



HERMAN BROTHERS FISHERIES

Electrofishing Survey Results/Data/Recommendations

Oak Run

August 26, 2022

Oak Run Fish & Sports
1468 Knox Road 1725 N.
Dahinda, IL 61428

To Whom It May Concern:

Within this document you will find my report on the fishery survey which we completed on May 17th at Spoon Lake (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 of the specific goals of the lake. Please do not hesitate to contact me if you have any questions concerning the report.

Thank you!

Sincerely

Austin Bennett - Fisheries Biologist

Herman Brothers Fisheries - 3004 N Taylor Rd. Hanna City. IL

Introduction/Methods

On May 17th, 2022 we were out at Spoon Lake - Oak Run to conduct an electrofishing survey to check in on the fish population. We ran the survey as we have in the past, with the exception of tweaking the surveyed area in the main lake section to provide a better look at the largemouth bass population. We piece all this together to provide a full assessment of the overall fish health and balance in the lake and use the information to provide recommendations for future management (stocking, harvest, etc). We spent 30 minutes using DC electrofishing equipment at each of the transects listed above as we have in the past. Following the collecting of fish, we weighed, measured, counted, and observed the fish population while recording this data.

Electrofishing Survey

We began the survey around 6:30 am with air temperatures around 65 degrees and water temperature right at the 65 degrees as well. The water clarity varied slightly across the three transects. The clearest water was found in the lower lake while the murkier water was found in the very upper lake near the main creek influx due to recent rain events. Overall, the lake was very clear. You could tell that the rooted plants had begun growing and are beginning to help filter the nutrients from the water column very well.

While conducting the survey we were observing the types of vegetation growing throughout the lake. We observed the following aquatic plants during our survey: Coon-tail (*Ceratophyllum demersum*), Curly-Leafed Pondweed (*Potamogeton crispus*), Eurasian

Milfoil (*Myriophyllum spicatum*) and also observed a few patches of American Pondweed (*Potamogeton nodosus*) which is a very beneficial native plant.

We collected the following fish in our survey this year: Bluegill, Redear Sunfish, Black Crappie, White Crappie, Largemouth Bass, Smallmouth Bass, Walleye, Yellow Perch, White Bass, Channel Catfish, Flathead Catfish (1 fish). Also, we collected many common carp. The catch rates of common carp were roughly the same as they have been in the past (this spring CPUE was .49-we collected 14 carp in 30 minutes). I did not notice a major decline in the carp population after the netting that went on early this spring. It really didn't seem like their numbers were drastically reduced from those efforts. I would definitely consider continuing to run the nets yourselves as much as possible but realize that the carp will always be a factor in here and whatever you can do to control them in a cost effective manner will be the best management practice for them.

Data Analysis/Breakdown

1. Upper Lake

The upper lake has always been a beautiful area for fish and wildlife of Oak Run. The water is very fertile, has great habitat and seems to always hold an exceptional number of quality fish. During our survey this year we observed an overall CPUE (catch per unit effort) of 4.06. This is considered a "good" level in regards of fish caught in the 30-minute survey. This helps us determine the abundance of fish found overall. One thing to note this spring is that crappie numbers are higher than usual and looks like the last year crappie spawn was very

successful and crappie harvest should probably be increased to account for the extra crappie in the system currently.

In the past we have collected good numbers of largemouth bass in this area, and this year was no exception. We collected a good number of largemouth bass over 14" with a few 17+" fish mixed in. The highest abundance of bass collected in this area was the 11-14" bass. Over the past few years, we have been tracking relative weights of the largemouth bass in the lake. Overall, this year, the relative weights stayed about where they've been in the past in a very good range! This year the average largemouth bass relative weight in this tract was right at 97%. There were some very nice younger fish coming up the ranks, the younger 11-14" bass are really starting to show signs of growing and the extra cover in the lake (rooted plants) should really help that growth rate. The larger fish still averaged above 95% though. It seemed like the food was beginning to dwindle for the 15-17" fish though. The addition of shad will make a tremendous difference on the relative weights of all bass, but especially the 16" + fish. I was very impressed by the health of the 11-14" bass, and still expect their success to continue if we can keep the forage base in check and can reduce the number of the 11-13" bass in the next year. The forage base is doing well in the lake especially because of the vegetation that is creating great dense cover for the forage fish in the lake during the spring. The higher levels of aquatic vegetation have given the young of the year fish a chance to survive and turn into food for the next level of predator fish. One thing to note is that with the addition of shad in the next year, we should see the relative weight of largemouth

really blow-up next year and the following years when the shad begin spawning. We will be keeping a close eye on this.

