

**January 15, 2015**

**LAKE AMORY  
LAKE MANAGEMENT PLAN**

Annual Meeting – 2015

- Agenda

Lake Management Plan

- General Provisions & Scope of Services
- Community-Based Activities & Events
- Current Fiscal Year: Planned Treatments, Funding & Recommendations
- Next Fiscal Year: Projected Treatments & Funding
- Exhibits – Agenda & Notes Prior Year, Budget & Financial Summary, Historic Reports/Data

# LAKE AMORY

## ANNUAL MEETING

Date, Time & Location	:	January 15, 2015, 2:30 p.m., 200 W. County Home Rd – LMP office
Community Liaisons	:	Steve Barnes, Dan Folendore, Dan Harger, Philip Lee, and Tim Lockhart
Liaisons Present	:	Steve Barnes, Dan Harger, Philip Lee, and Amy Lockhart for Tim Lockhart
Seminole County	:	Gloria Eby and Carol Watral
Guest	:	

### **Topics carried forward from prior fiscal year activity**

- Aquatic plant control services are determined by Seminole County staff which takes into account water levels and aquatic conditions. Increased water levels experienced in 2014 have benefitted the lake management results by allowing proper access for herbicide treatments.
- During the December 10, 2013, bioassessment it was noted that the golf course berm has been cleared. City of Sanford was contacted and was cooperative with the request of replanting the area with beneficial natives.
- Seminole County continues to encourage the residents designate a LAKEWATCH volunteer to provide valuable water quality data.
- A multi-year study to determine water and nutrient inputs for the East Crystal Chain of Lakes was completed with a community meeting held on October 16, 2014 to present findings from study.
- Property owners should be encouraged to communicate comments/concerns through the liaison group, who will provide consolidated request/comments to the MSBU Project Manager (Carol Watral).

### **General Topics & Updates**

- Maintaining current lake access site
- Potential planting events
- Nutrient study results
- Hydrilla presence
- Algae blooms
- Continue pricing available via state contract established with herbicide service provider
- Plans for current fiscal year
- Projections for next fiscal year
- Golf course berm
- General recommendations for community consideration

### **Meeting Notes:**

- LMP has emailed Sanford re: replanting golf course berm and will follow-up with the City
- Debris is still being piled in the access area; Dan Harger will speak with the property owner
- Liaisons will let LMP know if they wish to pursue a 2016 planting event
- Potential aluminum sulfate (alum) treatments were discussed; cost is estimated at \$33,000.00.
- Liaisons asked about dredging and it was explained how costly this activity is
- Liaisons report owner next to Dan Harger is “turtling” at one turtle per day; 1 per day is allowed
- LMP will confirm if the Amory area is on the County stormwater retrofit list
- Liaisons asked about weir level and LMP replied it is controlled by the SJRWMD
- Philip Lee has committed to providing Lakewatch samples
- Liaison consensus was to keep the assessment rate at \$300.00 for FY1516.
- Request came from Amy Lockhart for the formula for the administrative fee

# LAKE AMORY

## 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 06-27

#### **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, torpedo grass, primrose willow, alligator weed, wild taro, water sprite, coontail, lily pads, salvinia, barnyard grass, and dog fennel

#### **Frequency of AWC Treatment**

AWC services are performed at the direction of the Seminole County LMP as per the Lake Amory Management Plan reviewed at the annual planning session with the expectation that the Seminole County LMP may alter anticipated treatments on an as merited basis 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 annual assessment is capped at \$300.00.

#### **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 Amory are: Steve Barnes ([stevebarnesfl@gmail.com](mailto:stevebarnesfl@gmail.com)), Dan Folendore ([dfolendore@bellsouth.net](mailto:dfolendore@bellsouth.net)), Dan Harger ([dgharger@genevaschool.org](mailto:dgharger@genevaschool.org)), Philip Lee ([philwriter@gmail.com](mailto:philwriter@gmail.com)), and Tim Lockhart ([tim4fsu@cfl.rr.com](mailto:tim4fsu@cfl.rr.com)).

# LAKE AMORY

## **COMMUNITY-BASED ACTIVITIES & EVENTS**

LMP recommends/encourages homeowners to coordinate a resident-based volunteer event involving native plantings creating a beneficial shoreline for Lake Amory. The intention of such an event is to plant beneficial native aquatic plants in key areas along the bank. 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 Amory 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 Amory,
- 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 Amory (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 is advised. If the invasive plants are removed by this method, spraying the area can be reduced, thereby offering greater protection to the desirable species. The physical removal of dead/decaying aquatic plant material will reduce the volume of decomposing vegetation on the lake bottom (muck layer) and will increase the success of the efforts to limit the re-growth of the invasive plants.*

## **COUNTY SERVICES – Lake Management & Supplemental Programs**

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 Amory 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.

