

Kawartha Lake Stewards Association
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**Presentation to the Panel on the Future of the
Trent-Severn Waterway, Sep. 13/07**

About eight years ago, cottagers on several Trent-Severn Waterway lakes contacted each other with the questions, “Are you testing your lake’s water quality? What methods are you using? What are your results?” Several of us decided that it would be worthwhile to monitor water quality *together* to give us a better understanding of our watershed as a whole, and also to see the differences among the lakes.

To this end, we formed the Kawartha Lake Stewards Association (KLSA). Since 2001, we have monitored the water quality of the Kawartha Lakes, from Balsam Lake downstream to Katchewanooka Lake. Results are published in an annual report. Full reports can be found at www.trentu.ca/olivercentre. Over the past seven years, KLSA has been financially supported by the Trent-Severn Waterway, local governments and businesses, cottagers’ associations, and individuals. KLSA is 100% volunteer operated.

Our main activities have been:

1. testing lake water for phosphorus and clarity under the Ontario Ministry of Environment’s Lake Partner Program;
2. testing lake water for *E.coli* bacteria;
3. looking at the effect of local sewage treatment plants on water quality;
4. carrying out some preliminary research on aquatic plants, a.k.a. “weeds”.
5. supporting graduate student research on how land use is related to phosphorus inputs.

As a result of our research and the input from our members, KLSA would like to request that the TSW follow six recommendations for action to preserve or improve water quality on our beautiful lakes:

1. Ensure plentiful flows into the TSW from the north

Our watershed is huge, over 7,000 square kilometers (see Figure 1). Some of the water in the TSW first fell on the ground more than 120 kilometres away! Most of our watershed lies to the north, so when flows through the waterway are high, the TSW receives plentiful amounts of ‘clean’ northern water. Flows are highest in April, May and June during the “spring flush” (see Figure 2). This spring flush lowers phosphorus levels to about 13 ppb (see Figure 3). However, as the spring flush decreases, phosphorus levels rise to about 21 ppb by August. Twenty ppb is the Ministry of the Environment’s ‘danger point’ for unsightly algal blooms. **Flows from the north, especially the spring flush, keep phosphorus levels low on the Trent-Severn Waterway lakes. Any decrease in these flows could result in an increase in unsightly algal growth on TSW lakes in July and August.**

