Québec Water Conservation and Efficiency Program

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

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Développement durable, Environnement, Faune et Parcs

Québec

WORK TEAM

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1 BACKGROUND

1.1 Foundations of the Québec Water Conservation and Efficiency Program

The premiers of Québec and Ontario and the governors of eight Great Lakes states, i.e., Illinois, Indiana, Michigan, Minnesota, New York, Ohio, Pennsylvania, and Wisconsin, signed the Great Lakes–St. Lawrence River Basin Sustainable Water Resources Agreement (hereinafter referred to as the "Agreement") in December 2005. The Agreement was approved by the National Assembly in November 2006, and Ministère du Développement durable, de l'Environnement, de la Faune et des Parcs (MDDEFP) was designated to coordinate its implementation on behalf of the Québec government.

In June 2009, the Québec government adopted the *Act to affirm the collective nature of water resources and provide for increased water resource protection* (hereinafter referred to as the "*Water Act*"). Division VI of this act amends the *Environment Quality Act* (EQA) and incorporates the requirements of the Agreement in Québec legislation. Section 31.101 of this division directly involves the Water Conservation and Efficiency Program (hereinafter referred to as the "Program").

The Agreement was developed to improve the quantitative aspect of water management in the Great Lakes Basin and the St. Lawrence River. Among the commitments stipulated in the Agreement, Article 304 requires each of the ten parties to develop and implement its own program in order to a) ensure improvement of the waters and water dependent natural resources, b) protect and restore the hydrologic and ecosystem integrity of the Basin, c) retain the quantity of surface water and groundwater in the Basin, d) ensure sustainable use of Basin waters, and e) promote efficient water use while reducing waste and loss of water.

Under this article, the Program must be developed and implemented no later than September 1, 2013. Each party must thereafter assess its program annually, report to the Great Lakes–St. Lawrence River Water Resources Regional Body (hereinafter referred to as the "Regional Body")[1] every five years, and make the assessments available to the public.

1.2 Water quantity issues in Québec

"In absolute figures Québec is a land of water, with 135,000 m^3 available per year per person."[2] Québec's water resources have long been perceived as immense and even unlimited, but the reality is quite the opposite. Water use may be a souce of conflict locally or threaten ecosystems. When the *Water Act* was adopted, one of the main objectives was to assert the legal status of surface and groundwater as a collective resource that is part of Québec's common heritage. With this new legal framework, Québec clearly recognizes this resource as shared but limited and vulnerable, with the government as its custodian.

The issue of water consumption must be seen from two angles, i.e., supply and demand. This general economic principle is used to describe the relationship between the quantity of water available and water needs. Supply is the amount of water that enters the system via precipitation, which provides surface water and groundwater. Demand represents the amount of surface water and groundwater withdrawn for various uses.

Québec's water supply is not consistent in space and time. Geographically, precipitation is not evenly distributed throughout the province. Some regions get more rain and snow than others. Supply also

[1] The Great Lakes–St. Lawrence River Water Resources Regional Body was created under the Agreement. It is made up of the governor or premier (or someone designated by the governor or premier) of each state or province that signed the Agreement. Its mandate is ensure the Agreement is consistently implemented throughout the Great Lakes and St. Lawrence River region.

[2] BAPE, *L'eau, ressource à protéger, à partager et à mettre en valeur* (2000), Volume I, page 6.

fluctuates over time. For exemple, snow precipitations contribute to riverflows only when they melt in spring or during winter thaws.

These spatial and temporal fluctuations also apply to water withdrawal (demand). Water use in Québec is concentrated in the south around urban centers and farms. Eighty percent of Québec's population lives in the St. Lawrence Valley. Water use can increase depending on the season, such as during summer heat waves. In addition, not all types of uses consume the same amount of water.

To assess seasonal or water basin vulnerability, it is therefore essential to consider temporal and spatial variability of supply and demand in order to identify when and where water conservation and efficiency measures must be deployed to prevent conflicts of use or water shortages. Climate change, which can affect both water supply and demand, must also be taken into consideration, along with population growth and various economic activities that affect water demand.

1.3 **Definitions**

Conservation: The act of preserving the quantity and quality of water resources in the long term.

Efficiency: The act of performing tasks using a minimal amount of water by reducing loss and waste or by employing processes, technology, or methods that require less water and are environmentally friendly and economically feasible.

1.4 **Ministries involved in the Program**

Although MDDEFP is responsible for implementing the Agreement on behalf of the Québec government, the Program is developed and implemented in collaboration with all ministries that have water-related roles and responsibilities, i.e., Ministère des Affaires municipales, des Régions et de l'Occupation du territoire (MAMROT), Ministère des Ressources naturelles (MRN), Ministère de l'Agriculture, des Pêcheries et de l'Alimentation (MAPAQ), Ministère du Conseil exécutif (MCE), Ministère de l'Éducation, du Loisir et du Sport (MELS), Ministère des Finances et de l'Économie (MFE), Ministère des Transports du Québec (MTQ), Ministère des Relations internationales, de la Francophonie et du Commerce extérieur (MRIFCE), and Ministère de l'Enseignement supérieur, de la Recherche, de la Science et de la Technologie (MERST).

2 GUIDING PRINCIPLES

In addition to complying with the requirements of the Agreement, the representatives of the ministries involved in the Program wished to adopt principles to guide Program development, implementation, and monitoring. Such principles and their application in the context of the Program are defined below.

a) Sustainable development

Under this principle, development must meet "the needs of the present without compromising the ability of future generations to meet their own needs. Sustainable development is based on a long-term approach which takes into account the inextricable nature of the environmental, social, and economic dimensions of development activities."[3]

Québec's approach to water conservation and efficiency respect this principle. It consists of fostering long-term sustainable water withdrawals throughout the province. The *Sustainable Development Act* establishes 16 guiding principles for Québec government program development.

b) Complementarity and coordination

The principle of complementarity, defined as "working together to mutual benefit," is important in a context where water resource responsibilities are shared by many government ministries.

By incorporating all the various ministries' water conservation and efficiency measures into a single program, the Québec government ensures that all efforts are brought to bear in a consistent and coherent manner. It is, however, up to each ministry to determine which individual measures it feels are needed and how best to apply and implement them.

Coordination is defined as "arranging parties into a whole for a specific purpose according to a logical plan." This principle—closely related to complementarity—is a way to structure the Program in view of a single purpose and a balanced overall vision.

MDDEFP was designated to coordinate implementation of the Agreement on behalf of the Québec government. It assumes this role by identifying all water conservation and efficiency measures, monitoring implementation, and assessing results within a coherent and logical framework to ensure that water withdrawals in Québec are sustainable and that Program objectives are met.

c) Progressive and adaptive management

Progressive management is defined as "a process for continually improving management policies and practices as circumstances change." This principle must be considered from a viewpoint of "progress." i.e., a succession of transformations aimed at the same goal.

Water conservation and efficiency is a new area of intervention for the Québec government. The Program must therefore adapt gradually as knowledge advances and water quantity issues become clearer. Instead of adopting a set five-year program, MDDEFP recommends having a flexible program that remains a work in progress over the coming years.

As mentioned in the Agreement, adaptive management is a water resource management system whereby new knowledge is culled by systematically assessing and monitoring operational programs and whereby policies, programs, and plans are adjusted based on experience and on advances in scientific understanding of basin waters and their dependent natural resources. This now-essential management practice must be a strong focus, particularly to address with the impact of climate change.

[3] Definition from Section 2 of the *Sustainable Development Act*.

