



PONDerings®

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of AQUA DOC®

Manage Your Pond for the Long Term

Your lake or pond is a valuable resource. Water is vital for wildlife habitat, agriculture, industry, households, and recreation. Knowing this, do you have a long-term water management plan in place? You may want to ask yourself these questions: "What is there to manage?" "Is my pond in balance?" "Where does my water come from?" "What is up stream?" And finally, "What is most important: fishing, swimming, irrigation?" A long-term lake or pond management plan will answer these questions and help you to discover the many valuable uses of your water.

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Enjoy YOUR lake or pond . . . THIS YEAR!

If It Were My Pond...

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

Small ponds are simple compared to large lakes and reservoirs, but still present unique challenges to the pond owner. Few ponds behave well without some level of monitoring and management. Below are my management strategies arranged in a topical format.

Geese Are Never Welcome!

I would use every legal method to prevent geese visitation at my pond. This is particularly true in February and March as pairs of geese look for ponds in which to raise a family.

Be Wary of Unwanted Nutrient Sources

Ponds that have high levels of phosphorus and nitrogen grow more aquatic plants and algae, often to levels I would consider to be undesirable.

Natural Vegetation is an Ally!

To the fullest extent possible, I would maintain the portions of the watershed I own in natural vegetation or in hay production.

I Like Some Vegetation

My pond would be managed for fish and wildlife so moderate levels of aquatic vegetation can help various fish and wildlife species. Research has conclusively shown that 15-20% of the pond having submerged pondweeds is optimal for a healthy, balanced bass-bluegill community.

Dye the Pond Blue

One of the easiest ways to manage submerged plants to the 15-20% level is to dye the pond blue.

Plants I've Come to Hate!

While I like submerged pondweeds and emergent plants, there are plants and algae I would control immediately. The list includes: filamentous algae, duckweed & watermeal, water lilies (pretty but spread quickly), Eurasian watermilfoil, purple loosestrife, Phragmites, and reed canary grass.

Aerate, Aerate, Aerate!

I'm continually amazed at how ponds improve once a bottom, bubble aeration system is installed. My pond would have such a system.

No Grass Carp (White Amur) in My Pond

Grass carp are aquatic plant eaters, preferring the native, submerged plants that I'd like to have 15-20% coverage from.



BEFORE



AFTER

Why Install an Aeration System?

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

Benefits: Enhances Production and Efficiency of Good Aerobic Bacteria; Improves Water Purity by Venting Gases

When a pond stratifies a layer of deoxygenated, cold water forms at the bottom. Anaerobic bacteria cannot efficiently decompose organic materials. As a result, foul odors and black "muck" are produced. Preventing stratification allows for oxygen at the bottom of the pond which promotes good aerobic bacteria.

Benefit: Prevents Pond Stratification

Pond stratification can lead to fish kills if destratification occurs at an inopportune time. This is especially true from June through September. Surface aeration systems do not prevent stratification from forming because they only draw water from the first few feet of depth. Diffuser systems are more efficient and economical if preventing stratification is the main goal.

Benefit: Oxygenates the Water and Provides Protection against Fish Kills

Surface agitators, paddlewheels, fountains, and aerators

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Waterscape for... Wildlife

Water features such as waterfalls, waterscapes, and streams naturalize any setting. A waterscape will attract birds, frogs, fish, and provide a focal point of interest to the eye season after season. Moving water... the sound isn't just calming... the sound masks less wanted sounds such as cars and lawn mowers. Bring nature closer to home and enjoy a watergarden in your backyard.



“Manage Your Pond for the Long Term” *(continued from page 1)*

Develop a Sustainable Solution

Establishing a long term management plan for your waters does not have to happen overnight but it makes economic and environmental sense to happen sooner rather than later. Understanding the basic biological rhythms and reasons your pond reacts through the seasons is a great place to start. Nuisance algae blooms are probably the pet peeve of most all pond owners. These blooms are a result of an over abundance of nutrients (phosphates and nitrates). How did these nutrients get into my pond? This could be your first step in developing a sound sustainable management plan. Your pond is a product of its watershed (the area of land that drains into your pond). Perhaps change can take place to modify your ponds inflow, repairing a faulty septic system, building a swale to divert water from pastures or storm sewers. The potentials are many...

