

2021

**HOWELL LAKE
LAKE MANAGEMENT PLAN**

Annual Meeting

- Agenda

Lake Management Plan

- General Provisions & Scope of Services
- 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

HOWELL LAKE: ANNUAL MEETING

Date/Time/Location: Monday, March 1, 2021 /9am – 10am/; ZOOM - Virtual
Community Liaisons: Lois Chavis, Carol DiPasqua, Scott Fergerson, Rita Hoffman, Joe Lung, Bob Musser, Ron Shady, Jim Travis, Kyle Bateh and Chuck Weirauch Marissa Williams
Liaisons Present: Joe Lung, Ron Shady, Kyle Bateh, Lois Chavis sub by Rankin Jays? Jim Travis
Seminole County: Thomas Calhoun, Tony Cintron, Joseph Cordell, Gloria Eby, Michael Eason
Casselberry:

General Topics & Updates

Lake Management Program

- Welcome
- Shoreline Protection Ordinance Status
 - FWC Rule change removes permit requirements on lakes smaller than 160 acres
 - Rule change does not impact Howell Lake
 - County Shoreline Ordinance tentatively set to go before the BCC in April 2021
 - LMP will update liaisons
 - **Mass email flyer was sent out**
- Lake Status Nutrients/Habitat Scores [Bioassessment Indices - Refer to Exhibit C]
 - Water quality improvements
 - LVI score continues to be in healthy category
 - Rainfall will drive phosphorus spikes, flow within the lake
 - LVI/BioBase data on Watershed Atlas website:
<http://www.seminole.wateratlas.usf.edu/shared/ecology.asp?wbodyid=7579&wbodyatlas=lake>
- Treatment Plans - Current & Proposed [Refer to Lake Management Plan]
 - Monitor hydrilla and treat as necessary (early detection-rapid response)
 - Please advise if you see any hydrilla around your docks
 - Upstream hydrilla sources
 - Winter Park treating hydrilla upstream of Waumpi
 - **Recent treatment @ Howell Creek in Feb 2021 w/procellacor**
 - Cattail mitigation project – **continue with contracted services**
 - Hygrophila treatment – less hygrophila seen this year
- General recommendations for lake-community [Refer to Lake Management Plan]
 - Increase native aquatic plantings in areas devoid of vegetation
 - Thomas recommends planting bulrush around the lake this year to replace cattails
 - Promote “welcome packages” to new lakefront homeowners
 - Added flyer for homeowners with Lawn Care Service check-off list (flyer also available digitally)
- 2021 Shoreline Planting Event- tentative dates available in Fall
 - To be coordinated via Thomas Calhoun
 - **Covid-19 protocols ongoing**
 - **Contractor planting services offered with shared MSBU cost**
 - **Small volunteer events available**
 - **Contractor event chosen liaisons to choose date sometime before fall**
 - **Lake residents and liaisons to choose best areas to plant**
- Other
 - TGC Restocking for 2021
 - Held off 2020 due to BioBase data/reduction in eelgrass
 - TGC Fish Barrier
 - Monitoring multiple times monthly (sometimes twice a week)/ chemically and physically treated to avoid debris accumulation
 - **Erosion around barrier addressed- Barrier repair complete February 2021**
 - **FEMA 90% reimbursement of barrier repair funds**
 - Email Address for routine communications and important announcements
 - Water Quality project at Howell Creek weir
 - **Another phase of sampling-70% of loading coming through Howell Creek**
 - **Maitland/Lake Waumpi area that is draining a lot of nutrients**
 - **Possible permanent nitrogen reduction station in future**
 - Winter Park treating up stream as part of FWC funded program
 - Resistant properties with hydrilla / product rotation / complicated because of flow and genetics
 - Nutrient study and recommendations

- Fertilizer workshops recommended, Tina McIntyre with UF/IFAS can present to communities
- Email liaisons with future times and dates for FFL workshops

