

April 29, 2024

Mr. Zeke Candler  
2412 Violet Circle  
Hoover, AL 35242

Dear Mr. Candler:

Enclosed, please find the Management Plan we recently completed for Brock Point Lake.

Brock Point Lake is presently functioning as a dynamic, slightly bass-crowded fishery. As such, our management recommendations center primarily on reducing the total number of adult predators (largemouth bass) and improving the conditions for the production of forage through enhancing the lake's fertility level and supplemental feeding:

- Largemouth bass (16" and less) should be harvested, up to a total of ~325 pounds per year.
- Maintain the current fertilization program in 2024.
- Maintain the current supplemental feeding program in 2024.
- Conduct an electrofishing balance assessment (Annual Evaluation) roughly one year from this date.

Mr. Candler, we are always available to discuss these recommendations or answer any other questions you might have.

Good fishing,

Mike Rigdon  
205-288-5664  
mrigdon@sepond.com

**SE POND**  
SOUTHEASTERN POND MANAGEMENT

Management Plan For  
**BROCK POINT  
LAKE**

April 17, 2024



# INTRODUCTION

As an integral part of the ongoing management program for Brock Point Lake, Southeastern Pond Management conducted a comprehensive evaluation of the 13 acre impoundment on April 17, 2024. A representative sample of the fish community was collected by electrofishing to accurately assess the present state of balance. In addition, a water chemistry test was conducted to determine total alkalinity. The degree of aquatic weed infestation was also recorded. Results of the assessments provide the basis for this management plan.

The goal of this management plan is to create and maintain a trophy LMB community in Brock Point Lake. The following evaluation report and management plan details and explains our recommendations with the follow goals in mind:

- Create condition favorable for the consistent production of “quality size” and “trophy size” largemouth bass.
- Create conditions favorable for the consistent production of “quality size” bluegill.
- Generally maintain a high level of water quality as well as an aesthetically pleasing environment for aquatic recreation.

It is important to note that quality fishing will not be accomplished “overnight”. As you read through this plan, bear in mind that the specific activities we have recommended are not one-time inputs, but rather a collection of ongoing management activities that will establish and maintain long-term quality fishing. Proper pond management, like the management of any natural resource, is an ongoing process. Each management input is recommended individually; however, it should be noted that the management program suffers if all activities are not implemented. Feel free to contact us and further discuss management ideas you may have.

Previous evaluations of Brock Point Lake have resulted in the thoughtful outline of management options in an effort to approach your stated management goals. Our latest findings, as well as results from previously applied management recommendations, are contained within the following pages.

	Quality Size	Trophy Size
<b>LMB</b>	<b>16-20"</b>	<b>20"+</b>
<b>Bluegill</b>	<b>7-10"</b>	<b>10"+</b>

