Water Conservation Charges Proposal

April 2007

Protecting our environment. Ontario

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Ministry of the Environment

April 2007

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How to Comment

The province is seeking your written comments on a proposal for water conservation charges. Discussion questions are provided throughout the paper to guide your feedback. These questions are also listed in Section 4. Written comments can be submitted to:

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The deadline for receiving comments is: XXXX XX, 2007

Summary of the Proposal

This paper describes the details of a proposal for water conservation charges in Ontario. The primary purpose of the charge would be to recover a portion of the costs of programs required to manage water for the environmental, social and economic benefit of the people of Ontario. A secondary objective is to provide a financial incentive for companies to use water more efficiently.

Using the proposed legislative authority for water conservation charges as introduced in the *Safeguarding and Sustaining Ontario's Water Act, 2007*, the Government would target the proposed charges at commercial and industrial water uses based on the volume of water used from groundwater and surface water sources or from municipal water supplies. The proposed legislative authority would not permit charges to apply to water used for domestic, institutional, or environmental remediation purposes. Different charge rates would apply to different types of water use based on consumption. The charges would be phased in, starting with highly consumptive users. Other industrial and commercial users would be charged later, except agricultural and hydropower uses which, it is proposed, would never be charged.

The proposed legislation would allow a regulation to be made requiring historical takers that do not require a permit to apply for a permit if they are high consumptive users. Regulations would be developed so that all pre-1961 grandfathered self-supply water takers required to pay the charge, would be transitioned into the Permit to Take Water (PTTW) program. Those too would be phased in, starting with highly consumptive users of water.

If the *Safeguarding and Sustaining Ontario's Water Act, 2007* is enacted, a regulation may be made requiring users on municipal services to report on water taking. It is proposed that either municipalities or the users themselves will be required to report on the industrial and commercial water taken through municipal systems, and be required to pay a charge on those takings.

Purpose of the Proposal

The Ontario Ministry of the Environment (MOE) has prepared this consultation paper to provide information and promote discussion on a proposal for water conservation charges.

In 2003, the government announced its intent to charge companies for their water withdrawals. On February 12, 2004, the government released a White Paper on Watershed-based Source Protection Planning (White Paper) for public and stakeholder comment. The White Paper included a discussion of key principles of a charge, as well as various factors to consider in designing a charge (e.g., flat or variable rates). Stakeholders were asked to comment on key factors that would comprise the framework of a charge (i.e., the type of charge, how the charge should vary, and any exemptions).

More than 200 written submissions to the White Paper were received through the Environmental Registry. The ministry held eight consultation sessions with key stakeholders throughout Ontario to discuss the White Paper. In early 2004, the ministry also held sector-specific roundtables to obtain additional input on charges from key stakeholders. A number of sectors attended these meetings, including environmental groups, industry, agriculture, water bottlers, golf courses, hydroelectric producers, and conservation authorities. The ministry also met with

representatives from First Nations and the Federal Government. The Source Protection Planning Implementation Committee, which was established by the Minister of the Environment to provide the Ontario government with advice on the tools and approaches to implement watershed-based source protection, was also consulted on the issue of charging for water takings.

Based on comments received on the White Paper on Watershed-based Source Protection Planning, both from the Environmental Registry Notice and consultation sessions, the government has introduced legislative amendments to the *Ontario Water Resources Act* (OWRA) to enable the government to establish water conservation charges. The proposed legislation would, if passed, provide the authority for regulations to be made implementing a water conservation charge. Regulations would outline the details of the charge, including who the charge would apply to and charges rates.

This paper permits interested parties to provide their input on a detailed proposal for water conservation charges in Ontario which would be the basis for future regulations. In addition to providing the necessary background information, the proposal identifies the categories of water takers and users that would be charged and the charge rate that would be applied to highly consumptive users in the initial implementation phase. A number of questions are posed throughout the document to guide your feedback and the development of submissions. The government will consider submissions on this proposal along with comments received during the consultation process in developing the charges regulations.

SECTION 1: A Proposal for Water Conservation Charges in Ontario

1.1 Legislative Authority to Levy Water Conservation Charges

The *Safeguarding and Sustaining Ontario's Water Act, 2007* introduced legislative amendments to the OWRA which, if enacted, would enable regulations to be made detailing water conservation charges. These amendments would enable the government to establish a regulatory charge for water use, not a royalty or tax. A regulatory charge is imposed to further the goals of a regulatory regime. The purpose of a regulatory charge is to defray the costs of a regulatory scheme (not necessarily limited to reviewing applications and issuing permits) and/or to influence behaviour consistent with the goals of the program (e.g., promoting water conservation).

The authority would allow the Province to charge any person who uses water for industrial or commercial purposes. The proposed legislation does not allow charges to be levied for domestic uses, institutional uses or environmental restoration uses. It is proposed that regulations would be developed to charge high consumptive users first. Other commercial and industrial uses would be phased in later, except water used for hydropower production or agricultural uses, which, it is proposed, would never be subject to a charge (see section 1.5 for details).

The legislation would allow for enough flexibility to:

- set charges on a volumetric basis for water withdrawn directly from a water source or from municipal water supplies;
- phase-in the charge for different sectors based on their types of water use (e.g., incorporation into product, processing, cooling);
- allow for reduction in charge under certain conditions (e.g., implementing water conservation and water efficiency measures; economic considerations);
- impose charges on permitted or actual (metered or calculated) volume of water withdrawn;
- provide specific authority to charge different rates for different types of uses;
- provide authority to recover costs of water management programs carried out under the authority of other complementary statutes (e.g., *Lakes and Rivers Improvement Act*, *Clean Water Act*, 2006);
- govern the refund of water conservation charges; and,
- provide for consequences for the failure to pay a charge, including requiring the payment of interest, late payment penalties and the suspensions of or refusal to issue a permit until the charge is paid.

In addition to providing authority for the charge, a proposed amendment to the OWRA would give the government authority, by regulation, to require a PTTW for grandfathered water takers to ensure that the charge is applied equitably across Ontario. These water takers would not be required to obtain a permit unless the government exercises this proposed regulation-making authority. At the moment, no permit is required for water takings that commenced on or before March 29, 1961, subject to certain conditions.

A copy of the proposed amendments to the legislation can be found on the Legislative Assembly website (www.ontla.on.ca).

1.2 The Guiding Objectives of a Water Conservation Charge

Traditionally, Ontario has been viewed as possessing an abundance of water in its many lakes, rivers and streams, and aquifers. The competing demand for water resources is raising concerns of depletion and pollution of current supplies. As a result of this increasing demand, there is a heightened need to manage water in a sustainable way that encourages its more efficient use and ensures that adequate water resources are available over the long-term to meet both current and future human and ecological needs.

To ensure that there is enough water available for all uses including drinking water and

sanitation, agriculture, industry, and ecosystem functions, effective water management requires reliable information about the resource. Programs for managing risks to water resources are also needed to determine current and future water resource conditions and to assess the social, economic, and ecological consequences of existing and proposed water uses.

The costs of managing water quantity are significant. Currently, provincial water management program costs are covered by general revenues of the Government of Ontario. These management programs also provide commercial benefit to many water users, allowing them to make more informed business decisions based on their confidence in a sustainable water supply. One means of recovering these costs is to require these users who create the need for these management programs to pay a charge for their use of the water.

