LAKE HOWELL
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 2015-6
- FWC permit
- Interlocal Agreement with the City of Casselberry

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 (The management of submersed vegetation other than hydrilla and provisions for lake access corridors are excluded from MSBU services.)

Frequency of AWC Treatment

AWC 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

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 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

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 March 31, 2015. The open slots are available to property owners in the designated HOA or Association.

LIAISON NAME	EMAIL	REPRESENTATION
Darryl Podunavac	dpodunavac@orlandodiocese.org	Lakefront
Joe Lung	joe_lung@cfl.rr.com	FOLH
Bob Musser	BobM@dbsinfo.com	FOLH
Carol DiPasqua	cjdipasqua@yahoo.com	Lakefront
Open		Carmel
Open		Howell Harbor Estates
Jim Travis	mrlakehowell@gmail.com	Lago Vista
Open		Lake Howell Arms
Open		Lakehurst
Rita Hoffman	joyfulpassages@gmail.com	Marbeya
Open		Sausalito Condo
Ron Shady	SHADYR@EMBARQMAIL.COM	Sausalito Shores

LAKE HOWELL

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) Shoreline re-vegetation with native emergent plants (by the lakefront community and potentially volunteers),
2) Establishing a formal Lake Association holding at least one annual meeting with topics relevant to Lake Howell,
3) 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 (use phosphorous free and slow-release nitrogen based fertilizers only). Contact Seminole County LMP, 665-2439, for more information and assistance,

4) Provide content for the Seminole County Water Atlas Lake Management Webpage for Lake Howell (such as newsletters and photos).
5) 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!

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.

LAKE HOWELL

COUNTY SERVICES – Lake Management & Supplemental Programs

While the MSBU assessment includes a nominal charge for administering the MSBU, the amount charged does not cover all the expenses incurred by the County on behalf of the waterfront property owners. 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 all treatments and waterbody assessments. In addition, LMP offers free aquatic plant material (as available) for sponsored restoration events and local community volunteers coordinated through the county's Seminole Education and Restoration Volunteer (SERV) Program. Many of the services provided by the LMP are made available to support community riparian stewardship without additional charges being assigned to the MSBU budget.

Current Fiscal Year – Planned Treatment & Funding

Primary Aquatic Plant Management Expectations

While extensive growth of hydrilla is possible at any point in time; it is anticipated that after the initial whole lake treatment this fiscal year, 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 upcoming fiscal year. Current aggressive hydrilla growth in Lake Howell has the 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. 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.

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 bimonthly aquatic herbicide maintenance for non-native vegetation, canal maintenance, 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 service.

Funding Expectations

Refer to next fiscal year budget data provided in Exhibit B.

Exhibits

A – Agenda & Notes from Prior Year Planning Session

B - Budget/Financial Summaries

C - Historic Reports/Data

Exhibit A – Agenda & Notes from Prior Year Planning Session

- **PRIOR YEAR NOTES NOT APPLICABLE….FIRST YEAR OF THIS MSBU**

Exhibit B - Budget/Financial Overview

MSBU: **Lake Howell**

Date: January 1, 2015

Tax Year Assessment	**2014** begins 2015	**2015** varies
Fiscal Year	FY1415	FY1516
REVENUE	**Working Budget**	**Projected Budget**
Beginning Fund Balance	$ -	$ -
Assessments	$ -	$ 122,400
FOLH	$ 50,000	
City of Casselberry	$ 975	
LMP	$ 25,000	
MSBU Program Fund Advance	$ 122,000	
TOTAL	**$ 197,975**	**$ 122,400**
Cost Sharing		
TOTAL	$ 197,975	$ 122,400
Lake Management Program		
TOTAL	$ 197,975	$ 122,400
EXPENDITURE	**Working Budget**	**Projected Budget**
County Administrative Fee	$ 2,000	$ 2,000
Fund Advance Repayment	$ -	$ 58,050
Application Fee Processing	$ 550	$ -
Printing	$ 450	$ 500
Postage	$ 975	$ 750
Contracted Services	$ 194,000	$ 55,800
1	$ -	$ -
2	$ -	$ -
3	$ -	$ -
4	$ -	$ -
5	$ -	$ -
Contingency Reserve	$ -	$ 5,300
TOTAL	**$ 197,975**	**$ 122,400**
Cost Sharing	$ -	$ -
TOTAL	$ 197,975	$ 122,400
Lake Management Program	$ -	$ -
TOTAL	$ 197,975	$ 122,400

Fund Advance BB	$ 122,000	$ 122,000
Payment	$ -	$ 55,000
Fund Advance EB	$ 122,000	$ 67,000

Exhibit C - Historic Reports/Data

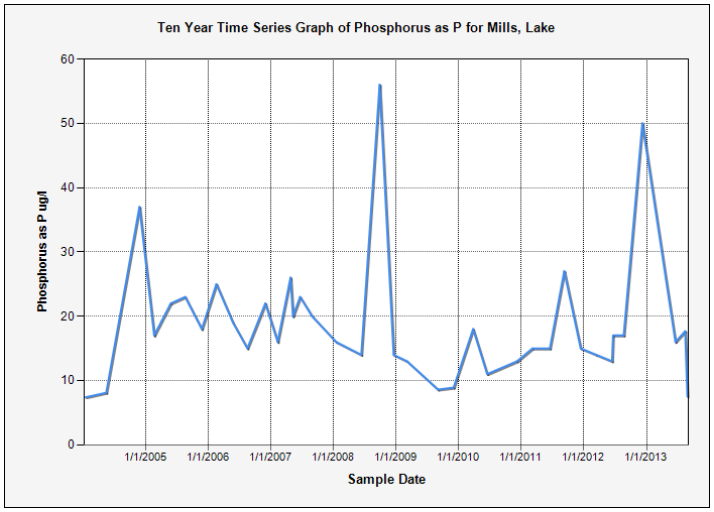
Additional information for Lake Howell can be found on the Seminole County Water Atlas website at

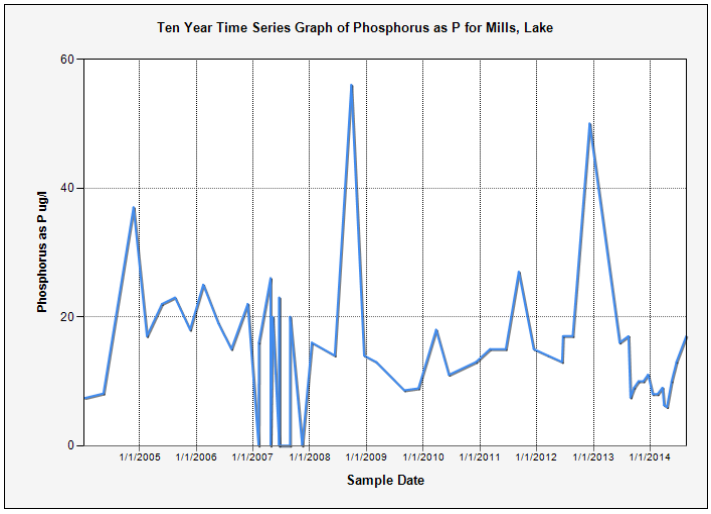
http://www.seminole.wateratlas.usf.edu/resourceprogram.aspx?aid=15&wbodyid=7613
http://www.seminole.wateratlas.usf.edu/lake/waterquality.asp?wbodyid=7613&wbodyatlas=lake

Lake Howell 2014 Water Quality Report: How Does My Lake Rank? **TSI SCORE: _____**

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? **_____ 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 _____) scored a _____ 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 that 10% of the taxa are sensitive and C of C values of most taxa are <4.