April 21, 2022

Mr. Alan Roberts
P.O. Box 2165
Brandon, MS 39043

Dear Mr. Roberts:

Enclosed, please find your copy of the Management Plan we recently completed for North Brandon Shores Lake.

North Brandon Shores Lake is presently functioning as a dynamic, predator-crowded fishery. As such, our management recommendations center primarily on reducing the total number of adult predators (largemouth bass and crappie), limiting bluegill harvest, and improving the conditions for the production of forage through enhancing the pond's fertility level and supplemental feeding:

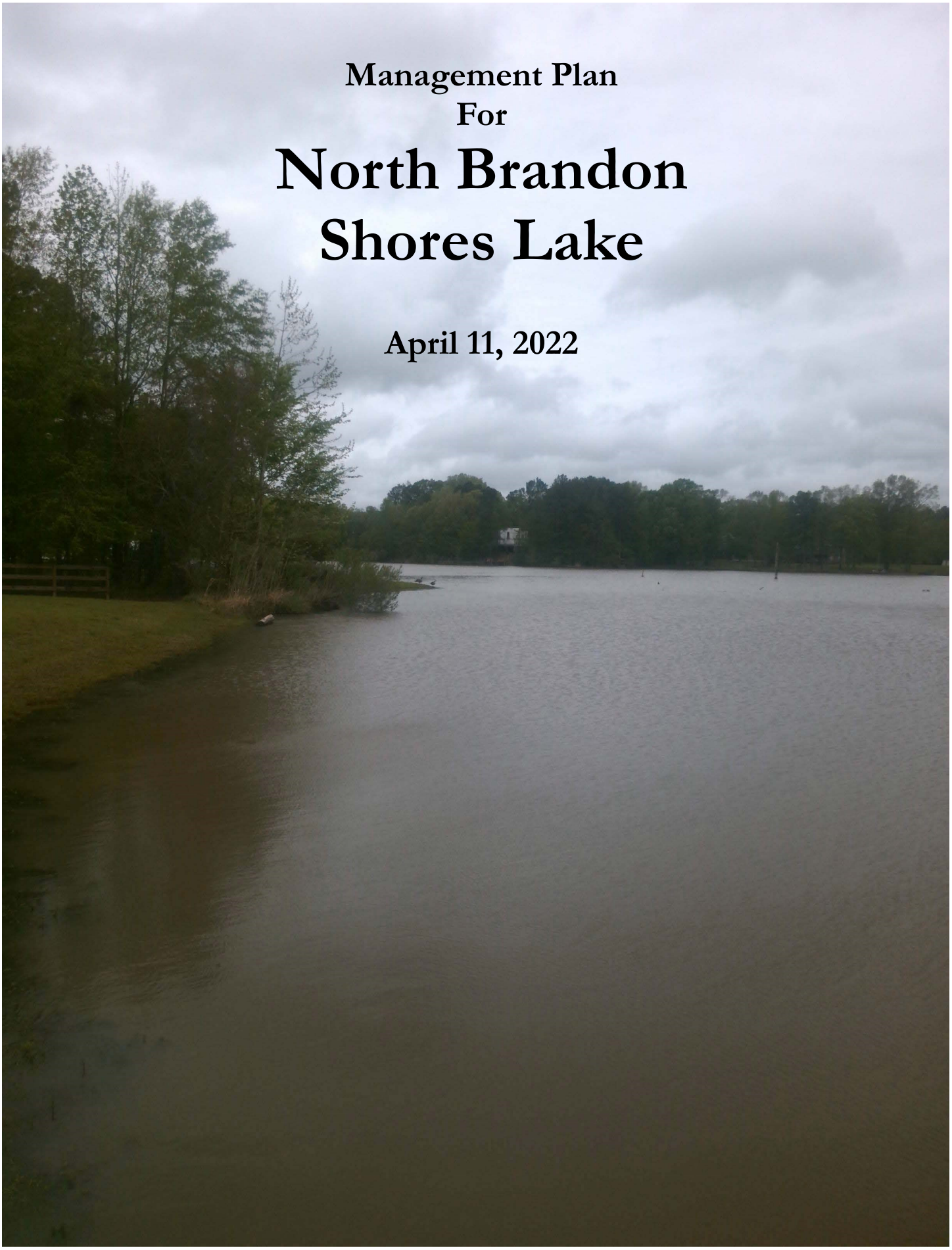
- Maintain the current fertilization regime.
- Intensify the current supplemental feeding regime.
- Largemouth bass (14" and less) should be harvested, up to 10 per angler per day.
- Harvest all crappie caught.
- Limit bluegill harvest to 40 per angler per day.
- Conduct an electrofishing balance assessment (Annual Evaluation) roughly one year from this date.

