

QUESTIONS

DECISION MAKING STANDARD QUESTIONS

1. For the purpose of regulating return flows, how specific should we be in defining the "Source Watershed"? Can the "Source Watershed" simply be anywhere within the Great Lakes Basin; anywhere within the watershed of one of the Great Lakes; anywhere within the Great Lake tributary's watershed from which the withdrawal was made?

Preventing ecosystem harm, especially harm to hydrologic conditions, depends return flow being returned as close to the point of withdrawal as possible. The definition of "Source Watershed" should be very specific. Ideally, flow should be returned to the same water body within the same watershed from which it is withdrawn. Regardless of how "Source Watershed" is ultimately defined, potential impacts to the source and receiving water bodies must be assessed.

At minimum, water withdrawn from a surface or groundwater tributary to a Great Lakes should be returned to the same Source Watershed, defined at the Tertiary scale (Ontario) / 4th Level (U.S.) and as shown in Figure 1.

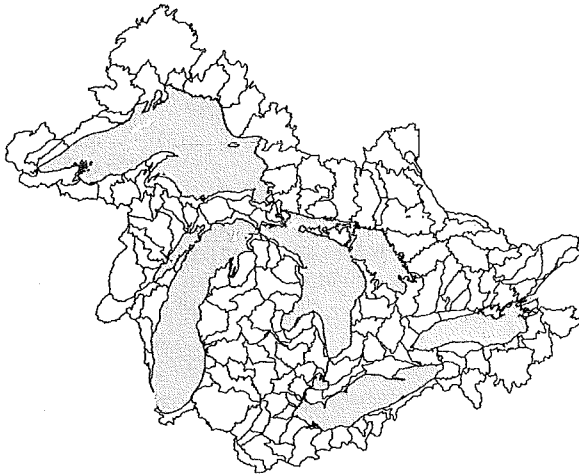


Figure 1. Tertiary watersheds of the Great Lakes (Ontario) and 4th Level watersheds (U.S.) are of comparable size. [I do not have comparable data for Quebec.]

Water withdrawn from a Great Lake should be returned to the Lake itself or to the Tertiary / 4th Level watershed nearest to the point of withdrawal.

In Ontario, watersheds are defined at multiple scales, including Primary, Secondary, Tertiary, and Quaternary. In the U.S. the multi-scale hierarchy includes Levels. I am not familiar with the hierarchy in Quebec. The current definition of Source Watershed in the Decision-Making Standard refers to secondary and tertiary watershed scales – these are only relevant for Ontario. The definition should refer to comparable scale/level watersheds for both the U.S. and Canada. Also, the definition suggests that the

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Secondary watershed scale is equivalent to the watershed of an individual Great Lake. Actually, Secondary watersheds in Ontario are only portions of Great Lakes watersheds. They are comparable to 3rd level watersheds on the U.S. side and shown in Figure 2.

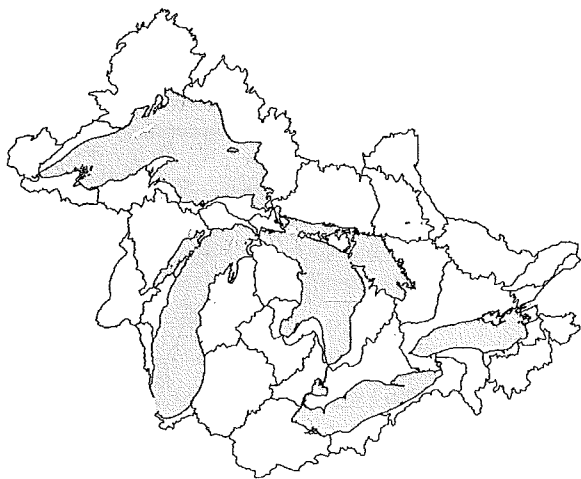


Figure 2. Secondary watersheds of the Great Lakes (Ontario) and 3rd Level watersheds (U.S.) are of comparable size. [Again, I do not have comparable data for Quebec.]

It is important to emphasize that even when flow is returned to the Source Watershed, it could result in harm to the ecosystem.

2. For the purpose of defining New or Increased Diversions or Consumptive uses, what withdrawal volume should be used in the Standard to determine whether or not the Regional Threshold (3mgd) is equaled or exceeded? Should it be total withdrawals that service common distribution system; total withdrawals that service an undivided property (given particular concerns for agricultural irrigation proposals)?

We assume that this question primarily concerns the agricultural sector. We consider agricultural operations a special category of water withdrawers because of unique, indispensable nature of the product they produce, the ecological benefits sometimes realized by keeping land in agricultural production, and the relatively lesser ability of some agricultural producers to absorb additional operational costs. The annex's purpose is to prevent ecological impacts of water withdrawals. Blanket definition of agricultural withdrawals as withdrawals that "service a common distribution system" would completely defeat this purpose of the annex – those irrigation systems that are currently over the gallonage limit will quickly go under it as existing distribution systems are subdivided to make it so. That said, we support creation of a easy-to-implement system that both catches operations with major ecological impacts and inherently recognizes the generic ecological benefits of keeping land in agriculture. We recommend the commissioning of a small group of two to four members divided between the environmental and agricultural community, perhaps coincident with the agricultural scenarios effort mentioned in question 6, that would quickly study this issue and write a short report, not necessarily embodying consensus, that will address thresholds and means for permitting of new and increased agricultural withdrawals.

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3. Should "Grandfathered" withdrawals be allowed to be transferred to new owners when the grandfathered use and/or system are sold to others, without the new owners being required to comply with the current standard.

Grandfathered status should be applied to water withdrawal operations existing at the time of the signing of the agreement whose size of actual withdrawal (perhaps the highest withdrawal in a previous timespan) and purpose of withdrawal does not change, regardless of ownership.

4. Is Section 2F (Improvement Measures) in the Implementation Manual as specific as it can be at this point in time, particularly with respect to the question of "How much improvement is enough"?

We have developed a draft decision-making framework for determining whether a Level A, Level B, or Level C (Large, Medium, and Small) improvement is required. The framework is based on the characteristics of the withdrawal proposal listed under the eighth bullet point in Section 2F Improvement Measures, Criteria for Decisions. Please see Draft Improvement Framework.

5. Referring to Section 2C (Return Flow) of the Implementation Manual, do you feel that our references to and requirements for consumptive use coefficients are appropriate? Can they be improved at this point in time?

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Applicants should not be burdened with determining, nor granted the luxury of shopping around to optimize, the acceptable Consumptive use coefficients referenced in their applications. The States and Provinces should create an approved list of coefficients and immediately create a program to improve them. Applicants should, of course, be allowed to demonstrate that approved coefficients are not reasonable for their particular operation.

6. We are considering the development of examples/scenarios for the following types of withdrawals. These examples/scenarios will be placed in the Appendix to the Standard.
- Industrial facility consumptive use;
 - Agricultural consumptive use;
 - Power plant diversion;
 - Municipal water supply diversion.

Should we have more examples? Are these adequate?

COMPACT STRUCTURE QUESTIONS

1. Should voting rights only be extended to states that are in compliance with the compact?

Suspension of voting rights should be one of the available remedies if a state violates the compact (see Question 7).

2. Do all Governors need to be present at all types of votes and be required to vote yea or nay for a vote to go forward? Or should Governors be allowed to abstain on votes?

The Governors should be permitted to abstain from a vote and not affect the outcome, for both practical and political reasons. For example, Ohio may not have any concerns or see any significance in a proposed withdrawal in New York that is subject to regional review. Thus, Ohio could abstain and not spend any resources or time on regional review.

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3. If a Governor abstains on a vote, what does that abstention mean?

The abstention would not substantively effect the vote of the remainder of the body. For example, if the body is reviewing a proposed diversion, and Michigan abstains but the rest of the states approve, the final outcome of the vote is approval.

4. What actions(s) would constitute a violation of the Compact?

Failure to meet any of the material terms or responsibilities of the Compact.

5. Should State A have standing in State B's State and administrative courts to challenge State B's decision on a withdrawal proposal if State A believes that the Standard was not properly used when making such a decision?

All parties, including but not limited to other jurisdictions, should have standing to seek judicial review of state decisions and actions to the extent permitted by Constitutional law.

6. What actions (or lack of actions) should be considered to be a failure to implement the Standard and/or the Compact in a systemic manner?

- a. Failure to follow the Compact Council's opinion on one occasion?
- b. On 15 occasions?
- c. If its State Agencies have no regulatory authority to enforce the Standard?
- d. A combination of some or all of the above?

Any failure to comply with the material terms of the Compact, including but not limited to the failure to establish and apply state authority for review of withdrawals subject to the standards provided, should be considered a violation of the Compact. If the Compact Council's opinion is not binding, then failure to follow the opinion (one time or 15 times) cannot automatically establish a violation of the Compact (although it could provide evidence for such a claim). If the Compact Council's opinion is binding and final (subject to judicial review), then a state's failure to implement the opinion would constitute a material breach of the Compact and be subject to injunctive relief by the appropriate court.

7. What remedies should be available if a State is found in violation of the Compact?

- a. Fines? Injunctive relief? Loss of right to vote on the Compact Council? Forced delegation of a State's water management authority?

If a court determines that a state is violating the Compact, the most appropriate remedy would typically be injunctive relief. Upon a court's determination that a state is violating the Compact, the other Compact members may vote to suspend the violating state's voting rights.

