

A new view of water security

THINKING BEYOND PIPES AND PUMPS

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Canadians face a new reality when it comes to *water security*. Water scarcity is a threat to the health and prosperity of a growing number of communities across the nation.

Ask anyone from Tofino, BC, on Canada's "wet coast." This summer's shortages left the nation wondering how one of Canada's wettest places

giant pipe to Lake Erie.

Emerging Water Challenges

Our warming climate, rapid urbanization and profligate water use lie at the heart of 21st century water challenges.

Many regions across the country anticipate hotter and dryer summers

Rapid urbanization is another significant challenge. Our cities are expanding quickly – as are their demands for fresh water. Population increases, exacerbated by the sprawling growth typical of Canadian communities, make it more and more difficult to secure sufficient water for human needs and for the protection of aquatic ecosystems.

Water security means access to adequate quantities of water, of acceptable quality for human and environmental uses ... Water security for the protection of wetlands, aquatic ecosystems, and biodiversity is fundamental – not only for the well-being of these natural systems, but also for human systems.¹

could possibly run out of water. Or, ask the Prairie residents who wonder where their water will come from when the Rocky Mountain glaciers are gone. Even people in the Great Lakes basin face limits. Witness the plans of Ontario communities like Guelph and the Region of Waterloo to plumb the Grand River Valley with a

as climate change impacts escalate. These conditions will influence both water availability and water use in Canadian communities. As the climate warms, supplies will be less abundant and less reliable; at the same time, water demands for landscaping, irrigation and industrial processes will rise.

Ecological limits to our water use are increasingly obvious. Researchers in southern Ontario's upper Credit River Valley, for example, have noted, "Development pressures ... existing hydrological variability, and possible future increases in the incidence and duration of droughts will make balancing human and ecologi-

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¹ Kreutzweiser, R. and R. de Loë. (2004). Water Security: From Exports to Contamination of Local Water Supplies. In B. Mitchell (Ed.). *Resource and Environmental Management in Canada: Addressing Uncertainty* (3rd ed.). Toronto: Oxford University Press. pp. 166-7.

POLIS TOP 10 WAYS

Communities Can Save Water and Money

10. Fix the leaks and reduce waste by detecting and repairing leaks through integrated water audit and maintenance programs.
9. Stop flushing the future by installing efficient toilets, faucets and showerheads and water-saving dishwashers and washing machines that provide the same water services using less water (and energy).
8. Make managing demand part of daily business by implementing ongoing water conservation programs and hiring permanent staff with technical skills and understanding in fields such as economics, psychology and education.
7. Link conservation to development by making water infrastructure funding and development permits contingent on demand management planning and action.
6. Price it right by implementing “full cost” prices with volume-based pricing structures that ensure equitable access and that reflect the importance and value of water.
5. Plan for sustainability by initiating strategic water planning that looks 10 to 50 years into a community’s future, involves all stakeholders, and places ecological health at its core.
4. Look to the sky for rainwater as the source by promoting decentralized infrastructure to harvest rainfall and by creating outdoor (Xeriscaped) spaces that rely primarily on precipitation for irrigation.
3. Reclaim, reuse and recycle water to better match water quality to end uses.
2. Design communities for conservation with water sensitive urban design – limiting sprawling lawns, promoting “green” infrastructure, and requiring all land use decisions to be assessed for watershed impacts.
1. Educate, educate, educate by implementing outreach and education programs that go beyond information dissemination to engage and inspire citizens to permanently change behaviour.

See *Thinking Beyond Pipes and Pumps* at <www.waterdsm.org> for more details.

cal water needs increasingly difficult.”²

Water scarcity in Canada isn’t just a one-off event in some isolated communities. It’s becoming all too common a challenge for cities and towns across the country. But, with challenge comes opportunity.

Water in 21st Century

Water in the City, a recent international conference held in Victoria, BC, initiated a long-awaited discussion on the future of water management in urban Canada. As community leaders, academics, advocates and citizens swapped stories, a clear theme emerged. Too often, we respond to 21st century water problems with 20th century solutions – more concrete, bigger pipes and bigger pumps, leading to bigger tax bills and greater cumulative impact on ecosystems.³

More than just identifying the problems, the conference emphasized readily available solutions and emerg-

ing opportunities – highlighting examples from across Canada and around the world where communities have made water sustainability a priority, and where innovative thinking is addressing this priority.

Solutions include things like “green” infrastructure (for example stormwater detention ponds, permeable surfaces and healthy wetlands), and using efficient fixtures and appliances to reduce indoor water demand by 30 to 50 percent. Delegates also discussed innovative, emerging opportunities to take advantage of new “sources” such as reclaimed water or rain water for uses including toilet flushing, outdoor irrigation and laundry.

Addressing the Water “Problem” in Canada

A persistent challenge remains: how to replace a tradition of water management that endlessly seeks to increase supply with a new approach focused on managing water demands.

Long-term water security in Canada is a social dilemma that cannot be solved with technical solutions alone. Lasting change requires a focus on the broader social and cultural contexts that shape attitudes and behaviours – a focus not just on managing watersheds, but managing the people within watersheds. Instead of assuming an endless water supply or dreaming up large-scale technologies to harness water, 21st century water policy must seek to manage demand, increase water productivity, and instill a conservation ethic in all Canadians.

A new report from Water Sustainability Project at the University of Victoria’s POLIS Project on Ecological Governance mirrors the themes of the *Water in the City* conference, emphasizing the

2 Ivey, Smithers, de Loë & Kreutzweiser. (2001). *Strengthening Rural Community Capacity for Adaptation to Low Water Levels*. Rural Water Management Group, Department of Geography, University of Guelph.

3 For more information see the *Water in the City* website at <www.waterinthecity.ca>.