

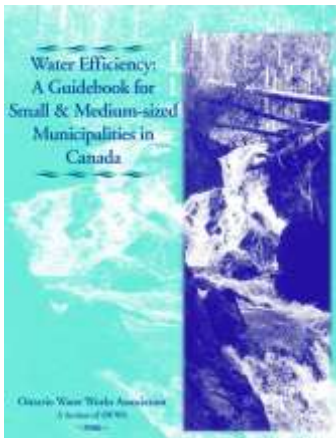
WATER SUSTAINABILITY PLANNING KEY RESOURCES LIST

Prepared for the Grand River Conservation Authority
by Carol Maas, Bridgewater Research

Water Demand Management Planning Resources

Water Efficiency: A Guidebook for Small and Medium-sized Municipalities in Canada. (2006) Ontario Water Works Association

Available for order at: <http://www.owwa.com/hm/inside.php?sid=35&id=765>



The Guidebook is organized into the following sections:

- Introduction
- Evaluate your system
- Review utility efficiency measures
- Consider potential water savings
- Design your water efficiency program
- Implement your program

The Guidebook contains easy-to-use fill in the blank worksheets in each of the above sections to assist the water efficiency planner develop a program.

Water Conservation Planning Guide for British Columbia's Communities. (2010) POLIS Project

Available online at: <http://poliswaterproject.org/publication/243>



This seven step "how to" guidebook for British Columbian communities enhances local government capacity to develop and implement effective water conservation plans by summarizing core research on water-wise tools and practices in an easy to use step-by-step guidebook. The guidebook helps municipal water staff and active citizens get started on water conservation planning, and communities who are looking to strengthen existing water conservation plans. This publication is a collaboration between the POLIS Water Sustainability Project and Ministry of Community and Rural Development.

Water Efficiency Measures

Water Efficiency Best Management Practices Manual (2005) Ontario Water Works Association

Available for order at: <http://www.owwa.com/hm/inside.php?sid=35&id=765>



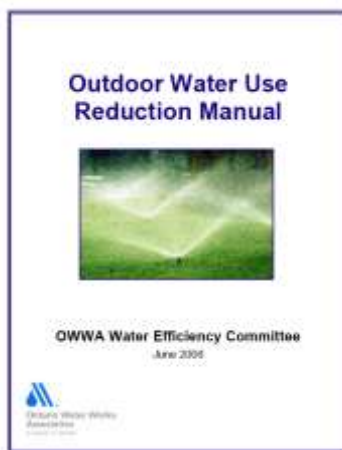
Best management practices are provided in a number of areas as follows:

- Meters for All Users
- Full Cost Pricing
- Public Information and Education Programs
- School Programs
- Compile a Water Use Database
- Water Loss Management
- Developing a Water Efficiency Program/Plan
- Implementing a Utility/Municipal Water Efficiency Program
- Industrial/Commercial/Institutional Water Efficiency
- Indoor Residential Water Conservation
- Landscape Water Efficiency Program.
- Reducing the Flow in the Wastewater System

Outdoor Water Use Reduction Manual (2008) Ontario Water Works Association

Available online at:

http://www.owwa.com/img/content_images/Image/Outdoor%20Water%20Use%20Manual.pdf



Key topic areas covered through this publication include:

- Peak Summer Demand Measurement and Benchmarking
- Consumer Based Social Marketing and Public Education approaches for Peak Demand Reduction
- Peak Demand Water Use Reduction through By-law Control and Enforcement
- Rebates and Incentives for Encouraging Efficient Outdoor Water Use
- Real Water Rate Pricing and Increased Water Consumption Costing Structures
- Resources for Planning the Right Program

Alliance for Water Efficiency's Resource Library

<http://www.allianceforwaterefficiency.org/resource-library/default.aspx>



Reputable information on the following topics (and more):

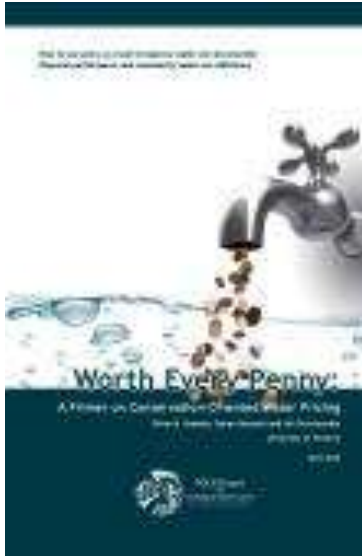
- Residential Water Use and Appliances
- Landscape Irrigation and Outdoor Use
- Commercial, Institutional and Industrial Water Users
- Water Loss Control
- Water Rates and Rate Structures

Pricing and Revenue Loss

WORTH EVERY PENNY: A PRIMER ON CONSERVATION-ORIENTED WATER PRICING (2010)

POLIS Project

<http://poliswaterproject.org/publication/344>



Worth Every Penny: A Primer on Conservation-Oriented Water Pricing provides an overview of conservation-oriented water pricing for decision makers, water utilities and service providers in Canada. It explains how water pricing works, what the benefits are, and how water utilities can implement conservation-oriented water pricing structures as a key tool in the water manager's toolkit. As well, it offers advice on how to address implementation challenges, including how to avoid penalizing low-income families and how to maintain revenue stability for water utilities.