8. How explicit it should it be in the Compact that a State's failure to adopt the Compact Council's Approval, Approval with Modifications, or Disapproval of a project is evidence that a State has failed to implement the Standard in a systemic manner?

If the Compact Council's opinion is not binding, then a state's failure to adopt the opinion cannot automatically establish a violation of the Compact (although it could provide evidence for such a claim). If

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the Compact Council's opinion is binding and final (subject to judicial review), then a state's failure to implement the opinion would constitute a material breach of the Compact and be subject to injunctive relief by the appropriate court.

9. Should the Compact explicitly state the remedies available when a Compact Council petitions a court if a State systemically fails to implement the Standard? Or should the language be left broad?

Remedies should include, but not be limited to, injunctive relief and suspension of voting rights (see Question 7).

10. In Section 3.7.2, it is indicated that alternative dispute resolution should be attempted before a court is petitioned for relief. Should all the steps included in the dispute resolution section of the draft Compacts be used before a court is so petitioned?

Parties always have the opportunity to use alternative dispute resolution before litigation – there is no need to explicitly provide either a certain alternative dispute resolution process or requirement in the Compact.

11. How much of the Standard should be placed in the Compact?

The entire Decision Making Standard document, but not the Decision Making Standard Procedures Manual, should be included in the Compact. This provides a balance between certainty and flexibility at a future time.

12. What should the compact say about what a State should do with the decision of the Compact Council?

“...shall be taken into consideration....”

If the intent is to make the decision of the Compact Council binding, then it should be described as a final decision (subject to judicial review), that the states have a non-discretionary duty to implement. If the intent is for the Compact Council's decision to be advisory, than the language “...shall be taken into consideration...” is appropriate.

13. Under what conditions should States (if ever) be allowed to withdraw from the Compact?
- Only if all eight States agree to dissolve the Compact?
 - Only upon proper written notice?
 - Only during a set window of opportunity (e.g. between 50 and 75 years after the compact has gone into affect)?

The Compact should only be dissolved, or a state permitted to withdraw, upon a formal decision by the governments of every one of the states.

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INTERNATIONAL / INTER-PROVINCIAL AGREEMENT(S) QUESTIONS

1. When should the agreement come into effect? When all jurisdictions have the appropriate regulatory system in place? Could sections of the agreement come into force before others or shall the whole agreement come into force on a specified date?

The intent of the Agreement should as much as possible effect the jurisdictions as soon as it is signed. Since the trigger level of a proposal is the determining factor for review of a withdrawal, it will not be that difficult to determine if a proposal should be subject to regional review. This could have an important deterrent effect even if some jurisdictions will not yet have enforcement powers. The signing of the agreement will be seen by the public as a statement of good faith and therefore they will be looking to it to have immediate impacts.

A transition process will be needed so that the intent of the Agreement can be carried out immediately even though all jurisdictions have not implemented regulations. Jurisdictions signing the June 2004 agreement could agree to begin to apply improvement, conservation and return flow in prior notice and consultation implementation of the Charter and in reviews under WRDA that occur before the full implementation of the decision-making standard is in force. This will insure that there are not a number of applications that escape scrutiny intended by the Agreement.

If the jurisdiction of origin has not yet put the regulatory regime in place or does not have the staff to undertake a review, the Regional Body should carry out the technical review and receive public comment and or hold a hearing on the proposal in order to have the evidence and background to inform the decision reached in their declaration of finding. Data collection should commence at once in jurisdictions where it is available (see response to 7b).

The description of the mandate of both the Regional Body and the Compact Council in the agreement should state that where possible the deliberations of both bodies on withdrawals should be concurrent. This would ensure that all parties are exposed to the same technical background, information, discussion and interventions. This makes it clear that the intent is to try to achieve consensus among all jurisdictions in an equitable way.

2. How the implementation of the agreement is to be monitored and the process to be followed to allow jurisdictions to comment on each other's programs (e.g. direct jurisdiction-to-jurisdiction communications or communications via a Secretariat?). Should the agreement itself deal with such a process?

A process should be put in place that is at least as inclusive as the prior notice and consultations provisions of the Great Lakes Charter and that captures the intent of those provisions. All jurisdictions should receive all documentation in regard to proposals even if they do not wish to directly comment. Comments on a proposal should be directed to the jurisdiction that is the site of the withdrawal. A secretariat would be helpful to ensure this occurs. The creation of the secretariat and the provisions of notification and for the review and interim review procedures where the regulations are not in place should be within the agreement. These procedures should address the cost of the additional work required for the regional body to carry out the technical review. The jurisdiction on whose behalf a review needs to be carried out should be charged the costs of these services.

3. The full scope of the Regional Body has not been determined. Consequently, its logistical organization, the frequency of its meetings, and other administrative matters are still open to discussion.

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Public accountability and transparency of decision-making should be addressed in the mandate of the Regional Body within the agreement. This mandate should allow for the meetings of the Regional Body be open to the public. Provision should be made for minutes of all their meetings to be public. There should be provision for the Regional Body to conduct their own public hearings. The nature of those hearings should be described including formal rules of evidence. Provision should be made for intervenors and applicants be allowed to be represented by lawyers and have the ability to bring expert testimony. Some consideration should be given to intervenor so that the public representing local interests can travel to meetings. The agreement should give the Regional Body the powers to conduct the technical review of a proposal if a jurisdiction is unable or unwilling to. It should specify that attempts will be made to hold hearings in the area nearest to the proposed withdrawal. The agreement should address how and when will the Great Lakes decision-support system will be implemented. It should address how to apply regional expertise and science. Early on there was discussion of creating a panel of Great Lakes experts that could assist in the decision-making process.

4. Potential funding mechanisms for the Regional Body, ensuring that the fee structure is equitable in nature.

There should be provision for all ten jurisdictions to share the cost of the routine work of the Regional Body administration, setup and on-going mandate. The costs of data collection and tracking of cumulative impacts should be equitably distributed among the ten jurisdictions. If the Regional Body carries out the technical review on behalf of a jurisdiction or other wise incurs exceptional costs then that jurisdiction should pay those costs.

5. Should strictly defined timeframes be included in the agreement (recognizing that an originating jurisdiction will have to fulfill its domestic requirements) or should there be a general recognition that a balance must be ensured between the requirements for the originating jurisdiction's decisions on water withdrawal to be made in a timely way and the need for comment by members of the Regional Body and the public?

Some jurisdictions already have procedures, provision for public notification and intervention and review timetables for withdrawals that apply to all water bodies within their jurisdictions. Because the regional body will likely rely on the outcome and technical review of the withdrawal done by the jurisdiction then it will be important to recognize this rather than disrupt already existing processes. To build on local findings, the regional review will have to follow the jurisdictional review. While there has been discussion of having these two reviews be simultaneous, it may not be practical.

6. Procedures to be followed for modifications to the agreement, to the standard and to the implementation manual.

Modifications to the agreement standard and implementation must have unanimous consent by ALL jurisdictions. This should be reflected in the compact agreement as well. Procedures for notification of modifications, consideration timetables and voting on proposed changes should be specified in the agreement.

7. Provisions on:

- The application of the standard within each state or province – i.e. for proposals below the Regional threshold;

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The agreement should require the jurisdictions to report all withdrawals above 50,000 litres annually to the Regional Body database by sector. Data should also be submitted each year for all proposals under the threshold so that we can begin to get a sense of cumulative impacts. Within the language of the agreement jurisdictions should be encouraged to extend the improvement, conservation provisions and return flow provisions to all water withdrawals.

- Process or responsibility of the Regional Body for periodic cumulative impact evaluation

Collection of this data should commence as soon as the agreement is signed and be calculated annually by sector. The data set should show when jurisdictions are unable to contribute data and why i.e. they have not implemented the standard. Early efforts to start to cumulate data where possible is important to fulfilling the intent of the agreement.

- Process related to review of state/provincial programs; and,

The Regional Body should evaluate and issue an annual public report on each jurisdiction's progress on implementation on the anniversary of the signing of the agreement. These reports should also go to each jurisdiction's legislature. This task should be included in the description of the mandate of the Regional Body in the Agreement

- Gathering and sharing of water use information, collection and application of scientific information, conservation programs – as committed to in the Annex and the Standard.

The gathering of information and data is best handled on a Regional level. Once again, the costs should be shared equally among the ten jurisdictions. The efforts should be carried out by a bi-national team and be submitted to the Regional Body. Perhaps this work could be done in partnership with two research or academic agencies, one in each country.

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DECISION-MAKING STANDARD FRAMEWORK

Threshold Level	DECISION MAKING CRITERIA	
3 million gallons per day and above	<p>Regional Review for Diversions and Withdrawals¹</p> <ul style="list-style-type: none"> - No reasonable alternative, including conservation of existing supplies - Limited to quantities that are reasonable for the intended purpose - <u>Maximum</u> return flow to source watershed (less a consumptive use allowance of the appropriate water use sector) - No significant adverse impacts (individual, cumulative) - Conservation plan demonstrating Environmentally Sound and Economically Feasible Water Conservation Measures - Resource Improvement - In compliance with all applicable laws and agreements 	
Under 3 million gallons per day ²	<p>State, Provincial Management of Diversions</p> <ul style="list-style-type: none"> - No reasonable alternative, including conservation of existing supplies - Limited to quantities that are reasonable for the intended purpose - <u>Maximum</u> return flow to source watershed (less a consumptive use allowance of the appropriate water use sector) - No significant adverse impacts (individual, cumulative) - Environmentally Sound and Economically Feasible Water Conservation Measures will be implemented - In compliance with all applicable laws and agreements 	<p>State, Provincial Management of Withdrawals</p> <ul style="list-style-type: none"> - In compliance with all applicable laws and agreements <p>The following requirements will be phased-in to the State, Provincial programs:³</p> <ul style="list-style-type: none"> - No reasonable alternative; including conservation of existing supplies - Limited to quantities that are reasonable for the intended purpose - <u>Maximum</u> return flow to source watershed (less a consumptive use allowance of the appropriate water use sector) - No significant adverse impacts (individual, cumulative) - Environmentally Sound and Economically Feasible Water Conservation Measures will be implemented

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¹ Regional review mechanism to be determined. ² Exemptions will be allowed to supply vehicles and for firefighting and humanitarian purposes as outlined in the decision making standard. ³ The phase-in would occur as soon as possible, but no later than 10 years from ratification of the compact by the individual signatories.

