



the partnership
for water sustainability in bc
Convening for Action in British Columbia

Rainwater Management in a Watershed Sustainability Context

About the Georgia Basin Inter-Regional Educational Initiative for “Integrating the Site with the Watershed and the Stream”



March 2013

Rainwater Management in a Watershed Sustainability Context

Inter-Regional Educational Initiative for Integrating Site, Watershed and Stream

Everyone Benefits!

The Partnership for Water Sustainability in British Columbia is a not-for-profit society. For the past decade, we have been responsible for delivering the Water Sustainability Action Plan. We are integrators. We play a bridging role between the Province, local government and community.

The Partnership is the “implementation arm” of the Living Water Smart and Green Communities initiatives. This means that we are developing “tools and talent” that will enable BC communities to implement strategies and plans and achieve targets that will reduce their ‘water footprints’.

The Georgia Basin bioregion is a hot-bed of progressive ideas and provincially significant initiatives. Regional districts and municipalities are advancing watershed-based strategies and programs for “integrating rainwater management at the site level with the watershed and stream”:

- *In 2012, the Partnership brought together four regional districts on Vancouver Island to align their efforts and implement a ‘proof of approach’ for an **Inter-Regional Education Initiative** (IREI). These four regions represent 90% of the Vancouver Island population.*
- *The early success of the initiative has created opportunities for knowledge sharing and transfer on both sides of the Georgia Basin so that together everyone can go farther, more efficiently and effectively.*

Collaboration among Vancouver Island local governments, Metro Vancouver, and member municipalities has grown steadily since 2007. The IREI provides a framework for consistent application of tools and understanding on both sides of the Georgia Basin. Everyone benefits from sharing information and experiences.



Kim A. Stephens, MEng, PEng,
Executive Director
Partnership for Water Sustainability in BC
March 2013



Rainwater Management in a Watershed Sustainability Context

Inter-Regional Educational Initiative for Integrating Site, Watershed and Stream

Context

NOTE TO THE READER:

The purpose of this document is to provide a consolidated source of reference material about the Inter-Regional Education Initiative (IREI). It is structured in four parts, with each part providing increasingly more detail. The scope of each part is described below.

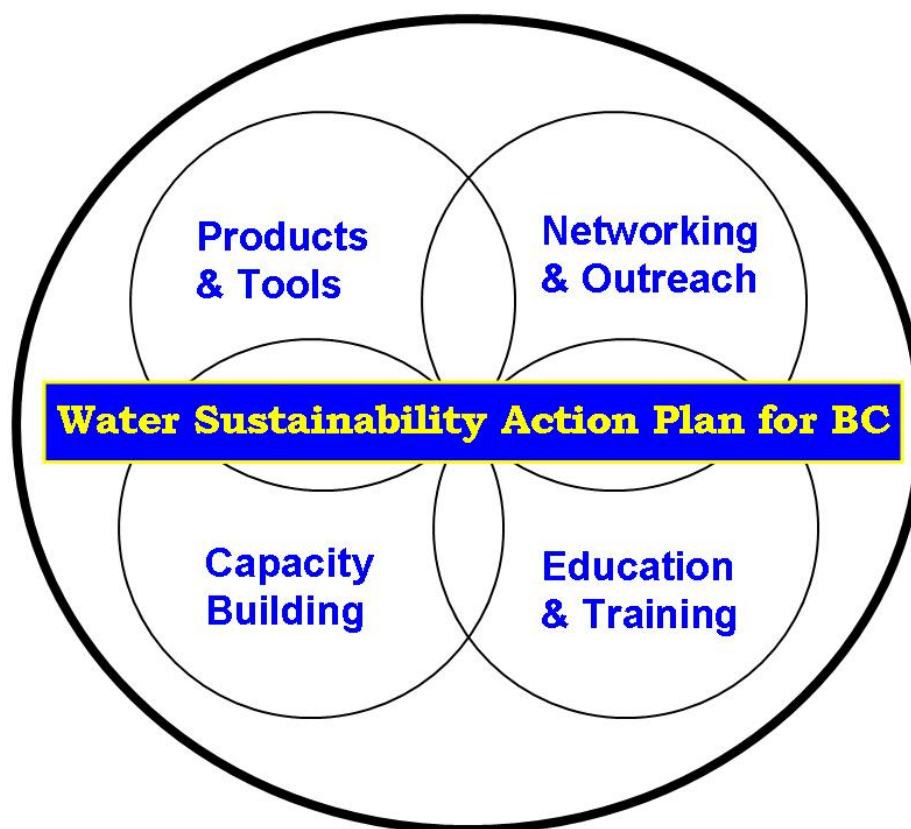
Part	Title
A	Inter-Regional Educational Initiative Described on One Page Written for the busy reader, Part A answers the question: <i>“What do I really have to know to quickly grasp and understand the ‘big picture’ for this initiative?”</i>
B	Framework for a ‘Course Correction’ Leading to a Watershed / Landscape-Based Approach Written for the reader who also wishes to understand the story behind the initiative, Part B totals 8 pages and connects dots. It answers this question: <i>“Why are we doing this?”</i> In creating a picture, it is broad-brush yet specific in cascading from provincial policy scale down to the regional and site scales of interest.
C	Briefing Document for An Inter-Regional Educational Initiative On Vancouver Island Also 8 pages in length, Part C presents the Briefing Document that informed the decision by each of four regional districts on Vancouver Island to be IREI partners. It drills down to answer this question: <i>“How does the initiative align with our needs and how will it help us achieve more with the same resources?”</i>
D	Questions and Answers About the Inter-Regional Education Initiative Prepared in response to questions asked by funding agencies, the 15-page Part D provides answer to a set of 11 questions. The topic areas are wide-ranging and provide the opportunity to inform and educate those who wish to better understand the philosophy and methodology guiding the IREI program.

