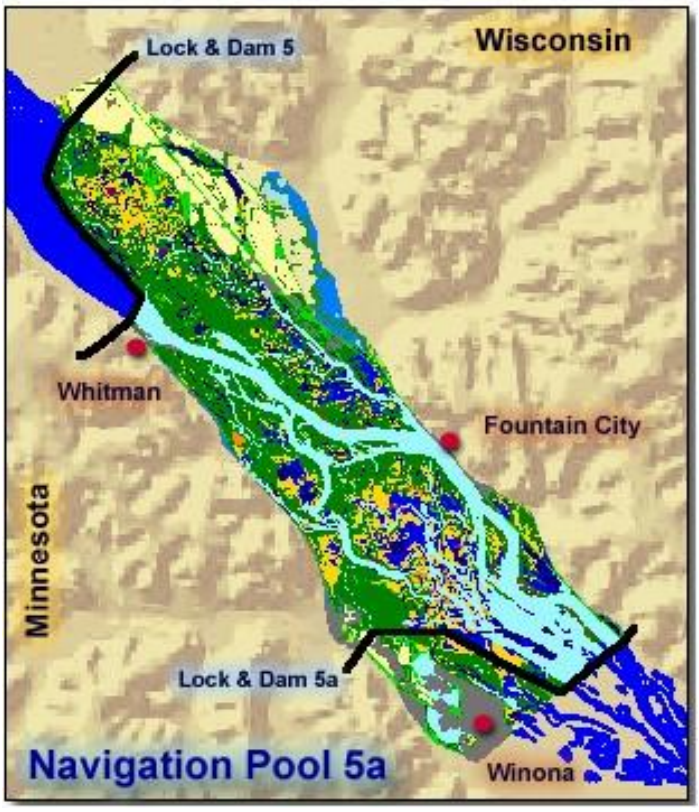
WISCONSIN DEPARTMENT OF NATURAL RESOURCES

Fish Assemblage Assessment for Upper Pool 5a Mississippi River

Buffalo County, October 2024

Waterbody Identification Code: 729600



KEVIN MAUEL
DNR Fisheries Biologist
Alma, Wisconsin
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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 designation, all native fish are important components of 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 5a is an impoundment of the Mississippi River resulting from the construction of Lock and Dam 5a. It includes a 10-mile river reach from the tailwaters of Lock and Dam 5 near Minneiska, MN downstream to Lock and Dam 5a near Winona, MN. Pool 5a and its floodplain encompass approximately 17,700 total acres with 2,780 acres of open water. The pool has a mix of aquatic habitat types that includes tailwaters, contiguous and isolated backwaters, secondary and tertiary channels, and the main channel and main channel border. For this assessment, Upper Pool 5a is defined as the upper one-half of the pool or the area withing five miles downstream of Lock and Dam 5.

Methods

During October of 2024, the Department of Natural Resources electrofished non-main channel areas of Upper Pool 5a, including backwater lakes, running sloughs and side channels. Daytime runs were selected by field staff based on their knowledge of Upper Pool 5a. Staff sought full spatial coverage and concentrated effort to maximize species richness and abundance. All fish were netted, identified and measured to the nearest millimeter. A standard DNR direct current double anode electrofishing boat with one dipper was used to sample the Upper Pool 5a Lake Unit.

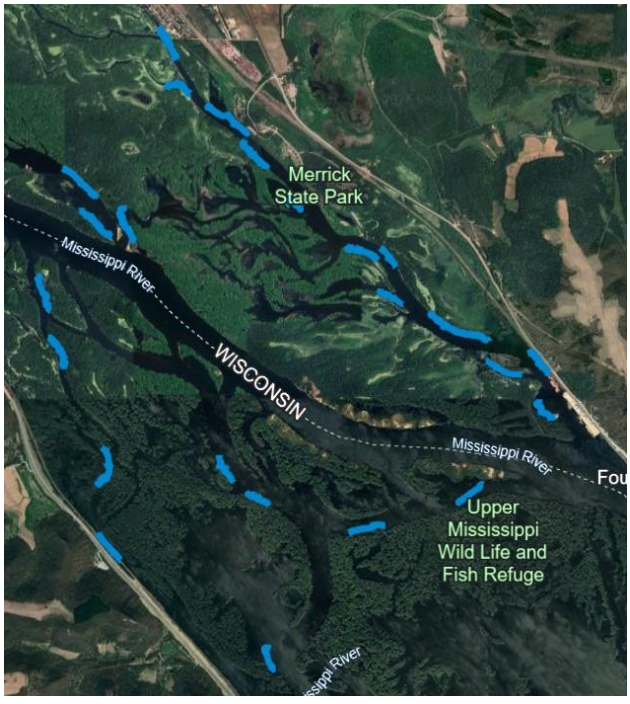

Figure 1. Blue lines represent electrofishing runs conducted on the Mississippi River, Upper Pool 5a, during October 2024.

