

**January 17, 2017**

**HORSESHOE LAKE NORTH  
ANNUAL MEETING & LAKE MANAGEMENT PLAN**

Annual Meeting – 2017

- Agenda

Lake Management Plan

- General Provisions & Scope of Services
- Community-Based Activities & Events
- Current Fiscal Year
  - Planned Treatments
  - Funding
  - Recommendations
- Next Fiscal Year
  - Projected Treatments
  - Funding
- Exhibits
  - Agenda & Notes Prior Year
  - Budget & Financial Summary
  - Historic Reports/Data
  - Roles & Responsibilities

# HORSESHOE LAKE NORTH ANNUAL MEETING

Date, Time & Location	: January 17, 2017, 2:40 – 4:15 PM; 200 W. County Home Rd – LMP office
Community Liaisons	: Kevin Brotz, Leza Harrison, David Kuketz and Patty Searcy
Liaisons Present	: Kevin Brotz via teleconference, Leza Harrison, David Kuketz and Patty Searcy
Seminole County	: Thomas Calhoun, Joey Cordell, Gloria Eby, Joe Saucer and Kathy Moore
City of Oviedo	: Amanda Kortus (Not present) and Alexis Stewart (Not present)

## Topics carried forward from prior fiscal year activity [[Meeting Notes](#)]

- Fertilizer Ordinance & Shoreline Protection Ordinance
  - Both ordinances contain commitments and directives that will contribute to environmental improvement and protection long-term for lakes and other waterbodies. The Fertilizer Ordinance focuses primarily on fertilizer selection (phosphate free, slow release nitrogen) and application (location, volume, and timing). The Shoreline Protection Ordinance mirrors the State’s guidelines for shoreline vegetation and development as historically communicated by the LMP and demonstrated by the best lake management practices followed by MSBU funded services. The Fertilizer Ordinance is tentatively scheduled for BCC review/approval consideration on February 28; while the Shoreline Protection Ordinance development continues with final presentation anticipated later in 2017. [Note: The Shoreline Protection Ordinance approval process involves several levels of approval as the directives need to be included in the County’s Land Development Code.] Educational materials are readily available to further promote awareness, understanding and compliance.
  - FWC is proposing a change to their permitting responsibilities respective to aquatic plant management. The proposed (and likely to be adopted rule changes) will have impact on the permits associated with lakes less than 160 acres in size. The importance of Seminole County enacting the Shoreline Protection Ordinance is heightened by this change. In association with the ordinance, the County will be confirming delegated enforcement authority from FWC to provide ongoing compliance efforts respective to adopted protective measures. When presentation dates are confirmed, LMP will provide email updates so interested property owners and residents are aware of these activities. Supportive participation is encouraged.
- Shoreline clearing – unauthorized
  - Liaisons presented on-going concern with lakefront properties in Oviedo [SJRWMD and City of Oviedo jurisdiction] where owners continue to remove protective vegetation from the designated conservation zone; and are now utilizing the restricted areas for lake access and personal recreation. Primary address where violations (including floating dock) are noted is 2210 Sterling Creek Parkway/Live Oak Reserve HOA. Frustrations regarding perceived lack of response from SJRWMD, FWC and the City of Oviedo were noted. County-level intervention requested. Liaisons encouraged to continue their pursuit of awareness and action by responsible entities respective to observed violations. Although area is outside County jurisdiction, LMP will inquire as to SJRWMD position on these violations. [*MSBU Program provided subsequent follow-up with City of Oviedo regarding potential permit violation.*]
- Biobase mapping
  - Collected 1/12/2016; Thomas Calhoun to provide updated map
- Lakewatch sampling
  - Encourage samples and backup LW volunteers; Patty Searcy performing sample collection.

