

# LAKE MANAGEMENT NEWSLETTER



*Managed by Seminole County Lake Management Program • Winter 2021*

## Seminole County Shoreline Protection Ordinance Update

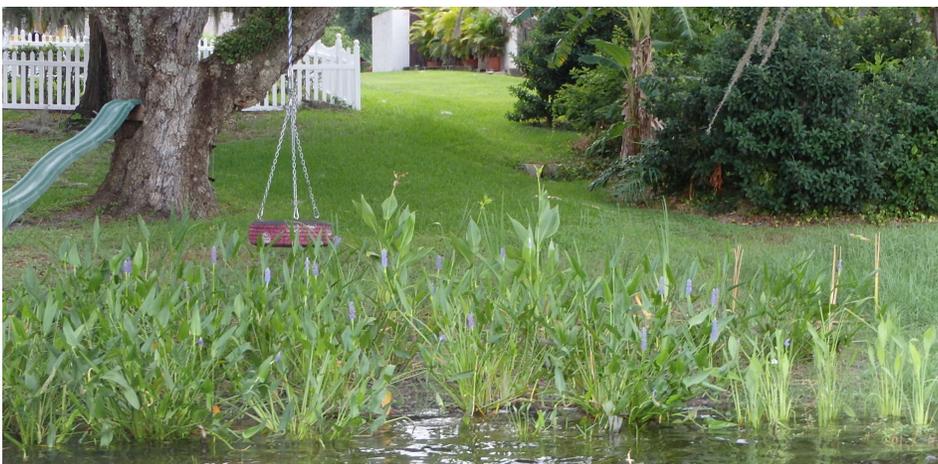
Seminole County has many beautiful lakes that bring a slice of nature to a suburban setting. Environmental stressors like stormwater and fertilizer runoff threaten the health of these natural resources by increasing the loading of nutrients and pollutants to waterbodies. It is widely recognized that aquatic plants play a vital role in the protection of lakes by filtering pollutants, preventing erosion, and providing wildlife habitat.

Until 2018, the Florida Fish and Wildlife Conservation Commission (FWC) was the permitting body for most lakes in Florida. A 2018 rule change for the permit exempt waterbodies of Florida reduced the State's oversight of shoreline management to waterbodies that exceed 160 acres surface area. There are only a handful of lakes in Seminole County that remain protected from shoreline clearing under the new FWC rule change. The proposed Seminole County Shoreline Protection Ordinance would supplement permitting the gaps left by the State.

### Ordinance Details

The proposed ordinance would require residents to obtain a Shoreline Alteration Permit through Seminole County's online permitting system before altering their shoreline. The ordinance only pertains to residents within the unincorporated limits of Seminole County. Waterbodies smaller than 2 acres or larger than 160 acres would be exempt from needing a County permit, though an FWC permit would be required for waterbodies larger than 160 acres.

*The Shoreline Protection Ordinance is currently under consideration by the Board of County Commissioners. Public support is welcome.*



Grace Lake shoreline

### Ordinance webpage

Please [click this link](#) to visit the Shoreline Protection Ordinance webpage for more information and FAQs about the new ordinance. Contact: 407-665-5542, [Shoreline@seminolecountyfl.gov](mailto:Shoreline@seminolecountyfl.gov)



Armored catfish or brown hoplo (*Hoplosternum littorale*)

## Nonnative Armored Catfish

Many who fish ponds, lakes and streams have already encountered a pre-historic-looking catfish with thick boney plates commonly referred to as the armored catfish, or brown hoplo (*Hoplosternum littorale*). These fish are native to tropical South America and Central America. Aside from the boney plates, they can be identified by their dark brown to black color, length of less than a foot, and a pair of long barbells on the chin.

### Habitat and Behavior

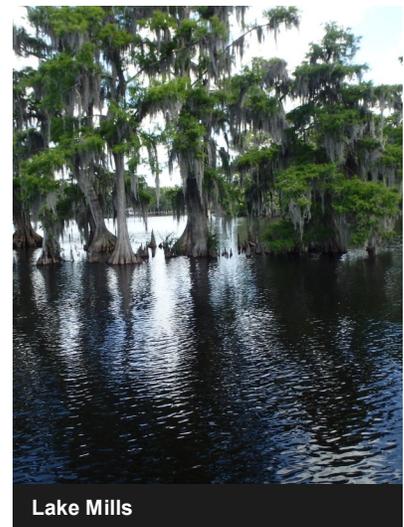
The catfish survive in a variety of freshwater habitats including slow moving rivers, streams, side channels, ponds, marshes, and man-made waterways such as ditches and borrow pits. Larvae and juveniles inhabit shallow water areas with lots of vegetation; adults prefer foraging in deeper, open water areas because they gulp air and are tolerant of both low oxygen and high hydrogen-sulfide levels. They primarily feed on benthic invertebrates and detritus.

