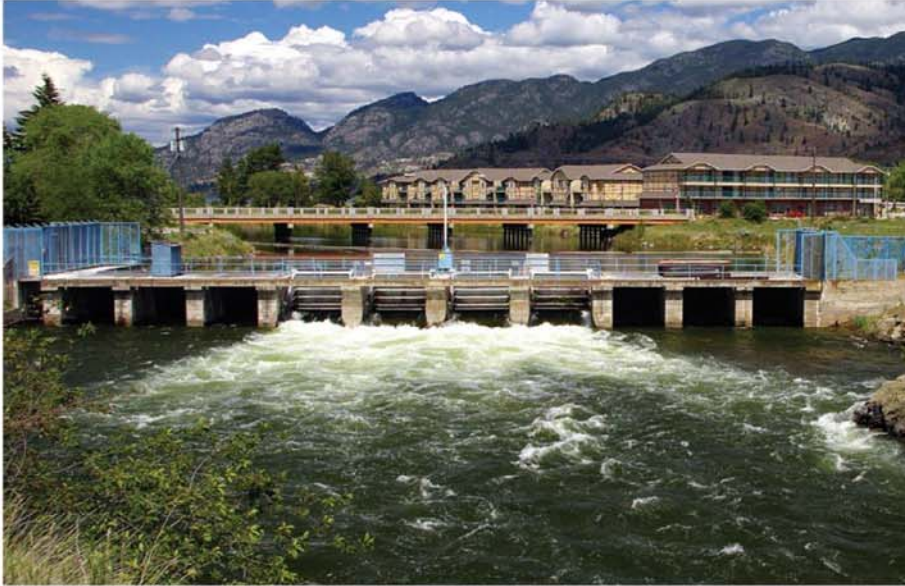


# Water sustainability: from awareness to action in British Columbia

By Kim A Stephens



Water dam used to control water levels in an Okanagan irrigation canal.

**P**artnerships, partnerships, partnerships! This was the key message at a half-day reporting out session on 'Water Sustainability – Convening for Action in British Columbia', held as part of the 2007 Annual Conference of the British Columbia Water & Waste Association (BCWWA).

The British Columbia landscape is being transformed by settlement and economic growth. While the Province has been experiencing enhanced social and economic well-being, the need to mitigate pressures on land and water resources has provided a driver for a 'green infrastructure' movement that is:

- water-centric,
- founded on a natural systems approach, and
- keyed to partnerships.

Water-centric means planning with a view to water – whether for a single site or the entire Province.

Infrastructure design is changing. Cumulative benefits are achievable, one property at a time, through changes in the policies, programs, practices and standards that determine how land is developed and water is used. By implementing design with nature infrastructure practices and regulation, the 'convening for action' vision is that British Columbia

will be well on the way to achieving water sustainability by 2010.

The objective when 'convening for action' is to influence practitioners to learn about and use practices that better balance the necessary relationships of settlement activity and ecological assets in local and regional landscapes. Practitioners are defined as those whose professions, vocations and volunteer tasks relate to use and conservation of water, land and real estate.

### Water Sustainability Action Plan for British Columbia

The Convening for Action session at the BCWWA Conference provided implementation updates on how a water-centric approach to community planning and development is being advanced under the partnership umbrella of the 'Water Sustainability Action Plan for British Columbia'.

The Action Plan comprises inter-connected program elements that give local governments and practitioners the tools and experience to do things differently. The program elements are categorized as shown on Figure 1 and as listed below:

- Products and Tools
- Networking and Outreach
- Education and Training
- Capacity Building

*continued overleaf...*



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The Convening for Action presentations addressed each of these elements. First, context was provided by explaining how the Water Sustainability Action Plan is being delivered by the BCWWA Water Sustainability Committee through a partnership with the BC Ministry of Environment. Then, three regional pilot programs were described. The final presentation was about the Water Bucket Website, which was a unifying thread through all the presentations.

### Water – choosing sustainability for life and livelihoods

The BCWWA Water Sustainability Committee is a roundtable of organizations that have a specific interest or mission in implementing the Action Plan.

In 2006, the BCWWA Water Sustainability Committee borrowed the phrase 'water for life and livelihoods' from the United Kingdom in order to focus British Columbians on what is at stake over both the short and long terms. The phrase conveys the fundamental principles of sustainability of natural systems in their own right and in relation to the health and well-being of people who benefit from the use of water for basic life needs and economic activity.

