

# ***Fish Lake Fisheries Survey Summary Report – 2013***

In 2013, the Department of Natural Resources conducted a fish survey of the Fish Lake in order to assess the fish community and provide some direction for the future fisheries management of this lake. The following report is a brief summary of all activities conducted and data taken this past year. If you have any questions, please contact: **Dave Bartz, DNR Fisheries Biologist**, 427 E. Tower Dr. Suite 100, Wautoma, Wisconsin, 54982. Phone: 920-787-3016. **Scott Bunde, DNR Fisheries Technician**, 427 E. Tower Dr. Suite 100, Wautoma, Wisconsin, 54982. Phone 920-787-5683.

## **Comprehensive Fish Survey – What is it?**

A comprehensive fish survey is an assessment of the entire fish community in a lake. Different survey methods are used to sample all the different fish species that inhabit a lake (including the smaller forage fish). Fyke-netting and boomshocking are the primary fish capture methods; however, seines and other gear are also utilized. Once fish are captured, information can be collected as it relates to species composition, abundance, size structure, age classes, growth, survival, and reproductive success. The following report provides some of this information for most major species.

This past year the following surveys were conducted on Fish Lake.

**Spring Fyke-Netting:** Larger fyke nets were used to sample the spawning population of northern pike and walleye. Nets were placed in spawning locations; fish were measured, sexed and given an appropriate mark, then returned to the water. A formula is used comparing the number of new fish caught in a net daily to the number of marked fish (recap).

**Spring Boomshocking:** Two nights of boomshocking took place in May, one to assess the northern pike/ walleye fishery and one to assess the bass/panfish fishery.



Colt Christopherson emptying fyke net during Fish Lake survey



## **Gamefish Summary**

Northern pike, largemouth bass and walleye are the dominant gamefish (or predators) in Fish Lake.

### **Largemouth Bass**

**Abundance: Good.**

CPE=145/hr 8 inches and larger. P.E. = 7.7/acre  $\geq$  8 in

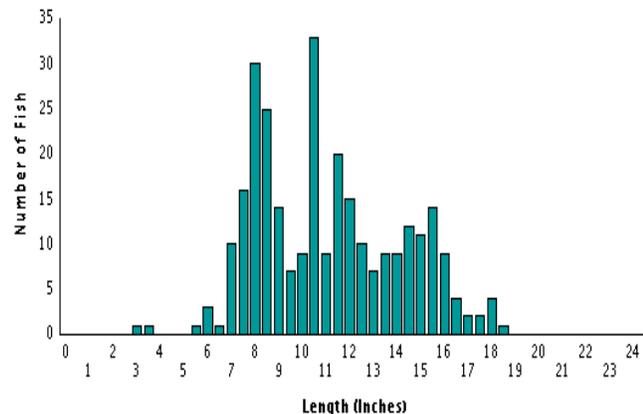
**Size Structure: Good.** Length

Range = 3.0 – 18.5 inches

Average Length = 11.3 inches

23% of the population larger than 8 inches was also greater than 14 inches (legal harvestable size). RSD14=23

PSD12=43%



## **Northern Pike**

**Abundance: Average.** A total of 167 different fish were sampled.

total adult population = 594 (3.9 northern pike/acre).

**Size Structure: Poor.** Length Range = 10.5 – 35.5 inches.

Average Length = 20.4 inches. 17% of the population was greater than 26 inches (RSD26=17%) legal harvestable size.

PSD21 = 43%

33 inch northern pike sampled in fyke net April 25, 2013 Fish Lake

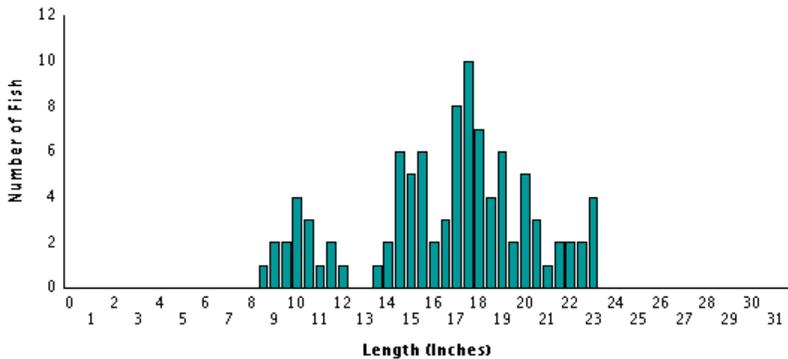


## Walleye

**Abundance: Average.** A total of 97 different fish were sampled in nets. Total adult population = 189 (1.2 walleye/acre).

**Size Structure: Good.** Length Range = 8.5 – 23.0 inches.

Average Length = 16.9 inches. 78% of the population was greater than 15 inches (PSD15=78%) legal harvestable size.



