



Water Quality of the Great Lakes Basin

Conservation Ontario Speaking Notes to the Standing Committee on Environment and Sustainable Development

March 25, 2014 – Bonnie Fox, Manager Policy and Planning

Introduction

Good Afternoon. I am Bonnie Fox, Manager of Policy and Planning for Conservation Ontario, the organization that supports Ontario's 36 Conservation Authorities. Conservation Authorities are community-based, watershed management agencies. They deliver services and programs in their watersheds to protect, manage and conserve water and other natural resources in partnership with governments, landowners and other organizations.

Of the 36 Conservation Authorities, 35 drain into the Great Lakes and St. Lawrence River Basins (one drains into Hudson Bay) and 26 of these Conservation Authorities include Great Lakes and/or St. Lawrence River Shoreline as part of their jurisdiction.

The Great Lakes and St. Lawrence River basins are a significant freshwater resource on a national and global scale. We rely on this important resource for drinking water, as well as economic, agricultural, health and recreational uses. Conservation Authorities' watershed areas of jurisdiction are home to more than 90% of Ontario's population which presents unique challenges as well as opportunities to balance human, environmental and economic needs.

Conservation Ontario coordinates watershed level input to Great Lake and St. Lawrence River Basin issues through establishment of review teams of Conservation Authority technical experts and/or endorsing representatives to participate in bi-national and domestic Great Lakes committees and initiatives (e.g. Great Lakes Water Quality Agreement Annexes, Lake Biodiversity Conservation Strategies). As well, Conservation Authorities provide an effective coordination and local delivery mechanism for federal, provincial and municipal initiatives and priorities (e.g. Areas of Concern - Remedial Action Plans, Provincial Groundwater Monitoring Network and Source Water Protection program, Rural Water Quality Programs).

With regard to **priority locations** in the Great Lakes Basin, there are 4 key areas where progress can be made to improve Great Lakes water quality:

- i) The Great Lakes **Areas of Concern**.

- ii) **Lake Erie** which is suffering from excessive nutrient loads to an ecosystem too impaired to deal with them. This likely requires a Canadian focus on the Grand River as a major contributing watershed and the Western Basin and the Thames River.
- iii) The **nearshore of all of the Great Lakes** in general **and** one of the major threats to their health, **the contributing watersheds**. A starting point could be those areas of existing collaboration between all levels of Government (Municipal, Provincial and Federal) to deal with nearshore issues. The examples that stand out on Lake Huron are the Southern Georgian Bay Shoreline Initiative and the Lake Huron Southeast Shores Initiative, and on Lake Ontario, the Greater Golden Horseshoe area.
- iv) The final priority location are **natural areas that provide significant support to our Great Lakes and St. Lawrence River ecosystem** which may include, the headwaters, large natural areas, wetlands and shoreline areas. Preliminary priority locations have been identified in the Lake Biodiversity Conservation Strategies; these natural features and areas improve water quality coming from the contributing watersheds and they are the nurseries of our commercial fisheries and endangered species and resting areas for migratory birds.

With regard to **efforts that are currently underway or planned for remediation**, Conservation Authorities' current efforts include:

- Providing the support and advice of watershed management and science practitioners at bi-national and domestic tables where strategic priorities are set for action and funding;
- Serving as an operational, science-based delivery agent representing watersheds and shorelines with a history of engagement in monitoring, modeling and research partnerships; and,
- Serving as an on the ground, local delivery agent of stewardship/capital assistance programs, education and communications/outreach with a range of important stakeholders.

Conservation Authorities have a lot of experience in developing and implementing a range of local conservation programs tailored to local watershed conditions and needs, including habitat restoration, reforestation, rural water quality programs, and urban stormwater management technologies. Best management practices within watersheds and along the shorelines of the Great Lakes/St. Lawrence River are needed to improve water quality and create green jobs to boost the economy. We consistently hear from Conservation Authorities that they need more incentive funding to promote voluntary actions and that this funding cannot be short-term, but needs to be multi-year and long-term. This allows momentum to build and community action to occur. Effective private land stewardship must be supported in urban and rural settings with education, technical assistance and economic incentives.