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JURISDICTIONAL MANAGEMENT AND INFORMATION

State, Provincial water use data collection and reporting to a Great Lakes Regional Water Use Data Base Repository and made publicly available for all Withdrawals in excess of 100,000 gallons per day and all Diversions.

The Great Lakes States and Provinces will implement programs to promote Environmentally Sound and Economically Feasible Water Conservation Measures to minimize existing Great Lakes Basin Withdrawals, Consumptive Uses and Diversions. Needed: per-capita / per-unit-of-production water withdrawal reduction commitment

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DECISION-MAKING STANDARD FOR REGULATING WITHDRAWALS
FROM THE WATERS OF THE GREAT LAKES BASIN

Note: This draft reflects Decision Making Standard Sub-committee discussions to date. As issues contained in this document require further discussion and are inter-dependent, the entire draft should be considered a Sub-committee draft intended for discussion purposes only.

The signatory States and Provinces will use the minimum standard defined in Sections I through IX and the Implementation Manual to manage and regulate new Water Withdrawals as well as increases to existing Water Withdrawals and existing Water Withdrawal capacity from the Waters of the Great Lakes Basin to ensure that water losses from the Basin are prevented or minimized. The Implementation Manual will be passed into law by all the Great Lakes States and Provinces, and will contain specifics and details of items to be considered in approving or denying Withdrawals from the Great Lakes Basin. Amendments may be made periodically to ensure that the standard and Implementation Manual remain current and reflect advancements in science, information and knowledge, subject to the unanimous approval of all the Great Lakes Governors and Premiers or their designees.

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I. REGIONAL REVIEW FOR DIVERSIONS OR CONSUMPTIVE USES

A New or Increased Diversion or Withdrawal of Great Lakes Basin Water of 3 million gallons per day (11.37 million litres per day) or greater average in any 30 day period will be subject to Regional Review and declared consistent with the decision making standard and approved as appropriate only when:

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- A. There is no reasonable water supply alternative within the basin in which the water is proposed for use, including the efficient use and conservation of existing water supplies; and,
- B. The Withdrawal of Great Lakes Basin Water will be limited to quantities that are considered reasonable for the purposes for which they are proposed; and,
- C. Return Flow of all Great Lakes Basin Water withdrawn will be conveyed to the Great Lakes Basin, less an allowance for Consumptive Use of the appropriate water use sector. All Return Flow shall be conveyed to the Source Watershed; and,
- D. The Withdrawal will be implemented so as to ensure that it will result in no significant individual or cumulative adverse impacts to the quantity or quality of the Waters and Water-Dependent Natural Resources of the Great Lakes Basin with special consideration given to the potential Cumulative Impacts of any precedent-setting consequences associated with the proposal; and,
- E. The Withdrawal shall incorporate a conservation plan, demonstrating how Environmentally Sound and Economically Feasible Water Conservation Measures will be implemented to minimize water Withdrawals or Consumptive Use; and,
- F. The Withdrawal shall incorporate an improvement proposal, preferably hydrological in type, demonstrating how measures will be implemented to improve the physical, chemical and biological integrity of the Waters and Water-Dependent Natural Resources of the Great Lakes Basin; and,

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G. The Withdrawal will be implemented so as to ensure that it is in compliance with all applicable State, Provincial and federal laws as well as regional interstate, inter-provincial and international agreements.

II. REGIONAL REVIEW FOR COMBINED DIVERSIONS AND WITHDRAWALS

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A New or Increased Diversion and Withdrawal of Great Lakes Basin Water where the total combined Diversion and Consumptive Use is 3 million gallons per day (11.37 million litres per day) or greater average in any 30 day period shall be addressed in the manner prescribed in Section I even though the Diversion or Withdrawal may separately each be less than 3 million gallons per day (11.37 million litres per day).

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III. JURISDICTIONAL MANAGEMENT AND INFORMATION

The Great Lakes States and Provinces will implement mutually agreed upon measures to promote the efficient use and conservation of the Waters of the Great Lakes Basin within their jurisdictions and improve the sources and applications of scientific information for all existing, New or Increased Withdrawals and Diversions.

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A. The Great Lakes States and Provinces will implement programs to promote Environmentally Sound and Economically Feasible Water Conservation Measures to minimize existing Great Lakes Basin Withdrawals, Consumptive Uses and Diversions. Needed: per-capita / per-unit-of-production water withdrawal reduction commitment

B. The Great Lakes States and Provinces will gather accurate and comparable information on all Great Lakes Basin water Withdrawals in excess of 100,000 gallons per day (379,000 litres per day) average in any 30 day period and all Great Lakes Basin Diversions. Users will be required to annually report the monthly volumes of the Withdrawal, Consumptive Use and Diversion in gallons or litres to the State or Province in which the Withdrawal occurs. This information will be annually reported to a Great Lakes Regional Water Use Data Base Repository and will be made publicly available.

C. The Great Lakes States and Provinces will collectively implement a programs to 1) find or create accurate, peer-reviewed, scientifically accepted consumptive use coefficients for the specific water use sectors and processes for which Great Lakes water withdrawal applications are made, and 2) create a Great Lakes basin groundwater map.

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D. Information gathered by the Great Lakes States and Provinces will be used to improve the sources and applications of scientific information regarding the Waters of the Great Lakes Basin and the impacts of the Withdrawals from various locations and water sources on the ecosystem, and to better understand the role of groundwater in the Great Lakes Basin. The Great Lakes States and Provinces will coordinate the collection and application of scientific information to further develop a mechanism by which individual and cumulative impacts of water Withdrawals will be assessed.

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IV. JURISDICTIONAL REVIEW FOR DIVERSIONS

A New or Increased Diversion of Great Lakes Basin Water less than 3 million gallons per day (11.37 million litres per day) average in any 30 day period will be managed and regulated under the authority of individual States and Provinces and declared consistent with the decision making standard and approved as appropriate only when:

- A. There is no reasonable water supply alternative within the basin in which the water is proposed for use, including the efficient use and conservation of existing water supplies; and,
- B. The Withdrawal of Great Lakes Basin Water will be limited to quantities that are considered reasonable for the purposes for which they are proposed; and,
- C. Return Flow of all Great Lakes Basin Water withdrawn will be conveyed to the Great Lakes Basin, less an allowance for Consumptive Use of the appropriate water use sector. ~~All Return Flow shall be conveyed to the Source Watershed. An individual jurisdiction may grant an exemption to this Return Flow requirement only when the applicant demonstrates that the Diversion of Great Lakes Basin water is less than 100,000 gallons per day (379,000 litres per day) average in every 30 day period and is exclusively for public water supply uses in areas adjacent to the Basin where adequate quantities of potable-quality water are not available; and,~~
- D. The Withdrawal will be implemented so as to ensure that it will result in no significant individual or cumulative adverse impacts to the quantity or quality of the Waters and Water-Dependent Natural Resources of the Great Lakes Basin with consideration given to the potential Cumulative Impacts of any precedent-setting consequences associated with the proposal; and,
- E. Environmentally Sound and Economically Feasible Water Conservation Measures will be implemented to minimize water Withdrawals or Consumptive Use; and,
- F. The Withdrawal will be implemented so as to ensure that it is in compliance with all applicable State, Provincial and federal laws as well as regional interstate, inter-provincial and international agreements.

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Unite sections IV and V – the only difference is the additional diversion exemption in IV's item C). Simply make all references to "Diversion" or "Withdrawals" in one of the sections read "Diversion and Withdrawals" and use IV's version of item C.

V. JURISDICTIONAL REVIEW FOR WITHDRAWALS

As soon as possible, but no later than 10 years from the effective date of ratification of this compact by the Great Lakes states, a New or Increased Withdrawal of Great Lakes Basin Water greater than 100,000 gallons per day (379,000 litres per day) but less than 3 million gallons per day (11.37 million litres per day) average in any 30 day period will be managed and regulated under the authority of individual States and Provinces. Proposals will be declared consistent with the decision making standard and approved as appropriate only when:

- A. There is no reasonable water supply alternative including the efficient use and conservation of existing water supplies; and,

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- B. The Withdrawal of Great Lakes Basin Water will be limited to quantities that are considered reasonable for the purposes for which they are proposed; and,
- C. ~~Return Flow of all Great Lakes Basin Water withdrawn will be conveyed to the Source Watershed, less an allowance for Consumptive Use of the appropriate use sector; and,~~
- D. The Withdrawal will be implemented so as to ensure that it will result in no significant individual or cumulative adverse impacts to the quantity or quality of the Waters and Water-Dependent Natural Resources of the Great Lakes Basin with consideration given to the potential Cumulative Impacts of any precedent-setting consequences associated with the proposal; and,
- E. Environmentally Sound and Economically Feasible Water Conservation Measures will be implemented to minimize water Withdrawals or Consumptive Use; and,
- F. The Withdrawal will be implemented so as to ensure that it is in compliance with all applicable State, Provincial and federal laws as well as regional interstate, inter-provincial and international agreements.

