



2022 LATE SPRING PANFISH SURVEY REPORT

WATER: LITTLE RICE FLOWAGE

COUNTY: FOREST

INTRODUCTION AND SURVEY OBJECTIVES

Little Rice Flowage frequently has low dissolved oxygen levels during the winter months, making it prone to winter fish kills. A major fish kill was observed following the winter of 2013-14, and other less impactful fish kills since 2014. The Little Rice Lake Association installed an aeration system in an attempt to combat major fish kills that limit the sustainability of a fishery. The aeration system was installed and functional starting in February of 2022. Little Rice Flowage has a history of being a very productive panfishery, and sustainable quality panfish populations are the main fisheries management objective for this waterbody. The DNR conducted a late spring fyke net survey targeting summer spawning panfish populations. The objectives of this survey were to 1) Assess the current fishery to document the impacts of aeration in the future, 2) Gather data on panfish populations to determine whether stocking is needed, 3) Assess the survival and recruitment of fish transferred (approximately 2,000 panfish and 34 adult Northern Pike) from Pine Lake to Little Rice Flowage in May of 2016. This survey was designed to assess abundance, size structure, age structure and growth of summer spawning panfish (Bluegill, Pumpkinseed, Rock Bass). Other species are also captured, but the data collected from those species doesn't give a fair representation of those species populations. The summary that follows will detail the current fishery. Little Rice Flowage is located approximately 5 miles west of Crandon, with boat access on the southern end near the dam.

WISCONSIN DNR CONTACT INFO.

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General Waterbody Characteristics:

Acres: 1,219
Shoreline Miles: Unknown
Maximum Depth (feet): 12
Lake Type: Flowage
Public Access: 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	6/1-6/2/2022	Fyke Net	10 Net-Nights	67

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.

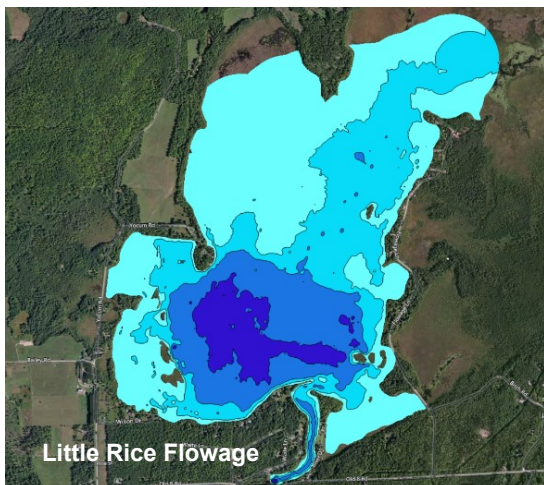
SURVEY METHODS

- 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, lakes with similar characteristics, other waters in the area or region and all waters of the state.

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	32.1	74.45	28.04	14.64	3.12	0.00		
Pumpkinseed	160.2	72.08	17.49	0.00				
Bluegill x PKS Hybrid	18.6	100	65.52	14.94	0.00			
Rock Bass	0.3	100	66.67	33.33	0.00			
Black Crappie	13.4	100	98.51	85.07	49.25	15.67	2.24	0.00
Yellow Perch	2.2	100	77.27	54.55	27.27	18.18	4.55	0.00



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

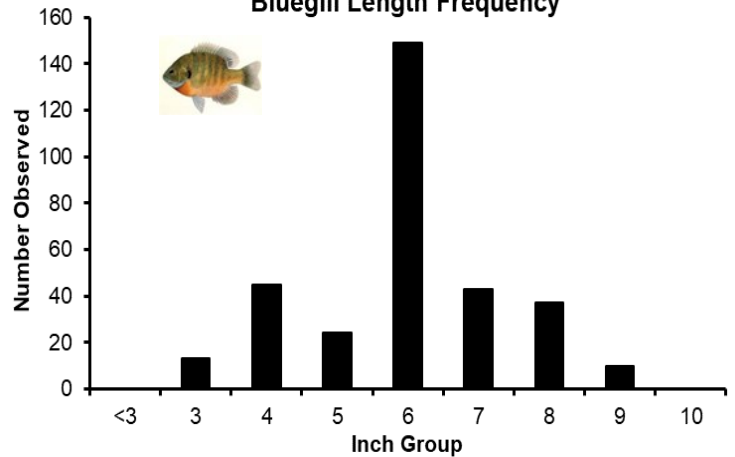
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BLUEGILL