### Catching Armored Catfish

As armored catfish are a non-native fish, there are no Florida regulations for harvesting them. Unwanted catfish should not be returned to the water alive. Residents are asked to return carcasses to the water where they came from, and not leave them on land to decay.

## LakeWatch

Consider joining Florida LAKEWATCH, a citizen volunteer lake monitoring program that facilitates "hands-on" citizen participation in the management of Florida lakes, rivers and coastal sites through monthly monitoring activities. For more information, you can visit the website at <http://lakewatch.ifas.ufl.edu/> or contact Jason "Mo" Bennett ([jpb@ufl.edu](mailto:jpb@ufl.edu), 352-273-3639).



Lake Mills



# Hydrilla (*Hydrilla verticillata*): Non-Native Invasive

Hydrilla is native to Southeastern Asia and is considered an invasive exotic species in the State of Florida.

## Identification

Hydrilla is a submersed, much-branched, perennial herb, usually rooted but frequently with fragments seen drifting in the water. Stems can be more than 35 feet long. Hydrilla once was used as an aquarium plant, and has become a weed of economic importance. Hydrilla verticillata is the only species in this genus.

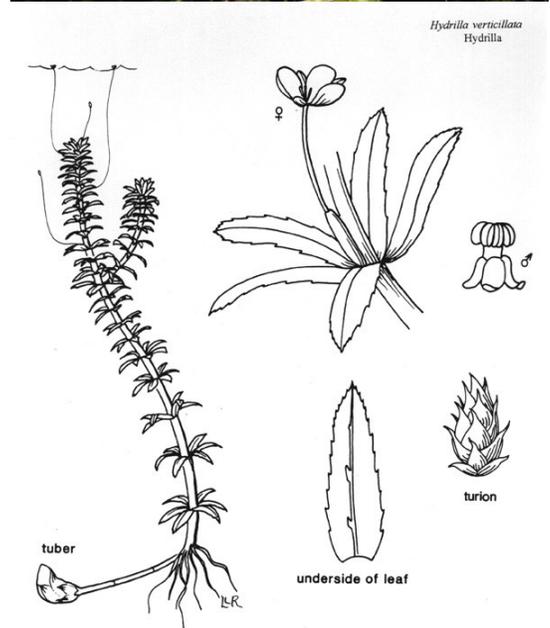


Illustration provided by:  
IFAS, Center for Aquatic Plants  
University of Florida, Gainesville, 1990

## Environmental Impacts

Hydrilla canopies lower dissolved oxygen concentrations, reducing aquatic life. Hydrilla decay doubles the amount of sediments that accumulate in a water body. Dense hydrilla infestations can restrict water flow resulting in flooding along rivers and canals. Hydrilla canopies produce ideal breeding environments for mosquitoes. Dense hydrilla canopies shade out native submersed vegetation lowering biodiversity. Hydrilla infestations restrict recreational activities such as boating, swimming and fishing.

## Control

Several methods are utilized to control Hydrilla including physical, chemical, and biological. For questions concerning control of Hydrilla or to apply for a free aquatic plant removal permit, please contact your state agency, the Florida Fish and Wildlife Conservation Commission, online at: <http://myfwc.com/license/aquatic-plants> or by calling 407-858-6170.