The overarching objective of the proposed charge is to contribute to the conservation, protection and sustainable use of water for the environmental, social and economic benefit of the people of Ontario.

Within this broad objective, some key principles were applied in designing the proposed water conservation charges, including:

- *To ensure that those who create the need for, and commercially benefit from water management programs, contribute to the administrative costs of delivering these programs.* This is consistent with the user-pays principle where the costs of providing a service are recovered from users.

- *To promote more efficient water use* by commercial and industrial water users by signalling a cost to manage the resource and providing financial incentive to adapt management practices to use water more efficiently. A charge on water withdrawals can encourage more efficient use of water.

- *To be affordable and equitable* – The charge should not impose a significant financial burden on affected companies and should treat similar types of businesses similarly.

- *To be administratively efficient* – The charge should not be cumbersome for companies to pay or for the government to administer.

1.3 The Framework

This section of the paper outlines the proposed framework for a provincial water conservation charge, including key issues in developing a charge. The framework includes several components, each of which is briefly discussed below and explained in more detail in the following subsections.

The province proposes to introduce a regulatory water conservation charge that would recover a portion of the costs of Ontario's water management programs. The Government would apply the proposed charge to commercial and industrial water users who withdraw more than 50,000 litres/day from groundwater and surface water sources or from municipal water supplies.

A cost recovery charge reflects a user-pay system, where those who benefit from the programs pay for the services. In this case, businesses that use water rely on the government's stewardship and wise management of the resource. However, the government currently funds the majority of the costs of water management from general tax revenues. This proposal strikes a balance between the proportion of water management costs recovered from commercial and industrial water users and the proportion funded by the government, by apportioning the costs to water users on the basis of who benefits commercially from water use and the relative impact that different types of water use have on the resource.

The proposed charge is volume-based, so that commercial and industrial users would be charged on a regular basis (e.g., annually) for the actual volume of water withdrawn. The charge would be calculated by multiplying the actual volume taken by the rates specified for

the sector. A volume-based charge is fair and could promote conservation. Charging based on actual use would require companies to pay only for the amount of water withdrawn rather than a potentially higher permitted volume. Charging based on actual water use may encourage more efficient water use by companies that are able to adjust their processes at relatively low cost. The charge rate would be the same within sectors and companies who use water more efficiently would withdraw comparably less water and would pay a proportionally lower total charge. Most stakeholders have expressed a preference that a charge be based on actual water withdrawal.

The charge framework proposes a rate structure with different rates, which would be based on the relative impact of the water use on water resources. One of the benefits of using a variable rate is that it allows for consideration of varying impacts of different types of water use. In this proposal, highly consumptive uses would be charged a higher rate than less consumptive uses. Highly consumptive users would be charged first and other industrial and commercial users would be charged in a subsequent phase.

1.4 What Would Charges Pay For?

The province administers a broad range of programs to manage water resources in Ontario – from protecting aquatic ecosystems to ensuring safe sources of drinking water for Ontarians. As the demand for a healthy and sustainable water supply increases, these water management programs are becoming even more critical.

The proposed charge is intended to recover only a portion of the province's overall water management costs. Revenues recovered from water users would pay some of the costs of the programs required to ensure the benefits of water use are shared fairly and that water resources are conserved and sustained now and into the future. These include programs that regulate water withdrawals (e.g., Permit to Take Water program), programs that provide critical information supporting water quantity management (e.g., water monitoring), and programs that provide support to government partners (e.g., conservation authorities) in undertaking water research and management measures. Specific costs incurred include field work, equipment, educational materials, staff wages, and data management.

Where programs or portions of programs strictly relate to managing water quality or are restricted to managing water in a specific geographic area (e.g., Oak Ridges Moraine), costs would not be recovered through the charge. These programs, and their costs, are not directly attributable to water withdrawals and should not be paid through this type of charge.

1.5 Who Would Pay the Charges?

It is proposed that the water management costs, identified above, would be recovered from commercial and industrial water takers who require a permit to take water (PTTW) under the *Ontario Water Resources Act* (OWRA) and from commercial and industrial users on municipal supplies. These companies use water to produce private benefits, such as revenue from sales of products or services and are creating the greatest need for province-wide, water management programs. It is reasonable for these users to pay a charge and contribute directly to the costs of managing water resources.

The charge would be phased in according to consumptive use (see section 1.6). Only highly consumptive users would be required to pay the charge in the first phase of implementation. Other commercial and industrial users, except agriculture and hydropower, would be phased in later. Table 1 summarizes which sector groups would pay the charge in the first phase and which groups would be charged later. Historical high consumptive users would also be required by regulation to apply for a permit and pay the charge.

Those sectors paying the charge would only pay for their share of the program costs. The costs of water management programs associated with sectors not being charged would not be recovered from those sectors that would pay the charge. For example, costs of programs to manage agricultural water use would not be recovered because the agricultural sector would not be charged.

The proposed charge would also apply to businesses currently grandfathered from requiring a PTTW. MOE is proposing to require permitting, through regulation, of those grandfathered water takers who would be charged (see section 3.4), again, starting with high consumptive users.

Who would the charge not apply to?
It is proposed that the water conservation charge would not apply to these water uses for the following reasons:

- *Agricultural* water use is considered to provide broad public benefit. Many farmers are already engaging in (and investing in) provincial programs (e.g., Environmental Farm Plans) to manage the impacts of their operations on water sources. For these reasons, agricultural water users are already not required to pay the PTTW administrative fee.
- *Hydropower production* is largely an in-stream use of water that has minimal impact on water quantity and quality. In addition, many hydropower producers already pay a water rental charge (approximately $130 million annually) under the *Electricity Act, 1998* to the Ministry of Finance.

How would the charge apply to municipalities?
Municipal water systems supply water for domestic use as well as for industrial, commercial, and institutional customers. The water charge must be applied to commercial and industrial municipal water users, otherwise, there would be an inequity between companies who obtain their water from municipal services and those who independently access their water. Even though the charge would apply to some municipal water users, it is not the government's intent to charge for municipal water used for domestic and other non-commercial purposes.

TABLE 1	
Sectors to be charged in the First Phase	***Future Phase(s):***
Commercial and Industrial uses (water in product), such as: *beverage production* *fruit & vegetable canning* *ready-mix cement products*	Other Commercial and Industrial uses, such as: *mining* *iron & steel products* *pulp & paper* *recreation facilities* Other Power Production, such as: *nuclear* *fossil fuel*

The charge would be applied through regulation either directly to highly consumptive commercial and industrial users on municipal supply or to the municipality directly for the portion of its taking that is highly consumptive.

How would the charge apply to federal lands and First Nations lands?
Generally, permits to take water have not been issued for water taken from a source located on federal and First Nations reserve lands. Permits are issued to First Nations who are withdrawing water from a source outside of reserves, typically for communal drinking water purposes. The taking of water for domestic purposes such as communal drinking water would not be subject to the proposed charge; therefore the charge would not apply to most takings by First Nations. If a PTTW is issued to a First Nations for commercial or industrial purposes because the water is being taken from a source outside the reserve, then the charge could apply; however, these decisions would be made on a case-by-case basis after consultation and discussion with the affected First Nation.

