

Electrofishing Assessment



**Lake Ramsey
Covington, La.**

October 11, 2012

October 29, 2012

Lake Ramsey Homeowners Assn.

Mr. Art Lyons

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Covington, La.

Dear Mr. Lyons,

We conducted an electrofishing assessment of Lake Ramsey on the afternoon of October 11, 2012. We sampled the fish population of Lake Ramsey and obtained a representative sample of the bass, bluegill and crappie population. Our sample of the fish population appeared to be consistent in all three arms of the lake.

The bass population of Lake Ramsey appears to be in excellent health, however, there appears to be increased numbers of bass less than 15 inches in length that are in below average condition. Details of the condition and distribution of the bass population are included in the attached report.

There are three things that are affecting your fish population and your catch rates; genetics of the bass population, a large population of adult channel catfish, and lack of deep-water structure to concentrate crappie and bass. We will discuss each in the report.

I will attempt to discuss all of the topics I addressed during our meeting on the afternoon of October 11.

Please review the attached report and call or email me with any questions.

Sincerely,

Barry W. Smith
Certified Fisheries Scientist
American Sport Fish

Site Description

Lake Ramsey is a 250-acre multi-purpose recreation lake that is enjoyed by many of the homeowners in the development. The lake has an adequate watershed, but the water level is also supplemented by a large artesian well. The lake is esthetically pleasing, but lacks adequate structure to concentrate sport fish. Much of the bottom of this large lake resembles a bath tub, with few structural features to concentrate fish. This makes it much more difficult to catch fish because they are randomly distributed throughout the lake.

Management Goals

The goal for this lake is to produce quality fishing for bass, crappie and bluegill, with the potential for some trophy fish production. This goal is to satisfy all anglers regardless of skill level. Another goal is to improve the size structure of the bass population, by increasing the numbers in the 4- to 6-pound range, without significantly decreasing catch rates.

Aquatic Vegetation

There was very little vegetation during this visit. The sterile grass carp stocked during 2011 have eliminated the hydrilla and other aquatic species. It will likely be another four years or more before significant vegetation returns. The hydrilla and native vegetation is still present in the lake bottom in the form of seeds and reproductive nodules. As these plants sprout, the carp will eat tender sprouts before they can grow to a size you can detect. Grass carp can maintain their weight on a subsistence diet for many years. You will experience natural mortality in the grass carp population each year although you will not likely see many dead grass carp. Their effectiveness in controlling aquatic vegetation is usually four to five years.

The numerous grass carp will not adversely affect the bedding or spawning activity of the bass or bluegill. We use a much higher stocking rate in our hatchery bluegill spawning ponds to control vegetation without negatively impacting our bluegill production. At some point in the future you may observe some of the grass carp at the edge of grassy lots, grazing grass at the water's edge.

Water Quality

The visibility of the lake was approximately 24 inches. There was a brown color that was attributed to a plankton bloom and not to clay turbidity. The total alkalinity of the lake water was 65 ppm, but the total hardness (measure of calcium) was less than 5 ppm. A lack of total hardness can sometimes result from significant amounts of well water that

does not contain calcium, being added to the lake. Calcium is an important buffering compound that prevents wide fluctuation of pH. The only potential problem is that if the lake should develop a heavy plankton bloom (heavy green color) in the summer, the pH could become high enough (pH of 10 plus) to stress or even cause mortality in fish. It is not likely that will occur.

Supplemental Feeding

Supplemental feeding is a method of adding some additional feed to the bluegill and catfish. Regular feeding programs often result in concentrating bluegill and catfish around a feeding area and increasing their growth rate and average size. Although I did not observe any automatic fish feeders during my visit, I am sure some individuals may feed by hand from their dock or back yard.