Rainwater Management in a Watershed Sustainability Context

Inter-Regional Educational Initiative for Integrating Site, Watershed and Stream

Part A

Inter-Regional Educational Initiative Described on One Page



Rainwater Management in a Watershed Sustainability Context

Inter-Regional Educational Initiative for Integrating Site, Watershed and Stream

Collaborative Initiatives Will Help Local Governments Better Deliver on Regulatory Objectives and Compliance

- ☐ Collaboration is the pathway to a consistent approach to implementation and integration of water sustainability and green infrastructure policies and practices within and between regions.
- ☐ Yet there is no formal mechanism to enable or facilitate inter-regional collaboration. The Partnership fills this gap.
- ☐ At the heart of the IREI is 'Beyond the Guidebook', an ongoing initiative to provide local governments with the tools and understanding necessary to integrate the Site with the Watershed and the Stream.
- ☐ The Beyond the Guidebook initiative is building on the technical foundation created a decade ago when the Province and Environment Canada jointly released **Stormwater Planning: A Guidebook for British Columbia**. The Partnership for Water Sustainability is:
 - the steward for the Guidebook; and
 - leading the "Beyond the Guidebook" initiative;
- ☐ Tools developed through inter-governmental partnerships include the Water Balance Model, the waterbucket.ca website, and the Water Conservation Calculator.
- ☐ The IREI will help all local governments bridge the 'implementation and integration' gap.
- ☐ The IREI comprises these inter-connected modules:
 - Water Balance Model Training Workshops
 - A Course on Watershed Blueprints
 - Learning Lunch Seminars & Series
 - Watershed Blueprint Case Profiles
 - Primers in the Beyond the Guidebook Series
 - Waterbucket.ca Website Stories
- ☐ These program modules are designed to provide a consistent framework for knowledge-sharing within a region and between regions. There is ample flexibility to adapt within the framework to incorporate local objectives, learning outcomes, and examples.
- ☐ To demonstrate how to make inter-regional collaboration tangible, the Partnership successfully implemented a 'proof of approach' on Vancouver Island in 2012.
- ☐ In addition, the Metro Vancouver region endorsed the vision for morphing the IREI into a *Georgia Basin Inter-Regional Education Initiative*.
- ☐ In summary, the IREI demonstrates how to move forward with a "regional team approach", is built around partnerships, and is replicable and/or transferable provincially.

*"The Ministry looks forward to aligning efforts with the Partnership (for Water Sustainability) in three regions — Vancouver Island, Lower Mainland and the Okanagan — to further advance implementation of the **"Beyond the Guidebook"** initiative; and provide communities with the tools and knowledge to protect and/or restore watershed health," stated Cairine MacDonald, Deputy Minister of Environment in a September 2012 announcement.*

"The Ministry's renewed emphasis on the rainwater management component of Liquid Waste Management Plans has created an opportunity to demonstrate how to integrate regulatory compliance and collaboration."

Rainwater Management in a Watershed Sustainability Context

Inter-Regional Educational Initiative for Integrating Site, Watershed and Stream

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Part B

Framework for a ‘Course Correction’ Leading to a Watershed / Landscape-Based Approach to Community Planning

1. Regulatory Context

- Land and Water: Stewardship Vision
- Integration of Regulatory Objectives and Collaboration
- Integrate the Site with the Watershed and Stream

2. Inter-Regional Education Initiative

- Bridge the Implementation & Integration Gap
- Framework for Knowledge-Sharing
- Convening for Action

3. ISMP Course Correction

- Why a Course Correction
- Nature of ISMP Course Correction

Rainwater Management in a Watershed Sustainability Context

Inter-Regional Educational Initiative for Integrating Site, Watershed and Stream

1. Regulatory Context

The *Partnership for Water Sustainability in BC* (i.e. “the Partnership”) has embraced shared responsibility by helping the Province deliver elements of the Living Water Smart and Green Communities Initiatives. The vehicle for this collaboration is the *Water Sustainability Action Plan for British Columbia*, with a particular focus on the “Beyond the Guidebook” initiative.

Land and Water: Stewardship Vision

The 45 actions and targets in *Living Water Smart* establish expectations vis-à-vis how land will be developed (or redeveloped) and water will be used. The *Green Communities Initiative* complements Living Water Smart and comprises plans, strategies and enabling tools to achieve the land and water stewardship vision. Together, the two initiatives represent a call to action:

- prepare communities for a changing climate
- choose to live water smart
- strive to build greener communities

Embedded within Living Water Smart is the *Water Sustainability Action Plan*. In turn, the Action Plan is the umbrella for the *Inter-Regional Education Initiative for ‘Rainwater Management in a Watershed Sustainability Context’* (i.e. “the IREI”).

