



Green Infrastructure Partnership

Changing the Way We Develop Land: Design with Nature

Presentation to Sustainable Region Initiative Task Force
On October 11, 2006

By

Mayor Pam Goldsmith-Jones, District of West Vancouver
Paul Ham, Chair, Green Infrastructure Partnership
Dale Wall, Assistant Deputy-Minister, Ministry of Community Services
Raymond Fung, Chair, BCWWA Water Sustainability Committee
Kim Stephens, Program Coordinator, Water Sustainability Action Plan

Build a Vision, Create a Legacy

- **Issue:** How Will We Accommodate Settlement Pressures?
- **Impact:** The Landscape is Being Transformed
- **Sustainability:** *Means Design with Nature*
- **Built Environment:** We Can Improve It
- **Natural Environment:** We Can Protect It
- **Cumulative Benefits:** Accrue Over Time
- **Desired Outcome:** Sustain Community Livability

The Way We Develop Land Determines How Water is Used and How Water Runs Off the Land

In the Greater Vancouver region and on Vancouver Island, green infrastructure is associated with control of water that runs off the land and sustainability of aquatic habitat.

Whereas in the Okanagan, green infrastructure is associated with the use of water and sustainability of supply;

Water Sustainability

BCWWA partners with the province to deliver the Water Sustainability Action Plan.

BY KIM STEPHENS

THE WATER Sustainability Action Plan for British Columbia provides a partnership umbrella for an array of on-the-ground initiatives that promote a ‘water-centric’ approach to community planning. (Water-centric means planning with a view to water — whether for a single site or the entire province.) The Action Plan comprises inter-connected program elements that give local governments and practitioners the tools and experience to do things differently. The over-arching goal is to advance a water balance way-of-thinking and acting.

To achieve the goal, a water-centric approach puts water stewardship and sustainability 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. Implementation of integrated strategies and solutions ultimately requires integration of missions, mandates and accountabilities of participating agencies.

Through a partnership with the Ministry of Environment, program delivery for the Water Sustainability Action Plan is being carried out by the Water Sustainability Committee (WSC) of the British Columbia Water & Waste Association (BCWWA). The WSC is providing the leadership, facilitation and organizational services necessary for successful program implementation. According to Raymond Fung, WSC chair, “The Water Sustainability Action Plan is aimed at building capacity by improving awareness about effective approaches to the sustainable use of water resources and demonstrating how to integrate these approaches into land and resource planning, development and management decisions at the regional, community through to site levels.”

The Action Plan builds on the foundation provided by A Water Conservation Strategy for British Columbia, also developed and implemented by the province in partnership with BCWWA from 1997 to 2001.

Within the BCWWA framework, WSC is a broadly based roundtable of organizations that have a specific interest or mission in implementing the Action Plan. The roundtable encompasses government organizations, non-government associations, the private sector, and universities. “By drawing its members from a diverse range of disciplines and organizations, the WSC functions across the boundaries and beyond the historical limits or constraints of the mandates, knowledge and expertise found in specific organizations. One of the criteria for membership is that individuals will feed back the WSC outcomes into their organizations,” says Fung.

The Water Balance Model for British Columbia was the first of the six elements to be implemented. This web-based decision support and scenario modeling tool quantifies the benefits — in terms of reducing rainwater runoff volume — of installing source controls such as green roofs, rain gardens and infiltration facilities under different combinations of land use, soil and climate conditions. The outreach and continuing education program for the Water Balance Model was launched at the 2003 Annual Conference of the Union of British Columbia Municipalities with

Implementing a natural systems approach to rainwater management means capture rain where it falls and minimize surface runoff volumes. Detention storage volume is being provided under a parking lot in the Township of Langley.



a session for elected officials. Key partners for delivery of hands-on training workshops for practitioners are the Real Estate Foundation of B.C., the UDI, and the Association of Professional Engineers & Geoscientists of BC. Training workshops in computer lab settings have been hosted by UBC, University of Victoria, BCIT, North Island College in Courtenay, and the University of British Columbia Okanagan.

