

July 3, 2014

Environment Canada
Email: CEPARegistry@ec.gc.ca
Email: Canada.Ontario.Agreement@ec.gc.ca

Carolyn O'Neill
Manager
Ministry of the Environment
Integrated Environmental Policy Division
Land and Water Policy Branch
Great Lakes Office
135 St. Clair Avenue West , Floor 6
Toronto Ontario M4V 1P5
Email: carolyn.o'neill@ontario.ca

CELA Response to the 8th Canada-Ontario Agreement on Great Lakes Water Quality and Ecosystem Health (COA) posted as EBR Registry Number: 011-9290 and on the CEPA Registry

The following submission is intended to supplement comments provided in the environmental non-governmental organizations (ENGOS) in response to the 8th Canada-Ontario Agreement on Great Lakes Water Quality and Ecosystem Health (COA) as posted for public comments as EBR Registry Number: 011-9290 and on the CEPA Registry.^{1,2} The comments below provide additional commentary and recommendations in response to Annex 2 –Harmful Pollutants of COA.

Highlights of Recommendations for Annex 2 – Harmful Pollutants

The new COA should re-commit to the goal of virtual elimination and zero discharge for harmful pollutants, particularly for persistent, bioaccumulative toxic chemicals. Pollution prevention strategies that require alternative assessment to identify safer chemicals and processes should be prioritized to achieve virtual elimination.

¹ See: Ministry of the Environment. Environmental Registry: Public Notice. Accessed July 2, 2014: <http://www.ebr.gov.on.ca/ERS-WEB-External/displaynoticecontent.do?noticeId=MTE5NzYx&statusId=MTc5MTcz>

² See: Government of Canada. CEPA Registry: Public Consultations. Accessed July 2, 2014: <http://ec.gc.ca/lcpe-cepa/eng/participation/default.cfm?n=FBC634F3-1>

The new COA should apply a life cycle, from cradle to cradle approach to the identification and management of harmful pollutants in the Great Lakes Basin that require clear strategies with timelines to promote safer chemicals in manufacturing processes and product design.

The new COA should re-establish the List of Harmful Pollutants (Tier I and II) and establish a process to expand the list of harmful pollutants on an annual basis.

Further commitment should be made to enhance environmental monitoring and biomonitoring programs to build the knowledge on the presence of harmful pollutants and their impact to human and ecosystem health.

General Comments

Since the last negotiated COA was released in 2007, there has been a rise in the number of studies demonstrating the presence of emerging chemicals in the Great Lake Basin. For some hazardous chemicals already detected in the Basin (including brominated flame retardants, and perfluorinated compounds, BPA, mercury) monitoring data continue to grow as well as assessments completed demonstrating their toxicity, but for others (e.g. nanomaterials and nanoproducts, musks) there are significant data gaps and a lag in completing assessments to determine their toxicity. Priority attention should be given to hazardous chemicals now being detected in the Great Lakes Basin. Although previous COAs have contributed to the reduction of key toxic chemicals over the past 40 years, the ongoing presence of toxic chemicals in the Great Lakes Basin demonstrates that we are not doing enough to address this growing threat. Over 70 per cent of Ontario residents, or three out of four residents³, get their drinking water from the Lakes, and yet, toxic chemicals and other pollutants are building up in the water and the surrounding Great Lakes ecosystem. Some of these harmful chemicals are toxic and could have long-term, chronic human health effects⁴.

The commentary and recommendations provided in this submission seek an urgent response to require that Annex 2 ultimately focus on virtual elimination and zero discharge to address harmful pollutants by applying pollution prevention approaches. Currently, the new COA does not include a list of harmful pollutants to be subject to elimination or reduction efforts.

COA's approach to addressing harmful pollutants should be based on a life cycle approach from cradle to cradle. This approach would consider the fate and health effects of a substance on the environment and human populations over the course of its existence, particularly at the end of its life. This includes evaluating the substance's manufacturing process, its use, disposal and potential recycling phases.

³ Ontario Ministry of Natural Resources. 2012. [Great Lakes - Connected to Our Economy and Our Way of Life](#).

⁴ U.S. Environmental Protection Agency. 2012. [The Effects of Great Lakes Contaminants on Human Health](#).