MSBU Program & Resource Management Department

- Financial Summary [Refer to Exhibit B] – noting revenue increase per land develop and assessable units
- County recently provided additional information to the State per their last request. Payment support documentation will be provided to the State by the Clerk of Court. Reimbursement is anticipated shortly after the State receives and reviews the documentation. Updated cost sharing yields the following remittance expectations: Federal 90%, State 5%, MSBU 5%.BCC
- BCC Resolution - MSBU Program Administrative Fee – 7% of Budgeted Assessment Revenue
- County Service Cost (WMDiv) allocation for “enhanced” service level cost
- Status Update: Administrative Code [22.10] and Consolidated Ordinance development

LAKE HOWELL

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 2015-6
- Interlocal Agreement with the City of Casselberry
- FWC Aquatic Plant Management Permit
- 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 (The management of submersed vegetation other than hydrilla and provisions for lake access corridors are excluded from MSBU services.)
- Water hyacinth, water lettuce, parrots feather; torpedo grass, paragrass, cattail, water fern, hygrophila, and algae

Frequency of Aquatic Vegetation Management Treatment (herbicides)

Treatment services are performed at the direction of the Seminole County LMP as per the Lake Howell Management Plan which will be reviewed at the annual planning sessions 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 limits assessment increases to no greater than 10% above the prior year assessment; the ordinance does not include provisions for an assessment cap.

Lake Liaisons

The ordinance governing the Howell Lake MSBU provides the for liaison participation as 2 liaisons from the Friend of Lake Howell organization; 1 liaison per each common element property (property owned by an association such as HOA or COA) and 2 liaisons from the general lakefront. 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 Lake Howell are as shown in the following table and are current as of 2020. The open slots are available to property owners in the designated HOA or Association.

LIAISON NAME	EMAIL	REPRESENTATING
Open		Carmel (CE)
Lung, Joe	joe_lung@cfl.rr.com	FOLH (1 of 2)
Musser, Bob	BobM@dbsinfo.com	FOLH (2 of 2)
Chavis, Lois	lkchavis@aol.com	Howell Harbor Estates(CE)
Travis, Jim	mrlakehowell@gmail.com	Lago Vista(CE)
Open		Lake Howell Arms (CE)
DiPasqua, Carol	cjdipasqua@yahoo.com	Lakefront (1 of 2)
Ferguson, Scott	sfergerson@orlandodiocese.org	Lakefront (2 of 2)
Open		Lakehurst (CE)
Hoffman, Rita	joyfulpassages@gmail.com	Marbeya (CE)
Open		Reserve at Lake Howell (CE)
Weirauch, Chuck	cweirauch@mindspring.com	Sausalito Condo (CE)
Shady, Ron	shadyr@emvarqmail.com	Sausalito Shores (CE)

COMMUNITY-BASED ACTIVITIES & EVENTS

LMP recommends/encourages homeowners to coordinate a resident-based volunteer event involving native plantings along the shoreline of Lake Howell. 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 Lake Howell community.

Continued recommendations for community initiatives are as follows:

- 1) Plant a healthy shoreline with native emergent plants;
- 2) Continue the Friends of Lake Howell, a formal Lake Association, and hold at least one annual meeting with topics relevant to your lake;
- 3) Establish a backyard berm and swale system where applicable;
- 4) 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;
- 5) Fertilize wisely by using phosphorous free and slow-release nitrogen based fertilizers only. Visit www.seminolecountyfl.gov/fertilizer for more information; and
- 6) Provide content for the Seminole County Water Atlas Lake Management Webpage for your lake (such as newsletters and photos).

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 Howell 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 bioassessment. 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

Lake Howell has an on-going history of hydrilla presence. In 2015 the hydrilla conditions were prolific and were addressed via an extensive whole-lake treatment shortly after the MSBU was created. Aggressive hydrilla growth in Lake Howell has the likelihood to continue. The timing and extent of hydrilla re-growth is affected by multiple natural and environmental factors that cannot be controlled or predicted with certainty. As with any lake with a history of hydrilla infestation, long-term planning to include financial preparation for potential additional future whole lake treatment is advised. While extensive growth of hydrilla is possible at any point in time; it is anticipated that routine spot treatments of hydrilla with herbicides and re-establishing continuous biological control pressures from re-stocking with triploid grass carp fish will be sufficient to manage hydrilla re-growth during this fiscal year.