“The early success of the Water Balance Model in British Columbia generated interest in expanding the focus of the tool to reach a national audience. This led to the decision in 2004



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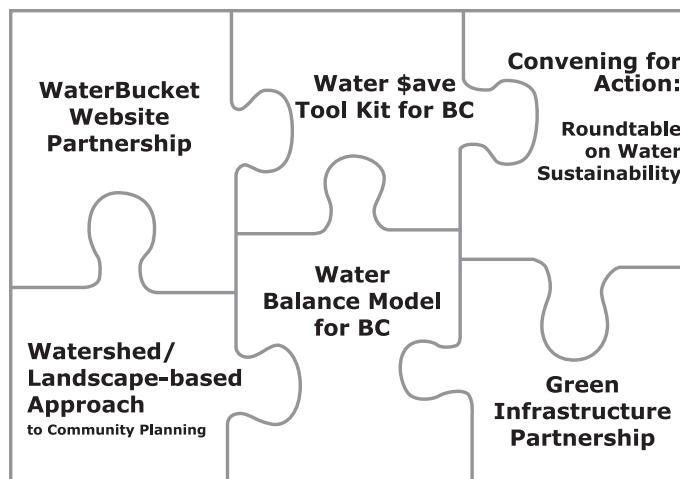
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by Environment Canada, Canada Mortgage & Housing Corporation, and the Province of British Columbia to join forces to create a truly national Water Balance Model for Canada at www.waterbalance.ca and foster the formation of inter-provincial partnerships as a means to pool resources”, reports Ted van der Gulik, chair of the Inter-Governmental Partnership that is responsible for model development.

“The success of the Water Balance Model website helped create momentum for development of the WaterBucket website at www.waterbucket.ca”, adds Michael Tanner, WaterBucket chair. “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.”

Over the past year, WaterBucket has expanded from one to six communities-of-interest, namely: Water-Centric Planning; Water Use and Conservation; Rainwater Management; Green Infrastructure; Agriculture and Water; and Convening for Action.

The Water Balance Model and the WaterBucket are stand-alone initiatives under the Action Plan umbrella, yet are fully integrated with the Green Infrastructure Partnership. Formed in 2003, the mission of the Green Infrastructure Partnership is to provide leadership and encourage others to implement ‘green infrastructure’ design practices and regulation province-wide. According to Paul Ham, chair of the Partnership, “Consultation workshops in May 2004 and May 2005 resulted in successive reconfigurations of our work plan, with the emphasis now on educating stakeholders regarding the benefits of a design with nature approach to community planning and land development, and facilitating adoption of this approach. This means build



and/or rebuild communities in harmony with the natural environment. Water-centric green infrastructure and ‘water balance management’ can be viewed as one and the same, in that both start at the site level and both revolve around how we develop the landscape.”

In 2006, the WSC is playing a leadership role in implementing the Convening for Action initiative through regional partnerships, with an initial emphasis on the South Okanagan. Through an outreach and continuing education program that is outcome-oriented, this key element of the Water Sustainability Action Plan is promoting water stewardship provincially by demonstrating what the water balance way-thinking and acting means on-the-ground.

According to Erik Karlsen, co-lead for the Convening for Action initiative, “We are building on the successful precedent that the former Ministry of Water, Land & Air Protection established in 2002 when the Ministry published *Stormwater Planning: A Guidebook for British Columbia*. The guidebook set in motion a chain of outcomes that has resulted in British Columbia being recognized internationally as a leader in implementing a natural systems approach to rainwater management in the urban environment. The Convening for Action initiative creates an opportunity to move beyond rainwater management to embrace all components of the water cycle through integrated water management. It will turn ideas into action.”

The Convening for Action initiative is designed to ‘turn ideas into action’ through a three-step process that builds capacity by:

- Challenging practitioners and others to step back from their existing paradigms (e.g. big pipe solutions, whether for water supply or drainage conveyance);
- Informing them regarding alternatives (e.g. rainwater harvesting to augment water supply and/or reduce rainwater runoff volume); and
- Giving them the tools and the experience to do things differently (e.g. the Water Balance Model).

