





FISH SURVEY REPORT

Lake Santee

Prepared For:

Lake Santee P.O.A.

13 Southwest Wrenn Parkway

Greensburg, IN 47240

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418 W. State Rd, 258
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Introduction

A survey of the fish community and other physical, biological, and chemical factors directly affecting the fish community was completed at Lake Santee on October 17, 2024. The major objectives of this survey and report are:

1. To provide a current status report on the fish community of the lake.
2. To compare the current characteristics of the fish community with established indices.
3. To provide recommendations for management strategies to enhance or sustain the sport fish community.

Water Chemistry

When managing an aquatic ecosystem the quality of water should always be considered first. If a lake or pond is perfectly constructed with abundant food and habitat, but has poor water quality, the fishery will ultimately suffer and never reach it's full potential. Although oxygen is typically not a year-round issue there are certain situations that can cause oxygen to drop to detrimental levels. If parameters such as pH or alkalinity are too low or too high it can put tremendous stress on the organisms living in it or even create a toxic environment all together. Other important parameters to consider are nitrogen and phosphorus levels. Nitrogen and phosphorus are two major nutrients that drive the plant growth in an aquatic ecosystem. If the ratio of nitrogen to phosphorus is below 17:1 there is potential for blue-green algae to become abundant. These species of algae can create a stressful environment for fish due to disruption of the food web.

Table 1. Selected lake and water quality parameters.

	Surface	Ideal Range
Acres	238.5	-
Temperature (F)	62.6	-
Dissolved Oxygen (ppm)	9.02	5.0+
pH	7.86	6-9
Alkalinity (ppm)	110	20+
Total Hardness (ppm)	144	20+
Total Phosphorus (ppm)	0.05	0.01-0.09
Total Nitrogen (ppm)	1.29	1.0-10.0

The results of selected physio-chemical parameters from Lake Santee are presented in Table 1. Dissolved oxygen, pH, alkalinity, and hardness levels were all in acceptable ranges. The lake had sufficient oxygen (>5.0 ppm) down to 21 feet and contained relatively uniform temperature and dissolved oxygen throughout the water column (Figure 1). The nitrogen to phosphorus ratio is 26:1 on the surface. This can indicate there is lower potential for blue-green algae growth during warmer months of the year, although it does not mean blue-green algae cannot be present. Still, it is a positive sign the lake continues to be suitable for green algae species.

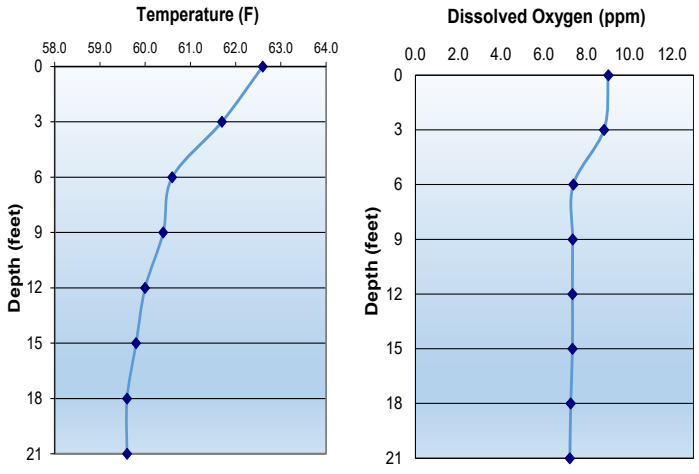


Figure 1. Temperature and Dissolved Oxygen profiles.



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Fish Collection

Fish sampling was done with the use of an electrofishing boat. Electrofishing is simply the use of electricity to capture fish for the evaluation of population status. Electrofishing equipment used in this survey consisted of a 16-foot aluminum boat equipped with a Midwest Lake Electrofishing Systems Infinity Box powered by a 6500-watt portable generator and two booms mounted with Wisconsin style rings. Electrofishing was done in transects for a total of 2 hours of shocking.

All fish collected were placed in water filled containers aboard the sampling boat for processing. Each fish collected was measured to the nearest half-inch. Five fish in each half-inch group were weighed to determine average and relative weights. Relative weight is a condition factor used to determine the overall plumpness of an individual fish. Relative weight values from 90-100 indicate good condition while anything under 90 is considered in poor condition. It can be assumed that fish with higher relative weights are finding enough food and are growing at a higher rate than fish with a lower relative weight.

A total of 802 fish weighing 394.88 pounds and representing eleven species was collected from Lake Santee. The relative abundance of these species can be found in figure 2 and a full data table can be found at the end of this report. The data collected are adequate for management implications; however, there will be unanswered questions regarding aspects of the fish population and other related factors of the biological community in the lake. All fish numbers used in the report are based on the samples collected and should not be interpreted to be absolute or estimated numbers of fish in the lake.