In particular, we place emphasis on Annex 2 Goal 2 which should be revised to reflect a commitment to achieving the virtual elimination and zero discharge for a list of harmful pollutants through pollution prevention approaches. Advancing this goal would require that Result 2.3 be revised to seek the prevention or avoidance of toxic chemicals through the application of safer alternatives to toxic chemicals as part of applying pollution prevention strategies. Furthermore, the Federal and Provincial Governments should outline specific timelines to achieve virtual elimination of harmful pollutants as they have with previous COAs.

Finally, we also urge COA parties to support enhanced monitoring and biomonitoring of the effects of toxic chemicals on the Great Lakes ecosystem, particularly in fish, wildlife and human populations. We need to improve understanding of the causal links between health and toxic chemicals as long as it is not a barrier taking preventative action.

Additional Comments to Proposed COA:

In addition to the recommendations proposed in the previous section of this submission, CELA would like to highlight several areas in the proposed Annex 2 – Harmful Pollutants that demonstrate a significant shift away from the approach undertaken under previous COA.

Definitions:

Definition of key principles required to achieve reduction and elimination of harmful pollutants under COA including “harmful pollutants,” “polluter pays,” “pollution prevention,” “precautionary principle,” virtual elimination” and “zero discharge” do not hold the prominence they once had in the COA framework.

For example:

The definition for “**harmful pollutants**” lacks a clear scope of what is meant by “adverse effects” and does not provide recognition of key emerging substances such as nanomaterials. The definition should be sufficiently broad to outline what list of chemicals are considered harmful pollutants from their previous COA, as well as, the type of adverse effects that would constitute a focus for reduction or elimination in the Great Lakes Basin. Previous COAs included Tier I and II substances as well as Criteria Air Pollutants.

The list of harmful pollutants covered under COA should be expanded and consider focusing on pollutants that exhibit the following endpoints: carcinogenic, developmental/reproductive carcinogens, mutagenic, genotoxicity, neurodevelopmental toxicants, endocrine disrupting substances, persistent and bioaccumulation as well as very persistence and very bioaccumulative.

The recognition of these end points or health effects are expected to impact on what pollutants are prioritized for action, monitoring/surveillance as well as assessment programs.

Furthermore, the definition should be explicit to reference nanomaterial and their products, which are not subject to monitoring/surveillance programs in the Great Lakes but nevertheless their use into the markets are on the rise.

The definition for “**polluter pays**” is weakened with the inclusion of the terms “**in principle.**” To effectively implement the polluter pays principle, other key principles such as pollution prevention, precautionary principle, virtual elimination and zero discharge would need to be prioritised and implemented to the full extent to give these concepts importance in COA.

The definition of “**pollution prevention**” should reflect the range of new approaches that are promotes prevention. This should include advancing the use of safer chemicals through informed substitution, which involves conducting alternative assessments to identify safer chemicals as well as applying green chemistry principles. The definition of **pollution prevention** should be strengthened by adding the words and “eliminate” to the following “...creation of pollutants and waste and reduce *or eliminate* the overall risk....”

In the proposed COA, the definitions for “**virtual elimination**” and “**zero discharge**” are wholly inadequate, particularly with the addition of the terms “if appropriate.” These two principles are the key to achieving the elimination and reduction of harmful pollutants that are adding to the chemical burden in the Great Lakes Basin. By far, the definitions for these terms lacks the scope and emphasis needed to meet the challenge of harmful pollutants in the Great Lakes as addressed in Annex 2 – Harmful Pollutants (emphasis).

Recommendation: Key definitions and principles governing the action required on harmful pollutants and chemicals of emerging concern in the Great Lakes require substantial review and revision to strengthen the scope and application of these principles as they apply to Annex 2 on Harmful Pollutants. These include but are not limited to revisions “harmful pollutants”, “pollution prevention”, “polluter pays”, “virtual elimination” and “zero discharge” as noted above.

Recommendation: Add a definition for adverse effects, which should include consideration of the following endpoints: carcinogenic, developmental/reproductive carcinogens, mutagenic, genotoxicity, neurodevelopmental toxicants, endocrine disrupting substances, persistence and bioaccumulation (as well as very persistence and very bioaccumulative).