In the lead-off co-presentation, Raymond Fung (Chair of the Water Sustainability Committee) and Lynn Kriwoken (Director of the Ministry of Environment's Water Stewardship Division) elaborated on the relationship between the Ministry of Environment and the BCWWA Water Sustainability Committee in delivering the Action Plan.

In her part, Lynn Kriwoken emphasized that the Ministry of Environment views its partnership with the Water Sus-

Figure 1



tainability Committee as an essential element in implementing the Ministry's Water Stewardship Outreach Strategy. In his part, Raymond Fung described what Convening for Action means in practice.

According to Lynn Kriwoken, "water is the piece that integrates everything that we care about. You will note that we are using the phrase water stewardship, not water management. Stewardship is about replacing self interest, dependency and control with service, responsibility and partnership."

"Stewardship is an obligation that we all have", stated Raymond Fung, "and the key to moving from awareness to action is to form partnerships. Partnerships provide a good way to share risks. The Water Balance Model is a prime example of spreading the risk by banding together."

Developed by an Inter-Governmental

Partnership as an extension of 'Stormwater Planning: A Guidebook for British Columbia', the Water Balance Model is a web-based decision support and scenario modeling tool that is found at [www.waterbalance.ca](http://www.waterbalance.ca). It enables users to visualize how to implement green infrastructure solutions that achieve rainwater runoff source control at the site scale. Published in 2002, the Guidebook was a catalyst for change that has resulted in British Columbia achieving international recognition as a leader in implementing a natural systems approach to rainwater management.

Fung provided context for each of the three regional pilots for Convening for Action: "In the South Okanagan, we have helped bring a voice to water issues. In Greater Vancouver, practitioners working for local governments told us they did not

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want more documents that simply go on a shelf; rather, they wanted to network and share their experiences. On Vancouver Island, we have an ambitious program to bring people together and apply/adapt what we have learned in the Okanagan and in Greater Vancouver."

**Convening for Action in the South Okanagan**

Within the next 10 to 15 years it is projected that the available water in the Okanagan Basin will be fully allocated. At the same time, agricultural development is also expected to increase, with potential growth in the grape and wine sector leading the way. Also, the region will continue to experience both the benefits and consequences of climate change – that is, a longer growing season and changes in form and pattern of precipitation and runoff, respectively.

The purpose in 'convening for action' is to build regional capacity and understanding of what Water OUT = Water IN means in the context of a Regional Growth Strategy and its goals.

"Everything is connected, and how we develop land determines how water is used and how water runs off the land. Because water has been identified as the #1 concern of the public, the South Okanagan Regional Growth Strategy is a provincial pilot for advancing the water balance way-of-thinking and acting", noted Ted van der Gulik, Senior Engineer with the Ministry of Agriculture and Lands. He is also Vice-Chair of the Okanagan Water Stewardship Council, Vice-Chair of the Water Sustainability Committee of the BCWWA, and Chair of the Inter-Governmental Partnership that developed the Water Balance Model.

**Convening for Action in the Greater Vancouver Region**

In the Greater Vancouver region, the Green Infrastructure Partnership has implemented a program called 'Celebrating Green Infrastructure: Showcasing Innovation Series'. According to Paul Ham, Chair of the Green Infrastructure Partnership, "the goal in showcasing on-the-ground innovation is to build regional capacity through sharing of green infrastructure approaches, experiences and lessons learned as an outcome of designing with nature."

"When we talk to practitioners in local government, it doesn't matter what the region, the message is the same...they tell us that they are too busy to communicate with their colleagues in neighbouring municipalities. Yet the irony is that there is much to learn by sharing in

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formation with each other. At the end of the day, it seems that it takes a third party to bring people together", observed Ham.

By pooling resources under a regional partnership framework for outreach and continuing education, local governments can leverage the efforts of their own staffs and develop a common understanding of issues and solutions. "The Showcasing Innovation Series is a building block process...each time the objective is to raise the bar when celebrating successes in municipalities", added Paul Ham.

Each event in the Showcasing Innovation Series is organized as a workshop in the morning followed by a field tour in the afternoon. "The concept is simple – promote networking. We find that it is the casual conversations on the bus and at sites along the way that are the most valuable to participants", concluded Paul Ham.