The length frequency distribution of the bass was excellent. There are numerous 16 to 20 inch bass in the fishery. Crappie were abundant and there were several year classes of crappie present. The harvest of small bass and crappie of any size is encouraged. The removal of the small bass and all crappie will yield better growth rates for both species. We will continue to apply fertilizer on a regular basis. I encourage residents to install automated fish feeders to feed the bluegill. This is a proven method to improve the growth rates of the bluegill. Overall, the fishery is in good condition!

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

Good fishing,

Scott Kirk
Fisheries Biologist, MS
601-594-9424
skirk@sepond.com



Management Plan
For
North Brandon Shores Lake

April 11, 2022

Introduction

As an integral part of the ongoing management program for North Brandon Shores Lake, Southeastern Pond Management conducted a comprehensive evaluation of the 65 acre impoundment on April 11, 2022. 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 these assessments, plus consultation with Mr. Brain Davidson, provide the basis for this management plan.

The goal of this management plan is to create and maintain a balanced fish community with the potential for trophy largemouth bass in North Brandon Shores Lake. The following evaluation report and management plan details and explains our recommendations with the following goals in mind:

- Create conditions favorable for the consistent production of "quality size" and "trophy size" largemouth bass (Table 1).
- Create conditions favorable for the consistent production of "quality size" bluegill (Table 1).
- Generally maintain a high level of water quality as well as an aesthetically pleasing environment for aquatic recreation.

Table 1.

	LMB	Bluegill
"Quality Size"	16-20"	7-10"
"Trophy Size"	20"+	10"+

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 North Brandon Shores 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 management recommendations, result from our most recent visit and are contained within the following pages.

Electrofishing equipment was used to collect a fish sample from North Brandon Shores Lake, April 2022.

Lake Assessment

At the time of our visit, total water alkalinity in North Brandon Shores Lake was measured at **25** parts per million (ppm). This level of alkalinity is above the minimum recommended threshold of 20 ppm, and represents conditions suitable for effective fertilization. North Brandon Shores Lake has been fertilized adequately in the recent past.

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

During the evaluation, we observed a very light infestation of water primrose growing along the margins. A description of this plant may be found in the Aquatic Weed Identification section of this report.

North Brandon Shores Lake appeared to have an excellent plankton bloom at the time of our visit, the result of consistent fertilization.

North Brandon Shores Lake, April 2022.

Fish Community Balance

Ponds and the animals they support are governed by a predator-prey relationship. The interactions of predator and prey are characterized by a concept we refer to as *balance*. By definition, 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. In order to assess the relative balance of a fish community, the species functioning as predators and the species functioning as prey must be defined. **Predators** are species which rely on other fish as their primary food source. **Prey** species rely on sources other than fish for their food source.

Classic balance in small impoundments is defined by several parameters, not the least of which involves a suitable ratio (by weight) of predator to prey. Further, the key to maintaining balance in a sport fish pond is a healthy size distribution of both predator and 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 entire 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.

