

**January 21, 2015**

**LAKE BURKETT  
ANNUAL MEETING & 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 BURKETT

## ANNUAL MEETING

Date, Time & Location	:	January 21, 2015, 2:30 p.m., 200 W. County Home Rd – LMP office
Community Liaisons	:	David Diggs, Todd Husty, Craig Maughan and Lisa Wilks
Liaisons Present	:	David Diggs and Craig Maughan
Seminole County	:	Thomas Calhoun, Gloria Eby, and Carol Watral

### Topics carried forward from prior fiscal year activity

- Scheduled aquatic plant control monthly treatments as authorized by County staff continue along unincorporated Seminole County shoreline areas of Lake Burkett; such activities are based upon available funding.
- County encourages additional shoreline restoration events. Plantings from the previous event are expanding well.
- The potential of increasing hydrilla growth due to re-growth of tubers exists. Larger-scale herbicide treatments for hydrilla may be required every two to three years. Product rotation is required to reduce potential for resistant hydrilla.
- Hydrilla cost share for whole lake treatment with Orange County was not required for FY1314; thereby, increasing contingency reserves carried forward into FY1415.
- An increase in tuber generated hydrilla was noted in December 2013. As of September 2014, minimal sprigs of hydrilla were found in both Lake Burkett and Martha. Each lake was individually treated by the respective County within their respective jurisdiction.
- Beneficial native submersed vegetation (SAV) has increased in both lakes.
- Seminole County established a baseline SAV map to monitor/compare future changes.
- 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

- Potential planting events
- Nutrients
- Continued 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:

- LMP encouraged scheduling a 2016 planting restoration event; liaisons will advise LMP of community consensus regarding holding an event.
- LMP advised a map was created showing SAV vegetation and water bottom depth in Lake Burkett; this will be the basis for future SAV map comparisons.
- LMP advised that water clarity has improved.

- We have a new FWC regional biologist: Kris Campbell, at 6830 Shadowridge Dr., Suite 201, Orlando, FL 32812 407-858-6170.
- Progress of County fertilizer ordinance was discussed.
- Liaisons questioned timing of shoreline treatments and were told that Orange County does not target shoreline areas in their treatments.
- Liaisons' consensus was to maintain non-ad valorem assessment with the \$675.00 level.

# LAKE BURKETT

## 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 (Seminole County) and/or ad valorem (Orange County) 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 2011-21
- Interlocal Agreement [IA] with Orange County March 2013
- FWC Permit

#### **Methods for Aquatic Weed Control as authorized via County Ordinance/Resolution**

- Chemical (herbicides)
- Biological (sterile triploid grass carp fish [TGC])

#### **Targeted Invasive/Exotic Aquatic Vegetation**

- Hydrilla, fragrant water lily, spatterdock, torpedo grass, algae, cattail, salvinia, duckweed, and tussocks.

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

AWC services are performed monthly and at the direction of the Seminole County LMP as per the Lake Burkett Management Plan reviewed at the annual planning session with the expectation that the Seminole County LMP may alter anticipated treatments as merited basis per changing/evolving conditions noted during site inspections.

#### **Herbicide Treatments - Service Provider**

- As determined by Seminole County within Seminole County jurisdiction.

#### **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 increased to no more than 20% above 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 Burkett are David Diggs ([ddiggs1043@aol.com](mailto:ddiggs1043@aol.com)), Todd Husty, Craig Maughan ([maughanc@trinityprep.org](mailto:maughanc@trinityprep.org)) and Lisa Wilks ([trinitybayhoa@yahoo.com](mailto:trinitybayhoa@yahoo.com)).

# LAKE BURKETT

## COMMUNITY-BASED ACTIVITIES & EVENTS

LMP continues to recommend/encourage homeowners to coordinate a resident-based volunteer event involving native plantings along the shoreline of Lake Burkett. The intention of such an event is to plant beneficial native aquatic plants to key areas in need 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 Burkett 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 Lake Association holding at least one annual meeting with topics relevant to Lakes Burkett and Martha,
- 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 Lake Management Program, 665-2439, for more information and assistance, and
- 4) Provide content for the Seminole County Water Atlas Lake Management Webpage for Lake Burkett (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 Burkett and Martha 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 BURKETT

## **Current Fiscal Year – Planned Treatment & Funding**

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

Hydrilla growth in Lakes Burkett and Martha 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. 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 Burkett, 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.

