



FISH SURVEY REPORT

Lake LeAnn South Basin

Prepared For:

Robert Halstead

PO Box 308

Somerset Center, MI 49282

Introduction

A survey of the fish community and other physical, biological, and chemical factors directly affecting the fish community was completed at Lake LeAnn South Basin on May 27, 2026. 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

Table 1. Selected lake and water quality parameters.

	Surface	Ideal Range
Acres	269	-
Temperature (F)	74.4	-
Dissolved Oxygen (ppm)	9.15	5.0+
pH	8.5	6-9
Alkalinity (ppm)	202	20+
Total Hardness (ppm)	238	20+
Total Phosphorus (ppm)	0.03	0.01-0.09
Total Nitrogen (ppm)	1.06	1.0-10.0

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.

The results of selected physio-chemical parameters from this waterbody 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) throughout approximately 18 feet of the water column. No thermocline was present at the time of the survey.

The nitrogen-to-phosphorus ratio was approximately 35:1 at the surface. Overall, water quality parameters indicate this waterbody appears capable of supporting a healthy fish population.

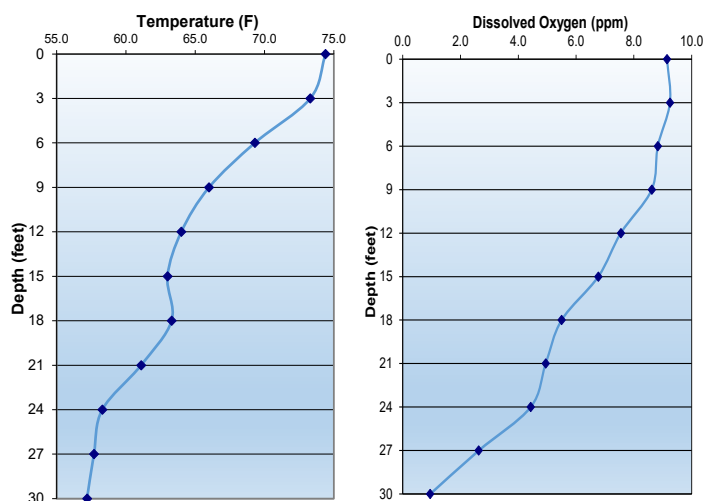
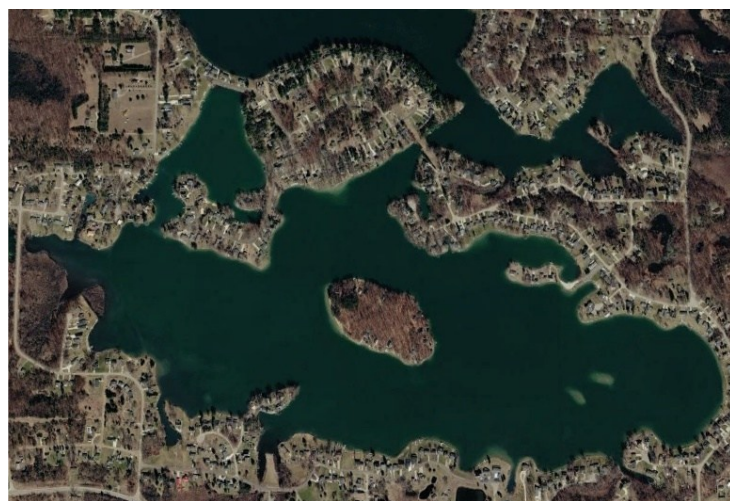


Figure 1. Temperature and Dissolved Oxygen profiles.