Primary expectations for current fiscal year are as follows:

- 1) Monthly aquatic herbicide maintenance for non-native vegetation and hydrilla treatments (as needed)
- 2) Grass carp stocking monitoring (determining biological need)
- 3) Continued monitoring of hydrilla, and other submersed aquatic plants, and
- 4) Continue grass carp barrier debris/maintenance 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 monthly aquatic herbicide maintenance for non-native vegetation and hydrilla treatments (as needed),
- 2) Future grass carp stockings if deemed necessary, pending permit amendment,
- 3) Continued monitoring of hydrilla, coontail, other submersed aquatic plants, and grass carp fish,
- 4) Continued grass carp barrier debris and maintenance services.

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 Planning Session)

Date/Time/Location:	Monday, March 2, 2020 /1:15pm – 2:40pm/; 200 W. County Home Rd – LMP office
Community Liaisons:	Lois Chavis, Carol DiPasqua, Scott Fergerson, Rita Hoffman, Joe Lung, Bob Musser, Ron Shady, Jim Travis, and Chuck Weirauch
Liaisons Present:	Lois Chavis, Carol DiPasqua, Rita Hoffman, Joe Lung, Ron Shady, and Jim Travis
Seminole County:	Lorie Bailey Brown, Thomas Calhoun, Tony Cintron, Joseph Cordell, Gloria Eby, Kathy Moore, and Kim Ornberg
Casselberry:	Marissa Williams

General Topics & Updates

Lake Management Program

- Welcome

MSBU Program & Resource Management Department

- Financial Summary [Refer to Exhibit B] – noting revenue increase per land develop and assessable units
- County recently provided additional information to the State per their last request. Payment support documentation will be provided to the State by the Clerk of Court. Reimbursement is anticipated shortly after the State receives and reviews the documentation. Updated cost sharing yields the following remittance expectations: Federal 90%, State 5%, MSBU 5%.BCC
- BCC Resolution - MSBU Program Administrative Fee – 7% of Budgeted Assessment Revenue
- County Service Cost (WMDiv) allocation for “enhanced” service level cost
- Status Update: Administrative Code [22.10] and Consolidated Ordinance development

Lake Management Program

- Shoreline Protection Ordinance Status
 - FWC Rule change removes permit requirements on lakes smaller than 160 acres
 - Rule change does not impact Howell Lake
 - Currently drafting County Shoreline Ordinance
 - LMP will update liaisons
- Lake Status Nutrients/Habitat Scores [Bioassessment Indices - Refer to Exhibit C]
 - Water quality improvements
 - TSI more stabilized
 - LVI score increased into healthy category
 - Rainfall will drive phosphorus spikes, flow within the lake
 - LVI/BioBase data on Watershed Atlas website:
<http://www.seminole.wateratlas.usf.edu/shared/ecology.asp?wbodyid=7579&wbodyatlas=lake>
 - Drastic reduction in vegetation, especially eelgrass, will continue to monitor as the lake cycles
- Treatment Plans - Current & Proposed [Refer to Lake Management Plan]
 - Monitor hydrilla and treat as necessary (early detection-rapid response)
 - July fluridone treatment paid off; Please advise if you see any hydrilla around your docks
 - Upstream hydrilla sources
 - FWC treating hydrilla with City of Winter Park, funded program Winter Park Chain of Lakes, resistance monitoring project discussed
 - Cattail mitigation project
 - Cove on northeast side by Camp Herronwood worked with FWC, LVI score goes in a better direction with reduction in cattails. Lois will send information on new neighbor for us to get OK before we add them to cattail mitigation project.
 - Hygrophila treatment - Creeks discharging to Howell are inspected bi-monthly (including hydrilla and other invasives)
 - Newer invasive plant in lake we have treated a couple of times. Seen on Cassel Creek where The Arms is creeping along the seawall and also at Lake Ann outfall. Last inspection it was almost gone. Added to permit.
- General recommendations for lake-community [Refer to Lake Management Plan]
 - Increase native aquatic plantings in areas devoid of vegetation
 - Thomas wants to plant bulrush around the lake this year to replace cattails
 - Promote “welcome packages” to new lakefront homeowners

