

STATE/PROVINCIAL REPORTING PROTOCOLS TO REGIONAL WATER USE DATABASE

Introduction

In the Great Lakes-St. Lawrence River Basin Sustainable Water Resources Agreement (Agreement) and the Great Lakes-St. Lawrence River Basin Water Resources Compact (Compact), the Great Lakes States and Provinces (the Parties) committed to gather and share Water use information. This information will assist the Parties in beginning to improve scientific understanding of the Waters of the Basin, the impacts of Withdrawals from various locations and Water sources on the Basin Ecosystem, understanding of the role of groundwater, and to clarify what groundwater forms part of the Waters of the Basin. It will also provide the basis for Adaptive Management. These protocols, jointly drafted by the Parties represent the initial attempt to establish the common base of data called for in the Compact and the Agreement. The Parties recognize that they are in the initial phases of a long-term project to better describe and manage the resource as well as demands made upon the resource. The Parties have initially agreed to continue the historical practices of reporting aggregate water withdrawal and use information to the Great Lakes Commission as a regional Great Lakes—St. Lawrence River Water use database (regional Water use database). Periodic reviews will be performed to provide guidance on how information is reported to the regional Water use database (potentially including appropriate level of detail of the data to be reported and submitted to the regional Water use database) in a common and consistent manner to ensure the Compact's and Agreement's ends are met.

Purpose

In Article 301 of the Agreement and Section 4.1 of the Compact, each Party has committed to annually gather and share accurate and comparable information on all Withdrawals in excess of 100,000 gallons per day (379,000 liters per day) or greater average in any 30-day period (including Consumptive Uses) and all Diversions, including Exceptions. The information in the regional Water use database will be available to the public consistent with confidentiality requirements in Article 704 of the Agreement and Section 8.3 of the Compact.

Every five years, the Parties will review and consider revisions to these protocols to support the advancement of the regional Water use database.

Definitions

The standard definitions set forth in Article 103 of the Agreement and Section 1.2 of the Compact shall apply to these protocols, including the following terms:

Consumptive Use means that portion of Water Withdrawn or withheld from the Basin that is lost or otherwise not returned to the Basin due to evaporation, incorporation into Products, or other processes (Agreement Article 103; Compact Section 1.2).

Diversion means a transfer of Water from the Basin into another watershed, or from the watershed of one of the Great Lakes into that of another by any means of transfer,

including but not limited to a pipeline, canal, tunnel, aqueduct, channel, modification of the direction of a watercourse, a tanker ship, tanker truck or rail tanker but does not apply to Water that is used in the Basin or Great Lakes watershed to manufacture or produce a Product that is then transferred out of the Basin or watershed (Agreement Article 103; Compact Section 1.2).

Withdrawal means the taking of Water from surface Water or groundwater (Agreement Article 103, Compact Section 1.2).

Accurate and Comparable Information

The Parties will collect Withdrawal and Consumptive Use data for in-Basin uses, and Diversion and Diversion return flow data, for all uses that exceed the thresholds in the Agreement and Compact. The Parties will submit to the regional Water use database each year aggregate data (meaning the total sum of all users) by:

1. Sector (see Water Use Information by Sector below);
2. Source (see Water Use Information by Source below);
3. Watershed (see Water Use Information by Watershed below); and,
4. Total volumes of Withdrawals, Consumptive Uses, Diversions, and Diversion return flows (see Water Use Information by Total volumes below).

The Parties are encouraged to collect and submit to the regional Water use database each year aggregate data on transfers of water *into* the Basin, including return flows, needed to support the assessments of cumulative impacts required by Section 4.15 of the Compact and Article 209 of the agreement. The Parties may also submit to the regional Water use database data below the thresholds in the Agreement and Compact.

While aggregate data will be reported by Source Watershed, the Parties are encouraged to assemble the data at a finer scale (i.e. Tertiary, 1st level, HUC-8 watershed or individual user data). Over time, this information will enhance the scientific understanding of the impacts of Withdrawals from various locations and Water sources.

Water Use Information by Sector. Each Party will submit data, consistent with State and Provincial laws and procedures, to the regional Water use database for each of the sectors defined below.

1. **Public Water Supply.** Water distributed to the public through a physically connected system of treatment, storage and distribution facilities serving a group of largely residential customers that may also serve industrial, commercial, and other institutional operators. Water Withdrawn directly from the Basin and not through such a system shall not be considered to be used for Public Water Supply Purposes.
2. **Self-Supply Commercial and Institutional.** Commercial uses include Water used by motels, hotels, restaurants, office buildings and institutions, both civilian and military, that would not otherwise be considered Public Water Supplies. This category also includes Water for mobile homes, hospitals, schools, air conditioning and other similar uses not covered under a public supply. In addition, this category includes amusement and recreational Water uses such as snowmaking and Water slides.