Beyond the Guidebook: At the heart of the IREI is ‘Beyond the Guidebook’, an ongoing initiative to provide local governments with the tools and understanding to integrate the Site with the Watershed and the Stream. Since 2007, the Beyond the Guidebook initiative has been building on the technical foundation created a decade ago when the Province and Environment Canada jointly released *Stormwater Planning: A Guidebook for British Columbia*.

Integration of Regulatory Objectives and Collaboration

BC local government is among the most autonomous in Canada, and BC is perhaps the least prescriptive province. Historically, the Province has enabled local government by providing policy and legal tools in response to requests from local government. In general, the enabling approach means the onus is on local government to take the initiative.

A core premise underpinning the IREI is that – once informed - participating local governments will choose to reduce risk, improve watershed health, and comply with regulatory requirements and/or objectives (Figure 1).

A Provincial Perspective: “The Ministry looks forward to aligning efforts with the Partnership in three regions — Vancouver Island, Lower Mainland and the Okanagan — to further advance implementation of the “**Beyond the Guidebook**” initiative; and provide communities with the tools and knowledge to protect and/or restore watershed health,” stated Cairine MacDonald, (former) Deputy Minister of Environment, in a September 2012 announcement. “The Ministry’s renewed emphasis on the rainwater management component of Liquid Waste Management Plans has created an opportunity to demonstrate how to integrate regulatory compliance and collaboration.”

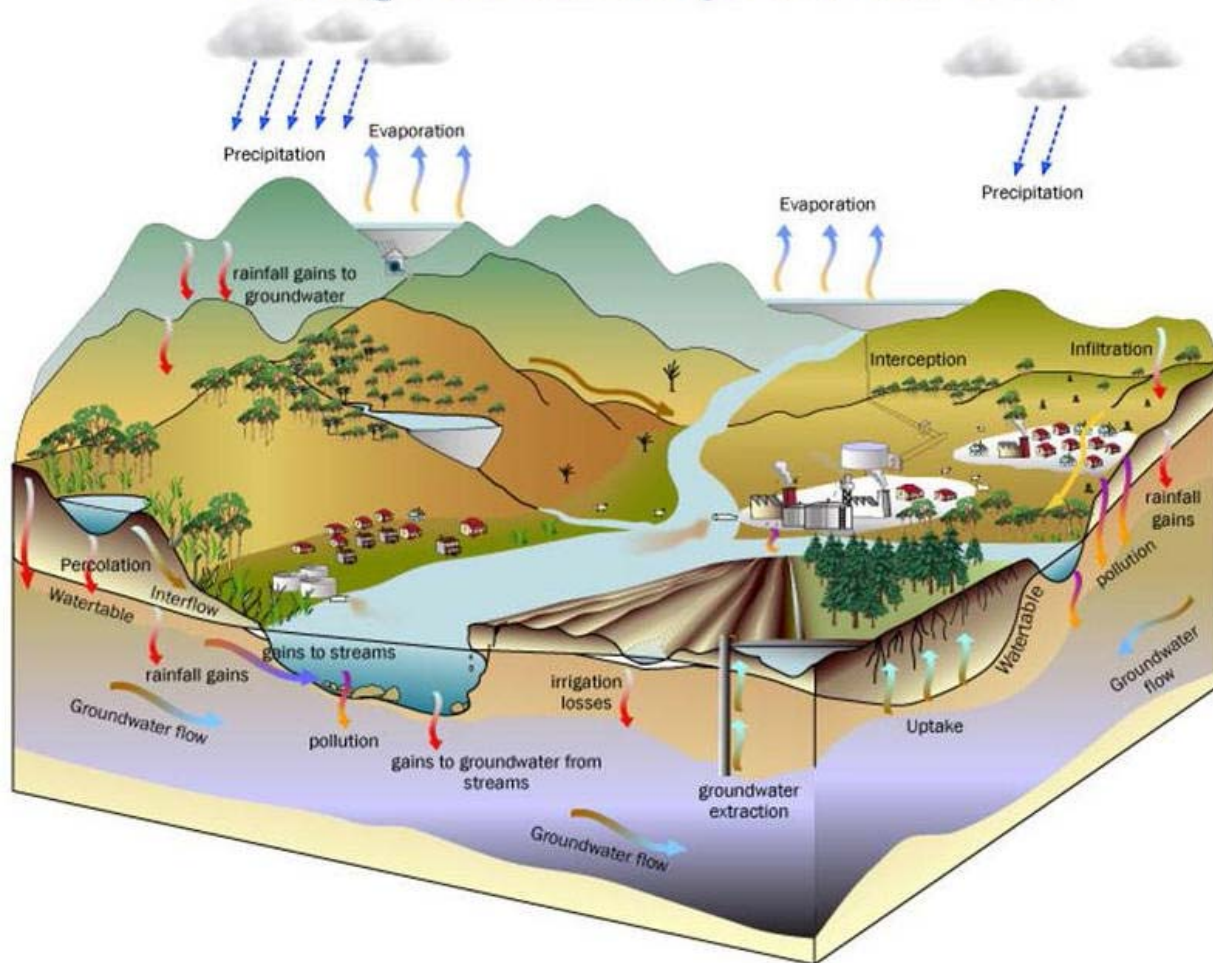


In Metro Vancouver, for example, the spotlight is on a “course correction” in the way Integrated Stormwater Management Plans (i.e. “ISMPs”) are developed and implemented. The Hastings Creek Blueprint is a demonstration application of the “ISMP Course Correction”. North Vancouver is showing how to leverage more with the same resources.

