# Pond Views

*Magnolia Pond #13*

## The Algae Issue

Magnolia Point is home to 967 residential properties, many of which border the 37 ponds within our gates. Most of the property lines of our 'waterfront' lots extend into the ponds they're on: we ***own*** our ponds. Wildlife above and below the water line thrives here, and the views, particularly those in early morning or at sunset, can be spectacular. What also thrives, especially during our long spells of warmer temperatures, are weeds and algae.

Take the algae (please!): it's common in Northern Florida ponds and can exist in various forms due to different environmental factors. Algae growth is primarily driven by nutrient levels, sunlight exposure, temperature, and water chemistry. ***Planktonic algae*** are one type, and are a vital component of the pond's food web, serving as a primary food source for various aquatic organisms. But there is always the chance of too much of a good thing. Here are the types of algae, and the problems they may create, as well as hazards, and control methods:

**Green Algae:** This type of algae thrives in ponds that have lots of nutrients, from the fertilizers we use on our lawns, pet waste, and even sewage. And it can cause some real issues:

*Continued*

When these algae blooms get really dense and then die off, they can use up so much oxygen that fish can't survive, and you end up with fish kills. Then, the water can get murky because of these dense algae crowds, which cuts down how much light can get through and messes up the whole underwater world. Finally, some species can create toxins that are bad news for both aquatic life and even people and animals that come into contact with the water.

However, there are ways to keep them in check:

- We can cut down on the nutrients they thrive on by being careful with fertilizers and managing runoff.
- If we add more oxygen to the water artificially, it can help counter the damage caused by these algae blooms.
- There are special treatments that can be used to control their growth, but we've got to be careful not to hurt other creatures in the process. This is for the pros.

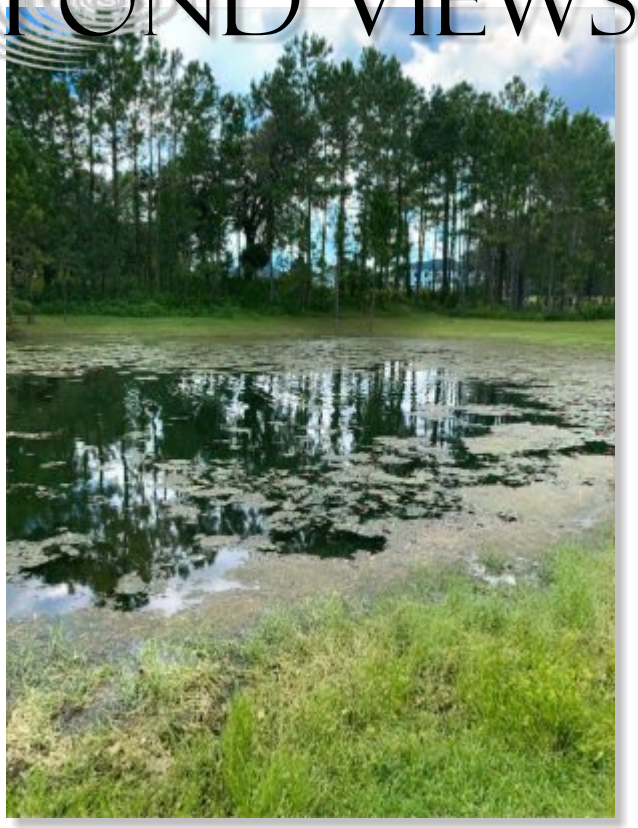
**Blue-Green Algae:** These species love it warm and having lots of nutrients around too, things like phosphorus and nitrogen, but bring their own set of problems.

Many of them can make toxins, like cyanotoxins, which are bad news for people, pets, and wildlife if they're swallowed or even just touched. They can grow so fast that they damage the water quality and the whole ecosystem can get out of whack. And like green algae, when these die off, they use up oxygen, which can break all hell loose in the underwater world again.

Here's what we can do to spoil their party:

- As with green algae, we can cut down on the nutrients they thrive on by being careful with fertilizers and managing runoff.
- And, we can mix up the water more to break up the surface scum and control their growth.
- Regularly testing the water can help us spot these algae early on and do something about it.

**Diatoms:** These algae like a lot of nutrients too, but have a thing for waters that are kind of dirty. And they can cause some trouble too. When there are too many diatoms, they stress the whole food chain underwater, and fish and other creatures suffer. Then, in usual algae fashion, they use up oxygen as they break down, and that's not good for aquatic life.



*Magnolia Pond #37*

But there are ways to manage diatoms:

- Same first step: keep control on how much nutrients are getting into the water.
- Managing the amount of dirt and mud around can also prevent them from thriving in those nutrient-rich conditions.
- Cultivate native aquatic plants: they'll compete with diatoms for resources and slow down their growth.

*- Editor*

*Kyle of Solitude Lake Management treating Magnolia Pond #4*

*Continued*

# INTERVIEW WITH KYLE FOLLANSBEE, SENIOR AQUATIC SPECIALIST, SOLITUDE LAKE MANAGEMENT:

***You use an ATV with a sprayer system to dispense chemicals; isn't a boat better?***
I can get more done with the ATV; it allows me more accessibility throughout Magnolia Point, and the ability to utilize the high pressure spray system and larger tank to distribute chemicals. Some applications benefit from using more water to spread the herbicide or algaecide into the water or on the surface of the plant or algae. The higher pressure also allows for a greater penetration into the algae and farther distance for spraying. I prefer to utilize the ATV and my waders until the need for the boat arises.

