

March 14, 2012

North Brandon Shores HOA
P.O. Box 2165
Brandon, MS 39043

Dear North Brandon Shores HOA:

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, balanced fishery. As such, our management recommendations center primarily on reducing the total number of adult predators (largemouth bass and crappie), aquatic weed control, and improving the conditions for the production of forage through enhancing the pond's fertility level and supplemental feeding:

- Maintain the current fertilization regime.
- Maintain the current supplemental feeding regime.
- Largemouth bass (16" and less) should be harvested, up to a total of 15 fish per person per day.
- Harvest all crappie caught.
- Limit bluegill harvest to 10 per person per day.
- Herbicide application in Spring 2012.
- Conduct an electrofishing balance assessment (Annual Evaluation) roughly one year from this date.

We are always available to discuss these recommendations or answer any other questions you might have.

Good fishing,

Scott Kirk
Fisheries Biologist, MS

Management Plan
For
**North Brandon
Shores Lake**

March 12, 2012





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 March 12, 2012. 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. Hester and Mr. Barber, 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, March 2012.



Pond Assessment

At the time of our visit, total water alkalinity in North Brandon Shores Lake was measured at **25.2** parts per million (ppm). This level of alkalinity is well 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 adequate. 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 moderate infestation of smartweed, alligator weed, and water primrose growing along the margins. Descriptions of these plants may be found in the Aquatic Weed Identification section of this report.

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



North Brandon Shores Lake, March 2012.



Fishery Assessment

The fishery in North Brandon Shores Lake was sampled with standard boat-mounted electrofishing equipment. The sample contained largemouth bass, bluegill, threadfin shad, crappie, golden shiners, and redear sunfish (shellcracker). Currently, largemouth bass and crappie are functioning as the primary predators in North Brandon Shores Lake. The bluegill, threadfin shad, golden shiners, 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 8 to 23 inches in total length were collected in moderate abundance. The length distribution of largemouth bass (Figure 2) reveals the presence of bass over a wide range of size classes. This represents improvement from the previous year, most likely the result of improved bass harvest.

The average relative weight of adult bass in our most recent sample is almost unchanged over last year. This year's average relative weight was 102, as compared to last year, 103 (Figure 4).

Largemouth bass 16 inches and smaller represent the primary targets for harvest over the coming months. We harvested 56 pounds of bass during the evaluation.

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 abundance 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 balanced. A more detailed explanation of balanced ponds in general, and North Brandon Shores Lake in particular is located in the Current State of Balance section of this report.

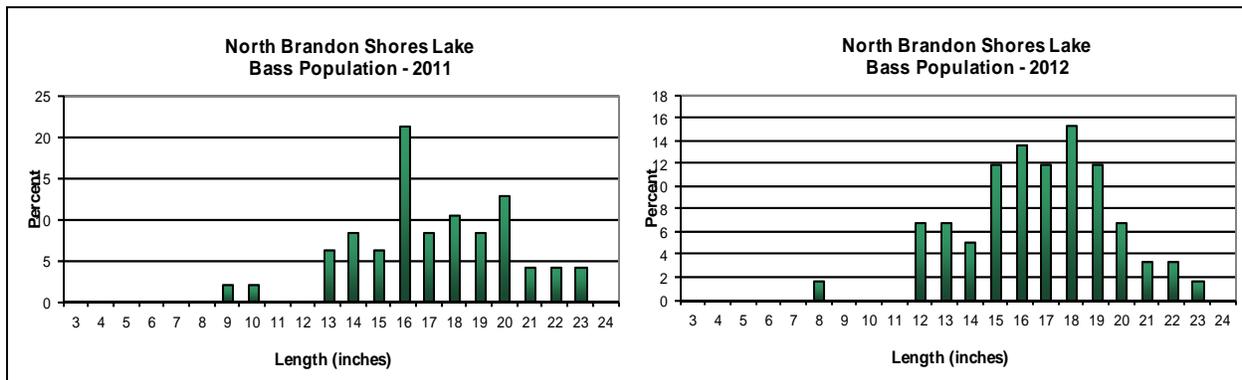


Figure 2. Comparison of the length distribution of bass collected in North Brandon Shores Lake in March 2011 and March 2012.