Need for a Chemicals List

Goal 1 of Annex 2 outlines a commitment to implement management actions related to previously identified as harmful pollutants under the List of Harmful Pollutants (Tier I and II). However, the proposed COA has eliminated the List of Harmful Pollutants that has guided the work under COA in the past and included commitments to achieve virtual elimination of persistent bioaccumulative substances. The elimination of these lists and the lack of specific timelines to complete management actions on such pollutants, demonstrates significant gaps in the proposed COA. These lists had indicated government priorities for addressing persistent

bioaccumulative toxic substances. While achievements to reduce some of the pollutants on these lists were achieved in the past decades, the work for further reductions was incomplete. The absence of these lists is an indication that the work on harmful pollutants is less structured and lacks a specific focus to achieve virtual elimination even on the highest priority chemicals threatening the Great Lakes. For some of these toxic chemicals (e.g. flame retardants, BPA), evidence is growing to establish links to diseases such as Parkinson's, Alzheimer's, autism and obesity. Indeed the list of pollutants to be addressed in the Great Lakes Basin should be expanded.

Generally, Goal 1 of the draft COA makes reference to the Tier I and II chemicals, but the commitment on these chemicals is weak. It does not include explicit requirements to achieve elimination of these chemicals or deadlines to complete this work. Result 1.2 (f) should be explicit in outlining requirements to achieve virtual elimination, identifying the chemicals that should be subject to reduction or elimination and outlining specific timelines to complete this work.

Goal 2 provides an opportunity to expand the list of harmful pollutants particularly through Result 2.2. This provision should be used to build upon a list of chemicals that threaten the Great Lakes. It is not appropriate to place the onus on public stakeholders to submit to a nomination process to identify the full list of chemicals of concern that are threatening the Great Lakes Basin. The proposed nomination process does not outline the role of the public in the nomination process. Furthermore, the nomination approach may be weakened by the proposed timeframe of two years to designate chemicals of concern. It is unclear from Results 2.2 and 2.3 the criteria that will be applied to make decisions to advance management actions on chemicals, particularly the designated chemicals of concern subject to virtual elimination. The language describing Result 2.3 should be strengthened to provide specific timeframes and goals for virtual elimination of toxic chemicals.

Recommendation: Reinstate the list of Harmful Pollutant as Tier I and II. As a start, those chemicals that are persistent, bioaccumulative under Tier I should be targeted for virtual elimination through zero discharge.

Recommendation: Add a requirement to expand the list of harmful pollutants to include substances that meet specific criteria outlined above.

Recommendation: Use of the nomination process proposed above should only serve as a supplementary process to a government process that identify lists of pollutants to be added for action. The governments should propose a list of pollutants for action annually.

Recommendation: Strengthen Results 2.2 and 2.3 to ensure that the nomination process for chemicals of concern includes a role for health and environmental public interest organizations, and specific timeframes for development of management actions for virtual elimination of toxic chemicals in the Great Lakes basin.

Goal of virtual elimination and zero discharge should be maintained in COA

The proposed COA has significantly shifted a focus away from the goal of virtual elimination and zero discharge to address harmful pollutants. This shift will have significant implications for managing harmful pollutants in the Great Lakes. The goal of virtual elimination should require proponents to apply pollution prevention strategies that involve applying safer chemical alternatives or innovative approaches to avoid or prevent use of harmful pollutants. Goal 2 lacks emphasis on virtual elimination and zero discharge, which will, undoubtedly, prolong the use of certain toxic chemicals that impact the Great Lakes Basin.

The proposal under Result 2.4 to consider environmental quality criteria is inadequate. A focus on developing environmental quality criteria will entrench the use of controlling the risks associated with harmful pollutants rather than applying a focus on prevention or virtual elimination and zero discharge. While there is some relevance for considering the establishment of environmental quality criteria, it should only be undertaken as interim measures with a focus to achieve reductions or elimination of these pollutants. There is concern that the establishment of environmental quality criteria will prolong the use of certain harmful pollutants at the expense of finding safer or preventive alternatives.

Recommendations: The governments should strengthen the provisions throughout Annex 2 to achieve virtual elimination through zero discharge.

Recommendation: The establishment of environmental quality criteria are themselves inadequate to fully protect and restore the Great Lakes Basin from threats from toxic chemicals. These criteria should be developed with specific consideration on how they can advance pollution prevention strategies and goals of virtual elimination and zero discharge.