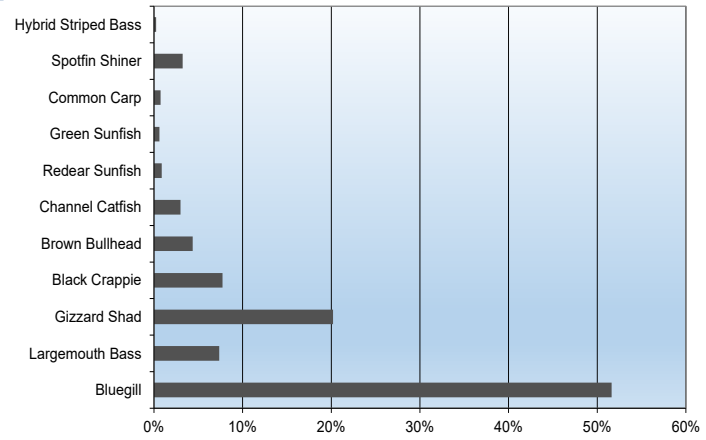


Figure 2. Relative abundance of species collected.





Largemouth Bass caught during survey.



Redear Sunfish caught during the survey

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Predator-Prey Relationship

Even the most diverse systems can be broken down into predator-prey relationships. Often times the Largemouth Bass-Bluegill relationship is the most important. Bluegill are a great prey item for Largemouth Bass because they spawn multiple times a year and are continually creating food for Largemouth Bass. Managing for one species typically involves influencing both and as one of these populations change the other typically changes with it. In a balanced state both Largemouth Bass and Bluegill can experience proper growth rates.



Bluegill

Lake Santee—Bluegill

Bluegill ranged in size from less than 3.0 to 7.0 inches (Figure 3). Approximately 27% of Bluegill collected were 3.0 inches or less, indicating reproduction did occur in 2024. There was a high proportion of individuals that are 6.0 inches in length and larger. This led to a proportional stock density (PSD) of 39, which is within the desired range of 20-40 for Bluegill (proportion of quality fish within a population). The relative weight values of Bluegill collected at Lake Santee ranged from 80 to 103 (Figure 4). Bluegill have low survival in early life stages, but a robust adult population.

Bluegill experience a high level of predation in early life stages. This has resulted in a relatively low abundance of 3.0-5.0 inch individuals (Figure 3). Once Bluegill reach 5.5 inches in length, their survival increases substantially because they are too large for the majority of predators. Much of the early life predation is due to overabundant Black Crappie with Largemouth Bass and other predators impacting some of the larger size classes.

Top-end growth in Bluegill is limited due to a high level of competition due to the high abundance of Bluegill accumulated in the 5.0-6.5 inch size categories. These individuals compete for similar food resources. Competition is also seen from other species. Gizzard Shad is the primary species that competes with Bluegill.

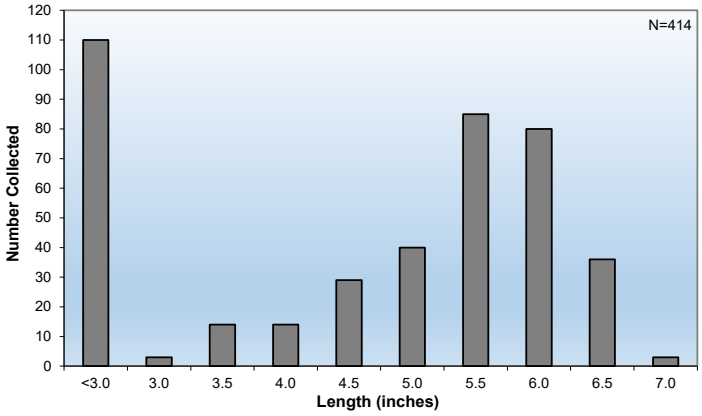


Figure 3. Length frequency distribution of Bluegill

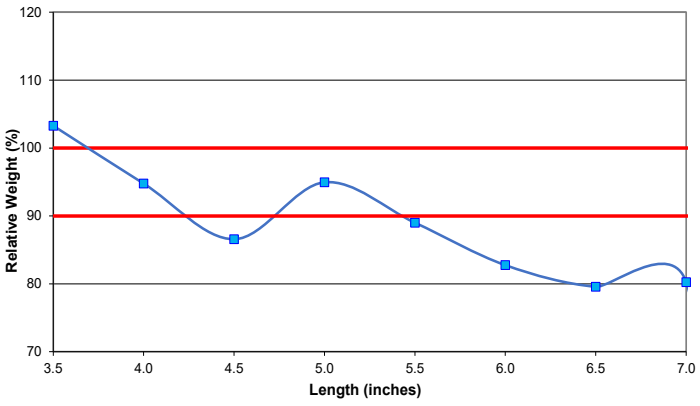


Figure 4. Bluegill relative weights

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Predator-Prey Relationship

Largemouth Bass are an opportunistic predator that will eat just about any species of fish they can catch. To keep a Largemouth Bass growing properly there needs to be several different sizes of forage available. This allows the bass to continually find the optimal size of prey as it continues to grow. When the optimal size of prey is available the fish can conserve energy, resulting in a higher growth rate. If the prey is too small a Largemouth Bass could potentially spend more energy chasing a meal than it gains by eating it. This results in skinny and slow growing fish. Managing a forage base to create a variety of sizes is key to creating a healthy and balanced Largemouth Bass population.

Lake Santee—Largemouth Bass

A total of 59 Largemouth Bass ranging in size from 3.5 to 20.5 inches was collected (Figure 5). Approximately 25% of Largemouth Bass are 8.0 inches in length and smaller. This indicates reproduction and recruitment are occurring. The majority of Largemouth Bass sampled were between 14.0 to 18.0 inches. This led to a PSD of 86 for Largemouth Bass, which is above the desired range of 40-60. Relative weights ranged from 77 to 120 (Figure 6). The majority of relative weights fell above the 90 mark. This is an indicator that most Largemouth Bass are finding enough food.



