

Electrofishing Assessment



Lake Ramsey

December 4, 2013

AMERICAN SPORT FISH HATCHERY

Lake Ramsey HOA
c/o Mr. Joe Urick

January 18, 2013

Dear Mr. Urick,

Thank you again for the opportunity to work with you Lake Ramsey. It was a pleasure visiting with you and a few of your neighbors. You have a beautiful lake in the development and I hope you will find that the recommendations in the following report will help your committee to reach the goals that you have outlined.

We completed an electrofishing assessment of Lake Ramsey on December 4, 2013. During this assessment we collected a representative sample of fish from the lake to determine the status of the fish population. The data that were collected along with our observations and analysis are included in the following report.

Please contact me if you have any questions about the report or the lake. We look forward to hearing from you.

Sincerely,

Robby Mays
Certified Fisheries Biologist
334-799-8863

Site Description

According to an online aerial photo, Lake Ramsey is approximately 358 acres in surface area. The lake is roughly broken up into two large fingers and one smaller "pond" that is connected to the main body of the lake. The lake was built in the 70s. It has a decent watershed from which it collects rain runoff and it is also fed by an artesian well. Most of the property along the shoreline is developed and groomed, although there is one area that remains wooded until future development. There are several piers on the lake including at the boat ramp. There is some structure in the deeper section of the lake but the lake would benefit from more to improve fish habitat and to concentrate them in known areas.

Management Goals

The goal for the lake is to produce good fishing for bass, bluegill, and crappie to satisfy all homeowners. The appearance of the lake is important as well as it is a large focal point for the development. Additional uses include pleasure boating and water skiing. Considering these goals, we will base our recommendations on managing for fish population balance, while also not interfering with the lakes other uses.

Aquatic Vegetation

We did not see any nuisance aquatic vegetation during our assessment. The lake has had a history of issues with hydrilla, which was eliminated by grass carp that were stocked around 2011. Uncontrolled hydrilla infestations interfere or prevent access to many areas in lakes such as this. The use triploid grass carp to control the vegetation was good one. The grass carp are sterile, so they will not reproduce. Their effective lifespan for controlling vegetation is around 5 years, so their effectiveness at keeping the lake clean will diminish in soon. At that time, you may see vegetation returning in areas. They can live much longer than 5 years, however they seem to just maintain their weight rather than actively feed and eliminate vegetation.

Water Quality

We checked the water for total alkalinity, total hardness, and pH. The total alkalinity of the lake water was 80 ppm. The pH of the water was normal at 6.5 and the total hardness was around 8 ppm. The hardness was much lower than the alkalinity. Having high alkalinity and low hardness can be a problem in certain situations. Fertilized lakes that have excessive phytoplankton blooms can have issues with pH. It is possible in a situation such as that for the pH to rise very high, and in some cases cause fish kills. Lake Ramsey is not actively fertilized, so we do not anticipate this to be a problem.

The water had a visibility of 24 inches and the presence of a phytoplankton bloom was apparent. Since the elimination of the hydrilla, nutrients have become available for phytoplankton growth rather than just being absorbed by the hydrilla. The phytoplankton is the base of the food chain in the pond, so the forage base has improved since the elimination of the hydrilla.

At times during the summer areas of "red algae" appear in certain coves. We did not see pictures of this, but we have observed situations such as the one you described. The algae is likely an organism called Euglena. It can "bloom" at certain times of the year, but does not cause any problems. Normally it will go away on its own.