Rainwater Management in a Watershed Sustainability Context

Inter-Regional Educational Initiative for Integrating Site, Watershed and Stream

**Every local government has to
manage the raindrops that fall on it**



*Mimic the **Water Balance** to reduce risk (both financial and environmental), improve watershed health, and comply with regulatory requirements or objectives*

Elements of the Water Balance

Figure 1

Rainwater Management in a Watershed Sustainability Context

Inter-Regional Educational Initiative for Integrating Site, Watershed and Stream

Integrate the Site with the Watershed and Stream

In BC, headwater tributary streams such as the Hastings Creek system are a predominant feature. Hence, watershed health is defined in terms of protection of aquatic habitat. Depending on whether servicing and infrastructure practices mimic the 'water balance', land development can represent either a problem or an opportunity.

Impact of the Salmon Crisis: "A generation ago, the ecosystem value of headwater streams was not fully appreciated. The result: streams were being lost as a consequence of rapid population growth and land development. This contributed to the decline of many wild salmon populations," states Peter Law, Chair of the Guidebook Steering Committee (2000-2002).



"The salmon is an icon and the early warning system when there is a problem. The salmon crisis of the 1990s was the catalyst for action. The goal of protecting stream health became a driver for doing business differently in BC."

Science-Based Understanding Informs Policy and Practice: "By 2002, the Province had developed and released *Stormwater Planning: A Guidebook for British Columbia*. This provided a science-based framework to guide development of the rainwater (stormwater) component of Liquid Waste Management Plans."

"The core premise of the Guidebook is that land development and watershed protection can be compatible. This also suggests that urban watershed restoration is achievable over time. The Guidebook signified a paradigm-shift. This resulted from recognition of HOW a science-based understanding could bridge the gap between high-level policy objectives and site design practices," concludes Peter Law.

Mimic the Water Balance: Figure 2 illustrates why land development practices must strive to mimic the 'Water Balance'. Otherwise, the 'Water Balance' will be short-circuited when the land surface is hardened with an ever-increasing proportion of roads and buildings, and below-ground flow paths to streams are eliminated. This short-circuiting means there will be TOO MUCH WATER during wet weather periods and TOO LITTLE WATER during dry weather periods.

"A decade ago, looking at rainfall differently led the Province to initiate a paradigm-shift in the way rainwater is managed. The Guidebook formalized the Water Balance Methodology in order to establish performance targets," states Peter Law.

"At the core of the Guidebook is a 'learn by doing' philosophy. The Water Balance Methodology is dynamic; and it is being enhanced over time to incorporate fresh insights resulting from science-based knowledge. North Vancouver and Surrey initiatives, in particular, are making a significant contribution to our understanding of the relationship between site development practices and watershed health."

Mimic the WATER BALANCE to Reduce Risk, Improve Watershed Health and Comply with Regulatory Requirements



Water Balance METHODOLOGY integrates Sites with the Watershed and the Stream

Rainwater Management in a Watershed Sustainability Context

Inter-Regional Educational Initiative for Integrating Site, Watershed and Stream

An ever-increasing building footprint is short-circuiting the 'water balance'

Before: in 2007



After - in 2009



The 'water balance' is short-circuited when the land surface is hardened and below-ground flowpaths to streams are eliminated, such that:



TOO MUCH WATER:

stream erosion and instability during wet weather periods

TOO LITTLE WATER:

fish will not survive during dry weather periods

There are financial liability & sustainability consequences

Why Mimic the Water Balance

Figure 2

Rainwater Management in a Watershed Sustainability Context

Inter-Regional Educational Initiative for Integrating Site, Watershed and Stream

2. Inter-Regional Education Initiative

The IREI focus is on actions related to land use and watershed health, with emphasis on the 'how-to' details of integration and implementation. Figure 3 references regions within the Georgia Basin where watershed-based strategies and programs for integrating the site with the watershed and stream are being advanced.

Bridging the Implementation & Integration Gap

Collaboration is the pathway to a consistent approach to water sustainability and green infrastructure policies and practices within and between regions. Yet there is no formal mechanism to enable or facilitate inter-regional collaboration. The Partnership fills this gap.

The IREI will help all regions bridge the "implementation and integration" gap. Sharing, collaboration, alignment and consistency will accelerate effective watershed restoration and/or protection within each region. Everyone will go farther, more efficiently and effectively.

A program goal for the IREI is that local governments will leverage, and be more effective, with the same resources.

Everyone needs to agree on expectations and how all the players will work together, and after that each community can reach its goals in its own way



"The 'regional team approach' is founded on partnerships and collaboration; and seeks to align actions at three scales – provincial, regional and local."

Glen Brown, Executive Director
BC Ministry of Community, Sport & Cultural Development
& Deputy Inspector of Municipalities

September 2009

Framework for Knowledge-Sharing

The technical foundation for the IREI is provided by the web-based Water Balance Model, a unique scenario comparison and decision support tool. Developed by an inter-governmental partnership, it can help communities create a vision for a future watershed condition because the performance target methodology embedded in the model integrates the Site with the Watershed and the Stream.