Lake LeAnn South Basin

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 around the entirety of the shoreline and totaled 75 minutes 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 412 fish weighing 164.85 pounds and representing twelve species was collected from Lake LeAnn South. 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

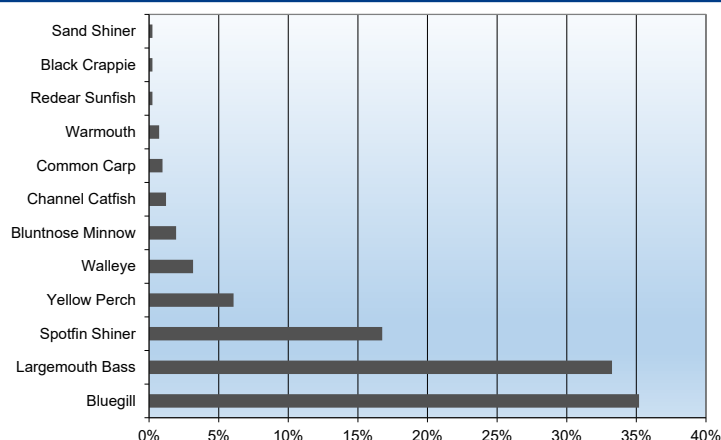


Figure 2. Relative abundance of species collected.



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



Largemouth Bass caught during survey.



Walleye caught during survey.

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.

Lake LeAnn South Basin—Bluegill

Bluegill were collected at a rate of 116 fish per hour during the survey, indicating moderate overall abundance. Approximately 28% of sampled Bluegill measured between 3–6 inches, demonstrating limited representation within the size range most important for supporting Largemouth Bass. Approximately 56% exceeded 6 inches in length, indicating that a substantial adult population remains present. Average Bluegill relative weight was 88, suggesting below-average body condition and competition for available food resources.



Bluegill

The Bluegill population appears to have low recruitment. The larger individuals within the Bluegill population appear to be reproducing; however, the predators are preying on most of the Bluegill fry before they are able to reach larger size classes. Based on data collected during the survey, there are not enough Bluegill present to support quality predator growth.

In terms of panfishing, anglers can expect to target 7.0-8.0 inch Bluegill, Redear were found up to 8.5 inches and Yellow Perch were found up to 10.0 inches. One 11.5 inch Black Crappie was collected as well.

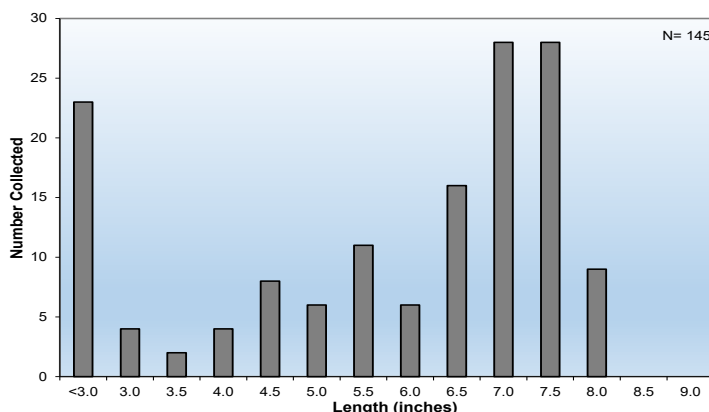


Figure 3. Length frequency distribution of Bluegill

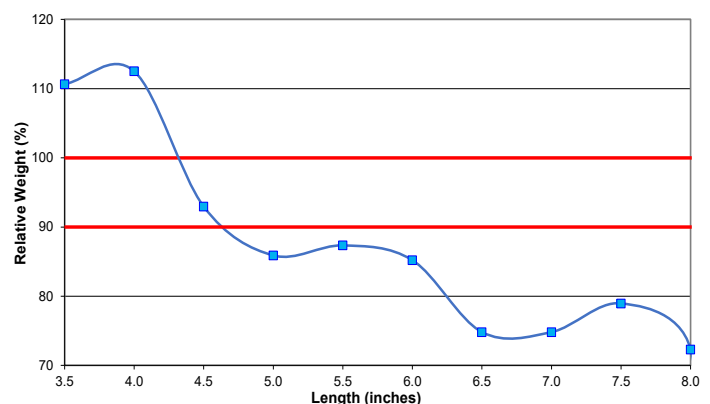


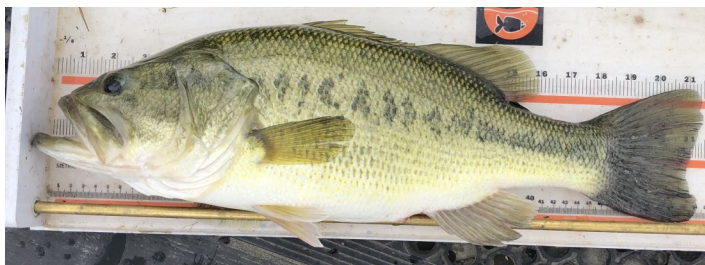
Figure 4. Bluegill relative weights

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 LeAnn South—Largemouth Bass