1.6 What Are the Proposed Charge Rates?

The proposed charge rates were developed to reflect commercial benefits derived from water use and the relative environment impact of different types of water uses. Companies would be charged using a volumetric rate for their total water withdrawals, whether the water is withdrawn directly from a water source or from a municipal supply. All companies within a sector would be charged the same rate. Different volumetric rates would be applied to sectors according to the overall consumptive nature of water use in that sector. Using this approach, more highly consumptive water users would pay a higher rate and a greater proportion of the water management costs than less consumptive and virtually non-consumptive users. By removing water from the watershed, consumptive uses can have a greater long-term impact on water resources and create a relatively greater need for water management programs.

For the purposes of the proposed charge, consumptive use is considered to be the portion of water withdrawn or withheld from a watershed that is lost or otherwise not returned directly to the watershed due to evaporation, incorporation into products, or other processes. This is comparable to the definition of consumptive use provided in the *Great Lakes-St. Lawrence River Basin Sustainable Water Resources Agreement*.

Consumptive Use Categories

To account for different types of water use in calculating the charge rates, all sectors have been grouped into one of four broad consumptive use categories – high, medium, low, and very low. Each category is assigned a corresponding 'consumptive factor'. Table 2 summarizes the consumptive use categories and factors.

The consumption rates and factors are derived in part from the Great Lakes Commission (GLC) 2003 report titled, *Measuring and Estimating Consumptive Use of Great Lakes Water*. The GLC report provides consumptive use coefficients by water use category among Great Lakes jurisdictions. Information on consumptive use was also supplemented from other sources, including jurisdictional research and stakeholder consultation. Together, this information was used to place water use sectors into one of four consumptive use categories (Table 2).

The consumptive factors are meant to reflect degrees of consumption between four broad types of water use and are not meant to accurately measure consumed volume by individual sectors or companies. The factors have been used to calculate the charge rates but would not be used to calculate the annual charge for each company. Annual charges would be calculated using the total volume of a company's annual withdrawal.

Charge Rates

Initially, the proposed charge would only apply to commercial and industrial users in the high consumptive category. Companies in the medium and low categories would be phased in later and their rates would be determined after the first phase of implementation. More details on the implementation of the charge are provided in section 3.

For each sector, water management program costs were apportioned according to consumptive volumes (see Table 2). The total volume amount of a sector's permitted annual water withdrawal was used to determine a volumetric rate. Using this approach, the high consumptive use category would be charged $\$3.71/dam^3$.

TABLE 2

Category	Consumption Rate	Category Factor	Purpose of Water Uses
High	approx. 30% - 100%	0.65	Water in product High evaporation
Medium	approx. 1% - 30%	0.15	Processing Cooling De-watering Other evaporation
Low	< 1%	0.01	Thermal power
Very Low	< 0.1%	0.001	In-stream (e.g., dams)

Table 3 lists the sectors that are proposed to be included in the high consumption category during in the initial phase of charging. The table also lists the sectors that would not be required to pay the charge.

Figure 1 compares the proposed rate for high consumptive uses in Ontario with existing rates for all types of uses in other jurisdictions.

Table 3

SECTOR[a]	RATE ($/dam^3)[b]	SECTOR	RATE ($/dam^3)[b]
Abrasive Products	$3.71	Agriculture – Animal	No Charge
Bottled Water	$3.71	Agriculture – Aquaculture	No Charge
Breweries	$3.71	Agriculture – Crops	No Charge
Fruit and Vegetable Products (Canning & Pickling)	$3.71	Dams & Reservoirs	No Charge
Gypsum Products	$3.71	Environmental Restoration	No Charge
Inorganic Chemical Manufacturing	$3.71	Forest Nurseries	No Charge
Lime Products	$3.71	Health Care & Social Services	No Charge
Other Non-metallic Mineral Products	$3.71	Power Generation – Hydropower	No Charge
Ready-mix Concrete	$3.71	Public Administration	No Charge
Wineries	$3.71	Provincial Parks	No Charge
Other Commercial and Industrial uses would be phased in and rates would be determined after the first phase of implementation.	TBD	Wetlands & Wildlife Protection	No Charge

[a] List of sectors is not meant to be definitive. Other sectors may be included if it is determined that they are highly consumptive users of water.
[b] One dam^3 equals 1 million litres.

1.7 Calculating the Charge:

Annual Water Conservation Charge = V x R

where: V = total volume of water withdrawn
R = unit rate of $3.71/dam^3*

To calculate your charge, find your total annual volume of water withdrawn and multiply by the unit rate.

