



PONDerings®

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Water, Water Everywhere but what's in it?

Julie E. Thompson
Aquatic Biologist

Water is our most precious natural resource. Managing this resource responsibly is a vital piece of the ecologic puzzle.

Carbon, Nitrogen, Phosphorus, Iron, Manganese, and Calcium are some of the major nutrients that limit or promote the growth of algal cells. The more nutrients in the water, the more plants will grow. Phosphorus is the limiting nutrient. This means **algae will consume all of the available Phosphorus in the water.** We can use this knowledge to our advantage; by controlling Phosphorus, algae may also be controlled.

Where do Nutrients come from?

Nutrients are naturally occurring in a body of water. Surrounding soils, fish and waterfowl waste, decomposing vegetation, and decaying aquatic organisms are all potential internal sources of Phosphorus. Leaf litter, grass clippings, fertilizer runoff, failing septic systems, drained wetlands, well water, and rain are all external sources of Phosphorus. Whether they come from internal or external sources, nutrients are food for aquatic plants and algae.

Algae are not all bad. In fact, they are the number one producer of dissolved oxygen in ponds. When nutrients increase dramatically, water clarity can decrease just as dramatically. Eutrophication occurs when ponds experience heavy nutrient loads. Eutrophic lakes and ponds are rich in nutrients and often undergo large algal blooms. Regardless of how an algae bloom occurs, pond owners want them gone. **A water quality management program using various controls will keep growth in check.**

Is Phosphorus important?

Under the right conditions even a modest increase in Phosphorus can set off a chain of unwanted events in a pond including accelerated plant growth, algae blooms, low dissolved oxygen levels, and the death of fish, invertebrates, and other aquatic animals.

In nature, Phosphorus exists as part of the phosphate molecule, PO_4 . In aquatic systems, Phosphorus occurs as organic and inorganic phosphate. An organic molecule contains Carbon, while an inorganic molecule does not. Phosphate that is not associated with organic material is inorganic. Inorganic phosphorus is the form required by plants for growth, while animals can use either organic or inorganic phosphate. Phosphorus is important to everything that lives; an overabundance in water will produce an overabundance of plant growth.

What's
Inside?

- ✓ NEW AQUATIC TECHNOLOGIES
- ✓ GEESE CONTROL!
- ✓ POND TIPS



Are Geese Annoying You? by Marcie Hower

Geese are becoming year-round residents in our areas, and they no longer fear people. Most people will readily welcome the first pair of geese on their property, but a pair of geese can easily become 50 to 100 birds.

What is the number one nuisance of geese?

Unfortunately, with geese come geese droppings. One goose produces 1-2 pounds of droppings a day. These droppings can be a health risk and large groups of geese can alter the ecology of your pond and create algae problems.

A Dog Gone Solution.

The most humane way to manage the number of friendly fowl in the neighborhood is to use working border collies. Ohio Geese Control employs dogs to do just that! Joff, one of Ohio Geese Control's top employees, visits local housing associations such as Avenbury, a community in Northeast Ohio, up to three times a day to ensure that the geese don't foul the neighborhood. Joff works with his handler, Becky Lee, to chase but never harm the geese and instill a fear that there is a predator on site.

"The geese hate to see Joff, but people using the outdoors love to see him at work. He is graceful, fast and he loves his job," says Becky Lee, Ohio Geese Control's Migratory Bird Specialist. "Border collies' wolf-like glance is perceived by geese as predatory and threatening. The geese will ignore the barking and random chasing of other dogs, but will relocate when faced with the controlled actions of the collies."

Avenbury had challenges with geese control due to the 147 acres of plush turf and water resources. They sought alternative methods of control other than turf application which would run off into their ponds and proved to be ineffective season after season. Ohio Geese Control's dogs now are a great complement to the landscape.

"The residents are so thankful to use the common areas which include walking paths and ponds. Ohio Geese Control's staff has been attentive to our needs and I would highly recommend their services. We have worked with them for over 6 years and our geese population is no longer an issue for our homeowners" says Donna Lambert, Property Manager of Avenbury Lakes HOA and employed by Lawrence Community Management Group, Inc.



Cutting Edge Aquatic Technologies... Innovative new ways to create beautiful waters

Clipper™

Clipper is a new aquatic weed control that delivers control of both submersed and floating aquatic plants. This product remains active in the water column for 6 hours, and results may be seen after only 48 hours. Clipper breaks down by hydrolysis into Hydrogen and Oxygen. This means that there are no harmful byproducts that will accumulate in your water or sediment. Clipper is fast and effective and there are no fishing, swimming, or drinking restrictions after application.

