Falls - Lake Superior Provincial Park

Water Lily Flowers

Stewardship Leadership Accountability

Safeguarding and Sustaining Ontario's Water Resources for Future Generations

Proposal Paper

Summer 2009

Ontario

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Message from the Ministers

In Ontario, we take our roles as stewards and leaders in managing water seriously. We have a long and strong history in protecting and conserving the province's water resources.

Earlier this year you told us about your vision for the Great Lakes and what goals and strategies it would take to achieve that vision. We thank you for your input and many ideas. Now, we want to hear your opinions on proposals to strengthen how we manage and conserve our water resources, including those in the Great Lakes Basin and throughout Ontario.

Water supports a diverse economy, population and ecosystems throughout Ontario. It is our continuing responsibility to sustainably manage our water resources. This is particularly important in the face of current and future challenges and stresses to water quantity. These include population growth, increased water and energy consumption and a changing climate.

In 2005 Premier McGuinty joined Premier Charest of Québec and the governors of the eight U.S. Great Lakes states in signing the *Great Lakes – St. Lawrence River Basin Sustainable Water Resources Agreement* to better protect and conserve our shared Great Lakes waters. In 2007 we passed the *Safeguarding and Sustaining Ontario's Water Act* to enable key commitments of the Agreement to be met. Proposals in this paper will form the foundation for regulations, policies and strategies to bring important elements of the legislation into force.

Through this paper, we would like to invite you to give us your feedback on options for dealing with three critical water management topics. They are: a water conservation and efficiency strategy for Ontario, proposals for managing the transfer of water between Great Lakes watersheds, and a proposal on how to implement the second phase of water charges in the province.

Your input will help to ensure that decisions about Ontario's interests and diverse needs for water are made from an environmental perspective and provide a foundation for economic and community prosperity.

A provincial water conservation and efficiency strategy, enhancing our management of Great Lakes Basin waters, and recovering a portion of the cost of water management programs from commercial and industrial water takers are three important water management mechanisms that will help protect and preserve our water resources and environment. This will help ensure a healthy water supply, a strong green economy and resilient and diverse ecosystems for Ontario.

We look forward to your input and continued effort to protect, conserve and sustainably manage Ontario's water resources for future generations.

John Gerretsen

Minister of the Environment

Donna Cansfield

Minister of Natural Resources

Introduction and an Invitation to Participate

Ontario's water resources are essential to every aspect of our lives. In our homes, we drink it, cook with it and wash with it. Farms and businesses of all sizes depend on water to operate. In addition to the economic and social benefits, sustainable water supplies are a foundation for keeping Ontario's ecosystems healthy and diverse.

Kayaking on Georgian Bay, hiking the Bruce Trail, skating on the Rideau Canal, sailing in the 1000 Islands, or watching the sun go down over Lake Huron— it's easy for us to imagine that Ontario's water resources are plentiful, abundant and unlimited.

Unfortunately, that's not the case. Even though four of the largest lakes on the planet surround us, our water resources are limited. They are not being endlessly renewed. In fact, only one per cent of the water in the Great Lakes is replenished each year by precipitation. There is not as much available water as we might think.

In Ontario, we take our roles seriously as stewards and leaders in managing water. We have a strong history in protecting and conserving the province's precious water resources. However, population growth, increasing water consumption and the impact of climate change are all creating challenges and stresses on the quality and quantity of the province's water.

This proposal paper focuses on safeguarding and sustaining Ontario's waters, specifically in three areas of water management:

- Developing a water conservation and efficiency strategy for Ontario
- Strengthening approaches for managing water **transfers** (**diversions** or bulk removals of water from one **watershed** to another)
- Continuing with the implementation of the province's water-charges program to include medium- and low-consumptive commercial and industrial users.

Development of the water conservation and efficiency strategy and implementing the proposed next phase (Phase 2) of water charges would apply to all of Ontario. The proposed approaches for managing water **transfers** would apply only within the Great Lakes–St. Lawrence River Basin. Ontario already bans water **transfers** out of Ontario's three major water basins (i.e., the Hudson–James Bay Basin, the Nelson River Basin and the Great Lakes–St. Lawrence River Basin as shown in Figure 1). To further water management in Ontario, this paper

In Spring 2009, the province issued *Healthy Great Lakes, Strong Ontario – A Discussion Paper.* In the discussion paper, we invited Ontarians to provide feedback that will help the government to find solutions to the challenges and stresses affecting the Great Lakes, biodiversity and ecosystem function. The discussion paper differs from this proposal paper. This proposal paper is focused on three specific aspects of water management: conservation, water charges and intra-basin **transfer**s. The *Healthy Great Lakes, Strong Ontario* discussion paper is available for download at the Environmental Registry website at http://www.ebr.gov.on.ca (Registry Number 010-6105).

Figure 1: Major Water Basins of Ontario

focuses on managing new or increased water **transfers** from the **watershed** of one Great Lake to the **watershed** of another Great Lake. These are called **intra-basin transfers**.

Moving forward in these three important areas of water management will help to ensure the protection and wise use of water in the province, which contributes to a greener Ontario, a stronger economy and industrial base, and to the health and the well-being of our communities. As a province, we're well-positioned to develop the technology and skills needed to solve our water management challenges while increasing our global competitiveness.

This proposal paper has technical content and terms specific to water management that may not be familiar to all readers. Words that appear in **bold text** are explained in the Words and Terms section at the end of this paper.

The Existing Water Management Framework in Ontario

For over 50 years, people and governments in Ontario have been working together on provincial water resources issues. Ontario has many well-established partnerships and collaborations in place with private and public sector organizations and with other jurisdictions to help us protect and conserve water. Our partners include the Government of Canada, Aboriginal communities, conservation authorities, municipal governments, environmental groups, researchers and businesses—large and small. We all share a commitment to protect Ontario's surface water and groundwater.

Ontario also has a strong legislative and policy framework for water management. This includes, to name a few, programs to regulate water withdrawals (e.g., the Permit To Take Water Program), protect our drinking water supplies (e.g., the *Clean Water Act*), manage on a watershed basis (e.g., the *Conservation Authorities Act*) and preserve Ontario's genetic, species and ecosystem diversity (e.g., Ontario's Biodiversity Strategy). These existing programs provide a solid foundation for us to build on.

Why We Need to Strengthen Water Management in Ontario

Clean water is vital for all aspects of our lives. Our lakes, rivers and wetlands support an abundant variety of plants, animals, birds, fish and insects. Having enough water in watersheds, wetlands and aquifers is critical to keeping these ecosystems healthy and functioning. Sustainable water supplies are also fundamental in placing Ontario among the world's leading places to do business.

However, our fresh water supplies are coming under increasing pressure. Projections are that Ontario will grow by an additional 3.3 million people by 2031 (equal to creating a city the size of Barrie every year for the next 22 years). This growth rate could put much greater demands on our water resources.

At the same time, scientists are predicting that climate change will create greater uncertainty for our water resources. They foresee more severe and unpredictable weather events, flooding and drought. Climate change models suggest that water levels in the Great Lakes will be more variable. They could decline

The Economic Importance of Water

Managing Ontario's water resources to achieve more sustainable use isn't just good for the environment–it's essential for Ontario's economic prosperity. The Great Lakes Region, for example, accounts for 95 per cent of the province's farm cash receipts, while fishing and shipping add more than $7-billion annually to Ontario's economy.

significantly due to higher evaporation rates and less snow and ice cover in winter. Warmer temperatures brought on by climate change could also drive up water demand, particularly during summer.

These stresses also affect Québec and our other Great Lake neighbours. Like us, they depend on the waters of the Great Lakes and the St. Lawrence River Basin. As a result, on December 13, 2005, Ontario Premier McGuinty joined Québec Premier Charest and the governors of the eight U.S. Great Lakes states (Illinois, Indiana, Michigan, Minnesota, New York, Ohio, Pennsylvania and Wisconsin) in signing the Great Lakes–St. Lawrence River Basin Sustainable Water Resources Agreement (the Agreement). It is a good-faith agreement that commits provinces and states that share the Great Lakes to pass laws to better protect and conserve the lakes, rivers and groundwater resources of the Great Lakes and the St. Lawrence River Basin. The Agreement was negotiated in response to shared concerns about proposals for large diversions and bulk exports of Basin water, growing water use in the Basin and the uncertain effects of climate change on the future supply and demand for Great Lakes water.

***The Agreement**:*

- *Bans **transfers** out of the Great Lakes Basin*, with rare, strictly regulated exceptions for communities that lie partly within the Basin (not permitted in Ontario).
- Bans **intra-basin transfers** (from the **watershed** of one Great Lake to the **watershed** of another Great Lake), with strictly regulated exceptions.
- Strengthens *water conservation* through programs in each jurisdiction.
- Establishes strong new *environmental standards* for managing and regulating water uses across all Great Lakes Basin states and provinces.
- Enhances *regional collaboration* among the 10 Great Lakes states and provinces (e.g., in assessing cumulative impacts and reviewing water management programs and significant water-use proposals).
- Is founded on the principles of *ecosystem protection*, recognition of cumulative impacts, and the need for a precautionary approach in the face of climate change uncertainties.
- Strengthens the role of *information and science* in decision-making.
- Provides for the review of significant water-use proposals by the public and by Tribes and First Nations in the Great Lakes Basin.

For the eight Great Lakes states, the Agreement is being implemented through an accompanying binding Compact, which was passed into law in December 2008. On June 11, 2009, the Québec Assemblée nationale adopted introduced legislation to implement the Agreement and strengthen the province's water management.

Enhancing Water Management in Ontario

To implement the Agreement in Ontario, the *Safeguarding and Sustaining Ontario's Water Act* (the SSOWA) was passed into law in June 2007. The SSOWA amended the *Ontario Water Resources Act* so Ontario can meet its key commitments of the Agreement through a stronger Permit To Take Water Program. In particular, the Act raised (from regulation to legislation) Ontario's long-standing ban on water **transfers** out of the province's three major water basins (called **inter-basin transfers**). It also adopted the environmental standards for managing **intra-**

basin transfers (between Great Lakes **watershed**s) committed to in the Agreement. Part 2 of this paper presents proposals for developing the necessary regulations and policy guidance to support the **intra-basin transfer** commitments of the Agreement and the Act. Once this has been done, the regulations may be considered for approval, and the relevant sections of the SSOWA would come into effect.

The Act also sets the stage for developing a provincial water conservation and efficiency strategy. The Agreement committed Ontario to implementing a conservation program within the Great Lakes Basin. However, Ontario is proposing to apply its strategy province-wide.

Finally, the SSOWA provided for other improvements to the Permit To Take Water Program and the authority to charge commercial and industrial water takers for the water they use. Part 3 of this paper presents proposals for implementing Phase 2 of the water charges program.

Putting a provincial water conservation and efficiency strategy in place, enhancing management of water **transfers** and recovering a portion of the cost of water management programs from **commercial and industrial water takers** are three critical parts of an effective water management framework—one that is science-based, balances the interests of various stakeholders and recognizes the current economic climate. The framework will help protect and preserve our water resources for future generations while ensuring Ontario is a leader in the new green economy.

Additional Commitments Under the Agreement:

Commitments such as those related to information and science and the adoption of common environmental standards for managing water withdrawals and consumptive water uses, will be phased in over time, in keeping with the timelines of the Agreement. Some of these commitments (e.g., development of protocols for reporting water use information to a regional database and the development of procedures for the **regional review** of significant water **diversion** or **transfer** proposals) are the focus of regional collaboration among the 10 states and provinces that signed the Agreement.

Dialogue and Discussion

During the fall and winter of 2008/2009, the Ontario government met with the Agreement Advisory Panel, water use sectors, and with Aboriginal peoples. The purpose was to talk about how we can work together to strengthen the current framework for managing Ontario's water resources and carry out the province's commitments under the Agreement. The Advisory Panel—made up of representatives of municipal, agricultural, industrial and commercial water-use sectors, as well as environmental organizations and academics —advised Ontario negotiators during the development of the Agreement that the province signed in 2005. The Panel continues to play an important role in implementing it.

The province is collaborating with Aboriginal people in the Agreement implementation process through various initiatives as part of a Memorandum of Understanding with the Union of Ontario Indians. These initiatives provide continued opportunity for information exchange and understanding of Aboriginal perspectives. From these discussions, the Ministry of the Environment and the Ministry of Natural Resources, in collaboration with other Ontario government ministries, have developed options and potential approaches for carrying out Ontario's commitments under the Agreement. This proposal paper describes them.

How This Proposal Paper Is Organized

This paper has three parts:

- Part 1: Options for What Ontario Could Include in Its Water Conservation and Efficiency Strategy
- Part 2: Proposals for Managing Intra-Basin Transfers in the Great Lakes–St. Lawrence River Basin
- Part 3: Proposals for Implementing Phase 2 Water Taking Charges.

In the paper, you will find a description of options or proposed approaches and a list of questions that we would like you to consider.

Please remember that the questions in this paper are only a starting point. If reading and thinking about them gives you other ideas for protecting Ontario's water resources, we welcome your advice and suggestions.

How to Participate

To give us your comments on this paper, please visit the Environmental Bill of Rights Registry website: http://www.ebr.gov.on.ca and search by registry number 010-6350. The paper is also posted on the Ontario Regulatory Registry website: http://www.ontariocanada.com/registry/.