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VI. CUMULATIVE IMPACTS

The Great Lakes States and Provinces will collectively conduct, on a Lake watershed and St. Lawrence River Basin basis, a periodic assessment of the Cumulative Impacts of Withdrawals, Diversions and Consumptive Uses from the Waters of the Great Lakes Basin, every 5 years or each time the incremental Basin water losses reach 50 million gallons per day (190 million litres per day) in excess of the quantity at the time of the most recent assessment, whichever comes first, or at the request of one or more of the Great Lakes States or Provinces. The assessment will form the basis for a review of the Decision Making Standard, the Implementation Manual and their application.

VII. EXEMPTIONS

Withdrawals from the Great Lakes Basin for the following purposes are exempt from the requirements of Sections I through V.

- A. To supply vehicles, including vessels and aircraft, whether for the needs of the persons or animals being transported or for ballast or other needs related to the operation of the vehicles.
- B. To use in a non-commercial project on a short term basis for firefighting or humanitarian purposes.

VIII. APPLICABILITY

This decision making standard shall be used as a minimum standard. States and Provinces may impose a more restrictive decision making standard for water Withdrawals under their authority. States and Provinces may also, at their discretion, seek Regional Review and approval for any Withdrawal within their jurisdiction that may have the potential to significantly impact the Waters and Water-Dependent Natural Resources of the Great Lakes Basin.

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IX. DEFINITIONS

Consumptive Use—means that portion of water withdrawn or withheld from the Great Lakes Basin that is lost or otherwise not returned to the Great Lakes Basin due to evaporation, incorporation into products or other processes. [Great Lakes Charter definition]

Cumulative Impacts—means the impact on the Great Lakes Basin Ecosystem that results from incremental effects of the project in addition to other past, present, and reasonably foreseeable future projects regardless of who undertakes the other projects. Cumulative Impacts can result from individually minor but collectively significant projects taking place over a period of time.

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

Environmentally Sound and Economically Feasible Water Conservation Measures—means any beneficial reduction in water loss, waste, or use accomplished by the implementation of water management practices and water-efficiency measures. Water management practices and water efficiency measures must be economically feasible based on a cost-benefit analysis that includes avoided environmental and economic costs.

The proposed definition still creates case-by-case tradeoffs between the environment and commerce through a cost benefit analysis of avoided environmental and economic costs. This type of system is not consistent with an ecosystem based water management system that strives for, among other things, sustainable water use. In many cases there would likely be an immediate financial “saving” in an economic evaluation when compared with immediate financial environmental “costs”. However, related ecological impacts and the ability to maintain/achieve sustainable water use when measured as a water withdrawal “cost” are, in large part, neither financial nor immediate, and are thus not comparable in such a manner. The key to sustainable water use, ensuring future withdrawals are possible, and the ability to accommodate unforeseen impacts from our manipulation of Great Lake ecology or from impacts related to such things as climate change begins with how wisely we use our water now.

- We need to discuss whether we want to stick to our original position/language:

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“Environmental sound and economically feasible water conservation measures” are measures that 1) for the applicant’s water use sector, represent best conservation practices for water withdrawals and consumptive uses, as carried out by the best performing withdrawers in the developed world for the given sector, and 2) have been evaluated to assure that they do not cause an adverse ecological impact when implemented.”

Or change our position to accommodate the fact that “economically feasible” means the particular sectors “bottom line”.

Great Lakes Basin—means the watershed of the Great Lakes and the St. Lawrence River upstream from Trois-Rivières, Québec. [Great Lakes Charter definition]

Great Lakes Basin Ecosystem—means the interacting components of air, land, water and living organisms, including humankind, within the Great Lakes Basin. [Great Lakes Charter definition]

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Improvement to the Waters and Water-Dependent Natural Resources of the Great Lakes Basin—means additional beneficial, restorative effects to the physical, chemical and biological integrity of the Waters and Water-Dependent Natural Resources of the Basin, resulting from associated conservation measures, enhancement or restoration measures which include, but are not limited to, such practices as mitigating adverse effects of existing water Withdrawals, restoring environmentally sensitive areas or implementing conservation measures in areas or facilities that are not part of the specific proposal undertaken by or on behalf of the Withdrawer. [Great Lakes Charter Annex definition]

New or Increased Diversion or Withdrawal—means those new or increased water Diversions or Withdrawal commencing after the effective date of the standard.

Deleted: Consumptive Use

Deleted: Consumptive Uses

Return Flow—means the remaining portion of water withdrawn which returns naturally or is returned to the Source Watershed after use and thus becomes available for further use in the Great Lakes Basin.

Source Watershed—means the watershed from which the water Withdrawal originates, whether it be a direct Withdrawal from a Great Lake (secondary watershed scale) or from a surface or groundwater tributary to a Great Lake (tertiary watershed scale).

“Substantial justification for conveyance otherwise”— if this element of the standard regarding return flow remains, it must be defined.

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Water-Dependent Natural Resources—means the interacting components of land, water and living organisms affected by the Waters of the Great Lakes Basin. [Great Lakes Charter Annex definition]

Waters of the Great Lakes Basin or Great Lakes Basin Water— means the Great Lakes and all streams, rivers, lakes, connecting channels and other bodies of water, including groundwater tributary to any of those bodies of water [intended to avoid potential ambiguity that “tributary” here means tributary to Great Lakes; not intended to drag in connected water outside the Great Lakes basin divide], within the Great Lakes Basin. [Great Lakes Charter Annex definition]

Deleted: tributary

Withdrawal—means the taking of water from surface or groundwater, by any means.

I suggest adding two definitions, either here or in the implementation guide. The implementation guide requires consistent use of two words to communicate two concepts related to ecological conditions:

- Current/baseline/ pre-withdrawal conditions
- Target/optimal conditions

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In our January submission, we use current (also referred to as “baseline” to account for the fact that this baseline moves toward the target over time) and target conditions.

At present, the implementation guide uses these inconsistently. For example, “baseline” is used in Section 2D, Application Requirements.:

- “A description of baseline conditions regarding hydrologic flow, water quality and habitat.”
- Here, baseline presumably means “pre-withdrawal” conditions.

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It is used again in section 2F, List of Improvement Examples:

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“Restore flow conditions to baseline conditions.” This presumably means “more natural” or “toward target” conditions.

At present, both “target” and “natural” are used to describe “desired” conditions.

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Decision Making Standard Implementation Manual

("Implementation" is the word used in the first paragraph of the standard)

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Note: This draft reflects Decision Making Standard Sub-committee discussions to date. As issues contained in this document require further discussion and are inter-dependent, the entire draft should be considered a Sub-committee draft intended for discussion purposes only. Italicized text, in particular, represents a preliminary proposal or place-holder only, subject to minimal Sub-Committee discussion.

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Water Conservation

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INTRODUCTION OF IMPLEMENTATION MANUAL PURPOSE AND USE

The Great Lakes Governors and Premiers signed the Great Lakes Charter Annex on June 18, 2001. In the Annex, the Governors and Premiers outlined the framework for a set of binding agreements among the Great Lakes States and Provinces and established a series of principles for a standard for reviewing proposed Withdrawals of Great Lakes Basin Water.

A key component for the Great Lakes Water Management Initiative is the “Decision Making Standard for managing Withdrawals from the Waters of the Great Lakes Basin.” The Decision-Making Standard establishes a two tier management and regulatory structure for managing Withdrawals from the Great Lakes Basin to prevent and minimize water lost to the basin; to prevent ecosystem harm from Withdrawals, water loss, and Return Flow; and to improve the Waters and Water-Dependent Natural Resources of the Great Lakes – St. Lawrence Basin. There is regional review for New or Increased Diversions or Consumptive Uses above a volume-based threshold. The system requires that New or Increased Diversions or Consumptive Uses of greater than 3 million gallons per day (11.37 million litres per day) average in any 30 day period will be submitted for a regional review process involving all of the jurisdictions. The other tier is for jurisdictional programs for proposals below the Regional Review Threshold level (3 mgd). The standard requires management and regulatory programs for New or Increased Diversions and Consumptive Uses.

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This Manual addresses both tiers. The Manual includes:

- Proposal review guidance (section 2)
The proposal review guidance applies to proposal reviews for both proposals above the Regional Review Threshold level and proposals below the Regional Review Threshold level, reviewed by the Jurisdictions, with the following exceptions:
 - Water conservation plans covered in Section (2)(E) apply to proposals above the Regional Review Threshold level only.
 - Improvement measures covered in Section (2)(F) currently only apply to proposals above the Regional Review Threshold level. ***In the draft Improvement Framework, we suggest that all proposals be screened to determine if an Improvement is required.
- Certain of the program requirements for proposals below the Regional Review Threshold level for Consumptive Uses will be phased in by the Jurisdictions over time.
- A discussion on proposal application information (Section 3)
- A description of the regional decision making process. (Section 5)
- Elements of an application. (appendix A)

For the proposals under the Regional Review Threshold level (jurisdictional review) programs, the Manual includes descriptions of:

- The submission and review/comment process.
- The components of the jurisdictional program report.
- *Regional implementation of jurisdiction programs.*

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- Guidance to jurisdictions of water conservation.
- A statement on Improvement Measures.
- Information collection and management

PROPOSAL REVIEW GUIDANCE

2A) No Reasonable Water Supply Alternative

Description of Intent

The purpose of this requirement is to ensure that there are not reasonable alternatives available that would eliminate or diminish the need for New or Increased Diversions or Consumptive Uses of Great Lakes Basin water.

