

LAKE MANAGEMENT NEWSLETTER



Managed by Seminole County Lake Management Program • Fall 2021

Fall Back to Slow Release Nitrogen

As we enter a different time of year, we are reminded that aside from the change in temperature, we need a change in our fertilizing philosophy. The use of fertilizer containing nitrogen becomes acceptable during the non-restricted season (October 1st – May 31st), but it must contain 65% or more slow release nitrogen. Throughout the year, fertilizers containing phosphorous can only be applied to lawns and gardens with a certified soil or tissue test that verifies there is a phosphorus deficiency. It is also important to remember that no fertilizer may be applied within fifteen (15) feet of any pond, lake, stream, canal, or other waterbody, including wetlands.

Goal of Fertilizer Ordinance

These restrictions and guidelines have been put in place to deal effectively with stormwater runoff. Stormwater runoff, which includes excess fertilizer, is a major source of pollution flowing into our natural waterbodies. As a result, the Seminole County Board of County Commissioners approved a Fertilizer Ordinance, effective February 28, 2017, that regulates fertilizers containing nitrogen and/or phosphorous and provides specific management guidelines for fertilizer application. The overall goal of the Ordinance is to minimize negative impacts to our natural waterbodies.



For more details, visit [the Fertilizer Ordinance webpage](#).



Fall Fertilizer PSA

Fertilizer PSAs

To view our Fertilizer PSAs, as well as some Seminole County Lake Management videos, visit the [Watershed Management Playlist](#) on YouTube.

Harmful Algae Blooms (HABs): New Hotline and Alerts

The Florida Department of Environmental Protection (FDEP), in conjunction with the Florida Department of Health (FDOH), has a new hotline and alert system for reporting observations of algae blooms: 1-855-305-3903, www.reportalgalbloom.com. Upon receiving hotline information, FDEP will sample the reported waterbody for the presence of blue-green algae. Bloom event information is then released by FDOH through Alert Seminole, a FREE automated, emergency notification system. Residents interested in receiving Alert Seminole notifications via email or phone can register [HERE](#). Residents can also check out blue-green algae sampling efforts with the interactive Algal Bloom Sampling Status Dashboard: <https://floridadep.gov/algalbloom>.

What is blue-green algae?

Blue-green algae is an ancient¹ microorganism that is found naturally in aquatic environments. Although commonly referred to as “algae”, it is actually a type of bacteria called cyanobacteria. Cyanobacteria acts like a plant or algae in that it feeds through photosynthesis and derives its energy from the sun. This free floating organism also fixes nitrogen from the atmosphere, which certain plants need to survive. As with true algae, blue-green algae blooms tend to be more extensive and last longer in waterbodies with excess nutrients (nitrogen and phosphorus). These blooms can occur at any time, but they are most prevalent in the summer and early fall when temperatures are high and storms bring extra nutrient pollution into our lakes, ponds, and rivers.

Is blue-green algae harmful?

Some types of blue-green algae, but not all types, can produce toxins that affect public health and contribute to environmental problems. The World Health Organization considers toxin levels under 10 micrograms/liter to “represent a low-level risk for adverse health outcomes from short-term recreational exposure; however, certain sensitive populations (e.g., children, the elderly and immunocompromised populations) may still be at risk even at low concentrations and should avoid any exposure².” Wildlife and pets can also be affected. Please visit the [FDOH website](#) to learn more about how to keep your family and pets safe from HABs.

¹Whitton, B.A., editor. "The fossil record of cyanobacteria". *Ecology of Cyanobacteria II: Their Diversity in Space and Time*. Springer Science & Business Media, 2012, p. 17.

²Florida Department of Environmental Protection - Freshwater Algal Blooms FAQs: <https://floridadep.gov/comm/comm/documents/freshwater-algal-bloom-faqs-2019>.

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, 352-273-3639).



Report algal blooms at
www.reportalgalbloom.com
or call toll-free any time:
1-855-305-3903

ALERT SEMINOLE
Sign up for
ALERT SEMINOLE,
an electronic
emergency alert
that comes
direct to you
Text "Seminole" to 888-777
www.AlertSeminole.org



Seminole County Shoreline Protection Ordinance Approved

The Board of County Commissioners approved the Shoreline Protection Ordinance on April 27, 2021. Please see the key highlights below, or review the full ordinance [here](#).