Largemouth Bass were collected at a rate of 110 fish per hour during the electrofishing survey, indicating an overabundant predator population and substantial competition among individuals. Relative weights averaged 75 for Bass between 8–12 inches, 76 for Bass between 12–16 inches, and 79 for Bass greater than 16 inches, demonstrating poor body condition and insufficient forage availability across all size classes. Only 3% of sampled Bass exceeded a relative weight of 90, while none exceeded 100, indicating that desirable body condition was extremely uncommon. Approximately 2% of sampled Bass exceeded 18 inches in



Largemouth Bass

length, demonstrating limited recruitment into quality-size classes.

Low relative weights and the spike in abundance of 8–12 inch Largemouth Bass indicate that Largemouth Bass are stunted and overabundant. Overabundance in the Largemouth Bass population creates a high level of competition between individuals. Over predation can cause adverse effects in populations of forage species, most importantly Bluegill. This becomes problematic for Largemouth Bass because, to grow to optimal sizes, they need prey in a variety of sizes as they grow. It is inefficient for larger predators to chase and capture very small Bluegill, so having an abundance of Bluegill in the 4–6 inch range is key to maintaining a healthy Largemouth Bass fishery.

While there are quality sized individuals present, anglers are likely going to struggle to catch them consistently due to the number of small Largemouth Bass in the system.

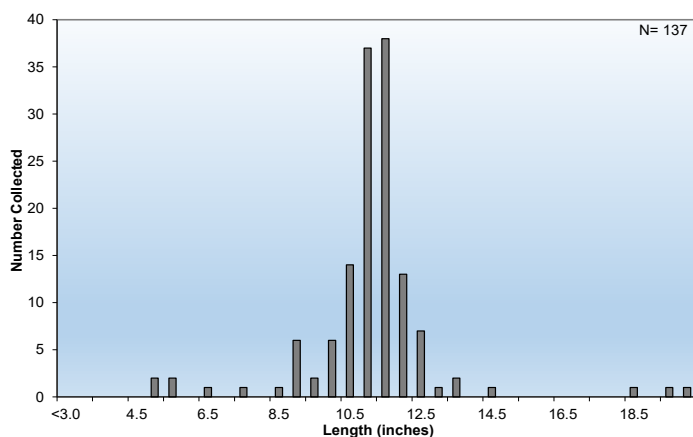


Figure 5. Length frequency distribution of Largemouth Bass

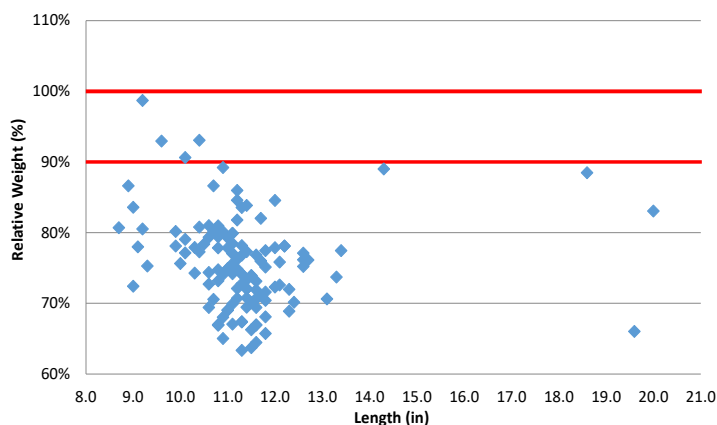


Figure 6. Largemouth Bass relative weights

Lake LeAnn South Basin Predators

Largemouth Bass are not the only predators in the lake. The lake has been stocked with Walleye, Black Crappie, and Yellow Perch.