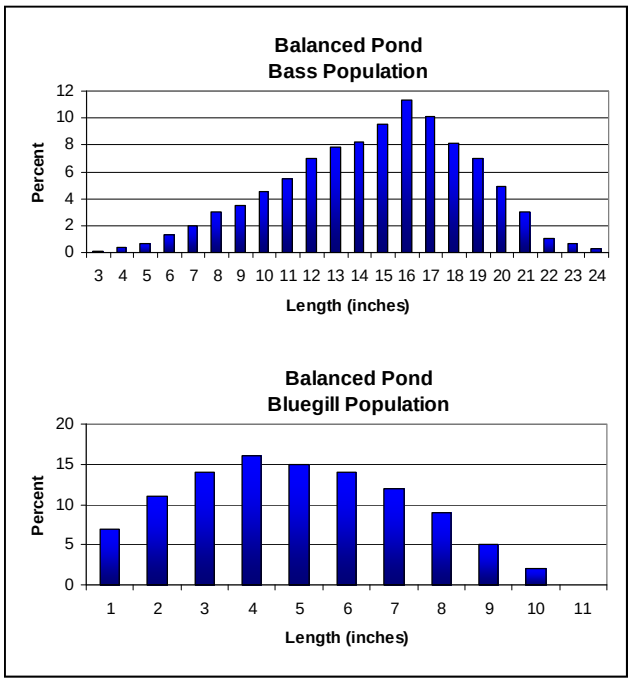


Figure 1. Length distribution of bass and bluegill in a typical balanced pond.

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.

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

Fishery Assessment

The fishery in North Brandon Shores Lake was sampled with standard boat-mounted electrofishing equipment. The sample contained largemouth bass, crappie, threadfin shad, northern bluegill, coppernose bluegill, and redear sunfish (shellcracker). Currently, largemouth bass and crappie are functioning as the primary predators in North Brandon Shores Lake. The shad, bluegill, and shellcracker are the prey.

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

Largemouth bass ranging in size from 6 to 22 inches in total length were collected in high abundance. The length distribution of largemouth bass (Figure 2) 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 limited bass harvest.

The average relative weight of adult bass in our most recent sample additionally reflects a slight improvement over last year. This year's average relative weight was 95, as compared to last year, 92 (Figure 4).

Largemouth bass 14 inches and smaller represent the primary targets for harvest over the coming months. We harvested zero pounds of bass during the evaluation.

Crappie were abundant and ranged from 5 to 13 inches.

Bluegill and shellcracker were collected ranging in size from 2 to 10 inches in total length. Figure 3 depicts the length distribution of the bluegill population. Of note, an improved number of intermediate (3-5") bluegill and other forage was collected. Further, mature adult bluegill were relatively abundant in the sample.

Overall, we characterize the fish community in North Brandon Shores Lake as predator-crowded. A more detailed explanation of bass-crowded ponds in general, and North Brandon Shores Lake in particular is located in the Current State of Balance

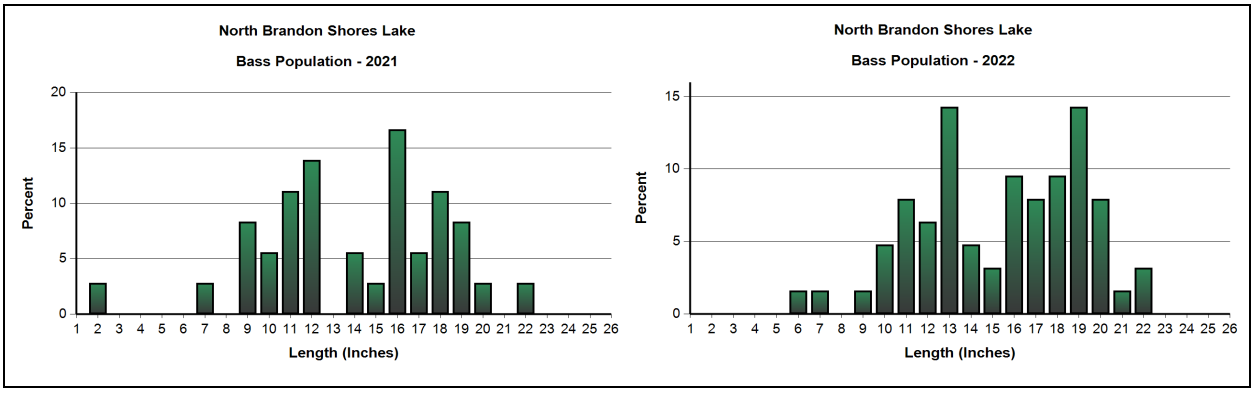


Figure 2. Comparison of the length distribution of bass collected in North Brandon Shores Lake in May 2021 and April 2022.

