



2024 LATE SPRING ELECTROFISHING SURVEY REPORT

WATER: VAN ZILE LAKE COUNTY: FOREST, FLORENCE

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INTRODUCTION AND SURVEY OBJECTIVES

The DNR conducted a late spring electrofishing survey of Van Zile Lake in 2024. This survey is designed to assess the bass and Centrarchid panfish populations within the lake. All fish were collected during a 0.53 mile station and then all gamefish were collected for the rest of the survey. Van Zile Lake is located on the Florence/Forest County border just off HWY 139, approximately 8 miles south of Long Lake, with boat access off of N Nicolet Road.

General Waterbody Characteristics:

Lake Class: Complex - Cool - Clear

Acres: 78

Shoreline Miles: 1.75

Maximum Depth (feet): 17

Lake Type: Seepage

Public Access: Boat Landing

Regulations: Statewide Regulations

WISCONSIN DNR CONTACT INFO.

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Table 1. Summary of all surveys conducted during 2021

SURVEY INFORMATION

Species	Survey Date(s)	Gear Used	Effort	Water Temp. (°F)
Largemouth Bass, Centrarchid Panfish	5/20/2024	Boomshocker	1.89 Miles	65

FISH METRIC DESCRIPTIONS

Catch per unit effort (CPUE) is the number of fish per mile (electrofishing) or per net-night (netting) and is used to index abundance when we are unable to get a Population Estimate.

Relative stock density (RSD) is an index used to describe size structure of fish populations. It is calculated by dividing the number of fish larger than a certain length by the number of stock size fish for a given species. Stock size is a length set for each species and is used to offset potential large year classes of juvenile fish. Example: RSD6 is the percentage of fish (above stock length) that were greater than 6 inches during the survey.

Length frequency distribution (LFD) is a graphical representation of the number of fish captured by inch group. Smaller fish (or younger age classes) may not always be represented in the length frequency due to different habitat usage or sampling gear limitations.

Mean length at age is used to index growth. Structures are taken from a subsample of fish captured. These structures can be used to estimate the age of that particular fish. The mean length at each age is then used to characterize growth of the entire population.

SURVEY METHODS

- Surveys are designed to evaluate each species when they are particularly vulnerable to our gear.
- Standard fyke nets and/or electrofishing gear is used to capture fish.
- Data is collected from the target species of each survey to gather population metrics.
- Fish metrics are compared to previous surveys of this water, and the mean/median values for waters in this "area" (Florence and Forest Counties).

Van Zile Lake



GEAR USED DURING THIS SURVEY

- **Boomshocker** is a specially designed boat that creates an electric current in the water immediately in front of the boat. The boat is driven along the shoreline and shallow areas of the lake, when the boat encounters fish they are momentarily stunned. Once the fish is stunned they can be netted out of the lake and placed in a holding tank. After data is collected the fish are returned to the lake.



Photo Credit: Wisconsin DNR



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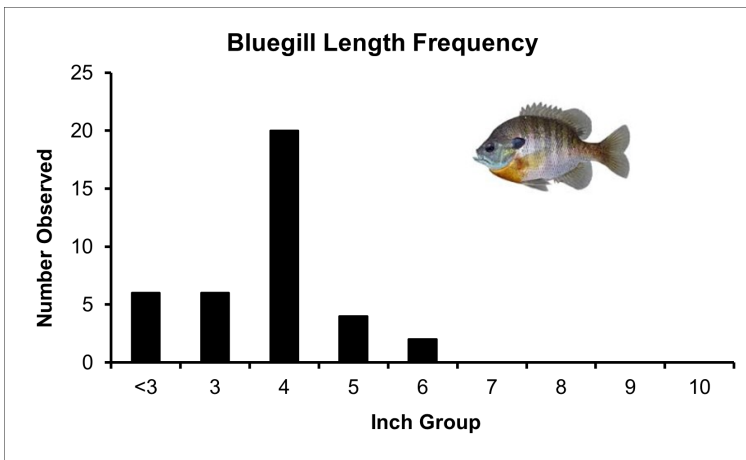
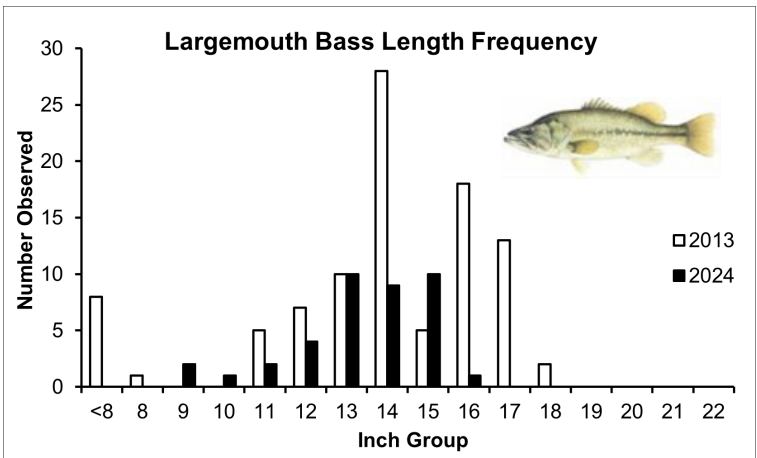
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LARGEMOUTH BASS