Walleye

A total of 13 Walleye were collected ranging from 6.5-18.5 inches. A concerted effort has been made in the past 5-6 years to stock Walleye consistently. Based on the life span of Walleye and the recent stocking records, there have been approximately 18 Walleye stocked per surface acre. Based on the forage base and the Largemouth Bass population the growth of Walleye in the south basin is going to be extremely slow. There is a tremendous amount of competition for the predators in this lake at this time. An example of this is shown in the data sets. In the north basin an 18.5 inch Walleye was collected and weighed 2.25 pounds. In the south basin the 18.5 inch Walleye weighed 1.76 pounds. Almost a full half pound difference.

Black Crappie

Only one 11.5 inch Black Crappie was collected. Black Crappie do not show up well in electrofishing surveys due for their affinity for deeper water. This means the Black Crappie population is likely much higher than what the survey data would imply. Black Crappie have been stocked 3 times since 2015. At this time additional Black Crappie stocking are not recommended. Black Crappie are prolific spawners and can sustain their population without stocking. The current density of Black Crappie appears to be producing large individuals. If Black Crappie become overabundant in a lake of this size it can be extremely difficult to correct.

Yellow Perch

A total of 25 Yellow Perch were collected ranging from 3.5-10.0 inches. Yellow Perch have also been consistently stocked the last 5-6 years. Considering the life span of a Yellow Perch and the recent stocking records, there have been approximately 19 Yellow Perch stocked per surface acre. These stocking may have been more successful due to the lack of larger predators in the system at this time. Based on the findings of this survey the South Basin may be better suited to establish a more consistent Yellow Perch fishery.

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.

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



Example of Stunted Largemouth Bass

heavy amount of the harvest, while in a balanced system fish should be removed from most populations to maintain a continuous level of growth.

Lake LeAnn South Basin currently has an overabundant Largemouth Bass population. The lack of individuals over 14.0 inches in length and the extremely low relative weights is evidence of this (Figure 7). If the goal is to push this fishery towards a balanced state anglers should be encouraged to harvest Largemouth Bass. Over time this should result in seeing larger and healthier Largemouth Bass. Additionally, thinning the Bluegill population will likely result in better spawning and recruitment success in Bluegill and other forage species.

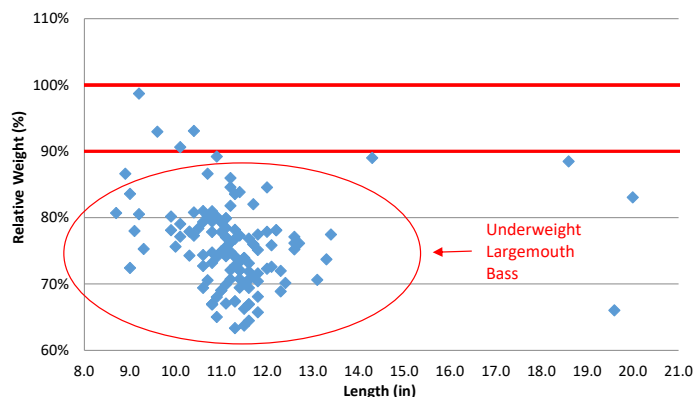


Figure 7. Largemouth Bass relative weights

In order to do this harvest regulations would have to be changed. More data would have to be collected and Michigan DNR would have to approve the request. If harvest regulations are not changed and only 14.0 inch Largemouth Bass and up can be harvested, the lake is likely to stay in this Largemouth Bass overcrowded state. With this situation in mind, the lake can be managed more as a pan fishing lake promoting Bluegill, Black Crappie and Yellow Perch.

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



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.

Lake LeAnn South Basin contains varying species and densities of vegetation. During the summer vegetation survey approximately 54% of the locations contained some amount of vegetation present. Without vegetation the lake has very little complex habitat. It is recommended to continue to promote native vegetation and focusing treatment on non-natives or areas of high boat traffic. Where permissible, leaving fallen trees would be of benefit to the fishery by increasing complex habitat in the lake.

Common Carp Impact

While the south basin was less in question, the data shows Common Carp having low impact. The Common Carp catch rate was low and the lake does still grow some large areas of vegetation. At this time there is not a need for a full scale Common Carp removal on the south basin.