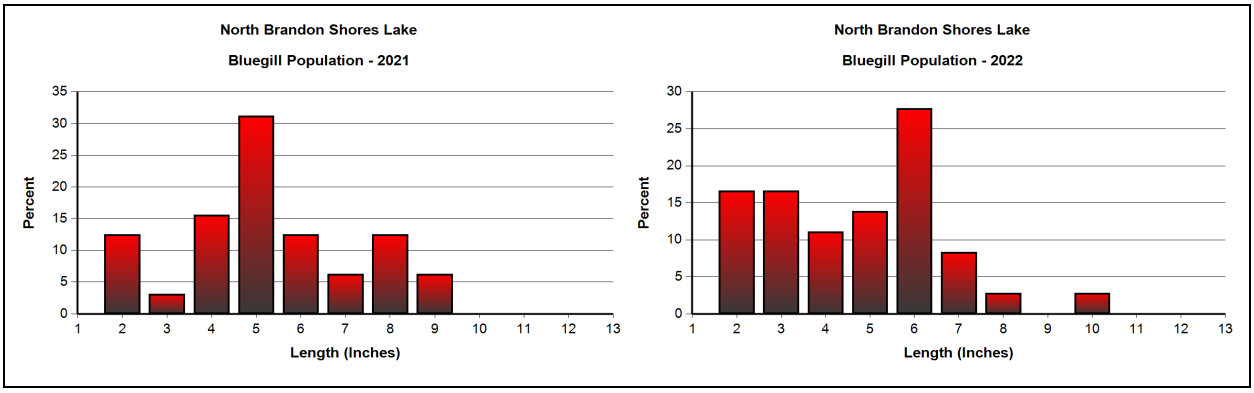


Figure 3. Comparison of the length distribution of bluegill collected from North Brandon Shores Lake in May 2021 and April 2022.

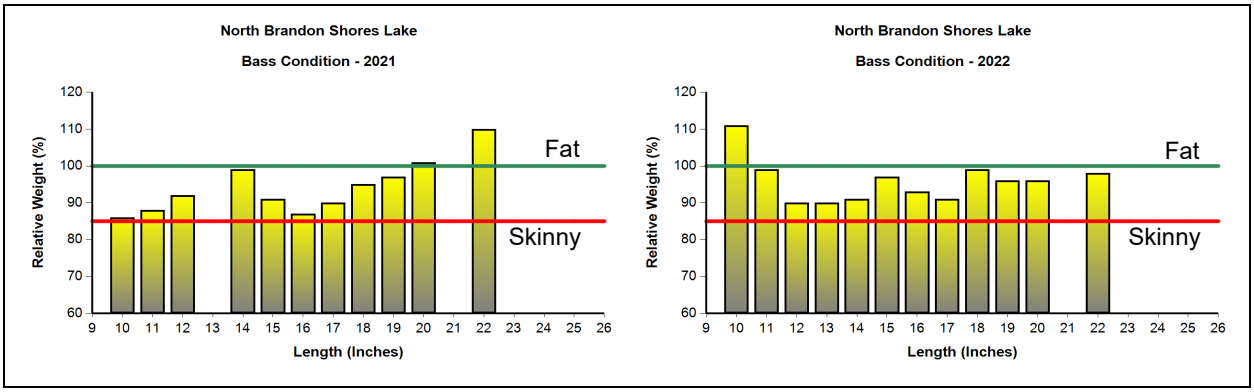


Figure 4. Relative weight distribution of adult largemouth bass collected from North Brandon Shores Lake in May 2021 and April 2022.

