



**Ontario Public Health Association**  
 l'Association pour la santé publique de l'Ontario  
 Established/Établi 1949

The mission of OPHA is to provide leadership on issues affecting the public's health and to strengthen the impact of people who are active in public and community health throughout Ontario.

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700 Lawrence Ave. W., Suite 310  
 Toronto, Ontario M6A 3B4

Tel: (416) 367-3313  
 1-800-267-6817 (Ont)  
 Fax: (416) 367-2844  
 E-mail: info@opha.on.ca  
[www.opha.on.ca](http://www.opha.on.ca)

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 Elizabeth Haugh  
 E-mail: lhaugh@wehealthunit.org

**Executive Director**  
 Connie Uetrecht  
 E-mail: cuetrecht@opha.on.ca

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Nancy Stadler-Salt  
 Senior Coordinator, Great Lakes Management & Reporting Section  
 Environment Canada  
 867 Lakeshore Road  
 Burlington, ON L7R 4A6

Dear Ms. Stadler-Salt,

**Re: Response by the Environmental Health Workgroup of the Ontario Public Health Association to the Review Questionnaire on the Great Lakes Indicators Suite for the Human Health Sub-Set of Indicators.**

I am writing on behalf of the Environmental Health Workgroup (EHWG) of the Ontario Public Health Association (OPHA) to express support for the continued improvement of the Great Lakes Indicators.

The **Ontario Public Health Association** (OPHA) is a not-for-profit organization with a unique interdisciplinary and multifaceted structure that provides a unified and independent approach to safeguarding and improving the health of all Ontarians. For over 60 years, OPHA has provided leadership on important issues and has served as a catalyst for strengthening public and community health by supporting key functions such as health protection and promotion, disease and injury prevention, monitoring health status and decreasing disparities. Through strategic collaborations and partnerships, OPHA is increasingly positioning itself as the voice of public health in Ontario.

The purpose of the overall suite of Great Lakes Indicators is to enable an assessment of the overall status of the Great Lakes ecosystem and human health, as part of the State of the Great Lakes Reporting process. The OPHA EHWG recognizes that through this process, detailed scientific information about the integrity and health of the Great Lakes ecosystem, across various spatial scales is being collected and analyzed by environment and health protection authorities in Canada and U.S. This information is subsequently translated and shared under the binational Great Lakes Water Quality Agreement.

OPHA believes that strong binational environmental policies and regulations, and a strong commitment to the binational Great Lakes Water Quality Agreement are required to abate existing and emerging environmental threats to the Great Lakes basin ecosystem and its communities. The OPHA believes in people's right to know about the environmental and health exposures and risks for people living and working in the Great Lakes basin. This knowledge will enable them to make informed decisions for themselves and their communities.

Overall, the OPHA EHWG is supportive of the State of the Great Lakes Reporting process, the continuing development of the Great Lakes Indicators, and of the State of the Lakes Ecosystem Conferences (SOLEC), hosted by the U.S. Environmental Protection Agency and Environment Canada as a forum to exchange information on the science of the Great Lakes. The responses below are general in nature, as detailed research indicators, endpoints and data sources would be beyond the current scope of the EHWG.

Responses to the Three Review Areas in the Review Questionnaire

Area #1: We believe that the suite of six human health indicators should be maintained. Information is lacking on biomonitoring markers of human exposure. OPHA is aware of government led surveys and research studies that will hopefully fill critical knowledge gaps in understanding risks to human populations in the Great Lakes basin. Some initial thoughts of possible candidates for consideration of human health indicators for the Great Lake Indicator sub-set might be ones that tell us about trends in land use (residential urban/suburban/rural, commercial/industrial, agricultural) and sources of pollution including point and non-point sources (e.g. vehicle-kilometres travelled, housing density); trend in DW and WWT demands on the Great Lakes basin; changes in fisheries and fish consumption habits (e.g., fish catch surveys).

Area #2:

It is unlikely that data would be readily available for reporting at SOLEC 2011 as additional work would be required to gather, consolidate and analyse indicators and endpoints.