### Sources:

UF/IFAS. (2014). <https://plants.ifas.ufl.edu/plant-directory/hydrilla-verticillata/>

UF/IFAS. (2013). <http://nwdistrict.ifas.ufl.edu/nat/files/2013/03/Hydrilla.jpg>

Hydrilla <https://plants.ifas.ufl.edu/site/assets/files/1175/hydver11.jpg>



## Bioinspection Notes

### SAV:

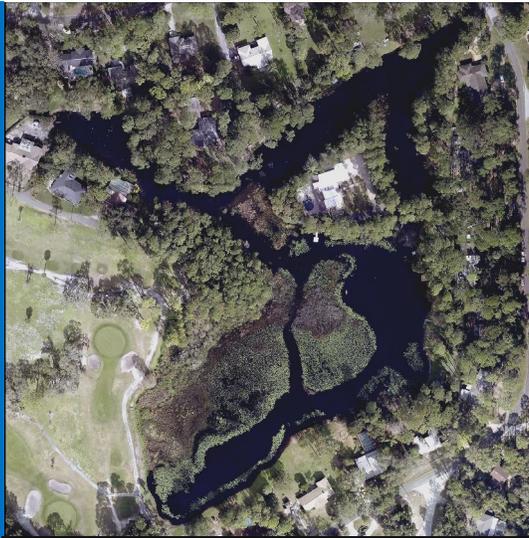
Submersed aquatic vegetation, plants live under water.

### Emergent vegetation:

Plants rooted underwater, have leaves/stems that grow above the surface.

### Secchi depth:

A measurement of water clarity.



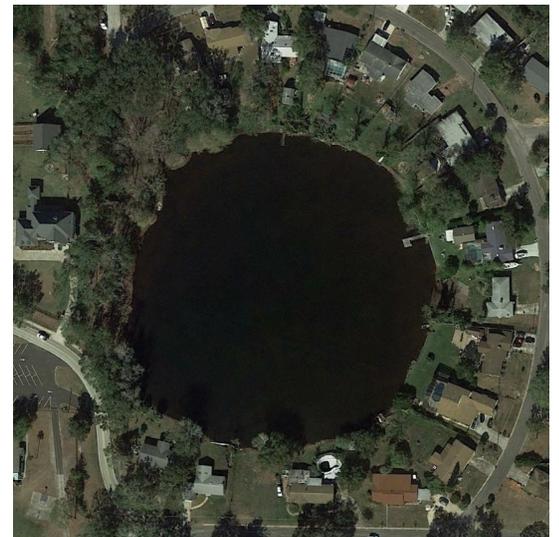
Aerial photo of Lake Amory

## Lake Amory

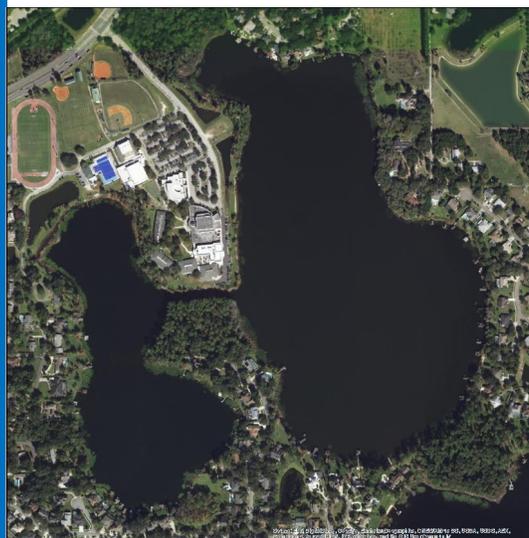
Bladderwort was treated lake-wide. Lily pads have been targeted to open up navigation and access corridors; treatment effects will be determined in the next survey. Logs blocking the carp barrier were removed; the barrier continues to be monitored monthly. Sediment removal from the canal and cove area is scheduled for March/April of 2021.

## Lake Asher

The planted shoreline vegetation is very healthy. No submersed aquatic vegetation was observed. Invasive trees in the conservation easement have been removed; we continue to monitor this area and are hopeful that we will be able to replant with native trees this year. Algae blooms have been persistent and will be treated as needed.



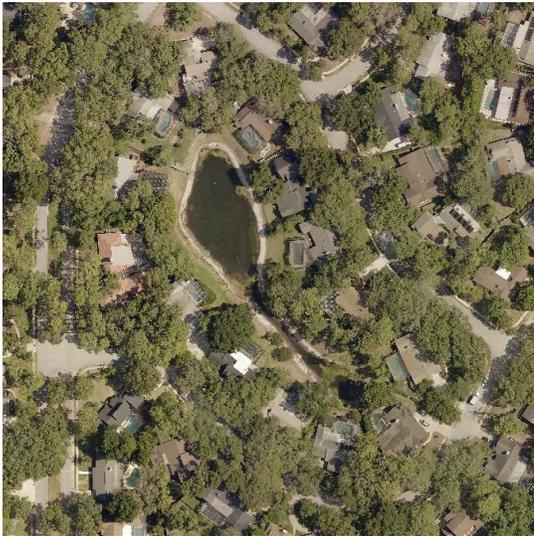
Aerial photo of Lake Asher



Aerial photo of Lake Burkett

## Lake Burkett

No Hydrilla or other invasive SAV was observed during the last inspection. Native SAV, including eelgrass and bladderwort, continues to expand around the lake, creating a great ecosystem. Treatments will continue to focus on nuisance cattails and primrose willow.



