

2019

**LAKE OF THE WOODS
LAKE MANAGEMENT PLAN**

Annual Meeting

- 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
 - Financial Summary
 - Historic Reports/Data
 - Roles & Responsibilities

LAKE OF THE WOODS: ANNUAL MEETING

Date/Time/Location: March 5, 2019 1:30pm – 2:30pm 200 W. County Home Rd – LMP office
Community Liaisons: Tim Hayes, Randy Lee, Glenn MacDonald, Nicole Murphy, Brian Nelson, Scott Sampsel, and Andra Smith
Liaisons Present : Scott Sampsel, Doug Bearden, and Glenn MacDonald
Seminole County : Thomas Calhoun, Joey Cordell, Gloria Eby, and Joe Saucer

General Topics & Updates

Lake Management Program

- Welcome
- Fertilizer Ordinance- Passed on February 27, 2017 www.seminolecountyfl.gov/fertilizer
 - Restricted Months: no fertilizing June 1st- September 30th
 - Slow Release Nitrogen: at least 50%
 - Know How Much: www.seminolecountyfl.gov/calculator
 - Buffer Zone: 15 feet from all waterbodies
- Shoreline Protection Ordinance Status
 - FWC Rule change removes permit requirements on lakes smaller than 160 acres
 - Currently drafting County Shoreline Ordinance
 - LMP will keep liaisons updated
- Lake Status Nutrients/Habitat Scores [Refer to Exhibit C: Bioassessment Indices]
 - Post hurricane effects
 - Increase in TSI score due to hydrologic effects
 - LVI/BioBase data on Watershed Atlas website:
<http://www.seminole.wateratlas.usf.edu/shared/ecology.asp?wbodyid=7686&wbodyatlas=lake>
- Treatment Plans - Current & Proposed [Refer to Lake Management Plan]
 - Monitor hydrilla and treat as necessary (early detection-rapid response)
 - Hydrilla sparse at this time
 - Evaluate grass carp fish effects and adjust stocking rate as necessary
 - Monitor coontail and treat as necessary
 - Shoreline SAV treated ~ 6 months ago around perimeter of lake
 - Invasive removal for west side near Spartan Dr.
 - Project completed Liaison complemented the work
- General recommendations for lake-community [Refer to Lake Management Plan]
 - Increase native aquatic plantings in areas devoid of vegetation
 - Promote “welcome packages” to new lakefront homeowners
 - Lakewatch samples - no data since 2016
 - Scott Sampsel and Doug Bearden interested in sampling- LMP will provide contact info for training
- 2019 Shoreline Planting Event- dates available
 - To be coordinated via Thomas Calhoun
 - May 4, 2019
 - Plant sensitivity scoring discussed
- Other
 - TGC Fish Barrier/Stocking (102 fish stocked in 2018)
 - New removable aluminum barrier completed, possibly FEMA funded (MSBU to update)
 - Barrier is inspected and maintained (debris removal/cleaned) monthly by a contractor and by LMP
 - Discussed grass carp stocking history and predators- Liaisons reported otter sightings
 - Email Address for routine communications and important announcements
 - Nutrient Abatement/Water Quality Projects
 - Alum treatment discussed, checking on costs
 - 1 cent sales tax for stormwater retrofit and baffle boxes project discussed

- Watershed was discussed “headwaters” for Howell Creek-Jesup-St. Johns River and potential funding as result
- Broken Summerwood ramp
 - LMP will put in work order with stormwater to inspect headwall for possible repair
- Liaison requested update on ordinance related to alum use and other projects- MSBU provided update on ordinance restrictions
 - Updates to include nutrient abatement type of projects

MSBU Program

- Financial Status [Refer to Exhibit B]

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
- Roles and Responsibilities – Exhibit

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

Financial management of the MSBU fund is provided by the Seminole County MSBU Program. Financial plans developed by the MSBU Program include eligible expense funding requests submitted by the Lake Management Program and other cost and revenue components typical to MSBU funds. Financial information inclusive of prior year actual outcome, current year working budget and next year budget proposal data is reported annually. Assessment levy is subject to Board approval and the standard procedures associated with non-ad valorem assessment. The financial plans may be adjusted by the County as merited per changing/evolving essential services as directed by the County and per financial planning considerations. 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: **Doug Bearden** (DougVBearden@gmail.com), **Tim Hayes** (thayesiv@aol.com), **Randy Lee** (rlee@jetlift.com), **Glenn MacDonald**, **Nicole Murphy** (nmurphy0315@earthlink.net), **Brian Nelson** (halfnelly@gmail.com), **Scott Sampsel** (ScottCSampsel@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 along the shoreline 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. The presence of submerged aquatic vegetation ("SAV" such as hydrilla) should be communicated to your lake liaison for their reporting to the County so appropriate treatment of SAV can be provided.

