



2015-2025 SPECIAL REGULATION ASSESSMENT SURVEY REPORT

WATER: SEA LION LAKECOUNTY: FLORENCE

INTRODUCTION AND SURVEY OBJECTIVES

The Wisconsin Department of Natural Resources conducted spring electrofishing surveys of Sea Lion Lake, Florence County, to analyze the changes in the panfish community before and after a special regulation change. Sea Lion Lake was chosen at random to receive a panfish bag limit reduction to 15 fish per day, with no more than 5 of any one species. This regulation was in effect from 4/1/2016 to 3/31/2026. This survey was designed evaluate this regulation by assessing abundance, size structure, and growth of the summer spawning panfish in the lake, with an emphasis on the bluegill; for specific survey details see the table below. The summary that follows will detail the current state of the summer spawning panfish populations. Sea Lion Lake is located approximately 5 miles southwest of Florence, WI with boat access off of Turtle Creek Road.

Acres: 123Shoreline Miles: 3.8Maximum Depth (feet): 82Lake Type: DrainagePublic Access: Boat LandingLake Class: Complex - Two StoryRegulations: **Walleye:** 18" 3-bag **Panfish:** Aggregate 15-bag with no more than 5 of one species*

A 10 fish aggregate daily bag limit with no more than 5 bluegill panfish regulation was implemented on 4/1/2026.

WISCONSIN DNR CONTACT INFO.

Levi Feucht - Fisheries Biologist

Levi.Feucht@Wisconsin.gov

Wisconsin Dept. of Natural Resources**5631 Forestry Dr.****Florence, WI 54121****715-528-4400 x 7***Table 1. Summary of surveys conducted to evaluate the regulation change.*

SURVEY INFORMATION

Species	Survey Date(s)	Gear Used	Effort	Water Temp. (°F)
Bluegill, Pumpkinseed, Rock Bass	6/10/2015	Boomshocker	2.0 miles	69
Bluegill, Pumpkinseed, Rock Bass	6/7/2021	Boomshocker	2.0 miles	78
Bluegill, Pumpkinseed, Rock Bass	6/9/2025	Boomshocker	2.0 miles	65

FISH METRIC DESCRIPTIONS

Population estimate (PE) is estimated by marking a portion of the population, then capturing another sample of fish and using the ratio of new fish to previously marked fish to estimate the number of fish in the population.

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 PE.

Relative stock density (RSD) is an index used to describe the 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.

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.

SURVEY METHODS

- Surveys are designed to evaluate each species when they are particularly vulnerable to our gear.
- Standard fyke nets and 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).
- Data collected is used to monitor the fishery, determine if stocking is necessary, evaluate fishing regulations, and determine how to improve the fishery.

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***Sea Lion Lake**

WATER: SEA LION LAKE

COUNTY: FLORENCE

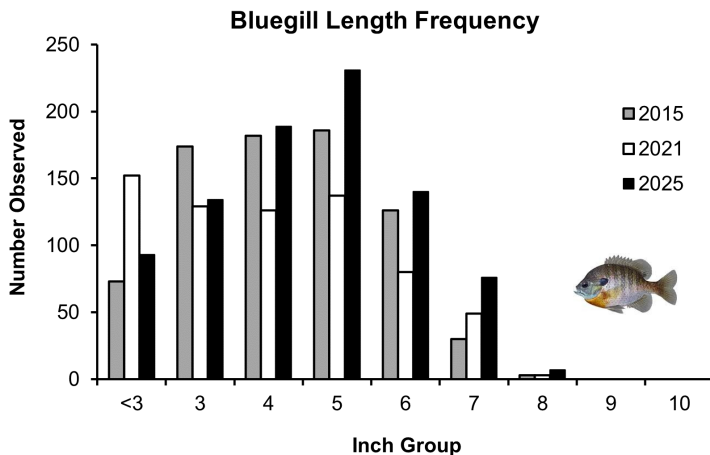
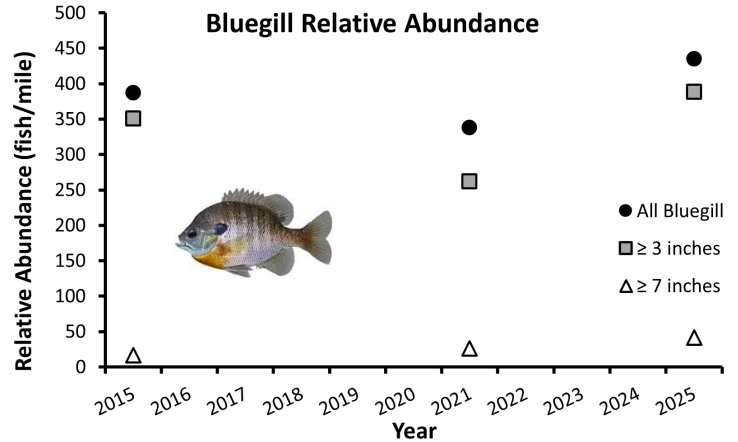
BACKGROUND INFORMATION

Sea Lion Lake, via the comprehensive survey from 2012, was found to have poor panfish size structure despite having average growth rates. A more restrictive harvest regulation was recommended. The current management goal for the panfish on Sea Lion is to improve the size structure of bluegill and black crappie. The lake was chosen at random to receive a bag restriction on panfish as a part of a statewide project, and had the panfish bag limit reduced to 15 fish, with no more than 5 of any one species. This special regulation went into effect on 4/1/2016. A baseline electrofishing survey was conducted in 2015 to serve as the pre-change assessment. Post-regulation change, electrofishing surveys were completed in 2021 and 2025 to assess changes in the summer spawning panfish populations. The pages that follow will detail changes observed since the regulation change in 2016.

