Appendix 'B'

Staff comments to the EBR Registry Number: 012-8760

November 17, 2016
City of London, Ontario
Re: EBR Registry Number: 012-8760, Reducing Phosphorus to Minimize Algal Blooms in Lake Erie

Thank you for the opportunity to respond to the Ontario Government's proposal for reducing phosphorus to minimize algal blooms in Lake Erie. The City of London, Ontario represents the largest urban population community in the Thames River Watershed.

The City has the following concerns with the approach the Province is proposing with respect to meeting its 40% phosphorus reduction target.

1. Extend the deadline so Municipal Councils can become involved. Alternatively, receive comment endorsements after the deadline.

2. Evidence-based planning

There is concern that the proposed provincial actions are based on using existing regulatory instruments, rather than making a case for actions based on evidence of actual sources of phosphorous and the most effective means to reduce their transportation into waterways. Without such evidence-based decision making, it is not possible to evaluate the effectiveness of the proposed actions, the relative cost of different options to reduce phosphorous and whether the allocation to each sector reflects a fair share of their actual contributions.

Recommendations:

The Province needs to make public its best understanding of the current sources of phosphorus entering Lake Erie and its tributaries, and indicate where it expects to achieve the 40% or 200 MT of phosphorus reduction by 2025.

a) Immediately implement a mass balance study on the Thames and a comprehensive monitoring program of the watershed. The "Adaptive Management Approach" needs the results of these early in the program.

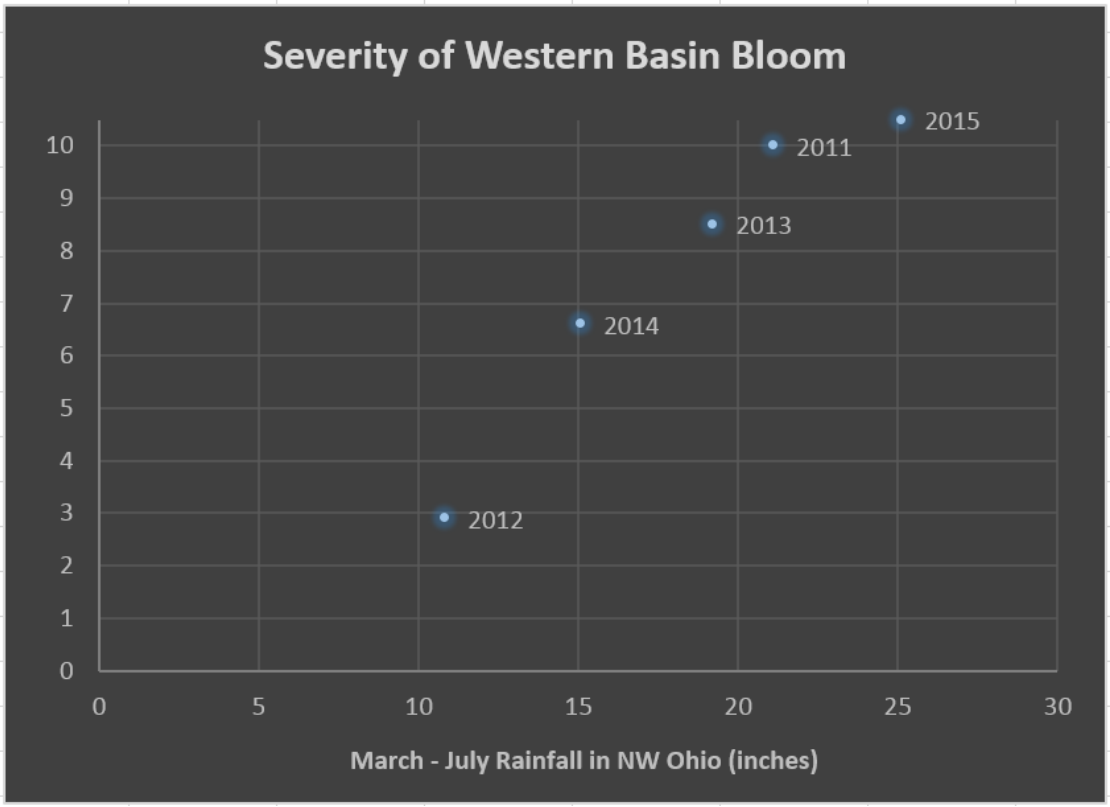
b) "Heritage phosphorus" exists in the sediments of reservoirs and behind weirs and dams. Some recognition of this source and possible treatment should be explored for the flood control sites at Wildwood, Pittock and Fanshawe Dams in addition to smaller weirs and dams.