** One dam^3 equals 1 million litres*

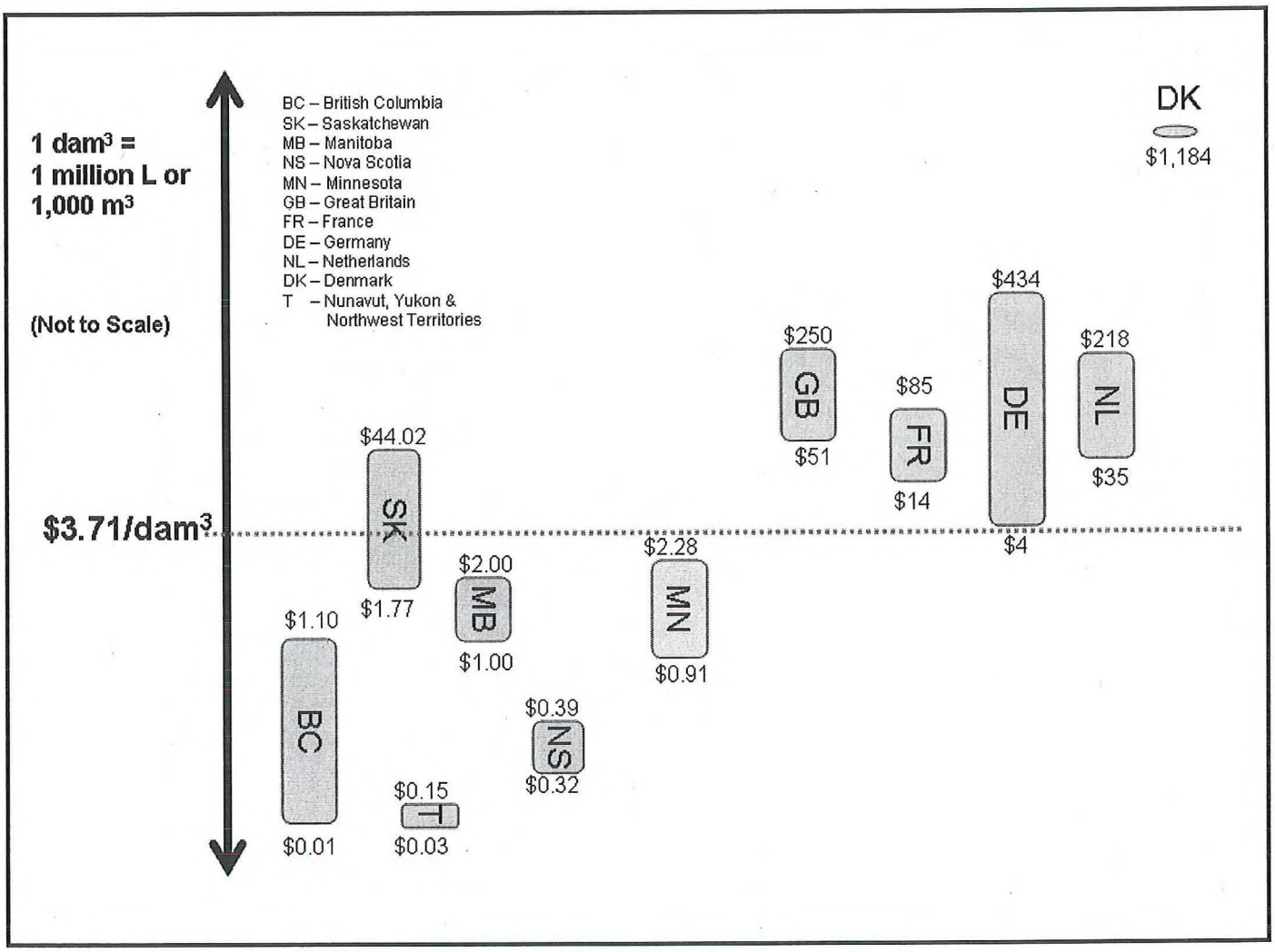


Figure 1: Comparison of charge rates for all types of water use in other jurisdictions.

Ontario 3.71 per 1 million litres or 1,000 cubic metres.

DISCUSSION QUESTIONS

1. **Do you agree with the user-pay basis of the charge; should commercial and industrial users be charged for the water that they withdraw?**

2. **Are there other water users that should or should not be charged?**

3. **Are the loss factors and factor categories (High, Medium, Low and Very Low) appropriate? Are the types of water use in each of the categories appropriate? For example, are "water in product" and "high evaporation" well suited in the "high" category? Keep in mind the benefit of keeping the charge straightforward.**

SECTION 2: How Would Water Conservation Charges Affect Ontario Businesses?

The proposed water conservation charge framework was developed in accordance with several principles and objectives. One objective was equity and affordability: similar businesses should be treated similarly and the charge should not impose a significant financial burden on affected companies. The ministry has conducted an economic analysis of the proposed charge using publicly-available financial information and permitted water volumes. The results indicate that the proposed water conservation charge would cause a negligible increase in the operating expenses for affected companies.

With the implementation of any new initiative, administration is often a concern. Accordingly, an administratively efficient framework is a supporting objective of the charge. The government intends to create a charging system that would be straightforward and convenient for companies to pay and efficient for the government to administer.

2.1 Periodic Review of the Charge

As a cost recovery regulatory charge, the proposed water conservation charge rates must reflect program costs. Therefore, the water conservation charge framework would be reviewed periodically to re-assess water management program costs and to confirm that the charges are reasonably linked to these costs. The review would also provide opportunities to verify that the charge is not a financial burden to affected sectors. Based on the reviews, the ministry would adjust the charge rate(s) accordingly. The first review is anticipated to be in 3 years, then every 5 years.

2.2 Temporary Exemptions

Once proclaimed, the legislation would provide regulation-making authority for temporary exemptions from paying the charge (e.g., for sectors experiencing financial hardship).

2.3 How Would Water Conservation Charges Affect Ontario Businesses on Municipal Supply?

Municipal water systems provide water to domestic, industrial, commercial, and institutional customers and apply a service charge to pay for this service.

Only commercial and industrial users in the high consumption category would initially be charged for their water use. Other commercial and industrial users on municipal supply, taking more than 50,000 L/day, would be charged in the future. Domestic and other non-commercial water users on municipal supply would not be charged.

The proposed charge rate of $\$3.71/dam^3$ is small compared to current municipal water rates. In 2005, commercial rates in Halton Region were between $\$600$ to $\$800/dam^3$ and approximately $\$680/dam^3$ in the City of Kenora. The City of Toronto 2007 proposed industrial water rate is approximately $\$1,530/dam^3$. Therefore, it is anticipated that the proposed charge would result in a nominal increase in water supply costs for affected companies.

For example, a company on municipal supply using 1 billion litres of water per year would pay an annual charge to the province of $3,710. By comparison, the company's existing municipal water service charge (assuming a rate of $\$1,530/dam^3$) would be $1,530,000 per year. In this example, the proposed provincial charge would be 0.24% of the municipal charge.

DISCUSSION QUESTION

4. **Do you anticipate that the proposed rate would create significant financial hardship for your sector or business? Please provide details (e.g., impact to your profit margin).**

SECTION 3: Implementation Issues and Considerations

3.1 When Would Charges Come Into Effect?

Implementation of the water conservation charge would be phased-in by sector according to consumptive use. The first phase would include highly consumptive users, such as beverage manufacturing, fruit or vegetable canning or pickling, ready-mix concrete manufacturing, and aggregate processing where water is incorporated as part of a product (e.g., slurry). Highly consumptive users on municipal supply would also be charged in the first phase. Other commercial and industrial uses which are medium to low consumptive users would be phased in later.

Water taking permits are issued based on permitted water volumes; however, the proposed charge would be based on the actual volume of water withdrawn. In many cases, the actual amount of water used is less than the maximum permitted amount. For example, the amount of water used by a beverage manufacturer may vary according to seasonal cycles of demand for their products. Implementation of the charge would be timed to ensure that accurate information on actual water use is available. This would mean that the earliest the charge would come into effect would be in 2009[1].

3.2 How Would Payments be Made?

The charge would be applied through regulation either directly to highly consumptive commercial and industrial users on municipal supply or to the municipality directly for the portion of its taking that is highly consumptive.

The charge would be paid annually. Once the annual water taking data is reported (March of each year), an invoice would be sent requesting payment of the annual charge amount. If annual water taking data is not reported, the charge would be based on the total annual permitted volume (volume permitted daily times number of days per year).

The proposed legislation also provides the authority to make regulations to require persons who take or use water, including those not required to obtain a permit, to monitor and report to the Director. If the *Safeguarding and Sustaining Ontario's Water Act, 2007* is enacted, the Ministry could propose that a regulation be made requiring users on municipal systems to report on water usage.

There would also be a mechanism for the province to refund charges to companies under certain circumstances (e.g., overpayment of the charge).

3.3 Are There Penalties for Non-Payment?

It would be an offence not to pay the water conservation charge and persons may face prosecution under the law. If a person who would be required to pay the charge fails to comply with the requirement, the Director would be able to, by order, suspend any permit to take water that has been issued to the person until the charge is paid, or refuse to issue any permit to the person until the charge is paid. Also, regulations would be developed to govern the consequences of late payment, including the use of late payment fees and interest.

3.4 Grandfathered Water Takers

Grandfathering in the Permit to Take Water Program refers to a clause in the *Ontario Water Resources Act* that excepts takings established prior to March 29, 1961 from obtaining a PTTW. Under the new proposed legislative authority, a regulation could be made requiring previously grandfathered water takers to obtain a PTTW.

MOE is proposing to require permitting of those grandfathered water takers who would be charged (i.e., highly consumptive commercial and industrial uses). Any water takers who are currently grandfathered and would be required to pay the

[1] By 2008, all permit holders will be required to monitor (or estimate) and report their water takings to the ministry through the monitoring and reporting requirements in O. Reg. 387/04.

charge would be required to obtain a PTTW from the ministry. Requiring permits for these water takers would provide fairness and equality across water takers when applying the charge.

