

WISCONSIN DEPARTMENT OF NATURAL RESOURCES

Fish Assemblage Assessment For Belvidere Slough-Spring Lake, 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. The pool has a mix of aquatic habitat types that include contiguous and isolated backwaters, secondary and tertiary channels, main channel and main channel border. For this assessment, a defined area of Pool 5 was surveyed, including Belvidere Slough and Spring Lake; the area was both upstream and downstream of Buffalo City, WI. The survey was to provide information about the fish assemblage in October 2023.

Methods

In October of 2023, the Department of Natural Resources electrofished non-main channel areas of Belvidere Slough and Spring Lake, including backwater lakes, running sloughs and side channels. The daytime runs were selected by field staff based on their knowledge of the area. Staff sought full coverage by spacing runs appropriately. All fish were

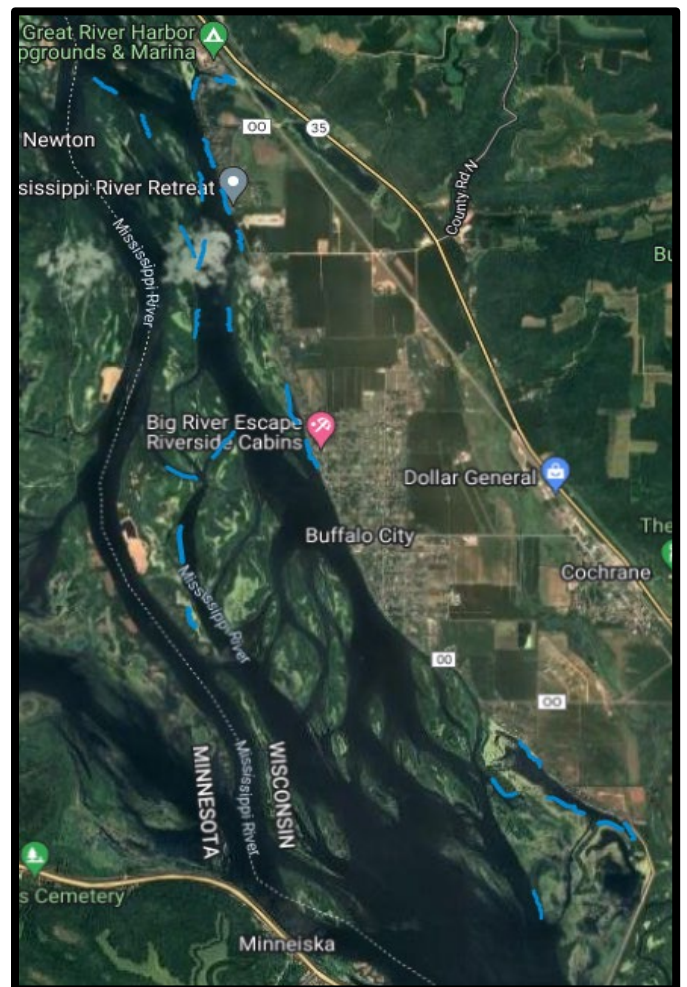


Figure 1. Blue lines represent electrofishing runs conducted on the Mississippi River, Pool 5, Belvidere Slough-Spring Lake, during October 2023.

netted, identified and measured for length.

Results

24 sites were surveyed that totaled 300 minutes of electrofishing time (Figure 1). A total of 1,527 fish were collected that comprised 33 species. Largemouth bass were the dominant species (28.3% of the catch), followed by bluegill (23.1%), yellow perch (22.2%), northern pike (3.1%), and spottail shiner (2.8%).

Summary and Conclusions

This Belvidere Slough-Spring Lake fish assemblage survey provided similar results to a previous survey conducted in the area during 2014, in addition to a few differences.