Results

Twenty-five sites were surveyed that totaled 300 minutes of electrofishing time (Figure 1). A total of 1,269 fish were collected that comprised 28 species. Bluegill were the dominant species (36.0% of the catch, mean length 4.3 inches (range=1.6-9.5 inches, N=457)), followed by largemouth bass (24.1%, mean length=8.5 inches;

(range=2.8-17.8 inches, N=306)), yellow perch (7.7%, mean length=7.3 inches; (range=3.3-10.9 inches, N=98)) and bowfin (6.9%, mean length=22.8 inches; (range=12.4-30.0 inches, N=87)).

Summary and Conclusions

2024's Upper Pool 5a fish assemblage survey provided similar results to previous surveys in addition to a few differences. Overall, species numbers were higher this year (28 species), compared to 2020 and 2017 when 23 and 26 species were captured, respectively. While bluegill was the dominant species this year, yellow perch were the dominant catch in 2020, while largemouth bass dominated in 2017. Bluegill accounted for 44.9% of the catch in 2013 and largemouth bass led the way in 2017 with 21.4% of the catch (Figure 2). It is interesting to note that during the last three survey years, from 2013 to 2020, yellow perch catch increased substantially; in 2013 yellow perch only accounted for 3.8% of the catch but increased to nearly 40% of the catch during the 2020 survey year and back down to 7.7 for the latest survey in 2024 (Figure 2).

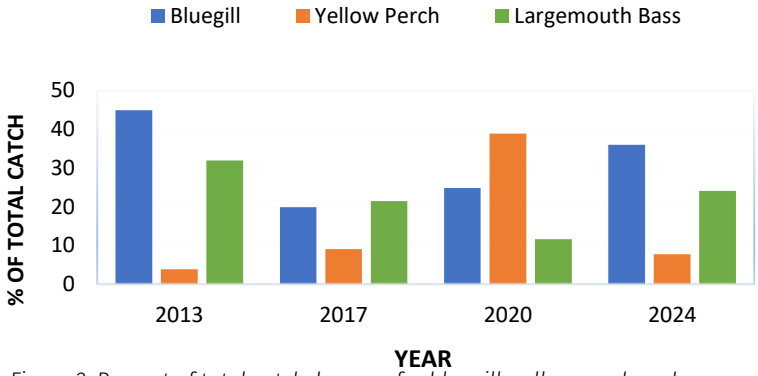

Figure 2. Percent of total catch, by year, for bluegill, yellow perch and largemouth bass electrofished in Upper Pool 5a, Mississippi River.

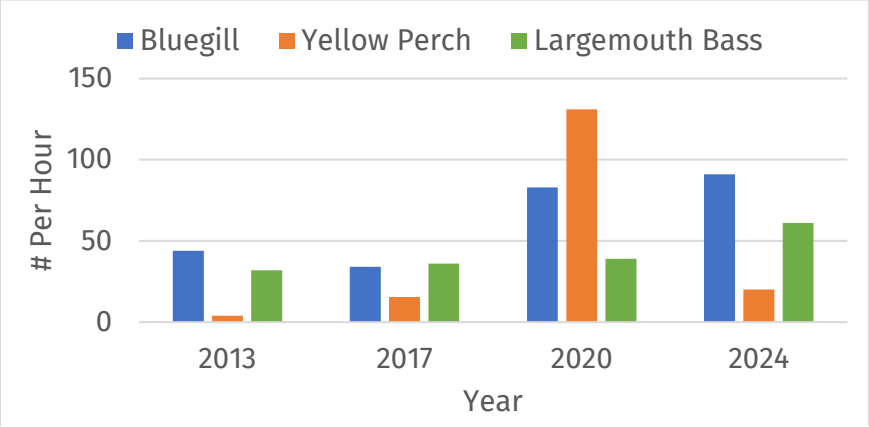

Figure 3. Catch per unit effort (# per hour), by year, for bluegill, largemouth bass and yellow perch electrofished within Upper Pool 5a, Mississippi River.

In 2024, our overall catch per unit effort (number of fish captured per hour), was 254. This was a decrease of about 25% from our 2020 survey when 339 fish per hour were captured. The catch rate for 2024 is higher than the catch rates for both 2017 and 2013 and slightly above the average of the previous three surveys. Overall, the drastic 85% decrease in the yellow perch catch in 2024 caused the overall catch rate to be lower in spite of the bluegill and largemouth bass catch being higher than any of the previous three surveys conducted in 2013, 2017 and 2020 (Figure 3).