

Water Conservation Planning Quick Guide

Moving Canadian Communities to a Sustainable Water Future

Why a Quick Guide?

This Quick Guide is intended to point local governments to some of the leading available resources that support effective water conservation planning including **Planning Manuals** and **Case Studies** that demonstrate leadership shown by a number of communities in Canada and beyond.

Seven Steps to Innovative Water Conservation Planning

Water conservation planning is an iterative and dynamic process. The principled planning approach outlined below captures state-of-the-art thinking on plan development and relies on a variety of leading Canadian and international water planning resources.

Step 1

Putting together an *interdisciplinary team* to drive the water conservation planning process makes managing demand a core part of day-to-day community water management and ensures integration of water conservation planning with other community plans and initiatives.

Step 2

A comprehensive approach to water sustainability planning begins by defining conservation needs based on a *community water use profile* that describes the community's water infrastructure and population and ecosystem needs in order to determine future water limits.

Step 3

Forecasting future water demand allows planners to begin to determine the community's water future by providing a "business as usual" baseline projection that shapes the intensity of change needed to achieve a sustainable water future.

Step 4

Setting high-level qualitative and quantitative 5, 10 and 25-year *water use targets* for the community provides direction and focus to the rest of the planning process.

Step 5

Next, planners consider appropriate *water conservation measures and tools* based on the success of previous and current water conservation initiatives and by looking to best practices in other communities of similar size and demographic.

Step 6

Evaluating measures and tools according to locally-determined criteria and a cost-benefit analysis allows planners to determine which water conservation strategies will be most effective in the community.

Step 7

Developing a *detailed implementation strategy* that includes timelines and budgets is a critical final step to getting a conservation plan off the ground.



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Canadian Water Conservation Planning Resources

Water Conservation Planning Guide for British Columbia's Communities (2009).

POLIS Project on Ecological Governance with BC Ministry of Community Development.

Aimed at small and medium-sized communities, the Guide uses a step-by-step approach to summarize core research on water-wise strategies and practices in an easy to use guidebook. Each step includes case studies on topical issues from British Columbia, a handy "To Do" list and additional resources that begin to demonstrate the full potential of the water soft path approach.

Developing Water Soft Paths in Canadian Municipalities: A Guidebook (2009). Friends of the Earth Canada and the Federation of Canadian Municipalities.

Aimed at decision-makers rather than local government staff, this guide expands on the steps involved in developing a water soft path plan as a "wise water investment plan" for communities, including exploring desired water futures through community visioning, establishing baseline water demand and sources, adopting growth projections, building and backcasting scenarios and evaluating future scenarios. Includes worksheets for data analysis.

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

Aimed at communities with populations under 100,000, this guidebook provides a general overview of water efficiency planning, and describes the specific steps to design the best program for communities offering a "menu" of possible water efficiency techniques and approaches specifically applicable to municipalities in Canada. Featured regional municipalities provide a wide range of program examples that can be adapted across scales.

Water Efficiency Guide for the Development of Municipal Water Efficiency Plans in Canada (forthcoming, Fall 2009). Canadian Mortgage and Housing Corporation.

Streamlines planning process to assist municipal staff in selecting the most viable categories of water-

efficiency measures, identifying the maximum potential water savings and setting realistic savings target for each category, and estimating the costs and benefits associated with implementing each category. Features Excel worksheets to help with calculations, extensive background sections on water use and water efficiency in Canada and a Best Management Practice guide.

International Water Conservation Planning Resources

M52 Water Conservation Programs – A Planning Manual (2006). American Water and Wastewater Association.

This manual for water conservation planning for city water utilities discusses the benefits of water conservation programs that are carefully designed and implemented. Provides worksheets, steps, goals, and program participant responsibilities and roles. Also discusses water conservation rates, support for water pricing adjustments, involvement of various outside groups, efficient utilization of available sources of supply, public recognition and participation, and success measurement. Additional resources are provided through case studies and a list of references.

Handbook of Water Use and Conservation (2002) Vickers, A.

Seminal text on water use and efficiency measures for homeowners, businesses, farmers, and industries. The first chapter outlines ten key planning steps to a successful conservation program, such as goals, incentives, benefits and costs, and evaluation. Includes numerous charts, photographs, and sidebars containing useful data as well as a glossary of terms and a detailed index.

Guide to Preparing Urban Water-Use Efficiency Plans (2001). United Nations Water Resources Series No. 83.

A comprehensive publication aimed at supporting decisions related to planning, investment and management in the water supply and sanitation sector. The guide also provides a flexible framework as a guide to preparing plans on the efficient use of water in the residential, municipal and commercial sectors.



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Water Conservation Plan Guidelines (1998). US Environmental Protection Agency. Addresses a number of topics including integrating water conservation and infrastructure planning, water conservation planning criteria, guidelines and measures, State roles, and current State programs. Also discussed is a capacity-development approach for very small systems water conservation planning.