Application Requirements

The application shall include a narrative description of the need for the proposed New or Increased Diversion or Consumptive Use. This description should include an analysis of alternative supplies considered and reasons as to why alternatives are unacceptable. The more efficient use of current water withdrawals, including water conservation, should be included in this analysis.

Criteria for Decisions

The application should include an analysis of water supply alternatives available and considered meeting the new or increased need. This analysis shall address quantity and quality (including treatability) of alternative sources. The analysis shall describe the rationale for not using the other considered water supply alternatives.

A clear demonstration of alternatives considered, the analysis undertaken and conclusions and findings of this analysis will be evaluated. There must be a showing that no reasonable water supplies are available. To determine what is reasonable, three factors will be evaluated for alternative options, including: 1) resource protection, 2) technology and 3) cost.

Water Conservation and efficient use of existing water supplies should be an alternative that is pursued first to minimize or eliminate the need for the New or Increased Diversion or Consumptive Use.

2B) Quantities that are Considered Reasonable

Description on Intent

The purpose of this requirement is to ensure that the withdrawal of Great Lakes Basin Water will be limited to quantities that are considered reasonable to meet the requirements of the intended use.

Application Requirements

The applicant must estimate the highest 30-day average use for the permit period. The application must include a water use plan. For a public water supply system, publicly or privately operated, the plan must include:

- A description and map of the service area at the time of the application and projected for up to twenty years or for the life of the permit.
- Water use and population projections at the time of the application and projected for the next five, ten and twenty years. Population projections should be credible and the entity conducting the projections identified. Water use will be presented in terms of maximum use for any 30-day period for a given year. Water use must also be presented in terms of annual average gallons (litres) per day.

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- A description of the capacity of the withdrawal, treatment and distribution portions of the system.
- An assessment of the water use savings of current and proposed water conservation programs.

Applications for other uses, such as industrial or agricultural, must include a plan that projects water use at the time of application and projected for up to twenty years or for the life of the permit. Water use will be presented in terms of maximum 30 day average use for a given year and in terms of annual average gallons per day.

Criteria for Decisions

In determining if a proposal has successfully met the requirements of this standard provision, the proposal will be evaluated in terms of how realistic and reasonable the quantity of the proposed water withdrawal is to meet the requirements of the intended purposes for the withdrawal. The review will be conducted in concert with the review of the proposal's water conservation measures to determine how effective it is in minimizing the quantity of the withdrawal.

The proposed water use projections will be evaluated upon the following criteria:

- The presentation of current use information – including proposed withdrawal and/or diversions and/or consumptive use;
- The existence of a water use plan with credible multi-year use projections; and
- The potential effectiveness of current and proposed water conservation programs in minimizing the withdrawal and/or consumptive use of water.

2C) Return Flow

Description of Intent

The intent of the Return Flow requirement is to ensure that all of the water withdrawn from the Great Lakes Basin is returned to the source watershed, less an allowance for consumptive use, in order to support the ecological health of the system and for further use. It is recognized that Consumptive Uses will occur and the amount of Consumptive Use will differ depending of the use of the water. The desire is that Consumptive Uses be reasonable and that the proposal maximizes the return of water at a quality that meets all applicable water quality requirements. Except under exceptional circumstances, as defined in the Decision-Making Standard, Return Flow will be required for all New or Increased Diversions or Consumptive Uses triggered by the standard, whether intended for in-basin or out-of-basin use.

Application Requirements

Applicants must submit a description of their Return Flow program. This program description should include:

- A description of how the water will be returned. To the extent the local entity that will be discharging the Return Flow is not the applicant for the project, agreements must be presented demonstrating that the Return Flow will be guaranteed;
- An estimate of total Return Flow by volume and as a percentage of water withdrawn;
- Location of Return Flow and the location relationship to the Source Watershed.
- An estimate of Consumptive Use, by sector, including historic use information. These estimates may be presented in the form of project engineering design plans or utilizing Consumptive Use coefficients collectively approved by the States and Provinces. To the extent use estimates are greater than these

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approved Consumptive Use coefficients, the application must include a detailed explanation and justification for projected additional Consumptive Use by sector;

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- A description of the anticipated water quality of the Return Flow including a description of the proposed measurement methods (quality and quantity) and discharge location(s).

If an applicant wants an exemption to the return flow requirement it must be justified and the following conditions apply:

1. The total diversion (i.e. a new diversion or the combined volume of an existing diversion plus a proposed increase) is less than 100,000 gallons per day (375,000 litres per day) average in every 30 day period; and
2. The diversion is exclusively for public water supply uses in areas adjacent to the Basin where adequate quantities of potable-quality water are not available; and
3. The return flow of some or all of the water withdrawn from the Great Lakes Basin is not feasible.

Criteria for Decisions

In determining if a proposal has successfully met the requirements for Return Flow, the following will be evaluated:

- The clarity and completeness of the description of the Return Flow program, including the quantity, quality and location of the Return Flow in relation to the Source Watershed.
- The verification and justification of Consumptive Use estimates, by sector, using engineering estimates or Consumptive Use coefficients.
- If the Return Flow is not to the Source Watershed, the rationale and evaluation of impacts to the Source Watershed and the watershed receiving the Return Flow will be evaluated on a case by case basis.
- The Return Flow does not result in any significant adverse impacts to the receiving water body, whether or not the receiving water body is within the Source Watershed.
- There is no replacement water from outside the basin.
- Adequate justification is provided that a proposed diversion meets the conditions for an exemption of the Return Flow requirement, if applicable.

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In reviewing Consumptive Use estimates, commonly used coefficients will be used as a benchmark. It is understood that specific use situations vary and that in some cases higher use amounts may be justified. It is also understood that research will continue and that Consumptive Use information will improve. As of now, the Great Lakes Commission Survey, Spring 2002, entitled, "Consumptive Use Coefficients By Water Use Category Among Great Lakes Jurisdictions and USGS" is one benchmark evaluation tool for the listed water use categories, recognizing that coefficients will be updated periodically to reflect advancements in conservation practices.

(One page Great Lakes Commission Survey Results will be attached here.)

2D) No Significant Individual or Cumulative Impacts

Description of Intent

The intent of this standard provision is to ensure that New or Increased Diversions or Consumptive Uses result in no significant adverse individual or Cumulative Impacts to the Water and Water Dependent Resources of the Great Lakes Basin. This provision is central to the jurisdictions' commitment to responsible resource protection and management.

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Application Requirements

Applications must be submitted with detailed information related to the proposed project including the location of the New or Increased Diversion, Consumptive Use and Return Flow.

The proposal should include the following information:

- Source, location of the withdrawal and return flow;
- A description of pre-withdrawal conditions regarding hydrologic flow, water quality and habitat;
- Anticipated changes in water and water-dependent natural resources as a result of the Withdrawal; and
- A description of all mitigation measures that will be implemented to prevent or eliminate significant adverse impacts.

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Criteria for Decisions

In determining whether a proposal has the potential for significant adverse impacts, the Great Lakes States and Provinces will consider the following criteria and factors:

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- The completeness of baseline information presented;
- Location, type, extent, scale and duration of impacts;
- The mitigation measures proposed;
- Potential cumulative effects of related or anticipated future projects (supply and demand analysis), including the potential for precedent-setting consequences; and
- Individual impacts will be evaluated in the context of cumulative impacts. Where watershed plans exist, applicants shall discuss impacts based upon these plans. Potential impacts on other users will be evaluated.

The scope and location of a proposal will be considered when evaluating potential adverse impacts from a proposal. The geographic and temporal scale of potential impacts will be considered in the determination of when an adverse impact is significant. [These two sentences are unclear.]

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A water withdrawal proposal will be considered to have a significant adverse impact if there is a significant change to any of the following conditions that existed prior to the withdrawal:

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**needs help here – it's not ideal to just take out "natural" because may imply protection of degraded conditions.

Physical Criteria

- Disruption of the hydrologic regime.
- Degradation of structural habitat
- Disruption of connections between and among habitats
- Disruption of temperature regime of the hydrologic system

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Chemical Criteria

- Disruption of productivity of the ecosystem
- Introduction of potentially harmful toxins, contaminants and excessive nutrients
- Disruption of the hydrologic system's ability to process toxins, contaminants, and nutrients

Deleted: natural

Biological Criteria

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- Decline in population levels or health of native species
- Introduction of non-native species
- Disruption of biological interactions such as predation and competition
- Introduction of harmful microorganisms or elevation of microorganisms to harmful level

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Socio-Economic Criteria or Impacts to other Users

- *Significant/measurable impacts to existing water uses in the source watershed*
- *Impact on human health*
- *Demonstrated social disruption*

2E) Water Conservation

Description of Intent

The purpose of this standard provision is to reduce water withdrawals through demand reduction and supply-side conservation measures. The Decision Making Standard has two distinct requirements regarding water conservation: 1) for proposals above the Regional Review Threshold level the applicant must submit a conservation plan, demonstrating how Environmentally Sound and Economically Feasible Water Conservation Measures will be implemented by the applicant, and 2) for proposals below the Regional Review Threshold level the applicant must implement Environmentally Sound and Economically Feasible Water Conservation Measures to minimize water Withdrawals and/or Consumptive Use.