An electrofishing survey was conducted along the entire shoreline of Van Zile Lake on the night of 5/20/2024 to assess the largemouth bass population. During this survey 39 largemouth bass were caught, all ≥ 8 inches and considered adults, for a relative abundance of 20.36 adults/mile. This is a more than two-fold increase since the 2013 comprehensive survey (9.21 adults/mile). Current largemouth bass relative abundance is above the area average of 17.0 adults/mile, and above the 75th percentile for its lake class (17.80 fish/mile). Van Zile Lake is considered to have an abundant largemouth bass population.

All largemouth bass caught were measured to assess the size structure of the population. 87.2% were ≥ 12 inches and 2.6% were ≥ 16 inches. Size structure decreased from 2013 when 93.3% were ≥ 12 inches and 37.1% were ≥ 16 inches. This change is expected with the increased abundance. A length frequency figure comparing the two surveys can be seen to the right. Van Zile Lake is considered to have low size structure as it is below the area average of 69.5% ≥ 12 inches and 19.8% ≥ 16 inches.

The 2024 survey likely underestimated the abundance of largemouth bass in Van Zile Lake. Water conductivity was very low which led to the inability to capture fish, with many fish evading the netting efforts.



BLUEGILL

Bluegill were surveyed during a 0.53 mile "All Fish" station. During this survey 38 bluegill were captured for a relative abundance of 71.7 fish/mile. This is below the statewide median for this lake type. However, this abundance data is not reliable due to the low conductivity of the lake. The actual abundance is likely higher. Bluegill have not historically been abundant in Van Zile Lake.

All bluegill caught were measured to assess the size structure of the population. Those less than 3 inches were removed from analysis. Of the 32 remaining bluegill, only 6.25% were ≥ 6 inches and no fish were ≥ 8 inches. Size structure decreased from 2013 when 15.66% were ≥ 6 inches and 2.49% were ≥ 8 inches. However, the 2013 survey was a netting survey instead of an electrofishing survey so the comparison is not directly applicable and should be used with caution given different capture methods. A length frequency figure of the 2024 catch can be seen to the left.

OTHER SPECIES

During this survey, two other species were captured that were not detailed in this summary. The list of these species (with catch/mile in parenthesis) is as follows: walleye (0.53), and yellow perch (3.77). Like largemouth bass, these numbers likely underestimate the abundance of these species. Northern pike, black crappie, white sucker, and yellow bullhead are known to be present in Van Zile Lake but were not captured in this survey.

SURVEY NOTES

- The public launch to Van Zile Lake provides adequate angler access.
- Previous surveys indicate a gamefish community that provides good angling opportunity. This recent survey indicated a largemouth bass population that provides good action angling opportunity, but lower abundance of larger fish.
- The bluegill population in Van Zile Lake is of low size structure and abundance.
- Van Zile Lake was chemically treated with Rotenone in 1969 to kill off the fish population. Largemouth bass, smallmouth bass, rainbow trout, northern redbelly dace, and fathead minnows were stocked following the chemical treatment from 1970 - 1972. Northern pike were introduced later in the 1970s. No stocking has occurred since 1992.
- Fall electrofishing surveys were conducted in 1979, 2005, 2012, 2013, 2016, and 2022 to assess gamefish recruitment in Van Zile Lake. Age-0 walleye were captured in 2012 and 2013, indicating successful walleye natural reproduction those years, and age-1 walleye were captured in 2016. Similar to this survey, low water conductivity underestimates abundance, however observing any walleye natural recruitment is encouraging.
- The current statewide regulations are sufficient at this time.
- Van Zile Lake is considered a public access lake and is on an 11 year sampling rotation. A comprehensive survey is scheduled for 2035.
- Largemouth bass and bluegill age and growth should be assessed at the next survey.