## General Topics & Updates [[Meeting Notes](#)]

- 2017 Shoreline Planting Event- dates available

- To be coordinated via Thomas Calhoun; Thomas to email dates available
- Patty Searcy requested receipt of available event dates prior to annual meetings; 2<sup>nd</sup> request for revised timing of communication
- Nutrients/Habitat Scores: Bioassessment Indices
  - Refer to Exhibit C; Lake remains in Healthy category: 45
- Plans for current fiscal year
  - Refer to Page 6; continue to treat invasive species aggressively. Continue monitoring hydrilla and providing appropriate treatments. Integrated approach (grass carp fish plus herbicide) recommended; stocking dependent on hydrilla conditions. Liaison noted expectation for further discussion prior to stocking. [Subsequent to annual meeting, based on February 6 site inspection, action plan was revised to best address the expansion of hydrilla (noted to have expanded from prior .1 acre to 8 acres since end of December 2016. Liaisons notified of changing conditions and imperative treatments – with systemic herbicide being recommended over contact herbicide. Delay in treatment experienced due to community-based objections (to recommended treatment plan due to chemical intervention) and lake access being unavailable on scheduled treatment date.]
  - Liaisons requested additional prevention efforts & treatments respective to the canal where hydrilla presence at Horseshoe Lake was initially observed. Liaisons to work with the property owner of the pond off the canal to help manage hydrilla in the pond (outside MSBU boundary).
  - Per Kevin Brotz feedback, Thomas Calhoun will update “no-spray” zones by GIS coordinates and new designations on map. Service provider to be notified by Thomas.
- Projections for next fiscal year
  - Refer to Page 6
- Financial and Budget Projections
  - Refer to Exhibit B; Assessment Increase from \$120 to \$135 [Subsequent to annual meeting rate adjustment to \$165 was proposed by MSBU Program with leeway to leave at \$135 as discussed at meeting. Liaison response was to reinstate prior historic rate of \$165.]
- General recommendations for community consideration
  - Increase native plants in areas devoid of vegetation
  - Continue to work together with other lakefront owners. Have at least one annual lake association meeting, invite guest speakers (such as county or state biologists) and discuss lake specific issues, especially nutrients/lake management recommendations. LMP staff could be available to present bioassessment and surveys.
  - Refer to Page 5

# HORSESHOE LAKE NORTH LAKE MANAGEMENT PLAN

## GENERAL PROVISIONS

### **Scope of Public Aquatic Weed/Plant Control [AWC] Services**

The scope of public aquatic weed control [AWC] services funded by non-ad-valorem assessment includes those services associated with managing aquatic plant communities as deemed beneficial and/or critical to restoring, developing and/or maintaining conditions that enhance the water quality and over-all health of the waterbody; with emphasis on providing public services for public purposes which by definition of public are limited to the waterbody and respective shoreline when/where noxious and/or invasive exotic vegetation could/would threaten or impede the waterbody.

### **Governing documents**

- Seminole County Ordinance 2012-15
- Interlocal Agreement [IA] with City of Oviedo
- FWC Permit

### **Methods for Aquatic Weed Control as authorized via County Ordinance/Resolution**

- Chemical (herbicides)

### **Targeted Invasive/Exotic Aquatic Vegetation**

- Water hyacinth, torpedo grass, alligator weed, wild taro, salvinia, Cuban burhead sedge, and coinwort. Hydrilla has been added to the permit.

### **Frequency of AWC Treatment**

AWC services are performed at the direction of the Seminole County LMP as per the Horseshoe Lake North Management Plan reviewed at the annual planning session with the expectation that the Seminole County LMP may alter anticipated treatments on an as merited basis per changing/evolving conditions noted during site inspections.

### **Herbicide Treatments - Service Provider**

- As determined by Seminole County staff

### **Funding**

Assessment rate may vary annually based on financial demands of changing conditions, such as cost of herbicide treatments, frequency of treatments, and other factors impacting assessment calculations. The governing ordinance does not include assessment restrictions specific to annual adjustment amounts and/or assessment cap.

### **Lake Liaisons**

Designated property owners (or their designated representatives) provide community representation at annual planning sessions with the County and serve voluntarily as the key point of contact for community inquiries and concerns. The liaisons for Horseshoe Lake North are:

Kevin Brotz ([kevin@getbitoutdoors.com](mailto:kevin@getbitoutdoors.com)); Leza Harrison ([skileza@aol.com](mailto:skileza@aol.com));

David Kuketz ([u2consulting@hotmail.com](mailto:u2consulting@hotmail.com)); and Patty Searcy ([steveandpatty1@att.net](mailto:steveandpatty1@att.net)).

