WISCONSIN DEPARTMENT OF NATURAL RESOURCES

Fishery Survey
Bass Lake near Weyerhaeuser
Rusk County, Wisconsin, 2023

Introduction

The Wisconsin Department of Natural Resources' (DNR) Fisheries Management Team from Park Falls completed a late-spring electrofishing survey in 2023 to assess the relative abundance and size structure of largemouth bass and panfish in addition to obtaining information on the fish community. Quality, preferred and memorable sizes referenced in this summary are based on standard proportions of world record lengths developed for each species by the American Fisheries Society. "Keeper-size" is the team's description for black crappie and yellow perch 9 inches or longer and bluegill at least 7 inches long, based on observed angler behavior.

HABITAT AND PUBLIC ACCESS CHARACTERISTICS

Bass Lake is an 88-acre seepage lake located about 4 miles west of Weyerhaeuser, WI on Old Highway 14. An intermittent stream enters on the south side and discharges from the northwest corner. The shoreline is 75% upland forest and 25% tamarack bog. The public boat landing is on the east shore off Old Highway 14. The average depth is 8 feet, with a maximum depth of 27 feet. Historical Secchi depth readings of 11 feet indicate clear water. The substrate is composed of 45% sand, 40% muck and 15% gravel. The water has a low conductivity and is slightly acidic (pH=6.2). A moderate density of submergent and emergent vegetation is present.

SURVEY EFFORT

On May 24, 2023, we sampled the entire shoreline by electrofishing at night running AC current. Unfortunately, our survey was impacted by low conductivity, and many fish were not properly stunned. In total, we surveyed 2.4 miles of shoreline in 1.28 hours. The water temperature averaged 65° F. All fish encountered were collected in the first mile or 0.53 hours. Gamefish were exclusively targeted for the last 1.4 miles or 0.76 hours.

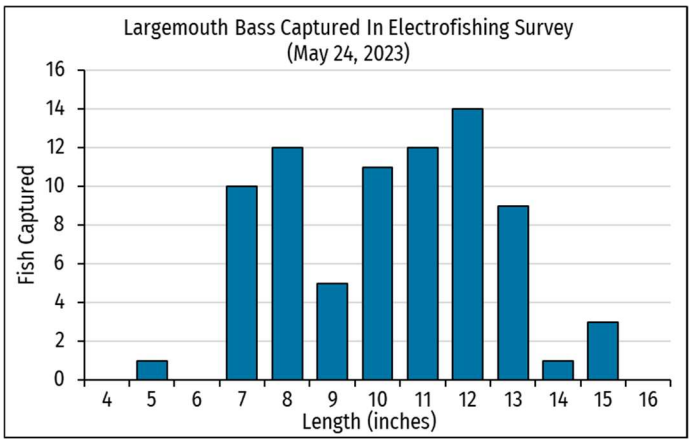
Results and Discussion

FISH COMMUNITY

Although this survey is not designed to characterize the whole fish community, information on the fish community can still be gained. In total, we sampled seven species: black crappie, bluegill, golden shiner, largemouth bass, walleye, yellow bullhead and yellow perch. Brown trout and rainbow trout have been stocked in alternate years. We did not detect these species most likely because brown trout and rainbow trout were not in shallow water and vulnerable to our gear. Although

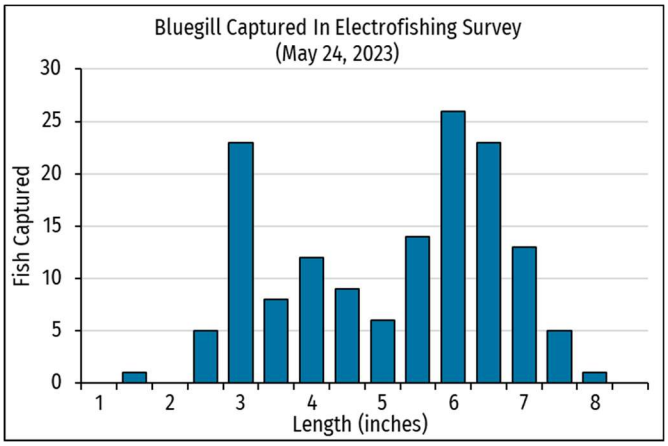
walleyes are stocked every even year, the lake is dominated by largemouth bass and bluegills.

