

January 25, 2017

**LAKE OF THE WOODS
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
- Next Fiscal Year
 - Projected Treatments & Funding
- Exhibits
 - Agenda & Notes Prior Year
 - Budget & Financial Summary
 - Historic Reports/Data
 - Roles & Responsibilities

LAKE OF THE WOODS ANNUAL MEETING

Date, Time & Location	: January 25, 2017, 1:30 P.m., 200 W. County Home Rd – LMP office
Community Liaisons	: Tim Hayes, Randy Lee, Brian Nelson, Glenn MacDonald, Nicole Murphy, & Rafael Sotomayor
Liaisons Present	: Andra Smith (replaces Rafael), Glenn MacDonald, Scott Sampsel
Seminole County	: Thomas Calhoun, Joey Cordell, Gloria Eby, and Joe Saucer

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, 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.
- Re-lining pipes draining to the lake north of Wellington.
 - Project complete, old pipes were very old and removed
- Baffle Box installation
 - Requested inclusion in CIP this year, however denied per other priority projects. LMP resubmitting for inclusion in the FY17-18 CIP

General Topics & Updates [Meeting Notes]

- 2017 Shoreline Planting Event- dates available
 - To be coordinated via Thomas Calhoun.
 - Scott Sampsel requested planting sites at south end of the lake. Scott will coordinate with homeowners on the south end of the lake to encourage removal of the cattails - with replacement of other recommended native vegetation
- Nutrients/Habitat Scores: changes in bioassessment indices
 - Refer to Exhibit C; Hydrilla presence and influence on scoring
 - Hydrilla is being found in shallow portions of the lake, and not in the deeper middle portions at this point. Hydrilla is being monitored and treated as needed.
- Plans for current fiscal year

- Refer to Page 6
- Scott Sampsel requested Lake Liaison status; request pending confirmation.
- Gloria Eby to request PW Engineering contact the Lake of the Woods Condo HOA about drainage issues from the north.
- Water quality improvement projects - Gloria Eby is to obtain soft cost estimates for water quality projects including sediment testing and possibly leading to Alum treatment recommendations.
- Projections for next fiscal year
 - Refer to Page 6
- Financial Status & Budget – Prior, Current and Proposed
 - Refer to Exhibit B for budget; assessment to be held at \$375.00 until alternative water quality projects and cost can be evaluated further
- General recommendations for community consideration
 - Refer to Page 5; Increase native aquatic plantings in areas devoid of vegetation

LAKE OF THE WOODS

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 09-14
- Agreement with Lake of the Woods Homeowners Association, Inc.
- FWC Permit

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

- Chemical (herbicides)
- Biological (sterile triploid grass carp fish [TGC])
- Mechanical (harvesting, cutting, etc.)

Targeted Invasive/Exotic Aquatic Vegetation

- Hydrilla, water hyacinth, torpedo grass, paragrass, cattail, primrose willow, alligator weed, Cuban bulrush, exotic water lily, wild taro, water fern, algae, spatterdock, southern naiad, coontail, and willow.

Frequency of AWC Treatment

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

Herbicide Treatments - Service Provider

- As determined by Seminole County

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 current liaisons for Lake of the Woods are: Tim Hayes (thayesiv@aol.com), Randy Lee (rlee@jetlift.com), Glenn MacDonald, Nicole Murphy (nmurphy0315@earthlink.net), Brian Nelson (halfnelly@gmail.com), and Andra Smith (Andra@lakeofthewoodshoa.com).

COMMUNITY-BASED ACTIVITIES & EVENTS

LMP continues to recommend/encourage future resident-based volunteers involving native plantings along the shoreline. The intention of such an event is to plant beneficial native aquatic plants in key areas along the shoreline creating a beneficial shoreline for Lake of the Woods. It is especially important that as aquatic invasive plants (such as torpedo grass) are being treated, native aquatic plants should be established within these areas. This also provides habitat for fish and wildlife, helps impede invasive exotics from re-establishing and reduces sedimentation into the lake due to erosion of the shoreline. All of these best lake management practices are essential to providing a more environmentally stable lake for generations to come. The key to success in lake management projects is dependent on strong participation of the Lake of the Woods community.