Water Pricing Primer for the Great Lakes Region (2010) Alliance for Water Efficiency

<http://www.allianceforwaterefficiency.org/AWE-GLPF-value-water-project.aspx>



This primer provides an introduction to key principles and concepts of ratemaking, including:

- How Price Matters
- Rate Design
- Efficiency-oriented Rates
- Conservation and Revenues
- Implementing a Change in Rates
- Communication is Key

Analytical Tools

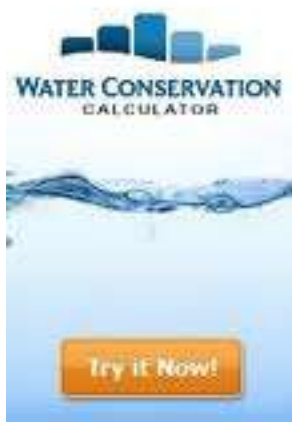
Water Conservation Tracking Tool. Alliance for Water Efficiency
<http://www.allianceforwaterefficiency.org/Tracking-Tool.aspx>



What the Tracking Tool Is

The Tool is an Excel-based model that can evaluate the water savings, costs, and benefits of conservation programs for a specific water utility, using either English or Metric units. Using information entered into the Tool from the utility's system, it provides a standardized methodology for water savings and benefit-cost accounting, and includes a library of pre-defined conservation activities from which users can build conservation programs.

Water Conservation Calculator. BC Ministry of Community & Rural Development
<http://waterconservationcalculator.ca/>



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.

Stormwater Management

Comprehensive Stormwater Management Master Plan Guidelines:

Guidelines for the Development and Implementation of Comprehensive Stormwater Management Master Plans in the Lake Simcoe Watershed

http://www.lsrca.on.ca/pdf/reports/swm_master_plan_guidelines.pdf

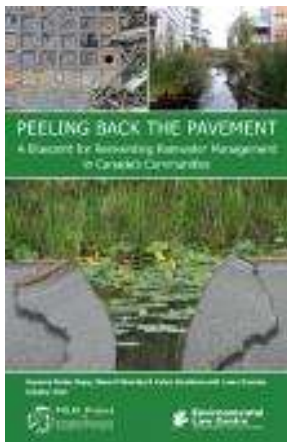


The Lake Simcoe Protection Plan (LSPP) sets out specific requirements for the management of stormwater in existing and planned settlement areas, through the preparation of comprehensive Stormwater Management Master Plans. This document provides direction to municipalities on how to prepare and implement Stormwater Management Master Plans including:

- Evaluate the Cumulative Environmental Impact of Stormwater from Existing and Planned Development
- Determine the Effectiveness of Existing Stormwater Management Systems
- Identify and Evaluate Stormwater Improvement and Retrofit Opportunities

PEELING BACK THE PAVEMENT: A BLUEPRINT FOR REINVENTING RAINWATER MANAGEMENT IN CANADA'S COMMUNITIES (2011) POLIS Project

Available online at: <http://poliswaterproject.org/publication/426>



The handbook outlines the problems with conventional stormwater management and examines solutions for moving toward sustainability. It provides a comprehensive blueprint that outlines the crucial steps necessary to change the way communities manage and, importantly, govern stormwater. The blueprint describes detailed actions that local and senior levels of government can take to move from the current system of stormwater management to one focused on rainwater as a resource. A main focus is addressing the fragmented responsibility for fresh water across and within jurisdictions—one of the greatest challenges to reinventing rainwater management.

LOW IMPACT DEVELOPMENT STORMWATER MANAGEMENT PLANNING AND DESIGN GUIDE (2010) Toronto and Region Conservation Authority & Credit Valley Conservation Authority

Available online at: http://www.sustainabletechnologies.ca/Portals/Rainbow/Documents/LID_SWM_Guide_-_v1.0_2010_1_no_appendices.pdf



The Low Impact Development (LID) Stormwater Management Guide is a joint initiative of the Toronto and Region and Credit Valley Conservation Authorities that has been developed in consultation with representatives from the Ministry of the Environment, Fisheries and Oceans Canada, GTA municipalities and the development industry.