3 PROGRAM CONTENT

3.1 Vision

The Water Act establishes Québec's long-term vision of water management in the preamble. It specifies that water is indispensable to life and is a vulnerable and exhaustible resource; water is part of the common heritage of the Québec nation and it is important to preserve water and improve water management to meet the needs of present and future generations; water is for everyone's use and must be accessible in the quantity and quality required to meet every individual's essential needs; and the government is the custodian of water.

The purpose of the Water Conservation and Efficiency Program is to ensure fair access to water resources in Quebec in the long term. To be sustainable, water use should not negatively affect ecosystems or conflict with other water uses.

3.2 Goals and objectives

The Program is structured around five goals representing five different areas that must be stressed for the Program to achieve its stated vision.

The first goal, *Foster long-term sustainable water use that takes ecosystem health and water needs into account*, directly concerns those government actions that can help make water withdrawals in Québec sustainable. The actions are grouped under three objectives: legal issues, reduced water use in various activity sectors, and ecosystem protection.

The second goal, *Adopt and implement a supply and demand management approach that takes into account the expected impacts of climate change*, concerns the new clearance system for water withdrawals that now incorporates sound management principles. The goal has two objectives: determine how much water is withdrawn, consumed, and disposed of and learn more about how climate change affects supply and demand.

The third goal, *Implement monitoring measures for the Water Conservation and Efficiency Program*, specifically identifies MDDEFP as Program coordinator and monitor. This goal has two objectives: develop a Program assessment process and make Program assessment a source of ongoing knowledge acquisition.

The fourth goal, *Promote scientific research, technological development, and knowledge acquisition*, concerns the development of knowledge on water conservation and efficiency. The three objectives under this goal are to strengthen research efforts, encourage partnerships, and foster the development of new technology.

The fifth goal, *Educate, inform, equip, and motivate water stakeholders and users*, groups together concrete means to guide, support, and empower water stakeholders and users in their approach to water conservation and efficiency. This goal involves four objectives: raising awareness of the value of water, sharing information, developing concrete tools, and recognizing efforts.

On March 24, 2011, Québec adopted the water conservation and efficiency goals and objectives, based on the purposes and objectives proposed by the Regional Body in 2007. Some changes have since been made to these goals and objectives. Attachment A presents the original wording of the goals and objectives. Attachment B presents the Program's 14 objectives with their new wording, grouped by goal.

3.3 Five-year measures and targets

The Program includes all water conservation and efficiency measures at all ministries ministry since 2005 (the year the Agreement was signed and the benchmark for the Program), whether under development or already in effect.

In keeping with the spirit of the Agreement, the Program's water conservation and efficiency measures must correspond to "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."[4]

Details of the measures are presented in the *Inventory of Water Conservation and Efficiency Program Measures* in Attachment C. Each measure is classified according to the objective and the five-year target it applies to. The applicable ministry and the measure's state of progress are also identified. If the measure is already in effect, the start date is indicated; otherwise the status is listed as "under development." A reason is given why each measure is part of the Program. The 14 objectives are complementary, in that any one measure may sometimes help meet several objectives. Such measures are therefore repeated under every appropriate objective together with a corresponding explanation.

3.4 Target area

The Basin waters as defined in the Agreement include all surface waters, i.e., the Great Lakes and St. Lawrence River and all tributaries flowing into them, as well as all groundwater. The surface watershed establishes the Basin's boundaries for surface water and groundwater. In Québec, the Basin stops at the tidal influence boundary (Trois-Rivières). However, as a precaution and in the interest of fairness, the Program applies to the whole of Québec.

3.5 Target activity sectors

Activity sectors under the Program are the same as those set out in the Agreement and stipulated in the State/Provincial Reporting Protocol to Regional Water Use Database (hereinafter referred to as the "Protocol"), i.e., public water supply, self-supply commercial and institutional, self-supply irrigation, self-supply livestock, self-supply industrial, self-supply thermoelectric production, self-supply off-stream hydroelectric power production, and other self-supply. These activity sectors are described in Attachment D.

[4] From the definitions listed in the Agreement.

4 PROGRAM IMPLEMENTATION AND MONITORING

To facilitate coordination of ministries' activities under the Agreement, MDDEFP has set up an Interdepartmental Agreement Implementation Committee[5] (hereinafter referred to as the "Committee"). The Committee coordinates and integrates the work of the ministries under the Program and strengthens their water conservation and efficiency initiatives in their respective areas of responsibility. Since 2012, the Committee has been under the umbrella of the Interdepartmental Committee on Integrated Water Management. A list of Committee members appears in Attachment E.

The Program is intended to be introduced gradually, as water conservation and efficiency is a new field in which knowledge is still in the early development stage in Québec, given the relative abundance of water. Effective water demand management will require new knowledge to ensure the right decisions are made. As knowledge improves and we gain a better understanding of water quantity issues, ministries will have the latitude they need to introduce new measures under the Program.

It should be noted that Program measures will depend to a great extent on the initiatives and work of each ministry. The ministries must therefore adopt and execute five-year plans for each Program measure under their responsibility and set annual, measurable targets using benchmarks. It will then be up to each ministry to develop new water conservation and efficiency measures in its area of expertise.

As Program coordinator, MDDEFP provides Program assessments and reports in compliance with Article 304 of the Agreement. Each measure is assessed annually, and the results are released in a public report. For measures under development, assessment consists of determining progress based on the ministry's action plan. For measures already being applied, the ministry's five-year targets are examined using the corresponding benchmarks to determine to what extent the targets have been attained.

A progress report on Program objectives and goals is prepared every five years, submitted to the Regional Body, and made public. Given that Program objectives are long term and complex, five-year targets are set that are more specific and measurable to aid in drawing up the report and provide structure. The five-year review is also an opportunity to reassess the five-year targets based on new knowledge and include new measures that have been implemented or are under development.

To encourage ministries to adopt new measures in their areas of responsibility, MDDEFP will work with the ministries to ensure that new five-year targets are set for Program objectives. Targets will be added as knowledge of water supply and demand improves and issues become clearer.

[5] The Interdepartmental Agreement Implementation Committee was set up before the Agreement was signed in 2005 to define Québec's position vis-à-vis commitments and requirements under the Agreement. Professionals from the various ministry departments involved sit on the committee.

5 CONCLUSION

The benefit to this approach is that it will enable the Québec government to fulfill its obligations under the Agreement. The approach is also mindful of each ministry's areas of responsibility and based on complementarity with regard to water conservation and efficiency. In the next few years, MDDEFP will assume the role of coordinator and perform an annual assessment of the measures as well as a five-year review of the Program. Although the measures currently being applied or under development in ministries cannot in themselves achieve all aspects of the objectives, the adaptive management approach will spur new measures capable of achieving all aspects of individual objectives while assuring Program continuity. In developing these new measures, a special effort will be made to identify the most vulnerable activity sectors and watersheds. Furthermore, the entire Program development, implementation, and assessment process is in accordance with sustainable development principles.