c) A better understanding of groundwater phosphorus loadings in the Thames River Upper Watershed needs to be researched, measured and included in the DAP.

d) The Plan should address the significant knowledge gap and control opportunity that exists in the Lower Thames River watershed where extremely flat, agricultural lands are drained by an extensive pumping system that responds to changing water levels in both the Thames River and Lake St. Clair. The flat topography in this area of the watershed does not permit unassisted drainage. This point has been advanced during the Source Water Protection plan development and watershed characterization work.

3. Factoring in Rainfall, Climate Change

It has been shown that there is a direct correlation between rainfall, particularly sudden and intense storms and the size of the algal blooms in the Western Basin of Lake Erie. The two largest algal blooms in recent years were recorded in 2011 and 2015, the years with the highest rainfall.



Source: USEPA-Environment Canada

According to USEPA and Environment Canada, efforts to manage phosphorus on the land and prevent it from entering waterways that ultimately reach Lake Erie must be effective at minimizing phosphorus losses during storm events.

It is unclear how the actions outlined in the Province's proposal will address reducing phosphorus at the most critical points, during storm events. Given that these storms are

expected to become more severe and more frequent in the future as a result of climate change, this is a significant gap in the proposal.

Recommendation:
Specific actions are needed in the proposal that address phosphorus transportation off land and into waterways during intense storms and snow melts.

4. All sources of phosphorus must be held to the same standard

It is estimated that well over 80% of phosphorus is lost through run-off, or non-point sources. However, the proposed Provincial plan focuses prescriptive actions on point sources only, namely municipal treatment plants that contribute only about 10-15% of phosphorus loadings.

Furthermore, the wastewater industry has made great strides over the last 25 years in realizing phosphorus reductions in sewage effluent. The municipal sector is now subject to standards that are higher than other sectors, and the cost for some municipalities to reduce to the next increment is high.

It is therefore unclear why the Province would propose to mandate actions in the sector that contributes the least, and where further action is the most costly, and allow the sector that contributes up to 7 times more phosphorus to take voluntary actions.

Recommendation:
All sources of phosphorus entering the Thames River and Lake Erie must be held to the same standard. This should be achieved in one of two ways:

a) Mandate all sources (municipal, industrial, agricultural, point and non-point) to reduce their phosphorus contributions to Lake Erie and its tributaries in proportion to their contribution, OR
b) Set the same phosphorus standard for all sources (municipal, industrial, agricultural, point and non-point), and give these sources a reasonable period of time to meet this standard by whatever means they see fit, on a voluntary basis. If they do not meet the standard, that source will then be mandated by the province to meet it by 2025.

London favours option (b). Under this outcome-based approach, each sector can determine the most cost-effective actions to achieve the standard, whether it be through phosphorus reductions in STP effluent, through pollution prevention, through improved stormwater management, or through inflow and infiltration controls that contribute to excess flows in the sanitary/stormwater collection system.

To put this approach into effect, the Province needs to provide the 2008 starting point figures by source category, and targeted end points so each sector can show their change in contribution since then, and plan its work to meet targets specific to their sector or facility.

5. Comparative cost-benefit analysis

A comparative cost-benefit analysis is needed to inform provincial decision-making on the most effective course of action with respect to its phosphorous reduction plans. Upgrading municipal sewage treatment plants is an extremely costly approach to phosphorus reduction, particularly given its limited benefit of addressing only 10-15% of phosphorus entering waterways. The same amount of funding could be redirected to the agricultural sector to much greater effect.

The proposal should provide the public with the estimated cost of STP upgrades to meet the new standards, as compared to the amount of funding that would be required to bring about the same amount of reductions in the agricultural sector.