# HORSESHOE LAKE NORTH

## COMMUNITY-BASED ACTIVITIES & EVENTS

LMP recommends/encourages homeowners to coordinate a resident-based volunteer event involving native plantings along the shoreline of Horseshoe Lake North. The intention of such an event is to plant beneficial native aquatic plants to key areas in need along the bank. It is especially important that as the aquatic invasive plants (such as torpedo grass) are being treated, native aquatic plants should be established within these areas. The presence of the recommended native plant species along the shoreline provides habitat for fish and wildlife, helps impede invasive exotics from re-establishing, and reduces erosion of the shoreline. All of these best management practices are essential to providing the conditions that promote an environmentally stable habitat to be enjoyed by generations to come. The key to success is dependent on strong participation of the Horseshoe Lake North community.

Continued recommendations for community initiatives are as follows:

- 1) Continue to work together with other lakefront owners. Have *at least* one annual lake association meeting, invite guest speakers (such as county or state biologists) and discuss lake specific issues, especially nutrients/lake management recommendations. LMP staff would be glad to present our bioassessment and surveys.
- 2) Continue to establish a beneficial native shoreline for Horseshoe Lake North, especially in locations that are devoid of emergent aquatic plants. LMP recommends planting in new locations that are shallower and have more sunlight.
- 3) Natives will grow and contain non-natives (and vice-versa) that become difficult to treat. Unless hand pulled, a directed herbicide treatment targeting the non-natives (which will expand otherwise) will impact the adjacent natives. Everyone must become stewards of the lake, in that they should assist and facilitate the removal of non-natives in close proximity to the natives and replant the area with beneficial natives for greater overall success.
- 4) Utilize the valuable educational outreach programs that are available, i.e. Shoreline Restoration Workshops, Florida Yards and Neighborhoods (FYN) interactive presentations, and Lake Management Video mail-outs. Implement a media campaign within the community to reduce personal pollution by: decreasing fertilizer usage, using only phosphorous free and slow-release nitrogen fertilizers, keeping a functional shoreline with beneficial native aquatic plants, and keeping grass clippings out of your lake and the storm drains that lead to the lake. All of these activities aid in protecting your lake! Contact Seminole County Lake Management Program (407) 665-2439 for more information regarding the free educational programs available.
- 5) LAKEWATCH volunteers provide valuable water quality data for your lake. Obtain monthly samples and establish a back-up volunteer for consistent data collection.
- 6) Help spread the word! Obtain email addresses from neighbors not currently on the distribution list. Valuable information is contained within these assessments.

**Important to Note:** When herbicides are applied along the shoreline to invasive plants (such as torpedo grass), overspray onto adjacent desirable vegetation may occur. In order to avoid damage to desired vegetation, manual (by hand) removal (by property owner) of the undesirable species from among the desirable species is advised. If the invasive plants are removed by this method, spraying the area can be reduced, thereby offering greater protection to the desirable species. The physical removal of dead/decaying aquatic plant material will reduce the volume of decomposing vegetation on the lake bottom (muck layer) and will increase the success of the efforts to limit the re-growth of the invasive plants.

# HORSESHOE LAKE NORTH

## **COUNTY SERVICES – Lake Management & Supplemental Programs**

While the MSBU assessment includes a nominal charge for administering the MSBU, the amount charged does not cover all the expenses incurred by the County on behalf of the waterfront property owners. Horseshoe Lake North is monitored by LMP to assess the aquatic plant growth. LMP provides continued evaluation of the aquatic plant species, such as hyacinth, and provides community updates via regular email reports on the status of all treatments and waterbody assessments. In addition, LMP offers free aquatic plant material (as available) for sponsored restoration events and local community volunteers coordinated through the county's Seminole Education and Restoration Volunteer (SERV) Program. Many of the services provided by the LMP are made available to support community riparian stewardship without additional charges being assigned to the MSBU budget.

## **Current Fiscal Year – Planned Treatment & Funding**

### **Primary Aquatic Plant Management Expectations**

Seminole County [MSBU/LMP] is tasked with managing the invasive-exotic species within the lake, and does so per accepted best lake management practices supported by lake management professionals. LMP/MSBU Programs affirmed that aquatic vegetation management services will continue to be rendered per these standards. Invasive growth in Horseshoe Lake North has likelihood to continue; however, the timing and extent of invasive re-growth is affected by multiple natural and environmental factors that cannot be controlled or predicted with certainty.