Tradewind™

Tradewind is a systemic weed control that works by inhibiting enzymes and the production of amino acids that plants need to grow. This product is broken down by microbial activity and is extremely water soluble. There are no restrictions on fishing, swimming, or drinking after application.

SeClear*

SeClear is the first product designed to eliminate algae and improve water quality simultaneously. This product provides control of many different types of algae as well as reducing Phosphorus levels. Because of this, long-lasting benefits can be seen. There are no restrictions on fishing, swimming, or drinking after the application of SeClear.

PHOSLOCK® Phosphorus Locking Technology

Phoslock (lanthanum-modified clay) can help to remove Phosphorus and restore water quality. This product will remove excess free-reactive Phosphorus from the water column and cause it to settle at the bottom where it is locked in the sediment. With less Phosphorus in the water column, eutrophic conditions will be minimized and algal blooms may be reduced.

Applying Aquatic Herbicides Yourself or Pay Someone?

William E. Lynch Jr., Program Specialist, Aquatic Ecosystem Management, The Ohio State University

Ohio pond owners can apply aquatic herbicides themselves, and need not pay a certified pesticide applicator to do it. That's not the case in many other states, where the pond owner must pay a commercial applicator if he/she wishes to control nuisance aquatic plants.

Are there instances where it is wise to pay a licensed applicator to treat aquatic vegetation? Sure there is! Not all pond owners feel comfortable handling chemicals safely. Chemicals can be dangerous and accidents do happen. These folks should consider paying a commercial applicator. Commercial applicators are trained to handle chemicals safely and must be re-certified every three years in Ohio. This same advice applies to the application of terrestrial herbicides around the house.

Misidentification of the problem plants can lead to additional costs because the wrong product was used or not enough of the correct product was used. A licensed aquatic herbicide applicator can almost always ID the plants correctly and determine what to use and how much.

Another instance a commercial applicator may be "worth their

weight in gold" is if it is difficult to calculate the volume of a pond. Poor math here can cost big dollars! Many pond owners treating their own pond grossly underestimate the pond's volume, and therefore under-apply the product chosen. No control is achieved. Commercial applicators are quite efficient at making those volume determinations.

In reality, the pond owner should ask themselves the following questions when considering whether or not to apply an herbicide themselves:

- Am I willing to take the time to read product labels, making sure to pay close attention to warnings, safety instructions, and restrictions?

- Am I able to correctly identify the plants causing the problem?
- Can I accurately calculate the amount of product required to do the job?
- Do I have the proper application and safety equipment to apply the herbicide?
- Do I really feel comfortable handling chemicals?

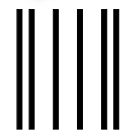
A "no" answer to any of these questions should cause the pond owner to consider a licensed applicator. Two "no" answers and the owner should pick up the phone and call a licensed, commercial applicator.



If you have a Lake or Pond PROBLEM... Aqua Doc has the SOLUTION!

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Ask for Rita!
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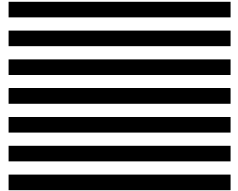


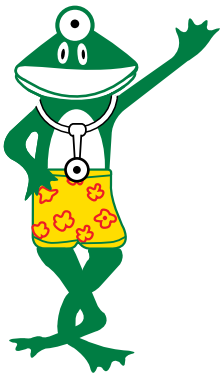
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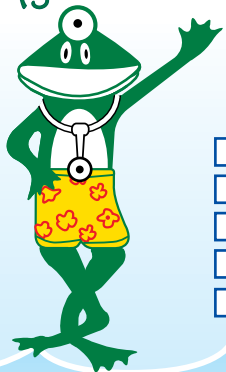
AQUA DOC® Can Help!

BEFORE

AFTER

Enjoy YOUR lake or pond... THIS YEAR!

If you have a Lake or Pond **PROBLEM**... Aqua Doc has the **SOLUTION!**



FREE CONSULTATION!

Please schedule my FREE lake/pond consultation!

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| <input type="checkbox"/> Lake Studies | <input type="checkbox"/> Docks |
| <input type="checkbox"/> Floating Fountains | <input type="checkbox"/> Waterscape Design / Installation |
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John III, 13

Maddie, 17