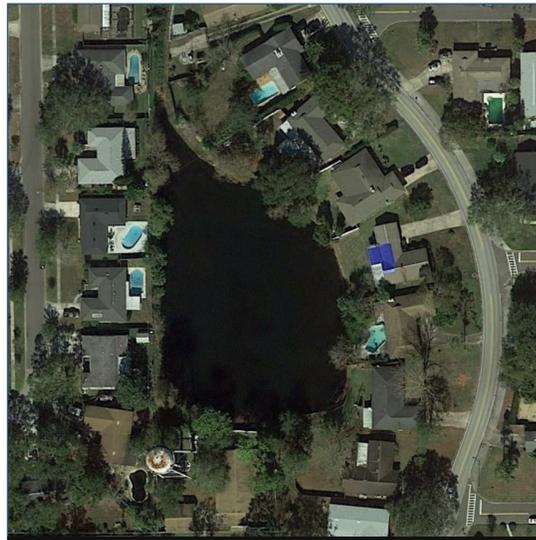
Aerial photo of Buttonwood Pond

## Buttonwood Pond

Water levels have lowered but are still relatively high. The high water levels obscured native SAV stone wort and musk grass during our most recent inspection. Invasive torpedo grass appeared to have been damaged. The *Thalia* were looking very robust.

## English Estates Pond

Monthly treatments continue to target alligator weed, primrose willow and Caesarweed. The amount of algae appears to have decreased in comparison with the summer months. Invasive torpedo grass remains a priority for treatment.



Aerial photo of English Estates Pond

## Grace Lake

During our most recent inspection, invasive *Hydrilla* was not observed (a reduction from previous assessments). High water elevation continues to inundate the majority of emergent vegetation. The harvesting of torpedo grass has taken place. The recent harvesting will be evaluated in our next survey.



Aerial photo of Grace Lake

## Bioinspection Notes

### SAV:

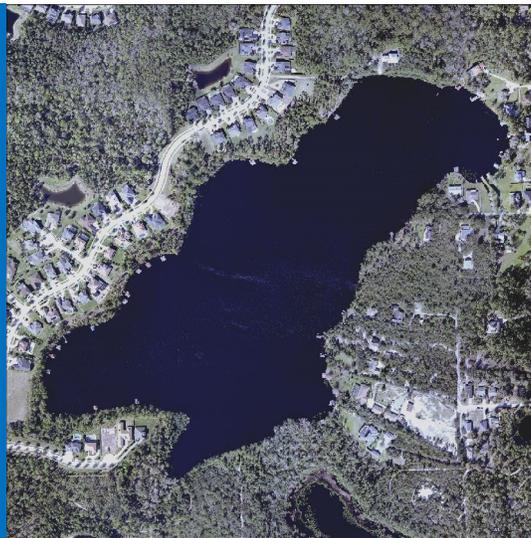
Submersed aquatic vegetation, plants live under water.

### Emergent vegetation:

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### Secchi depth:

A measurement of water clarity.



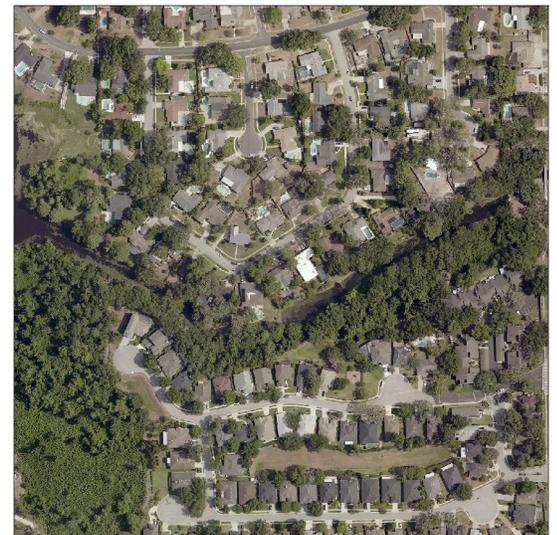
Aerial photo of Horseshoe Lake

## Horseshoe Lake

Water hyacinth and Hydrilla were not observed in the lake during our most recent inspection but a small cluster of Hydrilla was found in the canal. Native emergent vegetation appears healthy. The invasive [Old World climbing fern](#) continues to be observed on a parcel in the northwest corner of the lake and should be addressed.

