

2023

**MYRTLE LAKE
LAKE MANAGEMENT PLAN**

Annual Meeting

- Agenda

Lake Management Plan

- General Provisions
- Community-Based Activities & Events
- County Services
 - Lake Management & Supplemental Programs
- Current Fiscal Year
 - Planned Treatments & Funding
 - Recommendations
- Next Fiscal Year
 - Projected Treatments & Funding
- Exhibits
 - Agenda & Notes Prior Year
 - Financial Summary
 - Historic Reports/Data
 - Roles & Responsibilities

MYRTLE LAKE: ANNUAL MEETING

Date /Time/ Location:	Friday, January 27, 2023 / 3:15 pm – 4:00 pm/ ZOOM-Virtual
Community Liaisons:	Dave Crowder, Lindy Freeman, Gretchen Hobkirk, Gabriela and John Murza, Jane Solverson
Liaisons Present:	Dave Crowder, Gretchen Hobkirk, Gabriela Murza, Lindy Freeman
Seminole County:	Thomas Calhoun, Tony Cintron, Daniel Barber, Chad Day, Michael Eason, Tameka Morton, Michelle Rosa-Munger, Lynda Reaves

General Topics & Updates

Lake Management Program

- Welcome
- Shoreline Protection Ordinance Status
 - Approved in April 2021
- Lake Status Nutrients/Habitat Scores [Refer to Exhibit C: Bioassessment Indices]
 - LVI score increase and maintains Healthy category
 - TSI score changes from impaired to Good – More data collection will provide precise trend lines. Scored 54 in Good Category.
 - Lakewatch data
- Treatment Plans - Current & Proposed [Refer to Lake Management Plan]
 - Monitor hydrilla and treat as necessary – **Hydrilla in southwest lobe to be treated**
 - Treat invasive emergent vegetation
 - Maintain lily pads and access corridors
 - 34 Grass Carp stocked in December 2022
- General Recommendations for Lake Community Consideration [Refer to Lake Management Plan]
 - Increase native aquatic plantings in areas devoid of vegetation
 - Promote “welcome packages” to new lakefront homeowners – **Gretchen needs packets**
 - Hold community meeting
 - Lakewatch samples – **Gretchen to receive training**
- 2023 Shoreline Planting Event- dates tentative
 - To be coordinated via Tony Cintron
 - Plants to be funded by MSBU
- Other
 - Island/ramp retrofit - complete
 - Email addresses for routine communications and important announcements
 - **Contact stormwater to add no trespassing sign at retention pond**
 - **Chain over boat ramp access – after contacting homeowner for permission**
 - Nutrient Study Update
 - Study is currently on hold.

MSBU Program & Resource Management Department

- Financial Summary [Refer to Exhibit B]

MYRTLE LAKE LAKE MANAGEMENT PLAN

GENERAL PROVISIONS

Scope of Public Lake Management Services

The scope of public lake management 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 10-18
- FWC Triploid Grass Carp 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.)
- Physical (hand removal)

Targeted Invasive/Exotic Aquatic Vegetation

Hydrilla, southern naiad, water hyacinth, torpedo grass, primrose willow, water lily, wild taro, cattail, barnyard grass, salvinia, dog fennel and algae.

Frequency of Aquatic Vegetation Management Treatment

Treatment services are performed at the direction of the Seminole County LMP as per the Myrtle Lake 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. Per the governing ordinance, the annual assessment is capped at \$375.00, and the annual increase in any given year is limited to a maximum of \$25.00.

Seminole County Employees

Information for contacting the employees of Lake Management and the MSBU program:

Lake Management – Thomas Calhoun (tcalhoun@seminolecountyfl.gov), Tony Cintron (acintron@seminolecountyfl.gov), Daniel Barber (dbarber02@seminolecountyfl.gov), Chad Day (cday02@seminolecountyfl.gov)

MSBU – Michael Eason (meason@seminolecountyfl.gov), Tameka Morton (tmorton@seminolecountyfl.gov), Michelle Rosa-Munger (mrosamunger@seminolecountyfl.gov)

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 Myrtle Lake are: Dave Crowder (Dave@DCrowder.com), Lindy Freeman (lindyf@msn.com), Gretchen Hobkirk (ghobkirk@cfl.rr.com), Gabriela Murza (gmurza@yahoo.com) and Jane Solverson (jsolverson@aol.com).