The Minister of Environment, Barry Penner, recently said: “I am pleased with the continuing success of the ministry’s partnership with the BCWWA’s Water Sustainability Committee in providing program delivery for the Water Sustainability Action Plan... I value the important role this partnership is playing in promoting awareness and supporting communities to integrate water management practices with local land use planning and development programs. The ministry continues to provide core funding to support implementation of this Action Plan.” **CB**

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Water - Choosing Sustainability for Life & Livelihoods: Convening for Action in British Columbia

FOREWORD

IN RECENT DECADES, THE HIGH GROWTH REGIONS of British Columbia have been experiencing *cumulative impacts* as a result of pressures on land and water resources. The desire to mitigate environmental and social impacts has provided a driver for the 'green infrastructure' movement across North America, and especially in British Columbia. Looking ahead, the challenge for high growth communities is to make informed choices that will produce *cumulative benefits* over time, and thereby ensure long-term community livability.

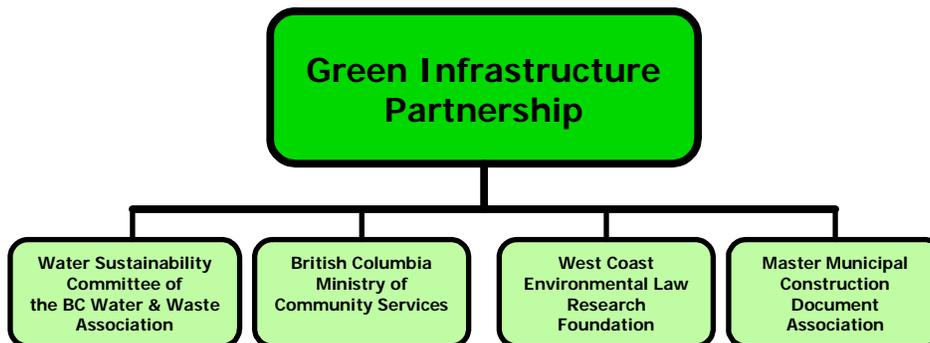
CONVENING FOR ACTION IN BRITISH COLUMBIA is an element of the Water Sustainability Action Plan, and is outcome-oriented. It is being implemented through collaboration and regional partnerships. The desired outcome is to bring the vision for *Communities in Balance with Water* to fruition. Conversations with elected officials are an essential ingredient in developing a shared understanding of what the vision looks like on the ground. The goal is to implement changes in the way we develop land and use water.

The Water Sustainability Action Plan for BC....



... provides a partnership umbrella for an array of *on-the-ground* initiatives that promote a 'water-centric' approach to community planning

THE GREEN INFRASTRUCTURE PARTNERSHIP was formed in 2003 and is a consortium of four organizations. Under the Action Plan framework, its mission is to facilitate implementation of *design with nature* infrastructure practices and regulation province-wide. If we design with nature, then the *water balance* can be maintained or even restored over time.



Water - Choosing Sustainability for Life & Livelihoods: Convening for Action in British Columbia