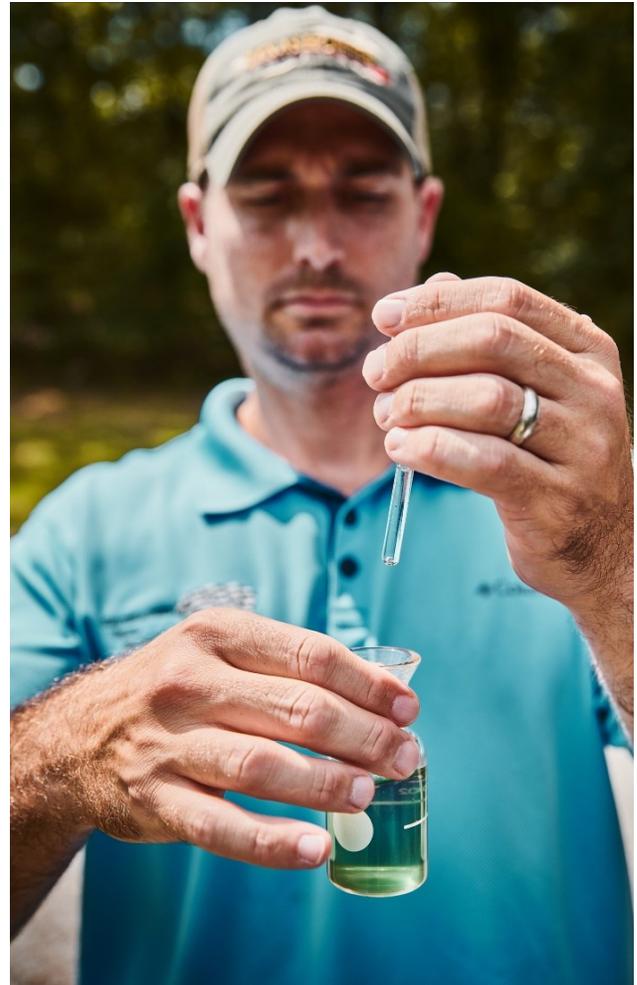


# LAKE ASSESSMENT

At the time of our visit, total water alkalinity in Brock Point Lake was measured at 25.2 parts per million (ppm). This level of alkalinity is above the minimum recommended threshold of 20 ppm, and represents conditions suitable for effective fertilization. Brock Point Lake has been fertilized adequately in the recent past, resulting in a light plankton bloom at the time of our visit. Automatic fish feeders are present on the lake and are reportedly maintained and filled regularly. The natural woody fish habitat was noted as showing signs of age and decay. Occasionally adding fresh brush to habitat areas will keep them attractive to fish.

During the evaluation, we did not observe any problematic aquatic vegetation. Aquatic weeds and problems associated with them will be discussed in the Aquatic Weed Control section.

Bass harvest was reported as moderate. This level of harvest has proven insufficient. Harvest, and its importance in structuring fish communities will be discussed in more detail in the Recommended Management Activities section of this report.



# FISH COMMUNITY BALANCE

Fish communities in ponds are governed by a predator-prey relationship. The interactions of predator and prey are characterized by a concept we refer to as *balance*. Suitable balance in a fish community is characterized by a healthy distribution of both predator and prey over a wide range of age and size classes. **Predators** are species which rely on fish as their primary food source. **Prey** species rely on sources other than fish.

Classic balance in small impoundments is defined by several parameters, most importantly a suitable ratio (by size and weight) of predator to prey. If one size-class becomes overly abundant or lacking, a condition of imbalance results. By analyzing an electrofishing sample it is possible to determine the state of balance within a given fish community.

In fisheries science, the condition of individual fish is used as another indicator of the overall balance of the fish community. Relative weight ( $Wr$ ) is an index used to categorize the *condition* of fish within a given population. Calculated  $Wr$  values greater than 100 indicate plump, robust fish.  $Wr$  values less than 100 suggest that individuals are in less than excellent condition,

perhaps the result of some predator: prey imbalance.  $Wr$  values less than 85 would indicate malnourished fish; a sign of intense competition for forage.

Figure 1 depicts balanced populations of predator and prey in a typical sport fish pond. Note that all sizes are well represented; no noticeable gaps are present.

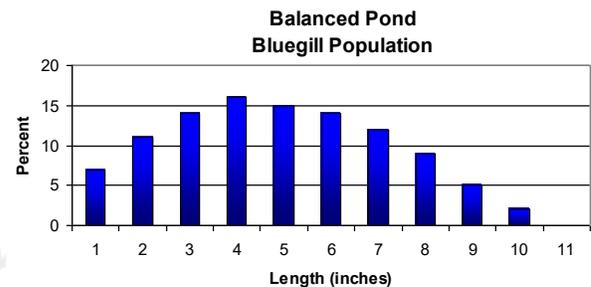
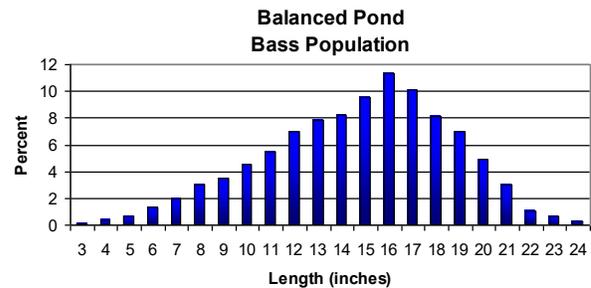


Figure 1. Length distribution of bass and bluegill in a typical balanced pond.