Pickerelweed

Summary/Recommendations

The fishery is currently in an imbalanced state with overabundant predatory fish and underabundant forage fish. Harvest of Largemouth Bass will be the most important management practice moving forward, but state regulations may prevent harvest of the smaller Largemouth Bass. The process of changing the regulation can be explored more data is required. If regulations remain as they are, the fishery will likely stay in this state for the foreseeable future. Instead of producing quality Largemouth Bass fishing it will produce more quality Bluegill and Yellow Perch.

The Bluegill population contains a substantial number of adult fish, but limited representation within the important 3–6 inch size range indicates poor survival and recruitment of young Bluegill. This shortage of intermediate-sized forage is contributing to poor Largemouth Bass body condition. Habitat limitations likely compound these issues by reducing the amount of refuge available to young Bluegill and other forage species.

Various species of vegetation are found around the lake, creating good habitat. Leaving native species in non-nuisance areas is ideal. Non-native species or vegetation impeding boating areas and docks can be selectively treated. Hard structures such as fallen trees and stumps appear to be scarce. If trees fall into the lake it would benefit the fishery to leave them. If permits can be attained, implementing a long term habitat installation plan would benefit the fishery as a whole. Currently, the lake contains vegetation through approximately half of the year but when vegetation is not present there is very little habitat available.

Several different species have been stocked into Lake LeAnn South Basin over the years. Species such as Black Crappie, Smallmouth Bass, Fathead Minnows, and Hybrid Bluegill are all species that are not recommended moving forward. Black Crappie produce a tremendous amount of offspring and do not require regular stockings to keep a viable population. They do not reproduce successfully every year, but then they do they create very large year classes. Smallmouth Bass are going to always get outcompeted by Largemouth Bass. Their growth would be slow and consistent reproduction is unlikely. Stocking can be focused on Yellow Perch and/or Walleye. The south basin appears to have taken well to Yellow Perch stockings. Strong consideration should be put towards a consistent Yellow Perch stocking plan. Walleye are likely going to grow slowly and will only compound the competition Largemouth Bass are experiencing. The north basin is more suited for creating a consistent Walleye fishery.

Common Carp are a species of concern for Lake LeAnn. Based on the results of electrofishing data and the vegetation surveys conducted it does not appear Common Carp are a major influencer in the overall water quality concerns the community has. Common Carp would have been collected in higher abundance and the amount of vegetation present in the lake would be much less.

Summary/Recommendations

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

1. Stocking program can be discussed with Aquatic Control Fisheries Biologists.
 - Yellow Perch Stockings
 - 2026: 700 5-7" Yellow Perch
 - 2027: 700 5-7" Yellow Perch
 - 2028: 700 5-7" Yellow Perch
 - 2029: 700 5-7" Yellow Perch
 - Walleye Stockings
 - 2026: No Walleye Stocking
 - 2027: 400 6-8" Walleye
 - 2028: No Walleye Stocking
 - 2029: 400 6-8" Walleye
2. Alter size limits and bag limits to allow for harvest of Largemouth Bass under 13.0 inches
 - This recommendation is dependent on additional data being collected and approval by MDNR
3. Treat non-native vegetation and promote native vegetation in non-nuisance areas
4. Improve overall habitat in the lake with addition of woody and/or artificial habitat
 - Allow fallen trees to remain in the lake where possible
 - Implement long term habitat plan with a mix of woody and artificial habitat
 - This recommendation is dependent on approval of appropriate permits
5. Conduct a Fisheries analysis survey in 2029.

***A large scale Common Carp removal project is not recommended at this time.**

ALL PROPERTY OWNERS ARE RESPONSIBLE FOR FOLLOWING STATE AND LOCAL REGULATIONS WHEN MANAGING THEIR FISHERY.

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



Yellow Perch

Yellow Perch (*Perca Flavesces*)

Yellow Perch are in the Percidae (Perch/Walleye) Family. Yellow Perch consume a variety of organisms, including invertebrates, insects, and small fish. Yellow Perch are often desirable as a sportfish and are good table fare. Yellow Perch will not often have strong reproduction in pond settings and can compete with species like Bluegill and Largemouth Bass. Yellow Perch also tend to stay deeper in the water column and therefore do not show up well on electrofishing surveys.