Bass-Crowded

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

The presence of intermediate size (3-5") prey is critically important in sport fish ponds. These individuals are the size preferred by the more abundant, younger bass in a typical population. A low relative abundance of intermediate size prey is often an indication of a bass-crowded pond. Under these conditions, bass typically 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 North Brandon Shores Lake included relatively low numbers of intermediate size bluegill, particularly in the 4 inch size range.

Under-harvest of bass is most often the cause of the bass-crowded condition. 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 8-10 inches however, they require a slightly larger prey item. In bass-crowded ponds, the availability of slightly larger (3-5") prey is limited. As a result, the growth rates of the bass decline dramatically and they begin to demonstrate characteristics of stunting. Recent bass harvest was reported as "limited" in North Brandon Shores 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.

Typical bass from a bass-crowded pond.

Finally, competing predator species in the form of crappie were observed in relatively low numbers in North Brandon Shores Lake. In this case there is not immediate concern that this species will significantly impact the management program. Nevertheless, the potential impact of competing predator, such as crappie, are discussed in the following pages.

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

Competing Predator Species

The presence of predator fish species other than largemouth bass may have an impact on the balance of the fish community. The severity of the impact depends largely on the species present and its density relative to the entire fish community. Some predator species may prove to be beneficial to certain management goals at moderate densities; however, most species negatively affect management goals to some degree. Generally, the more fish species present in a pond, the more complicated and less predictable pond management practices become. Once established, it is often difficult to completely remove an undesirable predator from a pond; however, harvesting every individual caught will increase the availability of prey for largemouth bass. In order to maintain a balanced pond with competing species, the bass must become a larger component of the predator community. An additional forage species, such as threadfin shad, typically reduces the negative effects of additional predators.

Competing predator species can be introduced in a number of ways. A pond can be contaminated with different fish species by a feeder stream, especially if the pond basin is not poisoned before stocking. Occasionally, adjacent waters flood and connect a pond introducing different species. For example, oxbow lakes are often flooded on a regular basis by an adjacent stream or river. This greatly reduces the effectiveness of many management practices. Many times, competing predator fish are brought in from other waters by fishermen themselves. Several competing predator fish found in small impoundments are listed below:

Black and/or white crappie are commonly introduced by fishermen in ponds, however they are not a desired predator species in small impoundments less than 50 acres. Not only do crappie compete with adult bass for food, but also with juveniles because they typically spawn before bass. Furthermore, their reproduction is often highly erratic. Maintaining balance with an abundant crappie population can be difficult in small impoundments.

Catfish are often stocked with bass and bluegill to add angling opportunity. Unfortunately, catfish are also direct competitors of largemouth bass and can have an impact on the forage community if they are allowed to reach large sizes. Catfish recruitment is usually low in ponds with an established bass population. Therefore, a small population of catfish can be sustained in small impoundments if an abundant forage base is maintained.

Crappie

Channel Catfish

Spotted bass caught from public waters are often mistaken for largemouth bass and introduced in sport fish ponds. Spotted bass compete fiercely with largemouth bass in small impoundments. Not only do the adults compete for food, but spotted bass typically spawn earlier, thus giving the fry a survival advantage. Often this early advantage allows spotted bass to dominate the bass population in smaller systems. Once spotted bass become established, targeting spotted bass when harvesting becomes an ongoing management practice.

Spotted Bass

Gar

Bowfin

Green Sunfish

Other predator species, such as **gar, pickerel, bowfin**, etc., are often considered "rough" or "trash" fish. The presence of these fish in a pond usually indicates flooding of an adjacent river or major tributary. They are often difficult to remove with angling. They do not seem to become as abundant as crappie or spotted bass in a bass/ bluegill pond, but have a negative impact nonetheless.

Other species such as **green sunfish and warmouth** commonly inhabit sport fish ponds. These species typically are introduced by small feeder creeks. Green sunfish, in particular, have the ability to enter ponds without a feeder stream, possibly by way of aquatic birds. Each of these fish can function as predators by eating small bluegill and other forage in ponds. They can also compete with bluegill for food and spawning sites. Fortunately, their impact is usually minimal as they rarely exceed 6 or 7 inches and typically do not become abundant in a pond with an established bass population. However, these species can become problematic if allowed to multiply before a healthy bass population is present.

