

Please find the main updates of the latest bioassessment of our lake below.

- Nutrient Study Update
- Hydrilla status
- LVI (Lake Vegetation Index) results
- Status of Submersed Aquatic Vegetation (SAV)
- Status of shoreline emergent vegetation
- Recommendations for you and your lake

Nutrient Study- a final report should be ready in Summer and an informative community meeting will be held thereafter.

**7/8/2015**

On **July 8<sup>th</sup>, 2015**, Seminole County Lake Management staff, Thomas Calhoun, Joey Cordell, and Sophia Pengra, surveyed the aquatic plants in **Spring Lake**.

A large patch on hydrilla was found mixed in with eelgrass and pondweed at the end of the culvert on the southeast shore. This patch had a lot of new growth and will be treated soon.



**Photo: Hydrilla (invasive) mixed in with eelgrass (native).**

Five native SAV species were observed during this inspection. This is an increase from the three native species that were observed last bioassessment. These species included; roadgrass, pondweed, eelgrass to a depth of 4 feet, southern naiad to a depth of 4 feet. Eelgrass is still the dominant species. The eelgrass access corridors were treated last month. We found them to now be open and in good condition.

Native emergent vegetation included: pickerelweed, duck potato, fire flag, canna, flat sedge, pennywort, primrose willow, yellow cow lily, fragrant water lily, carolina willow, bulrush, and cattail. Native vegetation, especially pickerelweed and duck potato, continue to expand. Native emergent vegetation plays an important part the lakes ecosystem by filtering nutrients from runoff, protecting the shoreline from erosion and providing habitat for aquatic species.



**Photo: Yellow cow lily.**

Invasive emergent vegetation found during the inspection included alligator weed, torpedo grass, creeping oxeye, umbrella sedge, and elephant ear.

An abundance of waterfowl were seen during the survey.



**Photo: Family of ducks.**

The water elevation during the time of the inspection was 62.60 feet above sea level. The secchi reading (measurement for water clarity) was 3.0 feet in a total depth of 8.6 feet, which was a decrease from the prior survey of 3.4 feet. No grass carp fish were observed during this inspection. The carp barrier was inspected and found to be in good condition.

**8/5/2015**

**LVI & Bioassessment:**

On **August 5<sup>th</sup>, 2015**, Seminole County Lake Management staff, Gloria Eby, Thomas Calhoun, Joey Cordell, Beth Stephens, and Sophia Pengra surveyed the aquatic plants in **Spring Lake** and conducted a Lake Vegetation Index (LVI) bioassessment.

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. Results of this year's LVI is a score of **54** which is in the healthy category.

Eelgrass was the only native SAV observed during this inspection. The maximum depth for the eelgrass was 7 feet. Access corridors are open and in good shape. Patches of hydrilla that were previously observed have been treated and not present at the time of inspection.



**Photo: Eelgrass (native).**

Native emergent vegetation found during the inspection included: pickerelweed, duck potato, bulrush, cattail, fragrant water lily, yellow cow lily, primrose willow, flat sedge, pennywort, and smooth water hyssop.

Invasive emergent vegetation found during the inspection included: alligator weed, torpedo grass, elephant ear, Brazilian pepper tree, and umbrella sedge. There are a handful of shorelines void of vegetation. It is recommended that these shorelines are planted with beneficial native vegetation. Native emergent vegetation plays an important part the lakes ecosystem by filtering nutrients from runoff, protecting the shoreline from erosion and providing habitat for aquatic species.



**Photo: Pickerelweed (native).**

The water elevation during the time of the inspection was 63.10 feet above sea level. The secchi reading (measurement for water clarity) was 2.0 feet in a total depth of 11.3 feet. No grass carp fish were observed during this inspection.

**11/3/2015**

On **November 3<sup>rd</sup>, 2015**, Seminole County Lake Management staff, Thomas Calhoun and Joey Cordell, surveyed the aquatic plants in **Spring Lake**.