### **Funding Expectations**

*Refer to current fiscal year budget data provided in Exhibit B.*

## **Next Fiscal Year – Projected Treatment & Funding**

### **Primary Aquatic Plant Management Expectations**

- 1) Continued aquatic herbicide maintenance for invasive vegetation per FWC permit (as needed).
- 2) Continued monitoring of invasive species.
- 3) Increase contingency reserve funds for extended herbicide management and/or other issues that may develop and require immediate treatment.

### **Funding Expectations**

*Refer to next fiscal year budget data provided in Exhibit B.*

**Exhibits**

**A** – Agenda & Notes from Prior Year Planning Session

**B** – Budget/Financial Overview

**C** – Historic Reports/Data

**D** – Role & Responsibilities

## Exhibit A – Agenda & Notes from Prior Year Planning Session

### ANNUAL MEETING

Date, Time & Location	: February 4, 2016, 11:00AM (adjourned after 1PM), 200 W. County Home Rd – LMP office
Community Liaisons	: Kevin Brotz, Leza Harrison, David Kuketz and Patty Searcy
Liaisons Present	: Kevin Brotz (by phone@12), Leza Harrison, and Patty Searcy
Seminole County	: Thomas Calhoun, Joey Cordell and Kathy Moore

#### **Topics carried forward from prior fiscal year activity** [Meeting Notes]

- March 28, 2015 planting event
  - Good participation; liaison noted size/maturity of plants presented planting challenges; bull rush does not do well
- Biobase mapping
  - Expecting results to be included in next report
- Lakewatch sampling
  - Commitment pending; seeking high school student interested in service hours
- Progress of the County's Fertilizer and Shoreline Protection ordinances
  - Liaisons requested distribution of information so they can be supportive of goals
- Shoreline clearing – unauthorized
  - Liaisons reported progress and also difficulty and delay in official response from agency; more clearing has taken place during interim

#### **General Topics & Updates** [Meeting Notes]

- (*Liaison Request*) Jan 2016 Water Quality/Water Resource Development laws - impact to Seminole County and Lake Management processes?
  - Will have little to no impact; some per Wekiva and Spring watersheds
- Nutrients/Habitat Scores; (*Liaison Request*) Nutrient Studies–general background (directives/purpose), selection process, funding source
  - Refer to Exhibit C
  - Funding via 1 cent sales tax; redirected to Kim Ornberg for more information
- Plans for current fiscal year
  - Refer to Page 5
  - Canal – Komeen Canal Crystal (hydrilla treatment canal) Per liaison request Thomas Calhoun to research options (such as alternative planting or vegetation removal) that may be available to address hydrilla; noted preference to avoid/reduce herbicide use; also canal is private
  - Liaisons posed several questions from quality control perspective; concerned with outcome (effectiveness and potential damage) of spraying done on windy days; also concern reported regarding spraying equipment needing maintenance attention (leaking/overspray) – Thomas Calhoun to provide follow-up
- Projections for next fiscal year
  - Refer to Page 5
- Financial and Budget Projections
  - Refer to Exhibit B; reduction in assessment recommended; reserve funds well established and sufficient to cover any hydrilla treatment that may be necessary
- General recommendations for community consideration
  - Refer to Page 4; Planting event to be coordinated via Thomas Calhoun; liaisons mentioned preference to receive planting dates prior to annual meeting