Largemouth Bass

Largemouth Bass have a flat size distribution with individuals distributed across a wide array of size classes. Largemouth Bass recruitment is low due to the high abundance of Gizzard Shad and micro-predators such as Bluegill. Gizzard Shad significantly impact Largemouth Bass spawning and recruitment success. Bluegill will raid Largemouth Bass nests, consume Largemouth Bass fry, and compete with young-of-year Largemouth Bass. Due to these interactions, the Largemouth Bass population has been supplemented to sustain quality fishing and improved balance.

Largemouth Bass relative weights are high across most size classes. Relative weights are lower between 11.0-15.0 inches in length. These lower relative weights correspond with a drop in the abundance of forage within their preferred forage size category. This is noted in Bluegill length frequency with the lower abundance of in <5.5 inch individuals.

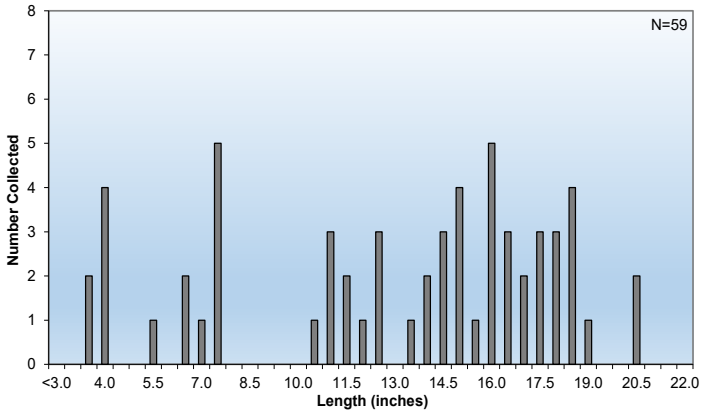


Figure 5. Length frequency distribution of Largemouth Bass

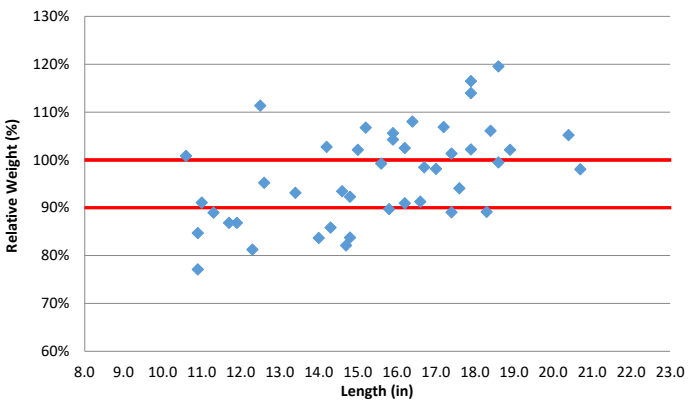


Figure 6. Largemouth Bass relative weights

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Bluegill Comparison

The Bluegill has seen a shift in PSD from 39 (2018) to 71 (2021) and back down to 39 (2024). The significant increase in PSD in the 2021 survey is due to their being a significantly less <6.0 inch individuals. This drop in intermediate sized Bluegill coincides with a higher catch rate and lower PSD in the 2021 Largemouth Bass data. This means that there was a higher abundance of smaller bass that was putting added predation pressure on small and intermediate Bluegill. One small change is the drop in max size of Bluegill, 7.5 inches in 2018 and 2021, and now 7.0 inches in 2024. This is another sign Bluegill are growing slowly. Relative weights are similar across all surveys.