Indicator	Appropriate Scale				Why	Data Availability
	BW	LW	LW/OW	LW/NS		
Drinking Water Quality	√	√		√	Perspective on DR across the basin, and communities sourcing dw from the Great Lakes basin, by Lake.	Yes. Data are available at municipal, regional and provincial level. Data not readily available at the BW and LW scale.
Biological Markers of Human Exposure	√	√			Would provide a general indicator of levels of PBTs in the population, from all sources.	No systematic studies in Ontario and Canada. National surveys, studies and research are underway; data would not likely be reported at the BW and LW level. Canadian Health Measures Study (CHNS), Maternal-Infant Research on Environmental Chemicals (MIREC), First Nations Biomonitoring Initiative <a href="http://www.chemicalsubstanceschimiques.gc.ca/plan/surveil/bio-initiatives-enquetes-eng.php">http://www.chemicalsubstanceschimiques.gc.ca/plan/surveil/bio-initiatives-enquetes-eng.php</a> .
Geographical Patterns and Trends	√	√		√		Ontario surveillance data is collected on congenital anomalies, database of maternal-child and perinatal health. Cancer Care Ontario maintains surveillance data on cancer incidence in Ontario. Data may not be available at the BW and LW level.

Beach Advisories and Postings	√	√		√		Data are available at the provincial, regional and municipal level corresponding to the beach/park authority. Data may not be available at the BW and LW level.
Contaminants in Fish	√	√	√	√		Yes, Data are available at the individual lake level, near shore and open water, and published in the Guide to Eating Ontario Sport Fish (most recent edition 2009-2010 <a href="http://www.ene.gov.on.ca/en/water/fishguide/index.php">http://www.ene.gov.on.ca/en/water/fishguide/index.php</a> ). The Ontario Provincial Sport Fish Contaminant Monitoring Program carried out by the Ministry of Natural Resources and the Ministry of the Environment began in 1976.
Air Quality	√	√	√	√		Yes. Monitoring data are collected and reported by province; data are summarized for the Great lakes Basin. Six key air pollutants are monitored by the ministry as part of the AQI - sulphur dioxide, ozone, nitrogen dioxide, total reduced sulphur compounds, carbon monoxide and fine particulate matter. Pollutant data for five contaminants (SO <sub>2</sub> , CO, NO <sub>2</sub> , O <sub>3</sub> , and PM <sub>2.5</sub> ) reported for urban centres and at the regional level see <a href="http://www.airqualityontario.com/history/summary.cfm">http://www.airqualityontario.com/history/summary.cfm</a> . Lake Wide Open Water data may not be readily available; air modelling integrating monitoring results is one approach that might provide this type of information.

Area #3: In response to your request for feedback on the utility of the end-points and reference values and suggestions for new values, we feel that to answer this properly would require an in depth review of the available information and further opportunity for consultation. The most appropriate indicators are those that can be applied in a reliable manner and are representative of the intended purpose. Often it is unclear what the desired endpoint is for each of the indicators. The reviewer recognizes that indicators are much broader signals than specific measurements of contaminant levels in tissue, fish air and water. Criteria on a per contaminant basis such as those that have been developed by the Canadian Council of Ministers of the Environment (CCME), through the Canada Wide Standards agreement, and by the Ontario Ministry of the Environment, Health Canada, World Health Organization (WHO), U.S. Environmental Protection Agency (USEPA) are not the same as environmental and human health indicators. How these measurements and criteria are integrated into the indicators needs more clarification.

While there are some reference values for biological markers of harmful health effects of human exposure (see Health Canada and CDC), and the U.S. NHANES has begun to report on human exposure levels of toxic chemicals in the U.S. population, there is virtually no Canadian and Ontario reference values for current levels of exposure to environmental pollutants in the general population.

The OPHA EHWG appreciates this opportunity to provide comments to the process for the improvement of the Great Lakes Indicators - Human Health sub-set, and thanks the coordinator for the time extension for responding to the review questionnaire. Please contact Marina Whelan, Chair of the Environmental Health Working Group at 705-721-7520 ext. 7345; email:Marina.Whelan@smdhu.org. if you should have any questions.

Sincerely,



Liz Haugh  
President