COMMUNITY-BASED ACTIVITIES & EVENTS

LMP recommends/encourages homeowners to coordinate a resident-based volunteer event involving native plantings along the shoreline of Myrtle Lake. The intention of such an event is to plant beneficial native aquatic plants to key areas in need along the bank. Residents should organize planting days creating a beneficial shoreline. 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 Myrtle Lake community. Continued recommendations for community initiatives are as follows:

- 1) 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. Continue to increase native aquatic plantings along shoreline (such as pickerelweed, duck potato, and canna).
- 2) Plant a healthy shoreline with native emergent plants;
- 3) Establishing a formal Lake Association holding at least one annual meeting with topics relevant to your lake;
- 4) Establish a backyard berm and swale system where applicable;
- 5) Continue to increase educational outreach programs i.e. Shoreline Restoration Workshops (planting days), Florida Yards and Neighborhoods (FYN), Lake Management Video mail-outs, and reduction of residential pollution such as grass clippings, Contact us at 407-665-5542 for assistance;
- 6) Fertilize wisely by using phosphorous free and slow-release nitrogen based fertilizers only. Visit www.seminolecountyfl.gov/fertilizer for more information; and
- 7) Provide content for the Seminole County Water Atlas Lake Management Webpage for your lake (such as newsletters and photos).
- 8) Recommend removing Island apple snail egg clusters and adults from the waterbody when possible.
- 9) Share what YOU know with your neighbors! Encourage fellow residents to keep a functional shoreline with beneficial native aquatic plants, and to keep grass clippings out of the storm drains that lead to the lake. All of these activities aid in protecting your waterbody! Please share newsletter with any new residents or those not currently on our email list.

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

Myrtle Lake 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. 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

Fluctuating lake levels continue to present treatment challenges for invasive emergent aquatic plants during low level conditions which prohibit airboat access in certain areas for herbicide application. LMP schedules treatments based on their routine inspections, confirmed status of the lake needs, and best professional lake management practices. LMP continues to encourage mowing of areas where low level of water presents the opportunity to do so (such as dry lakebed). This assists in minimizing excessive invasive plant material growth and reduces treatment dependency/costs for when the lake level normalizes. The current level of non-ad valorem assessment does not provide funding for large scale submersed vegetation treatments. Consider supplemental funding to address these needs.

Primary expectations for year are as follows:

- 1) Aquatic herbicide maintenance for non-native vegetation and conducting supplemental treatments (as needed and budgeted)
- 2) Reduce biomass of lilies to increase water circulation and flow in stagnant areas
- 3) Continued monitoring of hydrilla, other submersed aquatic plants, and grass carp fish needs

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 aquatic herbicide maintenance for non-native vegetation and conducting supplemental treatments (as needed and budgeted)
- 2) Reduce biomass of lilies to increase water circulation and flow in stagnant areas
- 3) Continued maintenance of access corridors in the north east section (the exiting the south lobe to rest of Myrtle Lake) as water levels allow
- 4) Continued monitoring of hydrilla, other submersed aquatic plants, and grass carp fish needs
- 5) Future grass carp stockings if deemed necessary, pending permit amendment

Funding Expectations

Refer to next fiscal year data provided in Exhibit B.

Exhibits

- A** – Notes from Prior Year Meeting
- B** – Financial Summary
- C** – Historic Reports/Data
- D** – Roles & Responsibilities

Exhibit A – Agenda & Notes (Prior Year Meeting)

Date /Time/ Location:	Friday, March 4 th , 2022 /10:15 am - 10:50 am/ ZOOM-Virtual
Community Liaisons:	Dave Crowder, Lindy Freeman, Gretchen Hobkirk, Gabriela Murza, Jane Solverson
Liaisons Present:	Dave Crowder, Gretchen Hobkirk, Gabriela Murza
Seminole County:	Daniel Barber, Tony Cintron, Michael Eason, and Lynda Reaves