Addressing harmful pollutants through a life cycle approach from cradle to cradle

The management of chemicals of concern should be based on life cycle approach that considers the fate of a substance on the environment or health at each phase of its life particularly at its end of life at disposal. The cradle to cradle approach is particularly important as it applies to toxic chemicals used in consumer products. Some toxic chemicals are known to migrate from products to the environment eventually being released into the Great Lakes with unintended or unknown impacts (e.g. plastic microbeads, flame retardants, bisphenol A, perfluorinated compounds) or may contribute to the formation of other toxic chemicals (e.g. triclosan that may eventually lead to the formation of dioxins).

We are pleased to see consideration given to “life cycle management, the use of safer chemical substances, ...” outlined in Result 2.3. However, the details outlining the decision-making process are absent from the proposed COA. Key concepts such as “best management practices and technologies” have not been defined in the principles section of proposed COA, which, if not appropriately defined, may create barriers to achieving reductions and eliminations for toxic substances. The goals of the Result 2.3 could be strengthened to include a specific focus on

pollution prevention with an emphasis should be on prevention or avoidance rather than control management.

Recommendation: Result 2.3 should be revised to require focus on pollution prevention strategies to achieve the elimination of toxic chemicals in the Great Lakes basin. This would encompass consideration of prevention or avoidance of toxic chemicals, as well as application of safer alternatives to toxic chemicals.

Recommendation: Define key concepts such as best management practices and technologies to ensure that these practices support prevention and elimination of toxic substances in the Great Lakes Basin.

Recommendation: Apply the full life cycle approach from cradle to cradle in identifying and assessing chemicals of concern in the Great Lakes, to ensure that consideration is given to the transformation products of chemicals and their impact to health and the Great Lakes environment.

Recommendation: Require a 5- year timeline for elimination of pollutants targeted under Result 2.3.

Establish monitoring and biomonitoring program for Great Lakes basin population should be vastly improved

Goal 3 outlines through Result 3.2 a research, surveillance and monitoring regime for the Great Lakes Basin. While not explicit, the monitoring regime should include a biomonitoring program for the Great Lakes population. The Canadian Health Survey includes a substantial biomonitoring program that investigates blood and urine levels of targeted toxic chemicals. A specific biomonitoring regime for the Great Lakes is long overdue. This information will provide a good supplement to other monitoring data conducted on chemicals of concern in the Great Lakes and may contribute to a better understanding of that causal link between health effects and exposure to certain toxic chemicals.

Furthermore, additional resources should be directed for the federal and provincial governments to prepare a Great Lakes Basin Pollution Report that outlines the use, release and transfer of pollution from this region. The governments should begin with existing programs such as the National Pollutant Release Inventory (Canada), and the Toxic Reduction Act (Ontario), but build on these programs to provide an inventory of pollution use, releases and transfer for the Great Lakes Basin.

Recommendation: Strengthen Goal 3 to include a provision for a biomonitoring program for the Great Lakes Basin similar to the Health Survey conducted by Health Canada

Recommendation: Require the publication of a Great Lakes Basin pollution report on an annual basis that outlines the use, release and transfer of pollution in this region.

Recommendation: Increase financial commitment to monitoring and surveillance of chemicals of concern in the Great Lakes, including an emphasis in the Areas of Concern.

Recommendation: Biomonitoring, environmental monitoring and surveillance programs, if greatly enhanced with resources will contribute to the knowledge regarding causal links between exposure and risk to certain chemicals. The new COA should expedite efforts to recognize chemicals detected through biomonitoring, environmental monitoring and surveillance programs for action under COA following the principles of prevention and precaution.

Public Engagement in Annex 2

Throughout Annex 2 the role of the public is vague, but particularly unclear in the establishment of a Canada-Ontario Chemicals Management Committee. Substantial attention should be given to provide or define explicit role of public interest stakeholders throughout this Annex. In some elements of Annex 2, the role of the public is implied through the term of “Great Lakes community.” Effective implementation of COA will require the support and inclusion of public interest stakeholders in all aspects of the Agreement.

Recommendation: Strengthen and provide explicit language throughout Annex 2 regarding the role and contribution of public interest stakeholder in all aspects of implementation of this Annex.

Contact information:

Fe de Leon
Researcher
Canadian Environmental Law Association
130 Spadina Ave., Ste. 301
Toronto, ON M5V 2L4
Tel: 416-960-2284 ext. 223
Fax: 416-960-9392
Email: deleonf@cela.ca
CELA website: www.cela.ca

CELA publication: 1002
ISBN #: 978-1-77189-285-8