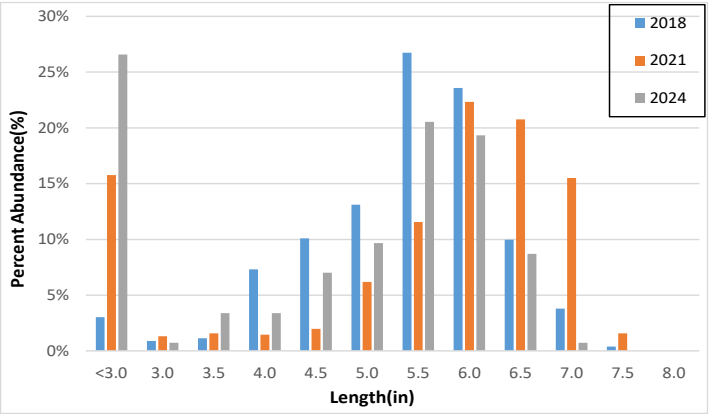


Figure 7. Bluegill length frequency comparison

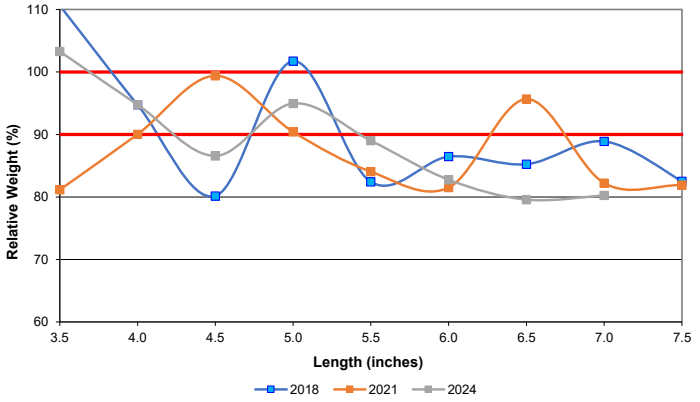


Figure 8. Bluegill relative weight comparison

Largemouth Bass Comparison

Overall the Largemouth Bass population is doing very well. Largemouth Bass PSD has shifted from 63 (2018) to 43 (2021) to 86 (2024). This means the population is largely dominated by adults at this time. The max length of 20.5 inches is the highest seen since 2007. There were two individuals caught at this length. Relative weights are similar across all surveys when looking at the average of each length group, but when looking at individual fish there was a higher number of relative weights above 100 in 2024. Reproduction and recruitment seem to undulate across surveys with the percent of Largemouth Bass below 8.0 inches changing from 17% in 2018 up to 53% in 2021, back down to 25% in 2024. This is to be expected with the presence of so many Gizzard Shad, Bluegill, and Black Crappie and is the reason supplemental stockings help so much.

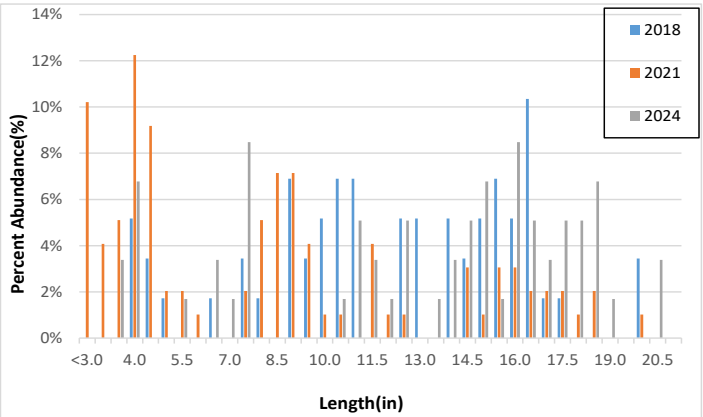


Figure 9. Length frequency distribution of Largemouth Bass

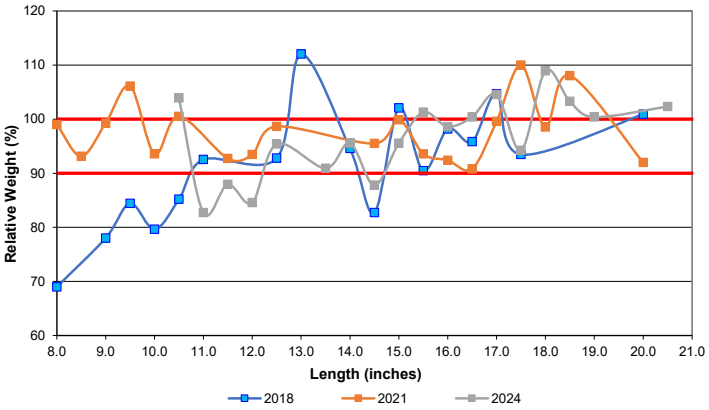


Figure 10. Largemouth Bass relative weights

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Predator-Prey Relationship (Gizzard Shad)

Gizzard Shad were also found in Lake Santee. This is another commonly known forage species that can make up a large percentage of a predators diet when available at smaller sizes, but can often come with more negatives than positives. The first issue caused by Gizzard Shad is the reduction in recruitment. Gizzard Shad are a filter feeding species that consume large amounts of phytoplankton and zooplankton. Unfortunately, this is exactly what all larval fish eat as soon as they are hatched. When Gizzard Shad are in large abundances they can compete with these larval fish for food and greatly impact recruitment of species such as Largemouth Bass.

In some lakes Gizzard Shad can reproduce very quickly and grow extremely fast. These may sound like great attributes for a forage fish, but often times Gizzard Shad grow too large for Largemouth Bass to consume. While the juvenile size classes of Gizzard Shad are beneficial as forage, they provide no benefit at adult size classes and can have negative impacts on water quality. Without a large enough predator to consume them these fish will never transfer their biomass up the food chain into a more desirable fish. Due to these issues the Gizzard Shad population should be closely monitored and the following management options should be considered.

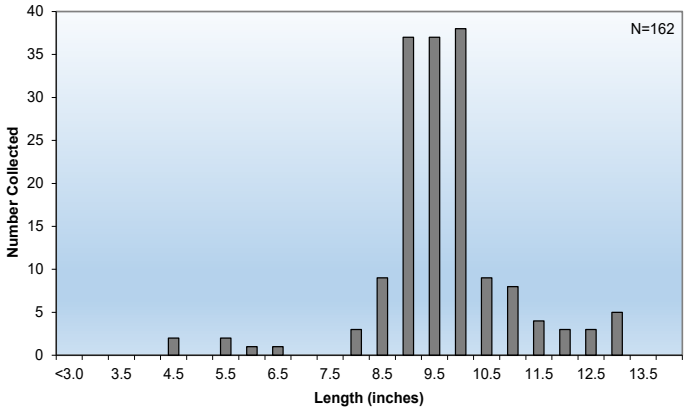


Figure 11. Length frequency distribution of Gizzard Shad



Gizzard Shad

Management Options

There are only a few options when trying to manage Gizzard Shad populations. One method is chemical eradication. This can be very costly on large lakes and results in dead fish throughout the lake. The other method commonly used to manage Gizzard Shad in impoundments is the supplemental stocking of large predators such as Hybrid Striped Bass or Muskellunge. By introducing a large apex predator some of the adult sized Gizzard Shad can then be consumed. This does not always improve the recruitment issue previously discussed, but it does provide an additional angling opportunity to the lake. If the Gizzard Shad population is large enough these stockings can be done with little to no impact on the existing Largemouth Bass fishery.

