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10 REASONS

to be grateful you live near Lake Scugog

Bad lake weeds, stinking dead carp, low water levels, dry conditions and distorted, negative press have been a trial for Scugog residents and businesses this summer. We all need to take a deep breath and remember the great things about Lake Scugog and its beautiful environment. As Thanksgiving approaches, the Lake Stewards have compiled a list of neat things about Scugog that we can be very proud of and that still make this a very special place to live and work.

1. Lake Scugog is basically healthy. It has no "freakish chemistry" as written in a recent, irresponsible article. It has no restrictions placed on the number of fish that can be eaten, no special toxics or chemicals in its mud bottom or water -- other than what runs out of storm sewers in a few urban areas. The lake was never the home of a polluting industry. In terms of chemical pollution it is healthier than the Great Lakes. This year's carp die-off was not the result of unhealthy lake conditions other than abnormally high water temperatures in early spring.

2. Its problems are known, they are being actively researched and plans for improvement are being worked on. The Township, Kawartha Conservation, and others are thoroughly engaged in preserving the lake. We are fortunate to have this level of participation by the Township – something many other jurisdictions and lakes do not have. There are thousands of lakes and rivers throughout North America experiencing the same nutrient problems as Lake Scugog as the land becomes more populated. What it takes is education, involvement and action by all of us around Scugog, working together to keep the lake a viable and enjoyable recreation area.

3. It is a great fishing lake. According to the Ministry of Natural Resources, Lake Scugog is the second most productive lake in Ontario. There are more fish per hectare of water surface here than all but one other lake. The health of the lake is shown in the incredible number of healthy fish in the lake. Professional anglers have called it a "fish factory." Two of our Directors went fishing one evening recently and in less than two hours caught one muskellunge, two walleye, a smallmouth bass, a platter sized black crappie and numerous perch, bluegill, rock bass and pumpkinseed. Eight and a half months each year; Scugog is there for anglers!

4. There is an amazing range of wildlife to watch and enjoy. Great blue herons, a large variety of ducks, muskrats, geese, swans, kingfishers, beaver, turtles, frogs, otters, osprey and black terns. We even find mink that enjoy the shoreline edge. (The presence of mink is noteworthy as they require unpolluted shorelines with a range of crayfish, minnows and frogs that they like to eat.)

5. The lake generally has low bacteria counts. Areas subject to large amounts of run-off from urban areas, or goose populations, are an exception. (We do need better storm water management.) But most of the lake has low e-coli counts that make it safe for in-water activities. Our organic soil geology generally consumes most bacteria within a short distance of septic beds and

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other sources. While the lake has a mud bottom that does not mean it is unclean, or unhealthy. It is precisely because of its bottom structure that it is home to such an incredible diversity of invertebrates, fish, birds and plant-eating wildlife.

6. Because of its natural and excellent biological diversity, problem insects are kept to a minimum. Lake Scugog is definitely not a "a giant swamp, ... which serves as a breeding ground for insects, " as stated by a media outlet. Yes, it is a breeding ground for balanced insect diversity, many of which are predators of the pesky mosquitoes. This is not a negative, it is a positive. Lake and even wetland conditions are definitely not suitable breeding grounds for mosquitoes that carry West Nile Virus.

7. You live in the GTA and still live in cottage country. Think of it, no Highway 400 to contend with on summer weekends. Quaint small towns, forests, lake and rivers -- Scugog has a country charm that is protected by the Oak Ridges Moraine and Greenbelt legislation. In a boat you can go to a beach, to Port Perry or other towns, go out for dinner, bird or nature watch, scope out the houses on the shoreline, or just laze in the boat on a picnic. Best of all you can listen to the loons. There is nothing more relaxing and restful (nor Canadian cottage country feeling) than listening to the loons calling through the evening. Scugog is the summer home to several pairs.

8. Lake Scugog is a recreational playground. Because Lake Scugog is so large, and most of the lake does not experience the problems of the weedy, shallow bays -- it remains great for boating, waterskiing and tubing, competitive rowing, kayaking, canoeing, and sail boarding. Hunting, fishing, bird-watching and nature walks along the water edge trails are great spring and fall activities. In winter, we enjoy snowmobiling, cross-country skiing, ice fishing and for some, dog sledding on the frozen lake.

9. Lake Scugog is a cultural mecca. Because Lake Scugog is so beautiful and environmentally interesting, we have attracted a thriving artistic community that provides us with concerts, theatre, craft shows and art exhibits. It is an exciting place to live.