- Added flyer for homeowners with Lawn Care Service check-off list (flyer also available digitally)
- 2020 Shoreline Planting Event- dates available
 - To be coordinated via Thomas Calhoun
 - Selected 4/4
- Other
 - TGC Restocking for 2020
 - Holding off given last BioBase data/reduction in eelgrass
 - TGC Fish Barrier
 - Monitoring multiple times monthly (sometimes twice a week)/ chemically and physically treated to avoid debris accumulation
 - Because of erosion that occurred along structure of bridge in Dec 2018, there are repairs that still need to happen so now there is County CIP project to re-design flow-way of those banks to better stabilize. Barrier is stable, banks are washing away on sides of barrier. Project is funded by County not MSBU.
 - Readdressed FOLH as permittee for the Barrier and providing county's position; MSBU funds not eligible for FOLH expenses.
 - Email Address for routine communications and important announcements
 - Water Quality project at Howell Creek weir
 - Sampling is complete, Report is pending
 - Pilot project to compare 3 media that absorb nutrients for a one year period
 - 70% of loading coming through Howell Creek
 - Winter Park treating up stream as part of FWC funded program
 - Resistant properties with hydrilla / product rotation / complicated because of flow and genetics
 - Nutrient study and recommendations
 - Fertilizer workshops recommended, Tina McIntyre with UF/IFAS can present to communities

MSBU FUND: HOWELL (LAKE)

Assessment [Average Per Waterfront Parcel]	Tax Year	2018	2019	2020
	Fiscal Year	FY18-19	FY19-20	FY20-21
Revenue		Actual	Working Budget	Proposed Budget
Beginning Fund Balance	\$	263,341	\$ 21,217	\$ 98,861
Assessment Revenue	\$	133,667	\$ 121,344	\$ 130,445
Other (Interest)	\$	5,095	\$ 1,500	\$ 1,500
Other - FOLH (FY14-15); FEMA FY?				\$ 58,500
MSBU Program Fund Advance				
TOTAL Revenue	\$	402,103	\$ 144,061	\$ 289,306
Expenditure & Reserves		Actual	Working Budget	Proposed Budget
Application Fee Recoupment	\$	-	\$ -	\$ -
MSBU Program Administrative Fee [7% Rev FY20-21]	\$	3,550	\$ 3,550	\$ 9,131
Other County Services (Service Entity)	\$	-	\$ -	\$ -
Fund Advance Repayment	\$	41,200	\$ -	\$ -
Contracted Services	\$	336,136	\$ 41,650	\$ 74,000
<i>AWC Services (via AAM)</i>	\$	5,213	\$ 12,000	\$ 12,000
<i>Chemicals (Non-AAM)</i>	\$	246,770	\$ 14,847	\$ 50,000
<i>FAS/GEN Testing</i>	\$	1,140	\$ 570	\$ -
<i>Shipping (Test Samples)</i>	\$	674	\$ 240	\$ -
<i>TGC Fish</i>	\$	12,540	\$ 4,000	\$ 4,000
<i>Fish Barrier Inspection/Minor Repair</i>	\$	4,800	\$ 8,000	\$ 8,000
<i>Fish Barrier Replace/Major Repair</i>	\$	65,000	\$ -	\$ -
<i>Other</i>	\$	-	\$ 1,993	\$ -
Reserve/Contingency1	\$	21,217	\$ 98,861	\$ 206,175
<i>Operating Contingency</i>	\$	21,217	\$ (196,139)	\$ (88,825)
<i>Reserve: Hydrilla (Whole Lake)</i>	\$	-	\$ 225,000	\$ 225,000
<i>Reserve: Barrier Replace</i>	\$	-	\$ 70,000	\$ 70,000
<i>Reserve: Other</i>	\$	-	\$ -	\$ -
TOTAL Expenditures & Reserves	\$	402,103	\$ 144,061	\$ 289,306
Fund Advance BB	\$	40,000	\$ -	\$ -
Payment (Principal)	\$	40,000		\$ -
Payment (Financing Fees)	\$	1,200		
Fund Advance EB	\$	-	\$ -	\$ -
LM Program Enhanced Service Cost		Pending development & confirmation		