General Topics & Updates

Lake Management Program

- Welcome
- Shoreline Protection Ordinance Status
 - Approved in April 2021
- Lake Status Nutrients/Habitat Scores [Refer to Exhibit C: Bioassessment Indices]
 - Second LVI conducted
 - Healthy category
 - Water Quality data – Lakewatch data added from previous years
- Treatment Plans - Current & Proposed [Refer to Lake Management Plan]
 - Monitor hydrilla and treat as necessary (including Crowder & exiting canals) – Gretchen thinks there is hydrilla by her floating dock and at neighbor to the right. Tony will inspect. Gabby asked about fish. Tony will check to see if lake is due for additional fish. It has been a long time since carp was put in and when carp was put in last time there was a fish kill shortly after. Also, there is an otter present in the lake.
- General Recommendations for Lake Community Consideration [Refer to Lake Management Plan]
 - Increase native aquatic plantings in areas devoid of vegetation
 - Promote “welcome packages” to new lakefront homeowners – Gretchen has lots of packets and will drop some off to Gabby.
 - Educate community on the Shoreline Protection Ordinance – Thomas available for community meeting.
 - Lakewatch samples - no data since 2006; Gretchen thinks she was supposed to do it. She has not been trained yet. Tony can refer to MJ for training.
- 2022 Shoreline Planting Event- dates available
 - To be coordinated via Tony Cintron – Maybe next event can be in the canal area?
 - Plants to be funded by MSBU – Roughly \$1000 per planting event to come out of contingency funds
 - Transportation restriction
- Other
 - Spoil bank mulched
 - Island/ramp retrofit
 - Erosion in area where contractor launches, \$4000 set aside for this project
 - Email addresses for routine communications and important announcements
 - Nutrient Study Update
 - Study is currently on hold.
 - Gretchen said neighbor Steve Young has boat and wants to get to other side so he is paying contractor extra to clear area better. Tony can be go-between for AAM.

MSBU Program & Resource Management Department

- Financial Summary [Refer to Exhibit B]

Exhibit B - Financial Summary

MSBU FUND: MYRTLE (LAKE)

	2021	2022	2023
Tax Year			
Assessment	\$ 290	\$ 290	\$ 290
Fiscal Year	FY21-22	FY22-23	FY23-24
Revenue	Actual	Working	Proposed
Beginning Fund Balance	\$ 20,617	\$ 22,733	\$ 26,333
Assessment Revenue	\$ 7,266	\$ 7,240	\$ 7,240
Other (Interest)	\$ 155	\$ 65	\$ 65
Other			
MSBU Program Fund Advance			
TOTAL Revenue	\$ 28,038	\$ 30,038	\$ 33,638
Expenditure & Reserves	Actual	Working	Proposed
Application Fee Recoupment	\$ -	\$ -	\$ -
MSBU Program Administrative Fee [7% Rev FY20-21]	\$ 507	\$ 505	\$ 505
Other County Services (Service Entity)	\$ -	\$ -	\$ -
Fund Advance Repayment	\$ -		
Contracted Services	\$ 4,798	\$ 3,200	\$ 3,200
<i>AWC Services (via AAM)</i>	\$ 4,798	\$ 2,000	\$ 2,000
<i>Chemicals (Non-AAM)</i>	\$ -	\$ -	\$ -
<i>FAS/GEN Testing</i>	\$ -	\$ -	\$ -
<i>Shipping (Test Samples)</i>	\$ -	\$ -	\$ -
<i>TGC Fish</i>	\$ -	\$ 200	\$ 200
<i>Fish Barrier Inspection/Minor Repair</i>	\$ -	\$ -	\$ -
<i>Fish Barrier Replace/Major Repair</i>	\$ -	\$ -	\$ -
<i>Harvesting (and/or Cattails/Eelgrass)</i>	\$ -	\$ -	\$ -
<i>Other</i>	\$ -	\$ -	\$ -
<i>Other - Hand Crew</i>	\$ -	\$ 1,000	\$ 1,000
Total Expenditure & Reserves	\$ 5,305	\$ 3,705	\$ 3,705
Reserve/Contingency¹	\$ 22,733	\$ 26,333	\$ 29,933
¹ Note: These funds are secured (1) for maintaining rate stability as annual cost are known to fluctuate, (2) in preparation of planned or anticipated future expenses, (3) to provide response to emergency and/or urgent needs for which planning was not feasible. These funds are not intended for expenditures that could be planned and included in annual budget planning processes.			
LM Program Enhanced Services Cost	<i>Pending development & confirmation</i>		