Two species of submersed aquatic vegetation (SAV) were observed during the inspection. These species were southern naiad and eelgrass. Eelgrass was the dominant SAV and was found to a maximum depth of 4.2 feet. Southern naiad was found to a maximum depth of 2.5 feet. Less eelgrass was present than at the time of the previous inspection. Access corridors were open and in good shape. No hydrilla was observed during the inspection.



**Photo: Eelgrass (native).**

Native emergent vegetation found during the inspection included: pennywort, hempvine, yellow cow lily, fragrant water lily, water paspalum, pickerelweed, duck potato, Carolina willow, bulrush, cordgrass, fire flag, cattail, and iris. The abundance of emergent vegetation on Spring Lake was very low. Emergent vegetation is important to lake systems as it acts as a filter for nutrient runoff from surrounding yards. Planting native vegetation is an easy and effective way to improve the water quality of the lake. It is also effective at reducing shoreline erosion.



**Photo: Yellow cow lily.**

Invasive emergent vegetation found during the inspection included: alligator weed, wild taro, umbrella grass, primrose willow, Chinese tallow, Brazilian pepper tree, and creeping oxeye.



**Photo: Water fowl on Spring Lake.**

The water elevation during the time of the inspection was 63.04 feet above sea level. The secchi reading (measurement for water clarity) was 2.2 feet in a total depth of 9.0 feet. No grass triploid (sterile) carp fish were observed during this inspection.

**12/8/2015**

On **December 8<sup>rd</sup>, 2015**, Seminole County Lake Management staff, Thomas Calhoun and Joey Cordell, surveyed the aquatic plants in **Spring Lake**.

Three species of submersed aquatic vegetation (SAV) were observed during the inspection, including: roadgrass to a depth of 1 foot, baby's tears to 1 foot, and eelgrass to 5 feet. The presence of eelgrass has slightly declined since the previous inspection. The access corridors were open and in good shape. No hydrilla was seen during the inspection.



**Photo: Eelgrass (native).**

Native emergent vegetation found during the inspection included: bur-marigold, sawgrass, pennywort, hempvine, yellow cow lily, fragrant water lily, pickerelweed, duck potato, carolina willow, bulrush, fire flag, and cattail. Some pickerelweed and bulrush are experiencing a seasonal die-back but should return during the spring.



**Photo: Yellow cow lilies and duck potato.**

Invasive emergent vegetation found during the inspection included: alligator weed, wild taro, umbrella grass, primrose willow, and torpedograss.



**Photo: Treated torpedograss (invasive).**

The water elevation during the time of the inspection was 63.01 feet above sea level. The secchi reading (measurement for water clarity) was 2.4 feet in a total depth of 6.6 feet. No grass triploid (sterile) carp fish were observed during this inspection.

## **Recommendations for your lake:**

- 1 Work together with other lakefront owners. Have *at least* one annual lake association meeting, invite guest speakers (such as county or state biologists) and discuss lake specific issues, especially nutrients/lake management recommendations. SCLMP staff would be glad to present our findings from this and other surveys. Continue to increase native aquatic plantings along the shoreline (such as pickerelweed, duck potato, and canna).
- 2 Consider increasing street sweeping services during times of peak leaf fall to ensure that this debris does not enter your waterways. Leaf debris contains phosphorous that can negatively impact your lakes.
- 3 Increase educational outreach programs i.e. Shoreline Restoration Workshops (planting days), Florida Yards and Neighborhoods (FYN), Lake Management Video mail-outs. Spread the word about reducing personal pollution through reducing total fertilizer use, using only phosphorous-free and slow release nitrogen fertilizers, keeping a functional shoreline with beneficial native aquatic plants, and keeping grass clippings out of your storm drains leading to the lake. All of these activities aid in protecting your waterbody! Contact Seminole County Lake Management Program [\(407\) 665-2439](tel:407-665-2439) to find out about the free educational programs available to you.
- 4 Help spread the word! Obtain email addresses from neighbors not currently on the distribution list so that these reports can be shared with everyone. Valuable information is contained within these assessments.

Thanks,

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**[Seminole Education, Restoration & Volunteer \(SERV\) Program](#)**

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