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 re-evaluated annually. Harvesting largemouth bass can be accomplished by the following methods:

(1) 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.

(2) 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.

A measuring device should be kept handy to determine the correct size bass to harvest.

One important point is that bluegill and shellcracker 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.

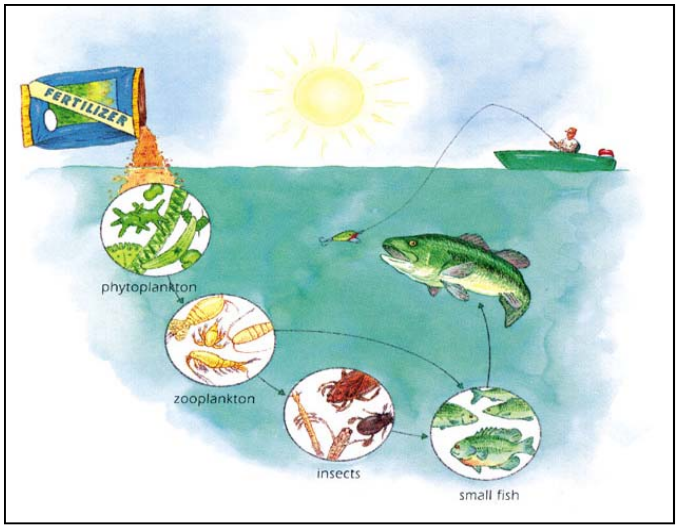
Bass must be harvested at the proper rate each year in order to maintain a balanced fish community in small impoundments.

Fertilization

The concept of *carrying capacity* describes the total 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 is the most basic and important element necessary to create an environment conducive to the production and growth of sport fish. Fertilization takes place during the growing season, from March through October. 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:



Food chain of a typical fertilized pond.

SportMAX® Water Soluble Pond Fertilizer can be poured directly into the prop wash of a small motor. A well fertilized pond should have 18 to 24 inches of visibility.

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.

We offer a convenient **Fertilization Service**, which 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.

If you elect to fertilize on your own, **we can supply you with a season's worth of material, prior to the scheduled start of the season**. SportMAX® comes conveniently packaged in heavy duty, water-resistent plastic bags; ideally, it may be stored in a barn or equipment shed sufficient to keep the direct elements away.

SportMAX® is easy to use; proper application involves simply pouring the material directly from the bag into the open water — no mixing… no mess!

Recommended application rates for SportMAX® range from 4 to 8 pounds per acre. Particularly in the early season, the higher rate is often necessary to stimulate a plankton bloom. Generally by the middle part of the season, the lower rate is adequate.

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 intensifying the existing 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 several different pellet sizes that can be consumed by a wide size range of bluegill.

A good bluegill feed has several different pellet sizes.

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.

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

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 also offered in two sizes (DF125 - 75 pound capacity and DF425 - 225 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.

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.

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 (top). Pond dyes temporarily limit sunlight to retard aquatic weed growth (bottom).

Given the present state of vegetation in your pond, chemical control is recommended. This approach involves the use of aquatic-approved herbicides to reduce or eradicate aquatic weeds. We are commercially licensed to apply aquatic-approved herbicides. Our treatments are warranted to control existing weed growth. We cannot, however, warrant against re-growth; the integrated approach to controlling nuisance vegetation is your best insurance against weed problems in the future. The cost and timing of our recommended herbicide treatment are listed in the Recommended Management Activities section of this report.

Color photos, including distinguishing characteristics and growth habits of the aquatic vegetation in your pond, are listed in the following Aquatic Weed Identification section.

Common Name: Water Primrose

Scientific Name: *Ludwigia* sp.

Distinguishing Characteristics:
Leaves arranged oppositely. Flowers yellow if present.