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

Other Species Present

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 pan-fisherman. Redear Sunfish primarily feed on mollusks and invertebrates and have been shown in many cases to reduce levels of parasitism in fish populations.



Redear



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, and therefore need to be stocked if desired in many cases.

Walleye (*Sander vitreus*)

Walleye is a member of the Percidae (Perch/Walleye) family. Walleye will not reproduce in smaller bodies of water, or in bodies of water that lack proper substrate. In many bodies of water, Walleye will need to be stocked in order to keep viable numbers. Walleye will compete with Largemouth Bass and other predators for food resources, which will be something that needs to be taken into account. Walleye can be great sport fish when well managed and can be great table fare.



Walleye

Other Species Present

Spotfin Shiner (*Cyprinella spiloptera*)

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.



Spotfin Shiner



Warmouth

Warmouth (*Lepomis gulosus*)

Warmouth is in the Centrarchidae (Sunfish) Family. Warmouth have large mouths and feed on small fish and insects. Warmouth are considered an undesirable species because they compete with other more desirable predator species such as Largemouth Bass and White and Black Crappie.

Bluntnose Minnow (*Pimephales notatus*)

Bluntnose Minnow is in the Cyprinidae (Minnow) Family. Bluntnose Minnow are a small species of fish that can be desirable as a forage fish species. Bluntnose minnows can provide a good food resource for Black and White Crappie, Yellow Perch, and young developing Largemouth Bass.



Bluntnose Minnow

Other Species Present

Sand Shiner (*Miniellus stramineus*)

Sand Shiner is in the Cyprinidae (Minnow) family. Sand Shiners live in open clear water in schools where they feed on insects. Sand Shiners can serve as prey for predator species, but are rarely abundant enough in a lake setting to be a major forage species.



Sand Shiner caught during survey.

Fish Collection Tables

SIZE GROUP (IN)	NUMBER	PERCENTAGE	AVERAGE WEIGHT (lbs.)	TOTAL WEIGHT (lbs.)	WS	RELATIVE WEIGHT
<u>BLUEGILL</u>						
<3.0	23	15.86%	0.01	0.23	-	-
3.0	4	2.76%	0.02	0.08	0.02	-
3.5	2	1.38%	0.03	0.06	0.03	111
4.0	4	2.76%	0.05	0.19	0.04	113
4.5	8	5.52%	0.06	0.46	0.06	93
5.0	6	4.14%	0.08	0.46	0.09	86
5.5	11	7.59%	0.11	1.17	0.12	87
6.0	6	4.14%	0.14	0.83	0.16	85
6.5	16	11.03%	0.16	2.53	0.21	75
7.0	28	19.31%	0.20	5.66	0.27	75
7.5	28	19.31%	0.27	7.50	0.34	79
8.0	9	6.21%	0.30	2.74	0.42	72
TOTAL	145			21.90		

LARGEMOUTH BASS

5.0	2	1.46%	0.05	0.09	0.06	-
5.5	2	1.46%	0.06	0.12	0.07	-
6.5	1	0.73%	0.11	0.11	0.13	-
7.5	1	0.73%	0.15	0.15	0.20	-
8.5	1	0.73%	0.26	0.26	0.30	87
9.0	6	4.38%	0.30	1.84	0.36	84
9.5	2	1.46%	0.36	0.71	0.43	83
10.0	6	4.38%	0.41	2.43	0.50	81
10.5	14	10.22%	0.46	6.49	0.59	79
11.0	37	27.01%	0.52	19.08	0.68	76
11.5	38	27.74%	0.56	21.42	0.78	72
12.0	13	9.49%	0.66	8.61	0.90	74
12.5	7	5.11%	0.76	5.29	1.02	74
13.0	1	0.73%	0.84	0.84	1.16	72
13.5	2	1.46%	0.96	1.91	1.31	73
14.5	1	0.73%	1.40	1.40	1.64	85
18.5	1	0.73%	3.22	3.22	3.58	90
19.5	1	0.73%	2.84	2.84	4.23	67
20.0	1	0.73%	3.81	3.81	4.59	83
TOTAL	137			80.62		