Predator and prey fish are measured and weighed to analyze the overall balance of the fish community.

# FISHERY ASSESSMENT

The fishery in Brock Point Lake was sampled with standard boat-mounted electrofishing equipment. The sample contained largemouth bass, coppernose bluegill and threadfin shad. Currently, largemouth bass are functioning as the primary predators in Brock Point Lake. The bluegill and shad are the prey.

Threadfin shad have become an important component of the forage base in Brock Point Lake. We observed several different size groups, indicating a healthy population. Maintaining a healthy shad population will be important for Brock Point Lake to continue producing quality and trophy size bass.

Bluegill were collected ranging in size from 3 to 10 inches in total length. Figure 2 depicts the length distribution of the bluegill population. Of note, a moderate amount of intermediate (3-5") bluegill and other forage was collected.

Largemouth bass ranging in size from 6 to 23 inches in total length were collected in moderate abundance. The length distribution of largemouth bass (Figure 3) reveals the presence of bass over a wide range of size classes. This represents a slight improvement from the previous

year, most likely the result of improved bass harvest, and the increase in available forage. The larger bass collected from Brock Point Lake were individually tagged with an identification number so their growth can be monitored (refer to the Tagged Fish Data section of the report).

The average relative weight of adult bass in our most recent sample additionally reflects a decline over last year. This year's average relative weight was 94, as compared to last year, which was 100 (Figure 4). Largemouth bass 16 inches and smaller represent the primary targets for harvest over the coming months. We harvested 126 pounds of bass during the evaluation.

Overall, we characterize the fish community in Brock Point Lake as slightly bass-crowded. A more detailed explanation of bass-crowded ponds in general, and Brock Point Lake in particular is located in the Current State of Balance section of this report.

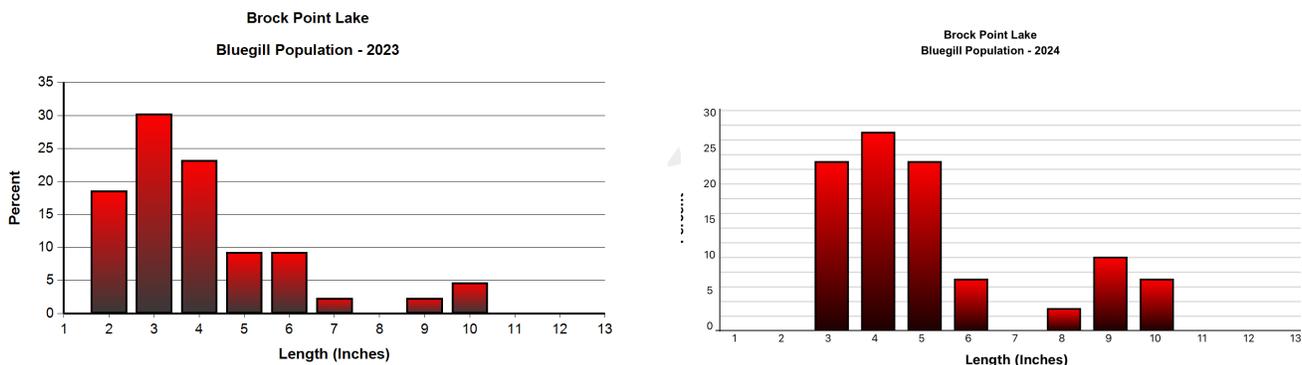


Figure 2. Comparison of the length distribution of bluegill collected from Brock Point Lake in March 2023 and April 2024.