22 inch walleye sampled in fyke net April 2013 Fish Lake

## Panfish

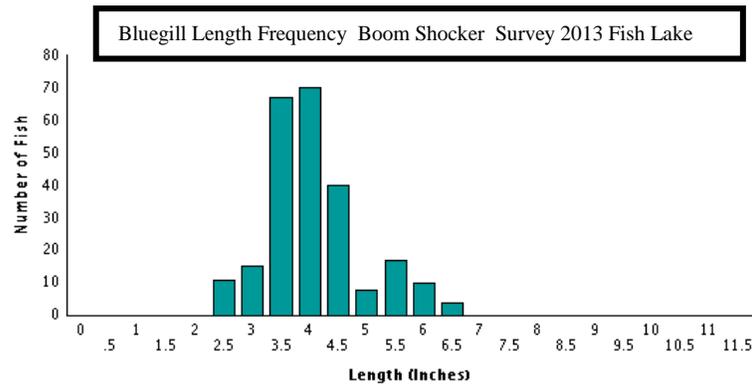
Bluegill and black crappie were the dominant panfish (or prey) we caught in our survey. Other species were found in much lower abundance and made up a very small portion of the panfish/prey population.

### Bluegill

**Abundance: Good.** Electrofishing Catch: 495/hour larger than 3 inches

**Size Structure: Poor.** Length Range = 2.5 – 6.5 inches.

Average Length = 4.3 inches. (PSD6 = 6%) 6% of bluegill captured were >6.0 inches (harvestable size). No bluegills larger than 7 inches were sampled in our boom shocker survey.

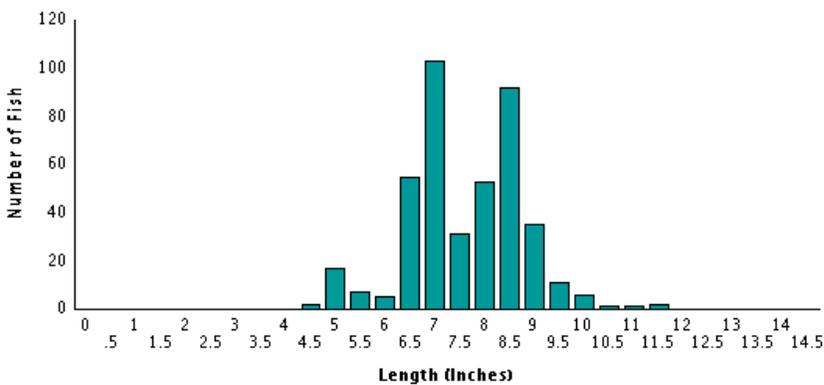


### Black Crappie

**Abundance: Good.** We sampled 664 fish in our nets. ~13 per net each night

**Size Structure:** Length Range = 4.5 – 11.5 inches

Average size = 7.9 inches 48% of crappies captured were ≥ 8 inches (PSD8 = 48%)



### Pumpkinseed

We sampled 24 fish with boom shocker 3.0 – 6.0 inches. Average length 5.2 inches.

### Yellow Perch

We sampled 30 fish with all gear 4.5 – 8.5 inches. Average length 6.4 inches.

## Other Panfish and Forage Species

Other panfish and forage species captured during the survey include: Rock bass, yellow bullhead, black bullhead, white sucker, green sunfish and golden shiners.

**PSD** =(number of fish  $\geq$  minimum quality length + number of fish  $\geq$  minimum stock length)  $\times$  100

**RSD** =(number of fish  $\geq$  specified length + number of fish  $\geq$  minimum stock length)  $\times$  100

	<u>Stock Length</u>	<u>Quality Length</u>
Northern Pike	14 inches	21 inches
Largemouth Bass	8 inches	12 inches
Bluegill	3 inches	6 inches



Bullheads caught in fyke net, Fish Lake survey 2013

**CPE (Catch Per unit Effort)** - The number of a given species caught during a defined sampling effort. When shocking the shoreline of a lake we keep track of how much time it takes. We then count the number of a certain species we caught during that time and convert to a number caught **per hour** of shocking. These catch rates are then compared in future surveys.

## Observations & Recommendations

Fish Lake is on a 8 year rotational survey schedule. It is tentatively scheduled to be surveyed again in 2021, with an early spring netting and shocking survey to sample the northern pike and walleye fishery along with a late spring shocking survey to assess the bass and panfish fishery.

Like a majority of our lakes in Waushara County, Fish Lake would greatly benefit from an increase in nearshore habitat in the form of aquatic plants and wood such as fallen trees or branches. The west basin of Fish Lake has some good vegetation, but woody habitat could be enhanced. The east basin could use both aquatic plants and wood. There have been numerous cribs installed in both basins over the years, which is good, but nearshore habitat is vital for fish production.

As of this report the west basin appeared to be at risk of another partial/severe winterkill. This will be assessed once the ice goes out. With water levels down the connection between the two basins is very shallow and possibly impassable by fish species looking to seek refuge in the east basin from the low oxygen. This connection had been dredged in the past and would be a good option to alleviate the impacts of winterkill in the west basin. Fish movement between the two basins is well documented.

Lake residents and anglers are encouraged to keep their boats clean when leaving and entering the lake. Keep an eye out for any sign of exotic species and notify the department with any observations or concerns.