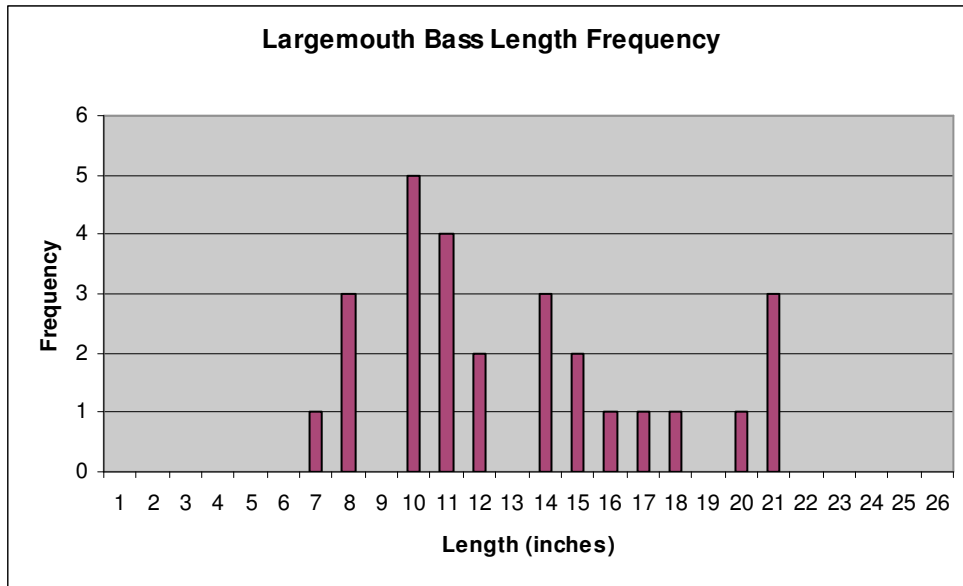
Fish Population

During our visit, we collected largemouth bass, bluegill, shellcracker, channel catfish, white crappie, gizzard shad, and threadfin shad. The forage base looked very strong; we saw numbers of bluegill in the size range most of your bass prefer to eat and several schools of threadfin shad. We did not observe as many adult catfish as we did during the 2010 sample.

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 7 to 21 inches in length. There are several peaks in the Length-Frequency graph. The first peak, at 7- to 8-inches represents the spawn from 2012. The next peak at 10- to 11-inches represents the spawn from 2011. The remainder of the bass are three years plus in age. In our 2010 sample the peak at 16 inches may have moved to the fish in the 20- to 21-inch size. We would suggest improving the genetics of the bass population by introducing Tiger Bass. These bass, developed and trademarked by American Sport Fish are very aggressive and offer fast growth and larger size potential than native bass. Tiger Bass are much easier to catch than Florida bass because of their genetic breeding. You can read more about them on our web site, www.americansportfish.com under *articles*.

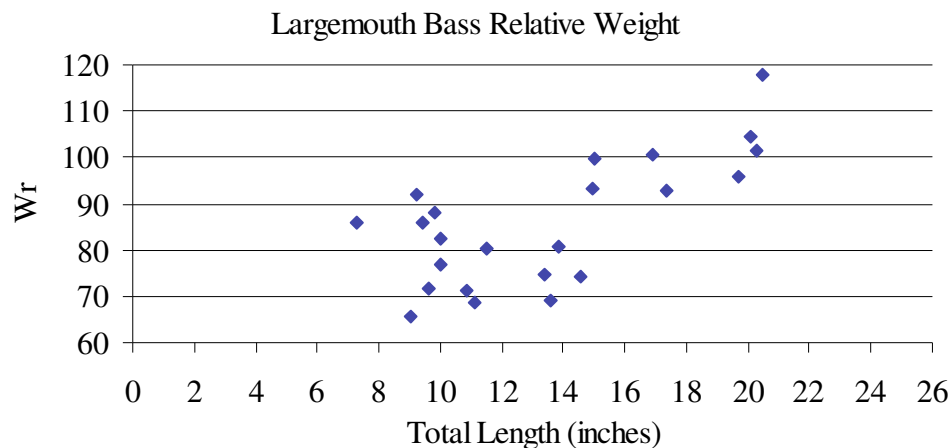
There are several sizes of Tiger Bass available. A 2-inch fingerling (\$1.00 ea.) would be available in May 2013. Although you would think many of these would be eaten by larger bass, most mortality of fingerling bass occurs during the spring from those fingerlings that are spawned first and are the largest of that spring's spawn. Our bass are available early May and should be compatible with your natural spawn. We recommend stocking 25 fingerlings per acre for three consecutive years. This technique has proven to influence the genetics of bass populations in many areas of the southeast.

The larger bass are much more expensive, 6- to 7-inch are \$3.50 and 8- to 10-inch are \$7.00. It is very expensive to grow the larger bass. These fish when they are sexually mature, will spawn with your native bass and transfer some of their growth and aggressive characteristics to their off spring.



There are more small bass, less than 14 inches, than there were in our 2010 sample. We suggest removing these by angling. Although there is a good distribution of bass 15 inches and larger, we would like to avoid a build up of bass less than 15 inches.