3. Self-Supply Irrigation. Water artificially applied on lands to assist in the growing of crops and pastures or in the maintenance of recreational lands, such as parks and golf courses.
4. Self-Supply Livestock. Water used by animals such as horses, cattle, sheep, goats, hogs and poultry. Water used in fish hatchery operations is also included under this category.
5. Self-Supply Industrial. Industrial Water includes Water used in the manufacture of metals, chemicals, paper, food and beverage and other Products, as well as mining Water use. Mining Water use includes Water used in the extraction or washing of minerals, for example solids, such as coal and ores, and liquids such as crude petroleum and natural gas. Water used in quarrying and milling is also included in the industrial category. Brine extraction from oil and gas operations is not included. Withdrawals and Consumptive Uses for industrial and mining purposes (including dewatering operations) recorded under another category (e.g., public supply) will not be recorded here. Once initially reported, Water used in a closed cycle (recirculation) will not be reported as a Withdrawal. "Make-up Water" will be reported once upon entering the system. Other situations should be evaluated on a case-by-case basis.
6. Self-Supply Thermoelectric Power Production (Once-through cooling). Cooling water and ancillary water use such as boiler make-up water and contact cooling water at electrical power generating facilities that use once-through cooling systems. Withdrawals and Consumptive Uses already recorded under another category (e.g., public supply) will not be reported here.
7. Self-Supply Thermoelectric Power Production (Recirculated cooling). Cooling water and ancillary water use such as boiler make-up water and contact cooling water at electrical power generating facilities that use water recirculating cooling tower systems. Include water used at Combined Cycle Gas Turbine (CCGT) power plants in this category. Withdrawals and Consumptive Uses already recorded under another category (e.g., public supply) will not be reported here. Once initially reported, Water used in a closed cycle (recirculation) will not be reported as a Withdrawal. "Make-up Water" will be reported once upon entering the system.
8. Off-Stream Hydroelectric Power Production. Water removed from a stream channel and used to drive turbines that generate electric power. This category also includes "off-stream use" for pumped-storage systems [e.g., reservoir storage] that return water to the source.
9. In-Stream Hydroelectric Water Use. This category includes "run of the river" use which is not considered a Water Withdrawal or Consumptive Use. Reporting for this category is voluntary.
10. Other Self Supply. Water used for purposes not reported in categories one through nine. Examples include, but are not limited to, Withdrawals for fish/wildlife, environmental, navigation and Water quality purposes. Specifically, Water used to maintain levels for navigation, for fish and wildlife habitat creation and enhancement (excluding fish hatchery operations included in category four), for flow augmentation (or Diversion), for

sanitation, pollution confinement, and other Water quality purposes and agricultural activities (services) other than those directly related to irrigation.

Water Use Information by Source. Water use data for each of the sectors will indicate total volumes supplied by Great Lakes-St. Lawrence River surface Water (including the connecting channels and Lake St. Clair), other surface Water (tributaries and inland lakes), and groundwater. Aggregate data for each of these sources will be submitted separately.

Water Use Information by Watershed. Water use data for each of the watersheds will indicate total volumes supplied by each Great Lake or St. Lawrence River watershed. Aggregate data for each of these sources will be submitted separately.

While aggregate data will be reported by Source Watershed, the Parties are encouraged to assemble the data at a finer scale (i.e. Tertiary, 1st level, HUC-8 watershed or individual user data). Over time, this information will enhance the scientific understanding of the impacts of Withdrawals from various locations and Water sources.

Water Use Information by Total Volumes. Water use data by volume falls into four categories:

1. In-Basin Withdrawals.
2. Out-of-Basin Diversions.
3. Intra-Basin Transfers.
4. Transfers into the Basin.

In-Basin Withdrawals. For in-Basin Withdrawals, the data must include how much Water is withdrawn, and how much Water is consumptively used and not returned to the Basin.

To determine what has been consumptively used, one of two methods, in descending order of preference, should be used:

1. Measured levels of Consumptive Use (site-specific or facility-specific data, where available).
2. Application of a coefficient appropriate to the individual user, group of users, or sector. If coefficients are applied, the range of coefficients used must be included in the report.

As part of its reporting process, each Party must report the percentage of reported Consumptive Uses that was determined through actual measurement, and the percentage of reported Consumptive Uses that was determined through the application of a coefficient.

It is expected that the accuracy of measuring methods or coefficients will improve over time.