Integrate the Site, Watershed and Stream: The IREI comprises inter-connected modules:

- ☐ Water Balance Model Training Workshops
- ☐ A Course on Watershed Blueprints
- ☐ Learning Lunch Seminars & Series
- ☐ Watershed Blueprint Case Profiles
- ☐ Primers in the Beyond the Guidebook Series
- ☐ Waterbucket.ca Website Stories

These program elements provide a consistent framework for knowledge-sharing within a region and between regions. Hastings Creek is important because it is a Blueprint Case Profile.

Inter-Regional Relevance of Hastings Creek Demonstration Application: The IREI program showcases and builds upon the experience of those who are leading by example. Through the IREI, the Partnership encourages and facilitates cross-fertilization of approaches and experience.

The Hastings Creek Watershed Blueprint is provincially significant and precedent-setting. The District of North Vancouver is demonstrating HOW local governments can implement the 'ISMP Course Correction' and how they can accomplish more with the same investment.

The Hastings Creek approach has benefitted from the experience of other Georgia Basin leaders, and is *outcome-oriented*. Similarly, the work-in-progress Hastings Blueprint is already informing and influencing how other jurisdictions are likely to apply lessons learned by the District.

Rainwater Management in a Watershed Sustainability Context

Inter-Regional Educational Initiative for Integrating Site, Watershed and Stream



Inter-Regional Education Initiative

Figure 3

Explanatory Notes – Provincial Significance

- The Province intervened in the Comox Valley to both create a new regional district and mandate regional plans. The *Comox Valley Sustainability Strategy* and *Comox Valley Regional Growth Strategy* provide the planning framework for implementing **An Integrated Watershed Approach to Settlement**.
- The Nanaimo Region's **Drinking Water & Watershed Protection Plan** created a drinking water and watershed protection service area with taxation authority in the region's electoral areas. Because the scope has been expanded to include the member municipalities, this means the plan has more of a regional function.
- The **Cowichan Basin Water Management Plan** is a provincial case study for watershed governance changes being contemplated as part of *Water Act Modernization*.
- In the Capital Region, the Bowker Creek Watershed Blueprint and District of Sooke Rainwater Management Plan are demonstration initiatives for **Integrated Watershed Management**. Both are founded on partnerships that have enabled community groups and municipal staffs to coalesce around a shared vision: *What do we want this watershed to look like in 100 years, and what steps will we take to get there?*
- Metro Vancouver's **Integrated Liquid Waste & Resource Management Plan** established the framework for moving beyond regulatory compliance to transitioning the region to an approach where management of liquid discharges and rainwater resources is planned and implemented within a broader, sustainability framework.

Rainwater Management in a Watershed Sustainability Context

Inter-Regional Educational Initiative for Integrating Site, Watershed and Stream

Convening for Action

Figure 4 shows the “BC process” for developing local government talent. The District was a founding member of the Water Balance Model Partnership in 2002; and has played a major role in the continuing success of the *Outreach and Continuing Education Program*. The experience of local government leaders is incorporated in the IREI curriculum.

Water Balance Model Training Workshops:

“We value the decade-long contributions by Richard Boase as a practitioner and teacher; and we appreciate that support by the District North Vancouver for our training workshops makes it possible for Richard to share his knowledge with his peers,” states Ted van der Gulik, Chair of the inter-governmental Water Balance Model Partnership.



“In early 2012, we brought together four regional districts, representing 90% of the Vancouver Island population, and we asked them to align their efforts to implement the IREI. All four Regional Boards passed a resolution committing to participation in the IREI.”

“By the end of 2012, we had successfully implemented a ‘proof of approach’ for the IREI. Each of the four regions hosted an IREI sharing and learning event or process. 24 local governments participated. We showcased North Vancouver innovation at training workshops hosted by the Capital Regional District and the Regional District of Nanaimo.

“In 2013, the IREI is moving from ‘proof of approach’ on Vancouver Island to full-scale implementation, including Metro Vancouver and beyond. Inter-regional collaboration will help leverage more with the same resources. Our vision is that everyone will be able to better deliver on regulatory objectives and compliance.”

Pilot Course on Watershed Blueprints: “The prototype for the IREI was the 2-day *Course on*

the ISMP Course Correction hosted by the City of Surrey in November 2011. This inter-regional pilot brought together three jurisdictions that are ‘leaders by example’ (i.e. Capital Region, North Vancouver and Surrey). These leaders pooled their knowledge and experience to provide the course content,” continues Ted van der Gulik.

Guiding Principles: The IREI curriculum is founded on the set of outcomes (or principles) listed below. These are mutually reinforcing:

- ☐ Living Water Smart is the provincial **VISION** for sustainable land and water stewardship.
- ☐ **TOP-DOWN & BOTTOM-UP** collaboration between local governments and the stewardship sector is a critical success factor for “getting the local watershed vision right”.
- ☐ An over-arching **WATERSHED GOAL** is to manage the natural environment and built environment as integrated components of a healthy watershed.
- ☐ The watershed goal can be achieved by making ‘green choices’ and **DESIGNING WITH NATURE** to protect the water balance.
- ☐ Inter-regional **KNOWLEDGE-SHARING**, collaboration, alignment and consistency will allow everyone to go farther, more efficiently and effectively, with implementation.
- ☐ Achieving the desired outcome is contingent on regulators, planners, developers, designers and others embracing **SHARED RESPONSIBILITY** and aligning their efforts.