There are some "best bet" actions that are occurring but require greater investment to have real impact including:

- rural and urban stormwater management practices to reduce non-point source (NPS) pollution (e.g. agricultural best management practices, green infrastructure/low impact development techniques); and,
- habitat enhancement projects (e.g. dam removal, naturalization of Great Lakes shoreline protection works) for improved biodiversity and resiliency in the nearshore.

As indicated earlier, the nearshore of the Great Lakes is a vital resource. The nearshore ecosystem and dynamics affecting water quality need to be understood. As well, the contributing watersheds (as one of the major threats to the nearshore) must be recognized as part of the geographic scope for nearshore science and assessment activities. There must be measurable targets set for nearshore areas to achieve improvement of Great Lakes water quality. An integrated watershed management approach* would enable the assessment and subsequent adjustment of watershed actions to meet the targets and thereby benefit the nearshore.

** Integrated watershed management is the process of managing human activities and natural resources in an area defined by watershed boundaries. This approach allows us to address multiple issues and objectives; and enables us to plan within a very complex and uncertain environment.*

Watershed-based analyses and modeling linking quantity to quality will be critical in assessing priority watershed actions to benefit the nearshore. The watershed-based water quality/quantity modeling will facilitate equitable allocation of targets between urban and rural contributors based upon their respective point and non-point source contributions and enable consideration of water quality trading. Monitoring and reporting will ensure accountability. In the Greater Golden Horseshoe especially, it will be important to examine population growth projections and land use scenarios that are watershed-based and modelled for climate change predictions that demonstrate the range of variability for which we need to manage and adapt.

In general, better understanding of the implications of climate change to enable adaptation within watersheds and along Great Lakes shorelines is necessary. Watershed and shoreline managers need accessible climate change data and information specific to the Great Lakes Basin Region to address potential increased vulnerabilities to biodiversity in general and potential increased vulnerabilities for water uses, such as drinking water supply and quality.

Turning to your final question around **best practices that will facilitate further remediation of areas of environmental concern within the Great Lakes Basin**, a critical best practice that's currently being enhanced under the new Great Lakes Water Quality Agreement (GLWQA) is collaboration. Collaboration between all levels of government, First Nations and Metis, and watershed management agencies is necessary for improvements to Great Lakes water quality because we are all limited in our resources and we each have particular areas of expertise which should be combined. In particular, greater collaboration on governance, science and action is necessary. For governance, Conservation Ontario has positioned that, given our role in local watershed management, we should have representatives at decision-making tables wherever

priorities are set and work planning is undertaken. We have a seat on the Great Lakes Executive Committee for the Great Lakes Water Quality Agreement and on a number of the Annex committees and task groups. That's a great start and it would be good to see similar engagement under the new Canada-Ontario Agreement. Collaboration is necessary also for the action agenda with regard to increased implementation of stewardship/capital assistance programs as well as education and outreach programs. These actions must be supported with an adequate and collaborative science agenda with regard to research, monitoring and reporting, and ensuring accessible information as described previously.

Another important best practice in remediation is prevention. We need to transfer the tools and lessons learned across the basin that we know benefit Great Lakes water quality. We need to incent implementation of these best management practices so that we are not creating new areas of environmental concern and playing catch up. Through application of lessons learned and financial incentives to enable significant action, we can protect our pristine/sensitive areas while we continue to remediate in environmental areas of concern.

Conclusion

We rely on Great Lakes water quality for all kinds of things in our daily lives and we should ensure that we will have enough clean water for all our needs, whether they are ecological, economic or for our own health. The attention of this Standing Committee is welcome.

Ontario's Conservation Authorities are committed to improving Great Lakes water quality and look forward to supporting the commitments in the Great Lakes Water Quality Agreement and most significantly in participating in its implementation actions.

I would like to thank you for the opportunity to submit these comments and look forward to any questions.

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