January 17, 2025

Ministry of the Environment, Conservation and Parks
Great Lakes Office
40 St. Clair Avenue West, Floor 10
Toronto, ON
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RE: Conservation Ontario's Comments on the "2016-2020 Cumulative Impact Assessment under the Great Lakes-St. Lawrence River Basin Sustainable Water Resources Agreement" (ERO#019-9455)

Thank you for the opportunity to comment on the "2016-2020 Cumulative Impact Assessment under the Great Lakes-St. Lawrence River Basin Sustainable Water Resources Agreement". Conservation Ontario is the network of Ontario's 36 Conservation Authorities (CAs). These comments do not limit the consideration of comments shared individually by CAs.

Thirty-five Conservation Authorities' watersheds drain into the Great Lakes and the St. Lawrence River (GLSLR) and are part of the GLSLR Basin. As watershed management agencies, CAs undertake numerous programs and services to manage and protect water resources in the GLSLR basin ("the Basin"), in partnership with watershed residents, municipalities, and the provincial and federal governments. These include, but are not limited to, agricultural best management practices to improve water quality, drinking water source protection to promote water budgets and drinking water risk management, watershed monitoring to track local conditions and identify water quality concerns, and watershed and coastal resiliency planning and actions. The 2016-2020 Cumulative Impact Assessment Report ("the Report") is of interest to the CA network to inform current understanding of water budgets and impacts to water resources within the GLSLR Basin.

The Report highlights "significant uncertainty" with estimates for components of the GLSLR Basin water budget, including runoff, evaporation and precipitation estimates. Many factors influence this level of uncertainty, such as inconsistent coverage of monitoring networks (streamflow and precipitation gauges) and varied application of the Consumptive Use coefficients. To address uncertainties, the University of Michigan developed the Large Lake Statistical Water Balance Model (L2SWBM). Conservation Ontario supports the use of data from the L2SWBM to inform future assessments, as noted in the "Future Work" section of

the Report. Use of this model is expected to improve Basin water budget data and reduce uncertainty, particularly when assessing the impacts of climate change on water balance components.

In addition to use of the L2SWBM, Conservation Ontario offers the following recommendations to reduce uncertainties and support comprehensive future assessments:

- **Consideration of Groundwater Inputs:** The Report notes that groundwater seepage into the Basin's lakes and rivers has not been included as part of the assessment for several reasons, including limited data and modelling. Conservation Ontario recommends inclusion of all available data for a fulsome understanding of inputs and diversions when calculating water balances in the GLSLR Basin. As noted in the Report, the current approach regarding groundwater data may be reconsidered "as data and information improve."
- **Climate Change Assessments:** The Report states that, while the future long-term average water levels on the Great Lakes are unlikely to be significantly higher or lower than the historical long-term average, it is possible that water level variability over shorter periods could be exacerbated. It is recommended that future work be undertaken to better understand shorter-term variations, as they may have greater impacts on water availability and use, as well as ecosystem functions.
- **Additional Intrabasin Data Considerations:** The Report notes that "some Great Lakes have intrabasin diversions" and that "only the intrabasin Diversion at the Welland Canal from Lake Erie to Lake Ontario is considered in this report." As noted in "An Overview of Great Lakes Diversions[1]", intrabasin diversions into the Lake Superior watershed include the Long Lac and Ogoki diversions. Additionally, intrabasin diversions out of the Lake Michigan watershed include the "Chicago diversion". Both of these intrabasin diversions should be considered in future reports to ensure a comprehensive assessment of all relevant diversions impacting water balances in the GLSLR Basin.
- **Consideration of "small hydrologic effects":** The Report notes "a small hydrologic effect, however, does not necessarily mean that there are no cumulative impacts…[and]…may still lead to significant impacts on ecosystems or other water uses depending on the scale or type of impacts being evaluated." CAs witness this on the ground both with regard to coastal wetland areas they own and manage, and coastal natural hazards. In future assessments, additional analysis is encouraged on these "small hydrologic effects" and their impact on both the resilience of the coastal ecosystem and risk to properties and infrastructure.

Thank you for the opportunity to review and provide comments on the "2016-2020 Cumulative Impact Assessment under the Great Lakes-St. Lawrence River Basin Sustainable Water Resources Agreement". As noted above, the information provided through the Report informs CA understanding of water budgets within the GLSLR Basin. To ensure this information is comprehensively shared with the CA network, Conservation Ontario would be pleased to assist the Ministry with coordinating a webinar to present the findings of the

[1] "An Overview of Great Lakes Diversions". International Joint Commission. Last Updated 2020. https://ijc.org/en/lsbc/watershed/great-lakes-diversions

Report for CA staff.

Should you have any questions regarding the content of this letter, please contact the undersigned.

Sincerely,

Nicholas Fischer
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Policy and Planning Liaison

c.c. Conservation Authority CAOs / GMs