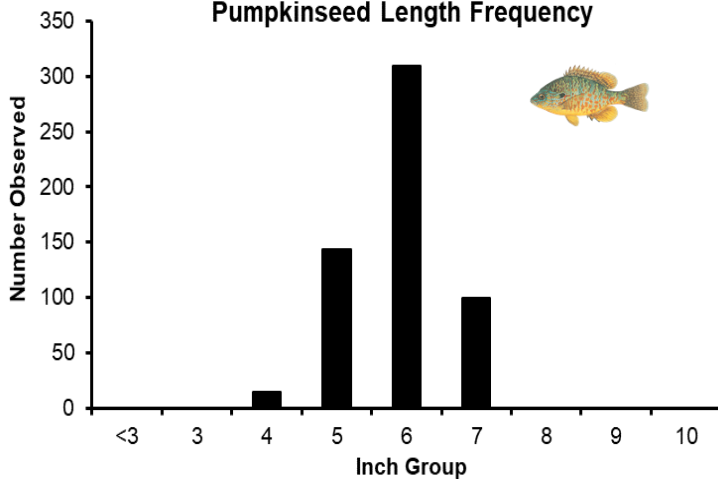
During our two day fyke net survey, we captured 321 Bluegill, which is a relative abundance of 32.1 fish/net-night. This puts the Little Rice Flowage Bluegill population below the mean and median abundance of Bluegill for this area. However, the total panfish relative abundance was 226.8 panfish/net-night, which is well above the mean abundance (84.6/net-night) for this type of survey in Florence and Forest counties. This means that while Bluegill abundance is below average, this fishery has a high abundance of overall panfish.

Every Bluegill captured was measured to assess size structure. Bluegill size structure was well above the area average, with a mean length of 6.47 inches, approximately 74.5% of the fish being ≥ 6 inches and 14.6% ≥ 8 inches in length. All of these metrics show that size structure of Bluegill in Little Rice Flowage is quite desirable.

Bluegill Length Frequency



Pumpkinseed Length Frequency



PUMPKINSEED

Pumpkinseed comprised 70.6% of the total panfish captured during this survey, suggesting that they are the most abundant fish species in Little Rice Flowage. Relative abundance was measured at 160.2 fish/net-night, which is very abundant for this species.

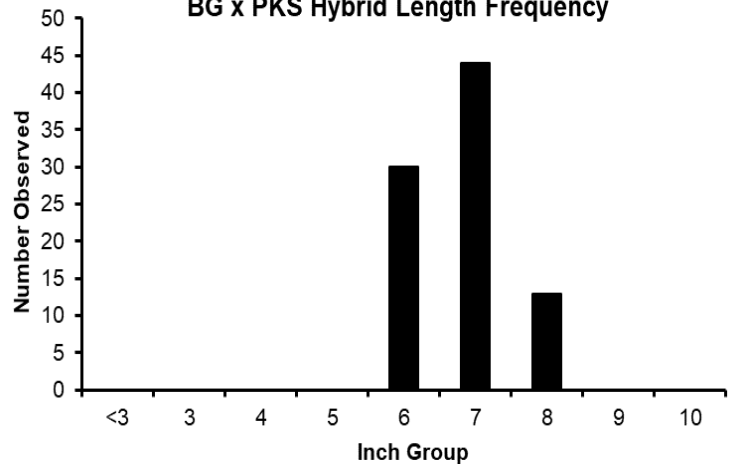
A subsample of 566 Pumpkinseed was measured during the first day of this survey to assess size structure. Typical Pumpkinseed populations in this area do not have a high percentage of fish achieving a desirable length. This was not the case for Little Rice Flowage, where Pumpkinseed size structure was quite good, with 72.1% of the catch being ≥ 6 inches and 17.5% ≥ 7 inches in length.