ATTACHMENT A: GOALS AND OBJECTIVES ADOPTED ON MARCH 24, 2011

(Original wording)

Goals	Objectives
Goal 1 Foster long-term sustainable water use that takes ecosystem health and water needs into account	**Objective 1:** Review existing laws and enact new legislation as needed
	Objective 2: Promote efforts to maintain adequate water quantity and quality to ensure ecosystem integrity
	Objective 3: Encourage all water stakeholders and users to adopt best practices to ensure long-term water uses
Goal 2 Adopt and implement a supply and demand management approach that takes into account the expected impacts of climate change	**Objective 4:** Take into account the impact of climate change on water supply and demand
	Objective 5: Accurately measure the amount of water withdrawn, consumed, and disposed of in Québec
	Objective 6: Promote reduced water use in the residential, industrial, commercial, institutional, and agricultural sectors
Goal 3 Implement monitoring measures for the Water Conservation and Efficiency Program	**Objective 7:** Develop a process to evaluate whether objectives are being met
	Objective 8: Make monitoring a source of new knowledge and know-how for Agreement signatories and all other water stakeholders and users
Goal 4 Promote scientific research, technological development, and knowledge acquisition	**Objective 9:** Strengthen research efforts on the impacts of water conservation and efficiency measures
	Objective 10: Foster research partnerships, multidisciplinary studies, and cooperative activities
	Objective 11: Encourage the development of innovative water technologies
Goal 5 Educate, inform, equip, and motivate water stakeholders and users	**Objective 12:** Make water stakeholders and users more aware of the value of water
	Objective 13: Make information on water resources, water quality, aquatic ecosystems, and the various uses of water more accessible to all water stakeholders and users
	Objective 14: Ensure that water stakeholders and users have access to water conservation and efficiency tools
	Objective 15: Recognize exemplary water conservation and efficiency actions by water stakeholders and users in the various sectors covered by the Agreement

ATTACHMENT B: GOALS, OBJECTIVES, AND FIVE-YEAR TARGETS

(Amended wording)

Goal 1
Foster long-term sustainable water use that takes ecosystem health and water needs into account

Objective 1: Review existing laws and enact new legislation as needed

Five-year target 1.1 Include the provisions of the Great Lakes–St. Lawrence River Basin Sustainable Water Resources Agreement in Québec legislation

Five-year target 1.2 Enact the regulations required to control water withdrawal

Objective 2: Promote reduced water use in all sectors[6]

Five-year target 2.1: Set up policy frameworks to promote reduced water use in institutional and municipal sectors

Five-year target 2.2: Put in place economic incentives that encourage water users to reduce the volume of their water withdrawals[7]

Five-year target 2.3: Determine effective water conservation and efficiency measures for every activity sector within the withdrawal authorization system

Objective 3: Promote efforts to maintain adequate water quantity and quality to ensure ecosystem integrity[8]

Five-year target 3.1: Develop and apply methods to take into account the cumulative impacts of withdrawals on the carrying capacity of ecosystems and the vulnerability of drinking water withdrawals

Five-year target 3.2: Adapt water quantity management to take into account the carrying capacity of ecosystems

[6] This objective, formerly under Goal 2, was moved to Goal 1 for logic purposes. The original wording listed the sectors involved. Since the Program applies to all sectors specified in the Protocol, it is not necessary to list them in the objective.

[7] This wording corresponded to a Program objective. It has been slightly modified and is now included as a five-year target. This modification reduces the total number of objectives from 15 to 14.

[8] Ecosystem integrity is associated with the notion of ecosystem carrying capacity, a concept set out in the *Sustainable Development Act*. It refers to the maximum pressure human beings can put on an ecosystem through their activities without jeopardizing its integrity. An ecosystem's integrity is maintained when its biological, physical, and chemical components and their dynamic interactions are not altered and can fulfill their ecological functions.

Goal 2

Adopt and implement a demand management approach that takes into account the expected impacts of climate change[9]

Objective 4: Accurately measure the amount of water withdrawn, consumed, and disposed of[10]

Five-year target 4.1: Establish a water withdrawal management system

Five-year target 4.2: Develop and strengthen knowledge on withdrawn water quantities for all activity sectors

Objective 5: Take into account the impact of climate change on water supply and demand

Five-year target 5.1: Develop and strengthen knowledge of groundwater supply

Five-year target 5.2: Develop and strengthen knowledge of the effects of climate change on surface water supply

Five-year target 5.3: Set up a climate change policy framework that takes water resources into account

Five-year target 5.4: Develop and apply a method to take cumulative impacts on water resources (including climate change impacts) into account

Goal 3

Set up monitoring measures for the Water Conservation and Efficiency Program

Objective 6: Develop and implement a process to evaluate whether objectives are being met[11]

Five-year target 6.1: Determine and apply the annual assessment process and the five-year review of the Program

Five-year target 6.2: Identify new five-year targets for each objective to help identify new measures

Five-year target 6.3: Use acquired knowledge to adapt the Water Conservation and Efficiency Program

Objective 7: Make monitoring a source of new knowledge and know-how for Agreement signatories and all other water stakeholders and users

Five-year target 7.1 Disseminate the results of the annual assessment and the five-year review of the Water Conservation and Efficiency Program

[9] The original wording indicated that water management would encompass both water supply and demand. It is only possible to manage water demand, as water supply cannot be controlled. Water management must, however, take into account the variable nature of water supply.

[10] The original wording specified that the objective should apply throughout Québec. Since the Program applies throughout Québec, this need not be mentioned in the objective. This objective also switched places with the next one for logic purposes.

[11] The notion of implementing the evaluation process was added to the original wording of this objective.

Goal 4
Promote scientific research, technological development, and knowledge acquisition

Objective 8: Strengthen research efforts for water conservation and efficiency measures[12]

Five-year target 8.1: Develop and strengthen knowledge of water conservation and efficiency in the municipal, mining, and agricultural sectors

Objective 9: Foster research partnerships, multidisciplinary studies, and cooperative activities

Five-year target 9.1: Develop and set up a collaborative work space for water researchers

Five-year target 9.2: Include the notions of partnership, multidisciplinarity, and collaboration in the definition of the government's water research projects

Objective 10: Encourage the development of innovative water technologies

Five-year target 10.1: Introduce a water conservation and efficiency component in strategies and programs aimed at supporting technology development

Goal 5
Educate, inform, equip, and motivate all water stakeholders and users

Objective 11: Make water stakeholders and users more aware of the value of water

Five-year target 11.1: Develop and implement awareness tools intended for youth and the general public

Objective 12: Make information on water resources, water quality, aquatic ecosystems, and the various uses of water more accessible to all water stakeholders and users

Five-year target 12.1: Develop platforms to make information on water resources public and promote knowledge-sharing

Objective 13: Ensure that water stakeholders and users have access to water conservation and efficiency tools

Five-year target 13.1: Develop tools to help municipal and agricultural water stakeholders set up water conservation and efficiency practices

[12] The original objective sought to develop knowledge of the impact of conservation measures. However, specific knowledge of water conservation and efficiency must first be developed. In addition, assessing the impact of measures may be complicated, as many factors affect the quality of water withdrawn by water users, and a cause and effect relationship may be difficult to establish.

Objective 14: Recognize exemplary water conservation and efficiency actions by water stakeholders and users in the various sectors[13]

Five-year target 14.1: Develop a means to recognize exemplary actions in the municipal sector

[13] The original wording specified that the objective should apply to sectors covered by the Agreement. Given that the Program applies to all sectors specified in the Protocol, this need not be mentioned in the objective.