Lake Santee Gizzard Shad

Lake Santee Gizzard Shad are predominantly accumulated in large size classes that are not available to the majority of predatory fish (Figure 11). Gizzard Shad continue to impact the recruitment of Largemouth Bass. Supplemental Largemouth Bass and Hybrid Striped Bass stockings will need to take place in order to maintain the quality of those fisheries.

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Harvest

Harvesting fish is often one of the most important and under utilized management practices in a pond or lake. Harvesting, or culling, fish is simply the act of intentionally removing fish from a specific population to decrease competition among the remaining individuals. The culture of catch and release bass fishing started in the 1970's and still has a strong hold on fisherman today. There is a misconception that taking a fish out of a system will be detrimental to the population and if released someone could catch that fish again after it has "grown up." The reality is in some situations there is too much competition and the next time that fish is caught it could be the exact same size a year later. By removing that fish, and others, it leaves more food available for the remaining individuals to continue to grow each and every year.



Example of Stunted Largemouth Bass

Ponds and lakes can both become overrun with predators or prey. Each scenario presents a different set of problems. In a predator (Largemouth Bass) dominant system prey populations are decimated and the lack of food results in slow or stunted growth. In a prey (Bluegill) dominated system spawning and recruitment success of other species can be negatively impacted due to egg predation or direct competition with young-of-year fish, along with slow growth within the population.

Fixing these issues requires targeted annual harvest. In an unbalanced system generally only one species requires a heavy amount of the harvest, while in a balanced system fish should be removed from most populations to maintain a continuous level of growth.

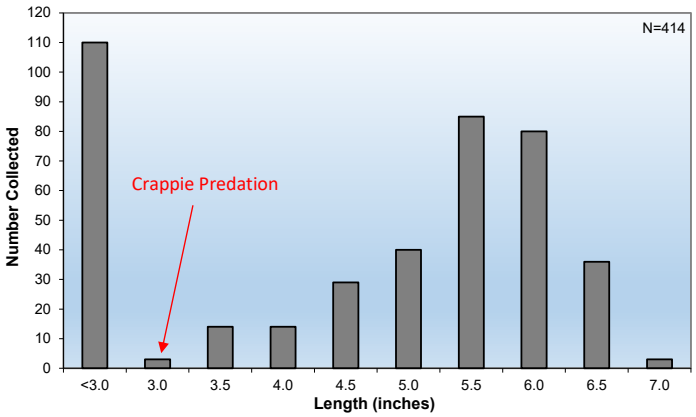


Figure 12. Bluegill length frequency distribution

Black Crappie are the main species that should be harvested. Black Crappie were extremely abundant within the survey data and occupy size classes that are commonly considered "stunted" size classes. Crappie are a small-gaped predator that can put a large amount of predation pressure on forage in their early life stages. This often results in a dramatic drop in Bluegill abundance between the <3.0 and 3.0 inch size classes followed by a gradual increase in abundance (Figure 12).

Common Carp, Bullheads, and Green Sunfish should be harvested when caught. These species are considered non-desirable and can create competition for food resources with sport fish species. Bluegill can be harvested when caught. Bluegill are extremely abundant and are resilient to harvest.

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Structure and Habitat

Structure and habitat are an extremely important factor to consider no matter what body of water is being managed. Just like anything else, the amount of structure in a lake should be kept in moderation. Too much or too little can lead to predictable scenarios. When very little or no structure is available Largemouth Bass spend too much time roaming around looking for food instead of saving energy and waiting near a piece of structure for food to swim by. The other end of the spectrum allows so many places for Bluegill or other prey species to hide that Largemouth Bass can't efficiently catch their prey. In both scenarios Largemouth Bass tend to have low relative weights even with proper harvest rates in place. In most cases roughly 20% of the shoreline containing structure is sufficient. This number can vary depending on the complexity of the cover.

Adding structure to a pond can be beneficial in a variety of ways. It can be a great way to increase the survival of small juvenile fish. This provides a forage base with a wide range of sizes available for your predators. Another benefit of adding structure to a pond is that they attract fish. Strategically placing structure can give you places that you can reliably catch fish.

Fish structure can take many different forms . Aquatic vegetation, brush piles, Christmas trees, and a variety of man-made structures can all be utilized by fish. All of these different structure types have different benefits that make them good management options. Aquatic vegetation



Pickerelweed



Largemouth Bass utilizing a Mossback Root Wad Kit

grows on its own but can be hard to manage at times. Brush piles and Christmas trees are often free, but will break down over time and need to be replaced. Manufactured structure can be costly initially, but will last a lifetime. Variety is important when assessing structure in a body of water. Adding structures of varied complexity and in varied depth can help to provide habitat to a variety of fish at different stages of life.