The water conservation plan required for proposals above the Regional Review Threshold level must be approved by the appropriate Jurisdiction.

Application Requirements

Proposals Above the Regional Review Threshold – Water Conservation Plan

Each applicant must submit a water conservation plan for New or Increased Diversions or Consumptive Uses being submitted for regional review to reduce water loss and minimize the need for a Withdrawal or increased Withdrawal to the maximum extent possible. An evaluation of water conservation opportunities and measures that will be implemented, as well as of water savings, must be presented.

Elements of a water conservation plan must include, at a minimum the following elements:

- List of Water Conservation Goals to minimize the withdrawal, consumptive use and system loss.
- Identification of Water Conservation Practices/Measures appropriate (Note: the water conservation measures list included in the section “Proposals Below the Regional Review Threshold – Water Conservation Measures” from the Great Lakes Commission’s Water Resource Management Decision Support System project must be considered.)
- Present Implementation and Evaluation Strategy.

In addition to existing State and Provincial requirements and guidance, the USEPA has published Water Conservation Plan Guidelines; Contents of a Comprehensive Water Conservation Plan. This Water Conservation Plan outline information is provided here as additional guidance for applicants:

1. Specify Conservation Planning Goals

- List of conservation planning goals and their relationship to supply-side planning

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- Description of community involvement in the goals-development process
2. Develop a Water System Profile
 - Inventory of existing facilities, production characteristics, and water use
 - Overview of conditions that might affect the water system and conservation planning
 3. Prepare a Demand Forecast
 - Forecast of anticipated water demand for future time periods
 - Adjustments to demand based on known and measurable factors
 - Discussion of uncertainties and “what if” (sensitivity) analysis
 4. Describe Planned Facilities
 - Improvements planned for the water system over a reasonable planning horizon
 - Estimates of the total, annualized, and unit cost (per gallon) of planned supply-side improvement and additions
 - Preliminary forecast of total installed water capacity over the planning period based on anticipated improvements and additions
 5. Identify Water Conservation Measures
 - Review of conservation measures that have been implemented or that are planned for implementation
 - Discussion of legal or other barriers to implementing recommended measures
 - Identification of measures for further analysis
 6. Analyze Benefits and Costs
 - Estimate of total implementation costs and anticipated water savings
 - Cost effectiveness assessment for recommended conservation measures
 - Comparison of implementation costs to avoided supply-side costs
 7. Select and Implement Conservation Measures
 - Selection criteria for choosing conservation measures
 - Identification of selected measures
 - Explanation for why recommended measures will not be implemented
 - Strategy and timetable for implementing conservation measures
 8. Integrate Resources and Modify Forecasts
 - Modification of water demand and supply capacity forecasts to reflect anticipated effects of conservation
 - Discussion of the effects of conservation on planned water purchases, Improvements and additions
 - Discussion of the effects of planned conservation measures on water utility revenues
 9. Present Implementation and Evaluation Strategy
 - Approaches for implementing and evaluating conservation plan
 - Certification of the conservation plan by the system’s governing body

For industrial use applications the water conservation plan should present business sector practices or principles, analysis for use and an implementation schedule with use savings estimates. For irrigation and other agricultural uses, the applicant water conservation plans must demonstrate that systems are properly

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designed for soil characteristics, topography and vegetation. In addition, all water-related generally accepted management practices should be considered and put in practice as appropriate. For irrigation proposals, a list of information to be required includes:

- A monthly schedule for irrigation
- Identification of purpose of irrigation: upland crops (corn, soybeans, fruit, etc), golf course or other
- Identification of the type irrigation system to be used: center pivot, travelling gun, linear system, fixed sprinkler or other
- A listing of soil types and percentage of each
- The number of total acres irrigated
- A soil and water conservation plan, including a list of specific water use practices that are/will be implemented

All applicants, as part of their initial proposal, must submit an implementation status report on their existing water conservation plan.

Proposals Below the Regional Review Threshold – Water Conservation Measures

Each applicant must demonstrate that Water Conservation Measures are being implemented.

The applicant must:

- Present a list of Water Conservation Measures considered; and
- Document those Water Conservation Measures being and planned to be implemented, including an implementation schedule.
- Submission of an [annual?] implementation report / form

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Different types of conservation measures could be included. For example, those included in Table 2 of the Great Lakes Commission's Water Resource Management Decision Support System Project (WRMDSS) final draft project report, "Fifteen Suggested Water Conservation Measures" This list includes:

Financial

- Universal metering/submetering with commodity rates for public supply water
- Incentives to improve water conservation, including retrofits
- Conservation pricing/rate structures
- Metering and submetering for industrial uses

Programmatic

- Reports on water use and unaccounted-for flow
- Leak detection and repair; reductions for water utility operations
- Integrated resource planning
- Water system pressure management to reduce volume of water used
- Water recirculation and reuse in industrial processes

Technological

- Low-flow plumbing fixtures and other water-efficient appliances
- Efficient equipment for industrial/commercial facilities and agriculture

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Informational

- Promoting efficient practices in industrial/commercial facilities and agriculture
- Encouraging efficient water use and equipment for landscapes, including graywater
- Public information and school education programs
- Advocating use of native and drought-tolerant turf and plants

Criteria for Decisions

Proposals Above the Regional Review Threshold level

The major criteria will be how effective the proposal will be in reducing the total quantity of the withdrawal/consumptive use, and/or per capita withdrawal/consumptive use. Two "completeness tests" will also be evaluated: 1) the contents of the water conservation plan; and, 2) the list of conservation measures considered and those to be implemented.

For irrigation and other agricultural uses, applicants must demonstrate that systems are properly designed for soil characteristics, topography and vegetation. In addition, all water-related generally accepted management practices should be considered and put in practice as appropriate.

Proposals Below the Regional Review Threshold level

The Jurisdictions will review the Water Conservation measures proposed and implemented by applicants for proposals below the Regional Review Threshold level. While water conservation plans are not specifically required for Withdrawal applications under the Regional Review Threshold level, the standard does require water conservation measures be implemented. The specific criteria for determining acceptable water conservation measures for applications below the Regional Review threshold level will be made by each individual jurisdiction. Each jurisdiction must have publicly available criteria that will be included in their overall program description.

While each jurisdiction may have their own water conservation requirements, each New or Increased Diversion or Consumptive Use application must be evaluated for the effectiveness of the proposed water conservation measures in minimizing water loss.

2F) Improvement Measures

Description of Intent

The intent of this standard provision is to ensure an Improvement to the Waters and Water-Dependent Natural Resources of the Great Lakes Basin. This provision is central to the jurisdictions' commitment to responsible resource protection and management.

Application Requirements

Applicants will be required to submit an Improvement plan describing the nature of the Improvement including its spatial and temporal scope. Improvement proposals may include one or a combination of the following Improvements: hydrologic conditions, water quality, or habitat. Hydrologic conditions Improvement proposals are preferred. Improvement programs shall include measurement and reporting programs.

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Criteria for Decisions

The following criteria will be used to evaluate Improvement proposals:

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- Improvements to hydrologic conditions and functions will be given high priority;
- Mitigation of impacts associated with a withdrawal cannot be considered improvement;
- The same practices used to mitigate impacts associated with a withdrawal can be considered improvement to the extent that they are in addition to those needed to mitigate impacts;
- The scale, both temporal and spatial, will be a major consideration in determining the appropriate level of improvement—see ;
- All Improvement proposals should be assured to function as Improvements for the life of the water use permit. In this regard, management and maintenance of the Improvement need to be described;
- Improvement proposals should preferably address the Source Watershed of the proposed withdrawal. Where this is not possible, or where the Source Watershed is at its target condition, alternatives should be evaluated and a rationale given for the proposed Improvement;
- The Improvement must be above and beyond what is otherwise required by law or regulation;
- The scale of Improvement proposal shall be commensurate with the scale of the proposed project, based on consideration of the volume of the Withdrawal, Consumptive Use and/or Diversion; the type and size of the proposed source (e.g. Great Lake or St. Lawrence River, large tributary, small tributary, deep aquifer, shallow aquifer); and the degree of uncertainty about the impacts of the project.
- If a watershed plan exists, the Improvement proposal should demonstrate that the proposed Improvement is consistent with the plan; Where a watershed plan does not exist, the development of a plan may be considered as part of an improvement plan, provided that the improvement also provides measurable physical improvement; and
- Partnerships with non-governmental organizations for the Implementation of the Improvement measures will be encouraged.

List of Improvement Examples

Determining an appropriate improvement requires knowledge of pre-withdrawal conditions and past impairments, if any, that have led to ecological degradation. All examples in this list may not be appropriate in all cases. Note that ecological improvements are intended to improve the physical, chemical, and biological aspects of the ecosystem through improvements to hydrologic conditions, water quality, or habitat.

The examples listed below are from a report prepared by Tetra Tech EM Inc., entitled “Understanding Improvement Under the Great Lakes Charter Annex – Methodology and Case Studies”. This work was completed with a grant from the Great Lakes Protection Fund. The examples below are taken from a long list of activities presented in Appendix A: Examples of Improvement Activities from that report. In addition, the list of examples of hydrologic conditions includes suggestions from the work of The Nature Conservancy.