ATTACHMENT C: INVENTORY OF WATER CONSERVATION AND EFFICIENCY PROGRAM MEASURES

Goal 1: Foster long-term sustainable water use that takes ecosystem health and water needs into account

Objective 1: Review existing laws and enact new legislation as needed

No.	Measure implemented or under development	Ministry in charge	Branch/ Department	Contact	Effective date	Explanation
Target 1.1: Include the provisions of the Great Lakes–St. Lawrence River Basin Sustainable Water Resources Agreement in Québec legislation						
1	Implement the *Act to affirm the collective nature of water resources and provide for increased water resource protection*	MDDEFP	DPE	Marcel Gaucher	Adopted on June 11, 2009; full implementation expected by fall 2013	This Act amends the *Environment Quality Act* (Division VI, Sect. 18–30) to include the provisions of the Great Lakes–St. Lawrence River Basin Sustainable Water Resources Agreement in Québec legislation and adds Section 31.101, which outlines the objectives of the Water Conservation and Efficiency Program.
Target 1.2: Enact the regulations required to control water withdrawal						
2	Implement the *Regulation respecting the declaration of water withdrawals* (RDWW)	MDDEFP	DPE-SGIE	Marc-Olivier Bédard	Adopted on August 12, 2009, implemented on September 10, 2009, and amended on June 22, 2011	*Also helps meet Objective 4.* This regulation helps control water withdrawals because it allows us to monitor the volume of water withdrawn and consumed in Québec. The regulation applies to withdrawals of 75,000 liters or more per day, except as otherwise provided. This data provides valuable information on water consumption needed to determine the potential impact of new or increased withdrawals and the need to conserve and use water efficiently.
3	Implement the *Regulation respecting the framework for authorization of certain projects to transfer water out of the St. Lawrence River Basin*	MDDEFP	DPE-SGIE	Caroline Anderson	Adopted on June 22, 2011, and implemented on September 1, 2011	*Also helps meet Objective 4.* This regulation provides a framework for certain special cases that are not subject to the water transfer restriction related to municipal drinking water needs. Section 3 of the regulation states that an application for authorization must be submitted to MDDEFP for any transfer or increased transfer of water outside the St. Lawrence River Basin. For a transfer to be authorized, the withdrawer must implement water conservation and efficiency measures.

4	Implement the *Regulation respecting water withdrawals and water protection*	MDDEFP	SAES-SGIE	Michel Ouellet/ Maryse Saint-Pierre	Under development; draft regulation published on December 28, 2011; new draft regulation published on May 29, 2013; adoption and implementation planned for fall 2013	*Also helps meet Objectives 4 and 12.* This regulation helps control water withdrawals. It outlines the processes and procedures for water withdrawal authorization and administrative and criminal provisions to ensure compliance. To be authorized, withdrawals of 379,000 liters or more per day subject to Section 31.95 of the *Environment Quality Act* must meet certain conditions, specifically implementation of water conservation and efficiency measures. Withdrawals of 75,000–379,000 liters per day will be authorized on the condition that water conservation and efficiency measures have been implemented based on how vulnerable the site is.

Objective 2: Promote reduced water use in all sectors

No.	Measure implemented or under development	Ministry in charge	Branch/ Department	Contact	Effective date	Explanation
Target 2.1: Set up policy frameworks to promote reduced water use in institutional and municipal sectors						
5	Implement the Strategy for the Protection and Conservation of Sources Intended for the Supply of Drinking Water	MDDEFP	DPE-SEM	Carole Jutras/ Catherine Mercier Shanks	Under development	*Also helps meet Objective 3.* The goal of this strategy is to guarantee the public an adequate supply of good quality drinking water by protecting both surface and groundwater sources. The third step in the strategy is to establish protection and conservation measures. Defining such measures encourages water conservation in the municipal sector.

6	Strategy for drinking water conservation (SEEP)	MAMROT	DI-MTL	Mathieu Laneuville	April 1, 2012	This strategy requires municipalities to develop a drinking water conservation action plan; to implement, where applicable, a leak detection and repair program; to adopt a municipal bylaw on drinking water use; and to produce an annual water management report. This measure by MAMROT promotes water conservation in all sectors of activity that withdraw water from a municipal water supply system.
7	Amend the Construction Code (plumbing and building sections) to prohibit the sale or installation of equipment that consumes high volumes of water	MAMROT/ Régie du bâtiment du Québec (RBQ)	Direction des installations techniques/DI-MTL	Yves Duchesne and Nathalie Lessard/ Mathieu Laneuville	Under development Amendments expected in 2013	This measure prohibits the installation of toilets that use more than 6 liters per flush, urinals that use more than 1.9 liters per flush, automatic flush urinals, and potable water air conditioning or cooling systems without a recirculation loop, in an effort to reduce drinking water use in the residential and institutional sectors.
8	Pursue implementation of drinking water conservation policies in government buildings and health and educational facilities	MAMROT/ SIQ/ MSSS/ MELS/ MDDEFP/ MESRST	DI-MTL/ DSE/ DI/ DP/ BCDD	Mathieu Laneuville/ Isabelle Verret/ Chantal Saucier/ Guylaine Coutu/ Carole Faucher	Ongoing	This measure provides for the adoption of action plans and implementation of identified corrective measures in government buildings to conserve drinking water in the institutional sector.
Target 2.2: Put in place economic incentives that encourage water users to reduce the volume of their water withdrawals						
9	Implement the *Regulation respecting the charges payable for the use of water*	MDDEFP	DPE-SGIE	Carl Martineau	Adopted on December 1, 2010, and implemented on January 1, 2011	*Also helps meet Objective 11.* This regulation requires withdrawers of 75,000 liters of water per day to pay a fee (Sect. 1–15) according to the water volume used. It is an economic incentive that encourages water conservation in all sectors.

Target 2.3: Determine effective water conservation and efficiency measures for every activity sector within the withdrawal authorization system						
10	Identify water conservation and efficiency measures for each sector of activity for authorization of new or increased water withdrawals	MDDEFP	DPE-SGIE	Brigitte Laberge/ Véronique Lavoie/ Jean Painchaud	Under development. A first list of measures will be proposed in fall 2013 and updated regularly thereafter.	This measure is part of the new water withdrawal authorization system stemming from the *Regulation respecting water withdrawals and water protection* project. For authorization of new or increased water withdrawals, withdrawers of 75,000 liters of water or more per day will have to demonstrate that their application is eligible and may propose strategies such as water conservation and efficiency measures to reduce their withdrawals. In addition, withdrawers of 379,000 liters or more per day who are subject to Sect. 31.95 of the *Environment Quality Act* will have to implement water conservation and efficiency measures to apply for authorization. Production of a reference list of water conservation and efficiency measures adapted to each sector makes it easier for water withdrawers in each sector to adopt these measures.

Objective 3: Promote efforts to maintain adequate water quantity and quality to ensure ecosystem integrity

No.	Measure implemented or under development	Ministry in charge	Branch/ Department	Contact	Effective date	Explanation
Target 3.1 : Develop and apply methods to take into account the cumulative impacts of withdrawals on the carrying capacity of ecosystems and the vulnerability of drinking water withdrawals						
11	Evaluate cumulative impacts when water withdrawal, consumption, and transfer applications are analyzed (water withdrawal impact assessment)	MDDEFP	DPE-SGIE	Maryse Saint-Pierre/ Caroline Anderson	Under development/ schedule TBD	*Also helps meet Objective 5.* The method developed to analyze the cumulative impacts of water withdrawals helps guarantee that a sufficient water supply remains available to ensure the integrity of ecosystems. Water withdrawers are required to implement water conservation and efficiency measures of varying stringency according to their potential impact on ecosystem integrity to obtain official authorization to withdraw water under the new water withdrawal authorization system stemming from the *Regulation respecting water withdrawals and water protection* project.