# FISHERY ASSESSMENT

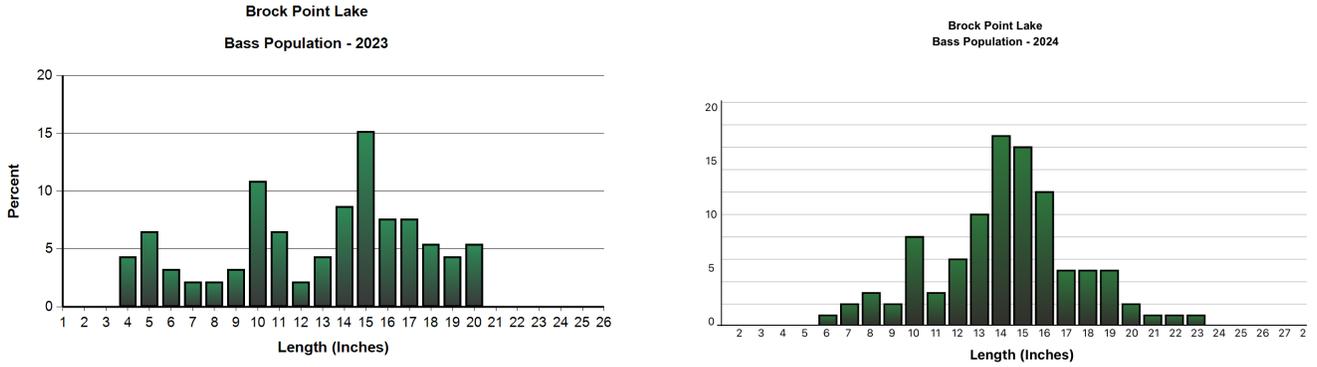


Figure 3. Comparison of the length distribution of bass collected in Brock Point Lake in March 2023 and April 2024.

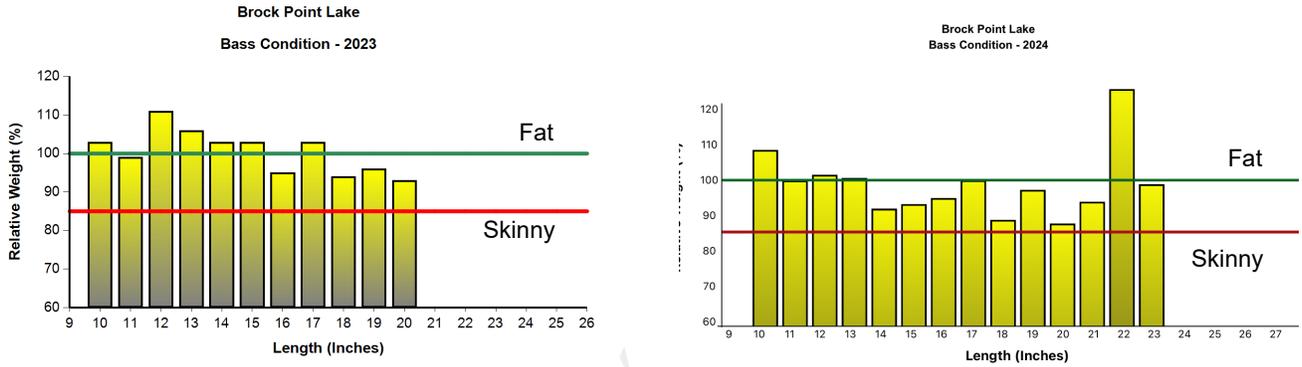


Figure 4. Relative weight distribution of adult largemouth bass collected from Brock Point Lake in March 2023 and April 2024.

# TAGGED FISH DATA

## Length, Weight, and Condition of Tagged Bass in Brock Point Lake April 17, 2024

Tag #	Length (in)	Weight (lbs)	Wr
24220	23.07	6.96	96.17 %
24219	20.43	4.94	100.63 %
24218	21.81	7.2	119.05 %



# BASS-CROWDED

Bass-crowded is a condition of imbalance that is common in private ponds and is characterized by large numbers of small, skinny bass, and relatively few but unusually large adult bluegill. In this scenario, bass growth is stunted due primarily to a lack of adequate nutrition. The largemouth bass is such an efficient predator that it will, if not controlled through responsible harvest, severely reduce its own food supply. Under these conditions, bass will perform poorly and will never reach their full growth potential.