## Howell Creek

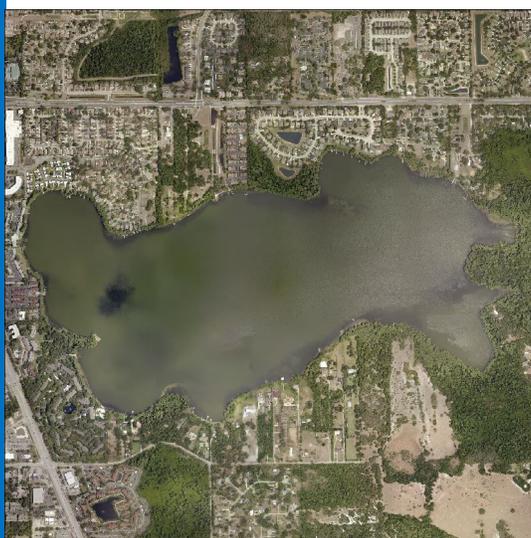
Eelgrass, a native species of SAV, and road-grass, a native emergent plant, continue to be the most abundant vegetation found within the creek. Recent inspections have found an increase of small Hydrilla clusters throughout the creek. Future scheduled treatments should address these clusters.



Aerial photo of Howell Creek

## Lake Howell

Much less Hydrilla was observed in the most recent inspection than in the previous inspection. The presence of water hyacinth has been greatly reduced. Cattails and Hygrophila continue to be treated. More SAV, especially eelgrass, was observed in greater abundance than in previous inspections.



Aerial photo of Lake Howell



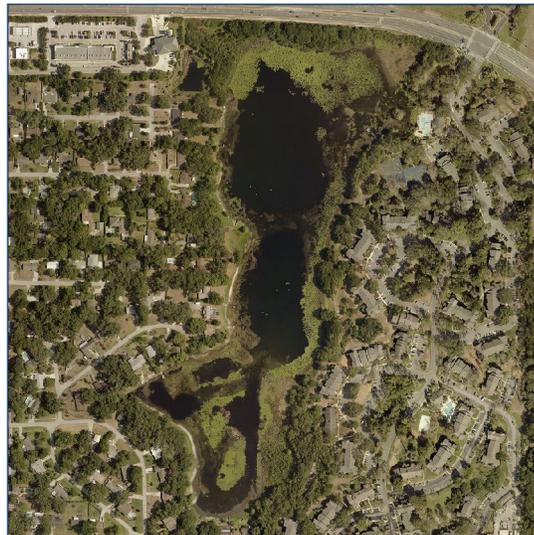
Aerial photo of Lake Mills

## Lake Mills

Native baby tears have decreased around the lake, likely due to seasonal changes, recent treatments, and the addition of more grass carp. Further control of this plant would be possible under the state-issued permit for plant control of 1 acre. Hydrilla was not observed. Recent BioBase scan results will be available on the [Water Atlas](#) soon.

## Mirror Lake

Bladderwort, lemon bacopa, and eel grass (native SAV) were observed to be abundant throughout the lake system. Access corridors in the northern part of the lake are scheduled to be treated. Small amounts of Hydrilla continue to be found near our launching point and will be addressed with future treatments.



Aerial photo of Mirror Lake

## Myrtle Lake

Recent treatments have targeted neglected overgrown areas. Water levels have been up and Hydrilla was not observed. Shoreline and island emergent vegetation continue to be monitored. A project will be scheduled to reduce erosion and create a stable launching point at the northern spoil area.



Aerial photo of Myrtle Lake

## Biinspection Notes

### SAV:

Submersed aquatic vegetation, plants live under water.

### Emergent vegetation:

Plants rooted underwater, have leaves/stems that grow above the surface.