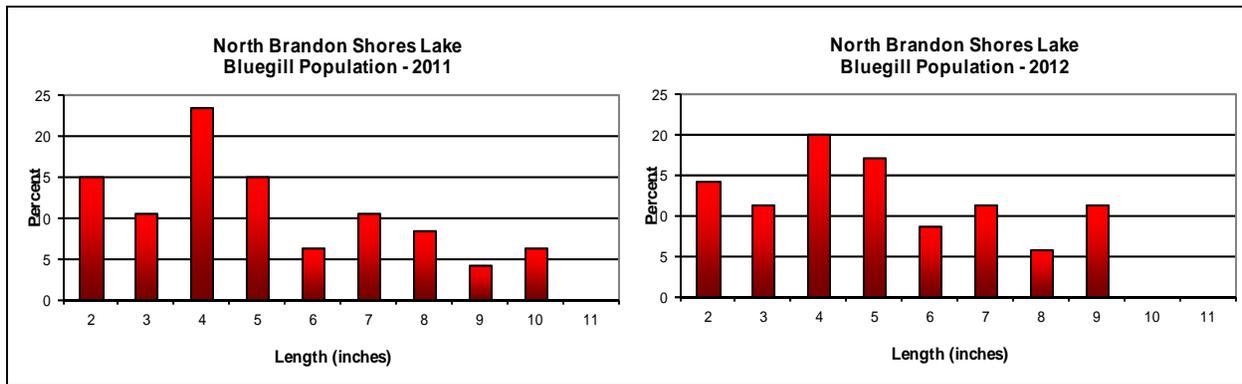


Figure 3. Comparison of the length distribution of bluegill collected from North Brandon Shores Lake in March 2011 and March 2012.

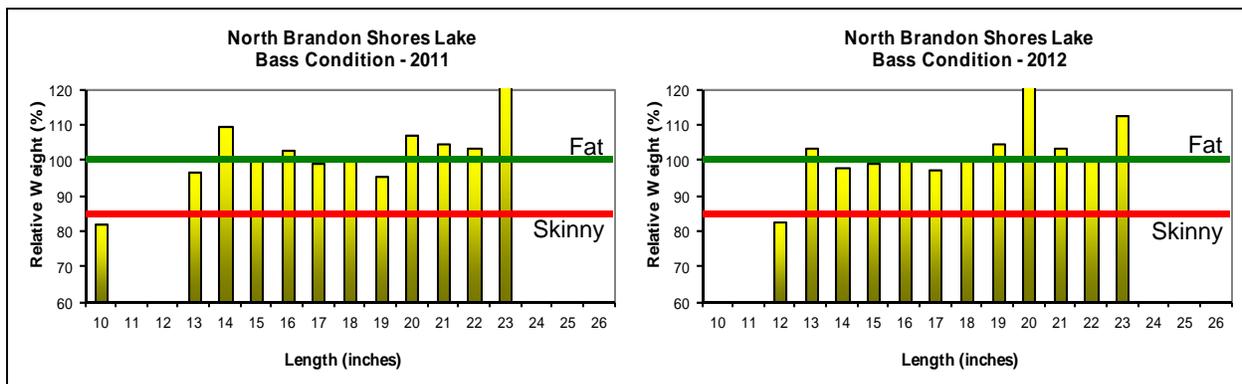


Figure 4. Relative weight distribution of adult largemouth bass collected from North Brandon Shores Lake in March 2011 and March 2012.



Balance

Most pond management activities are centered on creating or maintaining a balanced fish community. A balanced sport fish pond is preferred by most anglers because it provides quality bass and bluegill, both in terms of number and size. A balanced fish community is characterized by a wide size distribution of bass, bluegill and other forage species; adequate reproduction of all species is present.

