

February 4, 2016

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

Annual Meeting – 2016

- 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	: 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

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); Leza Harrison (skileza@aol.com); David Kuketz (u2consulting@hotmail.com); and Patty Searcy (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 weed control 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	:	January 29, 2015, 1:00 p.m., 200 W. County Home Rd – LMP office
Community Liaisons	:	Kevin Brotz, Leza Harrison, David Kuketz, and Patty Searcy
Liaisons Present	:	Leza Harrison, David Kuketz, and Patty Searcy
Seminole County	:	Sarah Benoit-Santiago, Thomas Calhoun, Kathy Moore, and Carol Watral

Topics carried forward from prior fiscal year (FY13/14) activity

- Scheduled aquatic plant control treatments are as authorized by County staff after conducting bioassessment.
- Hydrilla (one sprig) was observed along the northeast shoreline on September 2, 2014.
- Hydrilla was added to the Florida Fish and Wildlife Conservation Commission permit.
- North Shoreline Restoration Event was held August 16, 2014. Sixty-four volunteers helped plant 3,480 free native plants at six shoreline sites.
- Newly planted areas were marked by GPS to create additional no herbicide treatment zones with a map provided to the contractor.
- Residents have been reminded to hand-pull invasive plants in no treatment zones.
- Importance of maintaining level of service to control invasive aquatic plants, including water hyacinth, continues to be conveyed to the Liaisons.
- Property owners should be encouraged to communicate comments/concerns through the liaison group, who will provide consolidated request/comments to the MSBU Project Manager (Carol Watral).

General Topics & Updates

- Roles and responsibilities
- LAKEWATCH sampling
- Hydrilla presence
- Status of planted restoration sites and future planting events (March 2015)
- Continue pricing of state contract established with herbicide service provider
- Plans for current fiscal year
- Projections for next fiscal year
- General recommendations for community consideration

Topics Requested by Liaisons

- Water sampling: (1) months collected; (2) notice of sampling; (3) Lakewatch vs. County comparison
- Hydrilla locations and method of identifying locations
- LVI process: (1) background information; (2) how the data is collected; (3) how it is analyzed
- Components of budgeted routine services and “reserve” target

Meeting Notes:

- March 28, 2015 planting event was discussed: Pickerelweed, thalia, (and possibly sawgrass) were discussed as good alternatives in regards to wave action uprooting plants; Liaisons reported bulrush and canna have not done well; LMP reminded that planting events target disturbed and eroded areas, but plants in the areas targeted may be eliminated by water depths/wave action; LMP will check on appropriate plants for wave action areas and review with liaisons
- Liaisons scheduled February 10 as a community meeting and asked if LMP will attend; LMP will check with Dean Barber for availability
- Liaisons reported “conservation” areas are being cleared on the Oviedo lakefront properties; LMP will follow up with the liaisons with contact information to whom they can report the activities
- Liaison questioned the use of “Sunwet”; LMP explained it assists the treatment herbicide in sticking to the plant

- LMP reported pulling hydrilla from the lake (south of the north end of the canal) twice but there is not enough hydrilla to warrant a triploid grass carp fish stocking. Carp are also not advised due to low levels of submersed aquatic vegetation in the lake
- LMP announced a SAV mapping system. Ongoing maps will be made to provide for future comparisons on annual to biannual basis.
- LMP will provide liaisons with Marianne Pluchino's contact information, Water Quality Program's Senior Environmental Scientist, to discuss sampling scheduled
- LMP offered to drop off plants to properties to be planted outside of restoration events
- We have a new FWC regional biologist: Kris Campbell, at 6830 Shadowridge Dr., Suite 201, Orlando, FL 32812, 407-858-6170
- Progress of the County fertilizer ordinance was discussed