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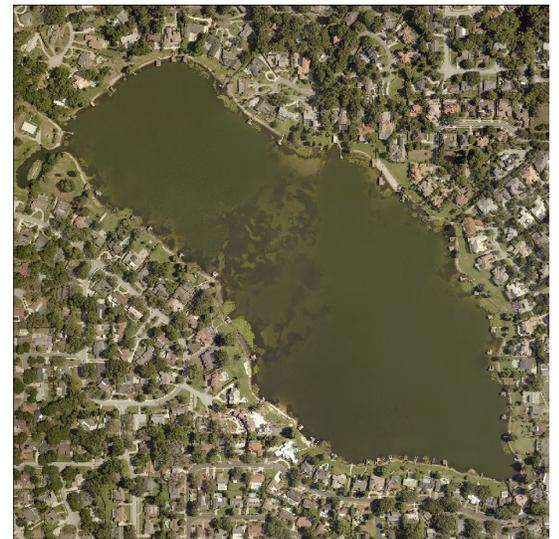
Aerial photo of Lake Pickett

## Lake Pickett

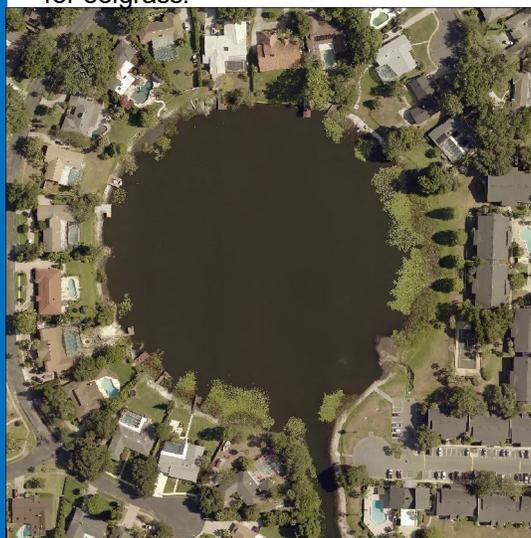
Bogmoss biomass has continued to decrease lake-wide. No Hydrilla was observed during the previous inspection. Maidencane, a native species of emergent vegetation, continues to expand. A few small patches of the invasive SAV *Limnophila* were found along the northeastern shoreline.

## Spring Lake

Alum treatments have recently taken place. SAV continues to be treated around the inflow pipes. Small clusters of Hydrilla were observed within eelgrass patches and will be treated. Native emergent vegetation is slowly expanding. Eelgrass is reestablishing in deeper water, which is important for nutrient reduction. Some access areas are scheduled to be treated for eelgrass.



Aerial photo of Spring Lake



Aerial photo of Spring Wood Lake

## Spring Wood Lake

SAV around the perimeter of the lake has returned. Hydrilla was found around the full perimeter of the lake; a treatment will be scheduled. Native emergent vegetation is gradually returning, especially pickerelweed and fire flag. Some Hydrilla was observed near the boat launch dock.



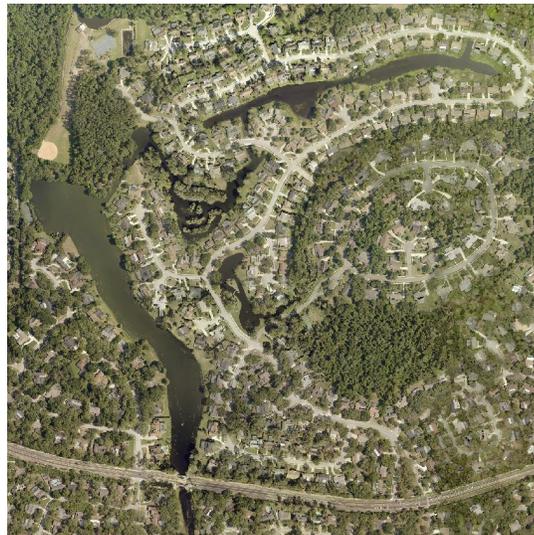
Aerial photo of Springwood Waterway

## Springwood Waterway

Large amounts of Nitella have been spotted near the entrance of the waterway and a large infestation of Hydrilla was sighted in the middle of the waterway and will be treated. Native emergent vegetation continues to flourish.

## Sweetwater Lake

Torpedo grass appears to be damaged from recent treatments, and reduced in extent. Lyngbya has decreased in the cove areas. Salvinia continues to be found in several areas of the lake and will be treated. Lily pads continue to be monitored.