***We have 37 ponds here; do you treat them all?***
In short, yes. The key point being that I manage all 37 ponds and treat them as necessary. Not all ponds need treatment all the time.

***What chemicals are you using now, and what do they do?***
I have 17 approved herbicides registered by the EPA to utilize in order to treat submersed vegetation, emergent vegetation, and algae. Each has a different target species and mode of action. The herbicide is selected based on target plant and selectivity.

***Will we ever be able to get our ponds clean and keep them that way?***
It is a misconception that a "clean pond" is a "healthy pond." We are managing ecosystems, each with their own biological chemistry and environment. Each body of water is treated individually and cannot be compared to another. Over time, there is always an increase of nutrients into these waterbodies. These nutrients present themselves as vegetation, algae, and muck in a pond. Every pond here is a stormwater retention pond. Their purpose is to collect water from the environment and capture the nutrients before they get into the surrounding natural areas. Fertilization of golf courses and residential lawns, grass clippings, and animals are all constant sources of nutrients into the ponds.

Submersed vegetation aids in reducing the nutrients that can contribute to algae; however, grass carp eat the submersed vegetation so the nutrients will go to algae. Due to the shallow depth of the ponds, the submersed vegetation tops off pretty quickly and requires managing. The increase of light penetration will contribute to the amount of growth, as well. Sometimes I utilize pond dye to reduce this.

Controlling nutrients is key to pond management. By improving aerobic activity, we can improve the water quality. Diffused aeration can help to provide oxygen throughout the water column and support microbial uptake of excess nutrients. Probiotics and enzymes are utilized to improve the microbes and increase the efficacy of my treatments. There are also some tools used to capture the phosphorus in the water and bind it into the substrate. These flocculants can come at a high cost and must be utilized appropriately to receive a desired effect.

***In 'Guidelines for Designing and Maintaining Florida Ponds', FWC states 'Properly designed ponds with a narrow fringe of vegetation seldom develop problems'. Is that something we should do?***
This is the 'littoral shelf', the area on the edge of the turf where it meets the pond. It is very beneficial to have vegetation here for several reasons. Plants can reduce the amount of nutrient run-off getting into the water. This is especially important where there is a lot of fertilization occurring. Littoral plants also suppress erosion as they have a more extensive root system and can provide better structure along the edge. I do my best to control the woody and invasive vegetation along the edge, while allowing our beneficial native plants to establish. Unfortunately, I cannot control the landscaping that occurs, in which a lot of beneficial plants are being cut and grass clippings being introduced into the water. I would love to see more growth on the edge. There are some beautiful flowering plants that would do great in Magnolia Point!

***If you could, what would you change about our pond environment?***
I would like to be able to install littoral plantings in the ponds. They will provide aesthetics, as well as aid in nutrient control and erosion. Some are, as can benefit from them more than others but, overall, will make a great improvement.

## NEXT MONTH: *WEEDS!*

# Pond Views

FWC: *'Properly designed ponds with a narrow fringe of vegetation seldom develop problems'*

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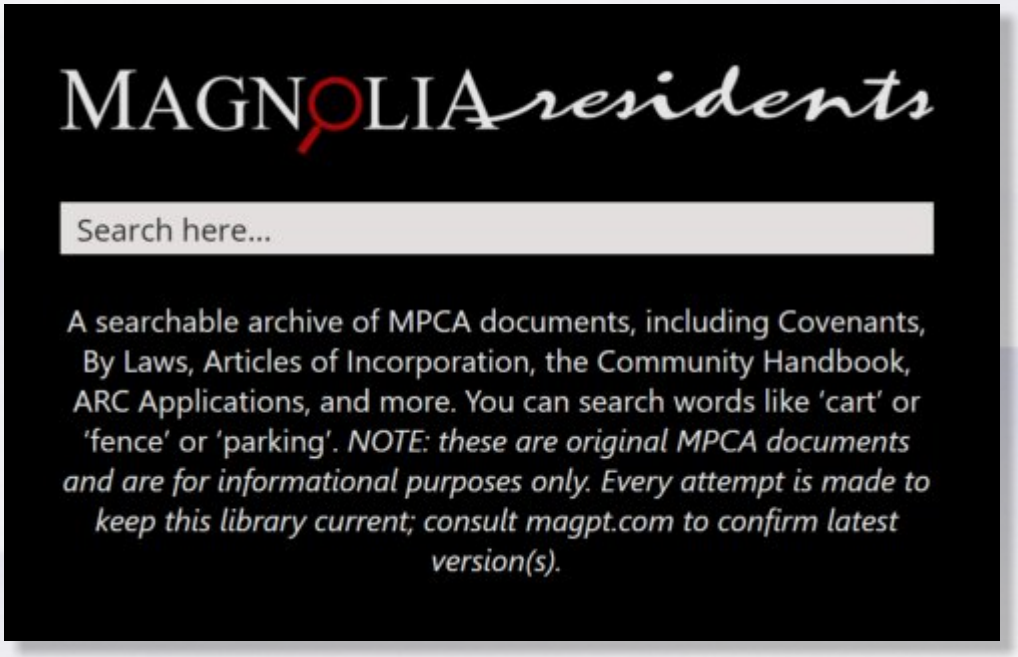


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