



# Wisconsin DNR Fisheries Information Sheet

**Water:** Sandstone Flowage

**County:** Marinette

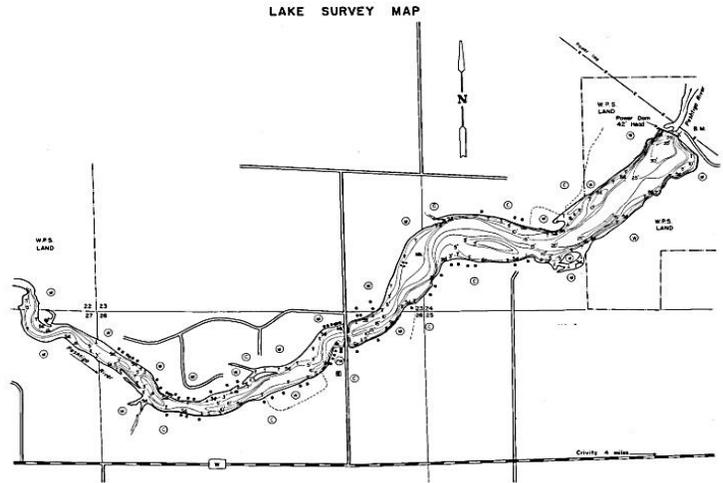
**WBIC:** 531300

**Year:** 2015

Sandstone Flowage is a 153-acre impoundment on the Peshtigo River, located approximately three miles west of Crivitz, WI (Figure 1). The flowage has a maximum depth of 39 feet with only 12 percent of the flowage in excess of 20 feet. Sandstone flowage is primarily riverine in nature with a maximum width of about 900 feet. Sandstone flowage has been operating as a dam and hydroelectric facility since December 1925. It is currently owned and operated by Wisconsin Public Service Corporation (WPSC).

Electrofishing surveys were conducted on May 4<sup>th</sup> and 12<sup>th</sup> to examine the gamefish populations. On June 9<sup>th</sup> approximately 4 miles of shoreline were sampled mainly targeting bass and panfish populations. The flowage was again sampled on October 6<sup>th</sup> to examine walleye and muskellunge recruitment. The primary purpose of all of these surveys was to examine the overall condition of the fishery in the flowage.

The flowage was drawn down 3 feet from August 15<sup>th</sup>, to October 1<sup>st</sup>, 2015 for dam repair and maintenance. The fishery remained open to fishing during this time and no negative impacts to the fishery were observed.



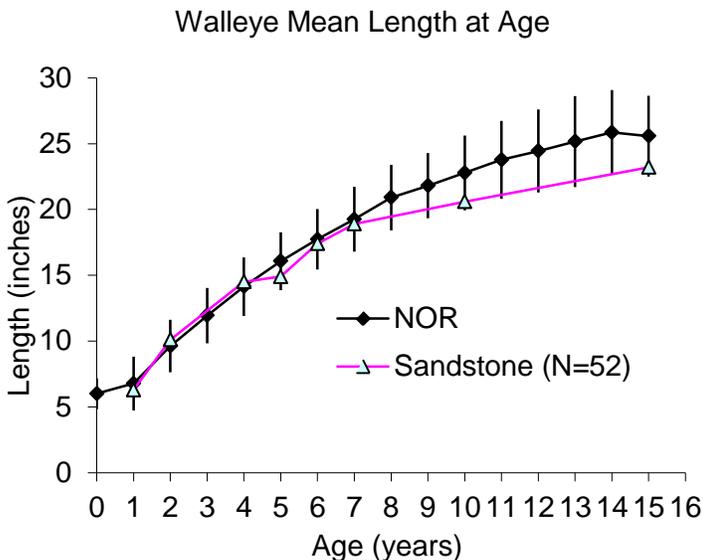
**Figure 1. Sandstone Flowage, Marinette County**

**Table 1. Total fish caught in 2015 combined electrofishing surveys, Sandstone Flowage, Marinette County.**

| Species         | Number Caught | Average Length | Min  | Max  |
|-----------------|---------------|----------------|------|------|
| Smallmouth Bass | 69            | 14.5           | 5.1  | 20.5 |
| Walleye         | 63            | 9.9            | 5.2  | 23.2 |
| Rock Bass       | 31            | 6.2            | 3.5  | 9.3  |
| Yellow Perch    | 31            | 5.9            | 3.2  | 10.3 |
| Bluegill        | 25            | 5.3            | 3.0  | 7.1  |
| Northern Pike   | 17            | 18.4           | 12.2 | 28.8 |
| Pumpkinseed     | 12            | 5.0            | 3.1  | 7.4  |
| Muskellunge     | 6             | 24.5           | 10.2 | 43.3 |
| Black Crappie   | 5             | 7.8            | 5.5  | 11.2 |
| Largemouth Bass | 4             | 15.4           | 13.1 | 17.6 |