Key Highlights

1. Any shoreline alteration will require a Seminole County Shoreline Alteration Permit unless it meets one of the exceptions.
2. Exceptions to the Shoreline Alteration Permit include:
 - Shorelines on waterbodies that are less than 2 acres or over 160 acres (shorelines on waterbodies larger than 160 acres require FWC permit).
 - If aquatic vegetation is removed via physical or mechanical methods within an access corridor of 50 feet or 50% of shoreline, whichever is less.
 - These rules only apply to shorelines within the unincorporated limits of Seminole County, and not to areas within city boundaries.
 - Permits will soon be available through the Seminole County's online permitting system (<https://www.seminolecountyfl.gov/departments-services/development-services/building/>).
 - The SPO requires new waterfront development or significant redevelopment to protect its shoreline by installing berm and swale systems or a vegetative buffer to reduce the stormwater runoff and associated pollutants from reaching the waterbody.



Board of County Commissioners approved the Shoreline Protection Ordinance on 4/27/21.

Thomas Calhoun, formally of our Lake Management Program, will now be heading this effort as the Principal Environmental Scientist for the Shoreline Protection Program. Please reach out to Thomas for more information or further questions about this important program: tcalhoun@seminolecountyfl.gov, 407-665-2459.



Sweetwater 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: 407-665-2459, Shoreline@seminolecountyfl.gov

Bioinspection Notes

SAV:

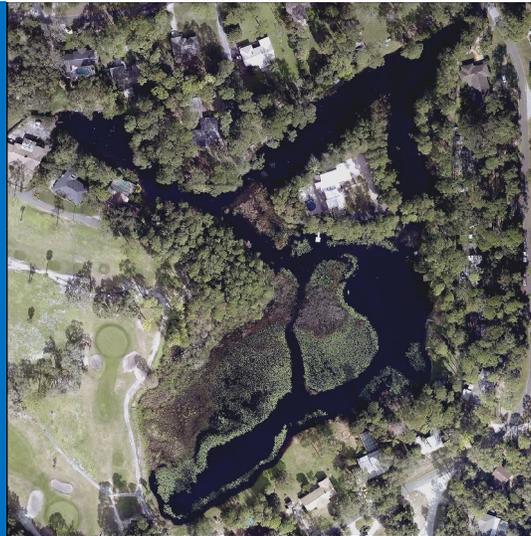
Submersed aquatic vegetation, plants live under water.

Emergent vegetation:

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

Secchi depth:

A measurement of water clarity.



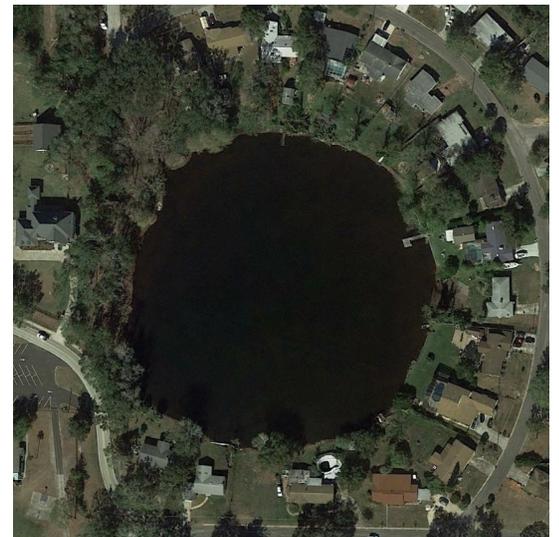
Aerial photo of Lake Amory

Lake Amory

Lily pads continue to be treated to open up access and increase circulation. Due to their large tuber system, they are treated gradually in an attempt to prevent the large roots from rising to the surface. Plant matter was removed from the canal and cove area in order to re-establish access to the entire lake; the canal area had become very shallow.

Lake Asher

The planted vegetation has been very healthy. Road grass, a species of SAV, was found expanding around the lake. Algae blooms have been persistent and will continue to be treated as needed.



