

Great Lakes - St. Lawrence River Basin Sustainable Water Resources Agreement

APPROACHES TO DETERMINING THE BASELINE FOR EXISTING INTRA-BASIN TRANSFERS

AAP Representative: Sarah Miller, Ramani Nadarajah Canadian Environmental Law Association

Context

The Great Lakes - St. Lawrence River Basin Sustainable Water Resources Agreement commits each jurisdiction to providing a list of existing approval limits and/or the capacity of existing systems, as of the date Article 207 comes into force. This *baseline* volume must be established so that new or increased diversions, consumptive uses, or withdrawals can be determined. The capacity of the existing systems includes the withdrawal capacity, treatment capacity, distribution capacity, or other capacity limits. Existing capacity determinations are to be based on approval limits or the most restrictive capacity information.

- Ontario's Permit to Take Water (PTTW) program sets out specific requirements for water takings over 50,000 litres/day, as required under the *Ontario Water Resources Act* and the Water Taking Regulation (Reg. 387/04) including monitoring and reporting of requirements.
- Although, Ontario has specific requirements for water takings, Ontario does not currently track the amount of water that is transferred from one Great Lakes watershed to another (an intra-basin transfer). This amount must be determined in order to develop the *baseline*. Therefore, a practical, cost effective way of calculating the *baseline* is required.

Possible Options and Considerations

The chart below identifies a number of possible approaches that could be considered (individually or in combination) for determining the *baseline* amount for intra-basin transfers. For each approach, a preliminary set of pros and cons, plus considerations, have been identified.

We are interested in your opinions and ideas. Please take this opportunity to let us know what you think about these approaches.

| Approach | Pros | Cons | Comments and Considerations |
|--|--|---|---|
| Use permitted volume as stated on the Permit To Take Water | <ul style="list-style-type: none"> • Uses existing number (no new calculations) | <ul style="list-style-type: none"> • Could result in over or under representation of amount transferred • Only accurate if entire permitted volume is transferred | <p>CELA's Comments</p> <p>Does not factor in seasonal or consumptive use.</p> <p>Does give us the best data available.</p> <p>Could Ontario reporting on all use over 50,000 litres result in the perception that we use more than other jurisdictions that will be reporting at much higher thresholds. It will be important to communicate this. It is important for us to demonstrate to other jurisdictions that we feel it is important to collect data at this threshold especially if water shortages and local supply problems grow as the result of overuse and climate change.</p> |

Great Lakes - St. Lawrence River Basin Sustainable Water Resources Agreement

| Approach | Pros | Cons | Comments and Considerations |
|---|--|--|--|
| <p>Use built capacity of existing and/or planned infrastructure that transfers water between Great Lakes watersheds</p> | <ul style="list-style-type: none"> • Uses existing number (no new calculations) | <ul style="list-style-type: none"> • May not provide the most restrictive capacity information (as required by Article 207) • New calculations may be required if existing infrastructure services areas in more than one Great Lake watershed | <p>How would approved planned infrastructure be considered (i.e., at what approved planning stage)?</p> <p>As early in the process as possible when the need question is being considered. Given that decisions are already in plans for transfers that have not yet happened, we think these decisions should be revisited through the new lens of the Agreement and the out come of the other working groups on Conservation and Science.</p> <p>Our preference is to generate the most accurate and up to date information possible. Some of these questions also go to establishing the best science strategy to inform decision-making in the future so expediency in the short-term should not be the only driver.</p> |
| <p>Use rated pumping capacity of existing infrastructure that transfers water between Great Lakes watersheds</p> | <ul style="list-style-type: none"> • Uses existing number (no new calculations) | <ul style="list-style-type: none"> • Pump capacities typically reflect maximum daily flow, as opposed to average daily flow or annual flow. Therefore, may not provide the most restrictive capacity information (as required by Article 207) • New calculations may be required if existing infrastructure services areas in more than one Great Lake watershed | <p>See below</p> <p>Cautionary approach. We may want to anticipate and consider a level of data and detail that reflects uses and data needs in the whole basin even though they are not currently in practice in Ontario. For example US agricultural withdrawals are huge in comparison to Ontario use. Would we want to insure that our system is ready to respond to and generate data for a growth scenario. Most importantly Ontario's system has been among the best in the basin for tracking actual use along with Minnesota's. Should we be designing a system that would endure and be able to be replicated by others in the basin. Concerned citizens in the basin are discussing the value of a harmonized system. Ontario should plan for the highest common denominator so others could harmonize up to our practices.</p> |

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|--|---|--|--|
| Measure actual amount transferred | <ul style="list-style-type: none"> • Would provide an accurate assessment | <ul style="list-style-type: none"> • Could result in increased costs if new metering is required • Does not account for future servicing of approved new development | <ul style="list-style-type: none"> • How would this be measured? -Water meters -Bidirectional meters on water pipes crossing Great Lakes watershed boundaries -Through municipal servicing agreements -Other methods... <p>All of these need investigation that would include best practices for all sectors withdrawing, cost effective measurements, standards for measurement devices. Assessments of infiltration and leakage should be determined and measures to address the need to integrate infrastructure repairs into planning and conservation. If metering for households is achievable there is no reason universal metering for all sectors should not be possible.</p> |
| Estimated based on size of serviced area, number of lots, users, etc. | <ul style="list-style-type: none"> • Could be a simple way to measure baseline | <ul style="list-style-type: none"> • May not be most accurate method | <ul style="list-style-type: none"> • How would this be measured consistently across municipalities? <p>Agree this would not likely be very accurate.</p> |
| Water Balance Approach (suggested by some municipal representatives): determine the proportion of the municipal network water balance transferred then apply proportion to approved water taking volumes | | | <p>CELA would prefer that there be some new requirements to track and report return flow volume and point of return in the PTTW system. Water budgets are already required in drinking water source protection planning. This data needs to be integrated with PTTW data on a watershed basis for tributaries and groundwater systems flowing into the Great Lakes.</p> |
| Other approaches | | | <p>This document assumes that these transfers may only be occurring in the municipal sector. There is potential that the industrial and agricultural sectors may also request large withdrawals from one watershed and discharge wastewater into another watershed. In the US this was a concern with a proposal for a mining operation withdrawing from the GL and returning water to a river system flowing into the Mississippi River.</p> |

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Examples

The ministries are interested in current examples of water transfers between Great Lakes watersheds where a baseline calculation for intra-basin transfers will be required.

If this is the case with your water use, **please provide a detailed description of your situation, including considerations around the baseline options described above.**

Because a representative of CELA was party, as a CGLG Advisory Committee Member during the full negotiations, we have had the benefit of the full discussions of these issues among the jurisdictions. In general Ontario's system has been superior to others in the basin. Now that we have new requirements we hope Ontario will continue to be leaders in putting new systems in place that will result in filling in our huge knowledge gaps about our current use, return flow, consumptive and cumulative use and aggressive prevention of over use and allocation through a conservation plan and other measures. Our comments are made with the view that the region needs to work within the boundaries set by the varying water availability and sustainability that already exist in the basin. Borrowing from one watershed to promote growth in another is not in our view sustainable or ecologically healthy.

We hope that there will be few exceptions and other measures and alternatives will be given more weight in the systems we design for implementation.

Staff Contact:

Joanne Di Maio
MOE, LWPB
(416) 314-3929
Joanne.DiMaio@Ontario.ca