Aerial photo of Sweetwater Lake



Aerial photo of Lake Sylvan

## Lake Sylvan

No Hydrilla or water hyacinth were found during the most recent inspection. Cattails have been reduced in several areas of the lake. Seminole County has been working with FDOT and their contractors to ensure that the outfall of Sylvan Lake will not be blocked.



Aerial photo of Lake of the Woods

## Lake of the Woods

Beneficial SAV (eelgrass, southern naiad, stone wort, and bladderwort) have been observed during our most recent inspections. Hydrilla sprigs were only found in one area on the west side of the lake and will be scheduled for treatment. High water levels and increased flow have necessitated multiple carp barrier cleanings during recent months. An algae treatment was scheduled for the month of February.

## Events

Please stay tuned for our Spring 2021 shoreline restoration events. **We will be following appropriate health safety guidelines; masks will be required.** More details, including dates and locations, will be announced soon. Please contact Thomas Calhoun at 407-665-2459 or [tcalhoun@seminolecount.fl.gov](mailto:tcalhoun@seminolecount.fl.gov) if interested in helping with these events.

### Green Industry Professional's **RING OF RESPONSIBILITY BUFFER**

**UF | IFAS**  
UNIVERSITY of FLORIDA

**SEMINOLE COUNTY**  
FLORIDA'S NATURAL CHOICE



**Keep leaves and grass clippings which carry nutrients and organic material out of the storm-water system and use them in the landscape as mulch.**

Green Industry Professionals must leave a **"RING OF RESPONSIBILITY"** buffer around or along the shoreline of canals, lakes, or waterways. The **Ring of Responsibility** is a preventative buffer, which protects against accidental direct contamination when fertilizing, and is the responsibility of the applicator.

Shoreline plants absorb nutrients.

#### **HOW TO MAINTAIN THE BUFFER**

- Don't mow right up to the pond/lake/waterway's edge, **leave at least 10 feet.**
- Don't blow grass clippings into the pond, waterway or stormdrain...same for fertilizer.

**Need to know more or learn how? Visit**  
[www.seminolecountyfl.gov/GIBMP](http://www.seminolecountyfl.gov/GIBMP)  
Call 407-665-5575.

# Recommendations & Additional Information

- If your lake is greater than 160 acres, and you are interested in altering your shoreline or treating exotic vegetation with an herbicide, please remember that you must apply for a free aquatic plant removal permit through the Florida Wildlife Conservation Commission (FWC) <http://www.myfwc.com/license/aquatic-plants> or contact FWC Regional Biologist, Kristine Campbell (Kristine.Campbell@myfwc.com, 321-246-0682).
- Work together with other lakefront owners. Have at least one annual lake association meeting, invite guest speakers (such as Seminole County or state biologists) and discuss lake-specific issues, especially nutrient/lake management recommendations. Seminole County Lake Management Program staff would be glad to present their findings from their Bioinspections. Also continue to increase native aquatic plantings along the shoreline (such as pickerelweed, duck potato, and canna).
- Water quality and biological information, such as the Lake Vegetation Index (LVI) for each lake, can be found on the Seminole County Water Atlas (<http://www.seminole.wateratlas.usf.edu/>). You can also visit our website (<http://www.seminolecountyfl.gov/LMP>) to watch educational videos and download lake management pamphlets.
- For individual Lake Management Plans: Click on Active MSBUs at [www.seminolecountyfl.gov/msbu](http://www.seminolecountyfl.gov/msbu)



## Contact Us

### GLORIA EBY

Seminole County LMP  
Principal Environmental  
Scientist  
geby@  
seminolecountyfl.gov  
407-665-2439

### THOMAS CALHOUN

Seminole County LMP  
Senior Environmental  
Scientist  
tcalhoun@  
seminolecountyfl.gov  
407-665-2459

### JOEY CORDELL

Seminole County LMP  
Lake Management  
Technician  
jcordell  
@seminolecountyfl.gov  
407-665-5842

### TONY CINTRON

Seminole County LMP  
Lake Management  
Technician  
acintron  
@seminolecountyfl.gov  
407-665-5264

### MSBU Program

msbuprogram@  
seminolecountyfl.gov  
407-665-7178  
[www.seminolecountyfl.gov/msbu](http://www.seminolecountyfl.gov/msbu)