Transition rules would be used with the purpose of phasing grandfathered water takers into the PTTW program. It is proposed that highly consumptive water users currently grandfathered be required to obtain a permit prior to 2009. It is proposed that the PTTW processing fee be waived for new permit applications by grandfathered water takers.

DISCUSSION QUESTIONS

5. **How should high consumptive users on municipal water systems be charged?**
6. **What method would you prefer to use to pay the charge, e.g., annual vs. quarterly payments, cheques or online payment, etc.?**
7. **What transition rules would be fair when beginning the permitting of "grandfathered" water takers?**
8. **Do you have any other comments about this proposal?**

SECTION 4: Discussion Questions

1. **Do you agree with the user-pay basis of the charge; should commercial and industrial users be charged for the water that they withdraw?**

2. **Are there other water users that should or should not be charged?**

3. **Are the loss factors and factor categories (High, Medium, Low and Very Low) appropriate? Are the types of water use in each of the categories appropriate? For example, are "water in product" and "high evaporation" well suited in the "high" category? Keep in mind the benefit of keeping the charge straightforward.**

4. **Do you anticipate that the proposed rate would create significant financial hardship for your sector or business? Please provide details (e.g., impact to your profit margin).**

5. **How should high consumptive users on municipal water systems be charged?**

6. **What method would you prefer to use to pay the charge, e.g., annual vs. quarterly payments, cheques or online payment, etc.?**

7. **What transition rules would be fair when beginning the permitting of "grandfathered" water takers?**

8. **Do you have any other comments about this proposal?**

Appendix A. Overview of Water Management and Use in Ontario

A.1 Water Management in Ontario

The Governments of Canada and Ontario each have separate and concurrent jurisdiction and authority over the management of different aspects of water resources and environmental protection. The province has primary responsibility for water management and drinking water safety, while the federal government may implement measures related to water through its jurisdiction over fisheries, navigation, and international boundary waters. The Canada-Ontario Agreement Respecting the Great Lakes Ecosystem (COA) is the framework through which the federal and provincial governments work cooperatively to understand, restore and protect the environmental quality of the Great Lakes. This agreement is also the mechanism by which Ontario assists Canada in fulfilling its international commitments for the Great Lakes under the Canada-United States Great Lakes Water Quality Agreement.

Until 2000, the principal environmental statutes that governed water quantity and quality in Ontario were the *Environmental Protection Act*, (EPA) and the *Ontario Water Resources Act*, (OWRA). The EPA prohibits the discharge of contaminants to the environment in amounts exceeding limits outlined in its regulations or those that cause or are likely to cause adverse effects. It also requires that spills of contaminants be reported and adequately cleaned up. The OWRA regulates sewage discharge and sewage works, water-taking by requiring permits, and well construction, operation and abandonment.

The province also plays an important role in protecting human life, property and natural resources through forecasting and warning of flood, drought, erosion hazards, overseeing the safety of water control structures and public safety around dams. Dams, diversions and channelling of water require authorization under the *Lakes and Rivers Improvement Act*, subject to the requirements of O. Reg. 454/96 (Construction).

A.1.1 Recent Water Management Initiatives

In recent years, the Government of Ontario has moved forward on a series of initiatives to protect drinking water systems and the quality of water sources. The new laws include the *Safe Drinking Water Act, 2002*, the *Nutrient Management Act, 2002*, and the *Clean Water Act, 2006*.

The *Safe Drinking Water Act, 2002*, introduced new features to protect drinking water in Ontario. The Act's purpose is to protect human health through the control and regulation of drinking water treatment and distribution systems and drinking water testing. The Act established standards for contaminants, made it mandatory to use licenced and accredited laboratories for drinking water testing, to report adverse test results and to take corrective action, and requires that drinking water system operators be trained and certified.

The *Nutrient Management Act* which was introduced by the Ontario government in 2002 and O. Reg. 167/03 ensure that designated farms develop nutrient management plans to deal with animal waste and other substances that are kept on farm properties or spread on fields. Nutrient management plans help ensure that farms are managed in an environmentally responsible way to prevent contamination of lakes, streams and groundwater.

The *Clean Water Act, 2006*, received Royal Assent on October 19, 2006 and comes into force upon proclamation. The legislation establishes source protection areas and requires that a source protection plan be developed for each area. The Act ensures that communities are able to protect their municipal drinking water supplies through developing collaborative, locally driven, science-based protection plans. Communities will identify

potential risks to local water sources and take action to mitigate or eliminate these risks. Municipalities, conservation authorities, property owners, farmers, industry, community groups and the public will all work together to meet common goals. Source protection complements water treatment by reducing the risk that water gets contaminated in the first place.

A.1.2 Managing Water Takings

Water takings in Ontario are governed by the *Ontario Water Resources Act*[2] and the Water Taking and Transfer Regulation (O. Reg. 387/04). Any person taking more than a total of 50,000 litres of water in a day must first obtain a Permit to Take Water (PTTW). There is currently an exception for water taken for domestic uses, direct watering of livestock, and firefighting. The PTTW program provides for the conservation, protection, and wise use and management of Ontario's waters.

The regulation and accompanying guidelines and procedures manual establish clear technical requirements and standards to promote consistent, sound, defensible decisions related to permit applications and to promote stronger conservation measures. The new regulation (revised in 2004) strengthens the factors to be considered by the ministry when assessing water taking applications by including:

- protection of ecosystem natural function, including minimum stream flow;
- impact on groundwater and surface water quantity and quality;
- low water conditions;
- water conservation measures;
- demonstrated need for the water (reasonable prospect of use); and
- whether there is a medium or high level of water use in the watershed.

Annual reporting of water takings by all permit holders is being implemented in three phases, the first of which began July 1, 2005. By 2008, all permit holders will be required to report their water takings annually.

A new permit manual came into effect in April 2005 and, at the same time, administrative fees for permit applications came into force (set at $750 for Category 1 and 2 water takings and $3,000 for Category 3 water takings). The fees apply to all applications for permits except those for agricultural purposes. These application fees only recover the ministry's costs to review and issue permits.

A.1.3 Managing Great Lakes Waters

Ontario shares the Great Lakes with our U.S. neighbours, generating a strong foundation for growth and economic activity between the two countries. The Great Lakes Basin is home to 90% of Ontario's population and 40% of Canada's economic activity. To protect and conserve the waters of the Great Lakes Basin, the governments of Ontario, Quebec and the eight Great Lakes states have negotiated agreements. The agreements commit the provinces and states to manage and regulate proposed water uses according to a minimum environmental standard. The agreements follow through on commitments made by the provinces and states in the 2001 Great Lakes Charter Annex.

On December 13, 2005, Ontario's premier joined the Premier of Québec and the Governors of the eight Great Lake 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 details how the states and provinces will manage, protect and conserve the waters of the Great Lakes - St. Lawrence River Basin (Basin) and provides a framework to enact laws protecting the Basin in each Great Lake jurisdiction.