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 treatments and waterbody bioassessments. 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 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,
- 6) Continue to increase number of shoreline re-vegetation sites (lakefront community).

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

Exhibits

A – Agenda & Notes (Prior Year Meeting)

B – Financial Summary

C – Historic Reports/Data

D – Roles & Responsibilities

Exhibit A – Agenda & Notes (Prior Year)

Date/Time/Location: February 23, 2018, 2:00 p.m., 200 W. County Home Rd – LMP office

Community Liaisons: Tim Hayes, Randy Lee, Glenn MacDonald, Nicole Murphy, Brian Nelson, Scott Sampsel, and Andra Smith

Liaisons Present: Randy Lee, Glenn MacDonald, Brian Nelson, Scott Sampsel, Scott Murphy, and Allen Young

Seminole County: Edward Bass, Thomas Calhoun, Gloria Eby, and Kathy Moore

General Topics & Updates [Meeting Notes provided by respective County Programs]

Lake Management Program

- Welcome
- Fertilizer Ordinance- Passed on February 27, 2017. www.seminolecountyfl.gov/fertilizer.
 - Fertilizer containing nitrogen or phosphorous cannot be applied to turf during the restricted season from June 1st – September 30th. Fertilizers containing Iron, Manganese and other "micronutrients" also referred to as "summer blends" can be applied during the restricted.
 - Fertilizer containing nitrogen that is used during the **non**-restricted season (October 1st – May 31st) must contain *at least* 50% or more slow release nitrogen. This slow release nitrogen content will increase to 65%, three (3) years after adoption of the Fertilizer Ordinance, to allow time for educational outreach to residents and retailers.
 - Fertilizer containing phosphorus cannot be applied to turf or plants unless a state certified soil or tissue test verifies that there is a phosphorus deficiency.
 - Use of deflector shields is required when applying fertilizer with a broadcast or rotary spreader.
 - No fertilizer may be applied within fifteen (15) feet of any pond, lake, stream, canal, or other waterbody, including wetlands.
- Shoreline Protection Ordinance Status
 - Awaiting FWC Rule changes
- Lake Status Nutrients/Habitat Scores [Refer to Exhibit C: Bioassessment Indices]
 - Lake indices remain the same
 - LVI/BioBase data on Watershed Atlas website:
<http://www.seminole.wateratlas.usf.edu/shared/ecology.asp?wbodyid=7686&wbodyatlas=lake>
- Treatment Plans - Current & Proposed [Refer to Lake Management Plan]
 - Monitor hydrilla and treat as necessary (early detection-rapid response)
 - Evaluate grass carp fish effects and adjust stocking rate as necessary
 - Monitor coontail and treat as necessary
 - Invasive removal scheduled for west side near Spartan Dr.
- General recommendations for lake-community [Refer to Lake Management Plan]
 - Increase native aquatic plantings in areas devoid of vegetation
 - Promote "welcome packages" to new lakefront homeowners
 - Lakewatch samples - no data since 2016
- 2018 Shoreline Planting Event- dates available
 - To be coordinated via Thomas Calhoun – Scheduled for 9/22/2018
- Other
 - TGC Fish Barrier/Stocking
 - Email Address for routine communications and important announcements
 - Nutrient Abatement/Water Quality Projects
 - Discussed SAV treatments
 - Liaisons expressed they have a vested interest in the management of their lake and were disappointed with the premise MSBU funding could not be used for water quality/lake management projects

MSBU Program

- Financial Summary [Refer to Exhibit B]
 - Opportunity to reduce assessment; LM Program & Liaisons requested no rate reduction
- Nutrient abatement not an authorized service at this time. Reviewed change process.
- Anticipating Administrative Fee increase FY19-20; tax year 2019
- Tentative date for next annual meeting: February 1, 2019 2:00PM