BLUEGILL

Pre-regulation change, an electrofishing survey was conducted on the night of 6/10/2015 to assess the bluegill population. During this survey bluegill relative abundance was 387.0 fish/mile. After the regulation change, electrofishing surveys were conducted on the nights of 6/7/2021 and 6/10/2025. Bluegill relative abundance was 338.0 fish/mile in 2021 and 435.0 fish/mile in 2025. Overall, bluegill relative abundance increased by 12.4% since the 2016 regulation change.

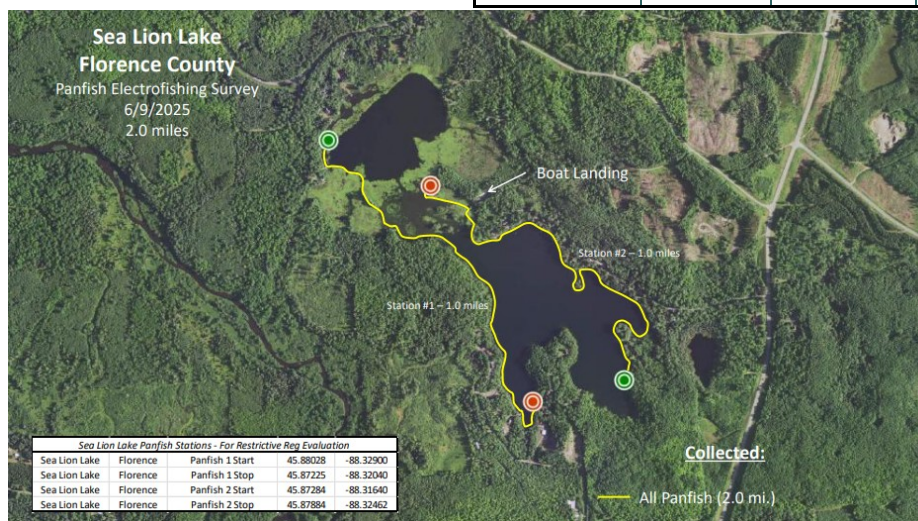
Bluegill abundance has increased since the regulation change, which was expected. This regulation change likely reduced harvest and improved spawning success. The regulation worked as intended regarding bluegill abundance.



All bluegill captured were measured and those ≥ 3 inches were used to analyze the bluegill size structure in Sea Lion Lake. Size structure has increased since the regulation change, as seen in the table below. A greater proportion of quality size fish have been seen in each assessment since the regulation change. During 2015, when the panfish bag limit was 25 fish, mean length of bluegill was 5.01 inches. Under the more restrictive harvest regulation mean length of bluegill steadily increased to 5.11 inches (2021) and 5.31 inches by 2025. The regulation change is working as intended. Bluegill size structure in Sea Lion Lake remains below the area average.

BLUEGILL SIZE STRUCTURE - Sea Lion Lake, Florence County, 2015-2025

	2015	2021	2025	Area Avg.
RSD6	22.68	25.19	28.70	61.58
RSD7	4.71	9.92	10.68	31.11
RSD8	0.43	0.57	0.90	9.44
RSD9	0.00	0.00	0.00	2.60
RSD10	0.00	0.00	0.00	0.30