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Hydrologic Conditions

- Restore flow conditions to baseline [clarify “baseline” to mean “target” “more natural”, “optimal” – whatever word is chosen - not “pre-withdrawal”] conditions;
- Restore river flow by removing dams;
- Operate hydropower, flood control, recreation, and navigation dams and water retention structures to mimic natural cycles;
- Decrease amount of impervious surfaces within the catchment;
- Remove unnecessary agricultural drainage systems;
- Restore natural channel form (e.g. restore meanders, restore instream features such as large woody debris);

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- Remove flow diversions;
- Manage and protect flood plains;
- Protect, restore, or enhance existing wetlands, including Great Lakes coastal wetlands;
- Eliminate or improve road-stream crossings
- Increase groundwater recharge;
- Reduce groundwater extraction; and
- Employ non-structural approaches to stormwater management.
 - (not a hydrologic improvement – moved under “Water Quality”)
 -

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Deleted: Increase groundwater recharge.

Water Quality

- Replace or upgrade the wastewater control infrastructure;
- Develop, adopt and enforce stream setback ordinance;
- Enact agricultural zoning to protect water and soil;
- Prevent non-point source pollution through promoting on-site agricultural treatment technologies (e.g. filter strips, biofilters, wetlands, manure treatment)
- Enhance sewage and septic system treatments to address biological and chemical inputs (e.g. e-coli, phosphorous and antibiotics)
- Implement watershed plan elements to address impaired waters;
- Decrease pesticide use for conditional permitted uses (such as golf courses);
- Implement rural and urban nutrient management practices;
- Reduce emissions of toxic pollutants through non-regulatory methods;
- Reduce contaminants in groundwater; and
- Reduce water pollution through non-structural approaches to stormwater management.

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Habitat

- Restore and protect habitat for native species, including threatened and endangered species;
- Restore native vegetation in riparian areas;
- Control erosion using non-structural approaches;
-
-

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Deleted: Restore local habitat in areas of concern; and

Deleted: Create, protect, restore, or enhance the existing coastal wetlands.

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Scale of improvement

The Implementation Manual declares:

“The scale of Improvement proposal shall be commensurate with the scale of the proposed project, based on consideration of the volume of the Withdrawal, Consumptive Use and/or Diversion; the type and size of the proposed source (e.g. Great Lake or St. Lawrence River, large tributary, small tributary, deep aquifer, shallow aquifer); and the degree of uncertainty about the impacts of the project.”

Consistent with the "Criterion for Decisions" listed above, the following framework could be used to determine the appropriate scale of the Improvement. The applicant and the reviewing jurisdiction must

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evaluate four conditions and assign points accordingly for every withdrawal proposal above the volume threshold where the standard applies.

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Although the current draft decision-making standard only requires Improvement for Diversions and Consumptive Uses >3 million gallons per day, the framework accommodates all withdrawals above the volume threshold where the standard applies. We propose this for two reasons:

- If a state or province goes beyond what is required by the region and implements the improvement standard at a jurisdiction level, this framework could apply.
- We believe that applying the improvement standard to all withdrawals, even if only very slight improvements are required, demonstrates the regional commitment to conserving and enhancing the Great Lakes ecosystem that was intended in the Annex.

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<u>Size of Withdrawal</u>	<u>Points</u>
100,000 ¹ - 1 million gallons per day	1
1 mgd - 3 mgd	2
> 3 mgd	3

<u>Size of Consumptive Loss</u>	<u>Points</u>
<100,000 gallons per day	1
100,000 - 3 mgd	2
> 3 mgd	3

<u>Source of water</u>	<u>Points</u>
Groundwater (deep or shallow aquifer)	2
Small tributary (baseflow < x cfs) or inland lake	2
Large tributary (baseflow > x cfs)	1
Great Lake	1

<u>Uncertainty about "No Significant Adverse Impacts" evaluation</u>	<u>Points</u>
Low	1
Medium	1
High	2

<u>Scoring: Determining how much improvement is required</u>	
8, 9, 10 points	Level A - improvement required
6 or 7 points	Level B - improvement required
4 or 5 points	Level C - it is up to the jurisdiction to determine if an improvement is required

¹ This number would be the minimum threshold where the standard applies. Other values would have to be adjusted accordingly.

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Rationale:

- If the proposal has 2 "3" values (that is, both the Withdrawal and the Consumptive Use > 3 mgd), a Level A improvement will automatically be required. There are other combinations that would require a Level A improvement.
- If the proposal has 1 "3" value (that is, the Withdrawal is >3 mgd but the Consumptive Use is <3 mgd), a Level B improvement will be required. There are other combinations that would require a Level B improvement.
- It is impossible to get to Level C if the proposal has any "3" values.

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Determining an appropriate improvement requires knowledge of current (pre-withdrawal) conditions and past impairments, if any, that have led to ecological degradation.

Level A, Level B, and Level C (if required) improvements will be determined by the jurisdiction with an understanding of ecosystem-specific conditions. The jurisdictions can draw from existing watershed plans, if available, to identify Level A, B, and C improvements. Jurisdictions should share examples of Level A, Level B and Level C (if required) improvements with each other to develop consistency.

The scope of any of the items in the List of Improvement Examples could be adjusted to be appropriate for any Level.

Level A improvements

- Restore river flow by removing dams;
- Operate hydropower, flood control, recreation, and navigation dams and water retention structures to mimic natural cycles;
- Decrease amount of impervious surfaces within the catchment (major project)
- Restore natural channel form (e.g. restore meanders)
- Remove unnecessary agricultural drainage systems
- Manage and protect flood plains (major project)
- Protect, restore, or enhance existing wetlands, including Great Lakes coastal wetlands (minor project)
- Increase groundwater recharge (major project)
- Employ non-structural approaches to stormwater management.
- Replace or upgrade the wastewater control infrastructure
- Enhance sewage and septic system treatments to address biological and chemical inputs (e.g. e-coli, phosphorous and antibiotics)
- Reduce water pollution through non-structural approaches to stormwater management (major project)

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Level B improvements

- Decrease amount of impervious surfaces within the catchment (minor project)
- Manage and protect flood plains (minor project);
- Remove flow diversions
- Protect, restore, or enhance existing wetlands, including Great Lakes coastal wetlands (minor project)
- Eliminate or improve road-stream crossings
- Increase groundwater recharge (minor project)
- Reduce groundwater extraction
- Prevent non-point source pollution through promoting on-site agricultural treatment technologies (e.g. filter strips, biofilters, wetlands, manure treatment)

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- Reduce water pollution through non-structural approaches to stormwater management (minor project)
- Collaborating on a Level A improvement

Level C improvements

- Restore and protect habitat for native species, including threatened and endangered species;
- Restore native vegetation in riparian areas;
- Control erosion using non-structural approaches
- Restore natural channel form (e.g. restore instream features such as large woody debris);
- Improve road-stream crossings
- Increase groundwater recharge (localized project)
- Reduce groundwater extraction
- Decrease pesticide use for conditional permitted uses (such as golf courses);
- Implement rural and urban nutrient management practices;
- Reduce water pollution through non-structural approaches to stormwater management (localized project)
- Collaborating on a Level B improvement

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APPLICATION INFORMATION

3A) Legal Requirements

Who Applies and Who Bears the Regulatory Burden: Any person, individual, partnership, corporation, body politic, municipality, State, Province or any other legal entity public or private proposing a New or Increased Diversion or Consumptive Use of Great Lakes Basin

Legal Arrangements: In some situations, the applicant may not have complete legal authority to carry out certain requirements. Examples could include: 1) a different entity may actually discharge Return Flow, 2) the entity withdrawing water, if not the applicant may be responsible for ensuring there are no adverse impacts; and, 3) the operation of an Improvement project may be implemented by another entity. In these cases, legal arrangements, such as contracts, should be submitted with the application demonstrating that requirements will be met.

Jurisdiction Review: Applications that require regional review shall be submitted to the State/Provincial Body by the jurisdiction in which the withdrawal is proposed. Prior to submitting the application for regional review, the jurisdiction shall determine that the application is complete and meets the requirements for regional review.

Other Permit Requirements: Other federal, State/Provincial or local permits or approvals may also be required. Such permits or approvals are the responsibility of the applicant.

3B) Defining New or Increased Diversions or Consumptive Uses

Effective Date: The effective date of the Decision-Making Standard will be when all ten Jurisdictions have adopted it. This means when all jurisdictions have signed the International Agreement and each has obtained authority to implement the Decision-Making Standard either individually or by adopting a Compact with that authority.

Establishing a Baseline: The following information will be submitted by each Jurisdiction to a Great Lakes Regional Water Use Data Base Repository:

- 1) Within one year of the effective date of the Decision-Making Standard, each Jurisdiction will develop and provide to a regional data base a list of all Diversions.
- 2) Within one year of the effective date of the Decision-Making Standard, each Jurisdiction will develop and provide to a regional data base a list of all withdrawals in excess of 100,000 gallons per day (379,000 litres per day.)
- 3) Within five years of the effective date of the Decision-Making Standard, each Jurisdiction will develop and provide to a regional data base information regarding either existing withdrawal permit limits or limits of capacity of the existing system for all withdrawals identified in the lists above.

