

DROUGHT CONDITIONS AND YOUR POND

David Ellison, Aquatic Biologist

Decreased inflow to your pond or lake can have significant impact to the overall water quality. Drought conditions that are often experienced in our area during the summer months will cause the water level in many ponds to drop greatly. Several steps can be taken to keep your pond balanced and allow it to recover from the water loss that may occur during such periods of decreased water inflow.

Drought conditions will often expose shallow areas and banks of your pond and lake that may have previously not been visible. These areas can be susceptible to the growth of shoreline plants such as cattails or phragmites. These plants would eventually take over the whole shoreline, growing outward

as they trap sediment causing the pond to become shallower and shallower. It is important that a properly maintained shoreline or shoreline vegetation is part of your pond management plan.

Another situation that can occur when shallow areas of the pond get exposed is algae growth. As the water recedes during decreased inflow or heavily irrigated periods, areas normally not exposed to sunlight are, and sometimes algae growth will occur. Having the proper parameters in your management plan is the best approach for treating this situation. This can be done with pond aeration, treatment with various biological products and pond dye.

Keeping the inflow and outflow pipes free of debris and plant material is extremely important so that water can flow freely during any heavy rain events that may occur. Sediment backing up inflow pipes will not only limit the water from flowing well, but will also cause sediment to accumulate along the inflow areas of the pond over time and cause the pond to become shallower.

Having the proper maintenance plan for your pond and keeping it checked regularly is important when water levels drop so the pond will remain healthy and not suffer during decreased periods of water.

PRESRT STD
U.S. Postage
PAID
Norfolk, VA
Permit No. 292



757.591.8780 • www.virginalakemanagement.com
P.O. Box 236, Virginia Beach, VA 23458-0236
Email: ktucker@vlmc.net • Fax: 757.873.4896

- **Fountains & Aeration Systems** (installed)
- **Algae & Aquatic Weed Control**
- **Biological Augmentation**
- **Lake Dyes**
- **Fish Stocking & Surveys**
- **Water Testing**
- **Annual Lake & Pond Management**
- **GPS Mapping & Lake Surveys**

A FULL SERVICE LAKE & POND MANAGEMENT COMPANY

Volume 2, Issue 3

4



757.591.8780 • www.virginalakemanagement.com • P.O. Box 236, Virginia Beach, VA 23458-0236 Volume 2, Issue 3

AQUATICS UPDATE

Summer 2008

THE QUIET FOUNTAIN OF YOUTH

By Gregory Blackham, Aquatic Specialist

Most people are now aware of how aeration is the key to slowing the natural aging process of their pond or lake, but there is a silent partner that gets very little credit. Often times I will find myself doing routine pond maintenance procedures, when a homeowner or other bystander will approach me. They see that I am adding a substance to their pond, whether it be a liquid, water soluble packet, or pellets, and a quizzical look will sometimes cross their face. "The pond looks good, why do you need to put 'chemicals' in there?" they say. Actually, what I'm putting in are not chemicals at all, but beneficial bacteria.

Beneficial bacteria and oxygen are extremely critical in the determination of the life span of a body of water. The life span, usually referring to how soon the expensive heavy machinery of dredging must be brought in to restore a pond or lake to an earlier, more pristine state. This can be avoided for quite a long time with proper aeration and levels of beneficial bacteria.

Every body of water comes naturally armed with bacteria. Every body of water also develops an ecosystem of plants, fish, algae, zooplankton, and other wildlife. Organisms are constantly reproducing and dying, which leave it up to the bacteria to break it down into healthy food for the recurring cycle. For the most part, in the early to mid years of a pond, this process would go relatively slow, left alone and undisturbed, but there are other factors involved, namely man.

Incredible amounts of man made pollution stream into your pond every time it rains or water flows in. There are many ways to strain and filter this onslaught, but a degree of pollution will find its way in regardless. In fact, many ponds, lakes, and especially BMP's are designed as a settling area for these pollutants before they travel to a larger body of water. Fertilizers containing nitrogen and phosphorus are the leading contributor, but there are countless others. These pollutants encourage rampant plant and algae growth, with very little to keep them in check. The existing population of beneficial bacteria start to fall behind in a snowball like effect of breaking the nutrients and organic matter down. The unprocessed matter begins to form in layers at the bottom of the pond in the form of a sludge or muck layer. This sludge continues to evolve into a swamp like environment and beyond.

