WISCONSIN DEPARTMENT OF NATURAL RESOURCES

# Fishery Survey Summary
# Lake Ten, Price County, Wisconsin, 2021

## Introduction

The Wisconsin Department of Natural Resources (DNR)'s Fisheries Management Team from Park Falls completed a late-spring electrofishing survey to assess the abundance and size structure of largemouth bass and bluegill populations in Lake Ten. 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 Bluegill ≥ 7 inches and Black Crappie ≥ 9 inches long, based on observed angler behavior.

### HABITAT AND PUBLIC ACCESS CHARACTERISTICS

Lake Ten is a 43-acre seepage lake located about 6½ miles southwest of Phillips, Wisconsin. The average depth is 17 feet, the maximum depth is 37 feet, and 7% of the surface area is less than 3 feet deep. The water is exceptionally clear (Secchi depth = 11 feet) compared to nearby lakes that drain wetlands. Lakebed materials are 60% sand, 18% gravel, 2% rock and 20% muck.

With high water clarity, rooted aquatic vegetation grows around the entire perimeter to the 10-foot depth contour. Watershield, an aquatic plant commonly found in soft water lakes, grows at moderately high density in shallow areas. Mixed hardwoods and conifers on steep slopes cover 70% of the shoreline, and the rest is bog. In our electrofishing circuit, we noted low conductivity and an abundance of submerged woody structure.

The State of Wisconsin owns the larger of Lake Ten's two islands. Harmony Township enforces a slow-no-wake boating ordinance and maintains a public boat landing on the east shore. A narrow backing lane leads to the boat ramp.

### SURVEY EFFORT

With water temperature at 65° F, the May 19, 2021 electrofishing survey coincided with the spawning activities of Largemouth Bass and Bluegills. High water clarity gave a rare opportunity to see both species building or guarding their nests, as most of the waters we manage are dark-stained or turbid. We sampled Lake Ten's entire 1.48 miles of mainland and island shoreline in 0.82 hour, targeting all fish species.

Low conductivity severely hampered our electrofishing efficiency. We watched many fish flee their nests to elude capture as we approached, and we estimated that we caught only half of the fish we saw. We found no apparent malfunction in our electrofishing gear before, during or after this survey. Our three-member team had a vacancy in 2021, so we collected this sample with one netter, rather than with the two that we usually employ in this protocol. We did not repeat our previous netting surveys because the fyke netting effort directed toward Black Crappies in fall 2009 and toward Northern Pike and Yellow Perch in early spring 2010 yielded small samples.

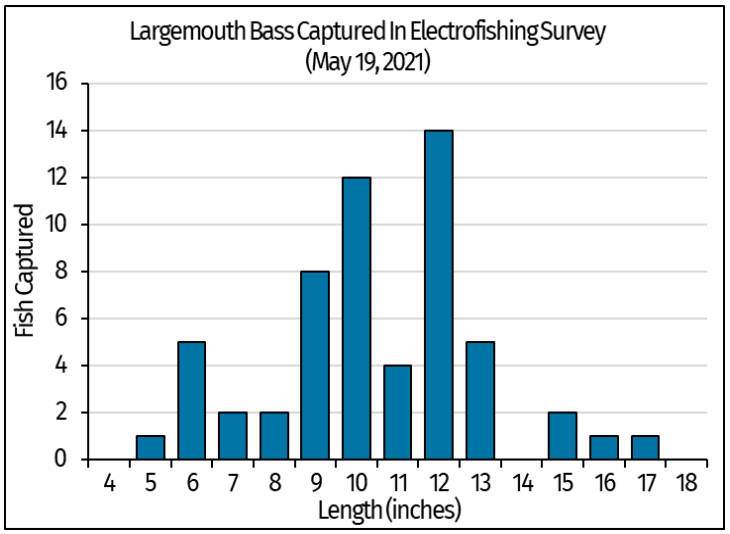
# Results and Discussion

## FISH COMMUNITY

In spring 2021, electrofishing captured three fish species compared to seven species collected in 2009-2010 by netting and electrofishing combined. Our survey suggests that Largemouth Bass and Bluegills hold the primary roles in Lake Ten's predator-prey dynamics. The 2021 sample included five Black Crappies 7.9-11.8 inches long, too few to draw inferences about their population status. The absence of suckers, minnows, other sunfish and other predators was conspicuous in our catch and observations.