As always, I was impressed by the quality of walleye in the survey. We collected 2 large adult walleye up here this year. The largest walleye collected was 22.5" long. This is a world class walleye especially for central Illinois. We also collected a few 14-20" walleye. We collected 12 small walleye that we stocked last year. It was great to see the fingerling fish thriving in this area as well! You can tell that the walleye stockings have been very successful when seeing these small fish in the spring. Additional good, rooted growth in the lake will help provide cover and refuge for the stocked fish.

The panfish population as whole was doing well. We collected higher than ever numbers of panfish including high numbers of crappie between 5-7". One panfish to note is the redear sunfish. Their population is doing very well as it has been since being stocked. I have seen a major increase in average size of redear this year with some world class 10" + redear collected!!! These fish forage on the Zebra Mussels and are clearly taking advantage of that additional food source currently.

Catfish were very healthy; we saw many sizes of catfish in the lake and collected good numbers of year old fingerlings that were stocked last fall. I would recommend taking a break from catfish this year and continuing the stocking either next fall, or the following fall.

2. Main Lake

This area of the lake is always very productive for all species of fish but especially (crappie, bluegill and redear due to the great spawning areas in this tract). We spent half of the time in the main channel area of the lake and the other half surveying the cove area. We were able to find good numbers of all fish in this transect with a total CPUE of 4.20.

In regard to relative weights, we saw similar relative weights here of all classes. The bass at the 11-14" size are doing very well currently, but the lake does not provide enough forage to allow this large size class to grow and make it to their full potential size without some selective harvest of the fish as they're going up through the ranks. As the bass get larger, their need for larger prey increases as well. We have seen relative weights of the larger bass decreasing due to the smaller bass consuming the forage before it can grow to the size that the larger (15" + bass require to continue their growth). The white bass are also working against us here. Another reason I am emphasizing the importance of harvesting those fish as well as additional forage stocking.

There has always been a good number of bluegill in this area, but this year we noticed a very high number of bluegill and the overall size was exceptional with many fish between 7-8.5". Very high numbers of crappie 7-9" here as well with a lot of 5" fish in the mix.

Three walleye fingerlings that were stocked last fall were collected this spring at 9" in this transect.

3. Lower Lake

During this year's spring survey, we collected the most crappie in the lake in this transect. The numbers of crappie here were exceptional with a good number of these fish being over 10 inches long! 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). It seems like overall this section of the lake holds less forage and therefore holds less predator fish like largemouth. Bluegill and crappie are in good numbers here though!

Recommendations

- My number one priority in moving forward this year with recommendations is to express how great the lake looked this spring when we conducted the survey in areas that had not been treated for aquatic vegetation. These areas (particularly in the upper lake) that were left untouched so far held far more fish because they allowed for natural cover for young of the year fingerling fish. The lack of aquatic vegetation and shallow water dense cover always been the largest factor that has limited the lake from producing fish at its highest capacity. I truly do understand that the need to keep areas around property owners' docks as well as the main lake channel clear of aquatic plants is vital to the recreation in the lake. I am proposing continuing to protect just a few sanctuary zones throughout the lake especially in coves where recreational swimming/boating is limited already.
 - We really need to come to terms with how beneficial the aquatic plants are in certain areas. I strongly recommend establishing and maintaining a few sanctuary zones throughout the entire lake specifically to act as nurseries for the young of the year fish, we will see the overall average of the fish species increase rapidly over the next few years. This management and protection of good, rooted vegetation throughout the year will not only help recruitment (survival of fry stage fish to adult stage) of the fish, but will also increase the predator fish foraging efficiency. Overall, I believe that moving forward establishing a well-balanced vegetation treatment plan that includes leaving

certain areas untouched will turn these areas into wildlife sanctuaries across the lake.