Intermediate bluegill (3 to 5 inches) are critically important in sport fish ponds because they are the ideal size forage for young and juvenile bass. A low relative abundance of intermediate size prey is often an indication of a bass-crowded pond. Under these conditions, bass commonly become stunted between 8 and 14 inches. Bass in this size range require an ample supply of 3-5" prey in order to grow past the stunted size and become "quality" and "trophy" adults. When a condition of balance exists, intermediate size prey are among the most abundant segment of the overall fish community. As mentioned previously, our recent electrofishing sample from Brock Point Lake included moderate numbers of intermediate size bluegill, particularly in the 4 to 5 inch size range.

In bass-crowded populations, despite their overabundance and relatively poor condition, the adult bass spawn each year. Due to the presence of an actively reproducing prey population, these juvenile bass are able to grow quite well in their first year. In order to maintain this rate of growth past 8 to 10 inches however, they require a slightly larger prey item. In bass-crowded ponds, as the availability of slightly larger (3-5") prey is limited by over predation, the individuals bass growth stalls, and the pop-

ulation begins to show characteristics of stunting in these size groups. The numbers of these bass must be reduced through harvest. Inadequate harvest is most often the cause of the bass-crowded condition. Recent bass harvest was reported as "moderate" in Brock Point Lake. In a typical fertilized sport fish pond, **bass harvest is required** in order to prevent overcrowding. The old idea of "throw him back and catch him when he gets bigger" is not a sound approach in small impoundments. If sufficient harvest does not occur, the crowded condition perpetuates itself. This results in a less than quality bass fishery.

Strategies specifically geared toward improving the bass-crowded condition are discussed in the Recommended Management Activities section of this report.



Typical bass from a bass-crowded pond.

# FISH HARVEST

One of the keys to a balanced fish community, as well as the growth of trophy largemouth bass in your pond, is the selective removal of largemouth bass. Largemouth bass, when present with bluegill as their primary source of forage, produce an annual surplus which must be harvested in order to maintain balance. We generally recommend harvesting the smaller, more abundant size range of bass at a rate of **25 to 35 pounds per acre per year**. Bass harvest rates are designed to reduce the level of predation on the bluegill population as well as increase the growth rate and condition of the remaining bass. Recommended harvest quotas often change in response to population changes and should be reevaluated annually. Harvesting largemouth bass can be accomplished by the following methods:

- **Hook and Line Harvest:** Largemouth bass of the appropriate size should be removed whenever they are caught up to the harvest goals. A record should be kept of the total number and weight of bass removed during each fishing trip. Larger bass, those presently exceeding the size limit, may be “protected” since these represent the potential trophy bass in the pond.

- **Electrofishing Harvest:** Selective bass harvest through electrofishing is a particularly effective management tool. This method of harvest may be quite productive if hook-and-line efforts are not adequate. The cost for this service is based on time spent (hourly). We will keep close records of the total number and weight of individuals removed.

One important point is that bluegill and shell-cracker harvest is strictly optional in balanced ponds. It is not necessary to harvest a certain weight of bluegill per acre to maintain the predator/prey balance or to prevent bluegill overpopulation. The bass will more than adequately control bluegill numbers. Typically, a generous amount of adult bluegill can be harvested in a well-fertilized, balanced lake. However, over-harvest of bluegill may be a concern, depending on the number of anglers and fishing pressure. We often recommend limiting bluegill harvest to **10 per person per day** in bass-crowded ponds to prevent over-harvest. In severely bass-crowded ponds, we recommend **suspending bluegill harvest** until the population increases through management efforts.



# FERTILIZATION

The concept of *carrying capacity* describes the total biomass (i.e., weight) of fish a pond is capable of producing. A given body of water, subject to varying levels of fertility, has a finite limit, or carrying capacity, in terms of the overall biomass which it can support. Lake fertility limits the number as well as the average and maximum size of fish present.

The limiting nutrient in most freshwater systems, as it relates to plankton production and a generally high level of fertility, is phosphorous. Phosphorous must be added on a regular basis during the growing season in order to stimulate significant plankton growth. Plankton, both plant and animal, are the base of the food chain in ponds. Infertile ponds, those with low alkalinity and relatively little nutrient input, are characterized by low levels of plankton production. In effect, this limits the amount of food available to the small insects and insect larvae which are the next link in the food chain.