## LARGEMOUTH BASS

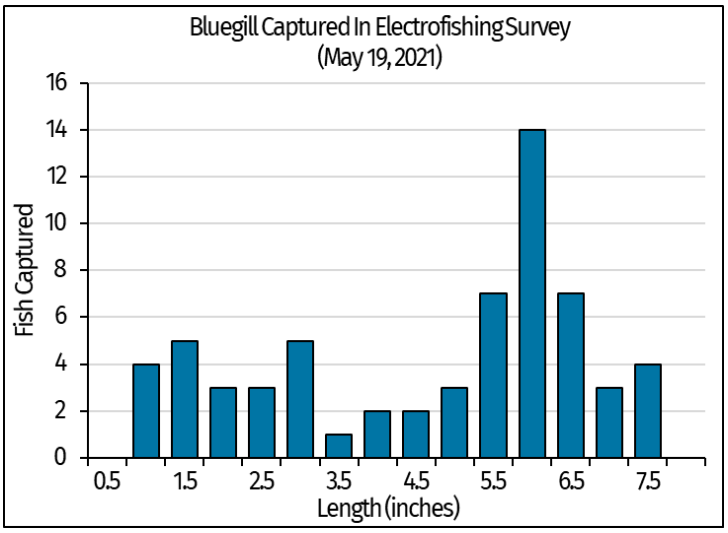
We caught 57 Largemouth Bass that ranged from 5.9-17.8 inches and averaged 10.9 inches long, and we saw a similar number of bass evading capture. Typically, electrofishing catch rates of 33 bass ≥ 8 inches per mile or 60 per hour would indicate moderate population abundance. However, with so many bass seen escaping, their number can be described as "very high."




Among bass 8 inches and longer, 47% were at least 12 inches and 8% were legal-size bass ≥ 14 inches long. Bass abundance was also high, but their size distribution was better in spring 2010 when electrofishing captured 81 bass per hour and 25% of our sample were legal-size fish from 14-20 inches. Abundant Largemouth Bass seem to eat enough young Bluegills to ward off a "badly stunted" bluegill population, but not enough to foster good Bluegill fishing in this infertile lake.

## BLUEGILL

In late spring 2021, we dip-netted 63 Bluegills at electrofishing capture rates of 32 fish ≥ 3 inches per mile and 59 per hour. These rates would indicate moderate population abundance had we not seen so many fish darting away from our electrofishing gear.




Bluegill size structure was mediocre. They ranged 1.2 – 7.9 inches and averaged 4.9 inches long. About 58% of Bluegills at least 3 inches long in our sample were also at least 6 inches, 15% were 7 inches or longer, but none attained 8 inches. Population abundance was higher and size structure was poorer in our last survey when late spring 2010 electrofishing captured 129 Bluegills per mile or 149 per hour, 28% were ≥ 6 inches and 9% were keeper size at least 7 inches long. Age estimates from scales taken in 2010 revealed

slower-than-average growth and longevity to at least 13 years. Lake Ten's low biological productivity may affect its bluegill population's growth rate and size distribution to a greater extent than excessive recruitment and high abundance do.

For questions contact:

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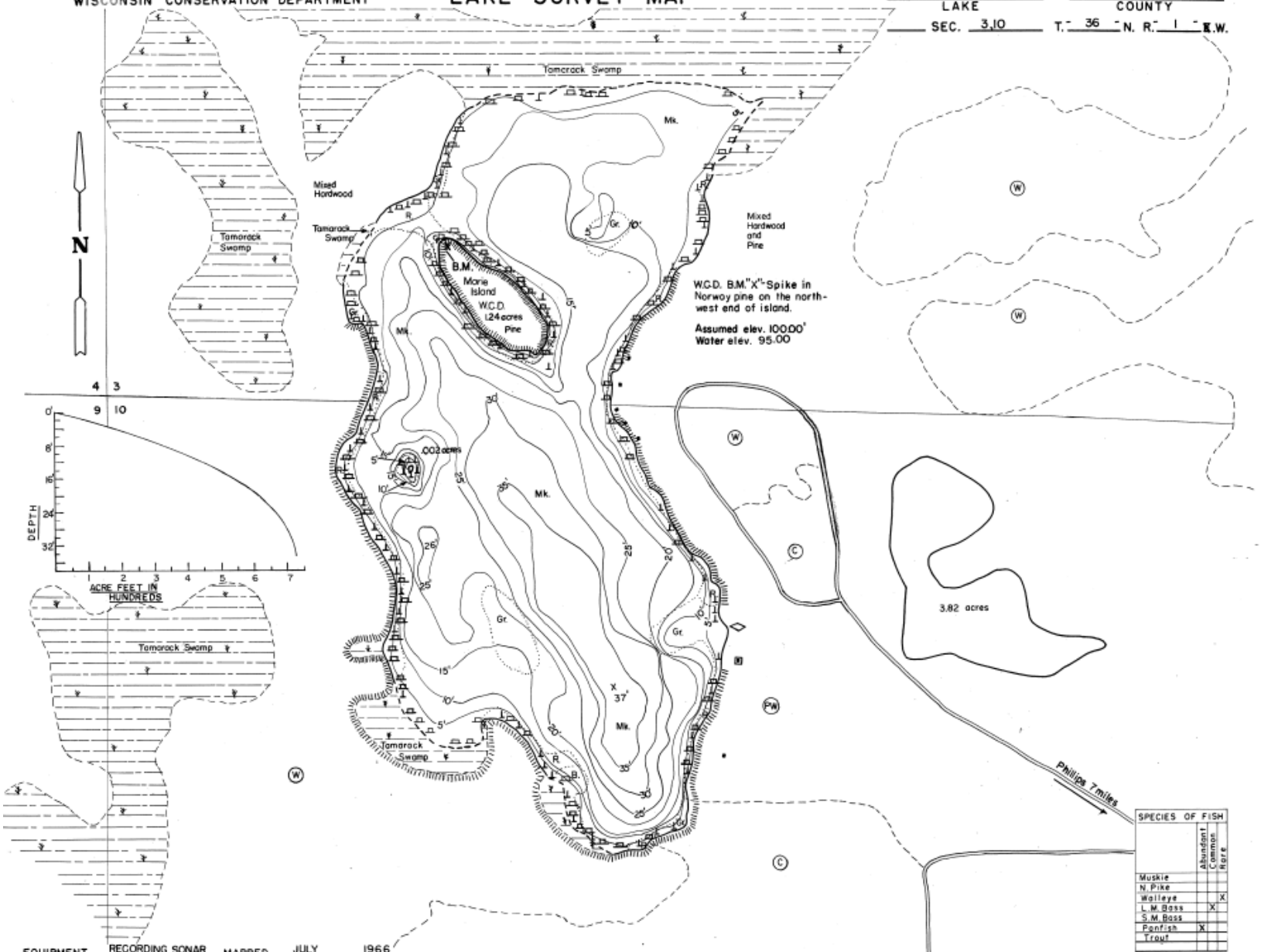
WISCONSIN CONSERVATION DEPARTMENT

# LAKE SURVEY MAP

TEN LAKE — PRICE COUNTY

SEC. 3,10 — T. 36 N. R. 1 E.W.




EQUIPMENT RECORDING SONAR MAPPED JULY (MO.) 1966 (YR.)

WATER ELEV. 95.00'

TOPOGRAPHIC SYMBOLS

- (B) Brush
- (PW) Partially wooded
- (W) Wooded
- (C) Cleared
- (P) Pastured
- (A) Agricultural
- B.M. Bench Mark
- Dwelling
- Resort
- Steep slope
- Indefinite shoreline
- Marsh
- Spring
- Intermittent stream
- Permanent inlet
- Permanent outlet
- Dam

LAKE BOTTOM SYMBOLS

- P. Peat
- Mk. Muck
- C. Clay
- M. Marl
- Sd. Sand
- St. Silt
- Gr. Gravel
- R. Rubble
- Br. Bedrock
- T Submergent vegetation
- ⊥ Emergent vegetation
- Floating vegetation
- Stumps & Snags

200' 0' 200' 400' 600' 800' 1000'

SCALE

◇ Access ◆ Access with Parking ◆ Boat Livery

Field work by: L. Sather, G. Winter, C. Busch — Drawn by: D. Laiho

| SPECIES OF FISH | Abundant | Common | Rare |
|---|---|---|---|
| Muskie | | | |
| N. Pike | | | |
| Walleye | | | X |
| L.M. Bass | | X | |
| S.M. Bass | | | |
| Panfish | X | | |
| Trout | | | |

AREA 44.19 WITH IS. 42.95 ACRES

UNDER 3FT. 7.0 %

OVER 20FT. 64.3 %

VOLUME 732.15 ACRE FT.

TOTAL ALK. 8 P.P.M.

SHORELINE 1.5 MILES

MAX. DEPTH 37 FEET