Continued recommendations for community initiatives are as follows:

- 1) Continue with review of street sweeping program,
- 2) Implement educational outreach programs i.e. Shoreline Restoration Workshops (planting days), Florida Yards and Neighborhoods (FYN) presentations, Lake Management Video mail-outs, and reduction of residential pollution by using low fertilizer use; phosphorous free and slow-releasing nitrogen based fertilizers; keeping a functional shoreline with beneficial native aquatic plants; keeping grass clippings out of your storm drains leading to the lake. All these activities aid in protecting your lake! Contact Gloria Eby (407) 665-2439 or Marie Lackey (407) 665-2424 for more information and assistance.
- 3) Provide content for the Seminole County Water Atlas Lake Management webpage for Lake of the Woods (such as newsletters, photos, and community updates).
- 4) Individual property owners interested in establishing a recreational access corridor can apply for an aquatic plant removal permit (free) through the Florida Fish and Wildlife Conservation Commission (FWC) at <http://www.myfwc.com/license/aquatic-plants>. Additional information specific to managing eelgrass, a native aquatic plant is available via your FWC regional biologist, Lorne Malo, at 6830 Shadowridge Dr., Suite 201, Orlando, FL 32812 407-858-6170 to obtain a free permit.

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.

COUNTY SERVICES – Lake Management & Supplemental Programs

Lake of the Woods is monitored by LMP to assess the aquatic plant growth. LMP provides continued evaluation of the aquatic plant species, such as hydrilla, and provides community updates 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. 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. 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

Hydrilla growth in Lake of the Woods has likelihood to continue, however, the timing and extent of hydrilla re-growth is affected by multiple natural and environmental factors that cannot be controlled or predicted with certainty. While extensive growth of hydrilla is possible at any point in time, it is anticipated that routine spot treatments of hydrilla with herbicides and continuous biological control pressures from the triploid grass carp fish will be sufficient to manage hydrilla re-growth during the current fiscal year. The anticipation of spot treatments for the current fiscal year takes into consideration the historic trend of hydrilla management required at Lake of the Woods, as well as current conditions observed at the lake. As with any lake with a history of hydrilla infestation, long-term planning to include financial preparation for whole lake treatment is advised. LMP will continue to closely monitor and gauge hydrilla in Lake of the Woods. Hydrilla deposits bulb like seeds (tubers) into the sediment which can remain viable for up to six years. Tubers are produced in each growing season and are used to perennialize the plant as a means of propagation (re-growth). Since Lake of the Woods was previously infested with hydrilla, many tubers were deposited in the lake bed during this time. The recommendation for the management plan in Lake of the Woods is to continue to integrate use of contact herbicides with grass carp fish to manage hydrilla re-growth from tubers.

Eelgrass Inquiries: Seminole County continues to receive inquiries regarding eelgrass impacting boating access. Eelgrass is a beneficial native aquatic plant. Property owners with recreational access issues due to eelgrass can apply for a free aquatic plant removal permit through the Florida Fish and Wildlife Conservation Commission (FWC) at <http://www.myfwc.com/license/aquatic-plants>. Some access corridors have been successfully treated by individual homeowners since their permit was issued. Additional information specific to managing eelgrass and assistance with applying for a permit is available via your local FWC regional biologist at 407-858-6170. **Note:** The management of eelgrass is not financed through the MSBU assessment nor listed on the county's aquatic weed control permit for Lake of the Woods issued by FWC. Adding eelgrass management to the current MSBU would yield a significant increase in the annual MSBU assessment. Property owners interested in adding eelgrass management to the MSBU service scope are encouraged to contact their lake liaisons to discuss financial implications and the process for adding this plant to the scope of funded services.

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

NEXT FISCAL YEAR – Projected Treatment & Funding

Primary Aquatic Plant Management Expectations

The projected treatment plans for the next fiscal year remain consistent with the plans and expectations noted for the current fiscal year. Primary expectations are as follows:

- 1) Continued close monitoring of hydrilla (re-growth from tuber production),
- 2) Conduct spot treatments of hydrilla if required,
- 3) Continued treatment of the invasive aquatic plants – herbicides,
- 4) Monitor/control/replant managed areas,
- 5) Future grass carp stockings if required, and
- 6) Continue to increase number of shoreline re-vegetation sites (lakefront community).

