Lake Conditions in Sunset Lakes – spring 2012.

You will have noticed that our lakes are experiencing more algal growth this year than in previous years. We have put this flyer together for a number of reasons: (1) to inform all residents on the nature of the 'lakes' in our community; (2) to make residents aware that the property values of ALL homes in Sunset Lakes are affected by the quality of the lakes and so it is the responsibility of ALL homeowners, not just those on waterfront, to limit fertilizer use; (3) to provide waterfront residents with information on how to manage their waterfront and tackle the floating algae and weeds.

Twin Lake, May 2012.

The early heat and low rainfall this season so far have promoted the growth of large masses of algae on the water surface not only in our 'lakes' but in many bodies of water with little/no flow across Ontario. It is important for all residents to realize that the growth of algae is a direct result of the use of fertilizers on lawns throughout our community and beyond – they accumulate as excess nutrients in the water. The weather this year has only made the effects of such, much more evident.

There are 4 'lakes/ponds' in Sunset lakes each approximately 20 years old. Our lakes are really not lakes at all in the traditional sense. Our 'lakes' are actually holding tanks for ground water and catch basins for run-off from beyond just the lawns of waterfront residents. At each lake/pond there may be none, one or more 'intake' culverts and none or one outlet culvert that maintain the water level in the 'lake' when there is a large volume of runoff (spring thaw, heavy rains). Unlike river-fed lakes, our lakes have essentially no 'in-out flow' which typically would flush through excess nutrients and oxygenate the waters. Both flow and oxygenation help to maintain the health of a body of water. Lack of flow, as in all our lakes, promotes the accumulation of run-off fertilizers, organic matter (muck) on the lake bottom and over-growth of algae (floating and the larger rooted ones in the lake bed) leading to reduced oxygen levels in the water and a decline in fish and other lake life over time.

The main source of oxygen in our lakes is wind which moves the water around but it is not enough to handle the accumulation of fertilizers and organic matter that our lakes are experiencing. The Board has been purchasing and providing all lakes with biological controls (Nutra FX) designed to consume some of the excess nitrates and phosphates in the water to help reduce algal growth for a number of years, but this too has had limited effect this year. **We ask all residents to please consider the value of our lakes when thinking about lawn care.**

Managing your waterfront

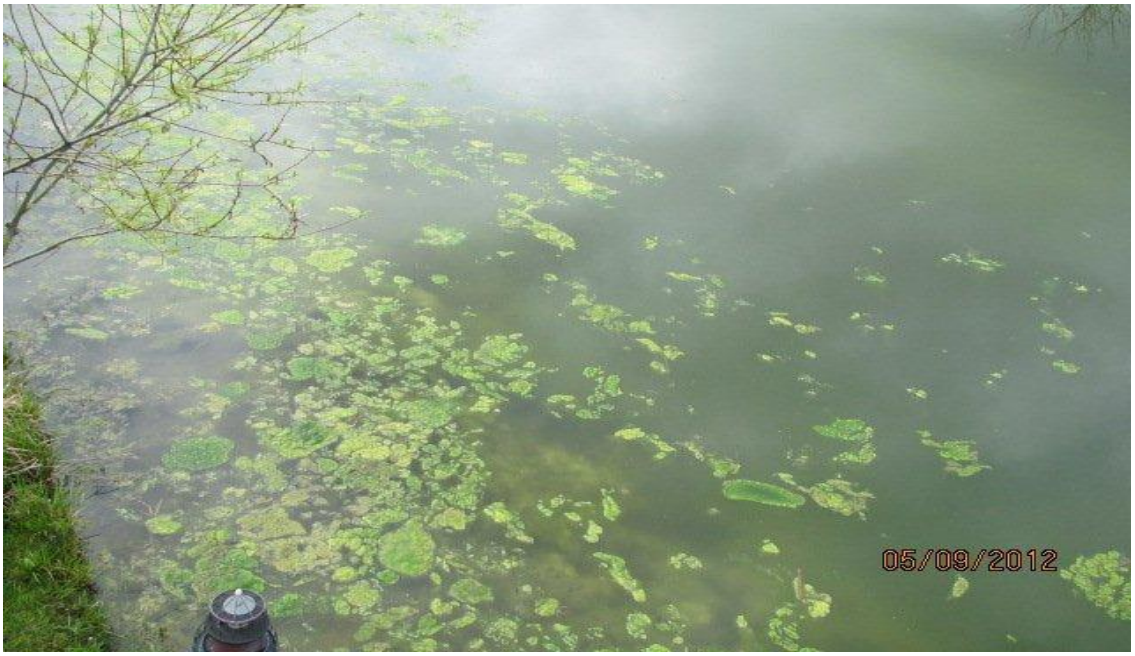
For most of us waterfront residents, taking care of our property has often stopped at waters' edge. The algal problem this year has really come as a wake-up call and is a good opportunity for all waterfront residents to take action in improving their lakefront.