“The experience of those leading watershed/landscape-based processes demonstrates that systemic change is possible, even in the complicated sphere of planning for use and conservation of land. A key to long-term success is developing local government talent (Figure 4),” concludes Ted van der Gulik.

Rainwater Management in a Watershed Sustainability Context

Inter-Regional Educational Initiative for Integrating Site, Watershed and Stream



Richard Boase demonstrates how water moves through soil at a workshop hosted by the Urban Development Institute and held at BCIT in 2004

This is the "BC process" for moving from Awareness to Action

1. WHAT is the issue?

The form of land development impacts how water is used and how water runs off the land.

2. SO WHAT can be done?

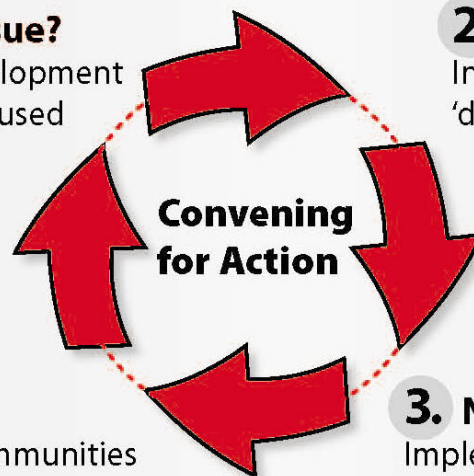
Influence practitioners to 'design with nature'

4. THEN WHAT?

Replicate in other communities

3. NOW WHAT can we do?

Implement the Water Sustainability Action Plan for British Columbia



Developing Local Government Talent

Figure 4

Part C

Briefing Document for An Inter-Regional Education Initiative on Vancouver Island

1. Background / Context

- Regional Team Approach
- Inter-Regional Collaboration

2. Integrated Watershed Approach to Rainwater

- Alignment with Provincial Programs
- Water is a Form Maker

3. Inter-Regional Education Initiative

- Mission Possible: Protect Stream Health and Adapt to Climate Change
- Program Modules / Deliverables

4. Alignment of Regional Approaches and Plans

- “What It Would Look Like”
- Implementation and Integration

5. Implementation Plan

- Program Modules are Connected
- “Proof of Approach” Demonstration
- About the Budget Allocations



**the partnership
for water sustainability in bc**

CAVI-Convening for Action on Vancouver Island

Rainwater Management In a Watershed Sustainability Context

Integrating the Site with the Watershed and the Stream:
Briefing Document for an Inter-Regional Education Initiative
On Vancouver Island



Updated May 2012

Rainwater Management in a Watershed Sustainability Context

Briefing Document for an Inter-Regional Education Initiative on Vancouver Island

Executive Summary

Vancouver Island is a hot-bed of progressive ideas and provincially significant initiatives. Regional districts are advancing watershed-based strategies and programs for integrating the site with the watershed and stream. These initiatives all recognize the importance of instilling a land ethic that respects water.

An opportunity exists for inter-regional information sharing / transfer so that together everyone can go farther, more efficiently and effectively. To achieve that goal, this briefing document introduces an education-based initiative for collaboration. Table 1 opposite is a synopsis of the document.

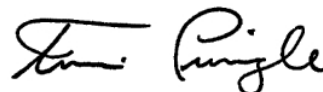
*The focus of this **Inter-Regional Education Initiative** is on the 'how-to' details of implementation and integration, recognizing that each region has already established its 'vision and goals' through a community consultation process. Initiative objectives include:*

- 1. advance watershed sustainability and green infrastructure practices Vancouver Island-wide;*
- 2. link activities in and between four regions so that everyone can benefit from lessons learned;*
- 3. enhance collaboration and increase alignment of efforts across boundaries;*
- 4. reduce workloads through sharing and cross-fertilizing of experiences;*
- 5. improve existing and introduce new tools so that local governments and the development community will have a common understanding of how to integrate the site with the watershed and stream; and*
- 6. increase effectiveness of decisions about the use and conservation of land and water assets.*

*The **Inter-Regional Education Initiative** will support implementation of watershed-based processes in four regional districts, namely: Comox Valley, Nanaimo, Cowichan Valley and Capital Region.*

The initiative partners are the four regional districts, the Partnership for Water Sustainability in BC (i.e. "the Partnership") and CAVI-Convening for Action on Vancouver Island. CAVI involves various collaborators.

The Comox Valley regional team approach in the north and the Bowker Creek Blueprint (Capital Region) in the south are lynchpins for this inter-regional initiative. Collaboration, alignment and consistency up and down the east coast of Vancouver Island will create opportunities for everyone to be more effective; and to implement water and watershed sustainability goals in the context of existing budgets.