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

Exhibits

A – Agenda & Notes (Prior Year Planning Session)

B – Budget/Financial Summaries

C – Historic Reports/Data

D – Roles & Responsibilities

Exhibit A – Agenda & Notes (Prior Year Planning Session)

Date, Time & Location	:	January 21, 2016, 9:00 a.m., 200 W. County Home Rd – LMP office
Community Liaisons	:	Tim Hayes, Randy Lee, Robert London, Glenn MacDonald, Nicole Murphy, and Rafael Sotomayor
Liaisons Present	:	Tim Hayes, Randy Lee and Rafael Sotomayor
Seminole County	:	Thomas Calhoun, Joey Cordell, Gloria Eby and Sarah Benoit

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

- Few sprigs of hydrilla found; closely monitored and treated.
 - No hydrilla detected in most recent inspection. The potential of increasing hydrilla growth due to re-growth of tubers still exists. Large-scale herbicide treatments may be required every two to three years. Product rotation is required to reduce potential for resistant hydrilla
- Liaisons asked about status of LOW in benefiting from 1% sales tax
 - A metric is being formulated to evaluate needs and assistance that may be available from this funding
- County ordinances – Fertilizer Restrictions & Shoreline Protection
 - Documents developed and undergoing preliminary considerations prior to presentation to Board of County Commissioners. Targeting to present to BCC within next several months.
- LMP encourages holding a community educational meeting; liaisons will check on scheduling a future educational meeting and follow-up with LMP
 - Liaisons prefer an annual community meeting

General Topics & Updates [Meeting Notes]

- Nutrients/Habitat Scores: Minimal changes in bioassessment indices
 - Refer to Exhibit C - good scores; healthy rating
 - Lakewatch is currently in place and having the extra data is good for the lake
- Plans for current fiscal year
 - Refer to Page 5
 - Otters have been observed and they may impact grass carp fish levels; will re-stock if merited
 - The county will be working on re-lining pipes draining to the lake north of Wellington. This should help reduce sediment/nutrients into the lake via this pipe.
- Projections for next fiscal year
 - Refer to Page 5
 - Refer to Exhibit B for budget; assessment reduced from \$400.00 to \$375.00
- General recommendations for community consideration
 - Refer to Page 4

Exhibit B - Budget/Financial Overview

MSBU: LAKE OF THE WOODS

Date: January 1, 2017

Tax Year	2014	2015	2016	2017
Assessment	\$425.00	\$400.00	\$375.00	\$375.00
Fiscal Year	FY14-15	FY15-16	FY16-17	FY17-18
REVENUE	Actual	Actual	Working Budget	Proposed Budget
Beginning Fund Balance	\$ 64,423	\$ 83,362	\$ 101,171	\$ 112,766
Assessments	\$ 21,788	\$ 20,516	\$ 18,720	\$ 18,720
Other	\$ 149	\$ 189	\$ 150	\$ 150
MSBU Program Fund Advance	\$ -	\$ -	\$ -	\$ -
TOTAL	\$ 86,360	\$ 104,067	\$ 120,041	\$ 131,636
Cost Sharing Lake Management Program				
TOTAL	\$ 86,360	\$ 104,067	\$ 120,041	\$ 131,636
EXPENDITURE	Actual	Actual	Working Budget	Projected Budget
County Administrative Fee	\$ 1,075	\$ 1,075	\$ 1,075	\$ 1,075
Fund Advance Repayment	\$ -	\$ -	\$ -	\$ -
Contracted Services	\$ 1,923	\$ 1,821	\$ 6,200	\$ 6,600
<i>Routine Services</i>	\$ 1,923	\$ 937	\$ 3,000	\$ 3,000
<i>Hydrilla</i>	\$ -	\$ -	\$ 2,000	\$ 2,000
<i>Carp</i>	\$ -	\$ -	\$ -	\$ 400
<i>Barrier Maint</i>	\$ -	\$ 884	\$ 1,200	\$ 1,200
<i>Other</i>	\$ -	\$ -	\$ -	\$ -
Contingency Reserve	\$ 83,362	\$ 101,171	\$ 112,766	\$ 123,961
TOTAL	\$ 86,360	\$ 104,067	\$ 120,041	\$ 131,636
Cost Sharing Lake Management Program	\$ -		\$ -	\$ -
TOTAL	\$ 86,360	\$ 104,067	\$ 120,041	\$ 131,636
Fund Advance BB Payment	\$ -	\$ -	\$ -	\$ -
Fund Advance EB	\$ -	\$ -	\$ -	\$ -

