

EBR Registry Number: 010-2246

Comment ID 105618

Contact name: Natalie Helferty

Home address: Ontario Nature, 366 Adelaide St. W., Ste 201

Comment:

February 4, 2008

On behalf of Ontario Nature as well as Environmental Defence and the Rescue Lake Simcoe Coalition) through our Campaign Lake Simcoe, we are very pleased with the Regulation by the Ministry of the Environment (MOE) to set firm phosphate levels for all 15 Sewage Treatment Plants (STPs) discharging into Lake Simcoe. There needs to be clarification as to how many plants have stormwater treatment vs only sewage treatment.

The improved calculation defining the Regulation that uses flow x phosphate concentration based on actual historical flows and predicted flow rates of "approved developments" is a better method by far. Using the current method of setting a total allowable limit of 12.5 tonnes, regardless of the ability of the processing plant to treat phosphorus, should not be continued into the future.

The reduction of 5 tonnes per year is a reasonable target given the short timeline of one year. However, the 7.5 tonne limit averaged over the 15 plants is not a TP limit for each plant. There should be a flow x phosphorus concentration regulated for each plant regardless of the total limits. The 7.5 tonnes should not become an 'allowable average limit' in the Regulation to be calculated over the 15 STPs that could undermine the 'due diligence' of each individual owner/operator.

The 7.5 tonne discharge limit should be used for monitoring feedback to the MOE and the municipality to determine whether a significant improvement in phosphorus reaction by the lake's ecosystem has occurred within the year. If there is no discernable reaction, then a longer adjustment time may be needed prior to giving approval of any new developments. If the Total Phosphorus (TP) into the lake shows a high level (higher than PWQO), then the 7.5 tonne discharge should be adjusted lower through improved filtration methods within each STP and/or hypolimnetic withdrawal methods (using ironbed filters).

Historical phosphorus loading can be reduced from a lake bed through added filtration as a temporary measure to reduce TP loads. Longterm reductions should be through strict development controls along with vast improvements to shoreline and upland terrestrial habitat that intercepts phosphorus through uptake of this nutrient before it gets downstream into the lake. Plant growth eaten by fish and wildlife that are then removed from the lake ecosystem through harvesting and movement upland into adjacent terrestrial habitats via the wildlife food chain, will eventually reduce TP levels to restore the lake's ecosystem balance, but this takes a long time. It also takes a concerted effort to improve both shoreline and watershed terrestrial habitats that cumulatively contribute P into the lake basin. That will take substantial Stewardship Funding. This type of Ecological Goods & Services Fund should be

considered on a Province-wide scale, not just for Lake Simcoe, to improve water and air quality everywhere, as well as to mitigate and adapt to climate change. Increased severity and frequency of rain events will re-suspend more lake bottom P, making it more bioavailable and worsening algae conditions, particularly in shallow basins as lake levels drop during summer droughts. Both floods and droughts are predicted to worsen into the future and planning for these changes are needed now.

Given the zebra mussel invasion, lowering TP at source should decrease

available algae for the mussels, hopefully reducing their levels. New information from the United States' Environmental Protection Agency (EPA) released on Feb 1, 2008 stated that clearer water from zebra mussel filtration actually can increase bottom algae termed 'muck' as sunlight can now reach down to levels where it once was filtered through algae in the water column. The reaction of the lake's ecosystem of lowering TP needs to be monitored over the year that the new STP Regulation is in effect and fed back to the municipality and MOE before March 31, 2009 deadline. Therefore, we strongly recommend that a monthly Phosphorus report be submitted to the MOE and all stakeholders rather than just a final annual report to the Director.

Also, the methodology for sampling TP was not defined in the Regulation. We would like to see the Regulation include the specific method of timing and duration for the operator to sample for TP. Timing and duration of sampling matters for stormwater treatment in particular where first flush after rainstorms carry most P and later rain can dilute P levels, even to a point where active biomass dies off so that treatment is no longer effective. We recommend more frequent monitoring and reporting under this specific Regulation as the information can and will be used to determine future Regulations under the Lake Simcoe Protection Act.

Baseline conditions of input and output levels of P would be ideal information to determine the effectiveness of each STP. We therefore recommend automated in situ continual monitoring devices for measuring TP be made available for each STP for the Lake Simcoe watershed. Although they may not currently be used by municipalities, we highly recommend that this be the method adopted in future in the operation of any STP. We suggest that these monitoring systems be installed for the long-term monitoring and automated monthly reporting as soon as possible.

In conclusion, there needs to be strict development limits until such time as the lake's ecosystem shows marked improvement. Funding for longterm ongoing maintenance is required to provide feedback to the municipality and the MOE to make informed decisions about the TP levels through an adaptive management reporting process. This is a similar process that the EPA required of New York City to avoid building a filtration plant that would have cost billions of dollars. The allocation of funds to improved basin-wide stewardship and monitoring, as well as land acquisition of sourcewater areas saved the City hundreds of millions of dollars.

We are otherwise satisfied that the Regulation will result in an improvement to the Lake Simcoe ecosystem and are supportive of its implementation as a first step.

Thank you for the opportunity to provide our comments.

Natalie Helferty
Director of Conservation Policy for Ontario Nature
on behalf of the partners in Campaign Lake Simcoe