LAKE MANAGEMENT NEWSLETTER

Managed by Seminole County Lake Management Program ● Winter 2022

Slow Release Nitrogen

The use of fertilizer containing nitrogen is 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.

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.

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

What is blue-green algae?

Blue-green algae is an ancient[1] 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 exposure[2]." 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.

[1] Whitton, 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.

[2] Florida Department of Environmental Protection - Freshwater Algal Blooms FAQS: https://floridadep.gov/comm/comm/documents/freshwater-algal-bloom-faqs-2019.

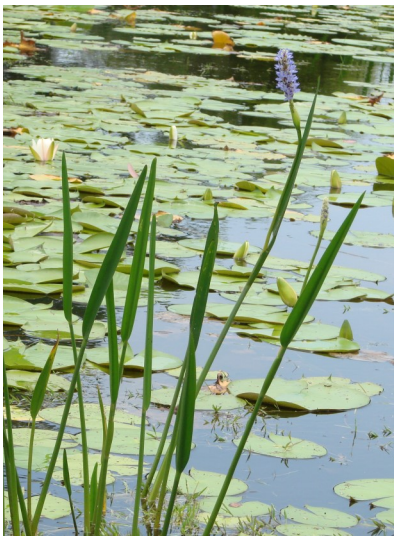
LakeWatch

Florida LAKEWATCH is in need of volunteers at the following waterways: Lake Amory, Lake Burkett, English Estates Pond, Grace Lake, Lake Howell, Mirror Lake, Myrtle Lake, Lake Pickett, and Spring Wood Lake. Interested in helping to monitor water quality? Visit http://lakewatch.ifas.ufl.edu/ to learn more, and contact Jason "Mo" Bennett (jpb@ufl.edu, 352-273-3639) to volunteer.

Florida
LAKEWATCH
CITIZEN SCIENCE SINCE 1986

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.

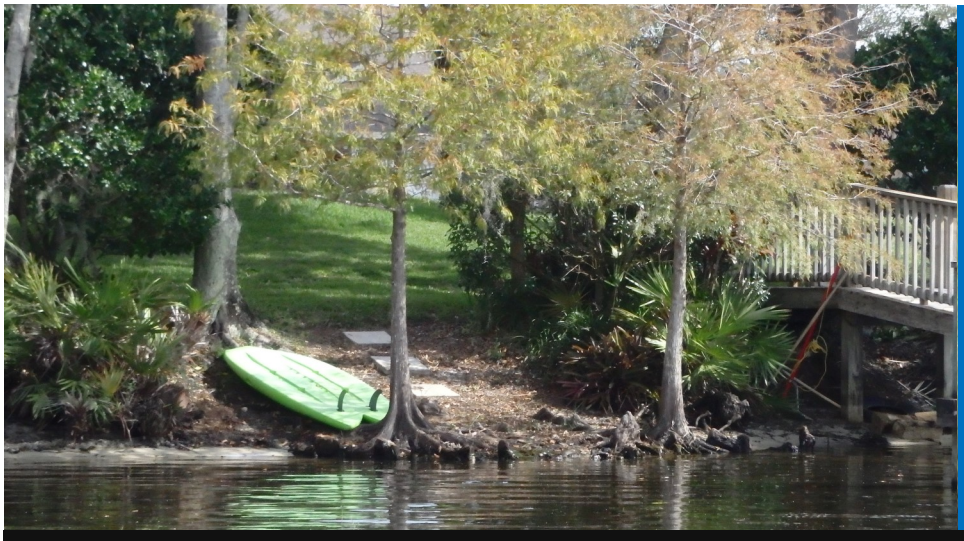


Board of County Commissioners approved the Shoreline Protection Ordinance on 4/27/21.

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 (http://www.seminolecountyfl.gov/shoreline).
    - 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.

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.



Lake Burkett shoreline

Ordinance webpage

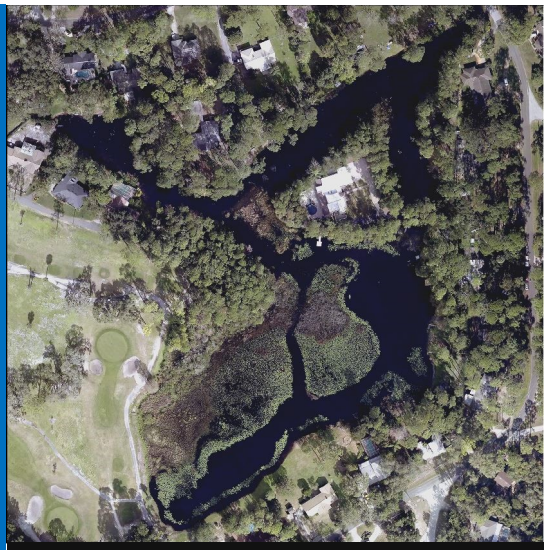
Please click this link to visit the Shoreline Protection Ordinance webpage for more information and FAQs about the new ordinance. Contact: 407-665-2459, Shoreline@seminolecountyfl.gov

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

Invasive Old World climbing fern was hand pulled from the shoreline. We will monitor the area to control further spread. Lily pads continue to be treated to open up access and increase circulation. Due to their large tuber system, they are treated gradually in attempt to prevent the large roots and tussocks (mud/dead plant material) from rising to the surface.