You can also send your comments, by email, fax or in hard copy to:

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The purpose of this proposal paper is to provide a basis for Ontario to develop a draft province-wide conservation and efficiency strategy, develop regulations under the *Ontario Water Resources Act* to govern **intra-basin transfers** and implement Phase 2 of water taking charges in the fall 2009. We will review and consider all the comments that we receive in response to the paper through the Environmental Bill of Rights Registry and the Ontario Regulatory Registry, and from our meetings with stakeholders and Aboriginal communities that will take place over the summer. We will use this feedback to help us make decisions about next steps in these three key areas of water management in Ontario.

Rain Barrel

Water Conservation and Efficiency

Low flow shower

Part 1: Options for What Ontario Could Include in Its Water Conservation and Efficiency Strategy

Background

Compared to other jurisdictions with similar standards of living, Ontarians waste a lot of water. On average, our per capita residential use of water is 260 litres per day. That's nearly twice the per capital amount of many European countries, including the United Kingdom and Germany. Nearly one-third of indoor water is used to flush toilets. In many communities, municipal water use doubles in the summer when drinking water is used for washing cars, filling swimming pools and watering lawns. Added to that is an aging water infrastructure in the province that results in an average loss of 12 per cent of municipally treated water, primarily due to leakage.

Creating and implementing a Water Conservation and Efficiency Strategy for Ontario would help reduce water and energy consumption, lower long-term infrastructure costs and protect the environment. The strategy could also trigger new economic activities through the development of innovative new technologies and practices for water management.

Economic Benefits

Using water more wisely saves money. It's estimated that every additional litre of water capacity costs roughly four dollars for expanded water and wastewater infrastructure. Already, many municipalities in Ontario are realizing significant cost savings from conservation measures. Communities such as the Regions of Peel, York and Waterloo and the Cities of Guelph and Toronto have implemented strong conservation plans. These plans will help defer or avoid future infrastructure expenditures while helping to ensure that their residents and businesses have a reliable supply of water.

> It's estimated that Ontario will require $30 to $40 billion of investment in water infrastructure repairs and upgrades over the next 15 years. Water efficiency measures can be used to extend the capacity of existing infrastructure and defer upgrading costs.
>
> *(Water Strategy Expert Panel, 2008)*

Improving water efficiency in our homes, businesses and farms also means cost savings for water users. Businesses and farms can improve their competitiveness by reducing their operating costs and extending the lifespan of their existing water supplies. Residents can see long-term savings on their water, wastewater and energy bills through more efficient water use and reducing water losses due to leakage.

More than 2600 companies employing approximately 65,000 people make up Ontario's environmental industry. Water and wastewater is the industry's largest sub-sector. As a result, Ontario is well-positioned to develop the innovative technology that we need to solve our water conservation and efficiency challenges. In the rapidly-growing green economy, we can develop the products, services and trained professionals that will increase Ontario's global competitiveness and attract investment.

Reducing Energy Consumption

Every time we flush the toilet or turn on the tap, we are washing energy down the drain. The cost of energy to pump, distribute and treat water and wastewater is a significant expense for most Ontario municipalities. Saving water saves energy (and, ultimately, money) by reducing pumping, treatment and heating requirements. It also reduces greenhouse gas emissions. Better water management has the potential to be one of the most cost effective energy reduction strategies for Ontario's municipalities and businesses.

According to a recent study, water and wastewater services combined represent a third to a half of a municipality's total energy consumption—double that of street lighting.

(Power Applications Group Inc., 2008)

Protecting the Environment

Scientists predict that climate change could negatively affect our water supplies by increasing evaporation rates and reducing ice and snowpack. By conserving and using water more efficiently, we not only reduce energy consumption and greenhouse emissions, we ensure that water remains on the ground to support ecosystems and communities.

Basis for Ontario's Water Conservation and Efficiency Strategy

Ontario's water conservation and efficiency commitments under the Great Lakes–St. Lawrence River Basin Sustainable Water Resources Agreement (the Agreement) are the impetus for moving forward now and developing a Water Conservation and Efficiency Strategy for the entire province. The strategy will build on Ontario's existing legislation, regulations and programs for water management.

The Agreement identified five water conservation and efficiency goals:

- Ensuring improvement of the waters and water-dependent natural resources.
- Protecting and restoring the hydrologic and ecosystem integrity of the **Basin**.
- Retaining the quantity of surface water and groundwater in the **Basin**.
- Ensuring sustainable use of waters in the **Basin**.
- Promoting the efficient use of water and reducing water losses and wastage**.**

The Agreement's water conservation and efficiency requirements:

Article 304

- Develop water conservation and efficiency goals and objectives consistent with the Agreement's basin-wide goals and objectives. This must be done within two years of the Agreement's ban on **transfers**.
- Develop either a mandatory or voluntary water conservation and efficiency program for all Great Lakes–St. Lawrence River Basin water users based on the provincial/state goals and objectives. These programs must adjust to new demands and the potential impacts of cumulative effects and climate change.
- Do an annual review of our program and report progress publicly and to the **Regional Body** every five years.
- Commit to promote **Environmentally Sound and Economically Feasible Water Conservation Measures**.

Subsequently, the **Regional Body**, with members from the 10 Great Lakes states and provinces, worked cooperatively with input from First Nations, Tribes, and the public, to develop five regional water conservation and efficiency objectives. Based on these regional goals and objectives, we need to develop a water conservation and efficiency strategy for Ontario. We are proposing to apply the strategy to all of the province's water users.

The possible options were developed through meetings with stakeholders and others. We looked at current research to find out what science is telling us needs to be done to protect and preserve Ontario's water resources. We also considered economic factors that tell us water conservation is good for both the economy and the environment.

Recognizing the current economic challenges, we will explore a variety of tools and options for the strategy and evaluate their cost effectiveness. We will seek out tools that not only reduce water use but also improve Ontario's economic competitiveness. Implementation could also take place in stages. The strategy's timeline will aim at balancing long-term vision with immediate and tangible results.

Proposed Sections of the Strategy

We are proposing a strategy with five sections: guiding principles, mission statement, targets, objectives and possible actions. In this part of the paper, you will find a short description of the intent of each of the five potential sections, a range of options and some questions which we invite you to answer.

Proposed Guiding Principles

The following proposed guiding principles are intended to reflect the strategy's underlying values. They are the strategy's "heart."

- Create a culture of water conservation and wise use of Ontario's water resources.
- Increase Ontarians' awareness and understanding of the importance and value of water in sustaining life.
- Build on the foundation of Ontario's laws, programs and policies that are already in place and Aboriginal traditional knowledge and practices, to promote the stewardship and responsible management of the province's water resources.
- Encourage innovation and leadership in water conservation and efficiency.
- Implement water conservation and efficiency actions that will improve Ontario's economic competitiveness.

Proposed Mission Statement

If guiding principles are the strategy's heart, then a mission statement is its "head." Whatever our relationship with our water resources — individual consumer, commercial or industrial water taker, or regulator — having a mission statement will help us to stay focused on achieving water conservation and efficiency over a long period. A potential mission statement could be:

> Water sustains life. Use only the water we need, in a sustainable manner, in order to protect our health, economy and environment for future generations.

Proposed Objectives

Under the Agreement, Ontario and the other Great Lakes jurisdictions developed regional water conservation and efficiency objectives. In the province's recent discussions, many people expressed strong support for Ontario to adopt similar objectives for its own strategy, with minor refinements (shown in italics) to emphasize the importance of taking ecological needs for water into account.

Strategy Objectives	
1. Guide programs toward long-term sustainable water use *including taking ecosystem needs for water into account*.	a. Use adaptive programs that are goal-based, accountable and measurable over time. b. Develop and implement programs openly and collaboratively, including with local stakeholders, Aboriginal people, governments and the public. c. Prepare and maintain long-term water demand forecasts. d. Develop long-term strategies that incorporate water conservation and efficient water use *and integrate them with other environmental management practices and considerations like energy use and climate change.* e. Review and build on existing programs and planning efforts and consider other jurisdictions' practices and experiences.
2. Adopt and implement supply and demand management to promote efficient use and conservation of water resources.	a. Maximize water use efficiency and minimize waste of water. b. Promote appropriate innovative technology for water reuse. c. Conserve and manage existing water supplies to prevent or delay the demand for and development of additional supplies. d. Provide incentives to encourage efficient water use and conservation. e. Include water conservation and efficiency in the review of proposed new or increased uses. f. Promote investing and maintenance of efficient water infrastructure and green infrastructure.
3. Improve monitoring and standardize data reporting among state and provincial water conservation and efficiency programs.	a. Improve and increase the measurement and evaluation of water conservation and water use efficiency. b. Encourage measures to monitor, account and report on water loss. c. Track and report program progress and effectiveness.
4. Develop science, technology and research.	a. Encourage the identification and sharing of innovative management practices and state-of-the art technologies. b. Encourage research, development and implementation of water use and efficiency and water conservation technologies and standards. c. Seek *and involve* traditional knowledge and practices of Aboriginal people in Ontario. d. Strengthen scientific understanding of the linkages between water conservation practices and ecological *needs and* responses.
5. Develop education programs and information sharing for all water users.	a. Ensure equitable public access to water conservation and efficiency tools and information. b. Inform, educate and increase awareness regarding water use, conservation and efficiency and the importance of water.

Strategy Objectives	
	c. Promote the cost-saving aspect of water conservation and efficiency for both short-term and long-term economic sustainability. d. Share conservation and efficiency experiences, including successes and lessons learned. e. Enhance and contribute to regional information sharing. f. Encourage and increase training opportunities in collaboration with professional or other organizations in order to increase water conservation and efficiency practices and technological applications. g. Ensure that conservation programs are transparent and that information is readily available. h. Aid in the development and dissemination of sector-based best management practices and results achieved. i. Seek opportunities for the sharing of traditional knowledge and practices of Aboriginal people.

Proposed Targets

In our discussions to date, many people suggested that Ontario's strategy should include targets for water conservation and/or water efficiency. Targets—that could be used to measure successes and identify areas for improvement—would need to be credible, based on the best available data and developed through further public dialogue.

A water conservation target aims at reducing overall water use. A water efficiency target aims at minimizing the amount of water used for a particular purpose.

There are three potential approaches to target-setting: province-wide, sector-wide or selected individual water users. These approaches could be used independently or in combination with one another.

Province-wide targets could be aspirational in scope. This would recognize both the need to curtail inefficient, unsustainable water use and the significant potential for water savings in Ontario, using **environmentally sound and economically feasible water conservation measures.** Targets also could be set based on water availability, ecosystem needs and water demand, perhaps for priority watersheds or sub-watersheds and building on source protection planning efforts.

Water Conservation and Efficiency Targets

An example of a water conservation target is:

> Cities will work toward a 15% reduction in total water usage below 2000 levels by 2015 – *Great Lakes–St. Lawrence Cities Initiative Water Conservation Framework*.

Examples of water efficiency targets are:

> By 2020, water use in B.C. will be 33% more efficient - *Living Water Smart, B.C.'s Water Plan.*
>
> Overall efficiency and productivity of water use in Alberta will improve by 30% from 2005 levels by 2015 - *Alberta, Water For Life Strategy*.

Sector-wide targets could be developed by the respective sectors (e.g., municipalities, industries, government institutions) and phased-in. This would reflect the diversity of water-use in sectors.

Individual water users, such as those with Permits To Take Water, high-volume water users, or municipalities and businesses in water-stressed areas, could develop their own targets. In setting their targets, individual water users could conduct water audits and/or prepare water conservation and efficiency plans.

A summary of the potential options for targets is in the Appendix, Table 1.

Possible actions

For each of the five objectives in the strategy, there are a number of possible actions that Ontario could take. The actions include both voluntary and mandatory activities. The province could carry out the actions in partnership with Aboriginal communities, the public, municipalities, environmental and community-based groups or sector-based organizations. Below, you will find a menu of possible actions that could help achieve each objective. Table 2 in the Appendix has more details on possible activities for each action. Keep in mind that these activities are all *options*. Each could be implemented independently, in combination, or not at all.

Possible actions to Support Objective 1

Objective 1: Guide programs toward long-term sustainable water use, including taking ecosystem needs for water into account.

Possible actions under Objective 1 deal with water conservation and efficiency plans, water-use audits, and water availability and demand forecasting. To date, there has been strong support from some stakeholders for developing and implementing water conservation and efficiency plans and water audits.

1A Implement water conservation and efficiency plans**.** (Figure 2 illustrates mandatory and voluntary options for preparing water conservation and efficiency plans.)

1B Work toward long-term water availability planning and water-use demand forecasting on a provincial, Great Lake and/or watershed basis.

A *water conservation and efficiency plan* sets a goal, time frame and budget that will reduce a municipality's water demand. A plan is used to identify the most cost-effective program of initiatives for reaching the goal.

A *water use audit* could be the starting point for developing a plan to document water use in a particular facility/property, assess the potential for improved conservation and efficiency and establish a baseline for measuring future conservation and efficiency achievements.