BLUEGILL X PUMPKINSEED HYBRID

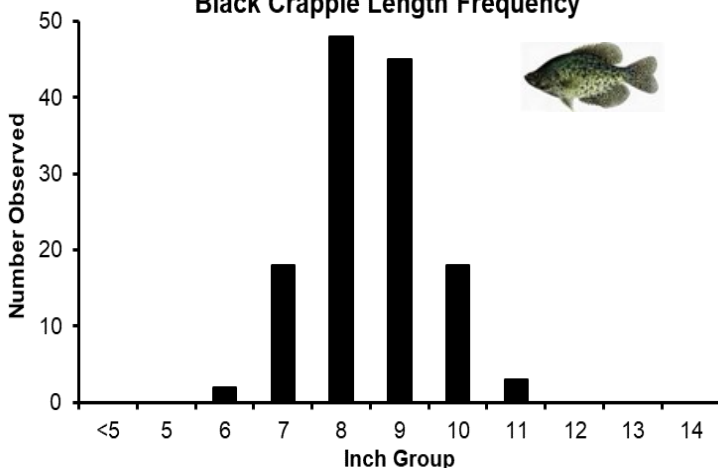
Bluegill x Pumpkinseed hybrids are quite common in Little Rice Flowage, with a relative abundance of 18.6 fish/net-night.

We measured all Bluegill x Pumpkinseed hybrids from the first three nets during the first day of this survey, a total of 87 fish, to assess size structure. The size structure of this population was very good, with 65.5% being ≥ 7 inches and 14.9% ≥ 8 inches in length. The lack of fish < 6 inches is most likely due to the difficulty identifying these fish at small sizes instead of any type of reduced recruitment of these fish.

BG x PKS Hybrid Length Frequency



Black Crappie Length Frequency



BLACK CRAPPIE

Black Crappie are one of the species that are not accurately assessed during this type of survey. However, the relative abundance measured during this survey (13.4 fish/net-night) is an indicator that there is an abundant Black Crappie population in Little Rice Flowage, and they likely make up a substantial portion of the panfishery.

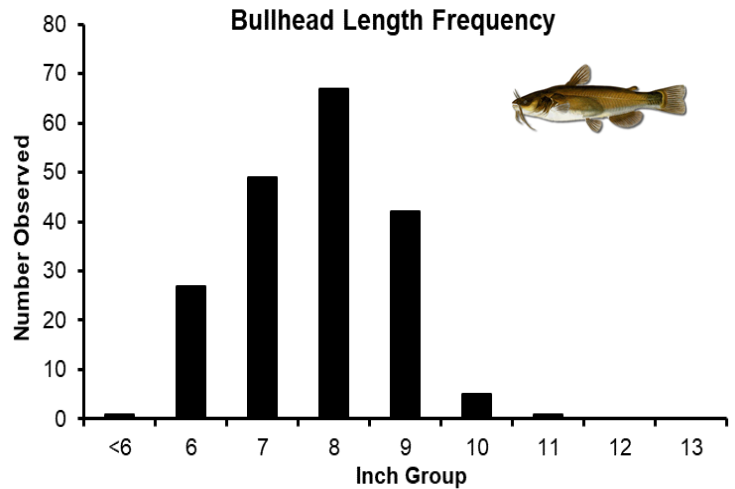
Every Black Crappie captured during the two-day survey was measured to assess size structure, a total of 134 fish. The size structure of this sample was near the average for this area, with 85.1% ≥ 8 inches and 15.7% ≥ 10 inches in length.



BULLHEAD

During this survey, we did not differentiate between the different species of Bullhead. Instead we assessed all Bullhead species together. Bullhead were the second most abundant fish species captured during this survey, behind only Pumpkinseed, with a relative abundance of 83.6 fish/net-night. The high abundance of Bullhead is not a surprise because they thrive under conditions of low dissolved oxygen, which Little Rice Flowage is well known for.

A subsample of 192 Bullhead were measured during this survey. The vast majority (82.3%) were between 7.0 and 9.9 inches in length.



OTHER SPECIES

During this survey, we captured five fish species that were not detailed in this summary. The list of these species (with catch/net-night listed in parenthesis) is as follows: Yellow Perch (2.2), Northern Pike (1.6), White Sucker (0.4), Rock Bass (0.3) and Largemouth Bass (0.1).

Little Rice Flowage

SN3 Fyke Net Survey
6/1-6/2/2022 (10 Net-Nights)