The second graph is the Relative Weight (Wr) of each bass in our sample. This is an indication of how plump your bass are and how they compare to an ideal bass of the same length. Wr values of 90 to 100 are ideal and those of 80 or below indicate thin or poor condition. The overall condition of the bass population was good; the average Relative Weight of the bass in our sample was 86. The 2010 average Wr was 96, but we did not have many small bass in the 2010 sample. Our recent sample shows that the 9- to 14-inch bass are in below average to poor condition; this indicates more bass than the forage structure will support. The larger bass, 15- to 21-inches are in great shape with an average Wr of 97. This indicates your larger bass are healthy and have an ample food supply. We suggest you implement a harvest strategy of removing all bass caught that are less than 15 inches and returning the larger bass. In our recent sample, a 14-inch bass averaged 1 pound and a 15-inch bass averaged 1.75 pounds.



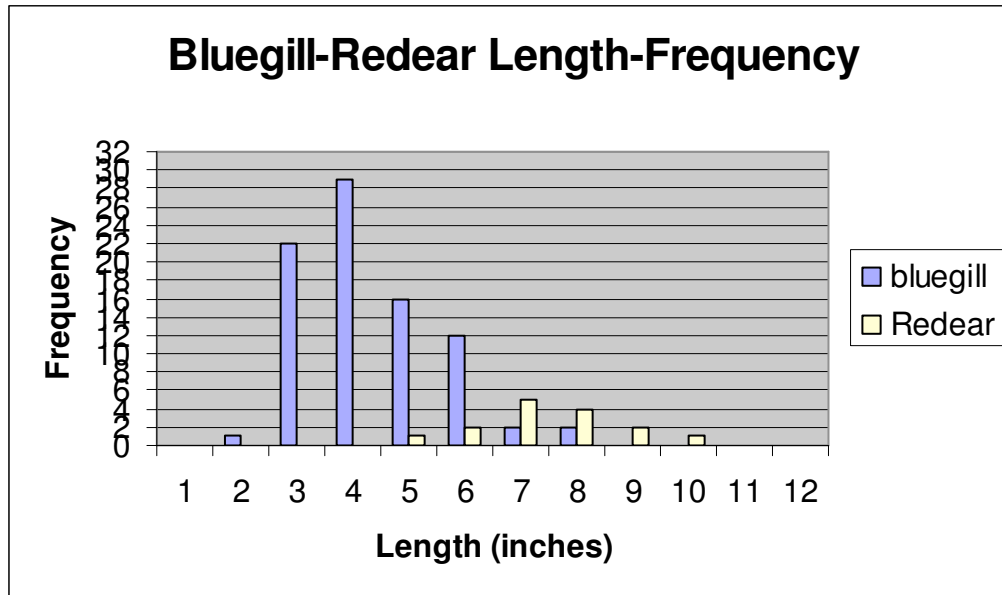
The forage, in particular the bluegill, appeared abundant and just as important, was of the proper size for the larger-size bass to eat. A bass can normally eat a bluegill about one-third its length, thus a 15-inch bass can eat a bluegill up to 5 inches. The larger a food item the bass eats, the better food conversion or weight gain it experiences. A bass will typically expend as much energy capturing a 3-inch bluegill as a 5-inch one, but gains much more protein from the larger fish. A 5-inch bluegill will typically weigh six times as much as a 3-inch bluegill.



This bass is typical of the ones we collected in our sample. It is about 17 inches long and in excellent condition.

The size distribution of the bluegill and shellcracker is shown in the Bluegill Length Frequency graph below. The relative abundance of bluegill in the 3- to 5-inch size is apparent from the graph. These bluegill provide an abundance of the proper size food items for good bass growth. In addition to the bluegill, threadfin shad and gizzard shad are also present and contribute to the excellent condition of the bass and crappie in Lake Ramsey.

The threadfin shad averaged about 4 inches and there were a high percentage of gizzard shad in the 5- to 8-inch size, perfect for bass in the 2 to 3 pound size and larger.



These threadfin shad are healthy adults and should provide excellent food for the bass and crappie.

White Crappie:

Lake Ramsey has a population of white crappie. Most of these fish appeared to be on the edge of deep-water drop offs. We did collect six crappie that averaged about .5 pounds each. Again, deep water structure would concentrate the crappie and certainly boost the catch rate for all anglers.



This is a mature female white crappie, notice the vertical barring that is typical of this species.