Overall, a similar number of species were surveyed this year (33 species), compared to 2014 when 32 species were identified. The 2023 survey had the same top three dominant species as the 2014 survey (bluegill, largemouth bass and yellow perch). However, the order of

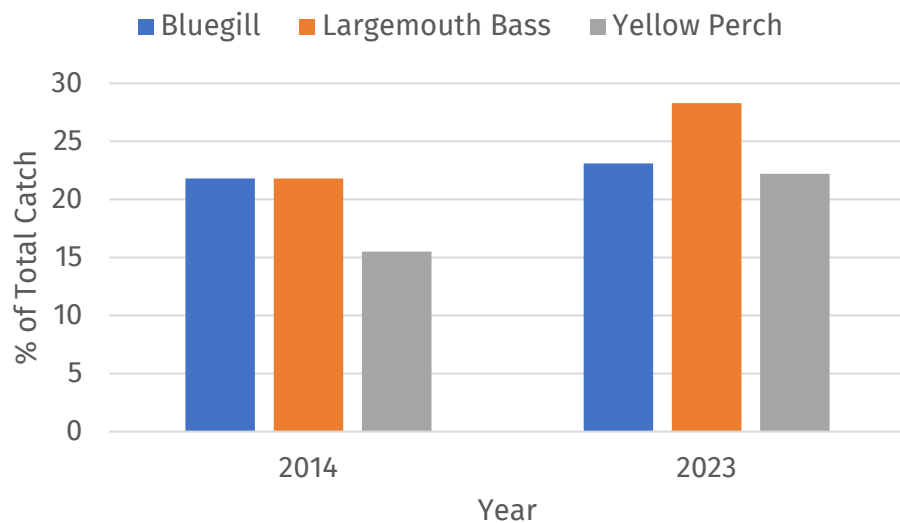


Figure 2. Percent of total catch, by year, for bluegill, largemouth bass, and yellow perch electrofished within Belvidere Slough-Spring Lake, Pool 5, Mississippi River.

dominance changed with largemouth bass having a greater percentage during 2023 (Figure 2). Although yellow perch ranked third in dominance in both 2014 and 2023, their percent dominance increased nearly seven percent during 2023 (Figure 2).

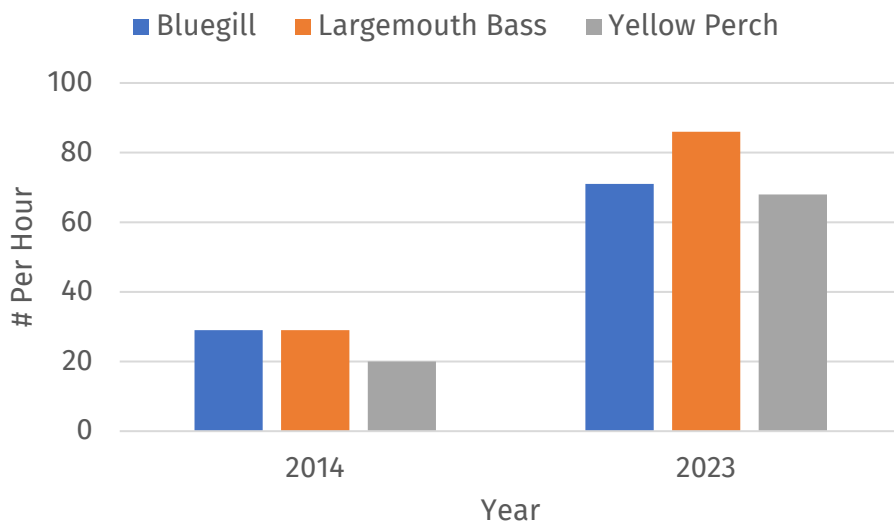


Figure 3. Catch per unit effort (# per hour), by year, for bluegill, largemouth bass, and yellow perch electrofished within Belvidere Slough, -Spring Lake, Pool 5, Mississippi River.

three times as many bluegill, largemouth bass and yellow perch were caught per hour during 2023 compared to 2014 (Figure 3).

In 2023, the overall catch per unit effort, or number of all fish electrofished per hour, was significantly greater than during the 2014 survey year; the 2023 survey produced 305 fish per hour while the 2014 survey caught 132 fish per hour. In addition, nearly