Ontario Water Efficiency Programs of Interest

Excerpted from the OWWA Water Efficiency Website:

City of Guelph

www.guelph.ca/waterconservation

City of Hamilton

www.hamilton.ca/water

Region of Peel

www.watersmartpeel.ca

City of Toronto

www.toronto.ca/watereff

Region of York

www.waterfortomorrow.ca

www.openwater.ca

Region of Waterloo

<http://www.regionofwaterloo.ca/en/abouttheenvironment/water.asp>

Networks, Committees & Partnerships:

OWWA Water Efficiency Committee



Ontario Water Works Association

www.owwa.com/hm/inside.php?sid=35&id=765

Committee Chair: Lisa Botticella, City of Toronto, lbottic@toronto.ca

CWWA Water Efficiency Committee



Canadian Water and Wastewater Association

www.cwwa.ca/net_conservation_e.asp

Committee Chair: Kevin Reilly, Capital Regional District, kreilly@crd.bc.ca

The National Water Efficiency Committee's interests and activities relate to municipal water use and demand, and include (but are not limited to):

- Fostering innovation in water efficiency research and technology improvement related to water using fixtures, devices, appliances and practices and processes
- Promoting programs, policy and legislation to ensure the efficient and sustainable use of water resources in the municipal water supply services.
- System operating efficiency such as System Leak Detection

Alliance for Water Efficiency

www.allianceforwaterefficiency.org/awe-membership-page.aspx



Join the growing group of stakeholders working to improve water efficiency and conservation in North America. We welcome municipalities, water utilities, resource planning agencies, non-profit organizations, academic representatives, business and industry leaders, plumbing and appliance manufacturers, irrigation consultants, distributors, product manufacturers, and individual citizens unaffiliated with a utility, company, or organization...in short, anyone interested in working to improve water efficiency in the United States and Canada.

Benefits of Membership:

- Access to the AWE Water Conservation Tracking Tool
- Access to an extensive North American network of water efficiency professionals for advice and guidance, by phone or e-mail
- Access to the latest research and case studies on water conservation programs through a comprehensive clearinghouse web site
- Notices of upcoming water efficiency events worldwide

WaterSense Promotional Partners

www.epa.gov/watersense/partners/why_join.html



WaterSense is now recognized and adopted in Canada.

Joining WaterSense is free and easy! WaterSense partnership connects you to a network of utilities, local governments, manufacturers, retail and distributors, builders, and other organizations working to promote the WaterSense label and water efficiency. You will gain exclusive access to outreach and marketing resources to help you promote WaterSense and water efficiency. **Download free collateral and media materials, including public service announcements, factsheets, brochures, press releases, letters to the editor, and bill stuffers with the water-efficiency message for utility customers.**

Other Resources

Guelph's Stormwater Master Plan

http://guelph.ca/uploads/CDDS%20Engineering/Final_Report_February_2012.pdf

Guelph's Long Term Water Conservation Plan:

http://guelph.ca/uploads/ET_Group/waterworks/WCE%20Study/WCES%20Final%20Executive%20Summary.pdf

Guelph Example of Communicating Rate Increases:

<http://guelph.ca/living.cfm?smocid=2763>

Kitchener Example of Communicating Rate Increases:

http://www.kitchenerutilities.ca/pdf/rate_change_water_sewer_2012_03.pdf

Guelph's Blue Built Program

http://guelph.ca/uploads/Blue%20Built%20Home%20Terms%20and%20Conditions_v2.pdf

Brantford Watering Bylaw:

<http://www.brantford.ca/Bulk%20Water/WC%20Program%20General%20Brochure.pdf>

Kitchener One Day / Week Watering Bylaw:

http://www.kitchenerutilities.ca/pdf/waterConservation07_2011.pdf

Fergus-Elora (Township of Centre Wellington) Water Use Survey

<http://poliswaterproject.org/sites/default/files/GRCA%20Survey.pdf>

Township of Centre Wellington Soft Path Study

<http://poliswaterproject.org/publication/416>

Region of Waterloo Water Softener Study

<http://watersoftenerfacts.ca/>

[http://watersoftenerfacts.ca/wp-](http://watersoftenerfacts.ca/wp-content/uploads/2012/03/WATER_SOFTENER_TESTING_REPORT_FEBRUARY_2012.pdf)

[content/uploads/2012/03/WATER_SOFTENER_TESTING_REPORT_FEBRUARY_2012.pdf](http://watersoftenerfacts.ca/wp-content/uploads/2012/03/WATER_SOFTENER_TESTING_REPORT_FEBRUARY_2012.pdf)

Oxford County's Humpback Water Rate Structure

<http://www.oxfordcounty.ca/Portals/15/Documents/HumanResources/By-law%205201-2010%20Water%20and%20Sewer%20Rates.pdf>

Topsoil: Just How Do You Obtain a Performing Topsoil Layer, to Advance Rainwater Management & Water Conservation Goals? Topsoil: Just How Do You Obtain a Performing Topsoil Layer, to Advance Rainwater Management & Water Conservation Goals?

<http://www.waterbucket.ca/gi/sites/wbcgi/documents/media/288.pdf>

York Region's Long Term Water Conservation Strategy

<http://www.waterfortomorrow.ca/en/aboutus/resources/LongTermWaterConservationStrategy.pdf>

Ontario Guidelines for Residential Rainwater Harvesting Systems

http://www.sustainabletechnologies.ca/Portals/_Rainbow/Documents/ONTARIO_RWH_HANDBOOK_2010.pdf