



2022 LATE SPRING PANFISH SURVEY REPORT

WATER: BUSH LAKE COUNTY: FLORENCE

Page 1

INTRODUCTION AND SURVEY OBJECTIVES

The DNR conducted a late spring fyke net survey of Bush Lake during 2022. This survey is designed to assess the summer spawning panfish populations (bluegill, pumpkinseed and rock bass) within the lake. Bush Lake is located in the town of Homestead, with boat access off of County Road C.

WISCONSIN DNR CONTACT INFO.

Greg Matzke - Fisheries Biologist
Gregory.Matzke@Wisconsin.gov

Wisconsin Dept. of Natural Resources
5631 Forestry Dr.
Florence, WI 54121
715-528-4400 x 5

General Waterbody Characteristics:

Lake Class: Simple - Cool - Dark

Acres: 50

Shoreline Miles: 1.9

Maximum Depth (feet): 18

Lake Type: Drained

Public Access: Unimproved Boat Landing

Regulations: Statewide Regulations

Table 1. Summary of all surveys conducted during 2022

SURVEY INFORMATION

Species	Survey Date(s)	Gear Used	Effort	Water Temp. (°F)
Bluegill, Pumpkinseed, Lepomis Hybrids, Rock Bass	6/23-6/24/2022	Fyke Net	6 Net-Nights	78-79

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.

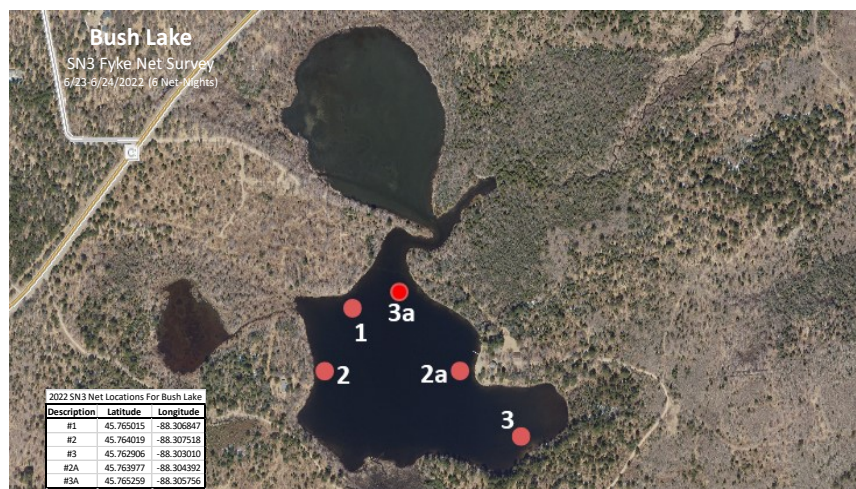
SURVEY METHODS

- 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).

Table 2. Summary of applicable fish metrics for this survey

PANFISH ABUNDANCE AND SIZE STRUCTURE

Species	CPUE (catch/net-night)	RSD6	RSD7	RSD8	RSD9	RSD10	RSD11	RSD12
Bluegill	143.0	50.1	27.6	10.8	1.5	0.0		
Pumpkinseed	19.8	44.5	4.2	0.0				
Bluegill x PKS Hybrid	3.2	—						
Rock Bass	5.3	53.1	21.9	6.3	0.0			
Black Crappie	0.0	—						



GEAR USED DURING THIS SURVEY

- **Fyke Nets** are set in areas where we anticipate fish to congregate. Fish traveling along the shoreline will be met by a "lead", which is similar to a fence. The lead directs the fish toward the trap end of the net. Fish travel through a series of funnels and eventually become trapped. Fish are then removed from the net and placed in holding tanks to gather data before being returned to the lake.



