominant species; bluegill accounted for 28.3% of the catch in 2016. That percentage increased to 36.9% in 2023 (Figure 2). Yellow perch was the dominant species in 2020, but their dominance decreased to third in 2023 (Figure 2). It is interesting to note that largemouth bass was the most consistent species caught during the three survey years, always second in dominance and only varying from 20.4% in 2023 to just over 23% during 2020 (Figure 2).

In 2023, overall catch per unit effort, or the number of all fish electrofished per hour, was significantly greater than during other survey years (2016, 125 fish per hour; 2020, 266 fish per hour; 2023, 342 fish per hour). More specifically, bluegill catch per effort was far greater during 2023 compared to the other two survey years, while largemouth bass have shown a much steadier increase. Yellow perch are more prevalent in more recent surveys (Figure 3).