Out-of-Basin diversions. For out-of-Basin diversions, the data must include how much Water is withdrawn, how much is Diverted out of the Basin, and how much water is returned to the Basin after use. If Water is also consumed in the Basin, the data must include the amount of Water consumptively used within Basin. In reporting Out-of-Basin diversions, the amount of water diverted out of the Basin will be reported as a positive number while the amount of return flow will be reported as a negative number,

Intra-Basin transfers. For transfers from one Great Lake watershed to another Great Lake watershed, the data must include the amount of Water withdrawn, the amount transferred to another Great Lake watershed, and the amount of transferred Water returned to the Source Watershed. If Water is also consumed in the Source Watershed, the data must include the amount of Water consumptively used within the Source Watershed. In reporting Intra-Basin transfers, the amount of water transferred will be reported as a positive number for the Great Lake watershed from which the water is transferred, and a negative number for the receiving Great Lakes watershed.

Transfers into the Basin. For transfers into the Basin, the data must include the Source Watershed into which the water is transferred, the amount of water transferred, and the amount of the transferred water returned to its source outside the Basin. In reporting transfers into the Basin, the amount of water transferred into the Basin will be reported as a negative number for the Source Watershed into which the water is transferred, while the amount of return flow to its source outside the Basin will be reported as a positive number.

Submitting Water Use Data to the Regional Water Use Database

The Parties will report data to the regional Water use database on a calendar year basis. Time will be needed for the Parties to complete data entry and quality control protocols before the information can be provided to the regional Water use database. The Parties will submit aggregate data to the regional Water use database by August 15th of each year for the previous calendar year. Annual reports will be prepared and completed by the regional Water use database repository by November 15th covering the previous year's Water use data.

WATER USER REPORTING PROTOCOLS

Agreement/Compact Commitments

In Article 301 of the Agreement and Section 4.1 of the Compact, each Party has committed to requiring Water users to report their monthly Withdrawals, Consumptive Uses and Diversions on an annual basis to the appropriate State/Provincial program. This requirement applies to all Withdrawals in excess of 100,000 gallons per day (379,000 liters) or greater average in any 30-day period and all Diversions. All Water users required to report will make such reports to their relevant State or Province. Water users will not directly report data to the regional Water use database.

Annual Water Use Reporting. Water users required to report will maintain monthly records of the amount of Water Withdrawn, Consumptive Uses, Diversions and

Diversions return flows (the amount of Water returned to the Basin or to the Source Watershed) and report this information annually on forms prescribed by the appropriate Party's program. The Parties may require additional information for administrative purposes or to address other provisions of the Compact/Agreement (e.g., the number of days each month Withdrawals occurred, the minimum and maximum daily Withdrawal quantities, quantities of discharges, Water level/stream flow data, etc.) or other Party laws and regulations. At a minimum, the following elements will be required as part of the annual Water user reports.

Method of Measurement. A number of accurate methods are available to measure Water volumes. Some common measuring methods include flow volume or rate meters, Water levels and rating curves, flow gauging, discharge rates and timing devices. Methods of measurement approved by each Party for their jurisdiction will be reviewed in the Water Management Program Review required in Article 300 of the Agreement and Section 3.4 of the Compact.

Reporting of Withdrawals. Monthly totals for each Withdrawal system used to supply a common distribution system will be required.

Reporting of Consumptive Uses. Flexibility will be extended in how Consumptive Use quantities are obtained, allowing for the use of coefficients applied to Withdrawal quantities, measurements based on a comparison of Withdrawal and discharge quantities if appropriate, or other innovative approaches (all methods subject to approval by the relevant Party).

Reporting of Diversions. Since relatively few withdrawers Divert Water, the Party may want to have separate Diversion annual reports for Diverters (i.e., Diverters would need to complete a Withdrawal annual report and a Diversion annual report).

Reporting of Diversion Return Flow. Diversions allowed as Exceptions under Agreement Article 201 and Compact Section 4.9 require that "All Water Withdrawn from the Basin shall be returned, either naturally or after use, to the Source Watershed less an allowance for Consumptive Use." Therefore, annual Water use reporting for Diversions must account for Water returned to the Basin or to the Source Watershed. Note that some historical Diversions may not provide for return flow to the Source Watershed. In these cases, return flow should be reported as zero. Additionally, some Intra-Basin Transfers may not be required to provide return flow. In these cases, return flow may be reported as zero.

Methods of measurement approved by each Party for their jurisdiction will be reviewed in the Water Management Program Review required in Article 300 of the Agreement and Section 3.4 of the Compact.