There are a handful of waterfront residents who have for a long time extended their weekly yard work several feet (the further, the better) into the water and these are the waterfronts we would all want to have (Shane/Jill, Andre/Jade, Leo/Giuliana for example). Below are a few things that we suggest and ask all waterfront residents do on a **regular basis** not only to help with the aesthetics of their lake but also to allow you to more fully enjoy the use of your lake, to help with promoting the effects of wind oxygenation, reducing the further accumulation of organic matter in your lake in the long-term and ensure concerns raised in this newsletter don't become worse in the coming years.

Creating a buffer zone

Avoid using fertilizer within several feet of your shoreline. In order to reduce excess nutrients flowing into the lake, planting vegetation along the shoreline as a biological buffer is something to consider. If you prefer a nice sandy beach, a deep beach will also filter out some nutrients.

Floating algae (filamentous algae):

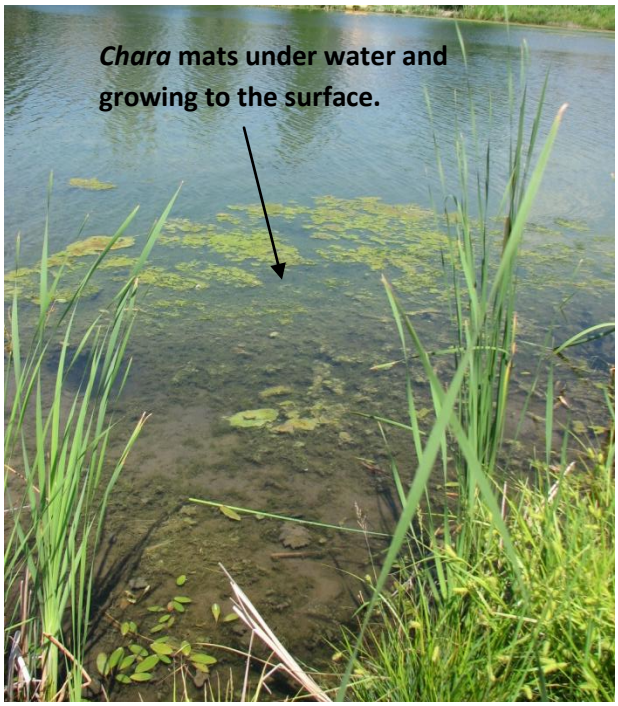


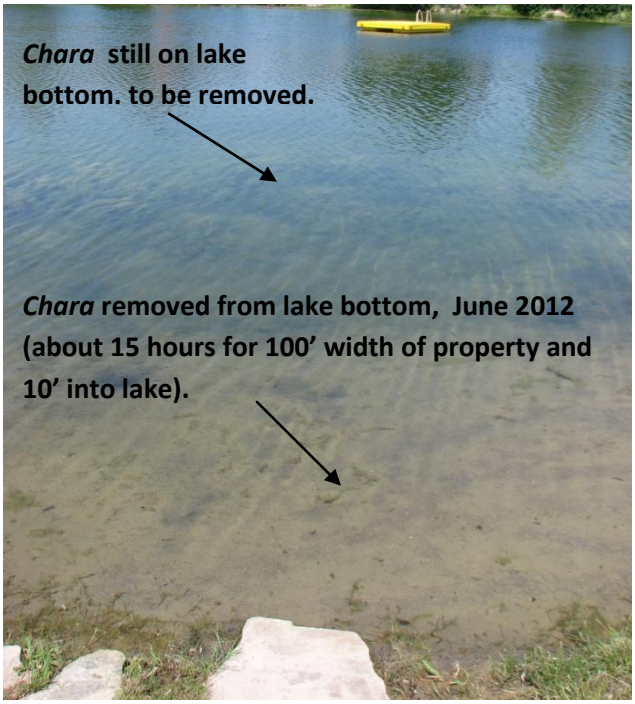
Removal is important for aesthetic purposes but also so the large algal masses/blankets we have this year do not hinder the positive effect of wind. Removal will also reduce further accumulation of organic matter as it will die and sink to the lake bottom in the coming days and weeks. Remove as much from the water as you can along your property and in your lake/pond on a regular basis.