5	Implement the *Strategy for the protection and conservation of sources intended for the supply of drinking water*	*MDDEFP*	*DPE-SEM*	*Carole Jutras/ Catherine Mercier Shanks*	*Under development*	*Also helps meet Objective 2.* This strategy includes development of a component to evaluate the vulnerability of drinking water sources from the perspective of available water supply. Learning more about the vulnerability of drinking water sources allows us to implement water conservation and efficiency measures to reduce vulnerability and to take vulnerability into account when evaluating water withdrawal applications.
Target 3.2 : Adapt water quantity management to take the carrying capacity of ecosystems into account						
12	Adapt management of public dams	MDDEFP	CEHQ-DBP-SGÉS	Julie Lafleur	Ongoing activity	Management plans for dams operated by CEHQ set out dam operation parameters for both high and low water levels. Management plans are adapted as needed to optimize management, especially in terms of respecting ecosystem carrying capacity.
13	Ottawa River Regulation Planning Board	MDDEFP	CEHQ-DBP-SGÉS	Patricia Clavet	Under development	The Board comprises representatives of the governments of Canada, Ontario, and Quebec and ensures integrated management of the principal reservoirs of the Ottawa River Basin. The goal is to provide protection against flooding along the Ottawa River and its tributaries and in the Montreal area while taking into account the various interests of users. Reservoirs also act as a supplemental water supply during low-flow periods, largely to maintain ecosystem integrity. The Board plans to develop shared objectives to optimize integrated management during low-flow periods.

Goal 2: Adopt and implement a supply and demand management approach that takes into account the expected impacts of climate change

Objective 4: Accurately measure the amount of water withdrawn, consumed, and disposed of in Québec

No.	Measure implemented or under development	Ministry in charge	Branch/ Department	Contact	Effective date	Explanation
Target 4.1: Establish a water withdrawal management system						
14	Deploy the water withdrawal management computer system (GPE)	MDDEFP	DPSAU	Pascale Dubois	March 2010	This computer system compiles all Québec water withdrawal data collected under the *Regulation respecting the declaration of water withdrawals* and the *Regulation respecting the charges payable for the use of water* in a single database. Data is used as a basis for monitoring quantities of water withdrawn in Québec for withdrawals of 75,000 liters or more per day, grouped in an organized way in the GPE system.
Target 4.2: Develop and strengthen knowledge of withdrawn water quantities for all activity sectors						
15	MAPAQ/MDDEFP administrative agreement on the declaration of water withdrawals for agricultural or fish-breeding purposes	MAPAQ/MDDEFP	DAEDD, DGPAC DPE	Valérie Gagnon/ Mikael Guillou/ Marc-Olivier Bédard	December 7, 2011 Expires on September 30, 2016, with automatic renewal	The purpose of this agreement is to make it easier for agricultural producers and fish breeders to make water withdrawal declarations. Specifically, the agreement provides for a program to monitor model companies to determine and establish water withdrawal standards for the fish-breeding sector to facilitate the annual declaration required by fish breeders under the *Regulation respecting the declaration of water withdrawals* adopted on June 22, 2011. This measure strengthens our knowledge of the volumes of water being withdrawn and consumed in agriculture and aquaculture.

2	Implement the *Regulation respecting the declaration of water withdrawals*	*MDDEFP*	*DPE-SGIE*	*Marc-Olivier Bédard*	*Adopted on August 12, 2009, and implemented on September 10, 2009*	*Also helps meet Objective 1.* Section 9 of the regulation requires all withdrawers of 75,000 liters or more per day in Québec to declare their withdrawals. Section 18.7 requires withdrawers with the capacity to withdraw 379,000 liters or more per day on the territory covered by the Great Lakes–St. Lawrence River Basin Agreement to report the volumes of water withdrawn, consumed, or transferred from the St. Lawrence River Basin. This measure develops our knowledge of the quantities of water being withdrawn by sector in Québec.
3	Implement the *Regulation respecting the framework for authorization of certain projects to transfer water out of the St. Lawrence River Basin*	*MDDEFP*	*DPE-SGIE*	*Caroline Anderson*	*Adopted on June 22, 2011, and implemented on September 1, 2011*	*Also helps meet Objective 1.* This regulation identifies new or expanded projects involving the transfer of water outside the territory covered by the Great Lakes–St. Lawrence River Basin Agreement. This measure helps develop knowledge of the quantities of water being withdrawn to be used outside the St. Lawrence River Basin for municipal purposes.
4	Implement the *Regulation respecting water withdrawals and water protection*	*MDDEFP*	*DPE-SGIE*	*Michel Ouellet/ Maryse Saint-Pierre*	*Under development; draft regulation published on December 28, 2011; new draft regulation published on May 29, 2013; adoption and implementation planned for fall 2013*	*Also helps meet Objectives 1 and 12.* This regulation identifies new or increased withdrawals of 75,000 liters or more per day in Québec. This measure helps develop knowledge of the quantities of water being withdrawn in all sectors.

Objective 5: Take into account the impact of climate change on water supply and demand

No.	Measure implemented or under development	Ministry assignedin charge	Branch/ Department	Contact	Effective date	Explanation
Target 5.1: Develop and strengthen knowledge of groundwater supply						
16	Groundwater knowledge acquisition program (PACES)	MDDEFP	DPE-SAES	Édith Bourque	First official funding announcements in spring 2009	This knowledge acquisition program monitors groundwater volume and recharge. This measure develops groundwater supply knowledge.
Target 5.2: Develop and strengthen knowledge of the effects of climate change on surface water supply						
17	Produce the *Atlas hydroclimatique du Québec méridional à l'horizon 2050*	MDDEFP	CEHQ	Richard Turcotte	March 2013	This atlas illustrates the impacts of climate change on the St. Lawrence tributary water system by 2050. This will help us understand how climate change will impact the surface water supply and determine when to implement water conservation and efficiency measures in vulnerable watersheds.
18	Implement the St. Lawrence Action Plan 2011–2026	MDDEFP/EC	DPE-SGIE	Véronique Lavoie	November 29, 2011	*Also helps meet Objectives9 and 12* The Numerical Environment Prediction Program for the St. Lawrence Action Plan 2011-2026 helps us better understand the St. Lawrence ecosystem, especially water levels and flows. It helps us evaluate the impact of climate change on water resources and determine when to implement water conservation and efficiency measures in vulnerable watersheds. The work of the Climate Change Coordination Committee will help paint a portrait of the challenges of climate change for the St. Lawrence and any knowledge of its impact we need to develop to adapt. Adapting to climate change can include implementation of water conservation and efficiency measures. Project 7.2.1 of the sustainable use challenge entitled "Study the impact of climate change on water flows" helps develop knowledge of the impacts of climate change on the water supply.
Target 5.3: Set up a climate change policy framework that takes water resources into account						