In large bodies of water, artificial structure can be used to create productive fish attractors and to help provide sanctuary areas for small forage fish. This can improve angler opportunities and improve survival of forage fish in vulnerable life stages.

Some species of shoreline and submergent vegetation are also beneficial and utilize some of the nutrients in the lake. Angler reports mentioned the lake having more clarity on a more consistent basis in 2024. This can vary from year to year, but recent dredging projects may be responsible for this increased clarity. If increased clarity continues there is a higher likelihood of vegetation growing in the lake.

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Summary/Recommendations

Overall, Lake Santee has seen improvement in the size and weights of adult Largemouth Bass over the last 3 years. This data set and tournament results have proven this to be true. Other aspects of the fishery are largely unchanged. The lake continues to be highlighted by quality/trophy Largemouth Bass, quality Hybrid Striped Bass, quality Channel Catfish, and a low density of trophy Redear.

Redear is a species that should begin to be considered for future stockings. The presence of these trophy Redear showing up in recent surveys is likely due to the mystery snail population now found in Lake Santee. Redear consume snails very readily and now the population is producing some true trophy individuals. In a lake containing slow growing Bluegill and slow growing Black Crappie, Redear could become a panfish worthwhile for anglers to target. Additionally, they are great for the food web. Very few species can efficiently consume snails. Often the energy tied up in the large population of snails is stuck towards the bottom of the food web. Redear are species that can translate that energy/biomass into a fish for anglers to catch, but also into a fish that predators like Largemouth Bass and Hybrid Striped Bass can consume. Increasing Redear can “unlock” a largely untapped energy source in the lake and the small population of them now is showing the lake is currently capable of producing trophy individuals.

Gizzard Shad, Brown Bullhead, Bluegill and Black Crappie continue to be abundant. These species are likely the leading factors in the low recruitment of Largemouth Bass. Bluegill and Black Crappie are available for anglers to target, but are still not growing very well. Brown Bullhead and Common Carp should both be removed when caught. Largemouth Bass should continue to be catch and release only.

Largemouth Bass and Hybrid Striped Bass stockings should continue in order to support these fisheries. Hybrid Striped Bass can not reproduce and Largemouth Bass recruitment continues to be impacted by the myriad of species discussed throughout this report. An opportunity to stock improved genetics has risen recently with fish that have a genetically identified trophy pedigree. This would introduce more and new trophy genetics into the lake. Redear should be considered as well. Engaging in a Redear stocking plan will require large stockings over a 4-6 year period. More details can be discussed with Aquatic Control’s Fish Management Specialist if desired.

Lake Santee continues to lack complex habitat. The major habitat form present in the lake is rip rap shoreline and docks. Increasing complex habitat could help protect more juvenile fish. Of the 802 fish collected only 46 of them fell in the size groups of 3.0, 3.5, or 4.0 inches. This is due to a couple different factors, but lack of complex habitat plays a big role. Black Crappie density is the other major factor. Any habitat added will have to be out of the way of boats and swimmers and could be buoyed off if needed. Additionally, individual lot owners could place a small amount of habitat directly under their dock. This would attract fish to the area and keep the habitat out of the way of swimmers and boats.

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Summary/Recommendations

The following recommendations, **listed in order of importance**, will help protect and enhance the fishery in Lake Santee:

1. Stock 3,500 4.0-6.0 inch Largemouth Bass each year
    - Consider trophy pedigree option if desired
2. Stock 1,500 4.0-6.0 inch Hybrid Striped Bass each year.
3. Consider establishing sanctuary habitat areas with natural or artificial habitat.
    - Structure should be focused in <10.0 ft of water.
    - Sanctuary areas can be added to on a yearly basis.
    - Bathymetric Lake Mapping can help identify areas
4. Consider Redear stocking plan when budget allows
5. Bluegill Bag Limit: No limit (encourage harvest).
6. Largemouth Bass Bag limit: Catch and Release only.
7. Black Crappie Bag limit: No limit (encourage harvest).
8. Redear Sunfish Bag Limit: 5 per day.
9. Conduct a Fisheries Analysis survey in 2027.
10. Remove any Common Carp, Green Sunfish, and Brown Bullhead whenever caught.

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Other Species Present

Black Crappie (*Pomoxis nigromaculatus)*

Black Crappie are members of the Centrarchidae(Sunfish) family. Black Crappie can be difficult to manage in a pond ecosystem and in many cases are advised against in systems less than 10 acres. This is due to the tendency of Black Crappie becoming overabundant and stunted in smaller systems. In situations where Crappie are stocked, Black Crappie are usually the more advisable species due to lower reproduction in comparison to White Crappie. Black Crappie eat a variety of organisms while developing into adulthood, and then as adults tend to only eat small fish. Black Crappie tend to sit deeper in the water column and often do not show up well in electrofishing surveys.



Black Crappie



Channel Catfish

Channel Catfish (*Ictalurus punctatus)*

Channel Catfish are members of the Ictaluridae family. Channel Catfish can be problematic to a fishery if overabundant, but in small or moderate abundances, rarely cause problems. They are often desirable sportfish and can be good table fare. Channel Catfish are typically not represented very well in electrofishing surveys, and can often be more abundant than the data shows. Channel Catfish often do not have a high level of natural reproduction in small ponds and some lakes.

