

**FNC Lake Management**

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# **Comprehensive Lake Management Report**

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Ponderosa Lake  
Montezuma, IA

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# **Comprehensive Lake Management Report**

## **Ponderosa Lake**

### **Summary**

Ponderosa Lake is a private, 440 surface acre lake located near Montezuma, IA. Water clarity ranged from 1 to 4 feet in 2014, which is fair water clarity for lakes in central Iowa. Upper end of the lake and the backs of coves were stained. Main lake was closer to 4 feet of water clarity.

Game fish species sampled in Ponderosa Lake included largemouth bass, bluegill, green sunfish, crappie (black and white), walleye, and channel catfish. Bass were sampled in good numbers and were in very good condition. Walleye were sampled in good numbers and were in fair condition. Bluegill and Crappie were sampled lakewide; several channel catfish up to 8 pounds were observed and sampled.

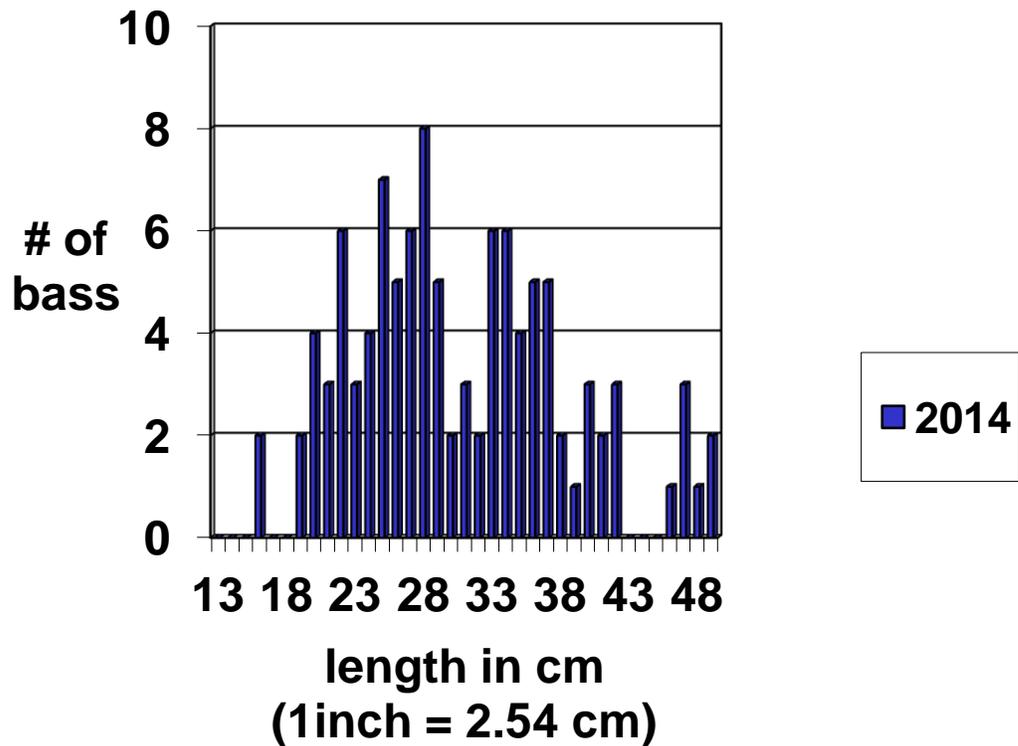
Non-gamefish species sampled included grass carp and common carp. All of the common carp sampled and observed were over 10 pounds. This is an indication that the common carp are not a major problem in the lake at this time. Growing common carp of this size indicates that the overall population of common carp is being kept in check by the abundant gamefish.

A few larger grass carp (greater than 20 pounds) were observed. The grass carp have done their job and there is very little submerged aquatic vegetation. Grass carp do not reproduce, so the lake manager can control how many grass carp are in the lake.

## Largemouth Bass

FNC Lake management sampled 120 largemouth bass via electrofishing on May 22th, 2014. This is up from 92 bass sampled in 2012. The histogram below shows the size distribution of bass in Ponderosa Lake.

Ponderosa Lake Bass Size Distribution 2014



The histogram shows a “balanced” population of bass, with consistent recruitment the past five springs. We sampled bass from 4 to 22 inches in length. Bass sampled were in very good condition with an average relative weight (WR) of 100. WR is a condition factor determined by comparing a national average of fish species’ lengths and weights to individual fish found in a specific lake. The Midwest average WR for largemouth bass is 95. FNC would like to see the average WR in Ponderosa Lake stay above 95.

Bass were sampled at an electrofishing catch rate of 87 per hour. This is up dramatically from the last two samples. FNC would like to see the bass catch rate in Ponderosa Lake stay between 50 and 70 bass per hour. I believe we had perfect conditions for our sample and even though bass numbers are higher than I would like, I do not believe we need any bass harvest.

## **Bluegill and Crappie**

Bluegill were sampled and observed lakewide. Several bluegill over 8 inches in length were sampled. The bluegill were up spawning. Hundreds of crappie were sampled and observed. Crappie ranged in size from 3 to 13 inches in length. Most of the crappie observed and sampled in the lake are between 8 and 11 inches in length. The average size of crappie is up from 2012 sample.

