SCHOOL OF FOREST, FISHERIES, AND GEOMATICS SCIENCES



Florida Lakewatch Newsletter



New From LAKEWATCH:

A Beginner's Guide to Water Management –Lake Trophic State and Eutrophication

By Mark V. Hoyer and Daniel E. Canfield Jr.



"This pamphlet was initiated by many questions directed toward Florida LAKEWATCH regarding the definition and use of the terms "lake trophic state" and "eutrophication." We hope this pamphlet will address these questions in clear, understandable detail. For those not interested in reading the entire document, please read the following paragraph that should help you understand, in a quick and simple format, the definitions and use of these two terms" It is important to clarify distinctions between the terms lake trophic status and eutrophication, which are often used interchangeably by both professionals and lay persons. Lake trophic state is a classification system based on the amount of biologically productivity in that lake determined by the concentration of nutrients (primarily nitrogen and phosphorus) in the system. The scale works on a continuum from low nutrient/ production (oligotrophic) to high nutrient/production (eutrophic). Eutrophication is the process by which a water body, such as a lake, becomes entriched in nutrients causing higher biologic productivity. There is a natural long-term eutrophication process due to continued accumulation of particulate organic matter over decades/centuries (Wetzel 1975) and an human induced (anthropogenic) accelerated eutrophication due to increased additions of nutrients to aquatic systems (Carpenter et al. 1998b, Smith et al. 1999). Additionally, oligotrophication is the reduction of nutrient loading to systems causing a decrease in trophic state, which can also be natural or cultural (Anderson et al. 2005).

> Access the full pamphlet here: https://lakewatch.ifas.ufl.edu/extension/pamphlets/

Stormwater Pond Plantings: We need your help in determining their benefits and strategies for promoting their adoption

By Basil V. Iannone III and Paul F Monaghan



There are more than 76,000 stormwater ponds in Florida alone (Figure 1). These human-made ecosystems are built as a Best Management Practices (BMP) to provide the critical function of flood control in urban landscapes. However, they are also credited for removing nitrogen and phosphorus from urban stormwater runoff before it enters our natural water bodies. Turns out that Floridians have a strong connection with stormwater ponds, as they view them as aesthetic features in urban landscapes. However, we are learning that they do not protect natural water bodies from nutrients as well as they should.



Figure 1. (a) Map of over 76,000 stormwater ponds in Florida shown in blue; grey shows urban areas and green shows natural areas. (b) amount of space taken up by stormwater ponds in urban areas relative to other urban land cover types. Image from Sinclair et al. 2020 found at https://doi.org/10.1016/ j.scitotenv.2019.135133 Planting littoral areas and banks of stormwater ponds may be a way to help improve the ability of stormwater ponds to retain nutrients, at least that is what a preliminary investigation conducted in Lakewood Ranch Florida tells us. However, we need more data to confirm this potential benefit. We also need information on how to promote this potential BMP, as many residents do not like plants in stormwater ponds; they state that plant block their view of the water and they perceive them as 'messy.'

We need your help! First, we are looking for stormwater ponds that have planted banks and littoral shelves to monitor. Ponds in Manatee County and the Tampa Bay Watershed are preferred for monitoring, but please let us know of ponds elsewhere. Please contact Dr. Basil Iannone (biannone@ufl.edu; 352-294-7499) or Dr. Paul Monaghan (paulf@ufl.edu; 352- 294-1993) if you know of planted stormwater ponds.

Our goal is to monitor nitrogen and phosphorus at the inflow and outflow of planted stormwater ponds so that we can estimate the amount of nutrients ponds remove. We will then compare these removal amounts to those from stormwater ponds managed more traditionally to have no aquatic plants and banks planted with turfgrass. Traits required for monitored ponds are listed below

1. Pond must have about 75% bank area planted and contain littoral plants. See Figure 2 to see what that looks like.

2. Ponds should have a limited number of inflows and only a single outflow. Only having one inflow would be ideal. If this information is unknown, please just contact us to discuss.

3. Having information on pond morphology (size, depth, etc.), as well as engineering specification (e.g., area draining into the pond, locations of inflows and outflows) would be helpful.





Have your voice heard: In addition to ponds for monitoring, we are recruiting members to serve on a Project Advisory Panel. Panel members would have the opportunity to guide a team of researchers in developing outreach resources that can be used both to educate about the benefits of stormwater pond plantings to water quality and to promote the adoption of this and other potentially beneficial BMPs. They will also assist with recruiting people to attend multiple educational workshops, providing an opportunity to network with others interested in creating and maintaining healthy stormwater ponds.

Please contact Dr. Basil Iannone (biannone@ufl.edu; 352-294-7499) or Dr. Paul Monaghan (paulf@ufl.edu; 352-294-1993) if you know of ponds suitable for monitoring, if you are interested in contributing to the advisory panel, or if you have any questions you wish to discuss about the project.

We thank Lakewatch Volunteers for their service to Florida and for the contribution they play to protecting Florida's invaluable aquatic resources.



Safety Never Goes Out of Style

Summer is fast approaching and making sure you and your loved ones are ready to have fun on the water starts with safety first.

For both new and experienced boaters, knowing how to play it safe can make or break a fun day out enjoying Florida's waters

- Do you know when and how to obtain a Florida Boater Safety Card?
- The safest times for new boaters to test out their skills?
- What all those signs and symbols mean?

For some great tips, stats, and safety information, check out this IFAS Blog by Mike Sipos "Summer Time Boating Safety Stats and Tips!"

> Read the Blog Here https://blogs.ifas.ufl.edu/collierco/2021/05/19/summertime-boating-safety-stats-and-tips/

July is Lakes Appreciation Month!



"You work and play on them. You drink from them. But do you really appreciate them? Growing population, development, and invasive species stress your local lakes, ponds, and reservoirs. All life needs water; let's not take it for granted!!"

Learn More at https://www.nalms.org/lakes-appreciation-month/



"The Secchi Dip-In is a demonstration of the potential of volunteer monitors to gather environmentally important information on our lakes, rivers, and estuaries. Volunteers have been submitting information during the annual Dip-In since 1994. Please join them in this international effort to track changes in water quality! Although we gladly welcome data year-round, we have historically observed the Secchi Dip-In during Lakes Appreciation Month, where we celebrate our lakes throughout the month of July each year."

> Submit Your Data Here: https://www.nalms.org/secchidipin/

Have You Heard About Freedom Week?



What happens during the Freedom Week Sales Tax Holiday?

During the week of July 1-7, 2021, purchases of admissions to music events, sporting events, cultural events, specified performances, movies, museums, state parks, and fitness facilities for events to be held from July 1 through December 31, 2021, will be tax-free in Florida. Purchases of certain annual passes and season tickets are also exempted.

Whats Included?

- · Admissions to some events
- General Outdoor Supplies
- Fishing Supplies
- Boating and Water Activity Supplies
- Camping Supplies
- Sports Equipment

For more details on what is included and any restrictions please visit the Florida Department of Revenue website <u>Here</u>