In addition to legislation and regulations, Ontario has a policy framework consisting of non-legislative tools such as guidelines, objectives, and manuals that are also important in managing the province's water resources. For instance, the publication "Water Management Policies, Guidelines, Provincial Water Quality Objectives"

[2] Some changes to the OWRA are being proposed in order to implement the Great Lakes - St. Lawrence River Basin Sustainable Water Resources Agreement.

gives direction on how to manage the quality and quantity of both surface and ground waters, including numerical criteria for chemical and physical substances. The province's "Ontario Low Water Response" was produced in 2000 to ensure provincial preparedness, to assist in coordination and to support local response in the event of a drought due to extended periods of low rainfall and high temperatures. Individual ministries and agencies also promote water conservation through a number of initiatives, programs and resources.

A.1.4 Monitoring and Studying Ontario's Water Resources

Effective water management requires accurate and up-to-date information on the resource. The province is engaged in a number of water monitoring and research programs to meet these information needs. Provincial water monitoring and reporting programs provide key information on surface water and groundwater quality, levels and flows throughout Ontario. The government also supports a number of initiatives to produce better information on groundwater resources, including three-dimensional aquifer mapping, groundwater vulnerability mapping, and water use assessments. These research projects are undertaken directly by provincial ministries, as well as in collaboration with partners, such as municipalities, conservation authorities, and universities.

The province is also providing financial and technical support to help communities produce the technical information they need to identify risks to their drinking water sources and to develop source protection plans under the *Clean Water Act, 2006.* Key technical activities include: watershed characterization studies, water budget studies, vulnerable area mapping, and threats inventories.

A.2 Ontario's Water Resources

Ontario is home to countless rivers and streams, significant groundwater resources, and more than 227,000 lakes, including the shared Great Lakes which themselves contain close to 20% of the world's freshwater. Almost one-sixth of Ontario's area is freshwater[3]. The availability of this water for many diverse uses has contributed to the province's economic and social prosperity. The 2005 Provincial Policy Statement under the *Planning Act* on the wise use and management of resources states that "Ontario's long-term prosperity, environmental health, and social well-being depend on protecting...water...resources for their economic, environmental and social benefits".

Although Ontario is blessed with a large quantity of water, these resources are finite. Water is considered to be a renewable resource, yet only a small proportion of water is truly renewable. For example, as little as 1% of Great Lakes water is renewable, flowing through the system regularly. Because water is necessary for so much of our activity and for sustaining the environment, proper management of the resource is essential.

> During the spring and summer of 1999, southwestern and eastern Ontario experienced an extended period of low rainfall and high temperatures. These weather conditions resulted in some of the lowest surface water levels and driest soils recorded for several decades.
>
> The *Ontario Low Water Response* (OLWR) plan was produced to ensure that the province is prepared in case of low water conditions. OLWR is also intended to assist in coordination and to support local response in the event of a drought. This plan is for mitigating the effects of drought through the implementation of short-term, low-water management strategies. These complement the long-term approaches that manage both water supply and demand. OLWR reflects the historical partnership between MOE, MNR, OMAFRA and local jurisdictions.

A.2.1 How Water is Used and Permitted

The Ontario economy depends on reliable sustainable water supplies. Water withdrawals in Ontario support the significant economic contribution of key business sectors and activities

[3] http://www.2ontario.com/facts/fact01_fact_sheet.asp

within the provincial economy. Water is a source of energy, recreation and tourism activity, an industrial raw material, a transportation medium, a habitat for fish and wildlife, and a source of nourishment for humans, crops, and livestock. Businesses that use water rely on our stewardship and wise management of this precious resource.

Users of water can mean businesses, individuals, or activities. These users either obtain water from a public or other communal water supply and distribution system or obtain water directly from the source. The latter group are referred to as 'self-supply water users/uses' and its members are usually required to obtain a permit to take water. While a municipality may have to obtain a permit to take water, those who use water from such municipal water systems do not have to obtain a separate permit for the taking. In some cases, users will rely on both a self-supply and a municipal supply (e.g., lake water for industrial processes and municipal water for potable needs).

Business sectors and sub-sectors in which most medium to larger-size operations are self-supply water users include:

- electric power generation;
- metal mining;
- non-metallic mineral mining;
- non-metallic mineral products manufacturing: cement manufacturing and larger ready-mix concrete operations;
- agricultural crop production (with the exception of some nursery, greenhouse, and market garden operations in areas such as Niagara where municipal supplies may also be used);
- agricultural livestock production;
- aquaculture;
- iron and steel: primary mills;
- pulp and paper manufacturing;
- wood products manufacturing: larger sawmills only;
- petroleum and chemical manufacturing;
- recreational industries: mostly golf courses and ski hills;
- beverage manufacturing: primarily bottled water.

In contrast to the above, businesses that are mainly served by municipal systems include:

- secondary products manufacturing (e.g., vehicles, machinery, clothing, publishing);
- food and beverage production;
- commercial sales and service;
- institutional services;
- government and corporate administration;
- accommodation; and
- food services.

Under the OWRA, most people taking more than 50,000 litres of water per day (L/d) are required to obtain a permit[4]. Currently, there are some 6,600 permits to take water and there are approximately 1,300 permit applications per year. This includes both applications for new water takings and applications for a new permit for an existing taking when the previous permit expires. Permitted water uses include: municipal, commercial, industrial, and communal water supplies, agricultural irrigation, recreational uses, water bottling, and other uses such as construction de-watering.

Some self-supply operations pre-dated the introduction of the water taking provisions of the OWRA and are currently excepted from the requirement to have a permit unless and until their withdrawals change. These operations are referred to as "grandfathered" water takings. Some examples are found in the pulp and paper, petroleum, chemical, and iron and steel sectors[5].

A.2.2 Current Permitted Water Use by Sector

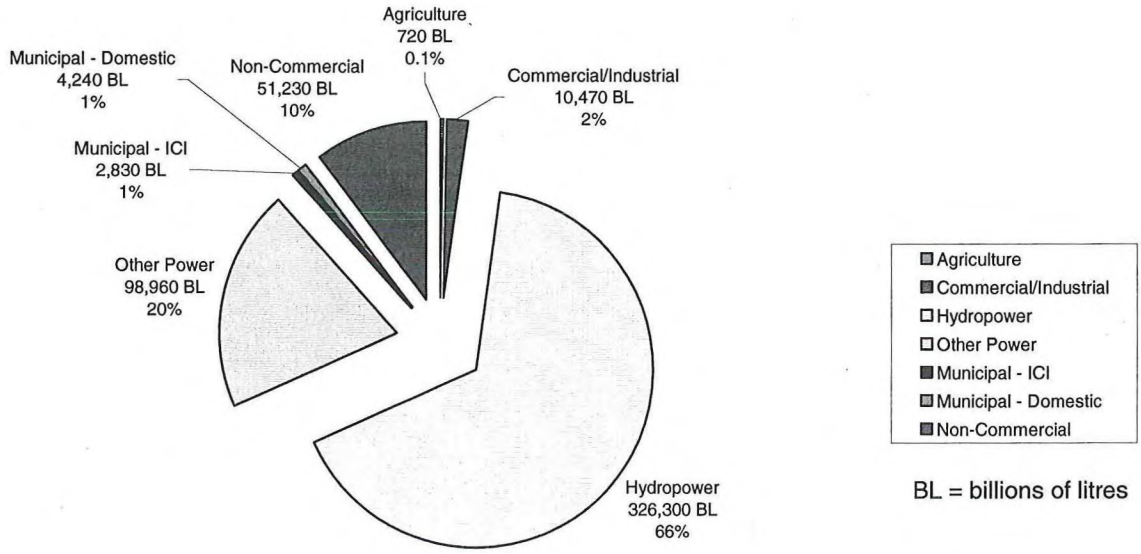
Ontario is home to over 12.1 million people. Ontarians currently are permitted to take about 495 trillion litres of water every year (approximately equivalent to the volume of Lake Erie[6]), the majority of which is returned to the sources. As outlined in section A.2.1, there are many different users who rely on Ontario's water. Consequently, there is a large variation in how water is used and the amount of water withdrawn

[4] Some changes to the OWRA are being proposed in order to implement the Great Lakes - St. Lawrence River Basin Sustainable Water Resources Agreement.