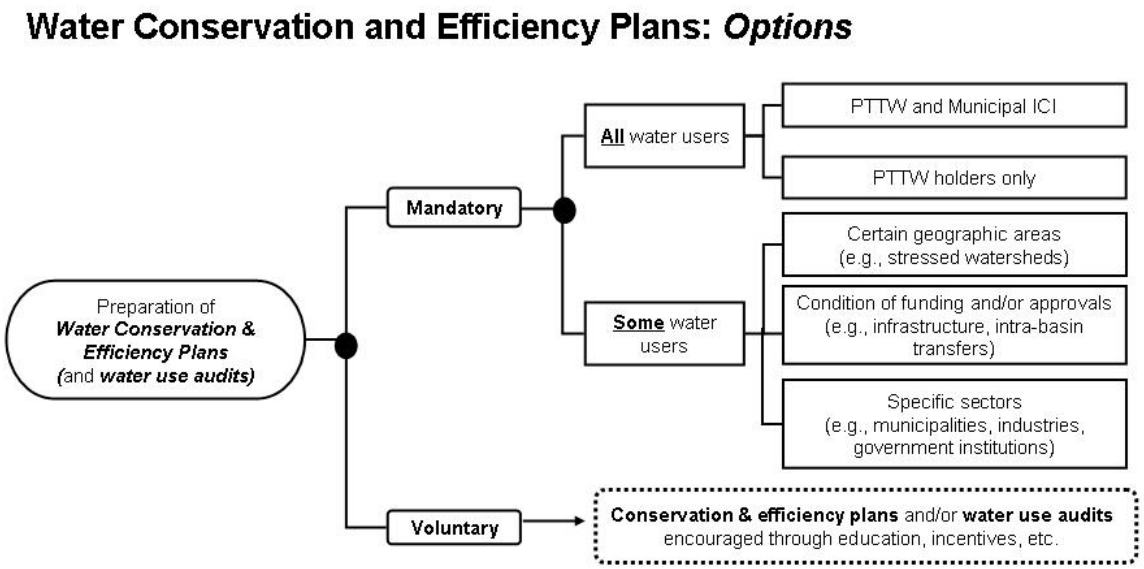


Figure 2: Preparation of a Water Conservation and Efficiency Plan or Water-Use Audit.

Possible actions to Support Objective 2

***Objective 2*: Adopt and implement supply and demand management to promote efficient use and conservation of water resources.**

Possible actions to support Objective 2 focus on provincial regulatory measures, municipal-level activities, leak detection and repair, and financial incentives. Stakeholders expressed strong support for promoting water metering and conservation-based water pricing, and labelling products to indicate water efficiency.

2A Develop provincial regulatory measures.

2B Promote municipal initiatives such as volume-based pricing and full cost recovery.

2C Encourage leak detection and repair for Permit To Take Water holders and water users on municipal systems.

2D Identify and develop financial incentives for cost-effective water conservation initiatives and technologies.

Possible actions to Support Objective 3

Objective 3: Improve monitoring and standardize data reporting among state and provincial water conservation and efficiency programs.

The possible actions to support Objective 3 focus on developing methodologies for calculating performance indicators and benchmarks, improving billing information, and reporting on water losses and program progress.

3A Establish methodologies for calculating water conservation and water efficiency performance indicators and conduct benchmarking for some or all sectors.

3B Include standard water consumption information on municipal consumer water bills (e.g., similar to electricity bills).

3C Put measures in place to monitor, account for and report on municipal water loss.

Performance indicators and *benchmarks* are tools for measuring the degree to which an objective is being achieved. An example of a performance indicator for water conservation and efficiency in Ontario could be average residential water use per capita.

3D Track and report Ontario's progress with, and the effectiveness of, its water conservation and efficiency program.

3E Connect with other jurisdictions when developing water conservation and efficiency performance indicators, benchmarks, monitoring and reporting requirements, etc.

Possible actions to Support Objective 4

***Objective 4*: Develop science, technology and research.**

The possible actions to support Objective 4 focus on improving our knowledge and understanding of water conservation and efficiency and promoting the development of new innovative technologies and practices. They include programs to integrate Aboriginal traditional knowledge and practices. These actions could complement scientific research efforts that are being done under the Agreement. In pursuing these options, it would be important to investigate and consider the linkages among technologies, environmental impacts, regulations, energy consumption and climate change.

4A Support innovative water conservation technologies and practices.

4B Develop water conservation and efficiency standards or guidelines.

4C Research environmental needs and linkages between water quantity and water quality.

4D Increase our understanding about how Ontarians value and use water.

4E Increase awareness and involve traditional knowledge and practices of Aboriginal people in Ontario.

Possible actions to Support Objective 5

Objective 5: Develop education programs and information sharing for all users.

To support Objective 5, stakeholders strongly advocated the need for water conservation and efficiency education and the importance of dispelling the myth of water abundance. There is a variety of potential ways to do this.

5A Launch a public education and awareness campaign.

5B Enhance school curriculum.

5C Build knowledge and skills within companies and organizations.

5D Educate and train water professionals.

Please see the Appendix for a summary of options for Targets and Possible actions for an Ontario Water Conservation and Efficiency Strategy.

Questions to Consider

Guiding Principles and Mission Statement

1. Should Ontario's Water Conservation and Efficiency Strategy include guiding principles and a mission statement? If yes, do you have any comments on the proposed guiding principles and mission statement?

Objectives

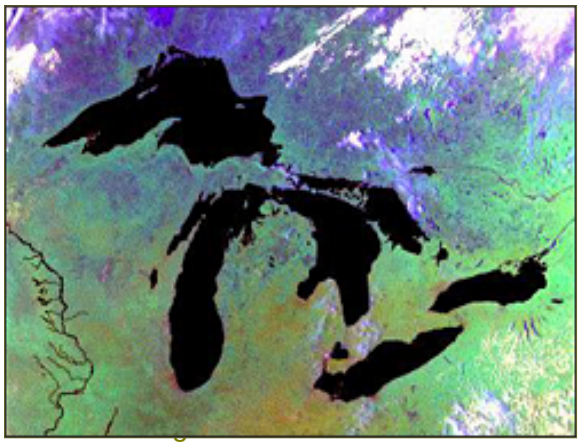
2. Do you have any comments on the proposed objectives?

Target Setting

3. Should the strategy have targets? If so, what kind and why? How should they be implemented?

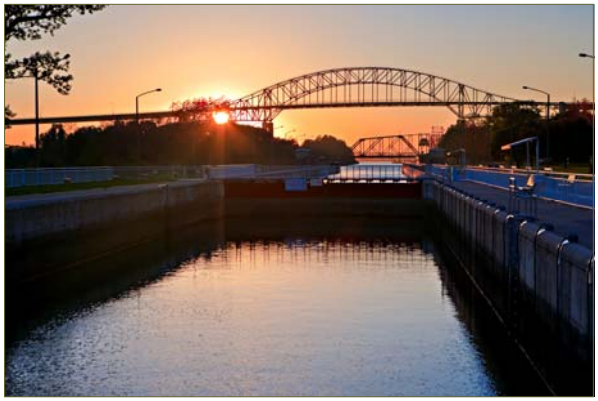
Possible actions

4. Do you have any comments on the possible actions?



Satellite Image of Great Lakes*

Intra-Basin Transfers



International Bridge over St. Mary's River
Sault Ste Marie, Ontario

*Credit: provided by the SeaWiFS Project, NASA/Goddard Space Flight Center, and ORBIMAGE
http://visibleearth.nasa.gov/view_rec.php?id=793

Part 2: Proposals for Managing New or Increased Intra-Basin Transfers

Background

Ban on Inter-Basin Transfers

Having enough water in our lakes, rivers, streams, wetlands and aquifers, is critical to keeping the ecosystem healthy and functioning while ensuring we can meet our water needs in a sustainable way. Ontario is already a leader in implementing some of the most rigorous regulations to protect the basin waters having banned nearly all **inter-basin water transfer**s a decade ago (1999, under the *Ontario Water Resources Act*). Ontario's continuing ban exceeds the commitments of the Great Lakes–St. Lawrence River Basin Sustainable Water Resources Agreement (the Agreement). It applies to water **transfers** out of the province's three major water basins, namely the Great Lakes–St. Lawrence River Basin, the Nelson Basin and the Hudson–James Bay Basin.

Regulation of Intra-Basin Transfers

To fulfil Ontario's commitments under the Agreement, we are proposing to further improve the way we manage water takings so that we can better identify and regulate new or increased **intra-basin transfers.** These are **transfers** of water from the watershed of one Great Lake to another.

The *Safeguarding and Sustaining Ontario's Water Act* amended the *Ontario Water Resources Act* (OWRA) in 2007 to implement key commitments of the Agreement. A key change was a new ban on **intra-basin transfers,** unless strict exceptions specified in the OWRA are met, based on the environmental criteria committed to in the Agreement. The feedback we receive on the

The Agreement's Intra-Basin Transfer Requirements

Article 201

Describes criteria for managing exceptions to the ban on water **diversions** (e.g., **intra-basin transfer**s):

- New or increased **transfers** must meet Exception Standard criteria (below).
- Larger **transfers** require **Regional Review** by the **Regional Body** (representatives of the 10 Great Lakes jurisdictions). The **Regional Body** reviews the proposal, seeks input from the public and basin First Nations and U.S. Tribes, and issues a public Declaration of Finding on whether the proposal meets the Exception Standard criteria.

Exception Standard Criteria:

- Efficient use, conservation of existing water supplies.
- **Transfer** limited to quantities that are considered reasonable.
- Return of water after use to the source Great Lakes **watershed.**
- No significant individual or cumulative adverse impacts.
- Implementation of water conservation measures.
- **Transfer** meets applicable laws, agreements, including the Boundary Waters Treaty.

Article 207

Great Lakes jurisdictions must submit a list of existing water withdrawals**, consumptive uses and diversions/transfers** in the Basin.

For the purposes of defining new or increased **transfers**, each Great Lake **watershed** includes its upstream and downstream connecting channels.

proposals in this paper will help us develop the necessary regulations and guidance to support the legislation. The priority focus now is on the regulation of **intra-basin transfer**s. However, some of the proposed changes may also affect how Ontario manages **water withdrawals** (takings from surface water or groundwater in the basin) and **consumptive water uses** (the portion of a water taking not returned due to incorporation into products, evaporation or other processes). This section of the proposal papers discusses all three areas.

Five Fundamentals for Improving the Management of Intra-Basin Transfers

Our proposed approach for improving the management of **intra-basin transfers** has five fundamental parts:

1. Defining the Great Lakes **Watersheds**
2. Establishing Baseline Information
3. Identifying New or Increased **Transfers**
4. Regulating New or Increased **Transfers**
5. Administrative Changes to the Permit To Take Water Program

1: Defining the Great Lakes Watersheds

Under the *Ontario Water Resources Act,* the Great Lakes–St. Lawrence River Basin is divided into five Great Lakes Watersheds, based on surface water flow (Figure 3). There will be definitions of these watersheds in regulations made under the Act.

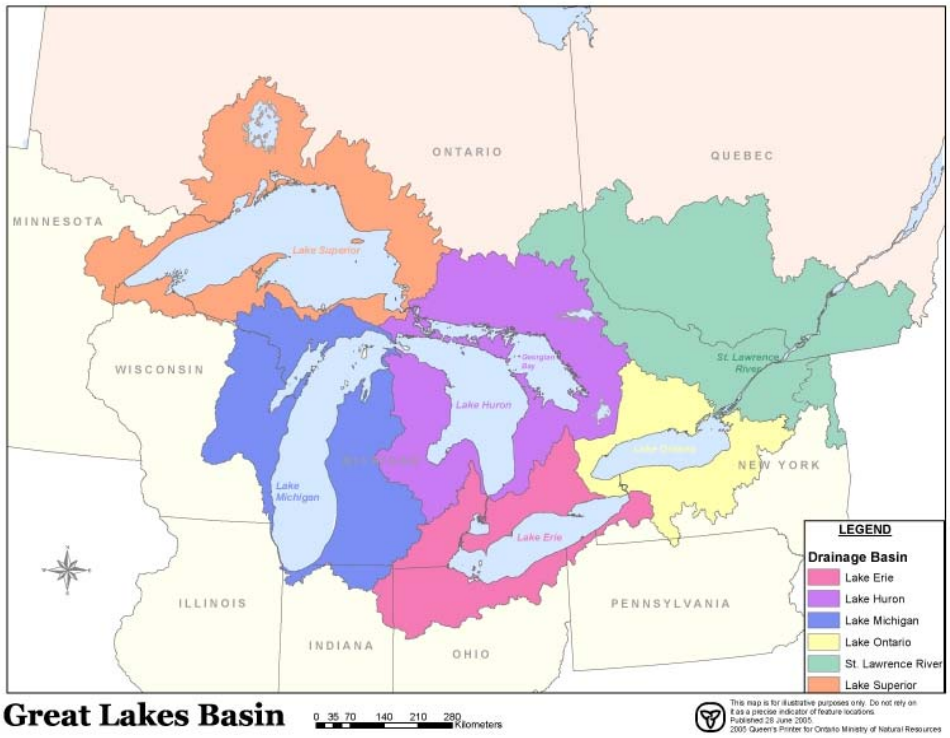


Figure 3: Great Lakes–St. Lawrence River Basin Watersheds

Connecting channels are water bodies that connect two Great Lakes. Consistent with Article 207 of the Agreement, we are proposing to have a new regulation stating that a connecting channel be considered part of both the upstream and downstream Great Lake **watersheds** for the purpose of identifying new or increased intra-basin transfers. The reason for this is to address situations where communities take water from a Great Lake and discharge it to a downstream connecting channel. The regulation would clarify that such uses are not considered **intra-basin transfers**.