**Exhibit B - Budget/Financial Overview**

**MSBU: Horseshoe Lake**

**Date: February 24, 2017 Updated per recommended Hydrilla Treatment**

<b>Tax Year Assessment</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>
	\$ 165.00	\$ 165.00	\$ 120.00	\$ 165.00
<b>Fiscal Year</b>	<b>FY14-15</b>	<b>FY15-16</b>	<b>FY16-17</b>	<b>FY17-18</b>
<b>REVENUE</b>	<b>Actual</b>	<b>Actual</b>	<b>Working Budget</b>	<b>Proposed Budget</b>
Beginning Fund Balance	\$ 7,270	\$ 13,320	\$ 18,870	\$ 6,114
Assessments	\$ 7,939	\$ 7,946	\$ 5,760	\$ 7,920
Other	\$ 39	\$ 53	\$ 30	\$ 30
MSBU Program Fund Advance	\$ -	\$ -	\$ -	\$ -
<b>TOTAL</b>	<b>\$ 15,248</b>	<b>\$ 21,319</b>	<b>\$ 24,660</b>	<b>\$ 14,064</b>
Cost Sharing	\$ -	\$ -	\$ -	\$ -
Lake Management Program	\$ -	\$ -	\$ -	\$ -
<b>TOTAL</b>	<b>\$ 15,248</b>	<b>\$ 21,319</b>	<b>\$ 24,660</b>	<b>\$ 14,064</b>
<b>EXPENDITURE</b>	<b>Actual</b>	<b>Actual</b>	<b>Working Budget</b>	<b>Proposed Budget</b>
County Administrative Fee	\$ 1,075	\$ 1,075	\$ 1,825	\$ 1,200
Fund Advance Repayment	\$ -	\$ -	\$ -	\$ -
Contracted Services	\$ 853	\$ 1,374	\$ 16,722	\$ 1,500
<i>Routine Services</i>	\$ 853	\$ 1,374	\$ 1,722	\$ 1,500
<i>Hydrilla</i>	\$ -	\$ -	\$ 15,000	\$ 15,000
<i>Carp</i>	\$ -	\$ -	\$ -	\$ -
Contingency Reserve	\$ 13,320	\$ 18,870	\$ 6,114	\$ 11,364
<b>TOTAL</b>	<b>\$ 15,248</b>	<b>\$ 21,319</b>	<b>\$ 24,660</b>	<b>\$ 14,064</b>
Cost Sharing	\$ -	\$ -	\$ -	\$ -
Lake Management Program	\$ -	\$ -	\$ -	\$ -
<b>TOTAL</b>	<b>\$ 15,248</b>	<b>\$ 21,319</b>	<b>\$ 24,660</b>	<b>\$ 14,064</b>
<b>Fund Advance BB</b>	\$ -	\$ -	\$ -	\$ -
<b>Payment (to date)</b>	\$ -	\$ -	\$ -	\$ -
<b>Fund Advance EB</b>	\$ -	\$ -	\$ -	\$ -

FY16-17 Contracted Services includes \$522 Carry Forward for prior year invoices

## Exhibit C - Historic Reports/Data

Additional information for Horseshoe Lake North can be found on the Seminole County Water Atlas website at:

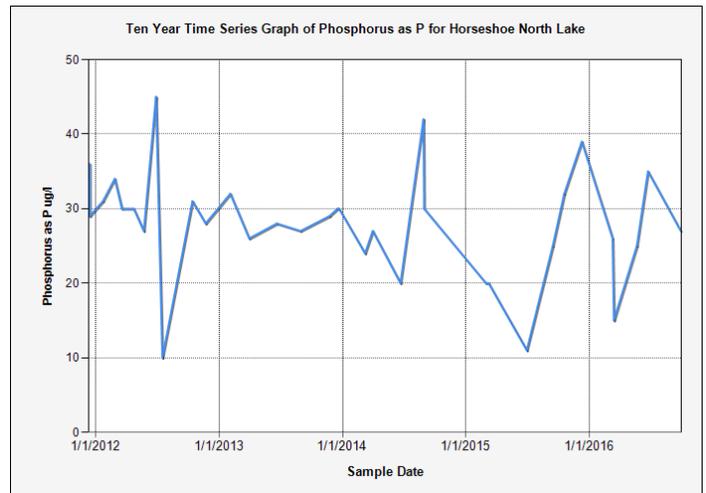
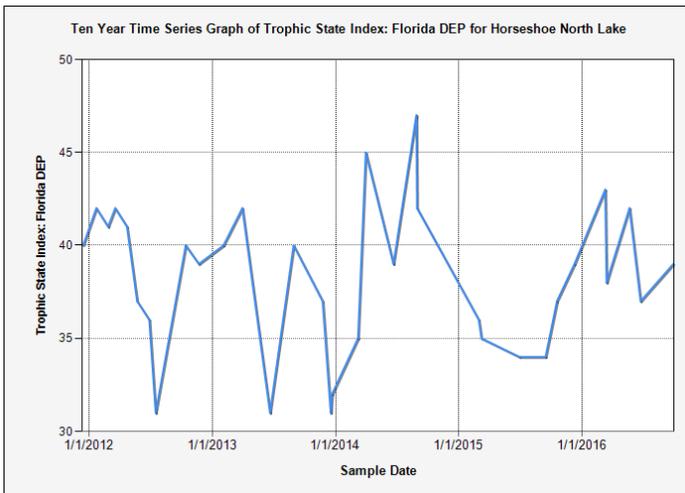
<http://www.seminole.wateratlas.usf.edu/resourceprogram.aspx?aid=15&wbodyid=7576>  
<http://www.seminole.wateratlas.usf.edu/lake/waterquality.asp?wbodyid=7576&wbodyatlas=lake>