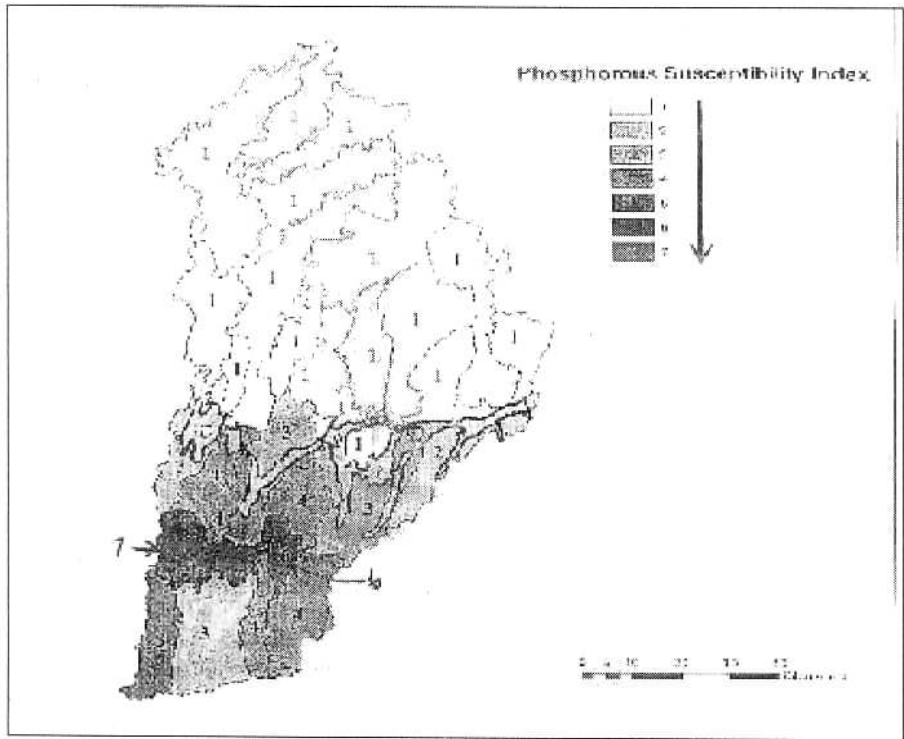


Figure 1. The Kawartha Lakes watershed. Northern catchments are largely granite bedrock and forest with sparse human populations, which yield low-phosphorus water. Southern catchments contain limestone bedrock and glacial till, plus agriculture and higher human populations, which yield water higher in phosphorus (KLSA Annual Report 2006).

Flow through Lakefield Locks, Longterm Average

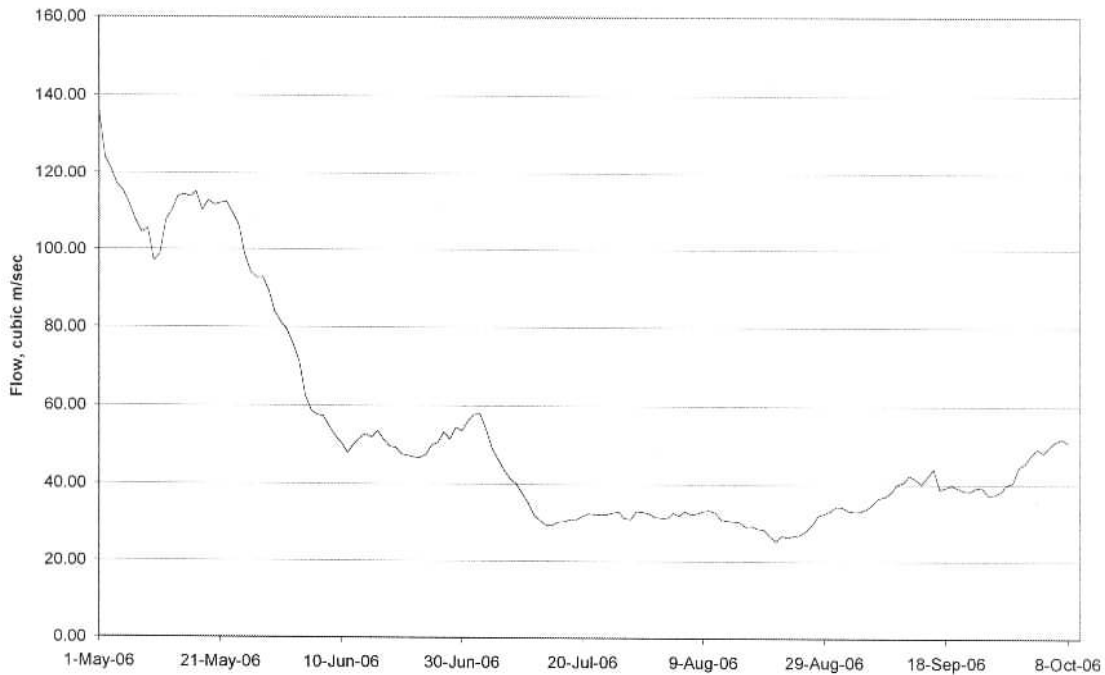


Figure 2. The spring flush brings large amounts of water through the Trent-Severn Waterway in the spring, decreasing to about one-quarter the flow in July and August.

