



Conservation  
**ONTARIO**  
*Natural Champions*

## A Framework for Local **WATER-USE** Decision Making on a Watershed Basis



Clean and plentiful water supplies are among the most important natural resources. As the population grows and development intensifies, the challenge to maintain high quality and quantities of water has grown in scope and complexity. The Ontario government is working with many partners including conservation authorities, stewardship councils, farmers, environmental groups, other stakeholders and interested citizens to address these challenges.

From this collaboration, a series of watershed-based demonstration projects were carried out using new and innovative approaches to environmental stewardship. The project reports are intended to assist both practitioners and non-practitioners in applying the results in other local watersheds.

The full reports and fact sheets are available on Conservation Ontario's website.

# OVERVIEW

The goal of this project is the development of a watershed-based framework for water-allocation and water-use management decision making. The project was developed and managed under the leadership of the Credit and Grand River conservation authorities, who are experiencing pressures on their water resources as a result of fast paced of growth. Irrigation needs within their watersheds, competition among users and instream uses during recurring periods of drought have all contributed to these pressures.

Issues surrounding water demand, water-use efficiency, protection of aquatic environments, and overall resource sustainability are leading Ontario and other jurisdictions to consider and act on changes to long-standing approaches in allocating and managing water resources.

In some portions of southern Ontario water demands associated with population growth and economic expansion could potentially exceed locally available supplies. Other areas have struggled in dealing with low water conditions of recent years and are concerned about accumulating research evidence suggesting that such prolonged low-water conditions might become more commonplace in future as a result of climate change.

These challenges can only be effectively addressed through strategic partnerships, ongoing stakeholder involvement and sound watershed management.

## STEPS TAKEN TO DEVELOP THE FRAMEWORK

Information from a number of sources and jurisdictions was examined and applied within an Ontario context during the development of the framework.

Firstly, an overview of the current and emerging issues facing Ontario in the areas of water availability and water demand was carried out using case studies from the Credit River, Long Point and Grand River conservation authorities. Also, a recent assessment from the International Joint Commission (IJC) provided information on water uses and trends in the Great Lakes Basin.

Next, a number of "best practices" were identified from the water management programs of other national and international jurisdictions with similar water supply-demand issues.

Finally, the water-allocation and water-use framework was developed using compiled information and by focusing on the key areas of Water-Use and Allocation Principles; Effective Planning and Response; and Program Administration and Support.

## HOW CAN THE FRAMEWORK BE USED ?

The framework may be adapted to managing under the three water-availability / water-demand scenarios of:

- a) Where current demand potentially exceeds available supply;
- b) Where projected demand could exceed available supply; and
- c) Where supply is much larger than potentially anticipated demand.

## WHERE COULD THE FRAMEWORK BE USED ?

It is anticipated that adoption of the framework is most appropriate in those watersheds where:

- ▶ There is a good understanding of surface and ground water availability and variability;
- ▶ Systems are in place to compile information on current water use and forecast demands across all major water use sectors; and
- ▶ Cooperative arrangements are already in place for bringing together stakeholders representing a diverse range of water-use mandates and interests around the shared use and management of water and related resources.

# WATER-ALLOCATION AND WATER-USE MANAGEMENT FRAMEWORK (INCORPORATING A WATERSHED APPROACH)

Implementing water-allocation and water-use management on a watershed basis involves:

- Monitoring the natural processes and human influences that determine the availability and variability of water supplies.
- Evaluating human activities that impose demands on those resources.
- Honouring relevant provincial/federal laws and policies while recognizing the needs of watershed communities and environments.
- Coordinated planning and response capabilities of local institutions and stakeholders within the context of the regulated powers of senior government.

## Legislative and Policy Framework



- In addition to basic provisions (e.g. riparian rights) of common law, key legislation impacting the use, management and protection of water quantity include the *Ontario Water Resources Act*, *Conservation Authorities Act*, *Lakes and Rivers Improvement Act*, *Public Lands Act*, *Drainage Act*, *Planning Act*, and the (federal) *Fisheries Act*. Pending provincial legislative initiatives around drinking water source protection are also expected to enhance the protection and sustainable use of water.
- Existing provincial water management policy seeks "to ensure the fair sharing, conservation and sustainable use of the surface and ground waters of the province."

## Primary Water Permitting Laws and Regulations



- Mechanisms authorizing and regulating the "taking" of surface and ground water in Ontario are s.34 of the *Ontario Water Resources Act* and its associated Water Taking and Transfer Regulation - O. Reg. 285/99. Permits are required for taking of greater than 50,000 litres per day.
- Together they include provisions relating to the type and size of takings requiring a permit, the need for supporting information/studies, stakeholder notification and consultation requirements, monitoring and reporting of water use, and restrictions on diversions and transfers. They also provide the Ministry of Environment with the power to impose reduced takings in the event of interference with other uses or disruption of natural ecosystem functions, to require periodic permit review and reapplication, and to make other changes including refusing a permit request or canceling an existing permit.
- The Ontario Building Code establishes minimum water-use efficiency requirements for fixtures (toilets, taps and showerheads) used in new construction and renovation.

## Water Allocation Decision-Making



- Informed decision making starts with a good understanding of the availability and variability of local surface and ground water supplies coupled with sound information on current water use and projections of future demands. This information is evaluated through the application of water budget models and other tools.
- Water-taking permit holders and other water-use interests need to be regularly consulted in developing watershed-based water resource utilization and conservation plans.
- Conservation authorities, where they exist, can facilitate coordination of participatory processes for long-range allocation planning and decision making.

## Water Use Management

- Successful water use management, on an ongoing basis, involves short and long term initiatives by individual water users or groups of users (e.g. those sharing water resources within a common watershed area or aquifer) to improve water-use efficiency, to manage overall demand, and/or to modify demand patterns in a way that reduces pressure on available supplies, e.g. as has been locally implemented under the Ontario Low Water Response Plan.
- Voluntary efforts to reduce demand and conserve available supplies need to be backed up, as necessary, by the imposition and enforcement of permit requirements and other applicable regulatory controls.
- Promotion of a universal and shared commitment to the efficient use and conservation of water resources should recognize associated benefits such as energy savings and the increased capacity to accommodate new growth and development.



This suggested watershed-based framework also reaffirms and supports Ontario's long-standing and primary water quantity management policy: *"To ensure the fair sharing, conservation and sustainable use of the surface and ground waters of the province."*

## WATER-USE FACTS

94% of all water taking (not including hydropower) in the province occurs within the Great Lakes Basin.

Ontario has been a leader among Canadian jurisdictions in the promotion and codification of water-use efficiency measures.

The Ontario Low Water Response Plan (OLWR) was established in 2000 to help water resource managers and local water users manage the impacts of drought conditions.

Ontarians and other Canadians are still among the heaviest domestic water users globally.

Management, protection and use of surface water resources in Ontario is governed by common law, and the application of both environmental and planning legislation. The water taking permit issued under s.34 of the *Ontario Water Resources Act* and its associated Water Taking and Transfer Regulation O.Reg.285/99, is the means for authorizing and regulating water withdrawals.

The Walkerton Inquiry Part 2 recommendations outline the ingredients of a watershed approach to water-use planning and permitting as elements of source protection planning.

## PROJECT PARTNERS



This guide was made possible by the Government of Ontario and Conservation Ontario in partnership with the Credit Valley Conservation Authority and the Grand River Conservation Authority.

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