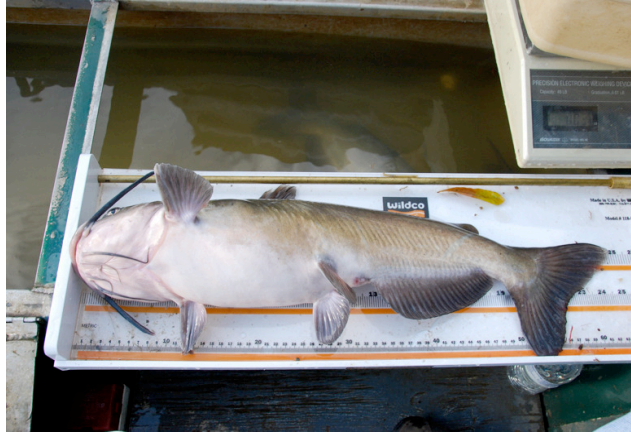
Crappie are cyclic spawners, often spawning heavily only every three to five years. A high percentage of the adults in a lake are usually from one spawn, or year class. These fish, such as the 10-inch crappie pictured above, will get larger each year, but decline in numbers until there is another large spawn. The cycle will then repeat itself. The threadfin shad are excellent food for adult crappie. The fish we observed appear to be in good condition.

We would suggest you continue to harvest the crappie without any creel limit or size limit. The population appears very healthy. Additional deep-water structure will enhance the harvest of crappie.

Channel Catfish:

Our sample did not include the numbers of catfish that we found in the 2010 electrofishing. Perhaps the numbers of larger catfish are declining because of natural mortality. Catfish larger than one pound are fish eaters and will compete with both bass and crappie for food, usually diminishing the pounds of bass a lake can support. Although some anglers prefer large catfish, bass and crappie are usually more desirable for the majority of anglers; I feel that would be true for Lake Ramsey homeowners.

Our suggestion is to encourage the harvest of catfish by sponsoring a catfish derby or rodeo. There may be some limited spawning of catfish in Lake Ramsey, just enough to keep it populated. Removing as many catfish as possible could result in better growth and a higher bass and crappie population.



Numerous channel catfish of this size were observed during our sampling in 2010. Large catfish eat the same food items that bass eat, thus diminishing the numbers of bass a lake can support.

Recommendations

Lake Ramsey has a surprisingly well-balanced fish population, with both largemouth and crappie in above average condition. The forage base is good and well structured, providing enough food to keep the larger fish plump and healthy. The redear population contains a number of harvestable fish and their average size is larger than that of the adult bluegill. There are several management recommendations that we feel will improve your fishing and fish populations. Those are listed below.

1. We are almost certain that the bass population is comprised of entirely native bass. The introduction of the F-1 Tiger Bass would improve the genetics of the bass population and result in faster growth and larger average size bass for your anglers. This is not an effort to manage for “trophy” bass, but to allow the average angler a better opportunity to catch larger bass and enhance the quality of their fishing experience. This can be accomplished by introducing 25 Tiger Bass fingerlings (2-inch) per acre during two or more consecutive years. We have successfully utilized this technique during the past 20 years. The key is to introduce the bass fingerlings in the early spring so that they are the same size or larger than your native spawn. We will have 2-inch fingerlings available during early May. These fish will cost approximately \$1.00 each delivered. Although we recommend Tiger Bass because the originally stocked fingerlings will be easier to catch, Florida bass fingerlings are available for the same price.
2. Develop additional deep-water structure to concentrate game fish, such as bass and crappie. Several areas in the lake are 12 to 20 feet deep and should have large areas of woody structure, such as oak tops or large cedars, added to concentrate both crappie and bass. This would certainly increase the catch rate for the average

angler during the summer, fall and winter. You could start with a few areas and expand the number each year. We have a large barge and have the equipment and expertise to create these the large structure areas.

3. We would suggest making a concerted effort to remove as many channel catfish as possible. There are a number of options, from having a special catfish rodeo to using trotlines and jug-fishing. Reducing the poundage of catfish would benefit the remaining game fish population.
4. Harvest bass that are less than 15 inches in length and return all bass that are larger. A daily creel limit of 10 bass would be reasonable, however, with the relatively light fishing pressure a limit is not needed from a biological aspect. Encourage the harvest of the 10- to 12-inch bass as this will be extremely important in keeping the bass population healthy. These small bass are already showing signs of crowding and if there is little harvest, this will get worse.

Electrofishing Invoice

Account: Lake Ramsey Homeowners Association

Invoice Date: October 30, 2012

Quantity	Description of Service	Price
1	Electrofishing Assessments with Report Including travel expenses	\$1000.00

Total: \$1000.00

Please make checks payable to:

**Mr. Barry Smith
P.O. Drawer 20050
Montgomery, AL 36120**