# LAKE AMORY

## Current Fiscal Year – Planned Treatment & Funding

### **Primary Aquatic Plant Management Expectations**

Hydrilla growth in Lake Amory 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 herbicide 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 Amory, as well as current conditions observed at lake. As with any lake with a history of hydrilla infestation, long-term planning to include financial preparation for whole lake treatment is advised. For emergent invasive plants, lower water levels result in backpacking for some areas of Lake Amory as defined by essential services.

### **Funding Expectations**

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

## Next Fiscal Year – Projected Treatment & Funding

### **Primary Aquatic Plant Management Expectations**

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

- 1) Continued aquatic herbicide maintenance for non-native vegetation, access corridor maintenance, and coordinate hydrilla/coontail treatments (as needed),
- 2) Continue with the prime season monthly maintenance (September and October),
- 3) Future grass carp stockings if deemed necessary, pending permit amendment,
- 4) Continued monitoring of hydrilla, coontail, other submersed aquatic plants, and grass carp fish, and
- 5) Maintain contingency reserve funds for extended herbicide management of hydrilla and/or other issues that may develop and require immediate treatment.

### **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

### ANNUAL MEETING

Date, Time & Location	:	January 8, 2014, 2:30 p.m., 200 W. County Home Rd – LMP office
Community Liaisons	:	Steve Barnes, Dan Folendore, Dan Harger, Philip Lee, and Tim Lockhart
Liaisons Present	:	Steve Barnes, Dan Harger, Philip Lee, and Tim Lockhart
Seminole County	:	Thomas Calhoun, Gloria Eby, Kathy Moore and Carol Watral
Guest	:	Vicki Barnes

#### Topics carried forward from prior fiscal year activity

- Negotiations with the herbicide contractor included withholding aquatic plant control services for October, January, and February. March was withheld due to low water level and healthy conditions.
- Low water level in May 2013 resulted in backpacking for some areas and other areas had level sufficiently low to preclude treatment. Increased water elevation in June allowed for treatment of entire lake.
- On May 21, 2013 the service provider notified the County that access at the normal location was not available due to debris deposited on the property. Upon County notice to the community liaisons, the debris was removed and access was again open to the service provider.

#### General Topics & Updates

- Maintaining current lake access open
- Potential planting events
- Nutrient study update
- New pricing available via state contract established with herbicide service provider
- Plans for current fiscal year
- Projections for next fiscal year
- General recommendations for community consideration

#### Meeting Notes:

- The nutrient study is in review process; preliminarily it is showing balanced nutrient loadings into the Chain of Lakes. It should be available by June 2014 or sooner. A community meeting will be scheduled when completed.
- Liaisons questioned numbers of remaining triploid grass carp; Lake Management indicated that the apparent existing population is sufficient for short term control.
- LMP mentioned that the golf course had cleared their berm. Thomas Calhoun will be following up with the City on this activity. There is a new contact for the golf course - Lisa Jones, City of Sanford Recreation Manager, 407-688-5120 ([lisa.jones@sanfordfl.gov](mailto:lisa.jones@sanfordfl.gov)); alternate contact is Mike Kirby, Recreation Director, 407-688-5120 ([mike.kirby@sanfordfl.gov](mailto:mike.kirby@sanfordfl.gov)).
- Fluctuating lake elevations and methods of treatment (i.e., backpacking) were discussed.
- Tim Lockhart question the contingency reserve as it is increasing and wanted to ensure assessment relief is evaluated. MSBU Program confirmed that assessments are reviewed annually with long and short term needs, as well as impact to parcel owner in mind. LMP added it took since inception of MSBU for the contingency reserve to reach its current level and that although Hydrilla is now largely controlled; it could re-establish within the lake very quickly due to viable tubers in the sediment, and a single whole lake hydrilla treatment could quickly exhaust the current reserve balance.
- Steve Barnes questioned elevated TSI/TP data points located on the charts on last page of the Lake Management Plan; Gloria Eby indicated it could be due to rainfall, but will follow-up with answer.
- Progress of the County fertilizer ordinance was discussed.



## Exhibit B - Budget/Financial Overview

MSBU:

LAKE AMORY (Aquatic Weed Control)

Date:

January 15, 2015

Tax Year	2012	2013	2014	2015
Assessment	\$300.00	\$300.00	\$300.00	\$300.00
Fiscal Year	FY1213	FY1314	FY1415	FY1516
REVENUE	Actual	Actual	Working Budget	Projected Budget
Beginning Fund Balance	\$ 4,877	\$ 7,476	\$ 12,127	\$ 15,316
Assessment	\$ 6,672	\$ 6,666	\$ 6,624	\$ 6,624
Other	\$ 27	\$ 26		
MSBU Program Fund Advance	\$ -	\$ -	\$ -	
<b>TOTAL</b>	<b>\$ 11,576</b>	<b>\$ 14,168</b>	<b>\$ 18,751</b>	<b>\$ 21,940</b>
Cost Sharing				
<b>TOTAL</b>	<b>\$ 11,576</b>	<b>\$ 14,168</b>	<b>\$ 18,751</b>	<b>\$ 21,940</b>
Lake Management Program				
<b>TOTAL</b>	<b>\$ 11,576</b>	<b>\$ 14,168</b>	<b>\$ 18,751</b>	<b>\$ 21,940</b>
EXPENDITURE	Actual	Actual	Working Budget	Projected Budget
County Administrative Fee	\$ 950	\$ 950	\$ 1,075	\$ 1,075
Fund Advance Repayment	\$ -	\$ -	\$ -	\$ -
Contracted Services	\$ 3,150	\$ 1,091	\$ 2,360	\$ 3,660
<i>Routine Services</i>	\$ 3,150	\$ 1,091	\$ 1,000	\$ 1,000
<i>Hydrilla</i>	-	-	\$ 1,000	\$ 2,000
<i>Carp</i>	-	-	\$ -	\$ 300
<i>Barrier Cleaning</i>	-	-	\$ 360	\$ 360
Contingency Reserve	7,476	\$ 12,127	\$ 15,316	\$ 17,205
<b>TOTAL</b>	<b>\$ 11,576</b>	<b>\$ 14,168</b>	<b>\$ 18,751</b>	<b>\$ 21,940</b>
Cost Sharing	\$ -	\$ -	\$ -	\$ -
<b>TOTAL</b>	<b>\$ 11,576</b>	<b>\$ 14,168</b>	<b>\$ 18,751</b>	<b>\$ 21,940</b>
Lake Management Program	\$ -	\$ -	\$ -	\$ -
<b>TOTAL</b>	<b>\$ 11,576</b>	<b>\$ 14,168</b>	<b>\$ 18,751</b>	<b>\$ 21,940</b>
Fund Advance BB Payment	\$ -	\$ -	\$ -	\$ -
Fund Advance EB	\$ -	\$ -	\$ -	\$ -

## Exhibit C - Historic Reports/Data

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

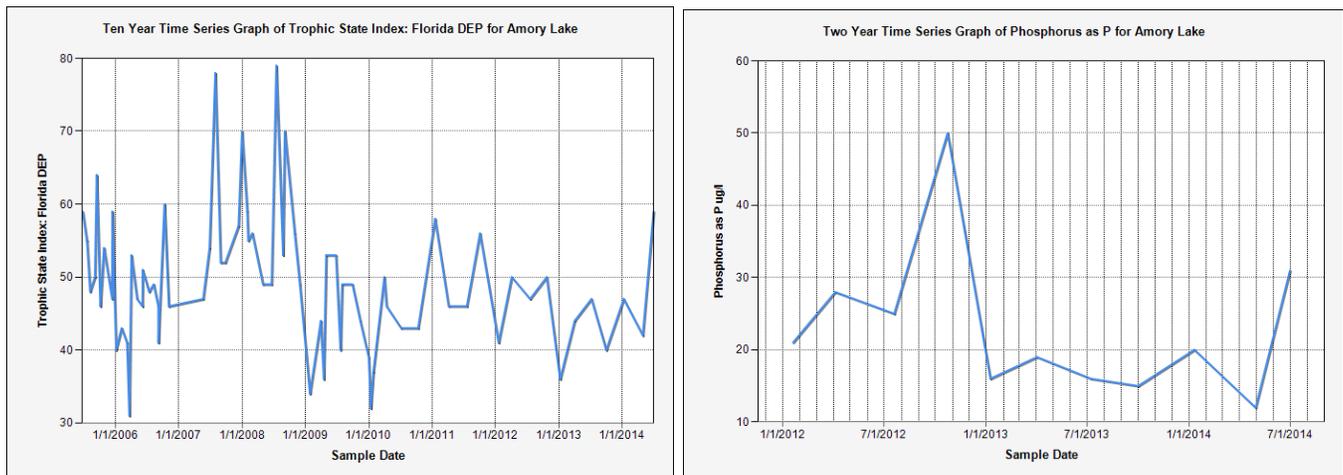
<http://www.seminole.wateratlas.usf.edu/resourceprogram.aspx?aid=15&wbodyid=7503>

<http://www.seminole.wateratlas.usf.edu/lake/waterquality.asp?wbodyid=7503&wbodyatlas=lake>

### Lake Amory 2014 Water Quality Report: How Does My Lake Rank? **TSI SCORE: 59 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 indicate 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? **28 Impaired**

The Lake Vegetation Index is a rapid bioassessment tool created by the Florida Department of Environmental Protection (FDEP) to assess the biological condition of aquatic plant communities in Florida lakes. The most recent LVI bioassessment for Lake Amory (sampled on August 19, 2014) scored a **28** which is in the **impaired** category. The low score for this year is attributed to hydrilla being present in all sections of the assessment.

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.