19	Implement the 2013–2020 Government Strategy for Climate Change Adaptation	MDDEFP	BCC	Carole Garceau	April 2013	The goal of the Government Strategy for Climate Change Adaptation is to increase society's resilience in the face of climate change. The strategy places particular emphasis on water resources. Objective 16 of the strategy is to "give priority to the conservation and protection of water resources" to conserve biodiversity and the benefits provided by ecosystems in a climate change context. Adapting to climate change and protecting water resources can include adopting water conservation and efficiency measures.
20	Implement the 2013–2020 Climate Change Action Plan (2020 CCAP)	MDDEFP	BCC	Catherine Gauthier	April 2013	Priority 6 of the 2020 CCAP is to support climate change adaptation research. The goal is to provide funding for research projects to learn more about the natural risks associated with climate change and understand its impact on human well-being, the economy, and the natural and built environments. This component of the measure helps develop knowledge of the impacts of climate change on water supply and potential adaptation by implementing water conservation and efficiency measures. Priority 30 of the 2020 CCAP is to update knowledge and adapt water resource management tools. It encourages acquisition, modeling, analysis, and harnessing of data on levels and quality of surface water and groundwater and adaptation of management tools for the expected impacts. This component of the measure helps develop knowledge of the impacts of climate change on water supply.
Target 5.4 : Develop and apply a method to take cumulative impacts on water resources (including climate change impacts) into account						
11	*Evaluate cumulative impacts when applications for water withdrawal, consumption, and transfer are analyzed (water withdrawal impact assessment)*	*MDDEFP*	*DPE-SGIE*	*Maryse Saint-Pierre/Caroline Anderson*	*Under development*	*Also helps meet Objective 3.* The impact of climate change on the hydrological regime (hydrological indicators) is taken into account when evaluating the cumulative impacts on susceptible components (ecosystems and uses) of the Basin. This measure allows us to take the impact of climate change on the vulnerability of watersheds into account and provide for water conservation and efficiency measures to reduce vulnerability.

Goal 3: Set up monitoring measures for the Water Conservation and Efficiency Program

Objective 6: Develop and implement a process to evaluate whether objectives are being met

No.	Measure implemented or under development	Ministry in charge	Branch/ Department	Contact	Effective date	Explanation
Target 6.1 : Determine and apply the annual assessment process and the five-year review of the Program						
E1	Determine five-year targets for each Program objective	MDDEFP	DPE-SGIE	Brigitte Laberge/ Marc-Olivier Bédard	Under development	We need to subdivide these objectives into component parts to make it easier to evaluate progress in meeting specific Program objectives. These components are defined in the five-year targets. The first targets are being determined based on the measures identified in the inventory when the first version of the Program was submitted.
E2	Determine indicators for each Program measure	MDDEFP	DPE-SGIE	Brigitte Laberge/ Marc-Olivier Bédard	Under development	In collaboration with representatives responsible for measures in each participating ministry, set annual, measurable targets using various benchmarks.
E3	Perform annual Program measure review	MDDEFP	DPE-SGIE	Brigitte Laberge/ Marc-Olivier Bédard	Under development	MDDEFP must perform an annual review of the measure benchmarks as they were defined in collaboration with the participating ministries. This annual assessment must be made public.
E4	Perform a five-year target review	MDDEFP	DPE-SGIE	Brigitte Laberge/ Marc-Olivier Bédard	Under development	MDDEFP must review the conservation Program every five years and evaluate what progress has been made in meeting the five-year targets for each objective.

Target 6.2: Identify new five-year targets for each objective to help identify new measures						
E5	Identify new five-year targets	MDDEFP	DPE-SGIE	Brigitte Laberge/ Marc-Olivier Bédard	Under development	New five-year targets will be added for the various components of the Program objectives.
E6	Identify new measures under development	MDDEFP	DPE-SGIE	Brigitte Laberge/ Marc-Olivier Bédard	Under development	During annual assessment, new measures under development in each participating ministry will be identified so they can be added to the Program.
Target 6.3: Use acquired knowledge to adapt the Water Conservation and Efficiency Program						
E7	Develop an adaptive management model for the Water Conservation and Efficiency Program	MDDEFP	DPE-SGIE	Brigitte Laberge/ Marc-Olivier Bédard	Under development	To implement an adaptive management approach for this program, we need to work to reinforce government competencies in three aspects: 1) knowledge acquisition efforts; 2) knowledge development monitoring; 3) adaptive structure. We need to decide exactly how to integrate these components into the Program and develop a special model for implementing them.

Objective 7: Make monitoring a source of new knowledge and know-how for Agreement signatories and all other water stakeholders and users

No.	Measure implemented or under development	Ministry in charge	Branch/ Department	Contact	Effective date	Explanation
Target 7.1: Disseminate the results of the annual assessment and the five-year review of the Water Conservation and Efficiency Program						
E8	Post the annual Program measure assessment results on the water knowledge-sharing portal	MDDEFP	DPE-SGIE	Brigitte Laberge/ Marc-Oliver Bédard	Annually	MDDEFP must perform an annual progress review of Program measures and make the report public by posting it on the water information portal.
E9	Present the five-year progress report to members of the Regional Body and post it on the water knowledge-sharing portal	MDDEFP	DPE-SGIE	Brigitte Laberge/ Marc-Oliver Bédard	Every 5 years starting in 2013 (2018)	Every five years MDDEFP must assess what progress has been made toward achieving program objectives. The report must be submitted to members of the Regional Body and posted on the water knowledge-sharing portal for public consultation.

Goal 4: Promote scientific research, technological development, and knowledge acquisition

Objective 8: Strengthen research efforts for water conservation and efficiency measures

No.	Measure implemented or under development	Ministry in charge	Branch/ Department	Contact	Effective date	Explanation
Target 8.1: Develop and strengthen knowledge of water conservation and efficiency in the municipal, mining, and agricultural sectors						
21	Build MAMROT's knowledge of water conservation concepts (SEEP) by participating in events and committees that bring together subject matter experts	MAMROT	DI-MTL	Mathieu Laneuville	Ongoing	MAMROT participates in AWWA training sessions and the Canadian Municipal Water Efficiency Committee. This measure develops and strengthens knowledge of water conservation and efficiency in the municipal sector.
22	Organize and prepare training sessions on water conservation as a support to municipalities (SEEP)	MAMROT	DI-MTL	Mathieu Laneuville	Ongoing	More than 700 municipal representatives participated in 18 regional training sessions and two webinars organized by MAMROT in support of their efforts. More than 250 stakeholders participated in an annual two-day training program on the Strategy for Drinking Water Conservation (SEEP) organized in partnership with Réseau Environnement. A webinar on the strategy and the new form is now available free on the Québec municipal website. The strategy is presented at about 20 conventions and conferences per year. This measure allows us to strengthen and share knowledge of water conservation and efficiency with municipal stakeholders.
23	Produce annual municipal water consumption status reports to evaluate the amount of water distributed and water losses in distribution networks (SEEP)	MAMROT	DI-MTL	Mathieu Laneuville	June 8, 2012	As part of the Strategy for Drinking Water Conservation, municipalities must produce annual water consumption reports. Data submitted by municipalities is compiled in a central database (approximately 200 data records per municipality). This measure helps strengthen knowledge of the amount of water distributed and lost in the municipal sector.

24	Joint research program on sustainability in mining	MRN	DGDIM	Louis Bienvenu	Decree approved on March 27, 2013/ 2012/2013 to 2016/2017	A number of the priority research topics in this program deal with water issues, including water infiltration control, acid mine drainage, tailings/water management, passive water treatment, and reducing water consumption. This measure helps strengthen knowledge of water consumption in the (industrial) mining sector.
25	Technological research and transfer projects related to water conservation and optimization of water use in agriculture as part of the "Developing water conservation and management strategies" action of the 2013–2020 Climate Change Action Plan	MAPAQ	DAEDD	Nezha Hayani Mikael Guillou	Under development	The goal of this research project is to carry out technological research and transfer projects related to water conservation and optimization of water use in agriculture. Project findings provide more information on water usage in agriculture to identify effective measures to reduce water consumption in the sector.
26	Project to measure water use in irrigation	MAPAQ	DAEDD	Mikael Guillou	Under development/ April 2013–March 2016	The goals of this project are to quantify irrigation water volume and soil water-holding capacity, to test water withdrawal estimation methods, and to produce a seasonal water supply report to be able to assess whether agricultural producers' irrigation water supplies are too low or too high. Project findings provide information on the use of water for agricultural irrigation to help us optimize irrigation water use in the sector.