To date, we have identified the St. Mary's River (connects Lake Superior and Lake Huron), the St. Clair River, Lake St. Clair, and the Detroit River (connect Lake Huron and Lake Erie), and the Niagara River (connects Lake Erie and Lake Ontario) as connecting channels. For example, as a connecting channel, the St. Clair River, Lake St. Clair and the Detroit River will be considered part of both the Lake Huron and the Lake Erie **watershed**s.

Accurate mapping of the Great Lakes **watershed** boundaries is needed so that water users and the province can identify where **intra-basin transfers** may be taking place. To supply these maps, we are proposing to use the most current, provincially adopted Great Lakes **watershed**s mapping. This mapping will reflect the best available provincial information. The maps will be updated periodically as information improves. There would be easy public access to current information on the Great Lakes **watershed** boundaries, including maps and data showing the approximate **watershed** and basin boundaries, version and date details, and notifications about Ontario's revisions and updates to the maps. Information could be made available in a variety of formats (e.g., online, CD-ROM disk, etc.).

2: Establishing Baseline Information

Under Article 207 of the Agreement, each Great Lakes jurisdiction must develop lists of existing withdrawals, **consumptive uses** and **transfers** within the Great Lakes–St. Lawrence River Basin (referred to in the Agreement as the "baseline"). The baseline lists will be the starting point for deciding what is a new or increased withdrawal, **consumptive use** or **transfer,** and what potentially may be subject to regulation under the Agreement and the OWRA For example, once a baseline **transfer** amount is determined for an existing **transfer**, requests for additional **transfer** amounts above the baseline and over 379,000 litres per day will be allowed only under the strict conditions that the Agreement imposes.

In our discussions to date, we heard that the baseline should be established using a combination of information gathered from different processes. Table 1 shows how we propose to use different methods to set baselines for withdrawals, **transfers** and **consumptive uses**:

Table 1: Proposed Methods of Determining Baseline Amounts.

Category of Water Taking	Proposed Baseline Amount
Withdrawals	The Ministry of the Environment would set the baseline volume using the approved amounts as specified in Permits to Take Water. The permitted amount may not be a single number, but rather a suite of parameters that describe the water taking (e.g., maximum permitted daily rate of taking, number of days of taking permitted per year, total amount of water taking permitted per year, and perhaps the 90-day average amount of water taking permitted). Once baselines are established, proposed increases in any of these water taking parameters would then trigger evaluation relative to the Agreement.

Category of Water Taking	Proposed Baseline Amount
	Using readily available information will be administratively simple for both water users and the province.
Municipal Transfers	Estimated[1] amount of water **transfer**red based on the Permit To Take Water approval volume, plus any additional volume in an approved Environmental Assessment. This approach is consistent with the Agreement, which allows the baseline to be set based on existing system capacity and/or existing approval limits. Considering Environmental Assessments for municipal **transfers** means that the baseline **transfer** volume can include additional growth beyond the Permit To Take Water amount. This will allow the baseline **transfer** volume to take into account existing approved plans and infrastructure investments.
Non-Municipal Transfers	Estimated[2] amount of water **transfer**red based on the Permit To Take Water approved volume plus any other relevant provincial approvals (e.g., an operating plan under the *Lakes and Rivers Improvement Act*), provided they adequately consider future water demands.
Consumptive uses	With input from water users, the province proposes to develop a table of generalized **consumptive use** coefficients for various Ontario water-use sectors and to apply these coefficients to the baseline withdrawal volumes.
[1, 2] Permit Holders currently **transfer**ring water across a Great Lakes **watershed** boundary must establish a baseline for their **intra-basin transfer**. An application for a baseline determination must be made within two years from the time the OWRA provisions come into effect. A regulation under the OWRA would specify the acceptable methods that a water taker could use to estimate the amount of water that is **transfer**red. The regulation would also specify the factors that the **MOE Director** would consider in reviewing Permit To Take Water applicants' submissions for establishing baseline values. The baseline values will allow applicants to determine if their proposed withdrawals, **consumptive uses** or **transfers** are new or increased, in consultation with the Province.	

3: Identifying New or Increased Transfers

The baseline values will be used to determine whether a proposal to **transfer** water is a new or increased **transfer** that is subject to the OWRA. The volume thresholds that the Agreement specifies will be used to determine which proposals are subject to regulations governing **transfers**. The thresholds are based on both the volume of the proposed **transfer** and the pattern of water use (i.e., how much water is used on average over any 90-day period).

The Agreement refers to two volume thresholds—379,000 litres per day and 19 million litres per day **consumptive use**. **Transfer** proposals of 379,000 litres per day or more (the OWRA calls this the "threshold amount") are subject to specific requirements under the Agreement. These include meeting new environmental criteria and **Prior Notice** to the other Great Lakes jurisdictions before there is a decision on the proposal.

Additional requirements apply to proposed **transfers** and withdrawals involving a **consumptive use** of 19 million litres per day or more. **Transfer** proposals above this threshold must return water to the source Great Lake watershed and must undergo **Regional Review** by the 10 Great Lakes states and provinces. Proposed withdrawals involving a **consumptive use** of 19 million litres per day or more are subject to **Prior Notice and Comment** under the Agreement.

Consumptive use is the portion of a withdrawal or a **transfer** that is lost or otherwise not returned due to evaporation, incorporation into products or other processes. Generalized **consumptive use coefficients** are used to produce a reasonable estimate of **consumptive use** for different categories of water use. However, they do not take individual processes or system-specific circumstances into account. As a result, calculations using coefficients may produce estimates that are not accurate for individual operations. When there is a need for a more accurate determination of **consumptive use**, site-specific assessments can be undertaken. The purpose of these assessments would be to quantify the **consumptive use** and produce a specific **coefficient** for individual operations.

Screening Water-Taking Applications for Consumptive Use

To ensure that we accurately identify all new or increased water taking or **transfer** proposals that would meet or exceed the 19 million litres per day **consumptive use** threshold, we are proposing to screen all future Permit To Take Water applications using the process in Figure 4.

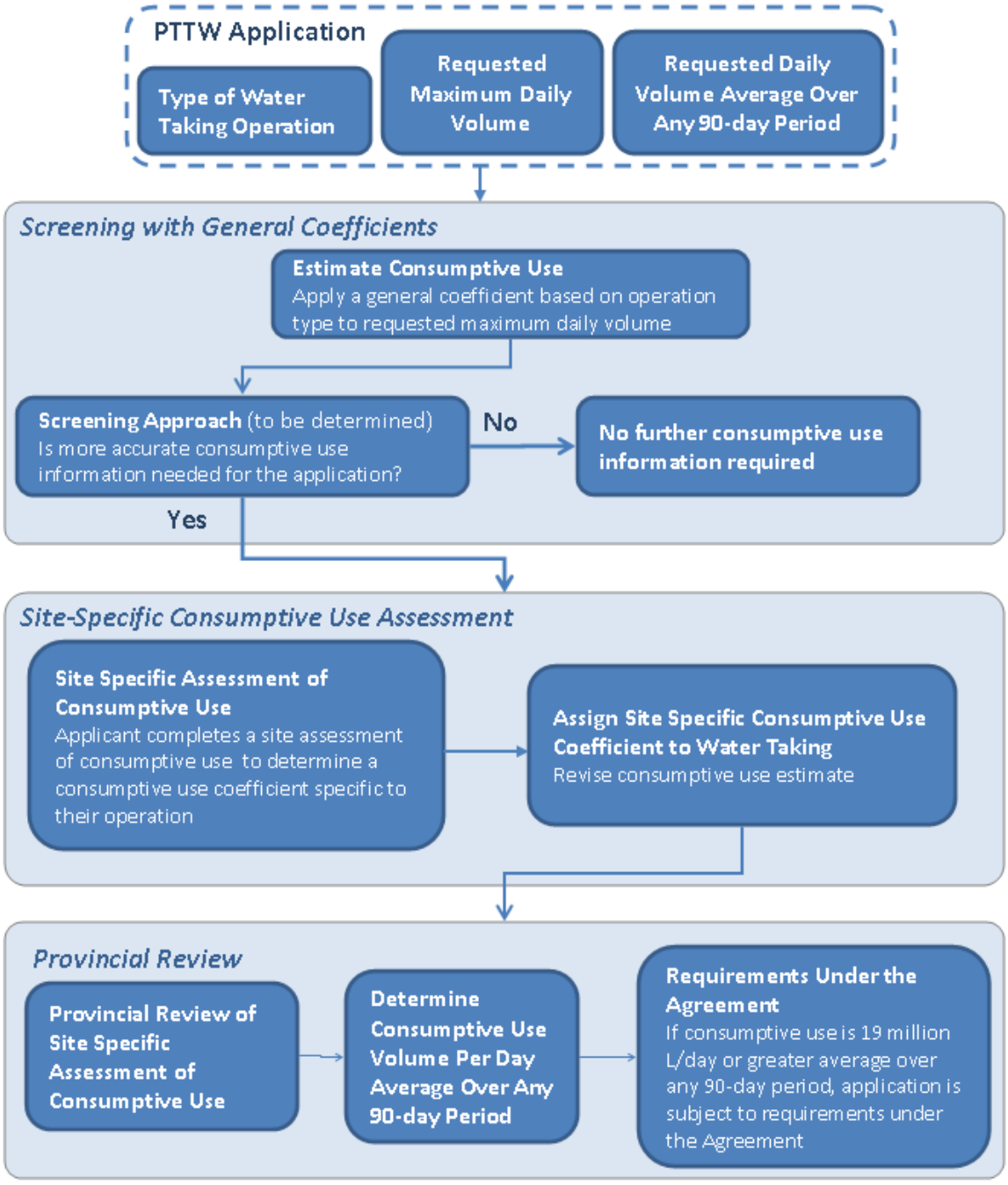


Figure 4: Proposed Screening Process for Future Permit To Take Water Applications.

All Permit To Take Water applicants would have to provide their requested daily volume, averaged over any 90-day period. This would be in addition to indicating their requested maximum daily volume and the type of water-taking operation. Initially, there would be screening of all applications (including proposed withdrawals and **transfers**). The screening process would apply generalized **consumptive use coefficient**s to the proposed *maximum daily* water taking volume to estimate their consumptive water demand. If the estimated *maximum daily* consumptive water demand were to be over a pre-determined screening level, the applicant would have to undertake a site-specific **consumptive use** assessment. The assessment would determine a **consumptive use** coefficient for their individual operation. To ensure the

identification of all proposals that are subject to additional requirements under the Agreement (e.g. **regional review**), a conservative screening level (e.g., 17 million litres per day) would determine those that would require a site-specific assessment.

The province would review site-specific assessments. If acceptable, they would then be applied to the daily withdrawal volume (averaged over any 90-day period) to decide if the proposed water taking is at or over the 19 million litres per day **consumptive use** threshold and, therefore, subject to **Regional Review** (in the case of **intra-basin transfer**s) or **Prior Notice and Comment** (in the case of withdrawals).

The province would collaborate with individual sectors in developing guidelines for completing the site-specific **consumptive use** assessments. The generalized **consumptive use coefficient**s are under development. Prior to finalizing the coefficients, we will be seeking input from individual sectors, as well as providing the public with an opportunity to provide comments,

Improving Consumptive use Information for All Water Users

More accurate information on **consumptive use** will also support the achievement of other objectives related to **intra-basin transfers** and withdrawals under the Agreement (e.g., water-use reporting), administering water charges and better water management (e.g., water budget studies).

To help improve **consumptive use** information, other Permit To Take Water applicants (besides high-volume users) could be required or encouraged to do site-specific assessments, such as those who are:

- above a lower volume threshold (e.g., proposals for new or increased **transfers** of 379,000 litres per day or more);
- considered to be 'highly consumptive' according to Section 5.5 of **O. Reg.** 387/04 Water Taking and Section 3 of O. Reg. 450/07 Water Charges; and/or
- within stressed **watersheds** (e.g., as determined by water budgets under the *Clean Water Act, 2006*).

The knowledge gained through the site-specific **consumptive use** assessments will, over time, help to refine the generalized coefficients for various sectors. This would continually improve the accuracy of **consumptive use** information for reporting purposes, water resource research and decision making.

We recognize that requiring site-specific **consumptive use** assessments would place an added administrative and financial burden on Permit To Take Water applicants. Therefore, we are using this proposal paper as a starting point to discuss with interested parties which types of water takings should be required to do a site-specific assessment.

4: Regulating New or Increased Transfers

New or increased **transfers** that exceed the thresholds will be subject to strict conditions laid out under the Agreement and the OWRA. Article 201 of the Agreement provides the criteria for exceptions to the ban on **intra-basin transfers**. Ontario calls these **exception criteria**. The criteria are:

- The *water **transfer**red is returned*, either naturally or after use, to the same Great Lakes **watershed** from which it was taken (source **watershed**), except for an amount prescribed by the regulations that may be lost through **consumptive use**.
- There will be *no significant individual or cumulative adverse impacts* on the quantity or quality of the waters or **water dependent natural resources** of the basin, considering the potential cumulative impacts of any precedent-setting consequences.
- The *efficient use and conservation of existing water* supplies cannot reasonably avoid the **transfer**.
- The ***transfer** amount is reasonable*, given the purposes for which the **transfer** is done.
- The **transfer** is implemented to incorporate *feasible, environmentally sound and cost-effective water conservation measures* to minimize the taking of water and losses of water through **consumptive use**.
- The **transfer** is implemented to ensure that it *complies with applicable laws and agreements,* including the Boundary Waters Treaty of 1909.

