



WATER CONSERVATION CALCULATOR

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1 What Is the Water Conservation Calculator?

The Water Conservation Calculator (WCC) is a free, web-based decision-support tool used to illustrate how specific water conservation measures can yield both fiscal and physical water savings for communities.

The WCC produces charts and a printed report intended to support the case for water conservation when presented to decision makers.

Other key functions of the WCC include:

- providing useful information on the current state of the water system;
- offering a “snap shot” of future demands and the positive impacts of conservation on those demands;
- assisting in more accurately targeting conservation efforts, thereby increasing the cost effectiveness of conservation initiatives; and
- assisting in decision making around new infrastructure by illustrating the possibility of capital deferral.

The WCC is designed for use by small to mid-size communities; however the WCC may be useful to any community wanting to conserve water.

2 Why Incorporate Water Conservation into Community Planning?

Water is an essential resource that sustains not only human health and well-being, but the health of the natural environment.

A changing climate, increasing urbanization and population growth present significant challenges to community water supplies and infrastructure.

Water conservation plays an important role in protecting and preserving water resources by helping communities adapt to changing conditions. Conservation allows communities to provide safe and clean water more quickly, economically and with less impact on the environment than traditional source development or infrastructure upgrade projects.

Incorporating water conservation into community planning can:

- extend the life of both drinking water and wastewater infrastructure;
- reduce operation and maintenance costs;
- increase resource use efficiency;
- reduce greenhouse gas emissions from decreased energy consumption;
- reduce water source degradation;
- preserve aquatic ecosystem health and functionality; and
- help communities adapt to climate change.

3 Provincial Commitment to Water Conservation

The government of British Columbia (Province) is committed to supporting sustainable and integrated water resource management.

In Living Water Smart: B.C.'s Water Plan, the Province outlines its targets for water conservation, including:

- water use in B.C. will be 33% more efficient by 2020;
- 50% of new municipal water needs will be acquired through conservation by 2020;
- water laws will provide incentives to be water efficient by 2012; and
- new approaches to water management will address the impacts from a changing water cycle, increased drought risk, and other impacts on water caused by climate change by 2012.

The Ministry of Community and Rural Development (MCD) capital grant programs play an important role in supporting water conservation and meeting the targets of the Living Water Smart plan.

Water conservation plans are a conditional requirement for those local governments receiving funding from MCD for drinking water or wastewater projects.

The WCC can assist communities in meeting the conditional requirements of MCD capital grant programs while meeting both local and provincial commitments to water sustainability.

4 Using the Water Conservation Calculator

The WCC is easy to navigate, with instructional text to help guide the user through each of the five modules. Technical support is also available through the 'help' function.

A basic understanding of the community water system is necessary to use the WCC. Before beginning, community and water system data will need to be collected. Data requirements have been categorized as mandatory and optional.

The WCC is designed to provide value using only mandatory data, however including optional data will improve results. Some mandatory data fields include:

- service population;
- projected annual population growth rate;
- total annual water supply capacity;
- maximum daily supply capacity;
- total annual water demand; and
- annual water system budget.

The time required to gather data will depend on the level of detail and the availability of the data being collected. Once the selected data have been collected, approximately half an hour should be reserved to complete the existing system profile in the WCC.

Once the existing system profile is complete, users have the option to examine a variety of conservation measures. The WCC includes cost-effective conservation measures for the residential, commercial, institutional and industrial sectors.

The WCC provides the opportunity to create multiple reports, allowing the user to compare and contrast the savings gained from a combination of different conservation measures.