Common Carp

21.0	1	25.00%	4.84	4.84		
22.0	1	25.00%	5.37	5.37		
23.0	1	25.00%	5.30	5.30		
27.0	1	25.00%	7.50	7.50		
TOTAL	4			23.01		

Fish Collection Tables

Yellow Perch

3.5	1	4.00%	0.01	0.01
4.0	2	8.00%	0.02	0.04
4.5	2	8.00%	0.03	0.05
5.5	4	16.00%	0.06	0.22
6.0	4	16.00%	0.08	0.33
6.5	2	8.00%	0.12	0.23
7.0	4	16.00%	0.13	0.51
7.5	2	8.00%	0.15	0.29
8.0	2	8.00%	0.20	0.39
8.5	2	8.00%	0.21	0.41
10.0	1	4.00%	0.36	0.36
TOTAL		25		2.83

Redear Sunfish

8.5	1	100.00%	0.43	0.43
TOTAL		1		0.43

Spotfin Shiner

<3.0	46	66.67%	0.01	0.46
3.0	9	13.04%	0.01	0.09
3.5	13	18.84%	0.01	0.13
4.0	1	1.45%	0.03	0.03
TOTAL		69		0.71

Warmouth

7.0	1	33.33%	0.27	0.27
7.5	1	33.33%	0.34	0.34
8.0	1	33.33%	0.35	0.35
TOTAL		3		0.96

Walleye

6.5	1	7.69%	0.07	0.07
7.0	1	7.69%	0.12	0.12
8.0	2	15.38%	0.17	0.33
8.5	2	15.38%	0.20	0.40
11.0	1	7.69%	0.42	0.42
12.5	1	7.69%	0.66	0.66
16.5	3	23.08%	1.37	4.11
17.5	1	7.69%	1.56	1.56
18.5	1	7.69%	1.76	1.76
TOTAL		13		9.43

Fish Collection Tables**Channel Catfish**

21.0	1	20.00%	4.30	4.30
21.5	1	20.00%	4.32	4.32
22.5	2	40.00%	4.97	9.93
23.5	1	20.00%	5.59	5.59
TOTAL		5		24.14

Bluntnose Minnow

<3.0	7	87.50%	0.01	0.07
3.5	1	12.50%	0.01	0.01
TOTAL		8		0.08

Black Crappie

11.5	1	100.00%	0.73	0.73
TOTAL		1		0.73

Sand Shiner

<3.0	1	100.00%	0.01	0.01
TOTAL		1		0.01

Species	Scientific Name	N	%N	Size Range (in.)	Total weight (lbs.)	%Wt.	N/hr.
Bluegill	<i>Lepomis macrochirus</i>	145	35.19%	<3.0 - 8.0	21.90	13.28%	116
Largemouth Bass	<i>Micropterus salmoides</i>	137	33.25%	5.0 - 20.0	80.62	48.91%	110
Spotfin Shiner	<i>Cyprinella spiloptera</i>	69	16.75%	<3.0 - 4.0	0.71	0.43%	55
Yellow Perch	<i>Perca flavescens</i>	25	6.07%	3.5 - 10.0	2.83	1.72%	1
Walleye	<i>Sander vitreus</i>	13	3.16%	6.5 - 18.5	9.43	5.72%	10
Bluntnose Minnow	<i>Pimephales notatus</i>	8	1.94%	<3.0 - 3.5	0.08	0.05%	6
Channel Catfish	<i>Ictalurus punctatus</i>	5	1.21%	21.0 - 23.5	24.14	14.64%	4
Common Carp	<i>Cyprinus carpio</i>	4	0.97%	21.0 - 27.0	23.01	13.96%	3
Warmouth	<i>Lepomis gulosus</i>	3	0.73%	7.0 - 8.0	0.96	0.58%	2
Redear Sunfish	<i>Lepomis microlophus</i>	1	0.24%	8.5	0.43	0.26%	20
Black Crappie	<i>Pomoxis nigromaculatus</i>	1	0.24%	11.5	0.73	0.44%	1
Sand Shiner	<i>Miniellus stramineus</i>	1	0.24%	<3.0	0.01	0.01%	1
Total		412			164.85		

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)