10. We have the best sunsets and sunrises anywhere! Depending on whether you face East or West, you can't help but marvel at the beauty of the sun rising or setting over its large expanse of water. Every majestic detail is mirrored in the lake. At these times, wildlife viewing is also at its best. Pull up a chair and enjoy!

Weeds and droughts all occur in cycles. It is time to count our blessings rather than dwell on our short term problems.

Scugog Lake Stewards Inc. is working on your behalf on the following topics involving improving the health of Lake Scugog. Contact the Lake Stewards for information or to join at scugoglakestewards@yahoo.ca or (905) 985-0555.

The Official Plan
Water and Wastewater Management Plan
Lake Scugog Environmental Mgmt. Plan
Nonquon River Fisheries Mgmt. Plan
Trent-Severn Waterway Panel
Stormwater management best practices
Port Perry Downtown Community Imp. Plan
Durham Region West Nile Virus task force
Durham Reg. Invasive Species Task Force
Air quality improvement/tree planting

Where do we start first?

Where should work begin to fix the problems of the Lake?

by Barbara Karthein, Scugog Lake Stewards

Lake Scugog, the Nonquon River and other creeks and rivers are being studied by Kawartha Conservation's Water Quality Specialist, Dr. Alexander Shulyarenko. He is gathering data for the development of a Lake Scugog Environmental Management Plan (LSEMP) that will guide the direction for suitable remedial measures to begin to restore Lake Scugog to environmental health.

Alex Shulyarenko

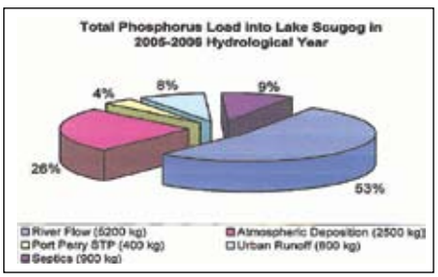
With six lake, and eight monitoring stations in the rivers as well as multiple surface runoff and water flow monitoring stations and a rain/snow sampling station throughout the watershed, Dr. Shulyarenko is now able to outline where the excess phosphorus and nitrogen sources are that are deteriorating the quality of Lake Scugog and its tributaries.

PHOSPHORUS

Phosphorus stimulates algae and aquatic plant growth. It can come from a wide range of sources, some natural and much more from what is known as "anthropogenic" sources; meaning originating from human activities.

Fifty-three percent of the phosphorus load into Lake Scugog is brought in by its rivers. This phosphorus overload is indicated to be from agricultural or landscape based chemical and manure fertilizer runoff, from residential septic systems, and urban stormwater. These are all anthropogenic sources.

The provincial water quality objective for total phosphorus in surface water is 30 ug/L. Only Fingerboard Creek and the Scugog River generally tested at or

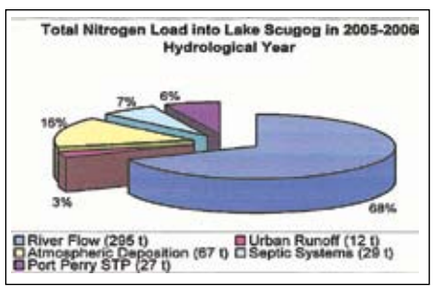


below that guideline. Blackstock Creek, Cawkers Creek and the Nonquon River above Scugog Line 6 (above the sewage lagoons) consistently tested at almost double the provincial limit, with the highest levels found in the water of Blackstock Creek.

The second largest load of phosphorus -- 26% arrives with wind, rain and snow. 9% is believed to come from residential septic systems, and 8% from urban stormwater runoff. It is estimated that only 4% of the total phosphorus load per year in Lake Scugog comes from the Port Perry Sewage Treatment Plant.

NITROGEN

At this point, the amount of nitrogen discharged with treated effluent from the lagoons exceeds current provincially set levels. So, for this reason, until a new



method is determined for reducing nitrogen levels, growth cannot occur in the Port Perry STP lagoons. However, it is estimated that only 6% of the large yearly nitrogen load in the lake is from the treatment plant.

Creeks and rivers that drain the agricultural and populated areas of the watershed bring the largest tonnages of nitrogen to the Lake. Nitrogen loading from septic systems around the lake was calculated on the basis of number of houses within a 50-meter lakeshore zone. As with all nitrogen, that produced by septic systems travels easily within the groundwater table -- something that phosphorus cannot do.

URBAN MYTH DEBUNKED

The urban myth is that 'fixing' the Port Perry lagoons would be the best answer for improving water quality in the Lake and the Nonquon. This would mean it is a solution well out of the control of the average citizen.

