

Greetings Lakes Martha and Burkett Residents!

Please find the latest bioassessment of your lake below. Our next survey is scheduled for **March 2016**. Key highlights of this update include:

- Hydrilla observations
- Annual Liaison Meeting scheduled for January 2015
- Increase in native Submersed Aquatic Vegetation (SAV); mainly bladderwort
- Recommendations for you and your lake

Annual Planning Session with Liaisons:

The annual Lake Management meeting (which is conducted for each MSBU waterbody in Seminole County) with the Seminole County liaisons will be held in January 2015. The agenda for this meeting includes review of: (1) prior year lake management and fiscal activity (FY13-14), (2) current conditions and lake management plan for balance of current fiscal year (FY14-15), and (3) projected plans for the next fiscal year (FY15-16), along with a review of the roles and responsibilities of Seminole County and the liaisons.

Bioassessments:

On **August 27th, 2014**, Seminole County Lake Management Program (SCLMP) staff Thomas Calhoun, Gloria Eby, and Marianne Pluchino surveyed the aquatic plants in **Lakes Martha and Burkett**.

The LVI was created by the Florida Department of Environmental Protection as a rapid screening tool (bioassessment) for ecological condition; it determines how closely a lake's flora (aquatic plants) resembles that of an undisturbed lake.

Lake Burkett is 75 surface acres located in the Howell Creek watershed. Scores for Lake Burkett have historically ranged from 39 to 55. LVI score for 2014 was 51 in the healthy range. Only one score since implementing the assessment in 2009 has had an impaired score. This impaired score is attributed to hydrilla being the dominant species in two sections at the time of assessment in 2011.

LVI Range	Description
78-100	Exceptional
43-77	Healthy
0-42	Impaired

Hydrilla was found mixed in with native vegetation to a depth of 8 feet in both lakes. Hydrilla tubers can lay dormant for more than 4 years. As the tubers begin to propagate it is hoped that the grass carp fish will forge on this new growth. We will continue to monitor hydrilla in both lakes to see if any action will be necessary.

Photos: Hydrilla and hydrilla tubers mixed in with bladderwort.



Photo: Typical size of hydrilla found in Lakes Martha and Burkett.



Several species of native SAV were observed during the inspection, including: baby's tears to 1 foot, southern naiad to 7 feet, stonewort to 6 feet, bladderwort to 7 feet, and eelgrass to 6 feet. Bladderwort, stonewort and southern naiad were expanding in both lakes.

Photo: Bladderwort mixed with algae.



Exotic emergent vegetation observed during the inspection included: alligatorweed, torpedo grass, and wild taro. Native emergent vegetation included: canna, rush fuirena, bulrush, pickerelweed, duck potato, and fire flag. Plantings from last year's lake restoration event were expanding well. However, in many areas torpedo grass is taking over stands of native vegetation.

Photo: Duck potato stand being taken over by torpedo grass.



The secchi reading (measurement for water clarity) was 4.3 feet in a depth of 9.4 feet. No grass carp fish were observed during the inspection. All of this information can be found online at either County's Water Atlas website:

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

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

11-12-2014

On **November 12th, 2014**, SCLMP staff (Thomas Calhoun, Gloria Eby, Joey Cordell and Sophia Pengra) surveyed the aquatic plants in **Lakes Martha and Burkett**.

Hydrilla was found mixed in with native vegetation to a depth of 6 feet in both lakes. This was a decrease in depth since the previous inspection. We will continue to monitor hydrilla in both lakes to see if any action will be necessary.

Several species of native SAV were observed during the inspection, including: baby's tears to 1 foot, southern naiad to 6 feet, stonewort to 4 feet, bladderwort to 4 feet, and eelgrass to 6 feet. Bladderwort, eelgrass and southern naiad were expanding in both lakes.

Photo: Eelgrass mixed with algae.



Exotic emergent vegetation observed during the inspection included: alligatorweed, torpedo grass, dwarf papyrus and wild taro. Native emergent vegetation included: canna, rush fuirena, pickerelweed, duck potato, Carolina red root, and fire flag.

Photo: Example of dwarf papyrus.



The secchi reading (measurement for water clarity) was 4.3 feet in a depth of 10.2 feet. No grass carp fish were observed during the inspection.

12-22-2014

On **December 22nd, 2014**, SCLMP staff (Thomas Calhoun, Gloria Eby and Joey Cordell), join by Josh Griisser, surveyed the aquatic plants in **Lakes Martha and Burkett**.

Hydrilla was found mixed in with native vegetation to a depth of 7 feet in both lakes. This was an increase in depth since the previous inspection. We will continue to monitor hydrilla in both lakes to see if any action will be necessary.

Photo: Hydrilla on north portion of Burkett intermixed with native southern naiad.



Several species of native SAV were observed during the inspection, including: baby's tears to 1 foot, southern naiad to 7 feet, stonewort to 4 feet, bladderwort to 7.5 feet, and eelgrass to 3.5 feet. Bladderwort has expanded to become the dominant inshore plant. Bladderworts are unique in that the underwater leaves bear small oval "bladders" that trap and digest small aquatic creatures.

Photo: Bladderwort in Lake Martha (left) with example of flower (right).



Exotic emergent vegetation observed during the inspection included: alligatorweed, torpedo grass, dwarf papyrus, and wild taro. Native emergent vegetation included: canna, rush fuirena, bulrush, pickerelweed, duck potato, and fire flag.

The secchi reading (measurement for water clarity) was 5.6 feet in a depth of 10.8 feet. No grass carp fish were observed during the inspection.

Lake Recommendations:

1 Work together or establish a lake association with other lakefront owners to control invasive plants and increase native aquatic plantings along shoreline (such as pickerelweed and duck potato). Have at least one annual lake association meeting, invite guest speakers (such as county or state biologists) and discuss lake specific issues.

2 Take advantage of free educational outreach programs i.e. Shoreline Restoration Workshops (planting days), Florida Yards and Neighborhoods (FYN), Lake Management Video mail-outs, and presentations on decreasing "pointless personal pollution" by reducing overall fertilizer use and **only using phosphorous free and slow-release nitrogen** based fertilizers, properly maintaining/cleaning septic tanks, maintaining a healthy shoreline with beneficial native aquatic plants, constructing a berm and swale feature along your shoreline, and keeping grass clippings out of your lake and out of storm drains that lead to the lake. All of these activities help to protect and preserve your waterbody! You can also visit the Water Atlas (<http://www.seminole.wateratlas.usf.edu/>) to read interesting information about your specific waterbody, and our website (http://www.seminolecountyfl.gov/pw/roadstorm/wq_lakemgt.aspx) to watch educational videos and download lake management pamphlets. Please contact Seminole County Lake Management Program, at (407) 665-2439 or Orange County Lake Management Program at (407) 836-1409 for further assistance.