### Convening for Action on Vancouver Island

Convening for Action on Vancouver Island (CAVI) is a pilot program on a regional scale. The purpose of CAVI is to provide research and education for practitioners (primarily local government administrators, engineers, planners and elected persons) to plan for management of sustainable water resources in the con-

text of burgeoning settlement activity.

CAVI is reaching out to groups that share a vision for Vancouver Island, with the goal of creating a roundtable of partnerships.

CAVI will ultimately comprise an array of program elements that celebrate and advance on-the-ground examples of green infrastructure innovation and 'designing with nature'. Initiatives for 2007 include:

- Creating Our Future Workshop: What will Vancouver Island look like in 50 years?
- Celebrating Green Infrastructure: Showcasing Innovation Series.
- Mayors & Chairs Green Infrastructure Forum.

According to CAVI Chair John Finnie, "if we are to control our destiny and create our future, then we need to challenge our fellow Vancouver Islanders to visualize what they want Vancouver Island to look like in 50 years. We have identified two desired outcomes in 'convening for action'. First, we wish to influence local governments to adopt 'design with nature' as the preferred process of approving land development applications. Secondly, we intend to facilitate the move from awareness to action in changing the

way that land is developed and water is used on Vancouver Island."

### WaterBucket – the water portal for British Columbia

"The success of the Water Balance Model website helped create momentum for development of the WaterBucket website at [www.waterbucket.ca](http://www.waterbucket.ca)", added Michael Tanner, Chair of the WaterBucket Website Partnership. "Launched in 2005, the WaterBucket is the primary communication vehicle for the Action Plan. Our vision is to provide a resource-rich, highly interactive 'destination location' for timely and provocative information about water sustainability in British Columbia."

The WaterBucket currently has seven communities-of-interest. The goal is that these will evolve into communities-of-practice.

According to Mike Tanner, "what makes the website distinctive is that it has three dimensions. It is a news magazine for raising awareness of BC success stories. It has a growing library of information resources on the BC experience and it houses 'made in BC' tools for use by practitioners on-the-ground. It will facilitate networking and the sharing of knowledge and expertise, support efforts to promote water conservation and stewardship and help convert that information into action."

### Looking Ahead

A water-centric approach puts water stewardship front and centre on the agenda of comprehensive land use, development or resource planning initiatives. Water-centric planning considers the amount of water available, the amount of water needed, innovative efficiency strategies, the quality of water leaving an area, how rain and snow water are managed, and the impact on the natural environment.

Also, desired outcomes for water sustainability and green infrastructure are common to both, and can be achieved through infrastructure standards that reflect a full and proper understanding of the relationship between land and water. This is called designing with nature.

Finally, implementation of integrated strategies and solutions ultimately requires integration of missions, mandates and accountabilities of participating agencies.

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Stantec is very pleased to announce the appointment of two new members to our Environmental Infrastructure team.

**Joe Uglevich, PE**, based in our Westford, Massachusetts, office, as Practice Leader, Linear Infrastructure. Joe has 17 years of experience in civil/environmental engineering with emphasis on planning, design, and construction of stormwater and CSO facilities, wastewater treatment plants, and odor and corrosion control for wastewater collection systems and treatment plants. He has specialist expertise with odor and corrosion control for linear infrastructure, CSO facilities, wastewater treatment plants and private sector clients. He was formerly the Northeast Regional Manager and Vice President with Odor and Corrosion Technology Consultants Inc. (OCTC). Joe is a member of WEF, NEWEA, and WEAO and has authored numerous papers and conducted seminars on odor and corrosion control for major utilities and technical organizations including NYC DEP, the City of Toronto, and the Massachusetts Water Pollution Control Association.

**Quirien Muylwyk, M.A.Sc., P.Eng.**, based in our Toronto, Ontario, office, as Practice Leader, Water. While Quirien's primary focus will be the Greater Toronto Area, she will also support strategic water projects in Ontario and throughout North America. Quirien has 14 years of experience in civil/environmental engineering with an emphasis on the strategic planning, design, and commissioning of large municipal water treatment systems across Canada. She has expertise in process optimization and selection, disinfection, corrosion control, demonstration testing, and regulatory compliance from experience with the Region of Halton, City of Ottawa, Region of Peel, City of St. John's, and City of Toronto, among others. Quirien is currently the Chair of the AWWA Distribution System Water Quality Committee, has authored numerous papers, and regularly conducts workshops across North America.

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