July 13, 2023

Marsh Park Lake

6440 River Rd

Fairfield, OH 45014

Thank you for choosing Jones Lake Management for your fishery needs. The following is a review of the population sample collected during our electrofishing survey conducted on 6/21/2024 on Marsh Park Lake. Included are our recommendations to develop and maintain your fishery.

Initial Observations

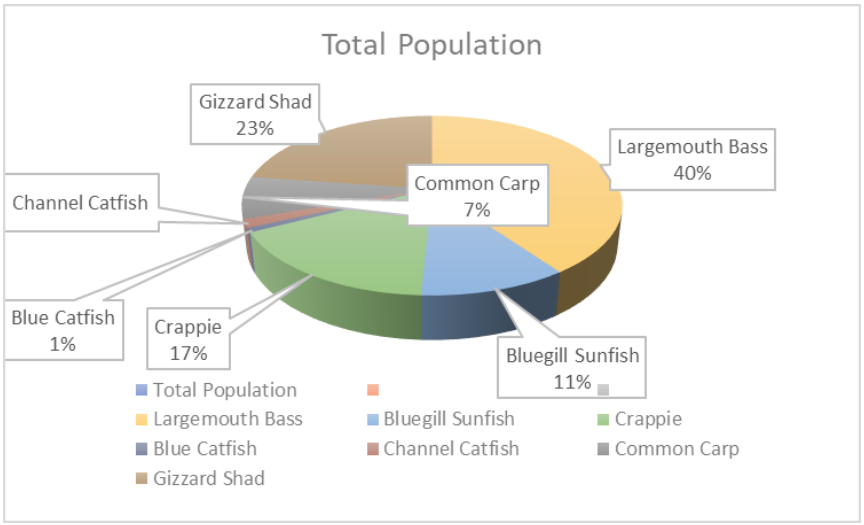
61 acres

Very high visibility, heavy pondweed growing in shallow areas.

Water Temperature 78 F

Structure present: Richardsonii Pondweed, Wood, Brush.

Total Population



Our sample size when electrofishing is only a small portion of the lake's population, but we can use it to paint a bigger picture. The Dominant species in our sample was largemouth bass. Up next there was gizzard shad and bluegill. In a lake where there is a gizzard shad population it is common to see hundreds of all sizes during our survey. We would like to see a lot more bluegill than bass in our samples. Typically, a healthy fishery has a three or more bluegill to one bass ratio. Bluegill and shad in your waterbody are the base of the food chain, so the more of these species there is the more food there is available for your game fish. There was an assortment of game species in the sample. Two species of catfish, largemouth bass, and crappie.

Largemouth Bass Population

Condition of adult largemouth can be quantified using a measure called Relative Weight (Wr). This is a length to weight ratio that calculates how proportionate the weight of a fish is to its body length. The largemouth bass condition in an aquatic ecosystem can be used as an indicator of the water body's overall health. Relative weight values over 100 are indicative of fish that are in excellent condition and overly healthy. Relative weights under 80 are a sign of malnourished fish that are often in poor condition. Typically, these fish have heads that are disproportionately large for their body. We expect most bass to be in the 85–100 range, but ideally most fish would be close to, or over 100.