## **Walleye**

13 walleye were sampled and several more were observed, but not sampled. Electrofishing is not a preferred method of sample for walleye. To sample and observe this many walleye again in 2014 indicates a high density of walleye in Ponderosa Lake. These fish ranged from 12 to 22 inches in length. The walleye were in fair-good condition with an average WR of 91. I do not believe the walleye have the ability to reproduce in Ponderosa Lake, so you have the ability to control the walleye population via stocking. This will be discussed at the end of this report.

## **Channel Catfish**

Several channel catfish were sampled and observed. These fish ranged from 1 to 8 pounds. Electrofishing is also not a preferred method of sampling for channel catfish. To observe this many channel catfish indicates that the channel catfish population is currently doing well in Ponderosa Lake. Catfish surveyed was very similar to 2010 and 2012.

## **Proportional Stock Densities and Relative Stock Densities**

Proportional stock density (PSD) and relative stock density (RSD) are classifications used to quantify and qualify lengths of all fish in a single species (i.e. all largemouth bass sampled in a lake). RSD places size classes of fish into five categories: stock, quality, preferred, memorable, and trophy. Each of these categories has its own range of size according to the fish species being analyzed. Since RSD values are a percentage, they always add up to 100 for each species. These groups are created from percentages of world record fish.

### Bass RSD Categories

<u>Category</u>	<u>Fish Length</u>
Stock (S)	greater than 8 inches
Quality (Q)	greater than 12 inches
Preferred (P)	greater than 15 inches
Memorable (M)	greater than 21 inches
Trophy (T)	greater than 24 inches

RSD calculations for bass in Ponderosa Lake are charted below:

RSD Category	RSD Value 2012	RSD Cell Mean WR 2012	RSD Value 2014	RSD Cell Mean WR 2014
S-Q (8-12 inches)	37	102	45	99
Q-P (12-15 inches)	48	100	31	101
P-M (15-21 inches)	15	97	20	102
M-T (21-24 inches)	0	0	4	104
T (over 24 inches)	0	0	0	0

The S-Q range (8-12 inches) RSD value is 45. This means that out of all the bass sampled in Ponderosa Lake over 8 inches in length, 45% were between 8-12 inches in length. Looking at the chart, one can see that this group of bass was in good condition with a RSD cell mean WR of 99. This means that the average relative weight (WR) of all bass sampled between 8-12 inches is 99. Remember, average WR for healthy robust bass in the Midwest should be at or above 95. 31% of the bass population is between 12-15 inches. 24% of the bass sampled were over 15 inches in length. 4 bass were sampled between 21 and 22 inches. This is very impressive to have that many bass sampled over 21 inches in length. The bass sampled in 2012 that were 12-15 inches in length, have grown into the 15-21 inch range.

## 2014 Fishing Forecast

*Largemouth Bass:* Fishing should be very good. Bass numbers are good and there was an impressive number of bass sampled between 4 and 6 pounds.

*Bluegill/Crappie:* Fishing should be excellent. Bluegill numbers are good with some fish over 9 inches in length. Crappie numbers are high, with most fish sampled and observed between 8 and 12 inches in length.

*Walleye:* Fishing should be good. Most walleye sampled were between 12 and 20 inches in length.

*Channel Catfish:* Fishing should be very good. Catfish numbers are good; with some fish over 8 pounds.

## Management Recommendations

- Catch and release on all largemouth bass. Bass numbers currently match the amount of available forage.
- Catch and keep on the crappie. You need to get the 8-11 inch crappie out of the lake so the remaining crappie have a chance to grow. Thousands of 8-12 inch crappie could be removed and all it would do is help the overall fishery.
- Put a slot on the walleye. I would put a limit of five walleye a day between 16 and 19 inches in length. I would encourage this size of walleye to be harvested. Walleye greater than or less than this slot need to be released. Walleye over 19 inches have the potential to eat the larger crappie.
- Putting additional habitat in the form of fresh cedar trees in areas of the lake that are lacking habitat will provide places for the smaller fish to hide and the larger fish to forage. Shallow water areas that do not have houses, backs of coves and unbuildable lots are perfect places to put habitat in water less than 10 feet deep.
- Any aquatic vegetation that can be left alone should be left alone. Aquatic vegetation converts nutrients into aquatic insects, which is converted into more and healthier fish. The aquatic vegetation also helps with water clarity.
- Stock 1000, 6-8 inch walleye every fall. There is more walleye harvest going on at the lake then I previously thought.
- I believe the panfish population in Lake Ponderosa is currently functioning at a high level. Good numbers of crappie and bluegill, along with some larger individuals. Talking with lake members, the suggestion came up to stock yellow perch into the lake. I do not believe that the yellow perch would grow well in the lake (water temperature, lack of aquatic vegetation), but if the lake wanted to stock 500-1000 larger perch to try and establish an additional panfish, I would not be opposed.

FNC Lake Management has enjoyed working with Ponderosa Lake. We finally got a good sample on the larger bass. Bass numbers are up, but with the abundance of crappie, I am not recommending any harvest. If future samples indicate bass numbers continuing to trend up, I will recommend some selective harvest.

If anyone has additional questions or comments on this report, please do not hesitate to call or email. [aklusmire@farmersnational.com](mailto:aklusmire@farmersnational.com), 402-672-6191.

Respectfully submitted,

Aaron Klusmire, Fisheries Biologist