To combat this rapid aging process, an intervention is needed. Beneficial bacteria can be added to the body of water, and will colonize rapidly to provide the support needed to process all the decaying material. These colonies need oxygen to grow, therefore proper aeration is the most essential catalyst in the process. Another factor that is important is the temperature of the water (it needs to be warm enough), and the timing of initial application, which all contribute to the success of a large healthy population.

The great thing about beneficial bacteria, it is not a chemical; it is a non-toxic naturally occurring micro-organism. It could be compared to the cultures used to produce dairy products. Results from adding beneficial bacteria can be seen almost immediately, resulting in better water quality, fewer algae blooms, reduction in odors, and reduction in bottom sludge. Your pond or lake does not have to grow old as soon as you think!

Inside this issue:

- 2 Value in Pond Management
Kevin Tucker, President
- 3 What's that blob in my pond?
Shannon Junior, Environmental Scientist
- 3 Press Release
- 4 Drought Conditions and Your Pond
David Ellison, Aquatic Biologist



VALUE IN POND MANAGEMENT

Kevin Tucker, President

Over the years, many lake and pond management professionals throughout the country have worked tirelessly to educate home owners associations and their managers on the fundamentals of sound lake and pond management. This effort has resulted in a much better understanding of the need for management, especially in storm water ponds. Most of the association managers understand that routine pond maintenance activities are just as important as the maintenance of the landscape and structures that make up the rest of the common areas of an association. In many ways ponds are more important, because poor maintenance or lack of maintenance all together, will often times result in much more severe and costly problems than would have been the case for simply overlooking some of your routine landscape maintenance activities. Dredging alone will likely be the single most costly expense that a homeowners association will ever face.

In reflecting on how far we have come in recognizing the need for sound pond management plans in the communities in which we live and manage, I realized that there is still one piece to the puzzle that is far too often overlooked or misunderstood. Just because most everyone knows now that they need to maintain their ponds, far too many people still do not understand how to manage their ponds. This lack of understanding the principles of sound lake and pond management has opened the trap many are falling into.

In the rush to make sure there was a plan, we see far too many people with the wrong plan. Take the lowest bidder for an "Annual Pond Maintenance Contract" and check it off of the "To Do" list. Pond is taken care of now, we are done. But hold on a minute, is the cheapest contract really the best value? Doesn't it matter what the contract specifies? Doesn't the methodology and soundness of the management strategy matter?

Problem is, when looking at the bottom line only, you are rarely looking at the best value. Not to overuse a tired old adage, but you really do only get what you pay for, in some cases, even less.

Communities and managers alike would benefit tremendously by educating themselves more on the fundamentals of lake and pond management, and improve their understanding of the "why" behind the work. When obtaining proposals for lake and pond management, spend some time reviewing the specifications line by line, item by item, and ask yourself which is the better value. If the prices are different, why are they different?

Proper lake and pond management always starts with restoring ecological balance to a pond. If a pond is balanced, everything else will take care of itself. The goal of lake and pond management should always be to achieve that balance, not to attack individual problems in a piece meal way, seemingly less expensively, but

typically more costly over time. Although you can make short term and inexpensive superficial improvements to the appearance of a pond, long term you will spend far more with that "quick fix" mindset.

Also, please do not fool yourself into thinking that just because a proposal has the word "Annual" in front of the contract heading that it is a fundamentally sound long term management plan. Managing ponds properly and efficiently over the long term is more about how you manage than the length of time you are managing. Not all good long terms strategies take a long time to implement, and just because you do something many times over a long period of time (like spraying algae with algaecides), does not mean you are necessarily exercising sound long term lake management principles.

If you are fundamentally sound in your long term management plan, you may spend a bit more in the short term, but typically you will spend far less over time, and most importantly, be much more satisfied with the results.

Take a little time to learn the basics (in layman's terms) about the biological processes that are responsible for the water quality problems in your pond. Then make sure your consultant or contractor of choice educates you on how these processes should be amended to produce the long term results that you are looking to achieve

Most pond owners will struggle with algae from time to time, if not all of the time. Pond enemy #1, ALGAE, grows as a result of excessive nutrients and organic loading on the pond. Phosphates, nitrates and other available nutrients are the fuel for nuisance algae growth. Remember, algae is only a symptom of a far greater problem. That problem is excess nutrients. Algaecides do not solve the problem; they only deal with the symptom. Algaecides used on their own are nothing more than a band-aid... the cure is found when you deal with the source, the excess nutrients in your pond.