Growth Habit:
Emersed. Could be sprawling across surface of water or erect in moist areas along the shoreline.

Management Program Impact:
Low to moderate. Favorable in small amounts.

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, tress 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.

Beavers and muskrats can bore in to the side of the dam and weaken its structure. Emergency spillways should be lined with concrete if they receive heavy flow (inset).

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.

Annual electrofishing evaluations determine the effectiveness of management practices.

Summary of Management Recommendations

North Brandon Shores Lake is functioning as a predator-crowded system that has a moderate level of fertility. Several management inputs are necessary to restore a state of balance as well as increase the total density of sport fish. The management activities we are recommending for North Brandon Shores 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 **maintaining an intensive fertilization program** in North Brandon Shores Lake. **SportMax® Water Soluble Pond Fertilizer** (10-52-4) should be applied according to the *Standard Pond Fertilization Schedule.*

For North Brandon Shores Lake, **harvest bass 14 inches and smaller at a rate of 10 per angler per day.** 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 North Brandon Shores Lake to **40 per angler per day**; 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 **intensifying the current supplemental feeding program** in North Brandon Shores Lake. Fish food should be applied from 2 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 North Brandon Shores Lake. Water primrose has 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 North Brandon Shores 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 North Brandon Shores 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.

FERTILIZATION ROUTE

ANNUALLY
2022

Current Status: Confirmed

☐ Approved ☐ Declined ☐ Done

Date Approved: _____

Date Done: _____

COST: $ 234.21 per month*

* Price subject to change. Cost includes 8 pounds of fertilizer per acre applied by our technicians according to the Standard Pond Fertilization Schedule.

MANAGEMENT ACTIVITY:
Continue fertilization program

LEVEL 1

ANNUAL HARVEST

ANNUALLY
2022

Current Status: Owner Responsibility

☐ Approved ☐ Declined ☐ Done

Date Approved: _____

Date Done: _____

COST:
Hook and line: N/A
Electrofishing: $350.00/hour.*

*An additional mileage charge will be added.

MANAGEMENT ACTIVITY:
Harvest LMB (14" inches and less) 10 per angle per day

LEVEL 1

ANNUAL HARVEST

ANNUALLY
2022

Current Status: Owner Responsibility

☐ Approved ☐ Declined ☐ Done

Date Approved: _____

Date Done: _____

COST:
Hook and line: N/A

MANAGEMENT ACTIVITY:
Harvest all crappie caught

LEVEL 1

BG HARVEST

ANNUALLY
2022

Current Status: Owner Responsibility

☐ Approved ☐ Declined ☐ Done

Date Approved: _____

Date Done: _____

COST: N/A

MANAGEMENT ACTIVITY:
Limit bluegill harvest to 40 per angler per day.

LEVEL 1

ANNUAL EVALUATION

SPRING 2023

Current Status: Awaiting Owner Approval

☐ Approved ☐ Declined ☐ Done

Date Approved: _____

Date Done: _____

MANAGEMENT ACTIVITY:
Annual electrofishing evaluation

COST: $ 1,050.00*

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

LEVEL 1

Bass Harvest Records

Date	Number Harvested	Total Pounds Harvested	Comments

Bass Harvest Records

Date	Number Harvested	Total Pounds Harvested	Comments

Tagged Fish Data

Date	Tag Number	Length (in.)	Weight (lbs.)	Comments

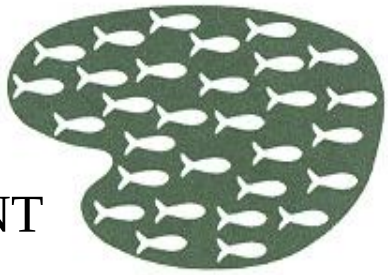
Fertilizer Application Records

Date	Water Color	Water Visibility (in.)	Fertilizer Applied (lbs.)	Comments

Other Records

Date	Comments

SOUTHEASTERN
POND
MANAGEMENT



"Managing Your Liquid Assets"

Southeastern Pond Management

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