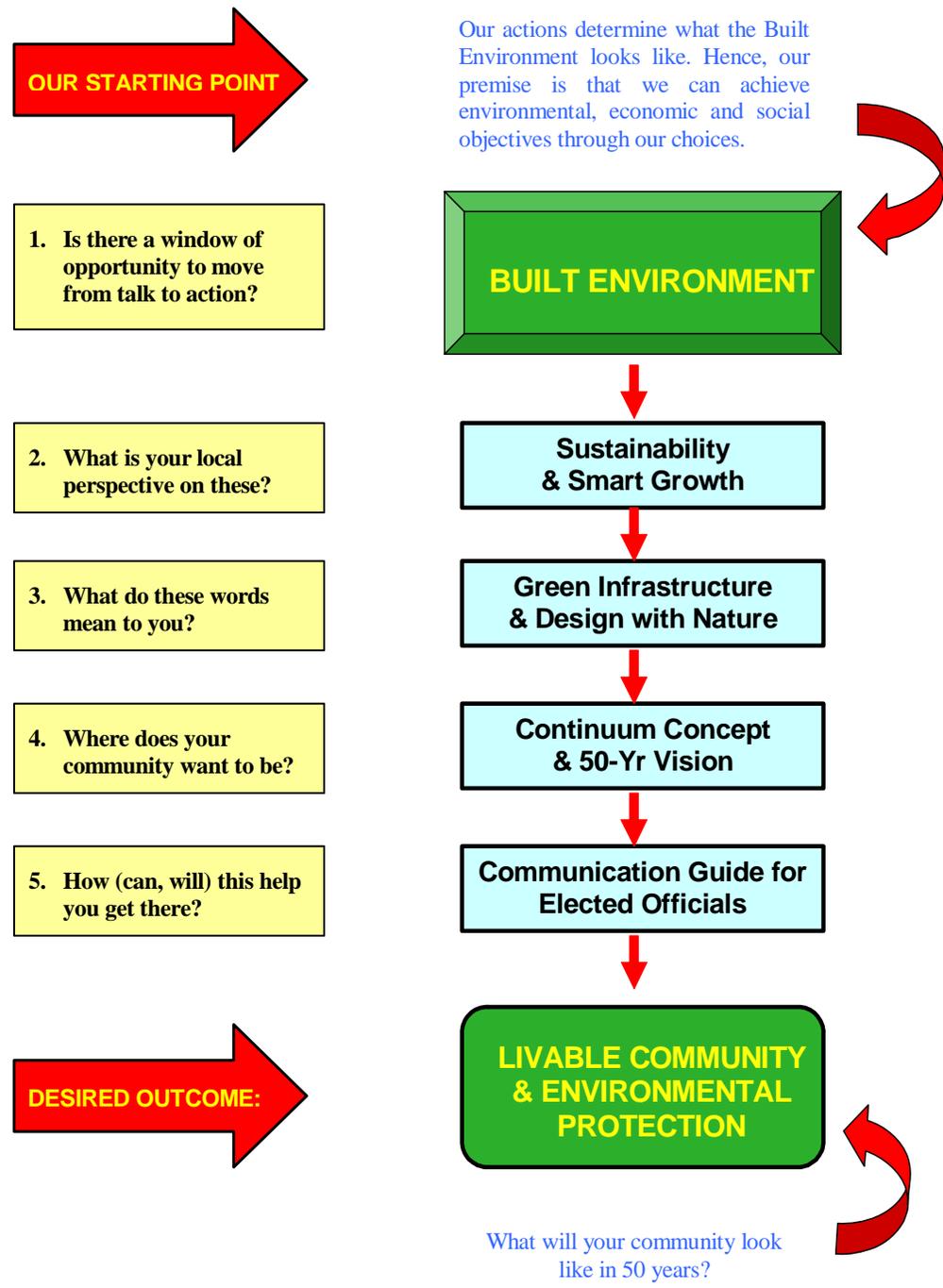


Figure 1 – Conversation Template

Water - Choosing Sustainability for Life & Livelihoods: Convening for Action in British Columbia

EXECUTIVE SUMMARY

AN OVERVIEW: *Convening for Action in British Columbia* brings together people who have knowledge and expertise...with those who seek ways to meet present and future sustainability challenges in their communities.

The purpose in Convening for Action is to deliver a highly transparent process where everyone gets a voice, everyone sees their interests recorded and considered, and everyone is proactively engaged to focus on results.

The ultimate objective in Convening for Action is to build an informed 'community of interest' so that over time it will evolve into a 'community of practice'.

It Starts with a Conversation: In May 2005, the Green Infrastructure Partnership organized a Consultation Workshop with local governments in the Greater Vancouver region. The workshop solicited feedback and input on the development of Communication Guides for elected officials and senior managers, respectively.

The workshop set in motion a chain of events. One outcome was a decision to have one-on-one conversations with an 'ad hoc mayors focus group' that has representation from three regions. By listening to what elected officials have to say, we provide an informed basis for moving forward with changes in the way we develop land and use water.

