

Community Paths

Investigating BC's urban water use

Purpose

1. To determine if water soft path planning could enable an urban centre to avoid obtaining new water supplies until 2050.
2. To study whether a water soft path could be effectively applied on an urban centre basis.

Method

Using existing water use and population growth data, this study investigated future water use under three scenarios: business-as-usual, demand management and a water soft path. Results for the three scenarios were calculated for a general urban centre with a base population of 200,000 in 2005 and 300,000 in 2050. The water reduction policy and technology specifics for each of the scenarios were developed through water conservation and efficiency analyses associated with several urban centres including the Town of Oliver in the Okanagan Basin and The Capital

Regional District (Victoria) in British Columbia.

Outcome

The goal of no new water until 2050 in an urban centre is achievable, even under conditions of significant population growth. This water soft path analysis is proof that our past urban water-use patterns and habits need not dictate our future. Action, however, must begin today.

Findings

Business-as-usual

By 2050, under the business-as-usual scenario, the increase in water use would mimic population growth, adding up to approximately 68 million cubic metres (Mm³) of water per year. This amount reflects no growth in use on a per capita basis, but incorporates a 50 per cent increase in population over the 45-year period.


Demand management

The demand management scenario demonstrates the significant potential of

readily available technologies and practices. In our generalized urban case, this scenario results in water savings of approximately 24 per cent, which amounts to over 16 Mm³ per year by 2050 as compared with the business-as-usual case. In this scenario, water savings were realized primarily through increased use of low-flow and dual-flush toilets, efficient showers and faucets, and water-saving clothes washers. While significant, these savings are not enough to offset the population growth.

Water soft path

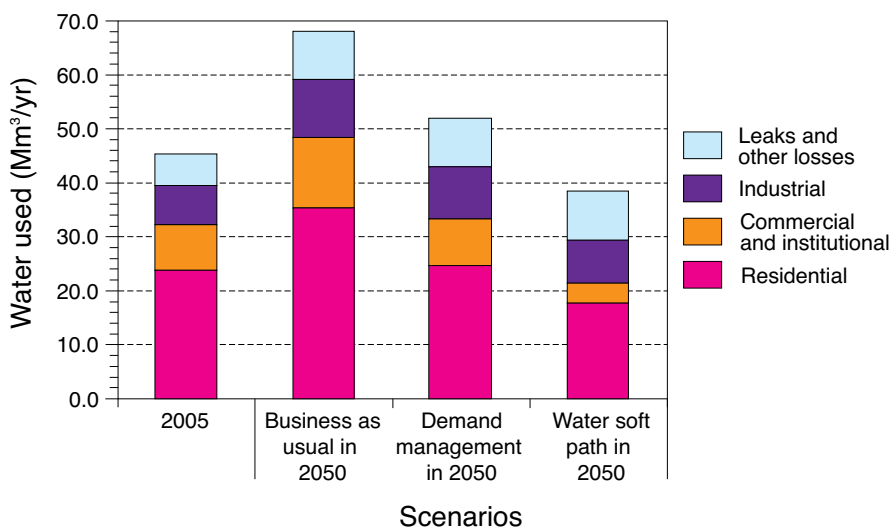
Under the water soft path scenario, water savings of almost 44 per cent are possible, resulting in overall savings of just under 30 Mm³ of water per year compared with the business-as-usual case. This is a significant savings and would mean approximately 7 Mm³ less water being used in 2050 than today, based on average per capita water use as determined by Environment Canada. Thus a population growth of almost 75 per cent could be offset through conservation and efficiency.

The water soft path scenario builds on the initial water savings developed in the demand management scenario. It involves adoption of more advanced technologies and practices than the demand management scenario, including composting toilets, waterless urinals, xeriscaping, widespread reuse, recycling and rainwater harvesting. 

Oliver M. Brandes leads the Water Sustainability Project at the POLIS Project on Ecological Governance at the University of Victoria, BC.

Tony Maas is a master's candidate in the School of Planning at the University of Waterloo and a Research Associate at POLIS.

Three Scenarios for Community Water Use in BC



Water demand management alone is not enough to offset the effects of population growth.

For more information, go to www.foecanada.org