### **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 along with hydrilla treatment (as needed) within Seminole County jurisdiction,
- 2) Future grass carp stockings if deemed necessary, pending permit amendment,
- 3) Continued monitoring of hydrilla, other submersed aquatic plants, and grass carp fish effects,
- 4) Increase 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 9, 2014, 2:30, 200 W. County Home Rd – LMP office
Community Liaisons	:	David Diggs, Todd Husty, Craig Maughan and Lisa Wilks
Liaisons Present	:	David Diggs and Craig Maughan
Seminole County Present	:	Thomas Calhoun, Gloria Eby, Kathy Moore and Carol Watral

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

- Scheduled aquatic plant control bi-monthly treatments continue along unincorporated Seminole County shoreline areas of Lake Burkett; such activities are based upon available funding.
- County encourages additional shoreline restoration events.
- The potential of increasing hydrilla growth due to re-growth of tubers exists. Large-scale herbicide treatments for hydrilla may be required every two to three years. Product rotation required to reduce potential for resistant hydrilla.
- Triploid grass carp (360) stocked in 2012, continue as a crucial component of the hydrilla management plan.
- 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).
- Whole lake hydrilla cost share with Orange County was not required for FY1213; thereby, increasing contingency reserves carrying forward into FY1314.
- As of July 2013, hydrilla was found sparsely in Lakes Burkett and Martha, and individually treated by the respective County within their respective jurisdiction. An increase in tuber generated hydrilla was noted in December 2013.

#### General Topics & Updates

- Potential planting events
- Nutrients
- 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

#### January 9, 2014 Meeting Notes:

- Per OC request from January 7 joint OC/SC planning meeting, Trinity Prep was advised of hydrilla presence in eastern retention pond. Trinity Prep agreed to address this pond.
- Trinity Prep advised courtesy notice of hydrilla treatments in advance of application is appreciated and SC will advise OC of such request.
- SC noted difficulty with access via Trinity Prep property for the most recent routine treatment. Trinity Prep advised only a small portion of the staff was on site during the holidays and provided alternate staff contact information for when the school is closed.
- The liaisons/community will review the potential of coordinating a shoreline restoration event in 2015 at the direction of and availability from the County.
- David Diggs had several questions stemming from his community related to hydrilla biology, grass carp management, future assessment rates, and asked if hydrilla would ever “go away”. LMP advised that hydrilla management is a part of the lake management indefinitely once hydrilla becomes established in a lake. Trinity Prep provided historical information about hydrilla infestation in the lakes in the late 1970s, with which the associated intervention yielded an overstocking of grass carp fish.

## Exhibit B - Budget/Financial Overview

MSBU:

Lakes Burkett/Martha (Aquatic Weed Control)

Date:

January 21, 2015

Tax Year	2012	2013	2014	2015
Assessment	\$725	\$825	\$825	\$675.00
Fiscal Year	FY1213	FY1314	FY1415	FY1516
	Actual	Actual	Working Budget	Projected Budget
<b>REVENUE</b>				
Beginning Fund Balance	\$ 4,809	\$ 13,991	\$ 24,218	\$ 29,598
Assessment	\$ 11,896	\$ 11,932	\$ 12,670	\$ 10,360
Other	\$ 41	\$ 49	\$ -	
MSBU Program Fund Advance	\$ -	\$ -	\$ -	
<b>TOTAL</b>	<b>\$ 16,746</b>	<b>\$ 25,972</b>	<b>\$ 36,888</b>	<b>\$ 39,958</b>
Cost Sharing	\$ -	\$ -	\$ -	
<b>TOTAL</b>	<b>\$ 16,746</b>	<b>\$ 25,972</b>	<b>\$ 36,888</b>	<b>\$ 39,958</b>
Lake Management Program	\$ -	\$ -	\$ -	
<b>TOTAL</b>	<b>\$ 16,746</b>	<b>\$ 25,972</b>	<b>\$ 36,888</b>	<b>\$ 39,958</b>
<b>EXPENDITURE</b>				
	Actual	Actual	Working Budget	Projected Budget
County Administrative Fee	\$ 1,075	\$ 1,075	\$ 1,200	\$ 1,200
Fund Advance Repayment	\$ 90	\$ 90	\$ 3,090	\$ -
Contracted Services	\$ 1,590	\$ 589	\$ 3,000	\$ 3,000
<i>Routine Services</i>	\$ 1,590	\$ 589	\$ 1,000	\$ 1,000
<i>Supplemental Services</i>	\$ -	\$ -	\$ -	\$ -
<i>Hydrilla</i>	\$ -	\$ -	\$ 2,000	\$ 2,000
<i>Cost Share - Carp</i>	\$ -	\$ -	\$ -	\$ -
Contingency Reserve	\$ 13,991	\$ 24,218	\$ 29,598	\$ 35,758
<b>TOTAL</b>	<b>\$ 16,746</b>	<b>\$ 25,972</b>	<b>\$ 36,888</b>	<b>\$ 39,958</b>
Cost Sharing	\$ -	\$ -	\$ -	\$ -
<b>TOTAL</b>	<b>\$ 16,746</b>	<b>\$ 25,972</b>	<b>\$ 36,888</b>	<b>\$ 39,958</b>
Lake Management Program	\$ -	\$ -	\$ -	\$ -
<b>TOTAL</b>	<b>\$ 16,746</b>	<b>\$ 25,972</b>	<b>\$ 36,888</b>	<b>\$ 39,958</b>
Fund Advance BB Payment	\$ 3,000	\$ 3,000	\$ 3,000	\$ -
Fund Advance EB	\$ -	\$ -	\$ 3,000	\$ -
Fund Advance EB	\$ 3,000	\$ 3,000	\$ -	\$ -

## Exhibit C - Historic Reports/Data

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

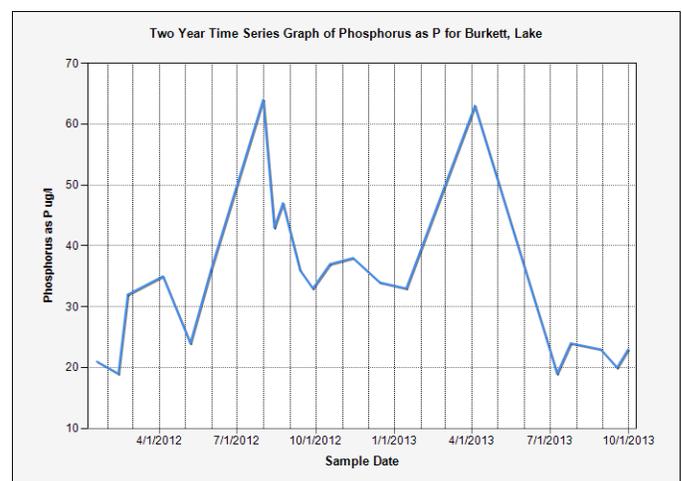
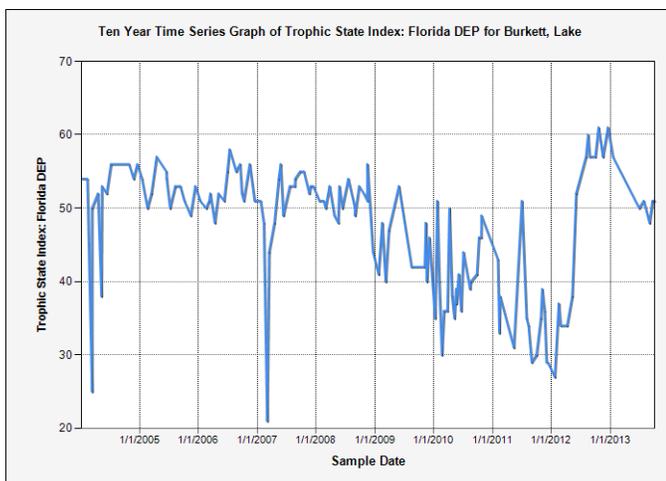
<http://www.seminole.wateratlas.usf.edu/lake/waterquality.asp?wbodyid=7521&wbodyatlas=lake>

<http://www.seminole.wateratlas.usf.edu/resourceprogram.aspx?aid=15&wbodyid=7521>

### Lake Burkett 2014 Water Quality Report: How Does My Lake Rank? **TSI SCORE: 51 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? **51 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 Burkett (sampled on August 27, 2014) scored a **51** 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.