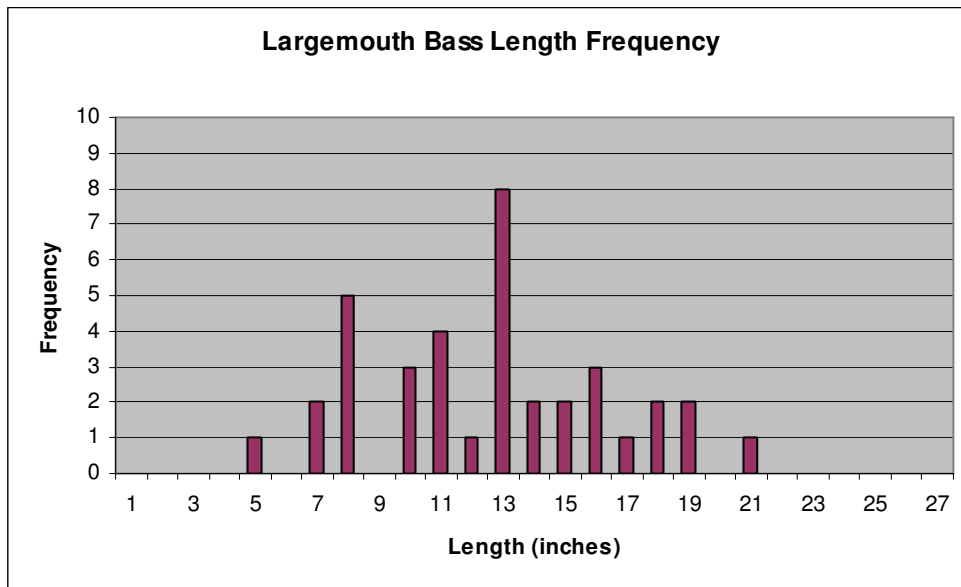
Supplemental Feeding

Supplemental feeding involves providing food in addition to the natural food that fish have access to in the lake. Typically floating catfish food is easiest to come by. Feeding can be done from automatic feeders or by hand. The feed improves the growth and maximum size of the bluegill in the lake. It also affects the bass and crappie in the lake by providing them more prey (through improved bluegill reproduction) to feed upon. We encourage you to promote the idea of feeding the bluegill to those who live on the lake. Feeding is important to help to produce the larger, quality and trophy size fish that every one wants to catch. Also the feeders draw the fish into known areas, improving access to the fish for younger anglers. If feeding with automatic feeders, we suggest setting the feedings to 4 times per day in the spring and fall, and twice per day in the heat of the summer. You can set the feeders to feed once per day in the winter, or just let them run out of feed and continue their normal cycle to maintain their operation.

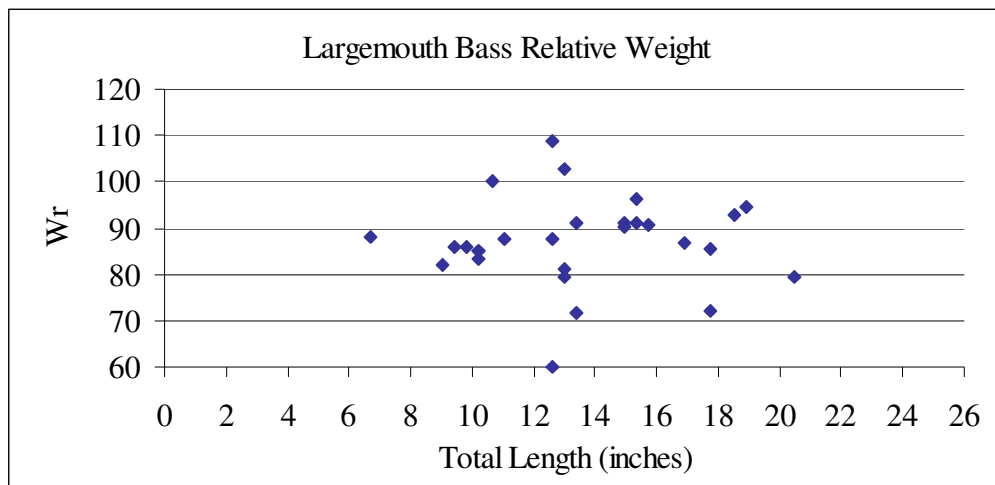
Fish Population

During our sampling, we collected largemouth bass, bluegill, shellcracker, crappie, threadfin shad, gizzard shad, grass carp, common carp, and catfish. The largemouth bass and crappie are top predators. Catfish are predators as they grow larger. The bluegill, shellcracker, threadfin shad, and gizzard shad are forage or food species. It is important to note that fish compete for food with each other even at a very young age. So we manage a population by promoting the forage growth and density, while limiting the number of predators in the lake through harvest. We want to prevent predators from becoming too abundant for the amount of food available to them. Having multiple predator species makes the situation more complicated, but through adequate harvest, good fishing can be maintained.

