

FNC Lake Management

Comprehensive Lake Management Report

Ponderosa Lake
Montezuma, IA

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Summary

Ponderosa Lake is a private, 440 surface acre lake located near Montezuma, IA. Water clarity ranged from 5 to 8 feet in 2021. This is very good clarity for a larger private lake in Iowa. It was harder to sample fish on the main lake because they were in 6 to 10 feet of water. Upper end of the lake and the backs of coves were stained. Most of the main lake had at least 7 feet of water clarity.

Game fish species sampled in Ponderosa Lake included largemouth bass, bluegill, green sunfish, crappie (black and white), walleye, yellow perch, flathead and channel catfish. Largemouth bass were sampled in good numbers and were in very good condition. Crappie (black and white) were sampled everywhere. I have been doing this for 22 years and this was the most crappie I have ever witnessed. I said this in 2019 and I believe we saw more this year. Several walleye were sampled up to 24 inches in length. Bluegill were sampled lake-wide, with a few bluegill over 8 inches in length sampled. A few channel catfish up to 10 pounds were observed and sampled. Several flathead catfish were observed. A few small yellow perch were also sampled.

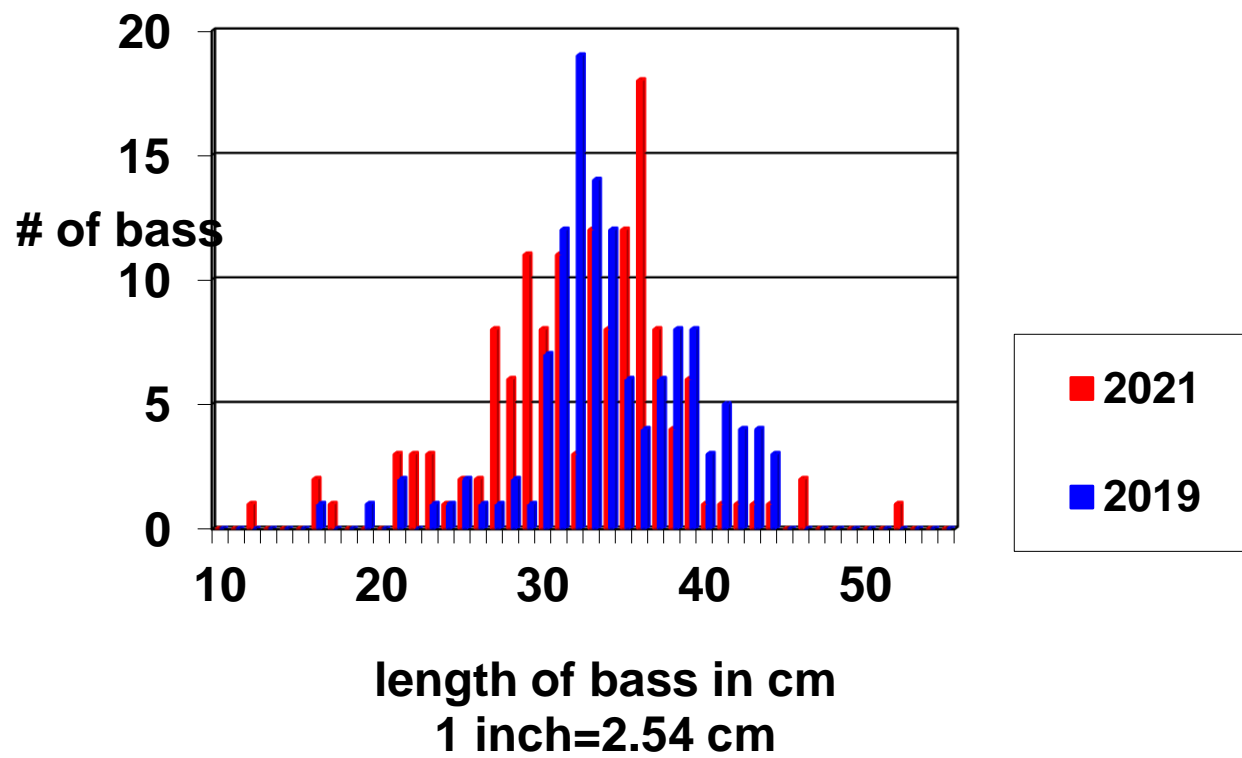
Non-gamefish species sampled included grass carp and common carp. Most of the common carp sampled and observed were over 10 pounds. This is an indication that the common carp are not a major problem in the lake at this time. Growing common carp of this size indicates that the overall population of common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

A few larger grass carp (greater than 30 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. Golden shiners were sampled in the backs of the coves. These are great forage and some of the bigger fish we sampled (walleye and bass) were with the shiners.

