



HERMAN BROTHERS LAKE AND LAND MANAGEMENT

Electrofishing Survey Results/Data/Recommendations

Oak Run – Spring 2019



**Oak Run Fish & Sports
1468 Knox Road 1725 N.
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Dear Ron,

I am pleased to present my report of the fishery survey that we completed on April 22, 2018 at Oak Run. The report will outline the entirety of our process collecting data, the analyzed data, the results, as well as my specific recommendations that will continue to take the lake in the direction you would like.

Please do not hesitate to contact me if you have any questions concerning the report.

Thank you!

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Introduction

On the morning of April 22nd, 2019 we conducted an electrofishing survey with the intention of collecting data regarding the current fishery. The electrofishing survey was conducted in the upper, middle, and lower creeks just as it was in the previous year. We were able to get this survey done in the spring to help us compare the data we collected from the fall to the data we collected this spring. This is one way to determine if the fish are doing well all year long or just during certain seasons as well as analyze the vegetation growth at different times of the year. Each transect was surveyed for 30 minutes using DC electrofishing techniques. This report is meant to explain and describe the population dynamics occurring within this specific fishery. The goal is to make the analyzed data clear and concise to allow full understanding of this complex ecosystem. Below you will find a brief summary of the survey, the data collected, and the general direction we need to go to reach your goals.

Electrofishing Survey

The water temperature during the survey was nearly 60 degrees Fahrenheit. The water clarity was exceptional, vegetation was just beginning to grow, no algae blooms at the time of the survey. Each transect was surveyed for 30 minutes using 250 volts of DC current. We were able to collect a great sample of fish that just gave us even more insight regarding the overall health of the fishery. The conductivity of the water was around 400-500 μ S. This low conductivity reading results in greater success of our electrofishing equipment.

Data Analysis

I. Lower Lake

During this year's spring survey, we collected almost the same number of largemouth bass in comparison to the survey from last fall. Last fall we were noticing a trend of increasing relative weights of these fish. I am certain that this trend of increased relative weights is continuing. The average relative weight of your bass this spring was 93.09% (Last fall was 88.2%) This was incredible to see this increase continuing. This is so important to see because when the relative weight of a bass is over 100%, that fish has what it needs to thrive. The fish is actively growing and at that point possesses the greatest potential of becoming a trophy fish.

Most of the fish collected in this transect came from areas of dense woody habitat and dense vegetation beds. These two aspects of the ecosystem are the most vital habitat forms you have. The more work we can do to preserve these areas, the better the entire lake will do. (I will have more regarding this topic in the recommendations section).

The number of adult bluegill was slightly lower than I would like to see. This was the case last fall as well. I still believe that focusing on stocking some adult bluegill would not only enhance the overall abundance, but would increase the potential for reproduction, maximum size, and aggression by implementing new genetics into their population. (More information in recommendations).

II. Main Lake

This year we focused half of our efforts in a new cove of the main lake and half in the old portion (from last year) of the main lake. We established a cove that had plenty of fish habitat that would give us the most accurate representation of the fish population in this section of the

lake. After switching to this new section within the main lake, we increased our CPUE (catch per unit effort) which would give us even more data regarding the fishery. The CPUE of this transect this year was 5.56. This was very good. There were fish congregated in multiple locations in these coves during this time of year. The bluegill and crappie were spawning which allowed us to collect a high number of each of them.

It is worth noting that in the area with the high density of bluegill, we were able to collect one of the largest bass. This is because these big bass are feeding heavily on the bluegill. Wherever we can keep high numbers of bluegill, we will be able to keep/increase the high number of healthy bass. The average relative weight of largemouth bass in the main lake transect was nearly 110%. This was an incredibly high number and showed that many of the fish we collected were growing very quickly and doing very well.

III. Upper Lake

Overall this area is much more conducive to sustaining a high abundance of fish. As I have said before, this is the area I would prefer fishing in, but I will say, some of the coves of the main lake were sustaining quite a high abundance of fish. This spring, things were very much the same in this upper cove, vegetation was beginning to grow heavily, and the woody debris had continued to collect from where the creek flows in. This area of dense habitat directly produces a concentration population of healthy/abundant fish.

The average relative weight of the largemouth bass in the upper lake was 98.48% which was up from last years number of 97%.

We were also able to collect a fair amount of walleye during our survey this year. We did not collect the numbers of walleye that we did last year, but we collected enough to determine that they are still doing well.

The crappie were very abundant at the 10-12 inch size all across the lake. The fish that are 6-9" are doing very well also and seem to be filling the gaps well.

Recommendations

- My first and most important recommendation from this year would be to continue to enhance/build up the habitat in this lake. I realize that as a recreational lake, we can not put trees in areas that would make it unsafe or unfit to swim/boat, but there can be a compromise.
 - Along with continuing to add to the woody habitat in the water column, I am going to strongly recommend looking into leaving some areas of aquatic vegetation. Treating the vegetation along the main body of water is completely understandable and is not a problem. What I am recommending is to narrow down on a few coves that are not used for boating, not used for swimming, and have minimal residence. Once you find a few good options, just leave the vegetation alone in these areas. You will create sanctuaries for the young of the year fish to grow up in, will increase the reproductive success, and will give you areas to fish during times of year when the fish are congregated around the weed beds.
- Continue stocking walleye and smallmouth bass as you have been.
 - Walleye stocking could be increased if funds were available.
- Stock as many bluegill 3-5" as you can up to 20,000 this year. This will boost the forage base even more and enhance the bass fishery.
- Continue the crappie stocking every 3 years. These fish are being harvested heavily by anglers and it is important to keep this fish stocked because their reproductive success is very volatile. This is also a very important species to keep a close eye on in these surveys. For now I would leave the creel limit the same for crappie. Things are going well with them.

- Continue the limit of 6 fish under 12” for largemouth bass. This is really helping decrease their abundance and provide more forage for the fish that do not get harvested.
 - After one more year of this limit, we will likely adjust the limit. At that time, I will also recommend stocking a new genetic strain of largemouth bass. This is something that is so overlooked in fisheries management. Genetics are one of the most important aspects of growing trophy fish on a consistent basis.
- We were informed that zebra mussels were introduced into the lake at some point last summer. During our survey we were looking for them to determine their abundance and the scope of their invasion. We were unable to find any in April, but I was able to make a trip back out to the lake later in the summer to determine that they were there. I am not concerned with them being in the lake, as you have many species of fish that will forage on them at different stages of their lifecycle. There is a very good chance that after about 8-10 years they will have run their course and will not be a factor in the lake whatsoever.
 - In the meantime, if you want to help control them even more, you can stock extra redear sunfish. I realize that stocking them small might not sound like the most effective use of resources, but in the a large body of water with an abundance of rocky shorelines, I believe that you would have good survival of these stocked redear. The redear sunfish diet is made up primarily of crustaceans. They would feed on the zebra mussels quite heavily. I would not be concerned about stocking “too many” redear as I don’t see that being a problem. It will be a matter of budget/feasibility. One aspect of redear sunfish that I would like to point out is that even though you may be using them as a tool here, they will likely grow very well and become an exciting fish to catch after a few years.

Conclusion

I am very excited to see the fish population thriving in this lake. I am really looking forward to what the coming years will bring in regards to trophy fish!! Oak Run has major potential and I am glad to be seeing that potential being utilized. Do not be concerned with the zebra mussels, I am close enough that I can keep a close eye on them and we can actively manage them. We will just be monitoring them through the next few years.

Please reach out to me with any questions you may have regarding the report or any of my recommendations. I am looking forward to getting back out on the water next year to continue monitoring this fishery!!

Best Regards,

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