

Greetings Sweetwater Cove Lake Residents,

Lake Management Program (LMP) biologists surveyed the aquatic plants in Sweetwater Cove Lakes on the following dates: 10/29/14, 12/9/14, 12/16/14, 2/18/15, and 3/17/15. The next inspection date will be **April 21st, 2015**; weather permitting.

Algae Monitoring and Algae Control Devices (Lower Lake):

A great deal of algae growth (Lyngbya species) within the Lower Lake continues to be observed. Due to the lack of results from the sonic devices, this pilot project has been concluded and the units are scheduled to be removed. Thank you to the Wilkie's, Marra's, and Gwinn's for their cooperation and participation with conducting this study!

Chemical treatments will continue on a bi-weekly basis and we have been working with FWC on adding additional chemical(s) to our permit in order to combat the Lyngbya growth. A dye-test was conducted by FWC on the exiting outfall and results of this test are currently being evaluated by FWC. Lyngbya is a very difficult aquatic species to manage because it has a protective cell wall (sheath) that is made up of calcium carbonate. This makes it difficult for most herbicides to penetrate the cell wall.

Photo: Lyngbya built up around sonic device (east end of Lower Lake); photo taken March 17th, 2015.



Lynghya Study:

We continue to seek new and effective control measures for Lynghya and as part of this effort; we have commenced a study to determine possible nutrient sources that is contributing to the accelerated growth of this exotic algae. Environmental Research & Design, Inc. (ERD) is currently conducting a study which is funded by Seminole County. This study includes a 12 month field monitoring program to identify potential sources of nutrient loadings fueling the Lynghya outbreaks and to provide recommendations for interception or inactivation of the phosphorus loadings before becoming available for uptake by the algae. This project will evaluate nutrient sources resulting from groundwater seepage as well as loadings from nutrient-rich sediments. Seepage meters will be installed in areas of the Lower Lake with and without excessive Lynghya growth to determine if differences exist in seepage loading rates to evaluate whether seepage inflow could be a potential source of nutrient loadings. One of the inputs under evaluation by ERD is groundwater seepage, which consists of shallow subsurface inflow around the perimeter of the lake. Groundwater seepage has been shown to be a significant input to many lakes in the Central Florida area. This input is evaluated using an aluminum underwater chamber which is placed on the bottom of the lake. A schematic of a typical chamber is shown below. Water which seeps into the lake from groundwater is collected in a plastic bag which is attached to the seepage meter. The bag is retrieved by a diver, and the volume of water is measured and a sample collected for lab analyses. This information is used to estimate the volume and quality of groundwater seepage entering the lake.

A total of 10 seepage stations were installed in the Lower Lake. These meters will remain in the lake until ~December, 2016. ERD personnel will collect samples from the meters on a monthly basis. The locations of the seepage meters are indicated by floats connected to the meter by a steel cable.

Please do not disturb this equipment. If you notice a meter which has been damaged, please call ERD at 407-855-9465.

Photos: Groundwater seepage sampling station. Please do not disturb.

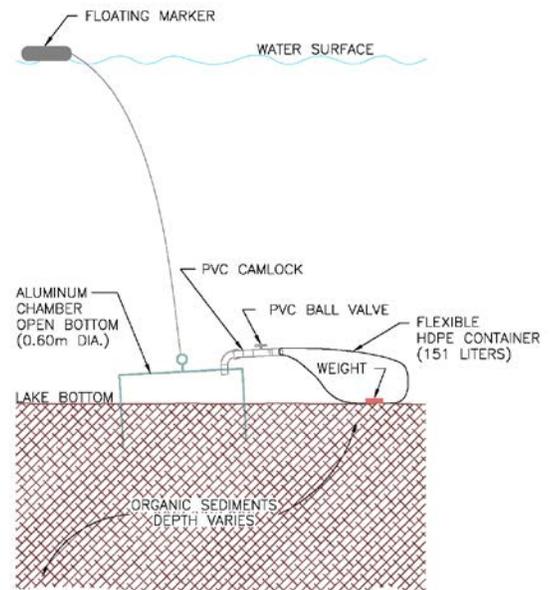


Photo: Overview of Lower Lake taken on March 17th (left) and December 9th, 2014 (right). Recent rains and herbicide treatments have reduced the algae biomass.



Middle and Upper Lakes:

The remaining lakes (middle and upper) are routinely receiving algae treatments along the margin of the lakes in conjunction with the emergent plant control treatments. The lilies present on the south side of Wekiva Springs Road are being monitored for when next treatment will occur. The lilies in the Upper Lake will be targeted for treatment upon next service date.

Photo: Middle Lake overview.



Restoration Event:

The fourth Sweetwater Restoration Event is scheduled for Saturday April 18th at 9am. Event kick-off will be at Riverbend Park (830 Cove Park Place). 5,000 beneficial native plants are scheduled to be planted by volunteers and homeowners. We expect another great turnout! We continue to see successes in the volunteer planting locations driven by community efforts. Some locations have been greatly impacted by deer grazing on

the plants. Thanks to all those that have participated in these events over the years to help improve your lake. We look forward to seeing you on the 18th!

Photo: Recent plantings that are established and expanding well!



Grass Clippings- during our visits we continue to see a large amount of grass clippings in the lakes. These clippings generate fuel for algae to become prolific and directly pollute your waterways. Please direct the clippings away from the water. If you have hired services, please let them know.

Photo: Grass clipping along the shoreline fueling algae growth; observed to be occurring on a weekly basis.



Recommendations:

1 Continue to work together with other lakefront owners to increase native aquatic plantings along shoreline (such as pickerelweed, canna, and duck potato). Have at least one annual lake association meeting to discuss lake-specific issues inviting guest speakers such as county or state biologists. **REDUCE** the amount of grass clippings entering your lake on a weekly basis.

2 Increase educational outreach programs, including Shoreline Restoration Projects (planting days), Florida Yards and Neighborhoods (FYN) Workshops, and Lake Management Video mail-outs. Most importantly, reducing personal pollution to your lake by decreasing fertilizer usage and using **only phosphorous free** and **slow-release nitrogen** fertilizers; maintaining a healthy shoreline with beneficial native aquatic plants; 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! Contact LMP at (407) 665-2439 for information about free educational programs.

3 Help spread the word! Obtain email addresses from neighbors not currently on the distribution list in order to share this information with others. Valuable information is contained within these reports.