Reserve/Contingency Funds

The primary purpose for establishing operating contingency funding is twofold – (1) To have funding on hand to accommodate unexpected essential aquatic weed control emergencies that cannot be reasonably foreseen, planned or identified in routine budget planning & forecasting and (2) To provide rate stability as costs for ongoing services often vary from year to year. By establishing contingency and reserve funds, such funding may be allocated temporarily from these funds to operating expenditures to avoid periodic spikes in assessment.

Contingency funds are developed by financial management planning decisions and by default when actual expenditures are less than budgeted expenses. Although reserve/contingency funds are not expected to be expended in any given year, these values are included under expenditures because they are “on hold” for future needs and are classified by accounting practices as expenditures.

In the financial summary (Exhibit B) the total dollars in reserve/contingency are identified in the expenditure section on a single line (darker shading). The total dollars in contingency are calculated by subtracting the other expenditures (typically “contracted services” and “administrative fee”) from the total revenue. Contingency funds may be used as deemed essential to meeting emergency needs of the waterbody; however, the overall intention of use is as per the noted sub-categories.

When a negative value is displayed in the sub-category labeled “operating contingency”, it is an indication that the other subcategories reflect targeted sub-category values that have not been fully developed. For the other sub-categories to be fully developed, the “operating contingency” sub-category must be zero or a positive value.

The sub-category labeled “Reserve: Other” is included for improved transparency as use of these funds is on hold for purposes that are subject to Board confirmation and subsequent evaluation of ordinance provisions (potentially ordinance amendment) before these funds can be budgeted and utilized for the proposed purposes.

Exhibit C - Historic Reports/Data

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

<http://www.seminole.wateratlas.usf.edu/lake/waterquality.asp?wbodyid=7624&wbodyatlas=lake>
<http://www.seminole.wateratlas.usf.edu/resourceprogram.aspx?aid=15&wbodyid=7624>

Myrtle Lake Water Quality Report: How Does My Lake Rank? **TSI SCORE: 54 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).

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.

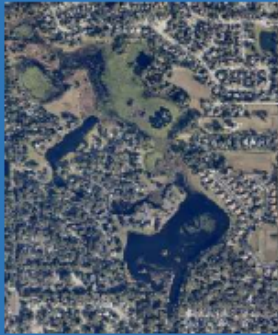
Lake Vegetation Index Bioassessment (LVI): How Does My Lake Rank? **52 Healthy**

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 recent LVI bioassessment (sampled on August 11, 2022) scored a **52 Healthy**, which is in the Healthy category. This is an increase from the previous year's score of a **45 Healthy** due to an increase in native taxa.

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.