Useful tools and techniques:

Use a leaf rake or a pool skimmer ($14.99 at Canadian Tire) as a scoop and fling/toss it onto the lawn to dry for later pick-up. It will dry as hard thin crusts that you can peel off the grass – quick and easy.

Larger rooted algae (mostly *Chara* growing as mats on lake bed):





Removal from the lake bottom and the water is important because it will improve overall water movement, the effect of wind will go all the way to your shoreline, it will cut back on the accumulation of organic matter in the lake bottom, and will make access into the water for swimming much more enjoyable.

Useful tools and techniques:

Get in the water and use a garden rake to pull the plants toward shore. There are lake rakes with longer handles, a rope to toss it in with and broader spans that also work great. You can also use a weed cutter to cut and drag out underwater weeds. Note that **cut material must be removed from the water**. Rinse off the black muck from the roots and toss weeds onto your lawn to dry for a few days, turning it with a rake so it dries and then bag it and bring it to the curb on garbage day. If you don't want it lying around to dry, you can fill the back of a pickup and take it to a dump. If you don't have a truck, consider organizing yourself with a few neighbours and hire a landscaper or 'A man and his truck' to take it all away.

Black muck (at bottom of your lake):

The black muck that has built up on the bottom of our lakes over the years is organic matter – dead plant material (algae, weeds, leaves, etc.) and excess nutrients (fertilizers) that settle to the bottom and is partially broken down by anaerobic bacteria. Why does it smell like rotten eggs? Because the breakdown of organic matter by anaerobic bacteria releases hydrogen sulfide and methane gases. Why doesn't it break down completely and disappear? Because the bacteria necessary to break it down fully need oxygen and our lakes/ponds lack sufficient oxygen and turbulence, particularly at the bottom, to complete the process.

Useful tools and techniques:

Regularly pulling and removing lake weeds from the water and dying material along shorelines, will reduce the continued build-up of the black muck, but how do you try to reduce the amount of muck that is there now? Stir it up regularly. Use your leaf rake to vigorously stir up the water on a regular basis. By stirring it up you are introducing oxygen into the water as well as suspending the black muck in the water which should encourage breakdown. Yes, this will smell and make the water black for a few minutes but it will clear up quickly and you will have helped the breakdown of the material. We have also come across biological products that consume/reduce the muck build-up on the lake bottom (see link below).

Where do I start and who can help me?

We suggest you begin by removing as much of the rooted weeds (*Chara*)as possible. You can do this yourself or you can hire someone to do it for you – a landscaper or one of our resident teens, Thomas Bogdanowicz (thomas.bogdanowicz@gmail.com ; 613- 809-1229) who is an experienced lake weed remover (and has an awesome beach/waterfront). **Remember to continue maintenance throughout the season**. If you have dogs, you might want to have the weeds removed from your property quickly to avoid them rolling around in them and having to 'de-stink' your dog.

Where can I get the tools I need?

Below are a series of links where you can purchase more specialized tools of the lake weed trade.

Weeder's digest: information, tools (rakes, etc.) and muck digesting pellets.
http://www.lakeweeds.eventwebsitebuilder.com/page/page/1674758.htm

Veed cutter: First check Home Hardware stores for availability. Link is for Canadian online ordering of weed cutter. http://www.cuttingedgedistributors.ca/veedcutter.html?gclid=CJ3XlOel0LACFYbrKgodjCp1VQ

SLOA has purchased a net/skimmer of sorts that you can pull with a paddle boat to gather some of the floating algae in harder to reach areas and a couple of lake rakes – which have longer handles and are lighter weight than regular lawn rakes. We will inform residents when they arrive and are available for use. You may also find that some of your neighbours already have different nifty tools that work well.

We ask all waterfront residents to put forth a concentrated and collective effort to help our lakes deal with these stresses. If we all work at it, we believe it will make a difference both in the short and long-term.

Sincerely,
Claudia, Dennis, Russ and Terry - your Sunset Lakes neighbours.