Wise Water Management: a Demand Management Manual for Water Utilities (1998). New South Wales Department of Land and Water Conservation. Provides water utility management and staff, planners, elected members and community decision-makers with an understanding of urban water demand management issues together with comprehensive (although slightly out of date) reference material. It also provides guidance on developing and implementing a cost-effective demand management plan and reducing the urban 'footprint' i.e. our adverse impacts on the environment.

Canadian Case Studies and Best Practices

New Path to Water Sustainability for the Town of Oliver, BC - Soft Path Case Study (2007). POLIS Project on Ecological Governance, University of Victoria. This case study is a practical application of the soft path concept for the Town of Oliver in the Okanagan Basin, British Columbia. Provides an overview of the soft path approach, an analysis of three potential scenarios in the Okanagan, and recommendations for the community to take steps towards developing a sustainable approach to water management.

Oak Ridges Moraine Conservation Plan Technical Paper #11: Water Conservation Plans (2005). Ontario Ministry of Environment. Although this resource was specifically developed to provide guidance to assist municipalities in

developing water conservation plans to implement the water provisions of Section 25 of Ontario's Oak Ridges Moraine Conservation Plan, its broad lessons can be applied to any Canadian community.

Federation of Canadian Municipalities' **InfraGuide: The National Guide to Sustainable Infrastructure**. Provides a collection of **case studies, best practice reports** and **e-learning tools** for sustainable municipal infrastructure. InfraGuide operated from 2001 to 2007 as a partnership between the Federation of Canadian Municipalities, the National Research Council and Infrastructure Canada.

International Case Studies and Best Practices

Examples of Complete Urban Water Management Plans. California Department of Water Resources. DWR has designed its urban planning assistance program to assist urban water suppliers to meet the requirements of California's **Urban Water Management Planning Act**. Program staff assists urban water suppliers with preparing comprehensive and useful water management plans, implementing water conservation programs, and understanding the requirements of the Act.

Waste Not Want Not: The Potential for Urban Water Conservation in California (2003). Pacific Institute. Quantifies the potential for water conservation and efficiency improvements in California's urban sector, where around 20 percent of the state's water is used to meet ICI and residential needs. Suggests that the path to a sustainable water future lies not with more "hard" infrastructure of dams and pipelines but with the soft infrastructure of responsible local water management, smart application of existing technology, active stakeholder participation in decision-making, and the efforts of innovative communities and businesses.



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Supplementary Resources

Alliance for Water Efficiency

Non-profit organization dedicated to the efficient and sustainable use of water and to networking practitioners and resources across North America.

California Urban Water Council

Encourages efficient water use across California through partnerships among urban water agencies, public interest organizations, and private entities. The Council's goal is to integrate urban water conservation Best Management Practices into the planning and management of California's water resources.

Federation of Canadian Municipalities' Green Municipal Fund

Funding program that supports municipal initiatives across Canada that benefit the environment, local economies and quality of life. GMF funding is allocated to plans, studies and/or projects in five sectors of municipal activity, including water.

BC Ministry of Community Development Infrastructure

The Ministry of Community Development provides infrastructure funding to local governments in British Columbia through a variety of grant programs, including the BC Community Water Improvement Programme. Note that all communities applying for funds through the Water Improvement Programme must first complete a water conservation plan. A complete list of grants available to local governments can be obtained from CivicInfo BC.

Good Governance for Water Conservation: An Annotated Bibliography (2008). UBC Program on Water Governance & Infrastructure Canada.

This comprehensive primer summarizes current research on municipal water conservation policy and practice in Canada and beyond. Resources were found through searches of scholarly databases, the Internet and the University of British Columbia Library catalogue according to various key terms, including public utilities, water billing, full cost accounting, social equity, metering, water conservation, water efficiency, and water utilities' conservation practices.

The Soft Path in a Nutshell (Revised) (2007). POLIS Project on Ecological Governance with Friends of the Earth Canada.

Based on two years of research, this handbook describes how a soft path approach to water planning differs from conventional supply management and provides an overview of the steps involved in a soft path approach. The potential of this innovative approach to developing water sustainability in Canada is explored through the results of a research collaborative that investigated water soft paths at the municipal and community, watershed, and the provincial scale.

Thinking Beyond Pipes and Pumps: Top Ten Ways Communities Can Save Water and Money (2006). POLIS Project on Ecological Governance.

Based on three years of research, this handbook provides a practical resource on how individuals, utilities and communities can save water and money. It seeks to inspire and facilitate action, designed for community leaders, water managers and policy makers. It promotes expanded definition of urban water infrastructure, including innovative physical components, water sensitive urban design and conservation programs designed to complement existing water supply networks. The Top Ten represent a suite of actions that can be tailored on a community- by-community basis.



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