### Walleye

A total of 63 walleye was collected in 2015 from the spring, summer, and fall surveys combined (Table 1). Walleye ranged in size from 5.2 to 23.2 inches in total length. The mean length was 9.9 inches. It takes approximately 5 years of growth for a walleye in Sandstone Flowage to reach the 15 inch minimum size limit (Figure 2). Growth is average compared to other lakes in the region. Walleyes were stocked in Sandstone Flowage extensively in the 1960's and 1970's. Since 2006, walleyes have been stocked almost every year. The most recent stocking took place in 2015. In 2013, Sandstone Flowage, including upstream flowages of High Falls and Caldron Falls, have taken part in the Wisconsin Walleye Initiative. The Wisconsin Walleye

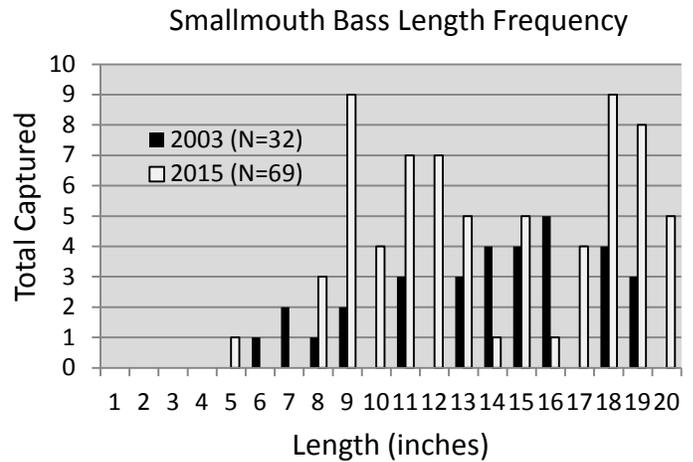


**Figure 2. Walleye mean length at age for 2015. Sandstone Flowage, Marinette County.**

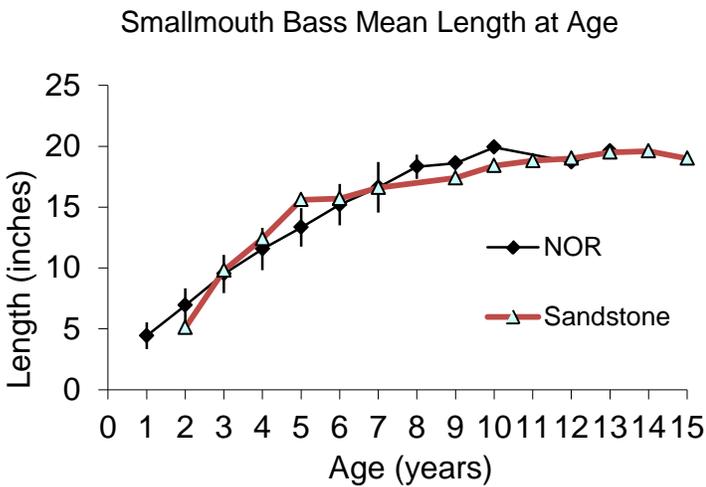
Initiative was developed by the Department of Natural Resources and the Governor's office to increase the number of walleyes in state waters by expanding production and stocking in waters accessible to the public. All walleye stocked into Sandstone Flowage since 2013 have been marked with oxytetracycline (OTC). Fish are immersed in a bath of OTC for a period of time during fry stage. Newly forming calcified tissues in fish absorb OTC and are visible as a fluorescent band when viewed under ultraviolet light. Otoliths were extracted and analyzed from all walleye captured less than 10.0 inches in length. None of the walleyes examined displayed an OTC mark. The lack of a mark indicates that all walleye examined for a mark were the result of natural reproduction or immigrants from the upriver flowages.