### Horseshoe Lake North Water Quality Report: How Does My Lake Rank?

**TSI SCORE: 39 GOOD**

The Trophic State Index (TSI) is a classification system designed to "rate" individual lakes, ponds and reservoirs based on the amount of biological productivity occurring in the water. Using the index, one can gain a quick idea about how productive a lake is by its assigned TSI number. A "Good" quality lake is one that meets all lake use criteria (swimmable, fishable, and supports healthy habitat).

The two graphs below indicates nutrient levels (measured by TSI and Total Phosphorous [TP]) for your lake. A TSI score of 60 or above is considered impaired (or polluted) lake. Continued reduction of TP sources (personal pollution, run-off, landscaping practices, shoreline erosion) can help reduce phosphorous in your lake that is abundantly available, potentially creating algae blooms.



### Lake Vegetation Index Bioassessment (LVI): How Does My Lake Rank?

**45 Healthy**

The Lake Vegetation Index is a rapid bioassessment tool created by the Florida Department of Environmental Protection (FDEP) to assess the biological condition of aquatic plant communities in Florida lakes. The most recent LVI bioassessment for Horseshoe Lake North (sampled on August 30, 2016) scored a **45** which is in the **Healthy** category.

Aquatic life use category	LVI Range	Description
Category 1 "exceptional"	78-100	Nearly every macrophyte present is a species native to Florida, invasive taxa typically not found. About 30% of taxa present are identified as sensitive to disturbance and most taxa have C of C values >5.
Category 2 "healthy"	43-77	About 85% of macrophyte taxa are native to Florida; invasive taxa present. Sensitive taxa have declined to about 15% and C of C values average about 5.
Category 3 "impaired"	0-42	About 70% of macrophyte taxa are native to Florida. Invasive taxa may represent up to 1/3 of total taxa. Less than 10% of the taxa are sensitive and C of C values of most taxa are <4.

## Exhibit D - ROLES & RESPONSIBILITY

### General Outline

#### COUNTY

##### *Seminole County will*

- ✓ Govern the MSBU
- ✓ Provide financial management of MSBU fund
- ✓ Ensure activities conducted with assessment funding align with the scope of services documented in the governing ordinance
- ✓ Ensure the lake is monitored and services are appropriately rendered
- ✓ Maintain decision-making authority relative to lake management activities and aquatic vegetation management and will defer to best lake management practices when making such decisions
- ✓ Provide an ongoing lake management plan based on the defined service scope, permitting, conditions at the lake, funding parameters, and best lake management practices. The Lake Management Plan will be developed and maintained by the Lake Management Program with liaison participation
- ✓ Initiate and manage service contracts, monitor results, and communicate updates on a routine basis
- ✓ Conduct annual meetings that offer opportunity for liaison discussion as to prior, current, and future action plans
- ✓ Encourage liaisons and assist with educational outreach efforts to protect the health and water quality of the waterbody

#### LIAISONS

##### *Liaisons will*

- ✓ Encourage communitywide awareness and participation relative to environmental stewardship recommendations and opportunities
- ✓ Provide communitywide communication and assist the County in the distribution of relevant lake information
- ✓ Attend annual lake management and budget planning sessions conducted by the County
- ✓ Serve as representatives of the community on lake issues; representing the respective lake community as a whole
- ✓ Monitor lake conditions and provide feedback to the County as to observations