The prime directive is to stop any organic material from entering your pond. If your pond is treated as an outdoor waste facility it will soon smell like one! Grass clippings, leaves, and fertilizers all contain nutrients. Your pond doesn't need them! When your pond "loads up" with nutrients and heavy algae and plant growths occur, realize these growths are only a symptom. In many cases these symptoms are due to a pond becoming eutrophic or hypereutrophic. Understanding eutrophication is the next step

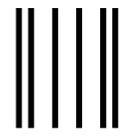
to developing a long term strategy. Understanding why things happen makes the "how to" and "what to do" come very easily. There are options and choices. With environmental stewardship in mind, you can choose to manage on your own or hire an experienced knowledgeable company to assist you in walking through the minefield known as aquatics. If you would like to develop a long-term management plan for your lake or pond call us. Let's get started.

1. Measure your pond to determine its size and water volume.
2. Assess the watershed, water inflow and outflow.
3. Identify submerged, floating, and emerged plants and algae. Determine biomass and potential problems now and down the road.
4. Determine sediment depths (if possible).
5. Inspect dam and pond banks for possible erosion or burrowing animals.
6. Check the overflow for efficiency.
7. Establish a plan to monitor all of the above throughout the season.

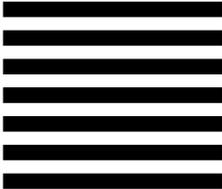
Your pond is a wonderful resource for many activities. If you need help call us. AQUA DOC will provide a sustainable solution.

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Your AQUA DOC team consistently works to stay informed on all things new regarding our shared resource (water), we are on top of it!

“Why Install an Aeration System?” *(continued from page 2)*

all provide an oxygen refuge if a low oxygen event should occur. Low oxygen levels can be caused by pond turnover, night respiration by excessive vegetation, and the killing of excessive plants too late in the season. Dif-fuser systems can prevent kills by preventing stratifica-tion in the pond. They can also prevent winter fish kills by keeping a hole open in the ice for oxygen exchange.

Benefit: Increased Fish Production

Aerated ponds can produce more pounds of fish per acre than un-aerated ponds. This is especially true in ponds that are non-stratified and circulating regularly.

Advantages of surface aeration systems:

- Transfer oxygen quickly, good for emergency aeration. Can prevent most summer fish kills.
- Can reduce duckweed and watermeal growth.

Advantages of diffuser systems:

- De-stratifies ponds and prevents turnovers.
- Allow for efficient decomposition by aerobic bacteria and reduces odors released.
- Inhibit the production of black muck.
- Increase fish production through nutrient cycling and enhancement of the food chain.
- Can reduce aquatic vegetation.



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



FREE CONSULTATION!

Please schedule my FREE lake/pond consultation!

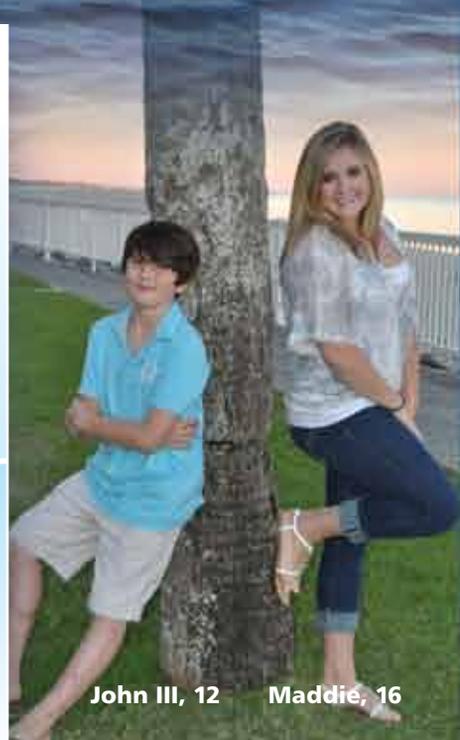
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Enjoy YOUR lake or pond... THIS YEAR!