Objective 9: Foster research partnerships, multidisciplinary studies, and cooperative activities

No.	Measure implemented or under development	Ministry in charge	Branch/ Department	Contact	Effective date	Explanation
Target 9.1 : Develop and set up a collaborative work space for water researchers						
27	Collaborative space on the water knowledge-sharing portal	MDDEFP	DPE-BCE	Mireille Sager	Under development	This collaborative space is intended to be a forum for information- and knowledge-sharing among various stakeholders and users (governments, municipalities, companies, associations, watershed committees, etc.) and university researchers. This measure makes a collaborative space available to users to foster research partnerships and cooperative activities.
Target 9.2 : Include the notions of partnership, multidisciplinarity, and collaboration in the definition of the government's water research projects						
18	*Implement the St. Lawrence Action Plan 2011–2026*	*MDDEFP/EC*	*DPE-SGIE*	*Véronique Lavoie*	*November 29, 2011*	*Also helps meet Objectives 5 and 12.* The projects included in the St. Lawrence Action Plan must be developed and carried out in collaboration with at least one provincial and federal government ministry. The primary goal of the joint consultative committee on climate change is to identify research projects by working with water stakeholders.

Objective 10: Encourage the development of innovative water technologies

No.	Measure implemented or under development	Ministry in charge	Branch/ Department	Contact	Effective date	Explanation
Target 10.1 : Introduce a water conservation and efficiency component in strategies and programs aimed at supporting technology development						
28	Committee on new technologies for domestic wastewater treatment	MDDEFP/ MAMROT	DPE-SEM	Bernard Lavallée	Committee created in 1999; Protocol published in 2008	The goal of the committee is to protect public health and the environment by vetting the performance claims of water treatment technologies and providing quality control on projects approved by the ministry or sponsored by MAMROT. The committee also ensures that technical information about these technologies is made available to the public. This measure ensures quality control for new water technologies.

29	National Research and Innovation Policy	MESRST		Mawana Pongo	Under development/schedule TBD	One of the objectives of the mechanism to support technological innovation in companies under the Strategy's innovation support program is to foster the development and marketing of processes and procedures that can reduce and mitigate water damage. This measure serves to support the development of new water technologies.
30	Projects in the Agri-Food Innovation Support Program	MAPAQ	DARI	Claude Bernard	2009	Some of the projects funded under this program relate to the use of water in agriculture. This measure serves to support development of new water technologies in agriculture.
31	Canada–Québec Water Supply Expansion Program (CQWSEP)	MAPAQ	DAEDD	Marie-France Gagnon	Program ended in 2009	The purpose of this program was to carry out individual and collective projects to optimize agricultural irrigation. This measure serveed to support development of new water technologies in agriculture.

Goal 5: Educate, inform, equip, and motivate water stakeholders and users

Objective 11: Make water stakeholders and users more aware of the value of water

No.	Measure implemented or under development	Ministry in charge	Branch/ Department	Contact	Effective date	Explanation
Target 11.1 : Develop and implement awareness tools intended for youth and the general public						
32	Le coin de Rafale	MDDEFP	DSÉE/DC	Francine Lalande/ Geneviève Robert	Under development and ongoing	This section of MDDEFP's website is aimed specifically at young people. This measure serves to make younger clients more aware of water conservation and efficiency issues.
33	MDDEFP website	MDDEFP	DC/DPE-SGIE	Geneviève Robert (Sophie-Anne Tremblay/Brigitte Laberge	Page posted on Sept. 1, 2013; Updated annually on Sept. 1.	A webpage on the Water Conservation and Efficiency Program is available in the Water section of the MDDEFP website. Its purpose is to provide an overview of the program and progress (annual assessment and five-year status report) and to build public awareness of the value of water.

34	Education program for fifth graders developed in collaboration with Centre d'interprétation de l'eau and MELS (SEEP)	MAMROT /MELS	DI-MTL/ Direction des politiques	Mathieu Laneuville	Under development/first version expected in 2013	This measure serves to make younger clients more aware of water conservation and efficiency issues.
35	Continue the partnership with Réseau Environnement with regard to the Programme d'économie d'eau potable (PEEP) to build public awareness in collaboration with municipalities (SEEP)	MAMROT	DI-MTL	Mathieu Laneuville	Ongoing	Some 85 municipalities participated in PEEP in 2011. The Facebook page "Je consomme EAUtrement" has almost 500 friends (350–1,200 views/week). A radio ad was broadcast throughout Québec in early 2012. This measure serves to raise public awareness of water conservation and efficiency issues.
36	Partner with WaterSense, a label program for products that consume an average of 20% less water (SEEP)	MAMROT/MDDEFP/MFE	DI-MTL/DPE/ Direction des technologies vertes et des entreprises de service	Mathieu Laneuville/ Carole Jutras/ Marie-Ève Lacroix	June 7, 2012	MAMROT and MDDEFP announced an agreement to promote the voluntary WaterSense certification and labeling program in Québec. MFE promotes the program to companies. This measure serves to raise public awareness of water conservation and efficiency issues.
9	Implement the *Regulation respecting the charges payable for the use of water*	*MDDEFP*	*DPE-SGIE*	*Carl Martineau*	*Adopted on December 1, 2010, and implemented on January 1, 2011*	*Also helps meet Objective 2.* By requiring withdrawers of 75,000 liters of water or more per day to pay a fee in proportion to the water they withdraw, this regulation will serve to raise public awareness of the value of water and encourage water efficiency.

Objective 12: Make information on water resources, water quality, aquatic ecosystems, and the various uses of water more accessible to all water stakeholders and users

No.	Measure implemented or under development	Ministry in charge	Branch/ Department	Contact	Effective date	Explanation
Target 12.1 : Develop platforms to make information on water resources public and promote knowledge-sharing						
37	Create an "Important Issue" section about the Strategy on MAMROT's website (SEEP)	MAMROT	DI-MTL	Mathieu Laneuville	Ongoing	A section on SEEP was added to MAMROT's website to store relevant documents as a support to municipalities. New documents are added regularly. This measure helps make information available to everyone via a public platform to encourage water conservation and efficiency by municipalities.
38	Develop the water knowledge-sharing portal	MDDEFP	DPE-BCE	Mireille Sager	Under development	The portal will be a tool to foster collaboration and create a culture for the exchange, integration, and sharing of knowledge on water issues. Refer to community websites like Facebook and Twitter that make scientific and technical information available to the general public.
39	Release the state of water resources and aquatic ecosystems report	MDDEFP	DPE-BCE	Hélène Massé	Under development: 2014	The five-year report is a tool for informing all individuals and groups concerned with water and aquatic ecosystems to strengthen their knowledge and help them better understand the challenges related to water resources and aquatic ecosystems.
4	Implement the *Regulation respecting water withdrawals and water protection*	*MDDEFP*	*DPE-SGIE*	*Michel Ouellet/ Maryse Saint-Pierre*	*Under development; Draft regulation published on December 28, 2011; new draft regulation published on May 29, 2013; adoption and implementation planned for fall 2013*	*Also helps meet Objectives 1 and 4.* The Regulation requires that part of the analysis report on the vulnerability of water withdrawals made for the purposes of human consumption be published on the withdrawer's website. Information that must be made public includes the location of the withdrawal site; the location of any protected areas in the immediate, intermediate, and remote vicinity; and the vulnerability level determined in accordance with the requirements of the Regulation. This measure helps make information available on the vulnerability of drinking water sources.