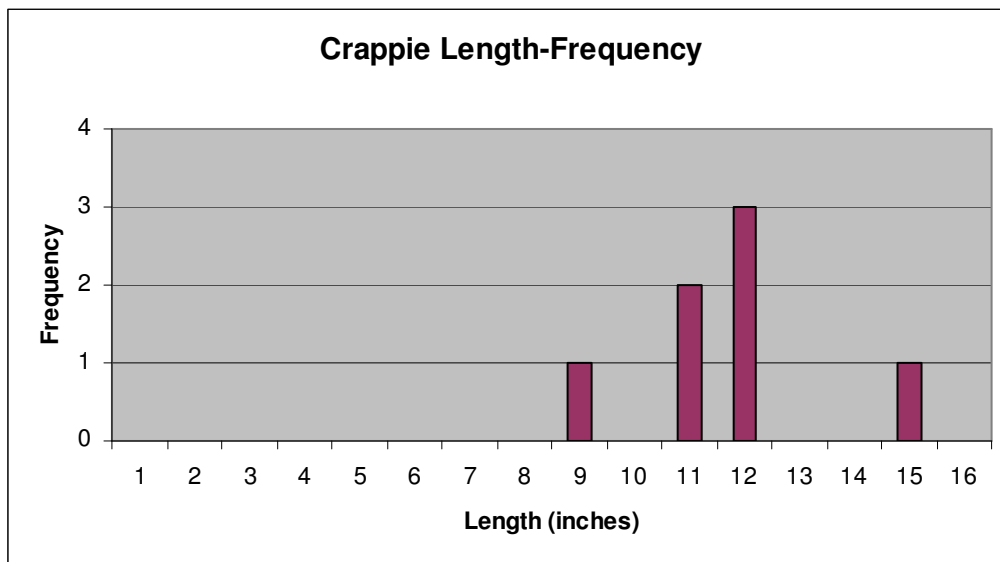
The first graph, which is Bass Length Frequency, illustrates the distribution of the various sizes of bass that we collected. We captured bass ranging from 5 to 21 inches in length. The abundance of the bass was good and we saw individuals in all sizes in the range. The major peak in the distribution is at 13 inches, which indicates that there are a few too many smaller fish in the population. We would like to see this peak at 15 inches or higher, showing that the population is skewed to the larger fish. So we recommend harvesting bass that are 15 inches or smaller.



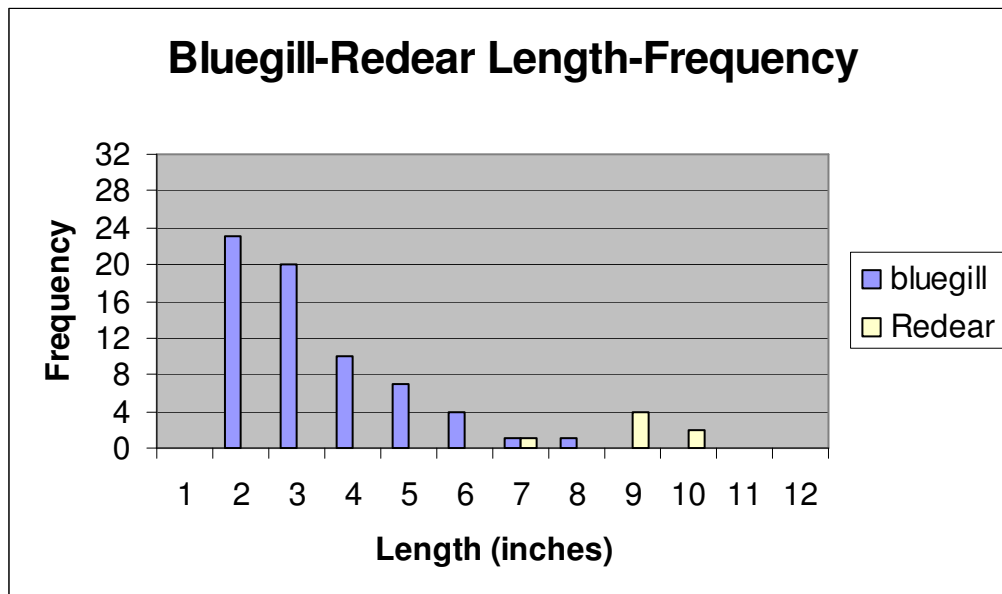
The second graph illustrates the relative weights of the bass in the lake. Relative weight (W_r) is a comparison of the bass in your lake to an ideal size bass of the same length. W_r 's of 100 or above indicate excellent condition. W_r 's less than 80 indicate thin or poor condition. The overall average relative weight across the sizes was 87, which is average. There were some individuals that were in excellent condition, while others were poor. Remember that there is competition for food among your predators and this will have an effect on the condition of the bass. By removing some of the bass that are under 15 inches, you will reduce this competition and allow more food to be available to the larger fish. Remember that bass harvest needs to be done each year because you will have bass reproduction each spring adding bass back into the system.