Water system data is entered into Module 1: Existing System Profile

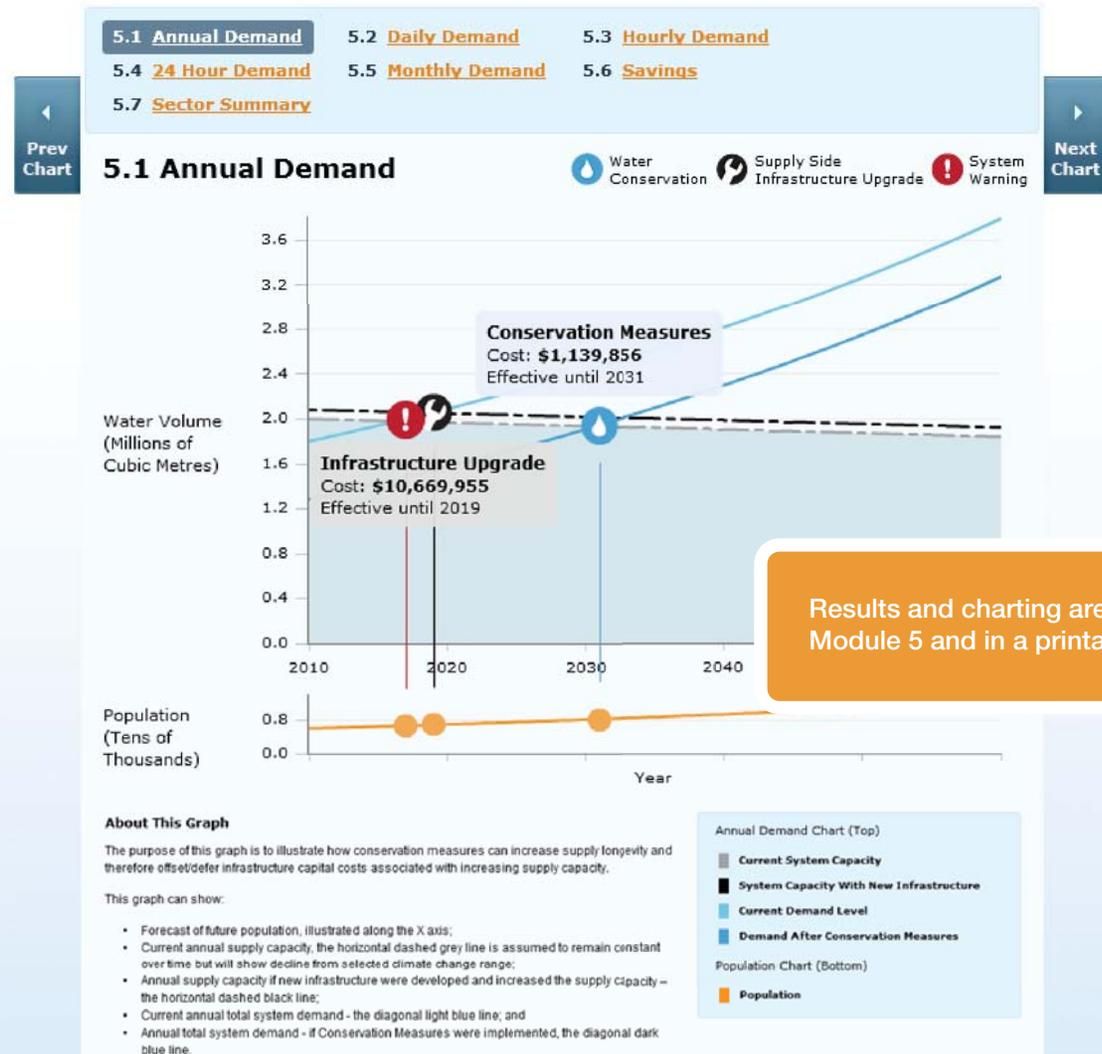
The screenshot displays the 'Water Conservation Calculator' web application. The interface is divided into five main modules: 1. Existing System Profile, 2. Conservation Savings, 3. Conservation Savings Finances, 4. Infrastructure Upgraded, and 5. Results & Charting. The current view is 'Step 1.1 Service Characteristics'. A text box explains: 'This module collects population and water supply data to be calculated throughout modules. The calculator will use this data to...'. The form includes input fields for 'Population' (Permanent: 5,000, Seasonal: 1,000, Predicted Annual Population Growth Rate: 1.5%), 'Current Service Population' (6,000), and a 'Forecast Service Population' table with columns for 5, 10, 20, and 50 years, showing values of 6,463, 6,963, 8,081, and 12,631 respectively. A 'Scroll Down Additional Fields Below' button is visible. At the bottom, there are buttons for 'Projects & Reports Browser', 'Save Report', 'Download PDF', and 'Edit Benchmarks'. The project name is 'Demonstration Project' and the report is 'Demonstration Report'.

5 Benefits of the Water Conservation Calculator

Water conservation plays a critical role in managing water resources. The WCC is designed to help B.C. communities take positive action towards conservation.

Using the WCC will allow users to:

- collect and record community water system data;
- prepare useful information about the current state of the water system and future demands;
- compare the water savings from water conservation to supply-side upgrade options;
- compare the costs of water conservation to supply-side upgrade options;
- assist in decision making around new infrastructure by illustrating the possibility of capital deferral;
- more accurately target conservation efforts, thereby increasing the cost effectiveness of conservation initiatives;
- forecast future population and water supply scenarios to assist with community climate change planning and overall growth management; and
- generate up to seven charts and a printed PDF report to help present the case for water conservation to decision makers.



**WATER CONSERVATION
CALCULATOR**

Try it Now!

www.waterconservationcalculator.ca