Trend Report

2022



TSI Score: 54
(Trophic State Index)
Good

LVI Score: 52
(Lake Vegetation Index)
Healthy

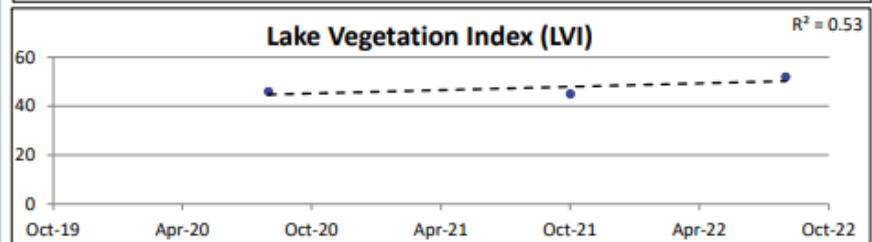
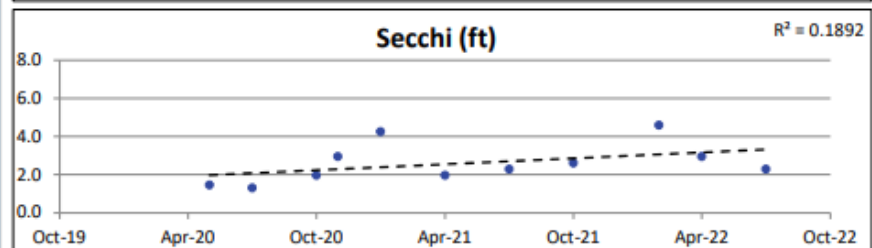
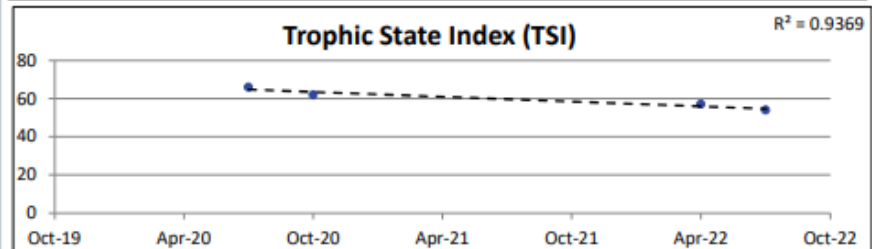
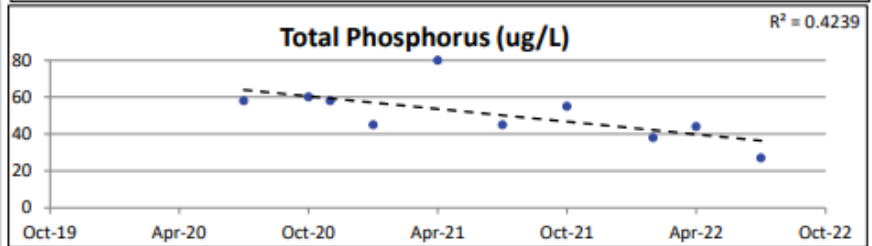
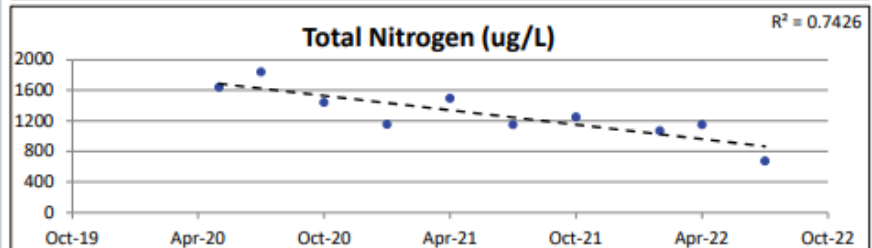
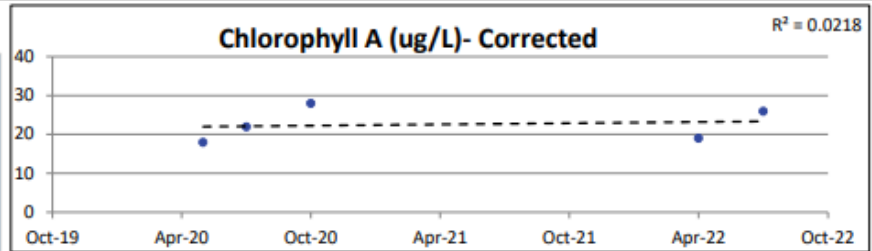
FDEP Status
(Florida Dept of Environmental Protection)
Not Impaired

TMDL Status
(Total Maximum Daily Load)
No TMDL

BMAP
(Basin Management Action Plan)
No BMAP

Soldiers Creek Watershed
34.46 acres
Lat 28° 43' 28" N
Lon 81° 21' 48" W
WBID 2986 B