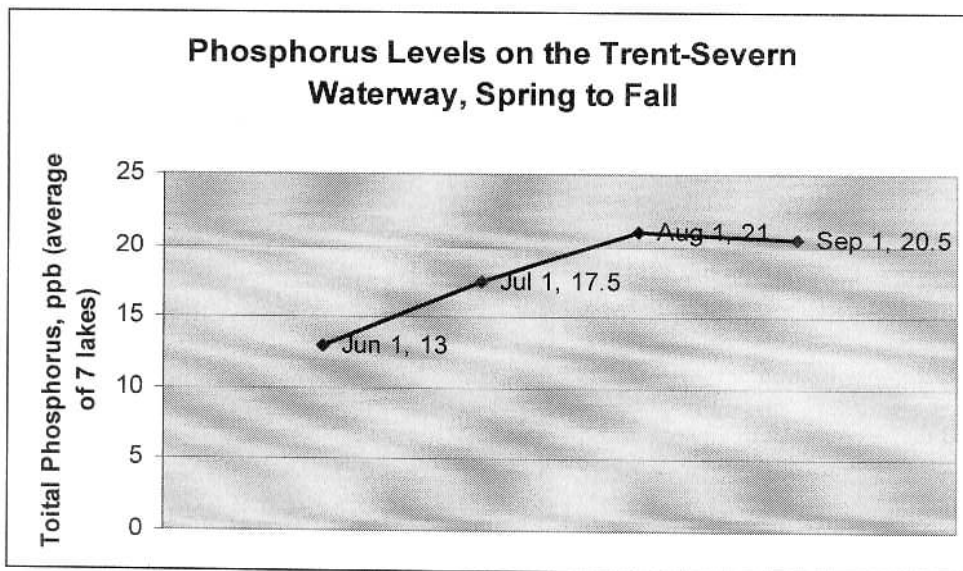


Figure 3. During the spring, the Trent-Severn Waterway has low phosphorus levels due to a large inflow of water, the "spring flush". As this flow decreases, phosphorus levels rise to over 20 ppb. At levels over 20 ppb, algal blooms become more frequent, interfering with recreational quality of the lake.

2. Discourage lawns in shoreline areas

Testing for *E. coli* in over 100 locations for the past 6 years has confirmed that our lakes have, in general, low levels of fecal contamination. However, there have been a few “hot spots” which have exhibited *E. coli* counts over the safe swimming level. The source of these high counts has almost always been a large population of waterfowl, usually Canada Geese. Geese feel safe in areas of short grass, where predators cannot lurk. KLSA would like to see the TSW discourage shoreline residents from having large areas of short grass.

3. Inform shoreline residents of methods to control aquatic plants

There seems to be a lack of information on how to control aquatic plants. As a result, many cottagers have decided to ignore regulations and taken ‘weed’ control into their own hands. KLSA would like to see the TSW have complete and up-to-date information available on a website about alternatives for aquatic plant control.

4. Inform cottagers about increase in aquatic plant growth

The biggest concern of cottagers on the TSW is the apparent increase in aquatic plant growth, in both shallow and deep areas of the lakes, particularly over the past 5 years. Cottagers would be very interested in knowing if there has indeed been an increase, and, if so, why. This is beyond the capacity of KLSA. If the TSW is concerned about property values and/or tourism, they need to know more about aquatic plant growth in our lakes.

5. Be more active in prevention of invasive species

Invasive species have greatly changed our lakes, two significant examples being zebra mussels and Eurasian milfoil. KLSA would like to see the TSW much more actively involved in lobbying for controls on the introduction of exotic species into the Great Lakes. This would include informing cottagers how they could apply political pressure to spark some action.

6. Ensure sewage treatment plants continue to decrease nutrient contributions

Recent KLSA research found that sewage treatment plants (STPs) contribute 15% of the phosphorus entering Pigeon Lake from Sturgeon Lake in the low-flow summertime period (KLSA report 2006). With more people living seasonally and year-round on our lakes, KLSA believes that better phosphorus-removal technology will be needed to control STP phosphorus inputs.