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.

Asmt Rev FY20-21 - Increased number of ROU units per development of Jefferson & other minor adjustments per change in average waterfrontage and reduction in number of waterfront parcels (now 79 from 85)

Reserve/Contingency Funds

The financial summary [Exhibit B] of the Annual Report was updated in 2019 to include additional information about contingency fund status. The MSBU Program has provided this additional information to improve transparency respective to the reason and intended purpose for these 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 Lake Howell can be found on the Seminole County Water Atlas website at

<http://www.seminole.wateratlas.usf.edu/lake/waterquality.asp?wbodyid=7579&wbodyatlas=lake>

<http://www.seminole.wateratlas.usf.edu/resourceprogram.aspx?aid=15&wbodyid=7579>

Lake Howell Water Quality Report: How Does My Lake Rank? TSI SCORE: 52 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.

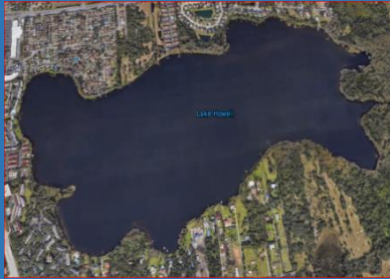
Lake Vegetation Index Bioassessment (LVI): How Does My Lake Rank? 52 Healthy

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 most recent LVI bioassessment for Lake Howell (sampled on June 9, 2020) scored 52 Healthy. This is the same score from the 2019 score of 52, 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.

Trend Report

2020



NNC
(Numeric Nutrient Criteria)

Pass

GeoMean Color: 29.66

GeoMean Alkalinity: 42.35

TSI Score: 52
(Trophic State Index)

Good

LVI Score: 52
(Lake Vegetation Index)

Healthy

LCI Score: 37
(Lake Condition Index)

Good

MSBU:
(Municipal Service Benefit Unit)

Yes

Howell Creek Watershed

391 acres

Lat 28° 38' 23"

Lon 81° 18' 33"