The report that follows is a prelude to developing a *Green Infrastructure Communication Guide for Elected Officials*. The Guide will fill a gap because what has been lacking is this – written information on green infrastructure from the perspective of elected officials, for elected officials.

The Storyline: This report summarizes the progress to date in meeting with elected officials and implementing pilot programs in three regions:

- **Section 1** introduces the *Context for Conversations* with elected officials.
- **Section 2** distils what we learned through our conversations with elected officials, and is titled *Views on Settlement, Economic Growth and Designing with Nature*.
- **Section 3** describes how *Convening for Action Regional Pilot Programs* are being delivered in the South Okanagan and Greater Vancouver regions, and on Vancouver Island.
- **Section 4** identifies deliverables and next steps in *Moving Forward with the Action Plan*, in particular for the Communication Guide.

The conversations with elected officials have been invaluable in providing focus for the pilots.

Water - Choosing Sustainability for Life & Livelihoods: Convening for Action in British Columbia

Key Messages:

This progress report is designed to accomplish three communication objectives:

1. Tell the story of Convening for Action.
2. Report out on meetings with elected officials.
3. Provide funding agencies with a roadmap.

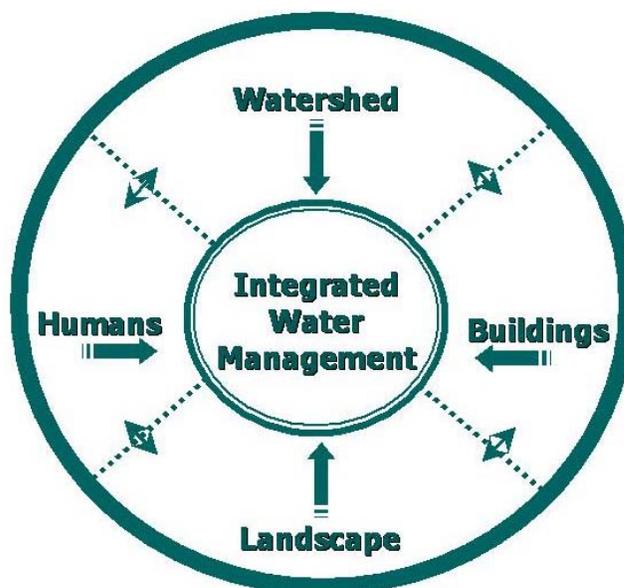
What You Need to Know:

The essence of this progress report is distilled down to a set of eight Key Messages which can also be viewed as Guiding Principles:

- **Growth and Settlement:** Doubling the population will require changes in the way we develop land and how we use water.
- **Water for Life and Livelihoods:** In a fully integrated landscape, water is the unifying element. If we get the water part right, then other parts will be more likely to follow.
- **Settlement in Balance with Ecology:** Settlement and ecology are equal values, and they must be as much in balance as possible for the wellbeing of human and natural systems.
- **Communities in Balance with Water:** *Water OUT = Water IN* is a 'mind map' for dealing with uncertainty and managing risk related to water supply, water use and runoff.
- **Design with Nature:** We can improve the built environment. We can protect the natural environment. We can sustain community livability.
- **Leadership:** Alignment at a regional scale will help individual mayors lead the move from talk (interest) to local action (practice) on-the-ground.
- **Communication:** Seek to understand and 'connect the dots' by having conversations.
- **Implementing Change:** Inform, inspire and enable people to work together through partnerships to act now.

Integrated Water Management:

The 'integration' process that is at the heart of a design with nature approach to land development involves consideration of land, water, air and living organisms – including humans – as well as the interactions among them.



'Greener' communities will enhance the quality of life, and will achieve higher levels of ecological and water protection in the Built Environment. But creating this outcome depends on connecting the dots between regional growth strategies and on-the-ground infrastructure. Looking ahead, federal / provincial infrastructure programs will ultimately drive implementation of green infrastructure policies, plans, standards and practices.