PHOSPHORUS 101

Battle Against Phosphorus

What is Phosphorus?

Phosphorus is a naturally occurring element essential for all life, including us humans. In water bodies, such as our lagoons, a certain amount is necessary for survival, but too much fuels excessive plant and algae growth. Too much phosphorus means too many plants; too little oxygen and the fish have trouble surviving.

This is not a new problem. In 1972, the International Joint Commission, a United States and Canadian agency, created the Great Lakes Water Quality Agreement with a goal of reducing phosphorus levels. Across the Great Lakes over a 20 year period it was observed that a ban on phosphorus in detergents, as well as improved standards for municipal and industrial waste control helped cause a decline in phosphorus levels.

However by the mid 1990's phosphorus levels began to increase due to a variety of factors. Lake Erie is the shallowest of the Great Lakes and is surrounded by a major urban development interspaced with agricultural areas. In 2011, over 20% of the lake surface was covered with algae and levels of oxygen dropped far below requirements for plant growth and fish survival. The application of fertilizers by farmers was deemed to be the greatest contributor. Another issue was climate change increasing the frequency and severity of storms more rapidly washing phosphorus from the land and into the lake.

2015 resulted in a number of blue-green algae blooms across Ontario .There were 52 confirmed instances! This was caused by a number of factors, including high levels of phosphorus and nitrogen in the water, water temperatures and weather such as increased sunlight. Algae blooms are most common in the late summer and early fall in areas where the water is shallow, slow moving and warm

What is Parks and Waterways Doing?

Our introduction of our "Tiny Bubble" systems is probably the biggest single step ever taken to help rid our lagoons of phosphorus. There is no question that they will add oxygen and water movement reducing surface alae. School is still out on actual phosphorous reduction. By that we mean we are awaiting a report in May from Lakehead University master students who have been conducting monthly water sampling for the past two years. We are, of course, very interested in the results from Concord Lagoon. We will be working with the Township to continue testing through 2016. Once the results are analyzed, we will make the ultimate decision on carrying out the test throughout our waterways.

Once again we will be applying our annual aquatic herbicide early in July. This is not harmful to fish, birds or wildlife but because of our respect of the spawning nature of our fish, it is not applied until July 1st after the spawning is completed. We allow 10 days for it to complete its work and then lower the blades of our harvester to remove the dead weeds, thus removing a cause of phosphours levels. We begin skimming the surface debris early in the season and continue harvesting late into the Fall to remove as much of the dying and floating weeds as possible

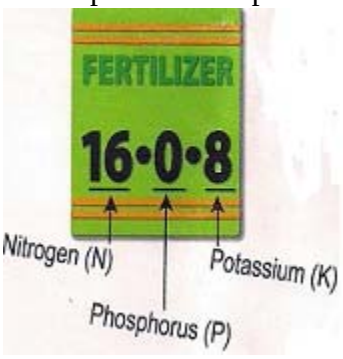
One of our additions for 2016 is a new shore conveyor that will dramatically reduce offloading time of the weeds from our harvester, therefore increasing our harvesting time. This will result in more weeds being removed from the canals. We continue to work with the Township and Lake Simcoe Conversation Authority to monitor and reduce the phosphorus loading from the creeks that run into our waterways.

We cannot eliminate 50 years of buildup in the sediment of our lagoons in a summer, or two. We will continue to monitor the industry to discover and investigate new and better solutions for phosphorus reduction. It will take a total team committed to make this happen, and we need your HELP.

What can I do?

The first thing we all must all realize is that whatever happens on our lots will eventually make its way into our lagoons. Listed below are several items to be aware of but there are no revelations here, but they will make a difference if we practice them as a community

1. Make sure all soaps and detergents including ones used to wash cars and boats, exterior windows, patio furniture are phosphate-free
2. Do not use any fertilizers that contain phosphorus All fertilizers have 3 numbers on the packaging. The middle number represents phosphorus so look for an “O”. There is a by-law in place which prohibits the use of phosphorus fertilizers in Lagoon City.



3. Reduce water flow into the lagoons. The Township offers rain barrels for $25 that will collect the water. This rain water is much better than the chemically treated water for your plants.
4. Use native plants in your gardens, particularly along your shore wall and along swales between properties. They are adapted to survive in our climate and do not have the same needs for watering or fertilizers are non-native plants require. The roots of the plants along the shore wall and swales serve as a filtration system before the water seeps into the lagoons. Another benefit of native plants at your shore wall is diverting geese from your property. Stay tuned for upcoming news regarding free perennials and shrubs for Lagoon City residents sponsored by the Township of Ramara.
5. Maintain your shore wall. Both sides of the shore wall are critical to the health of your lagoons. Holes, breaks and cracks in your shore wall allow water to flow readily into the lagoons. Major gaps or holes in your shore side allow water to collect and seep into the waterways. These open areas can lead to expensive shore wall repairs as well as these areas of water collection can also prime real estate for nesting mosquitos – neither a happy scenario.
6. Be diligent Pooper Scoopers, pets and geese. If we can keep the feces from washing into the lagoons, it can help in lowering the phosphorus load in the waterway.
7. With winter fading away and life springing forth, a reminder to rake up the leaves before they wash into the lagoons, every little bit of plant matter not getting into the lagoons helps the larger issue.

Together, and it has to be together, we can make a difference, we can DO something to help our environment. Please talk with your neighbours, let us all have a focused plan as what must be done to lower levels of phosphorus which is to benefit all of us. This article will be posted on our Parks and Waterways link on the Township web page, if a neighbour missed the newsletter.

Phosphorus fertilizer image Lake Simcoe Science: The Phosphorus Cycle 2014

Report compiled by LC P &W Chairman Bob “Skip’ Beattie