[5] Under proposed changes to the OWRA, the government would be able to develop regulations requiring certain grandfathered water takers to obtain a permit.

[6] http://www.epa.gov/glnpo/atlas/gl-fact1.html

Total Permitted Volume of Water Takings in Ontario (BL/yr) 2006



by different sectors.

Hydropower

The permitted water volumes associated with the hydroelectric power sector account for the largest permitted volume of water of all sectors at approximately 326,600 billion litres per year (66% of the total volume permitted). This sector uses water to produce electricity, by passing water through turbines. There is virtually no consumption associated with this use; however, in instances where water is diverted from a main stream or is otherwise held back for periods of time, those waters may not be available for other uses.

Other Power

The other power sector comprises nuclear and fossil fuel power generation facilities as well as some co-generation facilities. These facilities are permitted to take some 98,960 billion litres of water per year or 20% of the total volume permitted. Ontario's nuclear and thermal plants require large quantities of water for cooling and the generation of steam to drive turbines, which explains their location on Great Lakes shores. While water withdrawals are high, water consumption for this sector is comparatively low.

Non-Commercial

The non-commercial sector comprises uses such as water for drinking water, household purposes, creating wetlands, reservoirs (non-hydropower), and wildlife conservation. These water takings account for some 51,230 billion litres of annual permitted water taken (10% of the total volume permitted). Consumption varies across these uses.

Commercial and Industrial Sector

The commercial and industrial sector accounts for 10,470 billion litres of permitted water taken per year, or 2% of the total permitted volume. The sector can be divided into two categories of use: those who incorporate water into a product, and those who do not.

Commercial, Water in Product:

For sectors included in this category, the water taken is incorporated into the products manufactured or produced (e.g., beverage manufacturing, production of a slurry). These types of takings are considered consumptive because they remove water from the watershed.

Other Commercial:

The other commercial category comprises a wide variety of sectors. Sectors in this category use water as part of a production or manufacturing process, such as pulp and paper, chemical, petroleum, iron and steel, metal, and cement products manufacturing.

Municipal Sector

Municipal water system withdrawals include water for domestic use as well as for industrial, commercial, and institutional customers (often referred to as the ICI component). Permits to take water are issued to municipalities, not to users on municipal supply. Environment Canada estimates that on average 60% of municipal water goes to residential customers, 18% to industrial users, and 22% to commercial and institutional uses combined.

Municipal Domestic:

Municipal domestic category of water use includes water for household purposes such as drinking water and other household needs. The total annual permitted amount for municipalities is estimated to be 4,240 billion litres or 0.9% of the total permitted volume.

Municipal ICI:

Just like those on self-supply, businesses on municipal supply use water in production or manufacturing processes. This accounts for some 2,830 billion litres of permitted annual water taken or (0.6% of the total permitted).

Agriculture

The agriculture sector uses water for the production of various vegetable crops, tobacco, fruit and flowers, at nurseries, tree and sod farms, for livestock watering, and in aquaculture. Water use varies depending on an area's climate (e.g., precipitation, temperature). Some 720 billion litres of water per year, or 0.1% of the total, is permitted for agricultural purposes.

A.3 Existing Charges

A.3.1 Ontario

Currently, there are no direct charges for water use in Ontario. Instead, people and businesses pay for the infrastructure and maintenance costs of obtaining safe, clean water, whether from a municipal drinking-water system or from an individual private well or surface water source.

Municipalities provide water services in the form of treatment and distribution of water to their customers. Customers are billed for the cost of these services (treating and distributing water, as well as collecting and cleaning the wastewater if they have sewage treatment facilities). Most municipalities set their water service rates based on the volume of water delivered to customers, while some apply flat rates if individual water consumption is not metered.

Self-supply water takers (those who take water, but are not connected to municipal services) bear the costs of the infrastructure required to obtain the water (e.g., digging a well, pumping, filtering, and treating water). Many industries using large volumes of water choose to use self-supplied water precisely because it is less expensive than municipal water. In addition, they may not need potable water for their industrial processes.

Most self-supply users, taking more than 50,000 litres of water per day, are required to obtain a permit to take water (PTTW) from the Ministry of the Environment. PTTW holders are charged an administrative fee, which recovers the direct costs of reviewing and processing the permit application. Permit holders do not pay for the water itself or for the broader water management costs.

Lastly, most of the electricity that is generated by hydropower producers is subject to a water rental charge under the *Electricity Act, 1998* which they remit to the Ministry of Finance. These charges are paid where hydropower facilities are situated on beds of lakes and rivers that are owned by the province (most navigable water bodies) and are a percentage of the annual revenue producers derive from their electricity sales. The Ontario government collects about $130 million annually in water rental charges.

A.3.2 Other Canadian Jurisdictions

Like Ontario, most provinces impose some form of administrative or licence processing fee as part of their water permitting or licensing systems. In Canada, only Prince Edward Island does not charge an application fee for water-taking licences.

Table A1 summarizes the administrative/application fees for water-taking

licences currently in place across Canada. The amount of the fee varies considerably across provinces. For example, British Columbia charges a licence application fee that ranges from $100 to $10,000, depending on the purpose of use and the volume requested. Manitoba has a fixed application fee of $50. Revenue from application fees is directed to both general revenue and specific water resource management agencies and programs.

Although Ontario currently does not charge for water withdrawals, four other Canadian provinces and all of the territories have an annual volume-based water taking charge: British Columbia, Saskatchewan, Manitoba, Nova Scotia, Nunavut, Northwest and Yukon Territories. A summary of water charges in other Canadian jurisdictions is provided in Figure A1. These charges are in place to recover costs, either in connection with a permit application or of a broader range of water resource management costs, and to collect water royalties. Each province applies exemptions differently, from very few in British Columbia (provincial and federal government, First Nations on Indian lands) to many in Saskatchewan and Manitoba (where the charge applies only to industry).

In British Columbia, water takers are charged a water rental charge, which varies depending on the purpose of the water use (7 different rates). The rates are based on cost recovery and revenue objectives for each type of water use. The charge is based on permitted volume, except for municipalities, who pay based on actual volume. A licence is only required for surface water takings (ground water takings are exempt from requiring a licence and from paying annual water licence rents).