To manage new or increased **intra-basin transfers**, we will need to identify when and how to apply these **exception criteria**. At this time, we are proposing to implement the criteria as stated in the Agreement. As the Agreement is implemented and our understanding of the impact of water use on basin waters improves (e.g., effects due to climate change or cumulative withdrawals and **transfers)**, there may be a need in the future to strengthen the criteria for regulating **intra-basin transfers** in Ontario.

When to Apply the Exception Criteria

The province (and the other Great Lakes jurisdictions, if **Regional Review** is required) will require detailed information on proposed **transfers** in order to ensure that they satisfy the **exception criteria** and additional intra-basin transfer criteria (e.g. demonstration of no reasonable, environmentally sound or cost effective alternatives to the transfer for large transfers or those that cannot return the water to the source Great Lake watershed). Water providers need some degree of assurance that they can supply the water they need to accommodate a planned project or the future growth of a current one. Therefore, it is critical to assess the proposed **intra-basin transfer** when:

- There is enough detail on the proposed **transfer** to adequately assess whether the **exception criteria** have been met and/or addressed, and
- Water users can receive a decision on their proposal early enough in the planning process to be able to proceed with some level of certainty.

Assessing Municipal Proposals

Currently, municipalities use the **Municipal Engineers Association Municipal Class Environmental Assessment (Municipal Class EA)** to plan, design and construct infrastructure. Some municipalities also use the Master Planning provision outlined in the **Municipal Class EA** when they carry out long-term planning exercises for multiple water and wastewater projects.

Generally, Master Plans give an overview of the types of **Municipal Class EA** projects that a municipality needs to implement in order to accommodate the servicing needs of communities where growth has been approved. There is usually a 10-year planning horizon for this kind of infrastructure. Through the completion of subsequent **Municipal Class EAs**, each individual project that is outlined in the Master Plan (in particular those projects that are subject to the Schedule C process) will be studied

in more detail. This would include the analysis of project alternatives and options and an evaluation of the potential environmental, social and economic effects associated with the recommended option.

Upon the completion of the individual water and wastewater **Municipal Class EA** projects outlined in the Master Plan, the municipality usually applies to the Ministry of the Environment for a Permit To Take Water (if required) and/or a Certificate of Approval (C of A) for drinking water or sewage works. The municipality cannot proceed with the implementation of the project until the **MOE Director** issues the Permit To Take Water. Any C of A for drinking water or **sewage works** is also issued after the **Municipal Class EA** is considered complete, and before the project can be implemented. In our discussions to date, we have heard that the existing process should be used, with some changes, to address the Agreement's requirements. Figure 5 shows the proposed process.

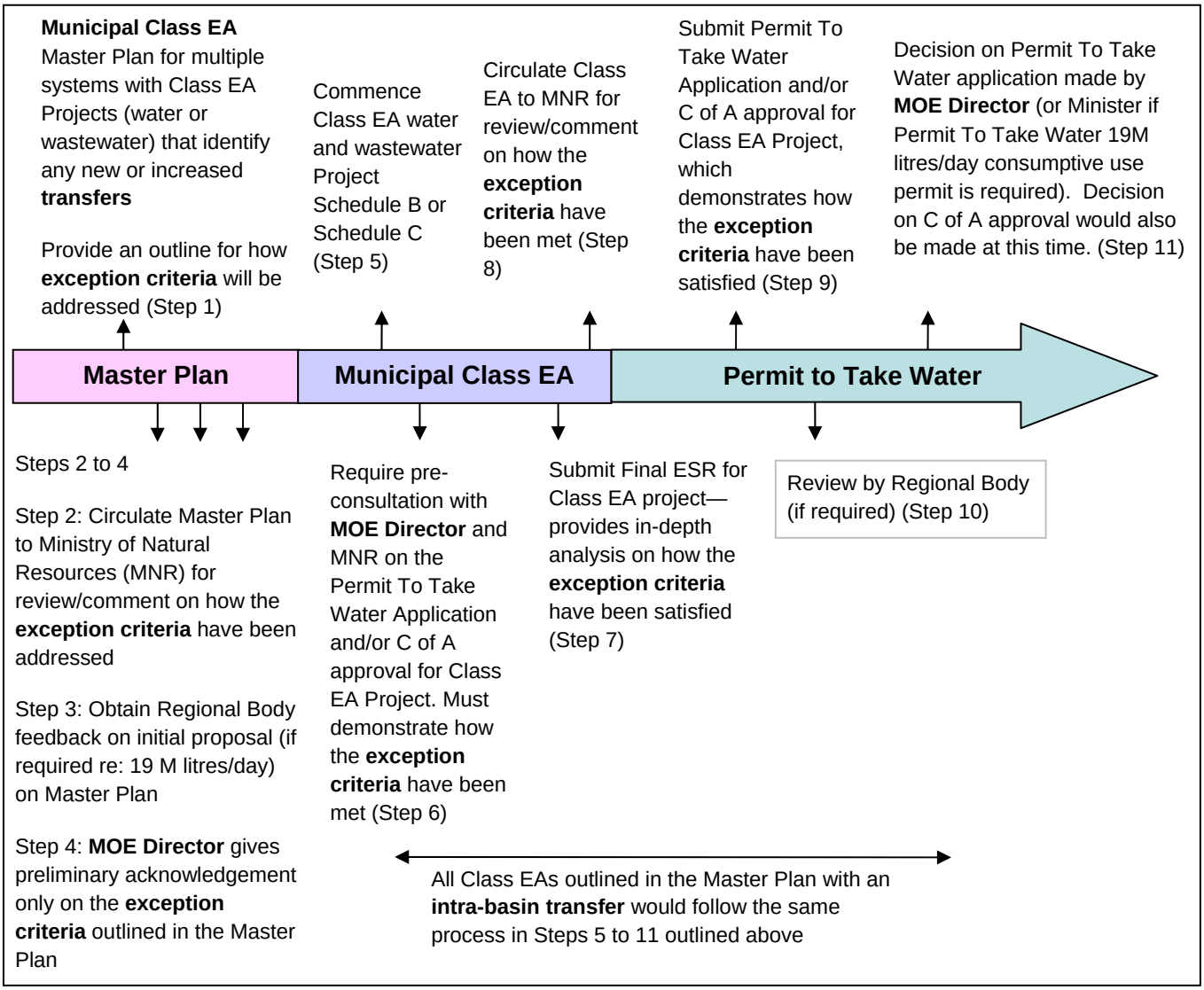


Figure 5: Proposed Municipal Process for Applying the Exception Criteria for New or Increased Intra-Basin Transfer

The modifications to the current process we are proposing are:

- Municipalities that have intra-basin **transfers** either amend existing **Municipal Class EA** Master Plans for water and wastewater projects or develop new Master Plans for multiple

systems. The **Municipal Class EA** Master Plan, the individual projects outlined in the Master Plan and any subsequent Permit To Take Water and/or C of A applications would all have to demonstrate how the **exception criteria** have been met. As the project moves through the implementation/approval process, the proponent would provide more detail on how the **exception criteria** have been met (e.g., the Permit To Take Water application would provide more detail than the Master Plan on how the **exception criteria** have been met) (see Figure 5, Step 1).

- The **MOE Director** would send an acknowledgement letter to the proponent to confirm that the **exception criteria** have been sufficiently addressed in the Master Plan at that point in the process. (Step 4)
- All **Municipal Class EA** projects that involve an **intra-basin transfer** (water or wastewater) greater than 379,000 litres/day but less than 19 million litres/day **consumptive use** that return the water after use to the source watershed (the first Exception Criterion) must be considered at least as Schedule B projects. The Province will give guidance on how a Schedule B project should be conducted for intra-basin transfers that do return flow, in order to ensure that the **Municipal Class EA** appropriately considers the **Exception Criteria**.
- All **Municipal Class EA** projects that involve an **intra-basin transfer** (water or wastewater) greater than 379,000 litres/day but less than 19 million litres/day **consumptive use** which cannot return water after use to the source watershed (the first of the Exception Criteria) must be considered a Schedule C project. (Step 5) The Province will give guidance on how a Schedule C project should be conducted for intra-basin transfers that do not return flow, in order to ensure that the **Municipal Class EA** appropriately considers the **Exception Criteria** and the alternative analysis that the OWRA requires for such proposals.
- Pre-consultation with the **MOE Director** on the associated Permit To Take Water application and/or C of A drinking water/the sewage works approval will also need to occur before a **Municipal Class EA** project is considered to be complete. (Step 6).
- If there is a need for a **Regional Review**, initial feedback will take place during the Master Planning process (Step 3). Any formal review would occur before a decision is made on the Permit To Take Water application. (Step 10)

To date, we have held discussions with the Municipal Engineers Association (MEA) about possible amendments to the **Municipal Class EA** to implement the Agreement. Although the process outlined above indicates how and when water and wastewater approvals could occur, the focus of the discussion to date has been on the types of **Municipal Class EA** projects undertaken for drinking water. Any amendments to the **Municipal Class EA** document would be subject to further consultation with the MEA, the proponent municipalities of the **MEA Class EA** and stakeholders.

If an individual project or undertaking is identified in a **Municipal Class EA** Master Plan that proposes a **transfer** or withdrawal involving a **consumptive use** of 19 million litres per day or more, additional requirements under the Agreement must be met. Consultation with the Ministry of the Environment and Ministry of Natural Resources is recommended on projects that involve a consumptive use of 19 million litres per day or more. Depending on the size and complexity of the project, it may be determined that the Agreement's additional requirements may be met through a Schedule C undertaking under the **Municipal Class EA** or an individual EA may be necessary.

The proposed process for assessing municipal proposals is a slight departure from the interim guidance "Technical Bulletin" that the Ministry of the Environment and Ministry of Natural Resources released on Environmental Assessment projects that involve **intra-basin transfer** proposals, dated March 16, 2009. The interim guidance suggested that all intra-basin transfers should be undertaken as a Schedule C project.

As described above, the current proposal would allow intra-basin transfers that return flow to the source Great Lake watershed to be undertaken as a Schedule B project. The reason for the departure from the previous "Technical Bulletin" is that the OWRA states that intra-basin transfer proposals greater than 379,000 litres/day but less than 19 million litres/day **consumptive use** that do meet the return flow criteria are only required to demonstrate that they have met the **exception criteria**, which includes an assessment of environmental impacts.

Although an assessment of environmental impacts is undertaken for all types of **Municipal Class EA** projects, the type of impact analysis expected for the **exception criteria** is done for **Municipal Class EA** Schedule B projects. Therefore, we are suggesting that **intra-basin transfer** proposals that do meet the return flow criteria be categorized as a Schedule B project. However, if the type of project is currently categorized in the **Municipal Class EA** as a higher schedule, then the higher schedule would prevail, regardless of whether flow is returned to the source Great Lake watershed.

If return flow to the source **watershed** cannot be met for new or increased **transfers** of more than 379,000 litres per day but less than 19 million litres per day **consumptive use**, the OWRA requires applicants not only to meet the remaining **exception criteria,** but also to undertake an assessment of alternatives to the proposed **transfer**. This includes demonstrating that:

- conservation of existing water supplies is not a feasible, environmentally sound and cost effective alternative to the proposed new or increased **transfer**;
- there are no feasible, environmentally sound and cost effective alternatives to the new or increased **transfer**;
- there are no feasible, environmentally sound or cost effective alternatives to satisfy the return flow exception criteria; and
- notice of the proposed new or increased **transfer** has been given to reciprocating jurisdictions.

These elements are similar to the types of analysis that are undertaken in a **Municipal Class EA** Schedule C project. Therefore, we are suggesting that **intra-basin transfer** proposals that do not return flow should be categorized as a Schedule C project.

There may be an argument that all intra-basin transfer proposals are of such significance that they should all be treated as Schedule C projects under the **Municipal Class EA** and that there should not be a departure from the Technical Bulletin. We are seeking your input on this issue.

This discussion paper focuses mainly on the **intra-basin transfers** of water and not on sewage transfers between Great Lakes watersheds where they are not related to an **intra-basin transfer** of water Where sewage is being transferred as a result of an **intra-basin transfer** of water, the proposed regulations discussed in this paper will regulate the sewage transfer. However, there may be some cases where sewage is being transferred between watersheds and the transfer is not related to an **intra-basin transfer** of water. To deal with such situations, an authority was included in the OWRA (through the SSOWA) to make a regulation governing the transfer of sewage between Great Lakes watersheds.

The ministry plans to deal with these **intra-basin transfers** of sewage that are not connected to **intra-basin transfers** of water at a later date. Before a regulation can be developed, there is a need for more research and analysis in a number of areas. First, we need to identify existing and potential new or increased **intra-basin transfers** of wastewater. We need to consider how to carry out these types of **Municipal Class EA** projects and are proposing to discuss this with the Municipal Engineers Association in the future. There is also a need for more research and analysis to help determine what restrictions are appropriate, the type of environmental standards that **intra-basin transfers** of sewage

should be required to meet (e.g., how the **exception criteria** will be met for sewage **transfers**), the type of conditions that should be applied to such **transfers** and the circumstances for banning **transfers** of sewage. Consequently, Ontario plans, if necessary, to regulate intra-basin transfers of sewage at a later date.