Lake Asher

The planted vegetation has been very healthy. Road grass, a native 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. Eel grass will continue to be treated to maintain access corridors. Lily pads are also being treated to help increase circulation on the northern end of the lake. 220 grass carp are to be stocked pending permit approval with the FWC.

Aerial photo of Buttonwood Pond

Buttonwood Pond

Algae blooms have been treated and water conditions look good. This could be attributed to Chara, a native submersed plant, which is starting to come back. Native plants are expected to senesce in the winter but will come back in the spring. Invasive plants such as torpedo grass will be treated when spotted.

English Estates Pond

Monthly treatments continue to target alligator weed, torpedo grass, and primrose willow. Algae levels have decreased and algae will be treated as needed. Lily pads will continue to be treated to keep them maintained.

Aerial photo of English Estates Pond

Aerial photo of Grace Lake

Grace Lake

During our most recent inspection, a small amount of invasive hydrilla was observed. Our contractor has treated this area. The water has risen, inundating most of the emergent vegetation. Torpedo grass will continue to be sprayed and maintained. Due to high water elevation, the planting effort to add cypress trees to the lake has been postponed until Spring 2022.

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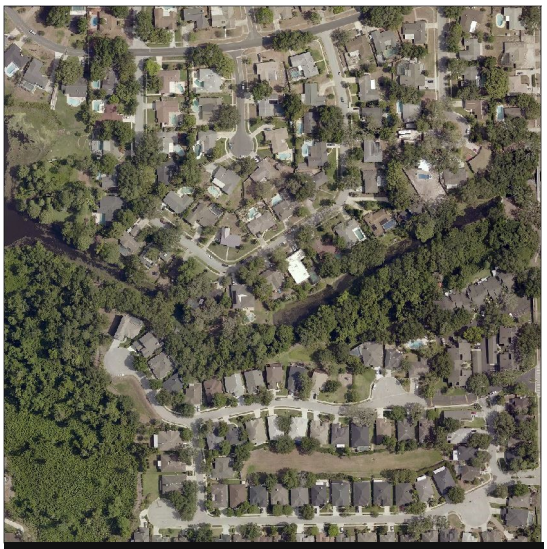
Aerial photo of Horseshoe Lake

Horseshoe Lake

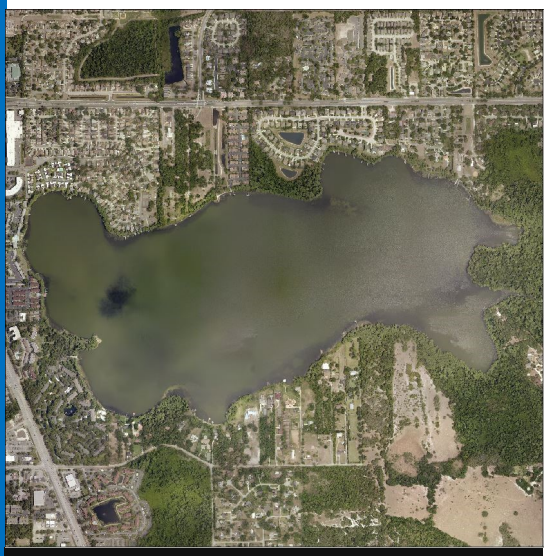
Recent surveys have found no invasive SAV. Native emergent vegetation is healthy and continues to thrive around the lake. In the no treatment zones, it is still recommended to hand-pull invasive plants. No water hyacinth or hydrilla was observed in the latest inspection.

Howell Creek

Native eelgrass (SAV) was the dominant vegetation in the creek followed by roadgrass (an emergent). Hydrilla clusters were observed throughout the creek during recent inspections. We expect to see a reduction in hydrilla due to monthly treatments and cold weather.



Aerial photo of Howell Creek



Aerial photo of Lake Howell

Lake Howell

Algae alerts have been lifted. The lake looks healthy as native plants like eel grass and emergent plants continue to thrive. Small patches of hygrophila continue to be treated. No hydrilla or water hyacinth were observed during our latest survey.