Largemouth Bass

FNC Lake Management sampled 141 largemouth bass via electrofishing on May 24th, 2021. This is slightly above 2019 numbers, but bass per hour numbers were down. The histogram below shows the size distribution of bass in Ponderosa Lake 2019 vs 2021.

Ponderosa Lake Bass Size Distribution 2019 vs. 2021



The histogram shows the majority of adult bass we sampled were between 13 and 17 inches in length. We sampled bass from 4 to 21 inches in length. Bass sampled were in good condition with an average relative weight (WR) of 101. About 1/4 of the bass sampled either had a crawdad or a crappie or bluegill in its gullet. 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. It has been on every bass sample we have conducted.

Bass were sampled at an electrofishing catch rate of 65 per hour. This is lower than the last 2 samples. FNC would like to see the bass catch rate in Ponderosa Lake stay between 60 and 80 bass per hour. I do not believe we need any bass harvest. The amount of prey species in the lake (crappie, bluegill, golden shiners) is tremendous. More bass means better control of these species, increasing their growth potential.

Bluegill and Crappie

Bluegill were sampled and observed lakewide. Several bluegill over 8 inches in length were sampled. We sampled fewer larger bluegill than 2019, I believe they were not as many up shallow. **Thousands of crappie were sampled and observed. Crappie ranged in size from 3 to 12 inches in length. Most of the crappie observed and sampled in the lake are between 9 and 12 inches in length.** Black and white crappie were sampled at close to the same rate. The average size of crappie is up slightly from the 2019 sample. There is a very large class of crappie from spring of 2016 and 2018.

Walleye

13 walleye were sampled and a few 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 2021 indicates a good population of walleye in Ponderosa Lake. These fish ranged from 11 to 25 inches in length. The walleye were in good condition with an average WR of 95. 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

A few larger channel catfish were sampled and observed. These fish ranged from 5 to 10 pounds. Electrofishing is also not a preferred method of sampling for channel catfish, so it is difficult to determine catfish numbers. We did sample and observe less channel catfish in 2021 Lake. We did not sample any small channel catfish. Flathead catfish were observed along the causeway and some docks ranging from 1 to 30 pounds. These are a neat addition to the fishery and provide a "trophy" fish.

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 2019	RSD Cell Mean WR 2019	RSD Value 2021	RSD Cell Mean WR 2019
S-Q (8-12 inches)	13	102	28.6	103
Q-P (12-15 inches)	60	103	58.2	100
P-M (15-21 inches)	27	102	12.5	101
M-T (21-24 inches)	0	0	.7	100
T (over 24 inches)	0	0	0	0

The S-Q range (8-12 inches) RSD value is 28.6. This means that out of all the bass sampled in Ponderosa Lake over 8 inches in length, 28.6% were between 8-12 inches in length. Looking at the chart, one can see that this group of bass was in very good condition with an RSD cell mean WR of 103. This means that the average relative weight (WR) of all bass sampled between 8-12 inches is 103. Remember, average WR for healthy robust bass in the Midwest should be at or above 95. 58.2% of the bass population is between 12-15 inches. 13.2% of the bass sampled were over 15 inches in length. The 2019 bass population had a better average size than 2021, although we did sample 3 bass over 4 pounds, including one fish that was very close to 6 pounds.

2021 Fishing Forecast

Largemouth Bass: Fishing should be good. Bass numbers are good with some 5 pound plus fish out there.

Bluegill/Crappie: Fishing should be excellent. Bluegill numbers are good with some fish up to 9 inches in length. Crappie numbers continue to be very high, with most fish sampled and observed between 10 and 12 inches in length.

Walleye: Fishing should be good. Most walleye sampled were between 16 and 21 inches in length.

Catfish: Fishing should be good. Catfish size is good; with some fish over 10 pounds. Flatheads will be up spawning on the causeway and will be catchable with lures.

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 9-11-inch crappie out of the lake so the remaining crappie have a chance to grow. Thousands of 9-12-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.
- Stock 1000, 6-8-inch walleye every fall.
- If more channel catfish are desired, you can add 500, 8-10-inch fish this fall.
- Tiger Muskie would be a unique addition to the lake. You could try 100. These fish must be at least 12 inches in length or they will be expensive fish food.

FNC Lake Management has enjoyed working with Ponderosa Lake. You have a lake full of gamefish. Bass numbers are good and future samples will help determine if the size structure is headed in the right direction. Walleye numbers are trending up and you have an unlimited supply of 9-12-inch crappie, along with some nice bluegill and catfish (channel and flathead).

The subject of adding red ear sunfish to the lake has come up. I believe you are too far North for these fish to do very well and I believe they would get outcompeted by the massive population of crappie and bluegill.

If anyone has additional questions or comments on this report, please do not hesitate to call or email. aklasmire@farmersnational.com, 402-672-6191.

Respectfully submitted, Aaron Klasmire, Fisheries Biologist