- One more major point with aquatic vegetation is that it will help tremendously at reducing nutrient levels in the water and can help reduce algae blooms that can end up becoming cyanobacteria blooms.
- As I have recommended in the past, each year we should be focusing on adding additional habitat to the lake. Not only because this structure is necessary for the fish but needs to be freshened up every year or two. One thing to overcome this need to add habitat every year is by adding artificial habitat to the lake. I am a huge proponent of creating homemade fish crates to provide the exact habitat that the fish need exactly where they need it! We can get creative with these structures if this is ever something you guys want to do. I would be happy to volunteer some time to help build and place some structures throughout the lake!
- We checked back in on the zebra mussels this year as we have been doing each year. Seems that their abundance has been declining and you're on the back end of this cycle. I am still not concerned that there have been any major negative changes with the fishery in the past year, therefore do not have any major changes to make in our management strategy besides taking them seriously and doing our best to make sure these are not spread due to our negligence. Continue to check boats, trailers, etc. when moving from lake to lake and do not keep water in live wells when moving from one lake to another. I still believe that the mussels are providing an incredible food source for the redear sunfish as well as the smallmouth and we have been

seeing a great increase in both fish overall sizes. The redear observed in this year's survey were, again, exceptional size and overall health. I would consider a stocking of these in about 2-4 years if we do not see much recruitment of them over the next few years.

- I suggest keeping the largemouth harvest recommendations/slot limit numbers the same this year. No need to change this up right now, BUT I would strongly encourage the harvest of 11-14" bass from the lake to reduce their numbers. Based on the fish survey data, as well as angler reports, the population of 11-14" bass has increased and catch rates of these fish have increased significantly due to the lack of harvest. Harvesting these fish at this size will allow the forage to build up to grow the 15" + fish even larger and make them reach that trophy size quicker.
 - One efficient method of bass removal would be hosting a bass harvest tournament where the goal is not to catch the largest bass, but rather the highest quantity of bass between 11-14 inches in length.
- I would recommend harvesting as many white bass as possible. Put this on your creel limit cards to encourage the harvest of white bass.
 - We saw a very high number of large adults in our survey this spring. Anytime these are caught, encourage people to keep them. They compete with other gamefish in the lake very aggressively. I would consider having a white bass tournament in the future. The fish are great size to eat and will benefit everybody by removing as many as possible.

- **In regards to stocking I recommend the following:**
 - Stock 6,500 walleye 5-8" this fall. I strongly recommend keeping this stocking going. The lake is producing very healthy walleye and I believe it will continue to with the abundance of food here. Herman Brothers Fisheries would be happy to provide these fish for you guys as we have in the past! These fish will cost \$2.25 each.
 - I would like to save whatever budget figure is remaining to do a largemouth bass stocking in the spring when we stock the gizzard shad. My goal would be to stock about 3,000-4,000 largemouth bass 5-8" in the spring. They will cost about \$3.15 each.
- We have discussed extensively the stocking of Shad in the lake. This has been decided on by the members of the board of directors to proceed. Stocking of these fish should take place in the spring of 2023. We would like to stock a supplemental number of largemouth bass fingerlings at that time as well. The introduction of shad will provide an abundance of forage for all gamefish and will be something we will monitor closely and begin to track the growth rates of all future stocked fish as well as fish born in the lake to note the impact of the introduction of shad.
 - I will help you work with a potential source for these to iron out the details of how many lbs. you will need as well as the cost associated with the stocking to get them established.

I am very impressed by the numbers we collected during our spring survey this year and am even more impressed with how some of the lake looks that has not been treated!

I am confident that the lake is producing some very quality fish and this trend is very clear. This set of stocking recommendations will certainly keep things heading in the right direction and the introduction of shad will be a very positive change for the largemouth bass fishing in the lake as well as a positive change for many other species in the lake! We are happy to help answer any questions you may have. Feel free to reach out anytime! We look forward to coming to check back next spring!

Sincerely,



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