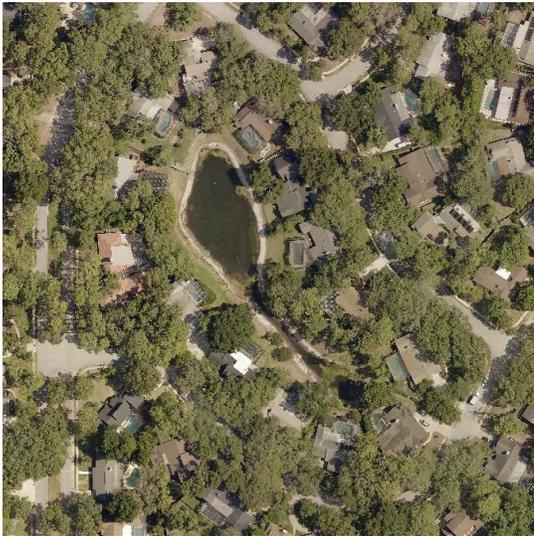
Aerial photo of Lake Asher



Aerial photo of Lake Burkett

Lake Burkett

No hydrilla or other invasive SAV was observed during the most recent inspections. SAV was treated to create access corridors for boats; the corridors are now open. Lily pads were treated to help increase circulation on the northern end of the lake. We are coordinating with Orange County to add new grass carp fish to the lakes.



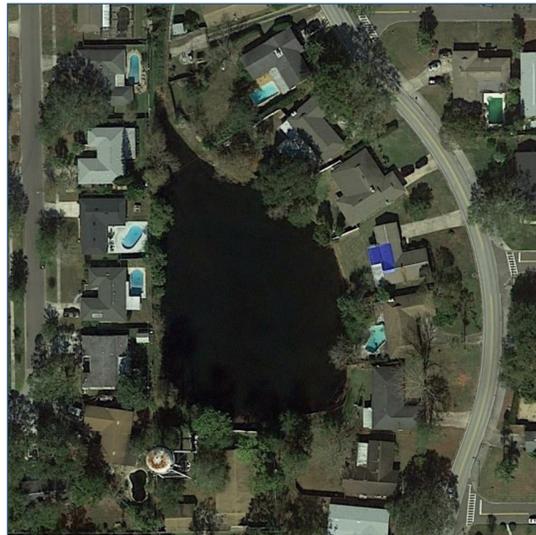
Aerial photo of Buttonwood Pond

Buttonwood Pond

Stonewort and musk grass (SAV) were previously topping out, but this has been greatly reduced. Invasive torpedo grass appeared to be damaged from treatments. In our recent inspections, algae blooms have been an issue and treatments have been planned.

English Estates Pond

Monthly treatments continue to target alligator weed, torpedo grass, primrose willow and Caesar weed. Algae levels have decreased and will be treated as needed. There was a SERV volunteer event on 10/23/21 to improve the health of the pond. Kudos to the Liaisons for organizing this!



Aerial photo of English Estates Pond



Aerial photo of Grace Lake

Grace Lake

During our most recent inspection, invasive hydrilla was observed. The water has risen, inundating most of the emergent vegetation. The area where torpedo grass was harvested continues to be monitored and treated accordingly. Due to high water elevation, the planting effort to add cypress trees to the lake was postponed until Spring 2022.

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.



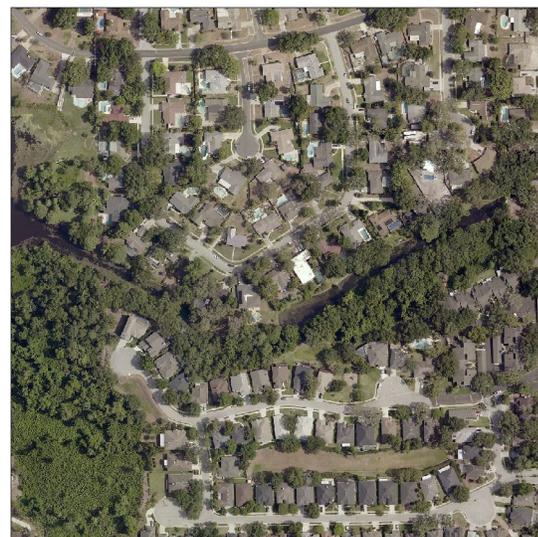
Aerial photo of Horseshoe Lake

Horseshoe Lake

Water hyacinth and hydrilla were not observed during our most recent inspection. Native emergent vegetation was healthy and expanding around the lake. In the no treatment zones, it is recommended to hand-pull invasive plants as they are becoming a nuisance. The Liaisons are coordinating an aquatic plant give-away day with LMP. Kudos to them for this effort!