Exhibit B - Budget/Financial Overview

MSBU: Horseshoe Lake

Date: January 1, 2016

Tax Year	2013	2014	2015	2016
Assessment	\$165.00	\$165.00	\$165.00	\$120.00
Fiscal Year	FY13-14	FY14-15	FY15-16	FY16-17
REVENUE	Actual	Actual	Working Budget	Proposed Budget
Beginning Fund Balance	\$ 2,124	\$ 7,270	\$ 13,320	\$ 18,790
Assessments	\$ 7,941	\$ 7,939	\$ 7,920	\$ 5,760
Other	\$ 17	\$ 39	\$ 25	\$ 25
MSBU Program Fund Advance	\$ -	\$ -	\$ -	\$ -
TOTAL	\$ 10,082	\$ 15,248	\$ 21,265	\$ 24,575
Cost Sharing	\$ -	\$ -	\$ -	\$ -
Lake Management Program	\$ -	\$ -	\$ -	\$ -
TOTAL	\$ 10,082	\$ 15,248	\$ 21,265	\$ 24,575
EXPENDITURE	Actual	Actual	Working Budget	Proposed Budget
County Administrative Fee	\$ 1,075	\$ 1,075	\$ 1,075	\$ 1,075
Fund Advance Repayment	\$ 800	\$ -	\$ -	\$ -
Contracted Services	\$ 937	\$ 853	\$ 1,400	\$ 2,000
<i>Routine Services</i>	\$ 937	\$ 853	\$ 1,000	\$ 1,200
<i>Hydrilla</i>	\$ -	\$ -	\$ 400	\$ 800
Contingency Reserve	\$ 7,270	\$ 13,320	\$ 18,790	\$ 21,500
TOTAL	\$ 10,082	\$ 15,248	\$ 21,265	\$ 24,575
Cost Sharing	\$ -	\$ -	\$ -	\$ -
Lake Management Program	\$ -	\$ -	\$ -	\$ -
TOTAL	\$ 10,082	\$ 15,248	\$ 21,265	\$ 24,575
Fund Advance BB	\$ 2,275	\$ -	\$ -	\$ -
Payment (to date)	\$ 2,275	\$ -	\$ -	\$ -
Fund Advance EB	\$ -	\$ -	\$ -	\$ -

Exhibit C - Historic Reports/Data

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

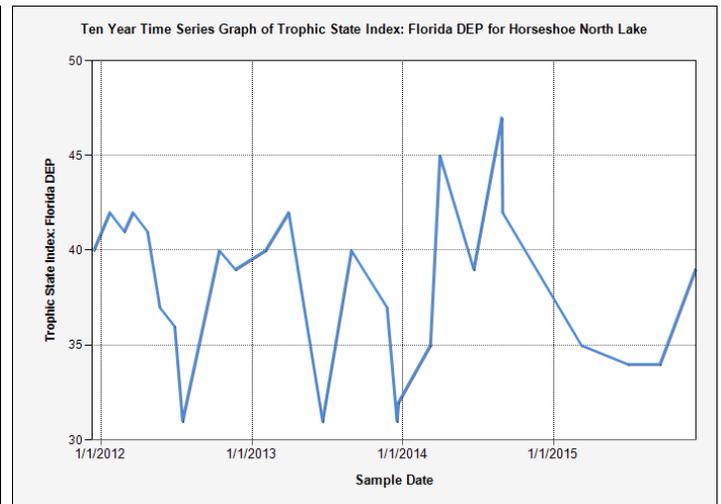
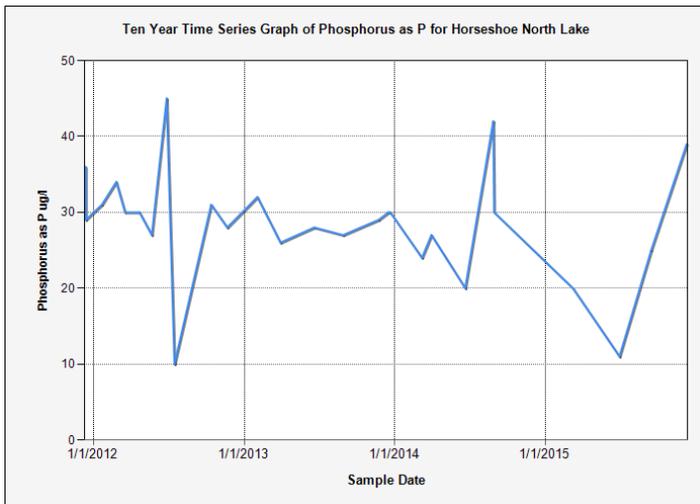
<http://www.seminole.wateratlas.usf.edu/resourceprogram.aspx?aid=15&wbodyid=7576>
<http://www.seminole.wateratlas.usf.edu/lake/waterquality.asp?wbodyid=7576&wbodyatlas=lake>

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?

44 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 September 2, 2014) scored a **44** 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