The *ripple effect* of low fertility is observed far up the food chain, all the way to the primary predators, largemouth bass. In order to create and maintain a high level of plankton production, thus providing conditions most favorable for fish production, fertilizing on a regular basis is required. Fertilization takes place during the growing season, from March through October.



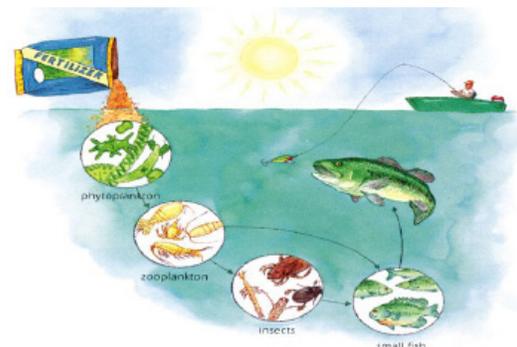
When you subscribe to our Fertilization Service, our technicians will routinely visit your pond and properly apply fertilizer. A well fertilized pond should have 18 to 24 inches of visibility.

We recommend SportMAX® Water Soluble Pond Fertilizer (10-52-4), applied at a rate of 4-8 pounds per surface acre per application. Fertilizer should be applied according to the [Standard Pond Fertilization Schedule](#):

- Beginning in early March, make three applications at two week intervals.
- Make the next three applications at three week intervals.
- Thereafter, apply once per month or whenever visibility exceeds 18-24 inches.
- Cease fertilization by the end of October.

Our **Fertilization Service** completely removes the burden and nuisance of fertilizing your lake. Our trained technicians will visit your pond, at prescribed intervals, carefully measuring and recording water visibility and applying the proper dosage of fertilizer. Our visits are conveniently recorded on a small sign, situated on the pond bank. In addition, we regularly check and log total water alkalinity as well as keep an eye out for potentially problematic vegetation.

Fertilization is the most basic and important element necessary to create an environment conducive to the production and growth of sport fish. The cost of our Fertilization Service is listed in the Recommended Management Activities section of this report.



Food chain in a typical pond

# SUPPLEMENTAL FEEDING

Feeding bluegill pellet food is a proven management practice used to increase the number of “quality” and “trophy” size bluegill in ponds. Feeding produces unusually large and healthy bluegill and increases their reproductive potential. In addition, feeding concentrates fish for improved catch rates and provides entertainment from watching the fish eat. Given these benefits we recommend maintaining the feeding program in your pond.

In an effort to benefit the entire bluegill population, fish food should be applied from at least 1 feeding station for every 5 acres of water. Each feeding station should dispense feed at a rate of 5-10 lbs/day during the growing season (March - October). The daily ration should be divided into 3 short feeding periods, such as: early morning, late morning, and late afternoon. Several short periods are necessary to reduce feed waste because bluegill have small stomachs and will not consume much at once. Most commercial floating catfish fingerling pellets are suitable for feeding bluegill. These types of feeds are readily available on the market; Purina® makes an excellent pellet, under the name, “Game Fish Chow”. Game Fish Chow is made up of sizes that can be consumed by a wide size range of bluegill.

For an additional boost to the bluegill population, feeding in the winter is an option. Winter feeding keeps the bluegill plump and healthy during a period when natural food is not readily available. To improve consumption in the cold months, a sinking feed may be used. Sinking feed can be purchased during the winter at most dealers that normally stock fish food. Several feeding periods should be maintained for the winter also. However, the timer on the feeder should be changed in late October to adjust for the shorter day length.

We market Sweeney and Texas Hunter automated game and fish feeders. Simply put, these feeders are the finest of their kind. Sweeney directional feeders are offered in two sizes (AF1100 - 75 pound capacity and AF1300 - 225 pound capacity) and three colors (galvanized, hunter green and camo). Texas Hunter directional feeders are offered in three sizes (LM135 - 70 pound capacity, LM175 - 100 pound capacity, and LM435 - 250 pound capacity) and they are only available in green. They are powered by rechargeable 12-volt batteries and most models come equipped with a solar charger. Sweeney and Texas Hunter directional feeders may be conveniently mounted on the bank or on piers.