Grandfathering: The capacity of the existing system should be presented in terms of withdrawal capacity, treatment capacity, distribution capacity or other limiting factors. The capacity of the existing system must represent the state of the system on the effective date of the Decision-Making Standard. Grandfathering would be based upon the most restrictive of these capacities or permitted limits.

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Timing of Additional Applications: For the purposes of triggering Regional Review, applications for new or increased diversion or consumptive uses will be considered cumulatively within ten years of any application. In other words, when the total exceeds 3 mgd (11.37 million litres per day) then the full amount of the withdrawal will be reviewed regionally regardless of the increment. For example, if an applicant has previously obtained approval for 2.5 mgd (9.47 million litres per day) and five years later requests an additional 1.0 mgd (3.79 million litres per day), the second request would trigger Regional Review. In this case, the total amount of both actions would be subject to the above 3 mgd (11.37 million litres per day) requirements of the Decision-Making Standard. After Regional Review, jurisdictional denial of the proposed incremental amount shall not negate or invalidate any previously approved actions. If, however, the second request is after ten years, it would be subject to Jurisdictional review only.

Groundwater: Initially, the Great Lakes Basin surface water divide will be used to define the Great Lakes Basin groundwater divide. It is recognized that this approach may not perfectly reflect where the groundwater divide actually exists. The definition of Great Lakes Basin groundwater will be updated as scientific understanding of groundwater flows improves.

Applicability of Decision Making Standard on Withdrawal systems: The total withdrawals from surface and groundwater resources that supply a common distribution system determine the volume that applies to the Standard.

Transfers: Applications for proposals above the Regional Review Threshold that have been approved by a jurisdiction may not be transferred to another party without the approval of that Jurisdiction.

JURISDICTIONAL MANAGEMENT AND INFORMATION

(Note: This draft text has been forwarded to the Compact Structure and Inter-provincial/International Agreements Sub-committees for their review and revision)

It is anticipated that the majority of New or Increased Diversions or Consumptive Uses from the Great Lakes Basin will be under the regional review threshold level and therefore be subject to the management or regulatory programs of the individual jurisdictions. In order to make sure that there is consistent implementation of water Withdrawal management or regulatory programs, the jurisdictions have agreed that each jurisdiction will submit their individual water management programs for regional review. The jurisdictions will also submit an annual report describing the authorities and implementation of their individual program.

This section will include: A) Submission and Review B) Components of the Jurisdictional Program Report; C) Regional Implementation of Jurisdiction Programs; D) Statement on Improvement Measures; E) Water Conservation Programs; and F) Information Collection and Management.

4A) Submission and Review

Each jurisdiction will submit their water management program to the other jurisdictions for regional review and a statement of findings. This review and statement of findings process is a one-time event. The initial submission will be one year from the effective date of the Decision-Making Standard. After program review, the jurisdiction will submit an annual report for regional review.

The individual jurisdiction program submissions shall include a narrative description of the components of the jurisdictional program, including:

- The legal authority upon which the program is based, including laws, regulations, and management programs;
- A description of the public participation requirements and;
- The reporting, inspection and enforcement program elements.

The regional review of jurisdictional programs will include:

- Jurisdictional submission of program to other jurisdictions;
- Thirty day submission review period
- State/Provincial Body meeting based upon evaluation of the submission of the jurisdictions program for a statement of findings.

While the review of a jurisdictional program occurs once, any other jurisdiction, based upon review of the information in the annual reports may request the State/Provincial Body conduct an evaluation of an existing jurisdictional program to ensure it is still operational with necessary authority. The State/Provincial Body may make an additional statement of findings based upon this evaluation.

4B) Components of Jurisdictional Program Report

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Each Jurisdiction will submit a brief program report annually. This first submission will be one year from the effective date of the Decision-Making Standard. Reports will be submitted on October 1st thereafter.

The following descriptive information should be provided about the jurisdictional program in annual report submissions:

- A statement of changes to the scope of program authority and requirements (submitted during the initial submission and updated only as necessary). If a Jurisdiction is phasing in elements of their water management program, a status report on their program progress will be submitted;
- Information required in Section 3 (F) (Information Collection and Management) on Withdrawals, Diversions and Consumptive Uses and a brief narrative description of program activities.

4C) Regional Implementation of Jurisdictional Programs

Under Discussion

4D) Statement on Improvement Measures

While the Decision-Making Standard does not require Improvement projects for New or Increased Diversions or Consumptive Uses below the Regional Review Threshold level, the jurisdictions are committed to the principle of Improvement. In this regard, the jurisdictions will review options for the implementation of the improvement requirement for proposals below the Regional Review Threshold level but do not believe it is universally feasible at this time. This evaluation will include the monitoring and periodic review of the implementation of Improvement measures for proposals above the Regional Review Threshold level. Individual jurisdictions may require Improvement measures for proposals below the Regional Review Threshold.

4E) Water Conservation Programs

Each Jurisdiction will implement programs to promote Environmentally Sound and Economically Feasible Water Conservation Measures to minimize existing Great Lakes Basin Withdrawals, Consumptive Uses and Diversions. These programs may include:

- Permitting and enforcement
- Technical standards
- Reporting requirements
- Technical assistance and guidance
- Public Education

4F) Information Collection and Management

In the Great Lakes Charter Annex, the Governors and Premiers committed to establish a new decision making standard based upon, among other principles, "a decision support system that ensures the best available information." Specifically, the Governors and Premiers called for, "the design of an information gathering system to be developed by the States and Provinces, with support from appropriate federal government agencies, to implement the Charter, this Annex, and any new agreement(s). This design will include an assessment of available information and existing systems, a complete update of data on existing uses, and identification of needs, provisions for a better understanding of the role of groundwater, and a plan to implement the ongoing support system."

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Data collection requirements are intended to foster a better understanding of water use and the impact of Withdrawals on the Great Lakes Basin Ecosystem. It is the intent that water management decisions be based on the best available data and scientific understanding.

The applicants and users will provide annual reports estimating Withdrawals and Consumptive Uses or Diversions. Proposed users will be required to provide an estimate of the volume of the Withdrawal as well as the Consumptive use or Diversion in terms of gallons or litres per day average for the maximum volume in any 30 day period annually to the State or Province of the proposed Withdrawal.

Great Lakes States and Provinces will gather accurate and comparable information on all Great Lakes Basin Withdrawals in excess of 100,000 gallons per day (379,000 litres per day) average in any 30 day period and all Great Lakes Diversions. Information will be annually reported to a Great Lakes Regional Water Use Data Base Repository and will be made publicly accessible.

Each jurisdiction will submit information that will serve as baseline information and will allow for the grandfathering of existing water uses. Information to be provided and the schedule for providing this information is detailed in Section 3 B "Establishing a Baseline".

All applications will be required to include an estimate of the volume of the proposed Withdrawal in terms of gallons or litres per day average in any 30-day period. In most cases, an estimate of the actual Withdrawal will be required of the applicant in accordance with applicable State or Provincial law. In some cases, an estimate based on approved sector models may be acceptable. Each applicant will be responsible for reporting the actual volume of the Withdrawal annually to the jurisdiction in which the Withdrawal takes place.

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5

REGIONAL DECISION MAKING PROCESS (TO BE DEVELOPED)

Note: This section will include a discussion concerning the process for the regional review of cumulative impacts.

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APPENDIX A

ELEMENTS OF AN APPLICATION

Appendix A is a list of categories of information that will be necessary for an application to be evaluated. This list is illustrative only; each jurisdiction will use their own application forms and information requirements.

1. Applicant Information

Name:
Mailing Address:
Phone Number:
Email Address:

2. Purpose of Withdrawal

Provide detailed written explanation of what the water will be used for. Uses could include for example: public water supply, commercial/industrial, irrigation or other. If the water is to be used for multiple purposes, estimate percent usage by category of use.

3. Source of Water:

Applications requiring review include all waters of the Great Lakes Basin. This means the Great Lakes and all streams, rivers, connecting channels and other bodies of water, including tributary groundwater, within the Great Lakes Basin.

The application must identify the source body of water by type (lake, river, stream, or aquifer) and exact name. The exact location of the water taking should be identified. This information should include a legal description including longitude and latitude citations.

4. Point of Taking/Pumping Site

The application should indicate the legal entity that proposes to withdraw the water. The application should also provide a legal description of the location of the actual withdrawal. If the withdrawal is to be from multiple wells, all well locations should be identified.

5. Means of Taking and Rate

Specify the method to be used for taking and the rate of withdrawal (in gallons per minute or cubic feet per second or metric equivalents). If multiple wells or pump sites are to be used, attach explanation information.

6. Method of Measurement:

Indicate method of measurement, for example: flow meter, timing device, or other.

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7. Point of Measurement:

The application should provide a legal description of the location of the measurement of Withdrawal and use.

8. Schedule of Withdrawal:

The application should include a monthly projection of withdrawals by year.

Continuous Seasonal Temporary

9. Total Amount of Use

Expressed in millions of gallons per day/ projected maximum use for any thirty-day period.

10. Return Flow

See section 2) C)

11. Statement of Justification Analysis of Alternative Sources

See section 2) A)

12. Attached Water Conservation Plan and Status of Implementation

See section 2) E)

13. Description of Proposed Improvement(s)

See section 2) F)

14. Assessment of Impacts

See section 2) D)

15. Map or Air Photo: Must be provided of the area of use or the source watershed.

16. Signature: Signature of official from applying entity

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APPENDIX B

EXAMPLES

(to be developed)