However, Dr. Shulyarenko looks at the problems of the Lake and the Nonquon River differently.

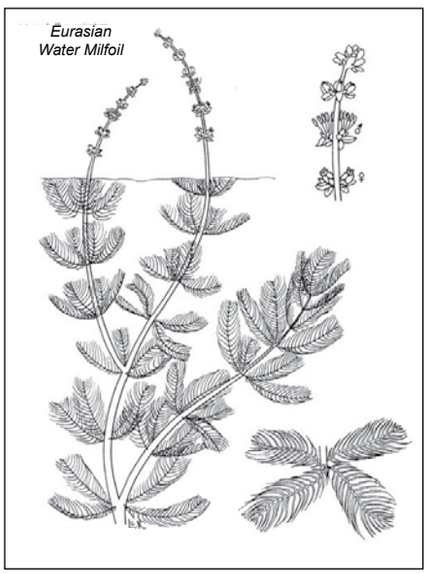
"We have found that there is no one solution to improve water quality in the Nonquon or Lake Scugog. The over- abundant development of aquatic vegetation and algae is the result of excess nutrients that appear to come from a wide range of sources. It appears any solution to this problem will require everyone to consider their nutrient footprint whether they be governments, farmers, businesses or ordinary citizens."

For further information contact Kawartha Conservation at 1-800-668-5722, www.kawarthaconservation.com

An eight woman racing scull pulls into the dock at Rowing Club Bay with banks of Milfoil showing red in the background.

The Lake Weed Story

On the first day of June they popped their ugly heads above water. From that day on, their tops covered the surface of huge areas of water. Weeds were back with an increased vengeance on Lake Scugog.



Eurasian Water Milfoil

There is no question, lake weeds were a hot topic this summer. Weeds that interfere with boating, make fishing (especially trolling) very difficult, disgust swimmers, and all in all leave a bad impression on tourists and locals alike. The sight of large mats of them are an eyesore especially as the lake level continues to drop.

However to blame all lake plants is both too general and too simplistic. Our real problem on Scugog is one aquatic plant – Eurasian milfoil (myriophylum spicatum).

Native to Europe, Asia and Africa, it showed up in North America in about the 1940's and to Lake Scugog in the 1960's, possibly arriving as a result of the aquarium trade. It is now causing enormous, unsightly problems across Canada and the U.S. because it is so aggressive, forming dense mats which clog waterways and crowd out native aquatic plants.

Unfortunately, Lake Scugog provides the ideal habitat for this nasty invader. It thrives in water bodies with muddy bottoms, proliferating specifically in areas of phosphorus and nitrogen-rich run-off. Local stormwater run off from agriculture, lawns and urban areas provides a perfect fertilizer for them and guarantees a thick crop.

To top off our challenge, on Lake Scugog we have heavy boat traffic. Boat propellers cut the plants into pieces. These pieces sink to the bottom and take root -- even small sections. In the water, these cuttings can remain healthy for weeks. Cuttings and spreading underground roots are the principal means of reproduction. Although Eurasian milfoil produces seeds, it appears that this is not a major method of its spread. Therefore harvesting does not reduce its numbers. In fact it can aid in its spread when cuttings escape the collection equipment, sink to the bottom and take root.

New factors are aiding the spread of this weed: Climate change is resulting in higher water temperatures and longer seasons, thus promoting growth. The arrival of Zebra Mussels that filter microscopic algae out of the lake water increasing its clarity thus allowing sun to reach deeper areas of lake bottom and encourage plant growth. Increased township population density is no doubt also a factor contributing additional nutrients.

We face a difficult challenge controlling Eurasian milfoil. The native Milfoil Weevil is its only bio-predator other than herbivore fish such as carp. These weevils, feed on the stems of the milfoil causing the plant to collapse and die. While in larval stage, the weevils are voracious eaters and quickly dispose of plants. They reproduce quickly and can breed three to five times per summer.

Milfoil Weevil

However, the weevil must have shorelines that are natural and rich in leaf litter where they can dig in and over-winter. Lawns do not provide suitably insulated sites.

What are our options?

As a Township, we must improve our stormwater drainage systems to remove the excess nutrients that stimulate these weeds. We could also purchase and release additional bio-control weevils. The Township and individual shoreline property owners can create over-wintering conditions for the weevil by letting at least a meter depth of shoreline edge go natural or create wide attractive areas of naturalized lakefront with native shrubs, trees and flowers that will also prevent nutrient runoff.

Last, we can count on the fact that nature abhors a vacuum. Sooner or later, increased numbers of this or another predator will come and enjoy the feast.