Exhibit C - Historic Reports/Data

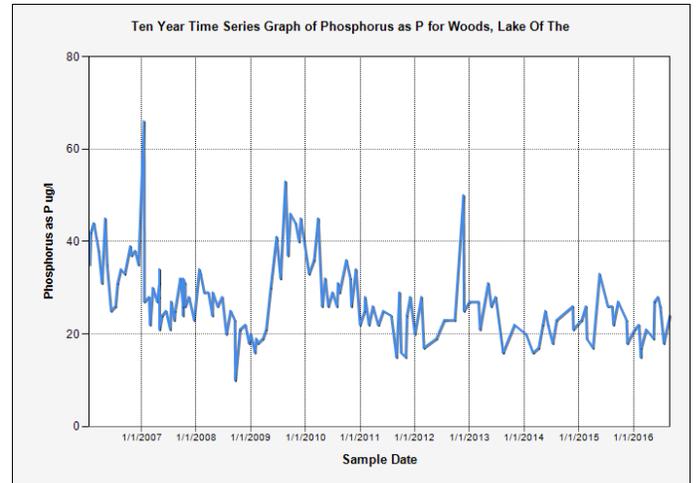
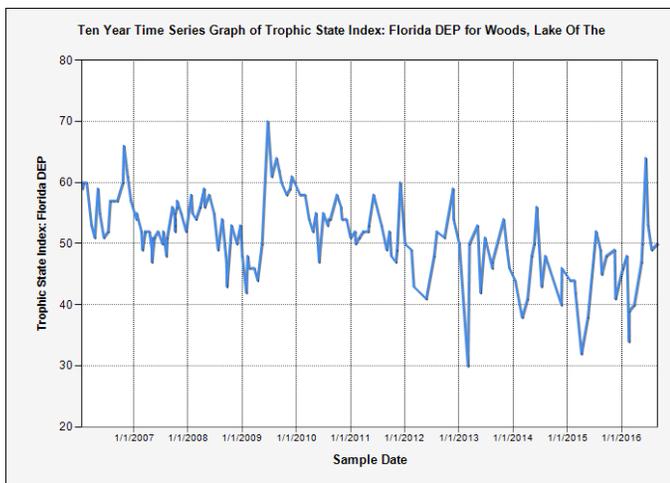
Additional information for Lake of the Woods can be found on the County's Water Atlas website at:

<http://www.seminole.wateratlas.usf.edu/lake/?wbodyatlas=lake&wbodyid=7686>
<http://www.seminole.wateratlas.usf.edu/resourceprogram.aspx?aid=15&wbodyid=7686>

Lake of the Woods Water Quality Report: How Does My Lake Rank? **TSI SCORE: 50 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/or 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? **40 Impaired**

The Lake Vegetation Index is a rapid bioassessment tool created by the Florida Department of Environmental Protection (FDEP) to assess the biological condition of the aquatic plant communities in Florida lakes. The August 1, 2012, LVI assessment score for Lake of the Woods was **49 Healthy**. Lake of the Woods LVI scores range from 26 to 53 since inception of our lake management efforts in 2009. Hydrilla dominance plays a vital role in degrading the lake's LVI score as the April 3, 2012 assessment score was greatly reduced to **26 Impaired**. This demonstrates an improvement in the LVI score as result of hydrilla treatment/management. The most recent LVI bioassessment for Lake of the Woods (sampled on August 22, 2016) scored a **40** which is in the **Impaired** category due to hydrilla presence in 2 of the 4 sampling units.

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 & Responsibilities

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