Howell Creek

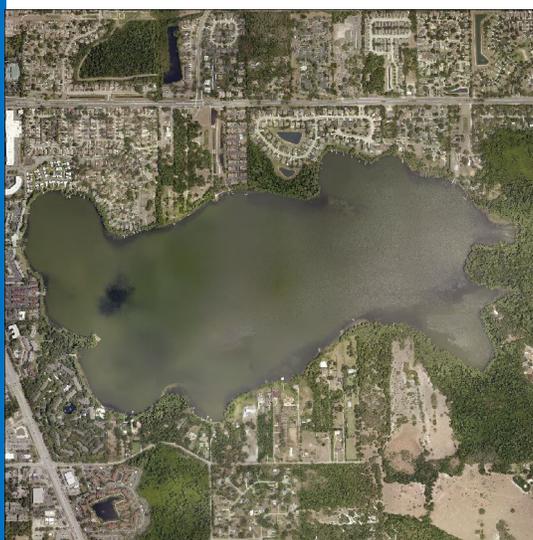
Native eelgrass (SAV) is the dominant vegetation in the creek followed by road-grass (an emergent). A small increase in hydrilla clusters was observed throughout the creek during recent inspections.



Aerial photo of Howell Creek

Lake Howell

The presence of water hyacinth, hydrilla, and hygrophylla continue to be greatly reduced. Cattails and hygrophylla continue to be treated. More SAV, especially eelgrass, was observed in greater abundance than in previous inspections.



Aerial photo of Lake Howell



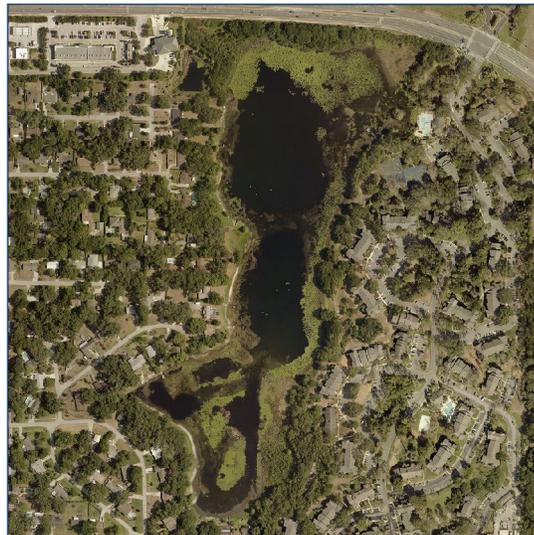
Aerial photo of Lake Mills

Lake Mills

With cooler temperatures, baby's tears should grow more slowly. Treatment of this plant requires FWC permitting; up to 1 acre of floating baby's tears can be treated. We are actively managing this floating plant with herbicides because it is causing congestion within the canals. Hydrilla was not observed during our last inspection.

Mirror Lake

Lily pads have been treated to open access corridors. As a result, some of the root system has been floating to the surface. We are preparing a harvesting plan to remedy the overgrowth. The volunteer aquatic planting event was completed at the Cortland Mirror Lake apartment complex in June; the plants are doing very well. Big thanks again to Cortland for their lake stewardship in enhancing the lake!



Aerial photo of Mirror Lake

Myrtle Lake

A small amount of hydrilla was observed along the shoreline. Lilies on the western side have grown abundantly with water elevation changes; a harvester may be required to rake floating debris. We will advise on the feasibility of the harvester. A project to reduce erosion and create a stable launching point at the northern spoil area will be scheduled for Spring 2022. A SERV event is planned in early November.



Aerial photo of Myrtle Lake

Bioinspection Notes

SAV:

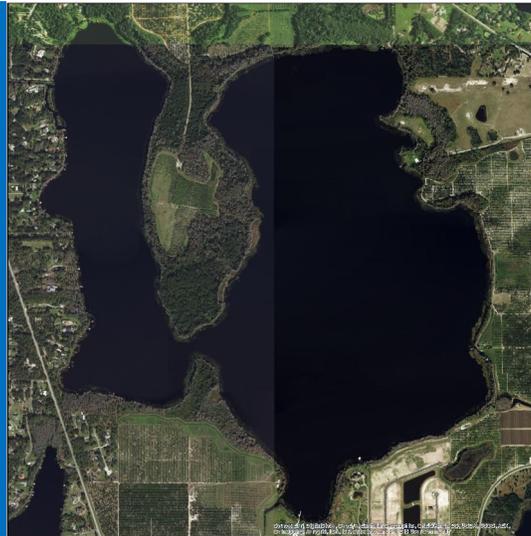
Submersed aquatic vegetation, plants live under water.

Emergent vegetation:

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

Secchi depth:

A measurement of water clarity.