Tim Pringle
President

Partnership for Water Sustainability in BC
March 2012

Rainwater Management in a Watershed Sustainability Context

Briefing Document for an Inter-Regional Education Initiative on Vancouver Island

Table 1 – Synopsis of Briefing Document

<p>These lynch-pin position statements in “Living Water Smart, British Columbia’s Water Plan” provide context for the educational initiative:</p> <p><i>“By 2012, all land and water managers will know what makes a stream healthy, and therefore be able to help land and water users factor in new approaches to securing stream health and the full range of stream benefits.” (p. 43)</i></p> <p><i>“Adapting to climate change and reducing our impact on the environment will be a condition for receiving provincial infrastructure funding.” (p. 63)</i></p>		
	Section Title	Section Theme
1	Background / Context	The education initiative aligns with regional district plans, priorities and workloads; and has a focus on actions related to land use and watershed health on Vancouver Island.
2	Integrated Watershed Approach to Rainwater	The initiative is founded on the notion of “shared responsibility” and the guiding principle that “water is a form maker” because today’s landscapes are the product of the hydrological cycle.
3	Inter-Regional Education Initiative	The program modules build on local government experience; are knowledge and science-based; and can be readily adapted to incorporate local case profile content.
4	Alignment of Regional Approaches and Plans	The educational approach can help each region with its “next step”, that is: implementation and integration, with emphasis on what integration looks like. NOTE: Table 4 summarizes funded activities in each region; these can leverage matching grants to fund the educational initiative.
5	Implementation Plan	The anticipated payback in customizing program delivery within each region is that each participating local government will be able to achieve more with the same resources, both people and financial.
	Appendix A	Letters of Support for Initiative
	Appendix B	About the Partnership for Water Sustainability
	Appendix C	About the Water Balance Model for BC
	Appendix D	“Proof of Approach” Demonstration
	Appendix E	Links to Guidance Documents

Rainwater Management in a Watershed Sustainability Context

Briefing Document for an Inter-Regional Education Initiative on Vancouver Island

1. Background / Context

Four Vancouver Island regional districts and their member municipalities have been taking steps to plan for water sustainability and put in place implementation strategies. As shown on Figure 1, the four are:

- Comox Valley Regional District
- Regional District of Nanaimo
- Cowichan Valley Regional District
- Capital Regional District

Each region has developed (or is developing) a provincially significant plan or approach to achieve water and watershed sustainability. All are striving to implement a consistent regional approach that protects and/or restores natural watershed function over time.

Inter-regional sharing, collaboration, alignment and consistency will accelerate effective implementation of watershed protection objectives within each regional district. The regions are linked by common interests, but are not dependent on each other.

During the period March-April 2012, the four Regional Boards formally endorsed the *Inter-Regional Education Initiative*. Letter of support for a grant application by the Comox Valley Regional District are included as Appendix A.

Regional Team Approach

Through the **CAVI-Convening for Action on Vancouver Island** initiative, and commencing in 2007, the *Partnership for Water Sustainability in British Columbia* (i.e. “the Partnership”) has collaborated with each regional district to deliver elements of an information-sharing and educational program. This approach has helped build relationships; and it has also helped develop local government talent.

The experience and insights yielded by the CAVI program to date are described in *Beyond the Guidebook 2010: Implementing a New Culture for Protecting and Restoring Urban Watersheds in British Columbia*. This provincial guidance document presents the framework for a ‘regional team approach’ to water and watershed sustainability.

Inter-Regional Collaboration

Now, the Partnership is implementing the next evolution of the CAVI educational program. Over a two-year period, the program goal for the inter-regional initiative is to enhance collaboration and increase alignment of efforts across boundaries. Background about the Partnership is included as Appendix B.

Framework for Collaboration: The inter-regional approach is shaped by these five considerations:

- all four regional districts have overarching plans and/or initiatives in place;
- all four have funded activities that they are planning to do in 2012 and beyond;
- those activities can leverage matching funding to be used to implement the CAVI program;
- the CAVI educational program will align with regional district priorities and workloads; and
- the CAVI program will link activities in the four regions so that everyone can share experiences and benefit from lessons learned.

The focus of the *Inter-Regional Education Initiative* is on actions related to land use and watershed health on Vancouver Island.

Everyone needs to agree on expectations and how all the players will work together, and after that each community can reach its goals in its own way



“The ‘regional team approach’ is founded on partnerships and collaboration; and seeks to align actions at three scales – provincial, regional and local.”

Glen Brown, Executive Director
BC Ministry of Community, Sport & Cultural Development
& Deputy Inspector of Municipalities

September 2009

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Briefing Document for an Inter-Regional Education Initiative on Vancouver Island