The Province must also take into consideration the many millions of dollars spent by municipalities in building and upgrading sewage plants in the last 20 years which are not at the end of their life. Provincial plans must fit in to municipal capital investments plans and not divert scarce resources to STP upgrades with limited benefit while other more vital infrastructure projects remain unfunded.

Recommendation:
Conduct and make public a cost-benefit analysis of investments in the agricultural sector vs. in municipal treatment plant upgrades. Complete this analysis before a decision is made about provincial action on phosphorus.

6. Assistance for municipalities

If the Province adopts the proposal to require that larger municipal sewage treatment plants meet the 0.5 milligram per litre total phosphorus standard, it should provide both funding assistance to ensure the timely adoption of the necessary upgrades. Greater clarify is also required with respect to the definition of ‘tertiary treatment’.

Recommendations

a) Funding: The provincial proposal references the Clean Water and Wastewater Fund (CWWF) as a source of funding to achieve the Total Phosphrous standard in sewage effluent. The CWWF is intended to address local issues. However, meeting Federal and Provincial commitments made with another country is an added objective that should be recognized financially in addition to the CWWF. London rate payers and priorities should be supported to the same extent as any other city in Canada who are not faced with such additional requirements. The additional funding should be separate, distinct and not managed under the CWWF – this allows for it to be managed on its own schedule tied to the DAP objectives.

Furthermore, funding should be made available for municipal actions to reduce phosphorus other than STP upgrades, including additional investment in stormwater infrastructure.

b) With rapid improvements in wastewater treatment technologies significant reductions in phosphorus can be made without going to what may be considered "tertiary treatment". The provincial proposal should be worded to permit more cost effective innovations in sewage treatment that reduce phosphorous even if not considered 'tertiary treatment'.

c) London has been leading the charge regarding holistic, watershed-based analysis of the Thames River since initiating the Thames River Clear Water Revival in 2008. This initiative now provides the basis for much of the knowledge pertaining to the current water quality of the entire Thames River. Enhanced funding for this initiative will complement the existing work.

7. Science, Monitoring and Public Reporting

Science, Monitoring and Public Reporting are critical to the success of reducing phosphorus loading to the Thames River Watershed and Lake Erie.

Recommendations:

a) The Province needs to make publicly available its understanding of the Thames River's flow regime from Thamesville to the mouth to the Thames River. This would provide vital information about how the lower watershed impacts Thames River Watershed phosphorus loadings to Lake Erie.

b) The Province must also take a leadership role in establishing standardized monitoring methods and testing procedures in order that the largest existing data sets can be fully utilized and in order to complete "apples to apples" comparisons of measured phosphorus loading and concentrations going forward. All water chemistry and benthos testing needs to be standardized provincially, federally and bi-nationally.

c) Provincial and Federal governments should commitment to existing and new monitoring stations and sampling points on the Thames River, and testing procedures that will not be subject to change.

d) The Province must make public its assessment of needed monitoring in the Thames River basin and its plans to complete the necessary network of monitoring stations and sampling points in the Thames River basin. The Province, in collaboration with the federal government, municipalities and conservation authorities, also need to implement a mass balance study on the Thames River.

e) Consideration should be made for enhanced monitoring to be able to undertake the next wave of nutrient, chemical and pharmaceuticals monitoring.

f) For projects that receive provincial funding, pre and post monitoring results must be made public to ensure that provincial dollars are being spent on projects that are making a demonstrable contribution to the 40% target.

g) The Province needs to make Thames River monitoring information publicly available on a continuous basis, rather than simply providing an annual update and a progress report every three years.

h) London possesses three branches of the Thames River -- North, South and Main -- making it a geographic location prime for monitoring progress on water quality improvements including phosphorus reductions. A proposed project design has been submitted under Phase 1 of CWWF.

8. Environmental Assessment

The requirement to complete MCEA's can add years of time and substantial costs to complete proposed DAP projects. The problem has been defined (too much phosphorus), the solution agreed upon (40% reduction in phosphorus loading), and public and First Nations consultation has taken place.

Recommendation: The development of the DAP should be considered a Master Plan EA covering Phases 1 and 2.

Thank you for the opportunity to comment on the provincial proposal for reducing phosphorus to minimize algal blooms in Lake Erie. Please do not hesitate to contact me if you would like to discuss these comments in greater detail.

Sincerely,

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