LARGEMOUTH BASS



Our late-spring electrofishing survey captured 78 largemouth bass ranging from 5.4 to 15.7 inches with an average of 10.7 inches. A catch rate of about 28 bass ≥ 8 inches per mile demonstrates an increase in relative abundance from our previous survey. This catch rate is marginally higher than the median catch rates for largemouth bass in similar lakes. Bass lake is classified as a lake with a complex fish community, warm water and high water clarity. Interestingly, the increase in bass density also has coincided with an increased size structure. The proportion of quality-size bass (≥ 12 inches) increased from 9% in 2011 to 40%. However, the proportion of legal-size bass and preferred-size bass (≥ 15 inches) remains low at 6% and 4%, with no fish sampled obtaining a memorable size (≥ 20 in) classification. Previous growth analysis showed slow growth, most likely as a result of low productivity and soft water. Even though the largemouth bass population is at a moderate density, the bass are likely limited by the lake's low fertility. For bass to attain a more desirable size structure and produce more memorable sized fish, the population would likely need to be at lower densities. However, lower densities would not be desirable for angling.

BLUEGILL



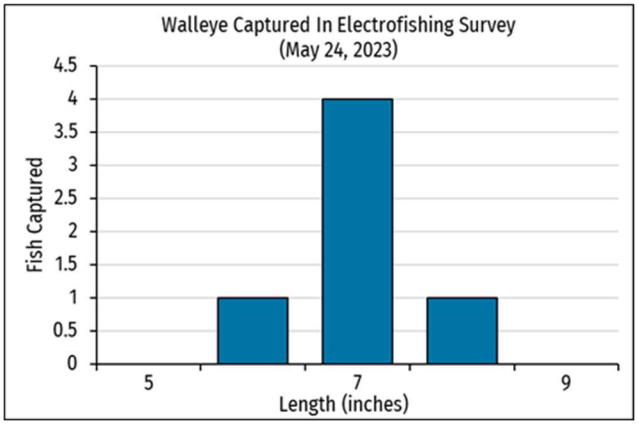
Our late-spring electrofishing survey captured 146 bluegills ranging from 1.5 to 8 inches with an average of 5.3 inches.

Our catch rate of 140 bluegills ≥ 3 inches per mile remains consistent with our previous survey while remaining below the median catch rates for similar lakes. The size structure remained relatively unchanged. The proportion of quality-size bluegills (≥ 6 inches) did increase from 28% to 49%, but the proportion of keeper-size and preferred-size bluegills (≥ 8 inches) remained consistent at 14% and

1% since the survey in 2011. Although there may be an increase in quality bluegills, the change is negligible from an angling perspective.
The bluegill population appears to have found a healthy population balance which is a vast improvement from the bluegill population in the 1980s. Historically, surveys collected no keeper-size bluegills and very few quality bluegills until a removal and control effort was initiated in the 1980s and 1990s. The project included the mechanical removal of bluegills and the stocking of predators. Predators stocked included walleye, channel catfish and bowfin, but no introduced predatory species has sustained a population. However, the mechanical removal succeeded at reducing the stunted bluegill population and improving the size structure. In addition, the bluegill population appears to be in a healthy balance with predators, mainly largemouth bass, sustaining a moderate bluegill fishery.

WALLEYE

Our late-spring electrofishing survey is not designed to target walleyes, but our data indicates a poor walleye fishery with no adults captured and only 2.5 walleye per mile. Despite stocking about 800 walleyes every even year since 2014, the walleye population has not maintained a viable fishery. Unfortunately, this is not uncommon in many of northern Wisconsin's small lakes.



BLACK CRAPPIE

Our late-spring electrofishing survey captured four black crappies, ranging from 9.1 to 12.1 inches and an average of 10.6 inches. 100% of black crappies sampled attained a keeper-size and quality-size (≥ 8 inches). Additionaly, 75% of crappies sampled attained preferred-size (≥ 10 inches), with 25% reaching a memorable size (≥ 12 inches). In total, we obtained a catch rate of four black crappies ≥ 5 inches per mile. This catch rate indicates a low abundance but allows for better growth.

For questions contact:
Jeff Scheirer, Fisheries Biologist
Wisconsin Department of Natural Resources
875 4th Ave. S.
Park Falls, WI 54552
715-762-1354
jeffrey.scheirer@wisconsin.gov