

The Friday March 14, 2008 issue of the Beacon Star had an article on Seguin Townships plan to change a lakes development status when the phosphorous content jumps by 50%. It is obvious to me that there is little understanding of the importance of this element to the quality of life in our lakes and its natural abundance. There is a misguided notion that we are major contributors of phosphorus. The old tale of how our septic systems are leaching massive amounts of this element contributing to algae blooms and declining water quality. This is total nonsense. We are the only creatures that dispose of our defecation by way of a septic system and the older the system as long as it is in good shape the better it works. The old systems have developed a good periphery of vegetation with roots like hungry teenagers heading for a fast food joint.

Phosphorus is in all living things. The trees and all vegetation right down to the lichens on the rocks all exist because of phosphorus as well as other nutrients. Phosphorus is the second most essential nutrient to plant growth next to nitrogen. The soils contain about 0.8 mg/g of phosphorus and plants about 2.3 mg/g. That's a lot. If you want a little demonstration of the effect of soil on growing algae

gather some soil from your yard and mix it into a one quart mason jar of water from your lake. Mix the water and soil well and put the jar in a sunny window. Within a few weeks you will have a beautiful algae bloom. Usually within days after the bloom you can put the water from the jar under a microscope and see the one celled animals and then water fleas and other daphnia. Without phosphorous in our lakes we would have no food chain. There would be no fish. In essence your lake would be dead although very clear. You could however brag how your lake was so clear that you could see a Secci disk down forty feet.

There is one annual cycle that is not well documented. I call it the phosphorous cycle and it happens every year without fail. I observed it for the first time when I was about ten years old. My brothers and I would portage from Morgan's Bay on Lake Rosseau over to Dyson Lake to fish for bass. In June after the Pines dumped their huge quantities of pollen putting a heavy yellow scum on the surface and if the temperature and sunlight were right, the water would start to turn a slight green in colour. It wasn't until many years later that I understood what I was seeing. A perfect and natural

fertilizing of the lakes. Phosphorous in unimaginable amounts and a perfect organic form and not the original purpose of the pollen in the first place. In some years the weather would be too cold and lack of sun would make the bloom hardly visible at all. Last year, the spring of 2007 we witnessed one of the biggest pollen dumps I have ever witnessed in my life throughout the district. If the sun and temperatures had lasted just a few more days we would have seen massive algae blooms in hundreds of lakes in our area. If Seguin Township had tested for phosphorous at these times they could have condemned every lake.

Another source of phosphorous is the flooding of forest lands by beaver. The quality of your lake water is directly affected by the watershed that feeds it. The oxygen in the water held back by the beaver dam is quickly used up trying to break down the organic matter on the forest floor. The water now in an anaerobic or septic condition (without oxygen) now starts to dissolve the metals and minerals in the soils and vegetation. The beaver pond is now releasing into your lake a very rich solution of nutrients. The amazing part is that your lake has a healthy appetite as water is the essential

basis of all life on this planet. If however the beaver dam were to break and the sun and temperatures were right you would probably witness a fairly substantial algae's bloom. In my opinion the beaver is the single biggest source of water pollution in our area. Sorry Frank and Gordon. The most serious problem with all the forested land flooded by beavers is the massive increase in methyl mercury due to the mercury methylating bacteria due to low oxygen content of the water. This bioaccumulates up the food chain to the fish you caught and served for dinner. These areas flooded by beavers because of the lack of oxygen also release huge amounts of methane gases which is 20 times more destructive as a green house gas as carbon dioxide. The water held back by the beaver dam also dissolves a great quantity of organic carbon in the form of humic, tannic, and fulvic acids. These acids can greatly reduce the oxygen content of your lake. Lakes that don't have enough oxygen deteriorate in overall quality very quickly. Saving your lake is as simple as adding oxygen by dock deicers or other types of aerators. Dead lakes have been completely restored to vibrant health through aeration. Oxygen is

everything in lake water quality. Oxygen not phosphorous is key even though excess phosphorous is detrimental.

One source of phosphorous and iron (also a great algae stimulator) is the gravel road to your house or cottage. The ditches along the road carry runoff water to the creeks, rivers and lakes. The vegetation in the ditches holds the soil in place preventing excess nutrients such as phosphorous and iron in the soil from being washed away during heavy downpours. If townships want to protect the lakes, they should not remove this vegetation from the ditches just so they look pretty.

As a final note I want you to think of the old world, say Italy for example. Lake Maggiore in central Italy 65 km long by 25 km wide and with its shoreline highly developed. Humans have been living there for thousands of years long even before the Roman Empire. I spent a day with my wife in this area and could not help but note how good the overall quality of the lake water was. They had a very good management of their watershed despite the heavy development.

Phosphorous levels are only indicative of what is going on at the time and requires understanding. Making development decisions

based on this one parameter shows a poor understanding of water quality management. If you want to maintain and improve the quality of your lake, then you have to involve the whole watershed that feeds it and the rain that falls on it.