Common Carp (*Cyprinus carpio*)

Common Carp is in the Cyprinidae (Minnow) Family. Common Carp are a non-native, invasive species that can cause several problems. They consume a lot of food resources and tend to uproot aquatic vegetation, reducing water quality. Common Carp are also known to have detrimental effects on reproduction of many fish species by damaging spawning grounds. Common Carp should be removed when caught in order to reduce their impact on the fishery.



Common Carp

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Other Species Present

Brown Bullhead (*Ameiurus nebulosus*)

Brown Bullhead is in the Ictaluridae (Catfish) Family. Brown Bullhead will eat a variety of food items such as macroinvertebrates, small fish, detritus, etc. Brown Bullhead are not generally considered a desirable fish species. They can become very abundant and compete with more desirable species. They do not grow very large and are not often used as table fare.



Brown Bullhead



Green Sunfish

Green Sunfish (*Lepomis Cyanellus)*

Green Sunfish are a member of the Centrarchidae (Sunfish) family. Green Sunfish can be aggressive and competitive with Bluegill and other species for food and resources therefore they are generally considered an undesirable species. Green Sunfish look superficially like Bluegill. They can easily be distinguished by their larger mouths and more rounded pectoral fins

Redear Sunfish (Lepomis microlophus)

Redear Sunfish are a member of the Centrarchidae(Sunfish) family. Redear Sunfish are not as fecund (reproductively successful) as Bluegill and rarely become overabundant. They can grow to large sizes and are regularly sought after by panfisherman. Redear Sunfish primarily feed on mollusks and invertebrates and have been shown in many cases to reduce levels of parasitism in fish populations.



Redear Sunfish

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Other Species Present

Hybrid Striped Bass (*Morone ssp. X Morone ssp.*)

Hybrid Striped Bass are a member of the Moronidae (Temperate Bass) family. Hybrid Striped Bass can be a cross between a female Striped Bass and a male White Bass (Palmetto Bass) or Female White Bass and Male Striped Bass (Cherokee/Sunshine Bass). Hybrid Striped Bass are known to be aggressive predators that school and feed pelagically. Hybrid Striped Bass survive much better in smaller bodies of water than Striped Bass and grow to much greater sizes compared to White Bass. Hybrid Striped Bass are often used as a tool to manage Gizzard Shad populations in Lakes and Reservoirs.



Hybrid Striped Bass



Spotfin Shiner

Spotfin Shiner (*Cyprinella spilotera*)

Spotfin Shiner is in the Cyprinidae (Minnow) Family. Spotfin Shiner are a desirable forage fish species for a variety of predators. Spotfin Shiner have a distinct dark blotch on the last 2-3 dorsal fin membranes.

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Fish Collection Tables

SIZE GROUP (IN)	NUMBER	PERCENTAGE	AVERAGE WEIGHT (lbs.)	TOTAL WEIGHT (lbs.)	WS	RELATIVE WEIGHT
BLUEGILL						
<3.0	110	26.57%	0.01	1.10	-	-
3.0	3	0.72%	0.02	0.05	0.02	-
3.5	14	3.38%	0.03	0.39	0.03	103
4.0	14	3.38%	0.04	0.56	0.04	95
4.5	29	7.00%	0.05	1.57	0.06	87
5.0	40	9.66%	0.08	3.36	0.09	95
5.5	85	20.53%	0.11	9.18	0.12	89
6.0	80	19.32%	0.13	10.72	0.16	83
6.5	36	8.70%	0.17	6.05	0.21	80
7.0	3	0.72%	0.22	0.65	0.27	80
TOTAL	414			33.63		
LARGEMOUTH BASS						
3.5	2	3.39%	0.02	0.04	0.02	-
4.0	4	6.78%	0.03	0.12	0.03	-
5.5	1	1.69%	0.07	0.07	0.07	-
6.5	2	3.39%	0.14	0.27	0.13	-
7.0	1	1.69%	0.14	0.14	0.16	-
7.5	5	8.47%	0.18	0.89	0.20	-
10.5	1	1.69%	0.61	0.61	0.59	104
11.0	3	5.08%	0.56	1.69	0.68	83
11.5	2	3.39%	0.69	1.38	0.78	88
12.0	1	1.69%	0.76	0.76	0.90	85
12.5	3	5.08%	0.98	2.93	1.02	95
13.5	1	1.69%	1.19	1.19	1.31	91
14.0	2	3.39%	1.41	2.81	1.47	96
14.5	3	5.08%	1.44	4.33	1.64	88
15.0	4	6.78%	1.75	7.00	1.83	96
15.5	1	1.69%	2.06	2.06	2.03	101
16.0	5	8.47%	2.22	11.10	2.25	99
16.5	3	5.08%	2.49	7.48	2.48	100
17.0	2	3.39%	2.86	5.71	2.73	105
17.5	3	5.08%	2.82	8.47	3.00	94
18.0	3	5.08%	3.57	10.71	3.28	109
18.5	4	6.78%	3.70	14.78	3.58	103
19.0	1	1.69%	3.91	3.91	3.89	100
20.5	2	3.39%	5.08	10.16	4.96	102
TOTAL	59			98.61		