Aerial photo of Lake Mills

Lake Mills

With cooler temperatures, baby's tears (a hydrilla look-a-like) should grow more slowly. Treatment of this plant requires FWC permitting; up to 1 acre of floating baby's tears can be treated per month. We are actively managing this plant with herbicides because it was causing congestion in 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 assessing more feasible means for harvesting these pop-up roots. Bladderwort and hydrilla are currently being monitored.

Aerial photo of Mirror Lake

Aerial photo of Myrtle Lake

Myrtle Lake

A small amount of hydrilla was observed along the shoreline. Access corridors have been opened for some residents along the canal; they will continue to be opened. Lilies continue to be maintained. A project to reduce erosion and create a stable launching point at the northern spoil area is scheduled for 2022.

Bioinspection Notes

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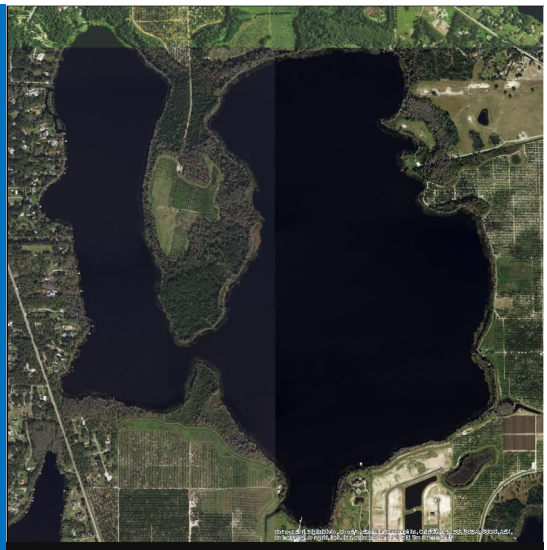


Aerial photo of Lake Pickett

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

Access corridors continue to be treated monthly and the lily pads have fully recovered from the initial impact. A few sprigs of hydrilla were found near the boat launch and will be treated. Reduction in water clarity was observed upon last inspection due to ongoing construction.

Aerial photo of Spring Lake

Aerial photo of Spring Wood Lake

Spring Wood Lake

A perimeter hydrilla treatment has been scheduled. Please expect decomposition as the lake is receding in water elevation and we prepare to treat. Invasive shoreline plants are being continually maintained.

SEMINOLE COUNTY

Aerial photo of Springwood Waterway

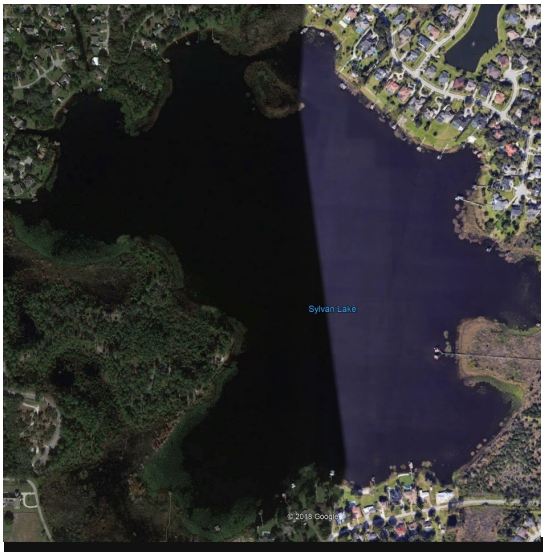
Springwood Waterway

Treatment of bacopa, a type of SAV, was completed. We will continue to monitor this plant and treat it if necessary. A harvester was brought in to remove the "mud burps" caused by recent treatments.

Sweetwater Lake

Increased amounts of floating plants such as salvinia and duckweed were observed alongside algae in the last inspection. A treatment has been scheduled. The Upper Cove Lake has been treated for the overgrowth in vegetation. Sediment removal of the upper cove is to begin early this year. The latest lyngbya removal was in December and will begin again in April with monthly intervals until October.

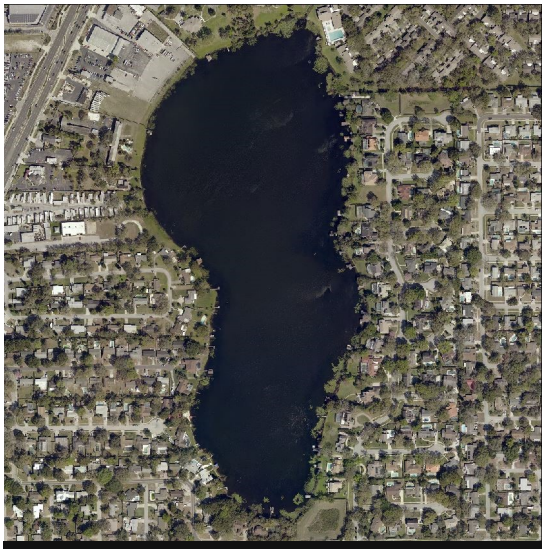
Aerial photo of Sweetwater Lake



Aerial photo of Lake Sylvan

Lake Sylvan

No hydrilla or water hyacinth were found during the most recent inspections. Bacopa continues to be maintained in the Southwest part of the lake. The lake's water level has re-turned to normal and continues to be monitored monthly.