Aerial photo of Lake Pickett

Lake Pickett

No hydrilla was observed during the previous inspection. Native maidencane, a species of emergent vegetation, continues to expand. A few small patches of the invasive SAV *limnophila* were found along the northeastern shoreline. A decline in biodiversity continues to be observed along the SE shoreline

Spring Lake

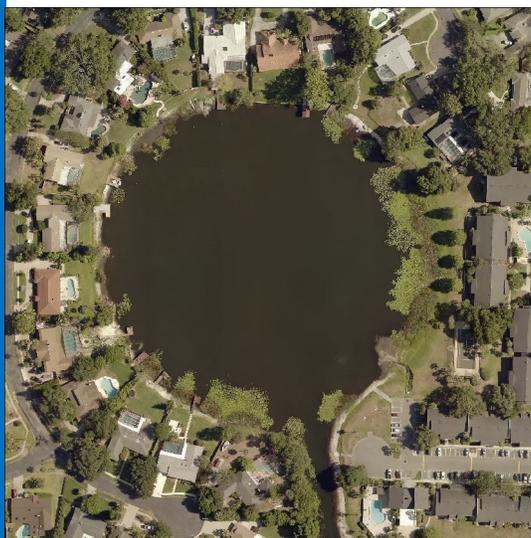
Several access corridors are scheduled for treatment. Bladderwort treatments on the east and north side were successful; lily pads have fully recovered from initial impact. A few sprigs of hydrilla were found in pockets of the lake. This is an increase from prior inspection and is scheduled for treatment. Reduction in water clarity was observed upon last inspection as well as sedimentation from the southern inflow pipes.



Aerial photo of Spring Lake

Spring Wood Lake

Native aquatic vegetation, particularly pickerelweed and fire flag, is gradually returning. The previous hydrilla treatment was successful; however, new growth is observed and scheduled for treatment for the W shoreline. Expect decomposition as the lake is receding in water elevation and we prepare to treat. LMP will be reaching out to verify that owners' access corridors re-open.



Aerial photo of Spring Wood Lake



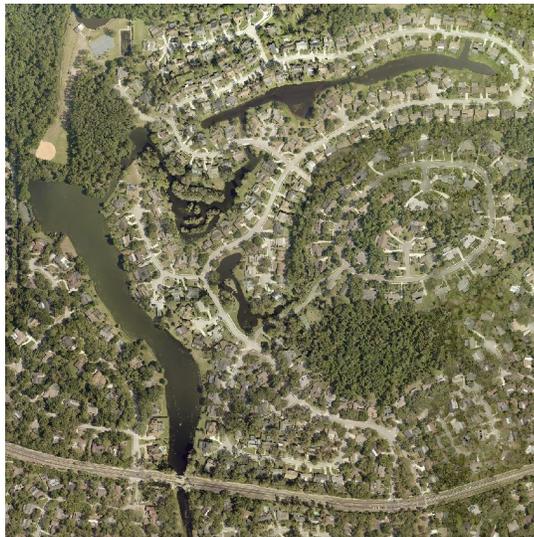
Aerial photo of Springwood Waterway

Springwood Waterway

SAV was treated throughout the canal. Bacopa, a native plant, has become a nuisance along the sides of the canal and is also causing what are known as “mud burps” to occur. A harvester is being coordinated to remedy these conditions. Stay tuned! The sediment barriers were dislodged at time of inspection.

Sweetwater Lake

Lily pads and salvinia have been successfully treated in the upper cove lakes. Torpedo grass has been treated throughout the Sweetwater Lake shoreline. Upper Cove Lake has increased in vegetation and sediments. A work order has been submitted to the County Stormwater Team for maintenance.



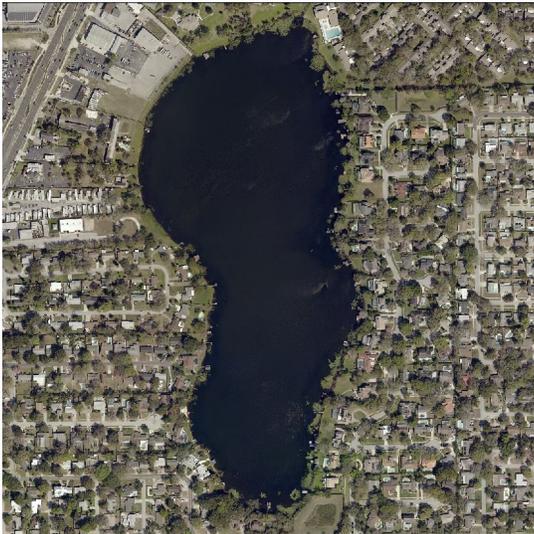
Aerial photo of Sweetwater Lake



Aerial photo of Lake Sylvan

Lake Sylvan

No hydrilla or water hyacinth were found during the most recent inspection. Cattails have been reduced in some areas of the lake. On 7/2/21, Seminole County was issued a one-time only SJRWMD Emergency Field Permit to lower the weir in increments to alleviate lake levels; it has been extended as the lake remains high. Kudos to the Liaisons and Property Owners who participated in a planting event to enhance the quality of the lake’s shoreline!