Assessing Non-Municipal Proposals

For non-municipal takings, the **exception criteria** would be applied through approvals like the Permit To Take Water. The OWRA requires applicants not only to meet the **exception criteria,** but also to undertake an assessment of alternatives to the proposed **transfer**. This includes demonstrating that:

- conservation of existing water supplies is not a feasible, environmentally sound and cost effective alternative to the proposed new or increased **transfer**;
- there are no feasible, environmentally sound and cost effective alternatives to the new or increased **transfer**;
- there are no feasible, environmentally sound or cost effective alternatives to satisfy the return flow exception criteria; and
- notice of the proposed new or increased **transfer** has been given to reciprocating jurisdictions.

The ministry will encourage pre-submission consultation with the **MOE Director** and the Ministry of Natural Resources to ensure consideration of the exception criteria early in the process. If there is a need for a **Regional Review**, initial feedback on the proposal could take place after the pre-submission consultation. Any formal review would take place before there is a decision on the Permit To Take Water application.

Deciding How to Apply the Exception Criteria

We recognize that water users and decision makers need more information on how to interpret and apply the **exception criteria**. At this time, we are not proposing to implement the criteria in regulation. Instead, the ministry is proposing to develop policies or guidelines to assist in interpreting the exception criteria. Any guidance material that is developed will be subject to further consultation. This could include guidance for:

- Analyzing, monitoring and reporting individual and cumulative impacts (e.g., through Permit To Take Water, Certificate of Approval, **Municipal Class EA**, other approvals).
- Evaluating alternatives to **intra-basin transfers** (e.g., through Permit To Take Water, **Municipal Class EA**).
- Meeting a higher standard of water conservation and efficiency for water **transfers.**
- Meeting requirements for return flow to the source Great Lake **watershed.**
- Defining or interpreting the terminology for the **exception criteria**.

Applying the **exception criteria** through policy and guidance would provide flexibility in adapting the criteria to suit different circumstances in specific proposals (e.g., more stringent requirements for larger **transfers**). This approach would allow us to work collaboratively with water users and other interested stakeholders in developing these guidelines and to consult on them. Over time, it would also ensure consistency with what the **Regional Body** and other Great Lakes jurisdictions are developing.

There may be a need to clarify the first criterion of the **Exception Criteria** on returning water to the source Great Lake **watershed** ("return flow"). Many municipalities discharge treated

wastewater to tributaries of the Great Lakes or connecting channels. Some municipalities in southwestern Ontario take water from one Great Lake **watershed** and then return the wastewater to a tributary of a downstream connecting channel.

When evaluating these types of **intra-basin transfer** proposals, the province is considering whether water returned to a tributary of a connecting channel would meet the requirement of returning water to the source Great Lakes **watershed.** Some stakeholders support the position that returning wastewater to a tributary of a connecting channel is return flow. Such a proposal would also have to meet the remaining **exception criteria**, including demonstrating that there would be no significant adverse impacts to the quality or quantity of water or to the ecosystem of the receiving tributary as well as other applicable environmental impact evaluations (i.e., Class EA process, PTTW, C of A applications). Others view this interpretation of return flow as being inconsistent with the intention underlying the criterion. An alternative option would be that water returned to a tributary of a connecting channel would not meet the requirement of return flow. We would like your input on this issue.

Regional Review

Under the Agreement, significant water diversions and **intra-basin transfer** proposals require **Regional Review** by the 10 Great Lakes jurisdictions. For **intra-basin transfers,** proposals involving a **consumptive use** of 19 million litres per day or more (averaged in a 90 day period) require **Regional Review**. The process involves a technical review by members of the **Regional Body** and input from the public and the Basin First Nations and U.S. Tribes. The **Regional Body** then issues a public declaration of finding on whether the proposal meets the environmental standards of the Agreement.

The **Regional Body** is currently developing the procedures, review criteria and application requirements that will guide **Regional Reviews**. We are proposing to develop policy and guidance to help water users meet Agreement requirements for regional review. These will be consistent with the **Regional Body's** guidance and procedures.

Permit To Take Water Conditions Associated with Transfers

There may be conditions in the Permit To Take Water for those who are **transfer**ring water or who distribute **transfer**red water. These conditions may include limiting the amount of water that can be **transfer**red, requiring use of water conservation and efficiency measures, and requiring monitoring and reporting of **transfer** amounts. Those **transfer**ring water will be required to measure (or estimate) and report their **transfer** volumes to the Ministry of the Environment, using a method acceptable to the **MOE Director**.

Article 301 of the Agreement requires each Great Lakes jurisdiction to annually collect and report to the **Regional Body** information on all withdrawals, **consumptive uses** and **transfers** that are over 379,000 litres per day (withdrawal volume), averaged over a 30-day period. Each year, the province will aggregate the information on withdrawals, **consumptive uses** and **transfers** following the format that the **Regional Body** prescribes and prepare a public report. The information that we and the other Great Lakes jurisdictions collect will be used to "improve scientific understanding of the waters of the Basin, the impacts of withdrawals from various locations and water sources on the Basin ecosystem, understanding the role of groundwater, and to clarify what groundwater forms part of the waters of the Basin" (Article 301).

5: Administrative Changes to the Permit To Take Water Program

To implement the **transfer** provisions of the Agreement, we are proposing to make some changes to the administration of the Permit To Take Water program. These changes include regulating "**related transferors"** and updating public notification procedures for Permit To Take Water applications.

Related Transferor

In some cases, water users may not take water directly, but are involved in **transfer**ring water between Great Lake watersheds. These users are referred to as **related transferors** under the *Ontario Water Resources Act*. For example, a municipality that receives water from another municipality and **transfers** it to an area located in a different Great Lake watershed would be a related **transfer**or.

The Ministry of the Environment would require each **related transferor** to be listed as a holder of the Permit To Take Water. The **MOE Director** would have the authority to impose terms and conditions for **transfers** on the person taking water, any **related transferor**, or both. Based on the feedback we received from stakeholders, we propose to use a system of schedules to list the specific terms and conditions applicable to each permit holder. Permit holders, including **related transferors**, would be able to appeal only the terms and conditions that apply to them.

The **MOE Director** would also have the authority to amend other types of approvals that may be relevant to the proposed new or increased **transfer** (e.g., **sewage works** approvals). In the event of a conflict between the terms and conditions of various approvals, the term or condition that gives the greatest protection to the quality or quantity of Ontario's water would prevail.

Environmental Bill of Rights

Under the Agreement, Ontario must consult with other Great Lakes jurisdictions on significant water withdrawal and **transfer** proposals (i.e., **Prior Notice** for transfers, **Prior Notice and Comment** on significant **consumptive uses** and **Regional Review** on significant **transfers**). We are proposing to amend the Environmental Bill of Rights Regulation to ensure Ontarians also have access to information on these types of proposals.

Most types of Permit To Take Water proposals must be posted on the Environmental Registry for at least 30 days. Third parties have the right to ask for an appeal of a permit decision to the Environmental Review Tribunal. Currently, there are a few exceptions to the requirement for posting. These include water takings to irrigate agricultural crops, short-term takings or proposals that have equivalent public participation through another approval process (e.g., have completed a **Municipal Class Environmental Assessment**).

During the recent consultations, we heard support for the following proposed amendments:

- Require Permit To Take Water applications for watering livestock or poultry and applications for irrigating agricultural crops to be posted on the Environmental Registry for public review and comment if they involve a **transfer** of water between Great Lakes **watersheds** of 379,000 litres per day or more based on a 90-day average.
- Require Permit To Take Water proposals for new or increased municipal **transfers** 379,000 litres per day or more based on a 90-day average to be posted on the Environmental Registry for public review and comment.

- Exempt both of these types of Permit To Take Water proposals from third-party rights under the Environmental Bill of Rights to seek leave to appeal the decision of the **MOE Director**.

This approach allows for additional public input to the Ministry of the Environment's decisions on Permit To Take Water applications for proposed new or increased **transfers**. For agricultural water **transfers**, this approach would give Ontarians access to information on the proposals and the opportunity to comment but would also give farmers greater certainty to continue with business operations since the Permit To Take Water decisions would not be subject to third-party appeals.

Judicial Review

The intent of Article 210 of the Agreement is to allow each Great Lakes jurisdiction to ask for judicial review of a decision that another jurisdiction makes about a proposed withdrawal, **consumptive use** or **transfer** under the Agreement. Under the authority in the *Ontario Water Resources Act*, we are proposing to develop a regulation that gives the other Great Lakes jurisdictions the ability to request a judicial review or, where a Permit To Take Water decision is made by the Director regarding a proposal for a new or increased **transfer**, to appeal the Director's decision to the Environmental Review Tribunal.

Questions to Consider

1. Please comment on the proposed approaches for calculating the baseline amounts. Are there other options Ontario should consider?

2. In setting the baseline for non-municipal **transfers**, what other approval instruments could be considered in addition to the Permit To Take Water?

3. What types of water-taking proposals should be required to undertake a site-specific **consumptive use** assessment?

4. Please comment on the suggested approach for applying the Exception Criteria for municipal **transfers**. Should other options be considered for intra-basin **transfers** that meet the first Exception Criterion (return flow to the source Great Lake watershed)?

5. What suggestions do you have to make sure the exception criteria are considered early in the process for non-municipal users?

6. What do you think should be taken into account when developing guidance on how to apply the exception criteria?

7. Please comment on the approach the province is considering with respect to return flow (i.e., whether water returned to the tributary of a connecting channel meets the return flow exception criterion).

8. What other comments or suggestions do you have about the proposed approach for regulating new or increased **transfers**?

Industrial Businesses
Goderich, Ontario

Water Charges Phase 2

Pulp Mill
Thunder Bay, Ontario

Part 3: Water Charges: Phase 2

Background

Developing and implementing water conservation and efficiency programs and managing basin **transfers** are just two areas of water management that Ontario provides. Other provincial water management programs include provincial government programs that regulate **water withdrawals** (e.g., the Permit To Take Water Program), provide information to support water quantity management (e.g., monitoring, water budget modelling, groundwater modelling) and support the province's partners (e.g., conservation authorities) in undertaking water research and management measures. These programs are critical for protecting our water resources, but do require significant funding.

Ontario businesses use water for many purposes, such as cooling, as part of their manufacturing processes and as an ingredient in their products. They depend on the province's stewardship and wise management of water to ensure they have current and future access to a reliable supply.

In June 2007, the Ontario Legislature passed the *Safeguarding and Sustaining Ontario's Water Act.* The Act gives the province the authority to develop regulations to charge commercial and industrial users for the water they take and use. Following extensive consultation with businesses and other stakeholders, we developed an approach to charge commercial and industrial water users.

Ontario's approach is consistent with practices in many other jurisdictions, where charges help to pay for a *portion* of what it costs the government to manage water quantity. The revenues from the charge are not applied to water quality management programs, geographically specific programs (e.g., Oak Ridges Moraine), or to programs that apply only to sectors that are not charged for taking water, such as nutrient management in the agricultural sector.

The charge for Phase 1 commercial and industrial users was implemented in 2007 (through Ontario Regulation 450/07). The regulation provides that charges start this calendar year (2009). The regulation imposes a charge of $3.71 per million litres of water used by a Phase 1 industrial or commercial water user. The types of commercial and industrial facilities included in Phase 1 are:

- Beverage manufacturing facilities incorporating water into the product
- Facilities that manufacture or produce bottled water or water in other containers (whether or not it's a beverage)
- Fruit and vegetable canning or pickling facilities incorporating water into the product
- Inorganic chemical manufacturing facilities incorporating water into the product
- Non-metallic mineral product manufacturing facilities incorporating water into the product
- Pesticide, fertilizer and other agricultural chemical manufacturing facilities incorporating water into the product
- Ready-mix concrete manufacturing facilities.

Now, we are proposing to move forward with Phase 2 to implement the charge for medium (e.g., petroleum producers) and low consumptive water users (e.g., thermal power producers).

The Four Guiding Principles of Ontario's Water Charge Framework

Through conversations with interested parties, we identified the following four principles for developing a water charge framework:

- *To ensure that those who create the need for and commercially benefit from water management programs contribute to the administrative costs of delivering those programs.* This is consistent with the user-pays principle of recovering the costs for providing a service from the service's users.
- *To be affordable and equitable*. The charge should not impose a significant financial burden on affected companies and should treat similar companies the same.
- *To be administratively efficient*. The charge should be easy to administer.
- *To promote more efficient water use by commercial and industrial water users.* The charge should signal there are costs associated with water management and may suggest water's inherent value.

Consumptive use Categories

For the purpose of the charge, we have grouped commercial and industrial water users into four categories (high, medium, low, very low), based on the overall **consumptive use** of water within a sector.

Table 1: the four categories of consumptive users.