WBID 2997B

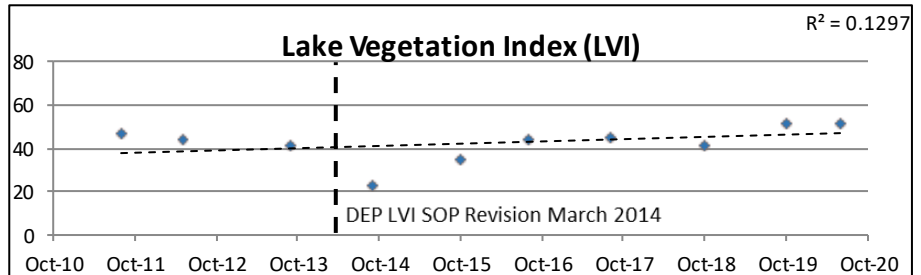
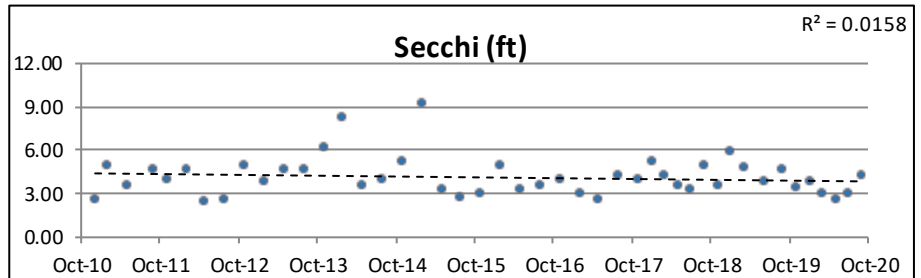
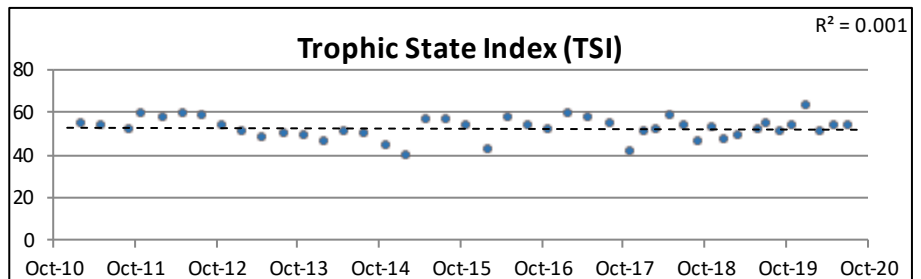
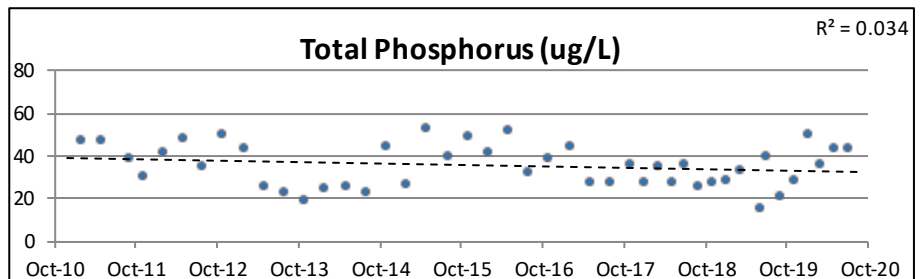
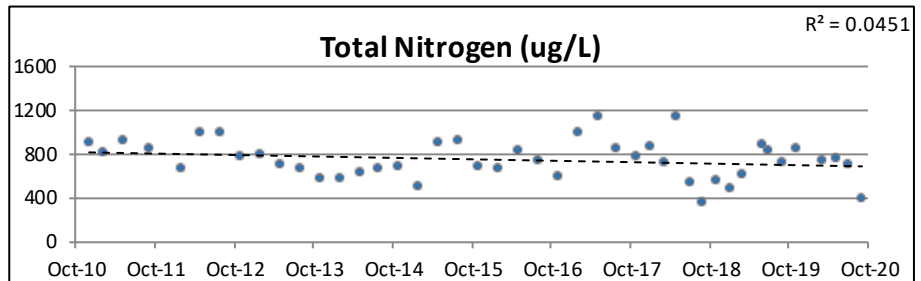
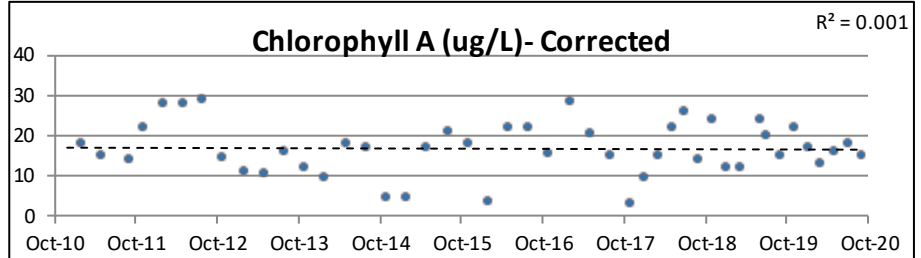


Exhibit D

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