18	*Implement the St. Lawrence Action Plan 2011–2026*	*MDDEFP/EC*	*DPE-SGIE*	*Véronique Lavoie*	*November 29, 2011*	*Also helps meet Objectives 5 and 10.* Primarily aimed at decision makers, the State of the St. Lawrence Monitoring Program by the State of the St. Lawrence Monitoring Workgroup helps keep the public informed about the state of the St. Lawrence.

Objective 13: Ensure that water stakeholders and users have access to water conservation and efficiency tools

No.	Measure implemented or under development	Ministry in charge	Branch/ Department	Contact	Effective date	Explanation
Target 13.1 : Develop tools to help municipal and agricultural water stakeholders set up water conservation and efficiency practices						
40	Rainwater management guide	MDDEFP	DPE-SEM	Martin Bouchard-Valentine	Published in February 2011	The guide provides an overview of various approaches and techniques to reduce the effects of urbanization on water supply. In addition to rainwater best practices, it presents criteria that can help users plan, design, and implement best practices. This measure provides water users with water conservation and efficiency tools.
41	Produce guides and translate AWWA guides (SEEP)	MAMROT	DI-MTL	Mathieu Laneuville	Ongoing	Various documents have been produced for municipalities (sample municipal regulation on the use of drinking water, basic form to measure results, "L'économie d'eau potable et les municipalités" guide, AWWA guides translated into French, economic assessment of the Strategy, etc.) and others are in production (sample specifications for locating leaks, economic impact study on installing counters and setting rates, etc.). Consumption studies are underway in 50 institutional buildings and a guide is in production for the benefit of all ministries.

42	Information sheet intended for business owners on water management best practices, to be posted on the MFE website and Québec Portal	MFE	BCDD	Luc Valiquette	Under development	*TBD*

<u>Objective 14</u>: Recognize exemplary water conservation and efficiency actions by water stakeholders and users in the various sectors

No.	Measure implemented or under development	Ministry in charge	Branch/ Department	Contact	Effective date	Explanation
Target 14.1 : Develop a means to recognize exemplary actions in the municipal sector						
43	Work with partners to develop a recognition program for outstanding municipalities	MAMROT	DI-MTL	Mathieu Laneuville	2013	The efforts of outstanding municipalities can be saluted at municipal association meetings. This measure serves to recognize exemplary actions in the municipal sector and encourage ongoing water conservation and efficiency efforts.

ATTACHMENT D: ACTIVITY SECTORS[14]

Water Use Information by Sector. Each party will submit data, consistent with state and provincial laws and procedures, to the regional water use database for each of the sectors defined below.

1. Public Water Supply. Water distributed to the public through a physically connected system of water treatment, storage, and distribution facilities and serving a group of largely residential customers that may also serve industrial, commercial, and other institutional operators. Water withdrawn directly from the Basin and not through such a system shall not be considered to be used for public water supply purposes.

2. Self-Supply Commercial and Institutional. Commercial uses include water used by motels, hotels, restaurants, office buildings, and institutions, both civilian and military. This category also includes water for mobile homes, hospitals, schools, air conditioning, and other similar uses not covered under a public supply. In addition, this category includes amusement and recreational water uses such as snowmaking and water slides.

3. Self-Supply Irrigation. Water artificially applied on lands to assist in the growing of crops and pastures or in the maintenance of recreational lands, such as parks and golf courses.

4. Self-Supply Livestock. Water used by animals such as horses, cattle, sheep, goats, hogs, and poultry. Water used in fish hatchery operations is also included under this category.

5. Self-Supply Industrial. Industrial water includes water used in the manufacture of metals, chemicals, paper, food and beverage and other products. Mining water use includes water used in the extraction or washing of minerals, for example solids, such as coal and ores, and liquids such as crude petroleum and natural gas. Water used in quarrying and milling is also included in the industrial category. Brine extraction from oil and gas operations is not included. Withdrawals and consumptive uses for industrial and mining purposes (including dewatering operations) recorded under another category (e.g., public supply) will not be recorded here. Once initially reported, water used in a closed cycle (recirculation) will not be reported as a withdrawal. “Make-up water” will be reported once upon entering the system. Other situations should be evaluated on a case-by-case basis.

6. Self-Supply Thermoelectric Power Production (Once-through cooling). Withdrawals and consumptive uses already recorded under another category (e.g., public supply) will not be reported here.

7. Self-Supply Thermoelectric Power Production (Recirculated cooling). Withdrawals and consumptive uses already recorded under another category (e.g., public supply) will not be reported here. Once initially reported, water used in a closed cycle (recirculation) will not be reported as a withdrawal. “Make-up water” will be reported once upon entering the system.

8. Off-Stream Hydroelectric Power Production. Water removed from a stream channel and used to drive turbines that generate electric power. This category also includes “off-stream use” for pumped-storage systems (e.g., reservoir storage) that return water to the source.

9. In-Stream Hydroelectric Water Use.[15] This category includes “run of the river” use, which is not considered a water withdrawal or consumptive use. Reporting for this category is voluntary.

10. Other Self-Supply. Water used for purposes not reported in categories one through nine. Examples include, but are not limited to, withdrawals for fish/wildlife, environmental, navigation and water quality purposes. Specifically, water used to maintain levels for navigation, for fish and wildlife habitat creation and enhancement (excluding fish hatchery operations included in category four), for flow augmentation (or

[14] Excerpt from *Interim State/Provincial Reporting Protocols to Regional Water Use Database*.

[15] In-stream hydroelectric water use is excluded from the Program based on the *Regulation respecting water withdrawals and water protection*.

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

ATTACHMENT E: MEMBERS OF THE INTERDEPARMENTAL AGREEMENT IMPLEMENTATION COMMITTEE

Ministry	Representative's name	Branch	Director
MDDEFP	Brigitte Laberge, Program coordinator	Direction des politiques de l'eau	Marcel Gaucher
	Marc-Olivier Bédard, Program assessments and reviews	Direction des politiques de l'eau	Marcel Gaucher
MAMROT	Mathieu Laneuville	Direction des infrastructures	François Payette
	Michel Duchesne	Direction des politiques	Jocelyn Savoie
MAPAQ	To be determined	Direction de l'amélioration de la compétitivité et des analyses stratégiques	Raymond Jeudi
	Marie-France Gagnon	Direction de l'agroenvironnement et du développement durable	Linda Guy
	Valérie Gagnon	Direction de l'aquaculture et du développement durable	Paul Morin
MTQ	Eve Joseph	Direction du transport maritime, aérien et ferroviaire	Josée Hallé
MELS	Guylaine Coutu	Direction des politiques et des orientations	Josée Bourdages
MCE (SAA)	Aurélie Couture-Boissinot	Direction des relations avec les Autochtones et des initiatives économiques	Lucien-Pierre Bouchard
MRN	Nicolas Grondin	Direction des projets économiques, de l'environnement et de la coordination	Marcel Grenier
MFE	Marie-Julie Laperrière	Direction du développement de l'entrepreneuriat	Lyne Fournier
MRIFCE	Ariadne Moisan	États-Unis	Maël-Solen Picard
MESRST	Guy Verret	Direction des politiques en recherche et innovation	Mawana Pongo