A good bluegill feed has several different pellet sizes.



Supplemental feeding attracts bluegill to certain areas so they are easier to catch.

# AQUATIC WEED CONTROL

Aquatic weed growth can be a serious problem in recreational ponds. Weeds use up important nutrients in fertilizers that are intended for fish production, as well as interfere with normal activities such as fishing and swimming. In addition, excessive weed growth detracts from the aesthetic value of a pond, particularly if it is the focal point of a recreational area.

There are three approaches we use to prevent or reduce unwanted aquatic weeds. They can be placed in 3 different categories: chemical control, biological control, and sunlight-limiting control. Often, an integrated approach involving a combination of these tools offers the most effective solution.

Chemical control involves the use of aquatically approved herbicides to reduce or eradicate aquatic weeds. Although chemical control can be costly on large areas, it is usually the best method for a quick response.

The most common form of biological control is stocking grass carp. Grass carp are often introduced into ponds at low stocking densities as a preventive measure before weeds become established. However, once weeds have become established, a higher density of grass carp is needed to control them. Grass carp readily eat a variety of common weeds, do not reproduce,

and are fairly inexpensive. Typically, grass carp become less effective when they reach 6 to 7 years old and must be restocked. One drawback to grass carp is their propensity to train on pellet food intended for bluegill; thereby reducing the effectiveness of a supplemental feeding program.

There are also a variety of water colorants or dyes that can be added to ponds before weeds become established that limit sunlight penetration and “shade out” certain types of weeds. A regimented fertilization program is often the most effective form of sunlight-limiting control. Typically, phytoplankton blooms stimulated early in the spring through fertilization can shade out potential weed growth before it becomes a problem.



Herbicide application is typically the quickest form of weed control.



Grass carp are often introduced for long-term control. Pond dyes temporarily limit sunlight to retard aquatic weed growth.

# DAM AND SHORELINE MAINTENANCE

Dam and shoreline maintenance should be addressed periodically to ensure the integrity of the dam and overall recreational value of the pond. The dam should be kept free of trees; roots may eventually tunnel into the dam, creating weak spots. If mature trees are already present, they should not be cut down, as dead and decaying roots are potentially more harmful. Generally, trees less than 4 inches in diameter at breast height do not have roots penetrating the core of the dam and should be removed before they become a threat to the structure of the dam.

In an effort to prevent erosion the entire dam should be covered with a manageable grass. Large rock is recommended at the waterline along the dam face if there is the potential for erosion from wave action. The spillway should also have some type of erosion prevention. The amount and frequency of water flow should determine the type. The bottom and sides of the spillway should be lined with large rock or concrete if water flows across it often.

For spillways that are used less frequently, well maintained grass provides sufficient erosion protection. Spillways should be checked periodically and any debris should be cleared. Additionally, the shoreline and surrounding watershed should be vegetated to prevent erosion and muddy water. If necessary, livestock should be provided limited access to the pond. Heavier vegetation should be trimmed or treated with herbicide.

Beavers and muskrats can cause aesthetic and structural damage to sport fish lakes. Large rock placed along the waterline of the dam will usually prevent beavers and muskrats from boring in. Trees can be protected by wrapping steel mesh around the base of the tree to a height of about 4 feet. Otters often visit ponds from nearby creeks and can have a significant impact of the fish population. Droppings with scales and fish bones are evidence of otter visits. These nuisance animals should be removed as soon as detected. Techniques include body-gripping traps, snares, foothold traps, and shooting. Permits and licenses may be required.



# ANNUAL EVALUATION

In addition to ongoing management, your pond should be checked on a regular basis. Our annual maintenance plan includes an aquatic weed assessment, a water test to determine lime requirement, and an electrofishing balance check to assess the fish community.

Regular electrofishing evaluations are necessary to assess the effectiveness of a management program. Electrofishing allows us to stay on top of the pond's condition in order to make necessary changes in management recommendations.



# MANAGEMENT RECOMMENDATIONS

Brock Point Lake is functioning as a slightly bass-crowded system that has a high level of fertility. Several management inputs are necessary to restore balance as well as increase the total density of sport fish. The management activities we are recommending for Brock Point Lake will center on reducing the total number of adult predators and enhancing the conditions for the production of forage.