Aerial photo of Lake of the Woods

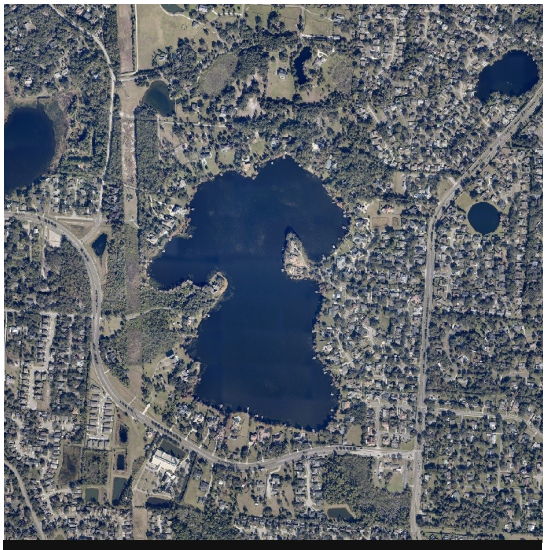
Lake of the Woods

SAV treatments and treatments to maintain access corridors continue. Additional spot treatments have been executed to deal with the overgrowth of the native coontail. Fifty one additional grass carp were added on 12/1/21. Clearing of the northeastern inflow pipe area has been scheduled for 2022.

East Crystal Chain of Lakes

Monthly inspections are continuing. Maintenance of access corridors and invasive plant treatments are ongoing. Pine Lake continues to have frequent bursts of duckweed growth, necessitating frequent treatments. Aeration systems are being coordinated for installation in 2022. A new carp barrier was installed at Deforest; once this is complete, we will be stocking the system with grass carp.

Aerial photo of East Crystal Chain of Lakes



Aerial photo of Lake Tuskawilla

Lake Tuskawilla

Hydrilla has not been present during recent surveys. Maintenance is ongoing. Water levels are up. The grass carp barrier is monitored bi-monthly. The lake will continue to be inspected and treated monthly for invasive plants and monitored closely for overall health.

Events

Please stay tuned for our Spring 2022 shoreline restoration events. If you are interested in helping with these events, please contact Tony Cintron by phone 407-665-5842 or email acintron@seminolecountyfl.gov.

SEMINOLE COUNTY

Recommendations & Additional Information

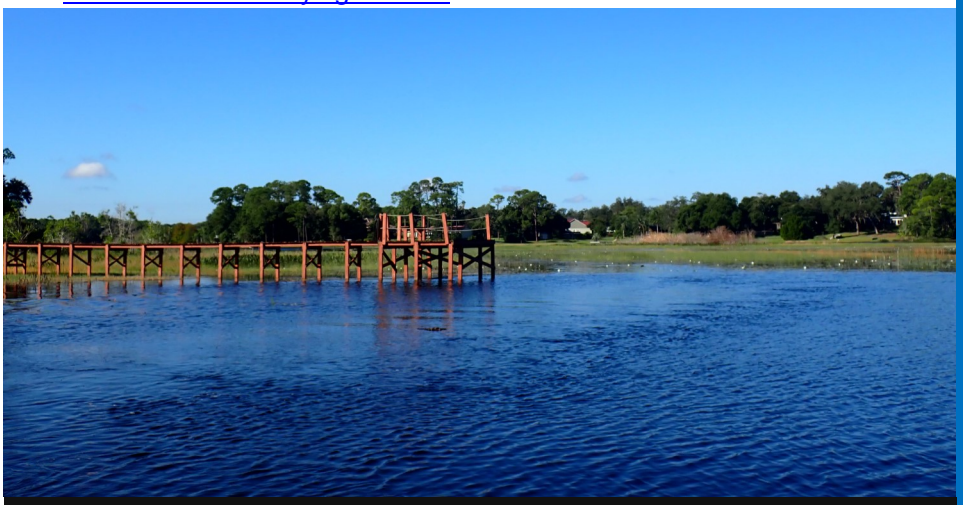
- As you may know, our Principal Environmental Scientist, Gloria Eby, has taken the position of Director of Natural Resources and Sustainability for the City of Winter Park. Gloria worked for Seminole County for 22 years, both as the Lake Management Program Manager, and more recently as the Mosquito Control Program Director. Let's wish her the best in her new role!

- 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



East Crystal Chain of Lakes

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