The real problem is far too many people think that spraying their pond once a month with an algaecide is the solution.

VALUE IN POND MANAGEMENT

This is but one of the many "traps" that pond owners fall into when working alone or with a contractor to manage their pond. Unfortunately, this whole idea of simply spraying algaecides to solve your problem tends to be one of the biggest disservices perpetrated by some of the less qualified and less knowledgeable lake and pond management contractors throughout our industry. Because you get a quick visual improvement, many people are fooled into believing that their problems are being solved.

Long term it is important to aerate, add beneficial aerobic bacteria, microbes, enzymes, and other ecologically balanced products to reduce the nutrient load on the pond, and thus reduce the fuel that feeds the algae. Professional lake managers can also work with you to help balance the pond ecology through proper

fisheries and beneficial aquatic vegetation management, as well as identifying cultural practices on the site that can be improved to prevent nutrient loading. Likewise, in many cases dye can be applied to shade water from sunlight penetration, thus removing one of the other causes of unwanted growth.

It takes patience and comprehensive water quality management strategies that integrate many tools to properly manage algae and many of the other aquatic problems that lake and pond owners will face as the years go by and their ponds age. Make sure you avoid the trap of the quick fix and the cheapest price, and focus on the "value" you are receiving from the lake management professional with whom you work. Rarely is the quickest the best, and often times the best value is not the cheapest price.

WHAT'S THAT BLOB IN MY POND?

Shannon Junior, Environmental Scientist

Have you ever noticed large slimy "blobs" near the edge of your pond? These large clumps of gelatinous material are often mistaken for egg masses, but they are actually colonial animals called bryozoans, or "moss animals". Bryozoans are ecologically similar to corals, and are made up of thousands of individual animals called zooids. The colonies secrete a jelly-like matrix on their interior, and are often found attached to submerged logs, plants, rocks, or dock pilings. The individual zooids feed with tiny tentacles, which they use to grab microscopic algae and protozoa from the water column. In the fall, they release buoyant buds called statoblasts, which drift down into the sediment where they overwinter until they are ready to form new colonies the next spring. When removed from the water, the colonies exude a pungent smell that may help to deter predators. Bryozoans prefer warm, quiet waters that are rich in nutrients – conditions that are commonly found in farm ponds and storm water ponds. Although these rapidly growing organisms may appear creepy and alarming to humans, they are generally considered to be an indicator of good water quality.



***FOR IMMEDIATE RELEASE *** FOR IMMEDIATE RELEASE ***

Virginia Beach, Virginia



March 31, 2008

VIRGINIA LAKE MANAGEMENT ADDS SHANNON JUNIOR TO STAFF

Shannon Junior has extensive experience in all aspects of pond and lake management, from nuisance vegetation, water quality, fisheries, and aeration to structural issues and dredging. Before joining Virginia Lake Management, Shannon was the Pond and Lake Division Manager for Angler Environmental. She managed numerous projects in Northern and Central Virginia and Maryland, and will help Virginia Lake Management with their continued growth in these geographic areas. Shannon holds a B.S. in Biology from George Mason University, and is a Master's Candidate in Environmental Science and Public Policy, also at George Mason. Shannon has been a Certified Aquatic Pesticide Applicator for 6 years, and has a great deal of experience and training in vegetation management strategies. She is also qualified in all aspects of aeration and fountain installation, and understands the important role that aeration plays in the water quality and health of all of the lakes and storm water ponds throughout the region.

"We are excited to have Shannon as part of our team here at Virginia Lake Management. She brings an enthusiasm for environmental stewardship and customer fulfillment that is refreshing and well suited for our company's mission to provide the best aquatic service in the industry."

Virginia Lake Management is a full-service lake and pond management company that offers a wide variety of aquatic products and services. Their service company specializes in the treatment of algae and nuisance aquatic vegetation, with all applications performed by licensed and highly trained certified pesticide applicators. They provide installation, service, and repair for fountains and aerators, and also offer fish stocking, water quality testing, lake mapping, bathymetric studies, and much, much more.

Please contact Kevin Tucker for more information, or visit our website at www.VirginiaLakeManagement.com.