Category (% range of consumptive use)	**Main Purpose of Water Use**
High (30% - 100%)	Incorporating into a product
Medium (1% - 30%)	Processing, cooling, irrigating, dewatering
Low (< 1%)	Cooling for thermal power production
Very low[1] (< 0.1%)	In-stream (e.g., hydroelectric dams, wetlands)

[1] Water users in this category would not be charged

The Charge Framework

The charge:

- is volume-based and charged annually, calculated using actual water use (i.e., total annual water withdrawal [million litres/year] x rate [$/million litres])
- applies to commercial and industrial water users who take more than 50,000 litres a day from groundwater and surface water sources or from municipal suppliers
- does not apply to non-commercial or institutional water use, including domestic use, agricultural water use, or water used for hydropower production
- is a variable rate—users taking water to incorporate into products (e.g., water bottlers) pay more than users who use and then return most of the water to the source (e.g., steel makers, mining companies, thermal power producers).

Phase 2 Water Charge

Proposed Implementation Timeline and Activities

During our consultations in 2007, many stakeholders (including Phase 1 users) supported applying the charge to all sectors. Implementing Phase 2 water charges would allow the government to recover a larger portion of its water management costs. We are proposing a start date of January 1, 2011, for medium and low **consumptive use**rs to begin paying water charges.

Proposed Water Charge Rates

The proposed rates for Phase 2 water takers are:

Category of Water Taker	**Charge Rate**
Medium consumptive water takers	$0.86 per million litres
Low consumptive water takers	$0.06 per million litres

The charge rates have been set at a level that will recover a *portion* of what it costs the government to manage water quantity in the province. The rates are also at a level that we believe will have a limited financial impact on the companies that would start paying for water in Phase 2. Table 2 below lists examples of the sectors that would be charged in Phase 2 and the rates they would pay.

Table 2: Examples of Sectors That Would Be Charged in Phase 2

SECTOR[1]	**RATE ($/million litres)**	**SECTOR**	**RATE ($/million litres)**
Chemical Product Manufacturing[2]	$0.86	Motor Vehicle Parts Manufacturing	$0.86
Construction	$0.86	Petroleum Product Manufacturing	$0.86
Food Manufacturing[2]	$0.86	Pulp & Paper Products Manufacturing	$0.86
Iron & Steel Product Manufacturing	$0.86	Recreation Facilities	$0.86
Metal Product Manufacturing[2]	$0.86	Thermal Power Generation	$0.06
Mining	$0.86	Wood Product Manufacturing	$0.86

[1]The list of sectors is not meant to be definitive. All medium and low consumptive commercial and industrial water users would be charged, except agriculture and hydropower.
[2]Excluding those facilities that are Phase 1 industrial or commercial water users (as per O. Reg. 450/07)

Grandfathering

Grandfathering in the Permit To Take Water program refers to an exemption in the ***Ontario Water Resources Act*** to obtain a permit. Section 34 (3) of the Act exempts a water taker from the requirement to get a permit if the works or structure associated with the taking was built before March 30, 1961. However, if the works associated with the taking were modified after March 30, 1961, the "grandfathering" provision of the Act no longer applies and the water taker must obtain a Permit To Take Water. Modifications include increasing the size of an intake pipe, installing a new intake pipe, deepening a well or constructing a new well, and/or changing a structure or works constructed for the **diversion** or storage of water.

Stakeholders who participated in discussions with the ministry about the development of the water charge program generally agreed that grandfathered commercial and industrial water users should be brought into the Permit To Take Water Program. O. Reg. 451/07 (which amended the Permit To Take Water regulation), requiring Phase 1 grandfathered water takers to apply for a permit, reflects this feedback.

We are proposing to take the same approach in implementing Phase 2 of the charge framework. A regulation would require all grandfathered commercial and industrial water users who would be subject to the water charge to obtain a permit.

Requiring grandfathered water takers to apply for a Permit To Take Water will ensure the fair and equitable application of the charge to companies across Ontario and will further support water management in the province.

Recognizing Special Situations Through Director's Rulings

During our consultations, we heard that some facilities that fall within the high consumptive category have water takings that are significantly less consumptive than other facilities in their sector (e.g., due to production process variations). They said that they belong in the medium consumptive category. Ontario's water taking charge is intended to be fair and equitable. Therefore, we are proposing to recognize these situations in the administration of the charge. The ministry proposes to amend Ontario regulation 450/07 to accommodate these situations. The amendment would allow a water user to apply to the ministry for a ruling to change the charge rate applied to their facility (i.e., to assert that the water user belongs to a different **consumptive use** category). In applying for an adjustment to its charge rate, the facility would have to conduct a site-specific **consumptive use** assessment to demonstrate that its **consumptive use** is lower than the **consumptive use** category range for its sector (as noted in Table 1). This site-specific assessment could be the same as the assessment for determining **consumptive use** for new or increased **transfers** (please see Part 2: Proposals for Managing **Intra-Basin Transfers**).

For example, a highly consumptive (Phase 1) facility applying to the ministry for a Director's Ruling on the charge rate would have to conduct a site-specific **consumptive use** assessment. Upon reviewing the information submitted, the **MOE Director** would have the authority to amend the rate charged to the facility, if the assessment demonstrates that the facility's **consumptive use** is less than 30 per cent (the range for high **consumptive use**r category is 30 to 100 per cent).

This provision would allow for the **MOE Director**'s discretion ("Director's Ruling") on a case-by-case basis.

Charging Municipal Water Users

The charge applies to commercial and industrial water users who withdraw more than 50,000 litres per day from groundwater and surface water sources or from municipal or other communal drinking water systems. For Phase 1 of the charge, the ministry charges commercial and industrial water users on municipal or communal supplies directly. To do this for water users on municipal systems, the ministry relies on data that municipalities are required to provide annually on their commercial and industrial water users.

We have heard from municipalities that there are numerous challenges in using this approach. In many cases, the information that the ministry needs to calculate the charge is difficult and costly for municipalities to collect, organize and send to the ministry in the required format.

To address these concerns, the ministry recommends simplifying the administration of the charge for commercial and industrial water users on municipal supply by amending the regulation and related administrative guidelines as required. Three potential approaches are:

- **Make minor amendments to the current municipal reporting requirements to reduce the number of records municipalities would have to submit.**

  Municipalities would have the option to submit records for only their industrial and commercial water users who use water above an annual volume threshold (e.g., 7.3 million litres/year). Currently, municipalities are required to report on all commercial and industrial water users unless the municipality has accurate information to identify water users that use more than 50,000 litres/day. Separating customers that use more than 50,000 litres/day is difficult, because most Ontario municipalities do not currently record daily water use for customers. Sorting customers based on an annual volume threshold could be easier and would reduce the number of records that municipalities provide to the ministry.

- **Require industrial and commercial water users that are drawing water from municipal supplies to report annual water-taking volumes to the ministry, and require municipalities to provide only an annual update of new accounts where the annual water taking exceeds a threshold set by MOE (e.g., 7.3 million litres per year).**

  Currently, municipalities are required to report on all commercial and industrial water users. Industrial and commercial water users would be required to report to the ministry.

- **Charge municipalities directly for the portion of their water taking used by commercial and industrial users**.

  Municipalities would be charged for the portion of water used by their commercial and industrial water customers. It is recommended that municipalities pass on the charge to their commercial and industrial customers. This approach is consistent with charges in British Columbia, Nova Scotia and Minnesota, where municipalities are charged directly for their **water withdrawals**. Under this approach, municipalities would no longer be required to report information on their commercial and industrial water users to the ministry.

Regular Reviews

There would be five-year reviews of the charges to assess water management costs, rates and other aspects of the water-charging program (e.g., categories of users). This would maintain the existing five-year review provision in O.Reg 450/07.

Questions:

1. What issues or concerns do you have (if any) about implementing Phase 2?
2. What issues or concerns do you have (if any) about allowing a water user to apply for a change in the charge rate on the basis that the facility's consumptive water use is not typical for its sector?
3. Which approach do you support (Option 1, 2 or 3) for changing the administration of the charge for industrial and commercial water users on municipal supply? Why? Do you have any other suggestions?
4. Do you have any other comments or suggestions about the proposed approach for moving forward with Phase 2 of charges for **commercial and industrial water takings**?

Learn More About Ontario's Management of Water Resources

To learn more about the Ontario laws and regulations mentioned in this proposal paper and other legislation concerning water management, protection and conservation in Ontario, please visit Service Ontario e-laws http://www.e-laws.gov.on.ca/index.html.

For more information on the Ministry of the Environment and its programs:

MOE Water website: http://www.ene.gov.on.ca/en/water/index.php

Email: picemail@ene.gov.on.ca
Telephone: 1- 800-565-4923, in Toronto 416-325-4000
By mail to the Ministry of the Environment, Public Information Centre, 135 St. Clair Ave. West, 1st Floor, Toronto, ON
M4V 1P5

For more information on the Ministry of Natural Resources and its programs:

MNR's Great Lakes Sustainable Water Resources Agreement website:
www.mnr.gov.on.ca/en/Business/Water/2ColumnSubPage/STEL02_164546.html

MNR's Water website:
www.mnr.gov.on.ca/en/STEL02_168326.html

Email: greatlakesannex.mnr@ontario.ca
Telephone: 1-800-667-1940 (TTY for Hearing Impaired - 1-866-686-6072
By mail to the Ministry of Natural Resources Information Centre, 300 Water St., Box 7000, Peterborough, ON K9J 8M5

Print and Alternate Format Copies

For a print copy of this paper or a copy of this proposal paper in another format (e.g., audio, large print or Braille), please contact:

Email: picemail@ene.gov.on.ca
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By mail to the Ministry of the Environment, Public Information Centre, 135 St. Clair Ave. West, 1st Floor, Toronto, ON M4V 1P5

How to Participate

To give us your comments on this paper, please visit the Environmental Bill of Rights Registry website: http://www.ebr.gov.on.ca and search by registry number 010-6350. The paper is also posted on the Ontario Regulatory Registry website: http://www.ontariocanada.com/registry/.
You can also send your comments, by email, fax or in hard copy to:
Ann Marie Weselan
Ontario Ministry of the Environment, Land and Water Policy Branch
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Words and Terms Used in This Paper

Agreement– the Great Lakes–St. Lawrence River Basin Sustainable Water Resources Agreement.

Baseline lists–lists of existing withdrawals, consumptive uses, diversions and **transfers** ("baselines") within the Great Lakes–St. Lawrence River Basin that the signatories develop under Article 207 of the Agreement. These lists will help to identify new or increased water uses.

Basin–the watershed of the Great Lakes and the St. Lawrence River upstream from Trois-Rivières, Québec within the jurisdiction of Ontario, Québec and the eight U.S. states that signed the Great Lakes–St. Lawrence Basin Sustainable Water Resources Agreement.

Commercial and Industrial Water Takings–water taken from a watershed source or municipal supply to use in commercial and industrial activities.

Consumptive Use–the portion of water withdrawn or withheld from a source or supply that is lost or otherwise not returned to the source due to evaporation, incorporation into products or other processes. For the Agreement, **consumptive use** is the portion of water that is considered lost to the Great Lakes–St. Lawrence River Basin.

Consumptive Use Coefficient–Measure of **Consumptive Use** that is a ratio of water consumed to the total water withdrawn (e.g., a coefficient of 0.2 means that 20 per cent of the water withdrawn is consumed).

Decision-Making Standard–a standard made further to Article 203 of the Agreement for the managing and regulating withdrawals and **consumptive uses**. It is a minimum standard.

Declaration of Finding–under the Agreement, the **Regional Body's** decision on whether the programs in place in each of the 10 Great Lakes jurisdictions meet or exceed, do not meet, would meet if certain modifications were made, the provisions of the Agreement and what options may exist to assist the jurisdiction in meeting the Agreement's provisions.

Diversion–**transfer** or removal of water from the Great Lakes-St. Lawrence River Basin into another watershed outside the Basin (inter-basin **transfer**), or from the watershed of one of the Great Lakes into that of another (intra-basin **transfer**). A diversion includes (but is not limited to) **transfers** via pipelines, canals, tunnels, aqueducts, channels, modifications of the direction of watercourses, tanker ships, tanker trucks or rail tankers. Diversion does not apply to water that is used in the Basin or Great Lakes watershed to manufacture or produce a product that is then **transfer**red out of the Basin or watershed. See **Transfer**.

Environmental Assessment–conducted under the *Environmental Assessment Act* to promote good environmental planning by assessing the potential effects of infrastructure projects before construction begins. The Act applies to most public and some private projects, including roads, landfills, water and sewer undertakings and electricity projects.

Environmentally Sound and Economically Feasible Water Conservation Measures–measures, methods, technologies or practices for efficient water use and for reduction of water loss and waste or for reducing a withdrawal, **consumptive use** or diversion that: (i) are environmentally sound, (ii) reflect best practices applicable to the water use sector, (iii) are technically feasible and available, (iv) are economically feasible and cost effective based on an

analysis that considers direct and avoided economic and environmental costs and (v) consider the particular facilities and processes involved, taking into account the environmental impact, age of equipment and facilities involved, the processes employed, energy impacts and other appropriate factors.

Exception Criteria–this has the same meaning as "Exception Standard" in Article 201 of the Agreement (see Part 2, section 4 of this paper). It is the environmental standard for regulating new or increased diversions or intra-basin transfers.

Inter-Basin Transfer–means the **transfer** or diversion of surface water and/or groundwater out of the Great Lakes–St. Lawrence River Basin or the other major water basins of the Province (i.e., the Hudson Bay Basin or the Nelson River Basin).