Both Saskatchewan and Manitoba have implemented an annual industrial water use charge. In Saskatchewan, industrial water users pay for water based on the source of the water taking and the quality of the water. The charge is based on actual volume of water withdrawn. In Manitoba, industrial water users pay for water according to an increasing block rate framework, where the rate increases by actual volume withdrawn.

Nova Scotia's annual volume-based charge is an increasing block rate for permitted volume.

Nunavut, Northwest and Yukon Territories share the same annual volume-based water taking charge for agricultural, industrial, mining and milling purposes.

The type of uses to which each jurisdiction applies a charge varies and is not directly comparable to the charge being proposed in Ontario. However, for similar uses that would be charged in the proposed initial phase of charges in Ontario, charge rates in other provinces would range from $0.32 per dam^3 in Nova Scotia to $44.02 per dam^3 in Saskatchewan.

A.3.3 U.S. Great Lakes States

Of the eight U.S. Great Lakes States, only Minnesota charges an annual volume-based charge. Charges range from a minimum of $1.16 Cdn up to $2.28 Cdn per dam^3 per permit. Minnesota also applies a summer surcharge of $7.02 Cdn per dam^3 to the volume of water used in each of the months of June, July, and August that exceeds the volume of water used in January of each year. The summer surcharge is applied to municipal water use, irrigation of golf courses and landscape irrigation. This is a surcharge in addition to the regular fee rate based on the yearly total volume used. Annual revenues from the volume-based charge are directed to the state general fund.

A.3.4 Europe

In Europe, several jurisdictions charge for water based on volume: Denmark, Germany, the Netherlands, France, and Great Britain (please refer to Figure A1 for details). The rates vary from $16 Cdn per dam^3 in France to $250 Cdn per dam^3 in the UK.

Water charge frameworks in Europe vary widely. Denmark, for example, charges for household water use only, including private wells. In Germany, sixteen regions establish their own water abstraction charges. The Netherlands charge three different volume-based charge rates: one rate for water treatment and distribution companies, a second rate for agriculture and

industry, and a third rate for the use of infiltrated groundwater. Finally, the water charge framework in Great Britain recovers the costs of managing and regulating water abstractions proportional to the impact of a licence on water resources.

Table A1. Summary of Application Fees in Canada

Province	Fee Type	Description	Revenue (annual)
British Columbia	Application	one-time, volume based fee $100-10,000	$450,000-$600,000
Alberta	Application	one-time, volume based fee; ranges between $90-$1500 (up to 12.5 billion L/yr.)	$35,000
Saskatchewan	Application	one-time, volume-based fee $125-400	$15,000-$20,000
Manitoba	Application	upon permit renewal every 10-20 yrs., $50 fixed fee	$5,000-$7,000
Ontario	Application	upon permit renewal every 2-10 yrs. depending on use $750-$3000 based on cost recovery	$1.7M (estimate only; effective as of April 2005)
Quebec	Application	one-time drinking water sources; all other 10 yr. renewal; $1500 - $4000	$300,000
New Brunswick	Application	fixed registration fee $1,000	n/a
Newfoundland and Labrador	Application	upon permit renewal every 1-50 yrs. depending on use $100-$10,000	$10,000-$15,000
Nova Scotia	Application	one-time start up/application fee $266.25; plus annual administration fee of $213/yr. - $532.50/yr. depending on use	$60,000-$80,000
Prince Edward Island	Surface water monitoring fee	$300 per surface water site to cover expenses related to water monitoring	$10,000

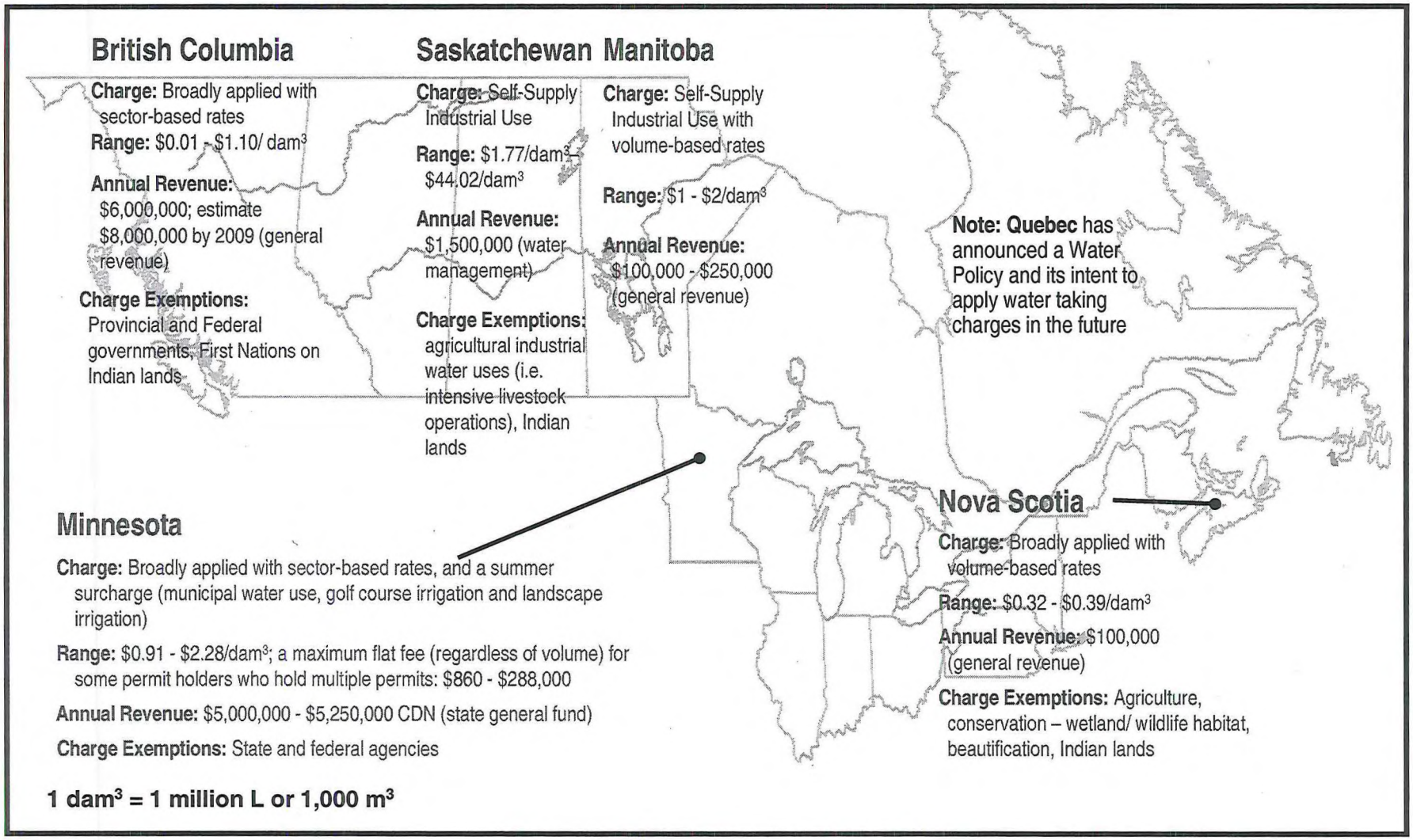



Figure A1: Summary of volume-based water charges ($Cdn) in Canadian and U.S. Great Lakes jurisdictions