To maintain a high density of sport fish as well as help control aquatic vegetation, we recommend continuing an intensive fertilization program in Brock Point Lake. SportMax® Water Soluble Pond Fertilizer (10-52-4) should be applied according to the *Standard Pond Fertilization Schedule*.

For Brock Point Lake, harvest bass 16 inches and smaller at a rate of 25 pounds per acre per year (325 lbs./yr.). The recommended bass harvest rate and size will likely change over the next few years as the fish community responds to management inputs. We recommend limiting bluegill harvest in Brock Point Lake to a “consumptive” level, meaning ONLY bluegill which are intended for table fare should be removed; the over-harvest of adult bluegill, particularly during the spawning season, may lead to a decrease in the total number of mature, adult bluegill and a corresponding decline in angling catch per unit of effort. Annual electrofishing evaluations will help determine if fish harvest recommendations should be adjusted.

We recommend maintaining an intensive supplemental feeding program in Brock Point Lake. Fish food should be applied from feeding stations at a rate of at least 5 lbs/feeder/day from March through October.

Aquatic weed control will also be an integral part of the management program for Brock Point Lake. We did not observe any problematic aquatic vegetation during the evaluation. However, many aquatic plants have the potential to multiply quickly and should be monitored closely, particularly during the growing season. We feel that the quickest and most efficient way to control aquatic weeds in Brock Point Lake, if they should become a problem in the future, is by herbicide application. Finally, additional cover in the form of brush or rock piles would increase the catch rates of sport fish in Brock Point Lake.

The management activities we recommend over the course of the next twelve months are listed in the following pages. In an effort to assist in the prioritization of these management inputs, we have developed a simple color-coding system. You will note this system in the bottom right-hand corner of the respective Management Recommendations to follow:

## LEVEL 1

Highest priority. Generally, require immediate attention.

## LEVEL 2

Secondary in importance to Level 1. Directed toward achieving your stated management objectives.

## LEVEL 3

Increase enjoyment and/or functionality of your pond but have less impact on the overall management program.

**ANNUAL HARVEST**  
**ANNUALLY**  
**2024**

**Current Status: Owner Responsibility**

**Approved**    **Declined**    **Done**

**Date Approved:** \_\_\_\_\_

**Date Done:** \_\_\_\_\_



**MANAGEMENT ACTIVITY:**  
Harvest ~325 pounds of LMB (16" inches and less)

**COST: Hook and line: N/A**  
**Electrofishing: \$450.00/hour.\***

\*An additional mileage charge will be added.

**LEVEL 1**

**FERTILIZATION ROUTE**  
**ANNUALLY**  
**2024**

**Current Status: Approved**

**Approved**    **Declined**    **Done**

**Date Approved:** \_\_\_\_\_

**Date Done:** \_\_\_\_\_



**MANAGEMENT ACTIVITY:**  
Continue the current fertilization program

**COST: \$ 284.17 per month\***

Price reflects your monthly (12) invoice amount. Fertilizer is applied by our trained technicians according to the *Standard Pond Fertilization Schedule*.

**LEVEL 1**

**SUPPLEMENTAL FEEDING**  
**ANNUALLY**  
**2024**

**Current Status: Owner Responsibility**

**Approved**    **Declined**    **Done**

**Date Approved:** \_\_\_\_\_

**Date Done:** \_\_\_\_\_



**MANAGEMENT ACTIVITY:**  
Continue feeding program.  
Feed at a rate of 5-10 pounds/day from each feeder

**COST: Cost of Food**

**LEVEL 2**

**ANNUAL EVALUATION**  
**SPRING 2025**

**Current Status: Awaiting Owner Approval**

**Approved**    **Declined**    **Done**

**Date Approved:** \_\_\_\_\_

**Date Done:** \_\_\_\_\_



**MANAGEMENT ACTIVITY:**  
Annual electrofishing evaluation

**COST: \$ 1,200.00\***

\* This price includes comprehensive written Management Report. An additional mileage charge will be added.

**LEVEL 2**