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Fish Collection Tables

Gizzard Shad

4.5	2	1.23%	0.03	0.05
5.5	2	1.23%	0.05	0.10
6.0	1	0.62%	0.09	0.09
6.5	1	0.62%	0.10	0.10
8.0	3	1.85%	0.17	0.52
8.5	9	5.56%	0.21	1.91
9.0	37	22.84%	0.24	9.03
9.5	37	22.84%	0.29	10.66
10.0	38	23.46%	0.38	14.52
10.5	9	5.56%	0.38	3.40
11.0	8	4.94%	0.43	3.47
11.5	4	2.47%	0.47	1.86
12.0	3	1.85%	0.51	1.53
12.5	3	1.85%	0.64	1.93
13.0	5	3.09%	0.73	3.67
TOTAL	162			52.83

Black Crappie

3.0	1	1.61%	0.02	0.02
3.5	1	1.61%	0.02	0.02
4.0	1	1.61%	0.03	0.03
5.0	1	1.61%	0.07	0.07
6.0	7	11.29%	0.10	0.67
6.5	19	30.65%	0.12	2.32
7.0	26	41.94%	0.13	3.33
7.5	5	8.06%	0.15	0.77
8.0	1	1.61%	0.19	0.19
TOTAL	62			7.42

Brown Bullhead

8.5	1	2.86%	0.31	0.31
9.0	2	5.71%	0.33	0.66
9.5	5	14.29%	0.42	2.12
10.0	10	28.57%	0.49	4.92
10.5	8	22.86%	0.55	4.42
11.0	7	20.00%	0.62	4.37
12.0	1	2.86%	0.73	0.73
12.5	1	2.86%	1.08	1.08
TOTAL	35			18.60

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Channel Catfish

16.0	3	12.50%	1.25	3.76
16.5	1	4.17%	1.45	1.45
17.5	1	4.17%	1.85	1.85
18.0	3	12.50%	1.90	5.70
19.0	3	12.50%	2.23	6.70
19.5	6	25.00%	2.39	14.32
20.0	1	4.17%	2.57	2.57
20.5	1	4.17%	2.53	2.53
21.0	3	12.50%	3.00	9.01
22.0	1	4.17%	3.67	3.67
24.0	1	4.17%	5.31	5.31
TOTAL	24			56.87

Redear Sunfish

7.0	2	28.57%	0.26	0.52
10.0	1	14.29%	0.97	0.97
10.5	1	14.29%	1.05	1.05
11.0	1	14.29%	1.14	1.14
11.5	1	14.29%	1.45	1.45
12.0	1	14.29%	1.57	1.57
TOTAL	7			6.70

Green Sunfish

3.5	1	20.00%	0.03	0.03
4.0	2	40.00%	0.05	0.10
4.5	1	20.00%	0.06	0.06
5.5	1	20.00%	0.11	0.11
TOTAL	5			0.30

Common Carp

27.5	1	16.67%	10.32	10.32
29.0	1	16.67%	11.28	11.28
31.0	1	16.67%	17.89	17.89
31.5	1	16.67%	15.10	15.10
33.5	1	16.67%	19.86	19.86
34.0	1	16.67%	23.50	23.50
TOTAL	6			97.95

Spotfin Shiner

<3.0	23	88.46%	0.01	0.23
3.0	2	7.69%	0.01	0.02
3.5	1	3.85%	0.02	0.02
TOTAL	26			0.27

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Hybrid Striped Bass

26.0	1	50.00%	8.92	8.92
26.5	1	50.00%	12.78	12.78
TOTAL	2			21.70

Species	Scientific Name	N	%N	Size Range (in.)	Total weight (lbs.)	%Wt.	N/hr.
Bluegill	*Lepomis macrochirus*	414	51.62%	<3.0-7.0	33.63	8.52%	207
Largemouth Bass	*Micropterus salmoides*	59	7.36%	3.5-20.5	98.61	24.97%	30
Gizzard Shad	*Dorosoma cepedianum*	162	20.20%	4.5-13.0	52.83	13.38%	81
Black Crappie	*Pomoxis nigromaculatus*	62	7.73%	3.0-8.0	7.42	1.88%	31
Brown Bullhead	*Ameiurus nebulosus*	35	4.36%	8.5-12.5	18.60	4.71%	18
Channel Catfish	*Ictalurus punctatus*	24	2.99%	16.0-24.0	56.87	14.40%	12
Redear Sunfish	*Lepomis microlophus*	7	0.87%	7.0-12.0	6.70	1.70%	4
Green Sunfish	*Lepomis cyanellus*	5	0.62%	3.5-5.5	0.30	0.08%	3
Common Carp	*Cyprinus carpio*	6	0.75%	27.5-34.0	97.95	24.81%	3
Spotfin Shiner	*Cyprinella spiloptera*	26	3.24%	<3.0-3.5	0.27	0.07%	13
Hybrid Striped Bass	*Morone chrysops X Morone saxatilis*	2	0.25%	26.0-26.5	21.70	5.50%	1
Total		802			394.88		

N = number of individuals
%N = percent number of a species as compared to the total number of fish collected
%Wt = percent weight of a species as compared to the total weight of all fish collected
N/hr. = catch rate of species (number of fish of a species collected per hour of electrofishing effort)