**Smallmouth Bass**

A total of 69 smallmouth bass was collected in 2015 from the spring and summer surveys (Figure 3). Smallmouth bass ranged in size from 5.1 to 20.5 inches in total length. The average length of fish captured was 14.5 inches. Almost 48% of smallmouth captured were 14 inches or greater. Aging samples taken from 2015 suggest average growth and similar to other flowages in the region (Figure 4). It takes approximately 5 years of growth for smallmouth to reach the 14-inch minimum length limit for Sandstone Flowage.



**Figure 3. Length frequency of smallmouth bass captured by all by all gears 2003 and 2015, Sandstone Flowage, Marinette County.**



**Figure 4. Smallmouth bass mean length at age for the year 2015, Sandstone Flowage, Marinette County.**

bass were captured. Largemouth bass ranged in size from 2.0 to 21.4 inches in total length in 2003. Largemouth bass abundance has been steadily increasing over the last 30 years according to survey results prior to 2015. In 2015, only 4 largemouth bass were captured during our spring and summer electrofishing surveys. Bass ranged in size from 13.1 to 17.6 inches in total length.

**Northern Pike**

Only 17 northern pike were collected during spring and summer electrofishing surveys. Pike had a mean length of 18.4 inches and ranged in size from 12.2 to 28.8 inches in total length (Table 1).

**Muskellunge**

In 2015, six muskellunge were captured from 10.2 to 43.3 inches in total length. Size structure indicates the possibility of natural reproduction or perhaps an influx of fish from upstream flowages where muskies are stocked and natural reproduction has been documented.

**Summary**

**Panfish**

Panfish species present in Sandstone Flowage include bluegill, pumpkinseed, rock bass, black crappie, and yellow perch. In 2005, electrofishing produced low catches for all panfish species present (Table 1). The most abundant panfish species present was rock bass, yellow perch, and bluegill. Size structure indicates successful reproduction for all species.

**Largemouth Bass**

Prior to 1983, largemouth bass were not present in previous surveys even though they were stocked throughout the 1940's, 50's and 60's. In 1983, two largemouth bass were captured. In 1990, 68 bass were captured during netting and electrofishing surveys, and in 2003 during netting and electrofishing surveys, 125

Sandstone Flowage is primarily riverine (or lotic) in nature. This characteristic adds to the overall diversity but it also has hindered the efficiency of our sampling efforts and the overall productivity of the flowage. Walleye populations can be difficult to sample in riverine environments because they tend to migrate upstream in the spring to where spawning habitat is better. These locations can be difficult to access with our present equipment and future surveys should concentrate on sampling these upriver locations. With increased stocking through the Wisconsin Walleye Initiative, and immigration from the flowages upriver, Sandstone Flowage should benefit and the walleye fishery should continue to improve in future years.

Smallmouth bass are also known for their seasonal migration from overwintering habitat in the deeper portion of the flowage to upriver locations to spawn in the spring. The low catch rates and exceptional size structure for smallmouth in Sandstone Flowage suggest trophy potential, and populations may indeed be larger due to their migration tendencies and our sampling inefficiencies in lotic environments.

Panfish abundance is relatively low in Sandstone Flowage. The low numbers and below average size structure are most likely the result of the flowage being riverine. Panfish species such as bluegill, pumpkinseed, and black crappie prefer more lentic environments such as lakes. Due to habitat, food availability, and morphological features (fish shape) most panfish species are not adapted to life in moving water. On the other hand, species such as rock bass and yellow perch are more adapted for life flowing water due to their body shape and overall habitat preferences.

Largemouth bass abundance was low in 2015. Due to the riverine nature of Sandstone Flowage, it is not surprising largemouth abundance was low even though previous surveys indicated much greater abundance. Sandstone Flowage is scheduled to be sampled again in the fall of 2016 to assess walleye and muskellunge recruitment. Future surveys should also monitor largemouth bass abundance.

In 2015, northern pike were captured in low numbers. Past surveys in 1990 and 2003 resulted in population estimates of around 3 fish per acre. The 2015 length frequency data, despite the small sample size, suggest a very similar fishery to that of 2003 and should provide anglers with plenty of opportunity.

Muskellunge have been captured in low numbers in all previous surveys of Sandstone Flowage. There may perhaps be limited natural reproduction but most likely the flowage receives its recruitment from the larger flowages upstream. The muskellunge population remains small but provides a limited muskellunge fishing opportunity.

Questions about fisheries management activities for Sandstone Flowage, Marinette County can be directed to:

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