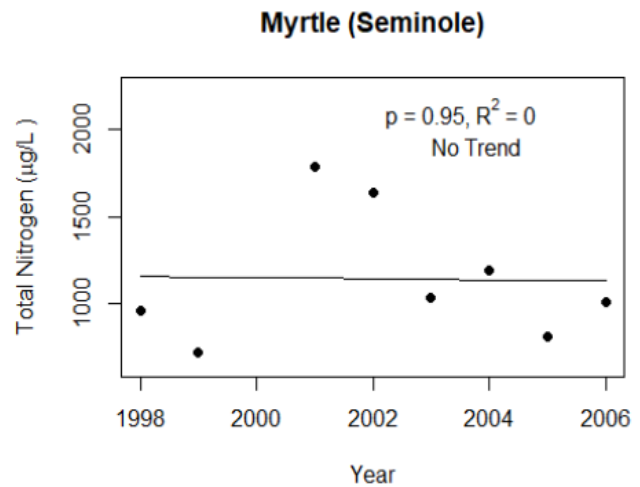
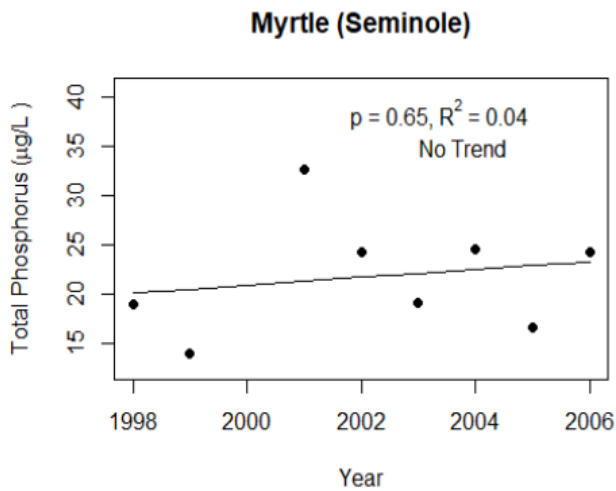
For more information please visit:
seminole.wateratlas.usf.edu/



Florida LAKEWATCH Data:

Total Phosphorus and Total Nitrogen

Trend plots of annual average total phosphorus and annual average total nitrogen versus year. The R² value indicates the strength of the relations (ranges from 0.0 to 1.0; higher the R² the stronger the relation) and the p value indicates if the relation is significant (p < 0.05 is significant). Trend status are reported on plots.



Total Chlorophyll and Secchi Depth

Trend plots of annual average chlorophyll and annual average Secchi versus year. The R² value indicates the strength of the relations (ranges from 0.0 to 1.0; higher the R² the stronger the relations and the p value indicates if the relation is significant (p < 0.05 is significant). Trend status are reported on plots.

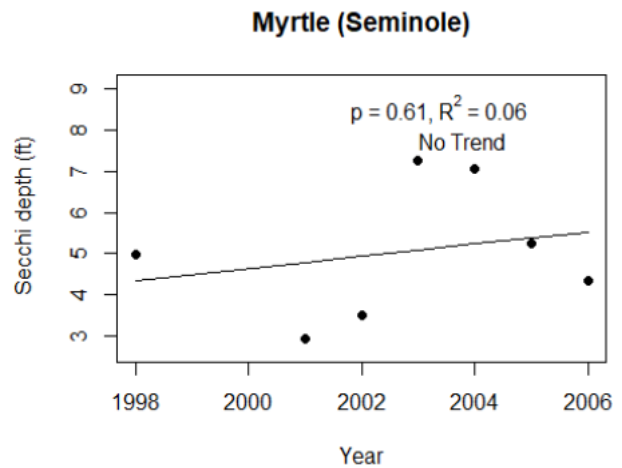
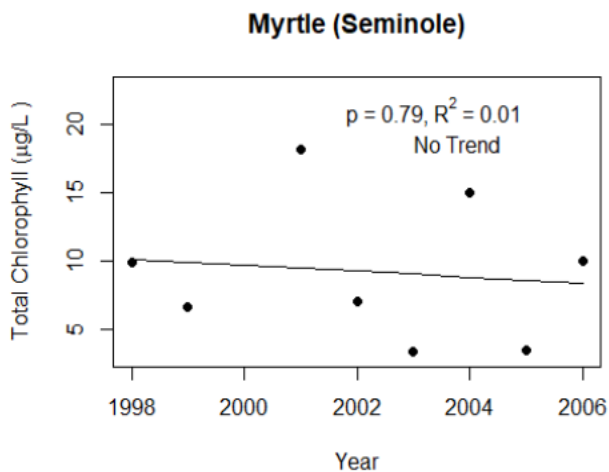


Exhibit D

Roles & Responsibilities

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