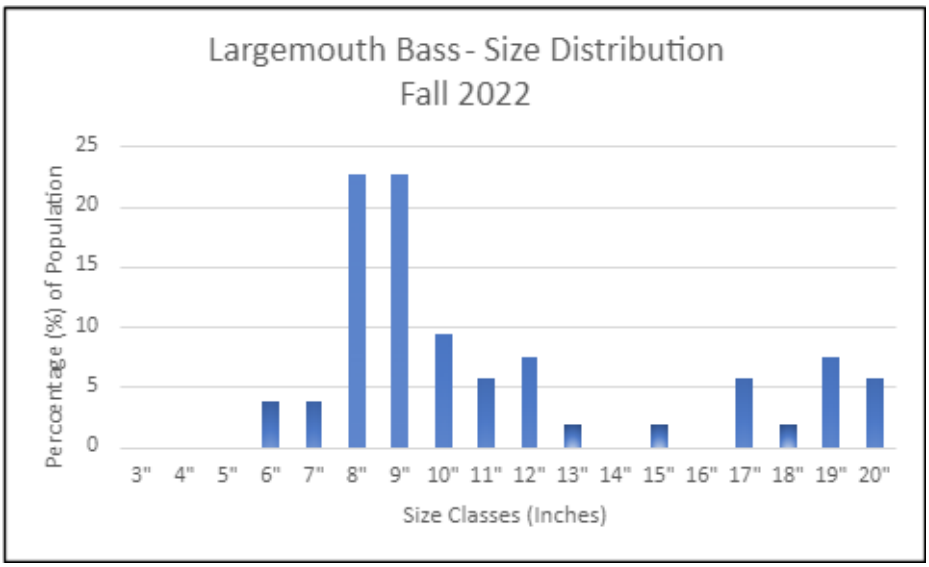
The Average Wr in Marsh Park Lake was 78, well below the average we would like to see. This is a sign of a lack of an adequate food source for a healthy population of fish. As mentioned before there are a lot of game species in the lake.

These would demand a very robust forage population to obtain an average of 100 Wr. Another point to take away from this is that the 12” size class had a low relative weight. This tells us that there is a lack of smaller forage that this size class would typically target. The adult gizzard shad are too big for these fish to eat. most of the gizzard shad we caught were in the 8-10" range. These 12” largemouth consume most of the gizzard shad and bluegill fry after they spawn and there is not enough to keep them really healthy. There were a couple of size classes that had Wr into the 90’s that is good to see. The larger fish in the 18-20" range were very impressive fish, but their relative weight could be higher. They are still bulking up after the spring spawn, but there is room for improvement here.

Relative Weight

Length (inches)	Relative Weight
12	53
13	76
15	70
17	87
18	97
19	76
20	90
Average	78

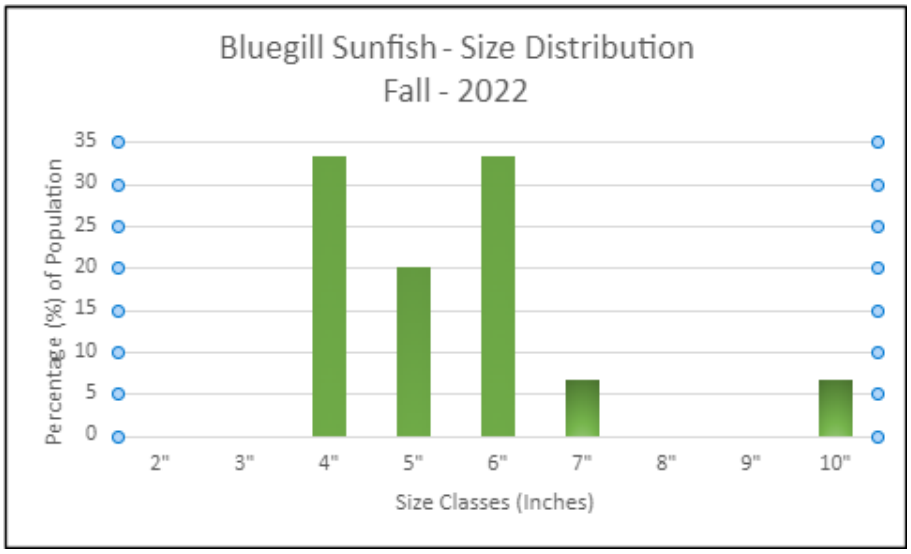
Another measure we weigh heavily in our evaluation is the size distribution of the largemouth bass. This shows that different classes, or generations of fish are surviving. Size distribution is particularly important in predicting the trend of a fishery. When there is good distribution, you will always have fish recruitment into adulthood. In other words, younger generations will always be around to replace older generations.



The graph above shows the distribution is not too bad. I think we are seeing low numbers in the 3-5" fish because of the time of year we did the study, this year's spawn would be too small to shock and capture. We would like to see more 5-7", or a second-year class fish. It is safe to assume that these smaller size fish are being targeted by some of the bigger predators in the pond from the time they hatch until they recruit to adult size. There is a lot of room for improvement here. On the other end of the size distribution, we captured an impressive number of exceptionally large bass for our region in the 18-20" size range.