We captured crappie that were 9 to 15 inches in length. Crappie tend to follow a 3 to 5-year reproductive cycle where one year the adults have a heavy spawn. Small, young crappie dominate the population for the next few years until their numbers begin to decline. As their numbers decline, they then grow into the large adults that you want to catch. Over time the number of crappie further declines, then the process begins again when those adults have a heavy spawn. At this time most of the crappie we saw were larger, so enjoy the fishing for them while it is good. We captured most of them near structure or on shoreline drop offs. As with the bass, we want to limit the competition for food, so the harvest of crappie is necessary too. We recommend harvesting the crappie without restriction on size or quantity.



The size distribution of the bluegill and redear shellcracker is shown in the attached Bluegill-Shellcracker Length Frequency graph. We captured individuals from 2 to 10 inches in length. The distribution of the sizes was good, considering that we saw individuals in each size. Some of the shellcracker were very large and considered to be "trophy" size. The abundance of the bluegill was very good and we captured and saw several in the intermediate size range (3-5"). Having forage that is the proper size for the bass and crappie such as these intermediate size bluegill will promote better growth and condition. We did not see many bluegill larger than 8 inches while sampling, which are the sizes most anglers want to catch. Providing supplemental feed would improve the abundance of those sizes.



We sampled several schools of threadfin shad so their abundance is very good. They are a great source of forage for bass and crappie considering that they reach a maximum length of 7 inches. We also saw gizzard shad in several areas around the lake. They are a source of forage, particularly for larger bass. We saw individuals ranging from 3 to 16" in size.

Recommendations

Lake Ramsey appears to be in very good condition with a balanced fish population. We observed strong forage fish density along with good size distributions of bass and crappie. Normal yearly harvest of the predators needs to be emphasized, but otherwise there were no glaring problems to speak of. Catfish should be removed as they are caught. This will further reduce some of the competition among the fish species. We recommend that you stock additional Tiger Bass into the lake this year to continue the improvement of the genetics of your bass population that you began last year. Research has shown stocking a new genetic strain of bass achieves better results when done 2-3 years in a row. Continue adding structure where possible. It will improve the fishing by concentrating the fish in known areas.

Below are our recommendations.

1. Harvest bass that are 15 inches or smaller. We normally set a number per acre to remove each year, but considering the light fishing pressure on the lake, we recommend removing any small bass that are caught.
2. Remove crappie without size or number restriction.
3. Stock Tiger Bass into the lake for the second year to establish their genetics in Lake Ramsey. We recommend stocking fingerling bass in spring to supplement the natural spawn that you will have. These fish will have a head start on your natural stock so they will have good survival. The long-term goal is to have these new bass spawn with your native bass to produce a more aggressive and larger growing offspring. This will improve catchability and angler success greatly.

Tiger Bass 2" 25 fish/acre 8,750 fish \$8,750 delivered

4. Monitor the lake for vegetation in the shallows. At some point the effectiveness of the grass carp will diminish, and the hydrilla may begin to return. Louisiana requires Triploid grass carp to be stocked, so the grass carp cannot reproduce. Even if they were not triploid, they cannot spawn in a lake environment. They require significant current only found in river systems to spawn.
5. Harvest any catfish that are caught.
6. Add structure to the deeper areas of the lake. Some can also be added to the shoreline away from areas where people ski. Oak tree tops, cedar trees, or other hardwoods work well. You can also use cinder blocks, old

culverts, etc as structure. Be sure to set any structure at great enough depths to not interfere with boating/skiing etc.

7. Electrofish the lake again next fall to monitor the success of the bass stocking.