As mentioned previously, our recent electrofishing sample from North Brandon Shores Lake contained a healthy distribution of bass across many different size groups. Additionally, the majority of the bass were in good condition with relative weights ranging from 83 to 172. Bass in all length groups were in excellent condition, indicating an abundant forage base for all length groups of bass.

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 high relative abundance of intermediate size prey is often an indication of a balanced pond.

When a state of balance exists, intermediate size prey are among the most abundant segment of the

overall fish community. Under these conditions, bass typically grow quickly, and are capable of reaching their full growth potential.

During our electrofishing sample, we observed a healthy forage base, particularly the distribution of intermediate sized prey. In order to maintain the predatory:prey balance and the continued growth of bass in North Brandon Shores Lake, it will be necessary to ensure that conditions for the production of forage such as fertilization, supplemental feeding and selective bass harvest are sustained or even enhanced.

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, a bass-crowded condition is the likely result. This usually leads to a low quality bass fishery.

Strategies to improve the quality of the bass and bluegill fishing are discussed in the Recommended Management Activities section of the report.



A balanced pond supports an abundance of bass, bluegill and other forage species of all sizes.



Summary of Management Recommendations

North Brandon Shores Lake is functioning as a balanced system that has a moderate level of fertility. Several management inputs are necessary to maintain balance as well as increase the potential for trophy largemouth bass. 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 16 inches and smaller** at a rate of **15 fish per person 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 10 per person 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 **maintaining an intensive supplemental feeding program** in North Brandon Shores Lake. Fish food should be applied from 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. Smartweed, alligator weed, and water primrose 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 North Brandon Shores Lake, if they should become a problem in the future, is by herbicide application.

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



COST: \$ 514.00 per application*

* Price subject to change. Cost includes 4 pounds of fertilizer per acre applied by our technicians according to the Standard Pond Fertilization Schedule. Additional fertilizer may be applied to achieve desired results. Cost of additional fertilizer is \$1.95 per pound, also subject to change.

Current Status: Awaiting Owner Approval

Approved Declined Done

Date Approved: _____

Date Done: _____

MANAGEMENT ACTIVITY:
Maintain fertilization program

LEVEL 1

SUPPLEMENTAL FEEDING

ANNUALLY



COST: Cost of Food

Current Status: Owner Responsibility

Approved Declined Done

Date Approved: _____

Date Done: _____

MANAGEMENT ACTIVITY:
Continue feeding program

LEVEL 1

ANNUAL HARVEST

ANNUALLY



COST:
Hook and line: N/A

Current Status: Owner Responsibility

Approved Declined Done

Date Approved: _____

Date Done: _____

MANAGEMENT ACTIVITY:
Harvest bass at a rate of 15 per person per day (16" inches and less)

LEVEL 1

SUSPEND BG HARVEST

ANNUALLY



COST: N/A

Current Status: Owner Responsibility

Approved Declined Done

Date Approved: _____

Date Done: _____

MANAGEMENT ACTIVITY:
Limit bluegill harvest to 10 per person per day

LEVEL 1



ANNUAL HARVEST

ANNUALLY

Current Status: Owner Responsibility

Approved Declined Done

Date Approved: _____

Date Done: _____



MANAGEMENT ACTIVITY:
Harvest ALL crappie caught

COST:
Hook and line: N/A

LEVEL 1

HERBICIDE TREATMENT

SPRING 2012

Current Status: Awaiting Owner Approval

Approved Declined Done

Date Approved: _____

Date Done: _____



MANAGEMENT ACTIVITY:
Herbicide treatment

COST: Variable*

* This price includes all labor and materials. Complete control is warranted. An additional mileage charge will be added.

LEVEL 2

ANNUAL EVALUATION

SPRING 2013

Current Status: Awaiting Owner Approval

Approved Declined Done

Date Approved: _____

Date Done: _____



MANAGEMENT ACTIVITY:
Annual electrofishing evaluation

COST: \$ 675.00*

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

LEVEL 1