Intra-Basin Transfer–means the **transfer** or diversion of surface water and/or groundwater from the watershed of one of the Great Lakes into the watershed of another Great Lake.

MOE Director–Director designated for the authority under s. 34 of the *Ontario Water Resources Act*. NOTE: With respect to Water Charges, the MOE Director designated for authority has not yet been determined.

Ministry–"ministry" refers to the Ministry of the Environment.

Municipal Engineers Association Class Environmental Assessment (Municipal Class EA) –an approved planning document that describes the process that municipalities must follow to meet the requirements of the *Environmental Assessment Act*.

***Ontario Water Resources Act*, 1990 and Water Taking Regulation (Ontario Regulation 387/04)**–legislation and regulation, respectively, which promote Ontario's long-term environmental, social and economic well-being by providing for the conservation, protection and management of Ontario's waters and for using our water resources efficiently and in a sustainable way.

PTTW–Permit To Take Water.

Precautionary principle–Principle 15 of the "1992 Rio Declaration on Environment and Development": "*In order to protect the environment, the precautionary approach shall be widely applied by States according to their capability. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.*" This principle is adopted in the Great Lakes- St. Lawrence River Basin Sustainable Water Resources Agreement.

Prior Notice–the requirement under Article 201 of the Agreement that requires Ontario to provide notice to the other signatories prior to making any decision on proposals for a new or increased intra-basin **transfer** of 379,000 litres per day or greater, averaged in any 90-day period.

Prior Notice and Comment–the requirement under Article 205 of the Agreement that requires Ontario to provide the other signatories with detailed and timely notice and an opportunity to comment within 90 days on any proposal for a new or increased **consumptive use** of 5 million gallons per day (19 million litres per day) or greater averaged in any 90-day period.

Regional Body–the Great Lakes–St. Lawrence River Water Resources Regional Body, representing the 10 signatories (or their designates), established by the Agreement.

Regional Review–the collective review by all the signatories of the Agreement. The process includes opportunities for public participation and engagement of Basin First Nations and U.S. Tribes and culminates in a Public Declaration of Findings on whether a proposed water diversion or **transfer** meets Agreement standards.

Related Transferor–a person who does not take water under the permit but **transfers** water that has been taken under the permit OR a person who does not take water under the permit but distributes water that has been taken under the permit and that has been or will be **transfer**red, and belongs to a class of persons that is prescribed by the regulations made under the authority of the *Ontario Water Resources Act*.

Sewage Works–a facility consisting of a system of sewers for carrying off liquid and solid sewage.

Transfers–see **Diversions**. While the terms "diversions" and "transfers" are often used interchangeably, Ontario uses "transfers" in this paper because the term "diversions" has other meanings in Ontario legislation and regulation.

Water Dependent Natural Resources–means the interacting components of land, water and living organisms affected by the waters of the Basin.

Watershed–the area of land in which the water drains into a defined stream, river or lake. "Great Lakes watershed" means the land area in which the water drains into or forms a part of one of the Great Lakes.

APPENDIX

Options for What Ontario Could Include in Its Water Conservation and Efficiency Strategy

Table 1: Summary of Options for Targets

Type of Target	Options
1. Province-wide	a. Set province-wide targets b. Set watershed-based targets c. Do not set any province-wide or watershed-based targets
2. Sector-wide	a. Set targets for each sector b. Do not set targets for any sector
3. Individual Water User Targets	a. All Permit To Take Water holders could establish individual targets b. All high-volume water users above a specified threshold could establish individual targets c. Municipalities and businesses in water-stressed areas could establish targets d. Do not set any individual water use targets

Table 2: A menu of possible actions for an Ontario Water Conservation and Efficiency Strategy

Actions Ontario Could Take to Achieve Objective 1: Guide programs toward long-term sustainable water use including taking ecosystem needs for water into account
1A Implement water conservation and efficiency plans ▪ Water conservation and efficiency plans and/or water use audits could be done within certain geographic areas (e.g. stressed watersheds), within specific sectors (e.g. municipalities, industries, government institutions), and/or by certain Permit To Take Water holders. ▪ Development or implementation of water conservation and efficiency plans and/or water use audits could be phased in over time based on water supply conditions, financial capacity and/or technical capacity of the water user. ▪ Water conservation and efficiency plans and/or water use audits could be prepared internally or by a third party. ▪ Plans and/or audits could be formally approved by the province, a third party, or have no formal approval requirement. ▪ Plans and/or audits could be site-specific and take into account the economic, operational and environmental conditions of individual operations. Specific content would need to be identified, along with target dates. ▪ Once in place, the plans and/or audits could be evaluated and updated regularly (e.g., every 10 years, on renewal of the Permit To Take Water) or, be a one-time only requirement (no evaluation or updating). ▪ The province and water-use sectors could work collaboratively to develop guidelines for preparing plans and/or audits; and/or ▪ Water conservation and efficiency plans and/or water use audits could be a condition of any provincial grant funding.
1B Work towards long-term water availability planning and water use demand forecasting such as on a provincial, Great Lake and/or watershed basis. ▪ Forecasting could be phased-in to deal with priority areas (e.g., water-stressed sub-**watershed**s) and improve understanding about long-term water availability and demand (including cumulative impacts, climate change, etc.); and/or ▪ Incorporate water conservation and efficiency into integrated watershed-based water, wastewater and stormwater planning.
Actions Ontario Could Take to Achieve Objective 2: Adopt and implement supply and demand management to promote efficient use and conservation of water resources.
2A Develop provincial regulatory measures. ▪ Enhance the Permit To Take Water program so that permit holders report on their water conservation and efficiency achievements. ▪ Continue to develop and update provincial water efficiency standards under the Ontario Building Code and the proposed *Green Energy and Green Economy Act*. This may include: Ontario adopting water efficiency standards for water-using products and updating existing standards (e.g., toilets), adopting new water efficiency standards for water-using products (e.g., rain sensors on residential and commercial landscape automatic irrigation systems), and/or reviewing water efficiency standards every five years. ▪ Support a water efficiency labelling system for water-consuming products (e.g., like the U.S. Environmental Protection Agency's partnership program, *WaterSense*); and/or consider water conservation and efficiency when acquiring goods and services and/or making capital investments,

such as constructing new provincial facilities.

2B Promote municipal initiatives such as volume-based pricing and full cost recovery.

- *Minimizing water wasting on municipal systems*. Municipalities could be required/encouraged to adopt water conservation by-laws that minimize wastage of drinking water (e.g., irrigating lawns when it is raining). In conjunction with municipal organizations, the province could develop model municipal water conservation by-laws.
- *Metering municipally-supplied customers (not private wells).* Municipalities could be required/encouraged to meter new and existing developments (including multi-unit buildings, with phased-in metering of existing developments); and/or
- *Municipal water rate pricing rates and structures.* Municipalities could be required/encouraged to have a pricing structure which:
  - charges all water users the full cost of providing water and wastewater services and/or
  - encourages water conservation (e.g., inclining block rates**).**

2C Encourage leak detection and repair for Permit To Take Water holders and waters users on the municipal system.

- Encourage Permit To Take Water holders and water users on municipal water systems to identify and repair leaks using cost-effective, economical and environmentally sound methods. The province and sectors could work collaboratively to develop and provide information to water users on how best to do this.

2D Identify and develop financial incentives for cost-effective water conservation initiatives and technologies.

- Water conservation and efficiency measures should generally be self-financing (i.e., technical measures should pay for themselves within the life expectancy of the equipment or materials).
- Currently, water conservation and efficiency measures are funded through water users, municipal water utility rates or development charges, and provincial funding (e.g. infrastructure grants). Funding is generally based on business case analysis, to identify measures that are cost effective and environmentally sound.
- There could be opportunities to continue and/or expand the way water conservation and efficiency initiatives are financed.

Actions Ontario Could Take to Achieve Objective 3: Improve monitoring and standardize data reporting among state and provincial water conservation and efficiency programs.

3A Establish methodologies for calculating water conservation and water efficiency performance indicators and conduct benchmarking for some or all sectors.

- Methodologies could be developed for either all or some sectors, with their participation.

3B Include standard water consumption information on municipal consumer water bills (e.g., like electricity bills).

- The province could specify the information that must be on the bill; and/or
- Model consumer water bills could be developed.

3C Put measures in place to monitor, account for and report on municipal water loss.

- The province could encourage/require municipal drinking water system owners to measure and monitor water loss and provide guidance to municipal drinking water system owners on how to calculate water loss; and/or
  Municipal drinking water system owners could be required to report annually on water loss to municipal councils, the public and the Ministry of the Environment.

3D Track and report Ontario's progress with, and the effectiveness of, its water conservation and efficiency program.

- The province would report annually on its water conservation and efficiency program progress.
- The province would conduct a five-year review of its water conservation goals, objectives and programs.
- The province would report to the public and the Great Lakes Regional Body; and/or
- The province could make information, including Ontario trends in the efficient and sustainable use of water, readily available to the public and share the information with other jurisdictions.

3E Connect with other jurisdictions when developing water conservation and efficiency performance indicators, benchmarks, monitoring and reporting requirements, etc.

Actions Ontario Could Take to Achieve Objective 4: Develop science, technology and research

4A Support water conservation technologies and practices.

- Support research to identify the potential for water conservation and efficiency in sectors and the associated business case.
- Encourage and support organizations to identify research priorities for water conservation and efficiency technologies and practices as the basis for developing the best management practices for sectors and/or water conservation and efficiency plans.
- Support research, development, testing and commercialization of modified, new and innovative water efficient technologies and approaches.
- Support research to identify linkages between water and energy conservation and promote innovative technologies that save both water and energy.
- Monitor and evaluate the technical and economic performance of water efficient technologies.
- Work with other parties to evaluate technologies.
- Develop guidance for new, innovative technologies and practices like rainwater harvesting and grey water use; and/or
- Establish mechanisms for organizations to collaborate on research efforts and to share information and insight into cost-effective, available technologies, across sectors and with other jurisdictions.

4B Develop water conservation and efficiency standards or guidelines.

- Research potential water conservation and efficiency standards to support the development of made-in-Ontario codes and standards.
- Support research to identify water-use needs for residential and commercial landscape irrigation; and/or
- Develop guidelines for designing water efficient residential and commercial landscaping, soil characteristics, etc. that could be included in municipal development standards.

4C Research environmental needs and linkages between water quantity and water quality.

- Support research on the ecological need for water to ensure **watershed** health and resiliency.
- Support research on the development of water conservation and efficiency technologies and practices that maintain and enhance natural water sources like green infrastructure that capture and use storm water onsite.
- Support research to gain a better understanding of the linkages between water quantity and water quality, in the context of water conservation and efficiency; and/or
- Support research to get a better understanding of the links that water conservation and efficiency have to climate change mitigation and adaptation.

4D Increase our understanding about how Ontarians' value and use water

- Support social science research to understand and influence human behaviour and attitudes about water use.

4E Increase awareness and involve traditional knowledge and practices of Aboriginal people of Ontario

- Develop relationships and programs to integrate Aboriginal traditional knowledge and practices about water's importance and its sustainable use.
- Support research about traditional names of rivers and lakes and look for opportunities to promote their usage; and/or
- Promote the Mother Earth Water Walk, its messages, and promote similar initiatives in communities.

Actions Ontario Could Take to Achieve Objective 5: Develop education programs and information sharing for all water users.

5A Launch a public education and awareness campaign.

- The province could lead a social marketing campaign with consistent messages and materials that municipalities and others could customize. The campaign could focus on increasing public awareness and understanding of the value of water (including its intrinsic value), getting rid of the myth of limitless abundance and instilling responsible water use. The campaign could include focused messaging for youth, elders, and acknowledge the traditional role of Aboriginal women, which is to care for water.
- Household water audits could be promoted (integrated with energy audits, where possible) to help people take control of and make changes in their water use; and/or
- Stakeholders in water conservation and efficiency could participate in communicating conservation messages.

5B Enhance school curriculum.

- Develop primary, secondary and post-secondary school curriculum and provide supporting educational materials, including information about the traditional knowledge and practices of Aboriginal people related to water.
- Provide educational materials for organizations working with children; and/or
- Continue provincial support for activities like Children's Water Festivals and Children's Water Education Councils and extend these activities to Aboriginal communities.

5C Build capacity and skills within companies and organizations.

- Develop and promote new and/or update existing best management practices.
- Provide sector-specific expertise (e.g., extension services).

- Develop and share technical guidance to conduct water-use assessments and audits.
- Support a clearinghouse for water conservation and efficiency lessons, tools and techniques.
- Develop management and employee awareness and engagement in water conservation in day-to-day operations.
- Sponsor demonstration sites and pilot projects.
- Develop relationships and programs to share Aboriginal traditional knowledge and practices about the importance of water and its sustainable use; and/or
- Work with the other provinces and jurisdictions to share and make the most of water conservation and efficiency innovations.

5D Educate and train water professionals.

- Enhance water conservation research and education at the post secondary level for all relevant disciplines (e.g., engineering, landscape design, plumbing, etc.).
- Support sector-specific water conservation and efficiency training (e.g. through the Walkerton Clean Water Centre).
- Support continuing education to irrigation contractors, builders and industry through their professional associations; and/or
- Support related education and training opportunities to Aboriginal people.