Bluegill

A healthy bluegill population is very important. This species with the right conditions can spawn a couple times during a season providing an excellent source of food for your predators. In the graph below we are also missing the smaller sized fish. This is again because of timing for the small 2” range fish, but we find that healthy fisheries are loaded with 4-6" bluegill. We should be catching these ideally at a rate of three bluegill to one bass. There is room for improvement here.



Black Crappie

We found one spot that was holding a good amount of black crappie, but that was the only place that we caught them. Crappie tend to make use of deeper water this time of year and they were potentially just out of our shocking range. We did not catch any large crappie, but I am sure there are some good-sized ones residing in the depths.

Catfish

We captured two species, blue cats, and channel cats, I would not be surprised to find that there is a flathead catfish in the lake as well. Flatheads and blues can reach exceptionally large sizes and consume larger sized prey. The fish we caught were not huge, but it is a sign that there are big ones out there. We did observe about a 30lbs fish that was out of our netting range.

Common Carp/Grass Carp

We did shock up some common and large grass carp.

Gizzard Shad

We observed a small amount of large gizzard shad. When gizzard shad are present, we usually shock up a very large amount of these. The fact that there was not a lot is a sign that that the population is heavy on large predators.

Structure

The most productive water that we fished was the flats connecting the two basins. Anywhere shallow enough for the pondweed that is growing in the lake. We caught three fish on our journey to these shallow weedy flats. When we hit the right areas 3-5lbs bass were more common than in a lot of fisheries in the region. Submerged habitat is a commonly overlooked component of a healthy fishery. Submerged structure plays a vital role in the pond ecosystem. Forage species, such as fathead minnows, golden shiners, and juvenile bluegill sunfish, utilize this type of structure to escape from hungry predators. Additionally, many baitfish species utilize submerged structures for reproduction. Predators, such as largemouth bass, use structure for shade and as an ambush zone. Largemouth will also use this structure as a nursery and this will help them with recruitment. Fishermen know the best fishing is found near submerged structure.

The more structure there is the better the fishing is. We found fish randomly scattered throughout the lake in the isolated weed patches and brush piles, but there was a lot of water that was unproductive as far as a fishery goes. Brush in the deeper water in 12-20' range will help improve this fishery. You may even be able to go deeper because of the water clarity in the lake.

You can purchase plastic structures that will not break down over time, and you that you will not get hung up in while fishing. Structure can also be in the form of downed timber, old Christmas trees, or you can even assemble your own with a bit of creativity, and pvc or poly pipes.

Assessment

Based on my electrofishing experience, and the data compiled here, the overall condition of the lake is good, but there is room for improvement. The very large bass that we captured are at the end of their lifespan and it is important, if the goal is to maintain a quality fishery, that there are fish in the younger generations ready to take their spot. The largemouth gene pool is very good, it is not common to see largemouth this size in these numbers in our region.

Solution

To maintain and improve the fishery's condition is a simple concept. There needs to be adequate food to support the game fish. This is usually achieved by adding fish to support the bottom of the food chain or harvesting fish from the top of the food chain so there is less pressure on the forage species. In this case the population is missing some common components at the lower end of the food chain. I would recommend adding some different species of fish to improve this end of things. The addition of fathead minnow and golden shiners every spring and fall for a few years should help establish those species. Once established they will provide a robust food source as they reproduce several times in a season. Supplementing the bluegill population will go a long way, along with adding an additional sunfish species the redear. These fish will play a huge role in improving the fishery.

I am not sure that the harvest side of this equation needs to be focused on a lot. If you do have an interest in implementing harvesting rules, we can discuss this further. I would need to know some specific goals that you would like to reach. At the very least, I would start with following DNR standard rules on harvesting any species of catfish, and crappie. This is an easy way to relieve pressure off your juvenile game fish and forage populations thus helping to maintain a quality fishery long term.

Again, thank you for choosing Jones Lake Management and contact me to discuss any of this further.

Mark Herring

Operations Manager

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