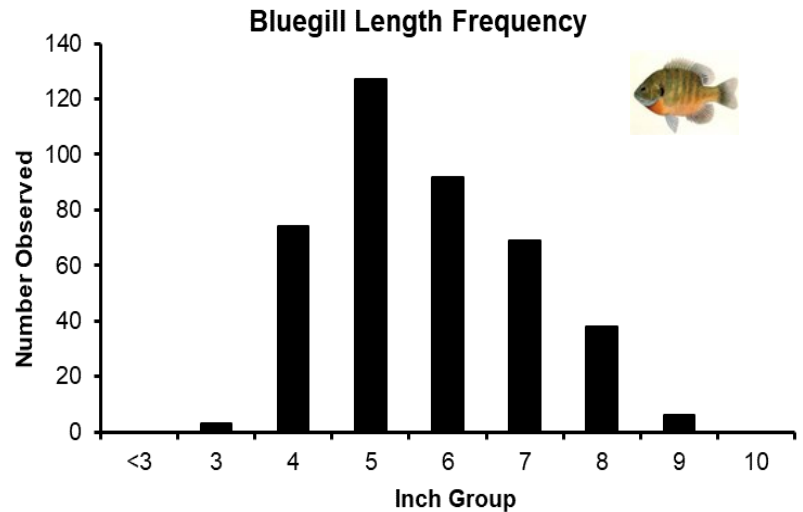
Photo Credit: Carl Sundberg

BLUEGILL

During our two day fyke net survey, we captured 858 bluegill, which is a relative abundance of 143 bluegill/net-night. This puts the Bush Lake bluegill population well above the mean (62.0/net-night) and median (39.8/net-night) relative abundance of bluegill for this area.

Every bluegill captured during the first day of our survey, 409 fish, was measured to assess size structure. The mean length of bluegill during this survey was 6.21 inches, with approximately 50.1% of the fish being ≥ 6 inches and 10.8% ≥ 8 inches in length. These data show that the size structure of this bluegill population is near the area average of 60.2% ≥ 6 inches and 8.9% ≥ 8 inches.

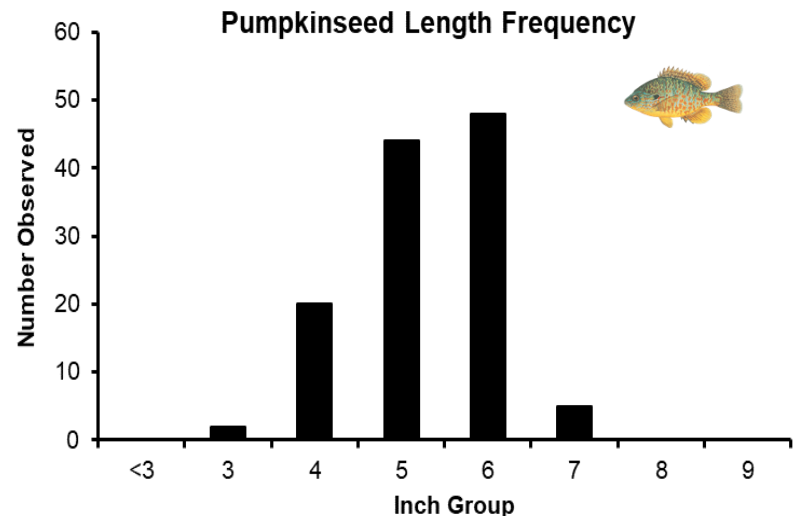
In general, as populations become more abundant the growth rate and size structure will decrease due to competition. With the Bush Lake bluegill population being more than twice as abundant as the average population in this area, the fact that bluegill size structure is near the area average is quite impressive.



PUMPKINSEED

A total of 119 pumpkinseed were captured during this survey, giving them a relative abundance of 19.8 fish/net-night. This suggests that pumpkinseed are likely the 2nd most abundant panfish species in Bush Lake.

Pumpkinseed size structure seems moderate, with 44.5% of the catch being ≥ 6 inches.



OTHER SPECIES

During this survey, we captured six fish species that were not detailed in this summary. The list of these species (with catch/net-night listed in parenthesis) is as follows: white sucker (6.3), rock bass (5.3), bluegill x pumpkinseed Hybrid (3.2), largemouth bass (1.3), yellow perch (0.7) and green sunfish (0.3).

SURVEY NOTES

- The public access to Bush Lake is quite primitive. There is a small dirt landing that is only suitable for smaller watercraft and a couple of parking spaces. The north basin of this lake (where the boat launch is located) is very shallow and filled with fine sediment. Anglers have to navigate through a fairly narrow/shallow channel to access the southern portion of the lake (where this survey took place),
- The only other fish survey on record is a general electrofishing survey in 1963 which documented the presence of a "fine" largemouth bass population, some good sized bluegill and perch, and an abundant white sucker population.
- During 2017 DNR staff attempted a late spring bass/panfish electrofishing survey. At that time staff were unable to navigate into the southern basin of the lake. Electrofishing was extremely difficult in the north basin, but staff noted abundant bluegill and white sucker populations with pumpkinseed and largemouth bass being present.
- 2022 was the first time a panfish netting survey was conducted on Bush Lake.
- The 2022 panfish netting survey indicated a desirable bluegill population high abundance and good size structure. This is likely due to the limited access to the lake and lower angling pressure.
- The current statewide regulations are appropriate for this water.
- Bush lake is considered a low priority/minor fishery and is currently on a 10 year sampling rotation.