

## Spring Always Seems to Bring Calls with Questions About Ponds

By Maia McGuire / Sea Grant Extension Agent

In general, these calls usually fall into one of two categories. One group of calls typically relates to unwanted algae or plant growth in a pond. The other has to do with questions about fish — either people who want to stock a pond or those who have experienced a fish kill. Sometimes people who have had a fish kill want to re-stock their ponds, and sometimes those fish kills co-occurred with an algae bloom.

There are also two main categories of ponds. People living in neighborhoods are usually dealing with storm-water retention ponds. These are designed and installed for a specific purpose — to prevent or reduce run-off from polluting natural water bodies. Permits for storm-water ponds in Flagler County are issued by the St. Johns River Water Management District and the Florida Department of Environmental Protection. Once constructed, it is usually up to the neighborhood to maintain the pond.

The other “type” of pond that we get calls about in the Extension office is usually a farm pond. It’s important for people to realize that healthy storm-water or farm ponds in Florida will not be crystal clear. Some level of plant (and even algae) growth is desirable and necessary. However, if plants or algae are covering much of the surface of the pond, or if the water looks like pea soup, this is not optimal either.

When trying to figure out the best course of action for an overgrown pond, first figure out what types of plants/algae are causing the problem. Very often, these will be filamentous algae (clumps or mats of light green to tan, very thin threads) or blue-green algae (also called cyanobacteria). Both of these can eventually form mats at the surface of the pond. Both are suggestive of excessive nutrient additions into the pond.

To reduce nutrient loading into ponds, there are several recommendations. UF/IFAS Extension’s Florida Friendly Landscaping program ([floridayards.org](http://floridayards.org)) recommends **leaving a 10-foot “no maintenance” buffer around the pond. An unmowed, unfertilized zone will help prevent the runoff of fertilizer and grass clippings (which decompose into nutrients) into the pond. If there are concerns about aesthetics, UF/IFAS Extension has a document that suggests Florida-friendly plants for storm-water ponds (<https://edis.ifas.ufl.edu/pdffiles/EP/EP47600.pdf>).** Neighborhoods near the ocean or Intracoastal Waterway should check the salinity of their pond water, as this could affect the types of plants suggested for planting; some have higher salt tolerance than others.

Nutrient loading can also be caused by leaf-fall from trees surrounding a pond, feeding fish in the pond or guano deposits from visiting birds. Fish-eating birds tend to have guano containing high phosphorus content, and this can trigger algae blooms in the pond.

Reducing nutrient loading will not have an immediate effect. There are some herbicides that are labeled for use in aquatic systems, but [different herbicides are effective on different types of plant](#). Because of

the risk that improper application of herbicides can pose to fish and other aquatic life, it is recommended that a pond specialist be hired to apply herbicides if needed.

Algae blooms, low-pressure systems and heavy rains can all result in fish kills. Ultimately, the fish kills caused by all of these are related to low oxygen levels. Oxygen-related fish kills typically occur first thing in the morning, and people often notice fish (especially large fish) “gulping” at the surface of the water. Fish need dissolved oxygen (DO) concentrations of about 5 mg/liter or higher. Low DO conditions occur naturally in deep areas of ponds (areas greater than about 5 feet in depth) and these low-DO waters will sometimes “invert” and come to the pond surface when weather fronts pass through the area (changing the air pressure temporarily). More commonly, algae blooms or runoff of sediment/leaves/nutrients will cause low DO levels overnight. This is because bacteria are decomposing the excess nutrients/plant material, using up oxygen while there is no photosynthesis occurring to replace the DO. Aeration is often [recommended to help prevent low-DO situations](#).

For questions related to stocking ponds, I refer pond owners to the document [“Managing Florida Ponds for Fishing.”](#) This covers all aspects of pond design, construction and stocking. Before stocking a pond for the first time, it is a good idea to have the water tested — especially the pH and salinity. It is also important to test the alkalinity of the pond before using a copper treatment for algae, as copper can be toxic to fish if the alkalinity of the water is too low.

*For more information about this or other coastal topics, contact Maia McGuire, UF/IFAS Sea Grant Extension Agent at the Flagler County Extension Office at 386-437-7464 or email [mpmccg@ufl.edu](mailto:mpmccg@ufl.edu).*