Exhibit B - Financial Summary

January 2019

Tax Year Assessment	2017 \$ 375	2018 \$ 375	2019 \$ 375
Fiscal Year	FY17-18	FY18-19	FY19-20
REVENUE			
	Actual	Working Budget	Proposed Budget
Beginning Fund Balance	\$ 87,390	\$ 80,983	\$ 92,028
Assessments	\$ 19,187	\$ 19,080	\$ 19,080
Other	\$ 1,514	\$ 600	\$ 600
MSBU Program Fund Advance [FEMA]	\$ -	\$ -	\$ 5,130
TOTAL	\$ 108,091	\$ 100,663	\$ 116,838
Cost Sharing Lake Management Program			
TOTAL	\$ 108,091	\$ 100,663	\$ 116,838
EXPENDITURE			
	Actual	Working Budget	Projected Budget
County Administrative Fee	\$ 1,075	\$ 1,235	\$ 1,380
Fund Advance Repayment	\$ -	\$ -	\$ -
Contracted Services	\$ 26,033	\$ 7,400	\$ 7,400
<i>Routine Services</i>	\$ 933	\$ 3,000	\$ 2,000
<i>Hydrilla</i>	\$ 6,077	\$ 2,000	\$ 3,000
<i>TGC Fish</i>	\$ -	\$ -	\$ -
<i>Fish Barrier Services</i>	\$ 600	\$ 2,400	\$ 2,400
<i>Fish Barrier Replace/Repair</i>	\$ 5,700	\$ -	\$ -
<i>Nutrient Abatement (NAV)</i>	\$ -	\$ -	\$ -
<i>Harvesting</i>	\$ 12,723	\$ -	\$ -
<i>Other</i>	\$ -	\$ -	\$ -
Reserve/Contingency	\$ 80,983	\$ 92,028	\$ 108,058
<i>Operating Contingency</i>	\$ 80,983	\$ 6,328	\$ 22,358
<i>Reserve: Hydrilla (Whole Lake)</i>	\$ -	\$ 50,000	\$ 50,000
<i>Reserve: Barrier Replace/Repair</i>	\$ -	\$ 5,700	\$ 5,700
<i>Reserve: Admin Code & Ord Amnd</i>	\$ -	\$ 30,000	\$ 30,000
TOTAL	\$ 108,091	\$ 100,663	\$ 116,838
Cost Sharing Lake Management Program		\$ -	\$ -
TOTAL	\$ 108,091	\$ 100,663	\$ 116,838
Fund Advance BB Payment (Principal)	\$ -	\$ -	\$ -
Fund Advance EB	\$ -	\$ -	\$ -
MSBU Program Administration Cost	\$ 1,469	\$ 15,969	
LM Program Administration Cost	\$ 11,500		
Restoration Event Cost	\$ 3,000		

Exhibit C - Historic Reports/Data

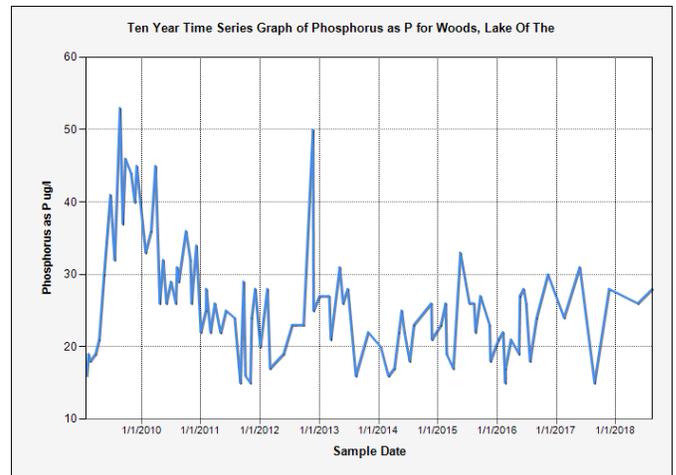
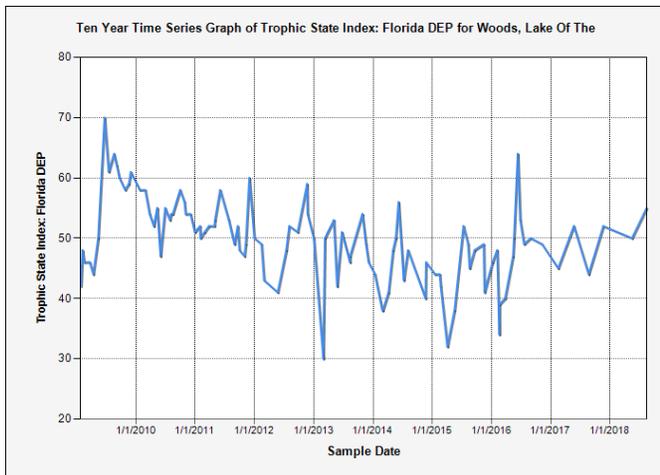
Additional information for Lake of the Woods can be found on the County's Water Atlas website at:

<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: 55 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? **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 the aquatic plant communities in Florida lakes. The most recent LVI bioassessment for Lake of the Woods (sampled on October 5, 2018) scored a **44** which is in the **Healthy**. This is an increase from the previous score of **40, Impaired**.

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 and assessment levy
- ✓ 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 public services 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