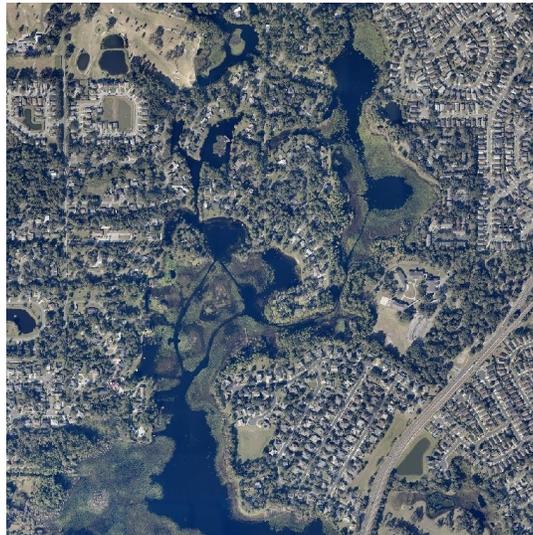
Aerial photo of Lake of the Woods

Lake of the Woods

SAV treatments in access corridors have been executed and touch-ups are scheduled. Additional spot treatments have been executed to deal with the overgrowth of the native coontail. For hydrilla, only sprigs were found and will be scheduled for treatment. We are coordinating with FWC to add new grass carp fish to the lake.

East Crystal Chain of Lakes

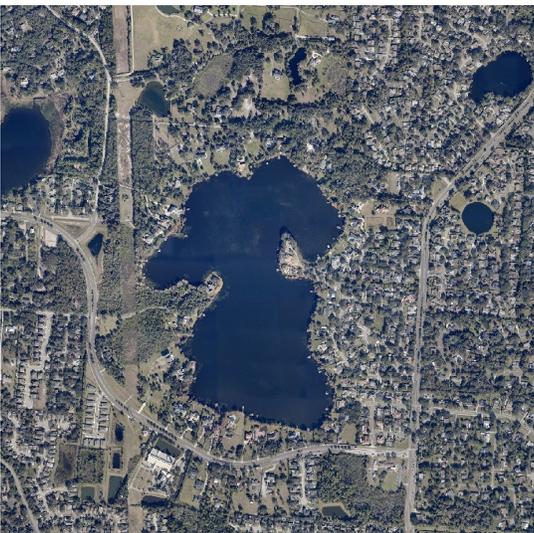
With restoration efforts ending, the chain is moving forward with monthly inspections, access corridor and invasive plant treatments. We are focusing on re-opening access areas in East Crystal. Pine Lake continues to have frequent duckweed blooms, necessitating frequent treatments. Aeration systems are being coordinated for installation. New slow wake signs have been installed; please heed these signs to keep the waterway safe. We are waiting for grass carp fish availability.



Aerial photo of East Crystal Chain of Lakes

Lake Tuskawilla

Hydrilla treatments remain successful. Water levels are up, and the heavy rains have kept the grass carp barrier clear. The lake will continue to be inspected and treated monthly for invasive plants and monitored closely for overall health.



Aerial photo of Lake Tuskawilla

Events

Since the last newsletter, we were able to schedule and hold shoreline restoration events at Rolling Hills Pond (9/25/21), Lake Dot (10/2/21), and Oxford/English Estates Pond (10/23/21). Our last planting event of the season will be at Myrtle Lake (11/6/21). Please stay tuned for our Spring 2021 shoreline restoration events. If you are interested in helping with these events, please contact Joey Cordell at 407-665-5842, jcordell@seminolecountyfl.gov.



Recommendations & Additional Information

- Please everyone welcome our very own Joey Cordell to the position of LMP Senior Environmental Scientist. Joey will be replacing Thomas Calhoun, who has now moved on to head the County's shoreline protection program. Let's give them both a warm welcome and congratulations on their new respective positions
- 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, Andrew Lawrence (Andrew.Lawrence@MyFWC.com, cell: 407-269-4298).
- 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



Lake Amory

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