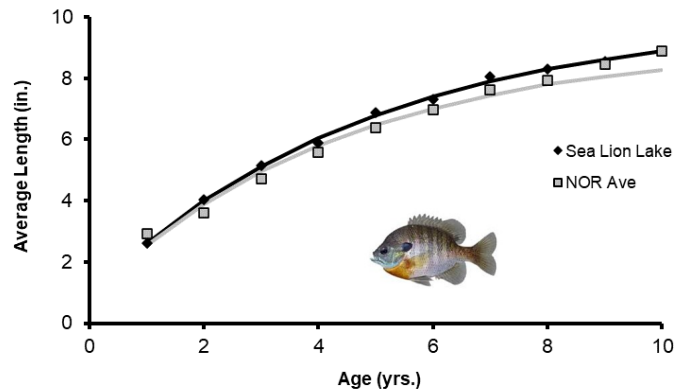


WATER: SEA LION LAKE

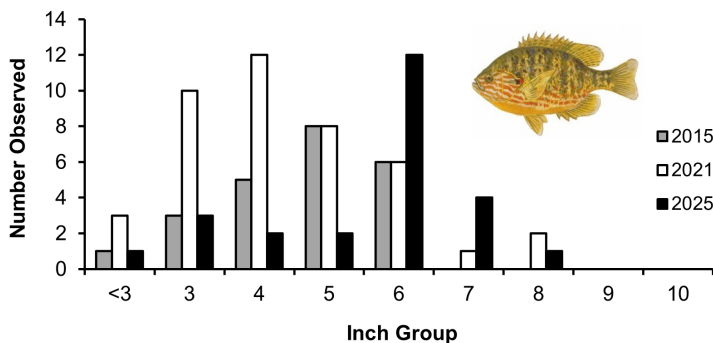
COUNTY: FLORENCE

BLUEGILL GROWTH

Bluegill age and growth was evaluated in 2021. It was found that bluegill grew slightly faster than the Northern Region of Wisconsin average, as seen in the figure to the right. Growth rates have improved since they were evaluated in 2012. These average to above average growth rates, coupled poor size structure of bluegill in Sea Lion Lake, are what set this lake aside as a candidate for a regulation change to improve size structure. Size structure remains well below the area average, despite above average growth rates. If we can get fish to live slightly longer, we expect Sea Lion Lake to produce larger fish in the future.



Pumpkinseed Length Frequency



PUMPKINSEED

Although not a direct priority of the regulation change, pumpkinseed relative abundance and size structure were tracked. Pumpkinseed relative abundance increased since the regulation change. In 2015, pumpkinseed relative abundance was 11.50 fish/mile. It peaked in 2021 at 21.00 fish/mile, and remained above the baseline in 2025 at 12.50 fish/mile.

In 2015, 27.3% of pumpkinseed caught were ≥ 6 inches. Size structure decreased in 2021 to 23.1% and then increased in 2025 to 70.8%. Typically we see a decline in size structure with increased abundance, so this is a positive sign for how the regulation change may have affected the pumpkinseed population. Additionally, no fish ≥ 7 inches were caught in 2015 while fish ≥ 7 and 8 inches were present in both surveys following the regulation change.

OTHER SPECIES

During the surveys evaluating the regulation change, 6 other species of fish were captured which were not detailed in this summary. None of these species were caught in high abundance. The table below shows the relative abundance (catch/mile) of these species across each electrofishing survey. Species included in the table are black crappie (BC), yellow perch (YP), rock bass (RB), bluegill x pumpkinseed hybrid (BG x PKS), green sunfish (GSF), and warmouth and warmouth hybrids (combined) (WM). It should be noted that this survey is not designed to properly assess black crappie or yellow perch.

RELATIVE ABUNDANCE (Catch/Mile) DURING ELECTROFISHING SURVEYS						
	BC	YP	RB	BG x PKS	GSF	WM
2015	1.50	3.00	1.50	0.00	0.00	4.50
2021	2.00	1.00	4.50	0.00	0.00	13.00
2025	2.00	0.00	8.00	1.50	2.00	5.50

ASSESSMENT OF THE REGULATION CHANGE

Since the pre-regulation change baseline assessment in 2015, bluegill abundance and size structure have improved substantially. The regulation change has worked as intended. The population is trending towards size structure goals for 2028 set by the DNR (RSD7 $\geq 20.6\%$ and RSD8 $\geq 4.6\%$), although there's a significant amount of progress still needed. Despite improvements to the bluegill population, Sea Lion Lake still has a below average population of bluegill in regards of both abundance and size structure. There is still room for improvement in this population.

Black crappie were a secondary priority of the regulation change. Black crappie were not the most fitting species for a restrictive regulation given slow growth rates, however the correct restrictive regulation could support the population. This survey was not designed to properly assess the black crappie population. Through other surveys on Sea Lion Lake, we have observed an increase in black crappie size structure. The data suggests that this special regulation has worked as intended. Some goals set for 2028 have already been achieved by 2021 (RSD10 goal of $\geq 7.8\%$). The black crappie population, due to their slow growth rates, may still be highly vulnerable. Regulations should remain restrictive towards black crappie harvest.

While not a direct priority with the regulation change, pumpkinseed have shown significant improvement to their population, as seen in this summary. We hope the new regulation will continue the trend of improvement that we have seen since 2015.

With the experimental regulation ending in March 2026, a new restrictive regulation of a 10 fish aggregate daily bag limit with no more than 5 bluegill panfish regulation was proposed in the 2025 Spring Hearing regulation change process and implemented on 4/1/2026. We feel that this new regulation will help the bluegill population reach the management goals and improve the overall experience for anglers on Sea Lion Lake. The panfish populations on Sea Lion Lake will continue to be assessed in the future, with a comprehensive survey set to take place in 2029.

It should be noted that there was heavy rain during the last station of the 2025 survey which greatly reduced visibility and likely reduced catch rate. Bullhead are abundant in Sea Lion Lake, however the bullhead population was not assessed during these surveys. A minor bullhead removal was conducted in 2021 (approximately 11.5 bullhead/acre were removed). This removal may have had some affect on the panfish population.