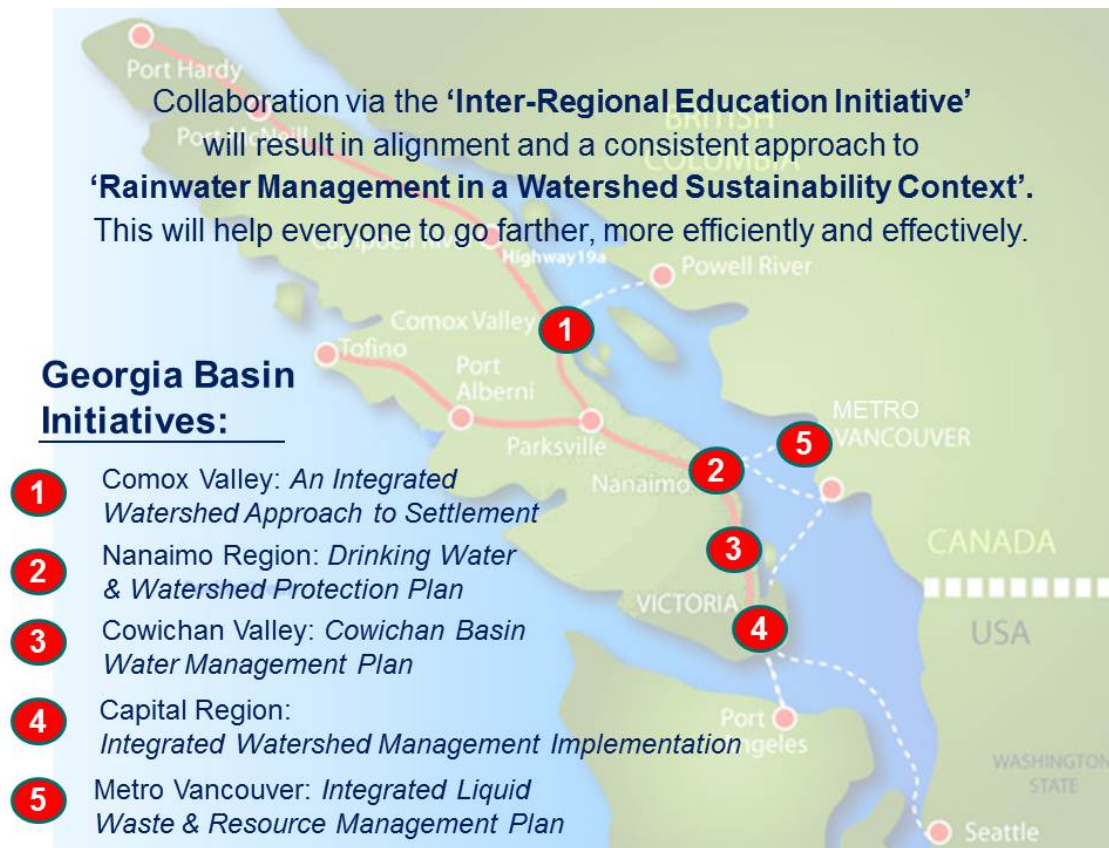


Figure 1

Explanatory Notes – Provincial Significance

1. The Province intervened in the Comox Valley to both create a new regional district and mandate regional plans. The *Comox Valley Sustainability Strategy* and *Comox Valley Regional Growth Strategy* provide the planning framework for implementing **An Integrated Watershed Approach to Settlement**.
2. The Nanaimo Region's **Drinking Water & Watershed Protection Plan** created a drinking water and watershed protection service area with taxation authority in the region's electoral areas. Because the scope has been expanded to include the member municipalities, this means the plan has more of a regional function.
3. The **Cowichan Basin Water Management Plan** is a provincial case study for watershed governance changes being contemplated as part of *Water Act Modernization*.
4. In the Capital Region, the Bowker Creek Watershed Blueprint and District of Sooke Rainwater Management Plan are demonstration initiatives for **Integrated Watershed Management**. Both are founded on partnerships that have enabled community groups and municipal staffs to coalesce around a shared vision: *What do we want this watershed to look like in 100 years, and what steps will we take to get there?*
5. Metro Vancouver's **Integrated Liquid Waste & Resource Management Plan** established the framework for moving beyond regulatory compliance to transitioning the region to an approach where management of liquid discharges and rainwater resources is planned and implemented within a broader, sustainability framework.

Rainwater Management in a Watershed Sustainability Context

Briefing Document for an Inter-Regional Education Initiative on Vancouver Island

2. Integrated Watershed Approach to Rainwater

On August 31, 2011 the Comox Valley Regional Board passed a series of resolutions pertaining to an integrated watershed approach to rainwater management. These resolutions highlighted the need for province-wide action related to how drainage is regulated by the Ministry of Transportation and Infrastructure.

These common interests provided the Partnership with the impetus to bring together the four regions. The CAVI educational program will introduce tools and share experience so that local governments benefit from a common understanding of how to integrate the SITE with the WATERSHED and STREAM.

Alignment with Provincial Programs

A knowledge and science-based approach to educating those involved in land development about rainwater management science and on-the-ground solutions will:

- Facilitate inter-regional alignment with program goals for the Province's Living Water Smart and Green Communities initiatives.
- Help local governments fulfil commitments they have made pursuant to the Climate Action Charter.
- Enhance the drainage component of Liquid Waste Management Plans (LWMP).

Released in 2002, *Stormwater Planning: A Guidebook for British Columbia* provides the technical foundation for the current "Beyond the Guidebook" initiative, which the Partnership is leading and supports the initiatives listed above.

Shared Responsibility Matrix: Figure 2 is reproduced from Beyond the Guidebook 2010. The matrix is structured in two parts. The focus is on the linkages between outcome, players and tools. Collaboration is founded on the notion of shared responsibility: "If all the players know their role in relation to the goal, then together we can create the future that we all want." In this case, the GOAL is to capture rain where it falls, limit surface runoff, and protect stream and watershed health.

Water is a Form Maker

"The basin we see today is the product of the working of the hydrological cycle over thousands of years of geologic and climate processes, and several centuries of human activities" (reference: extracted from the "Context Statement" of the *Cowichan Basin Water Management Plan 2007*). As this and other plans recognize, watersheds are defining landscapes that serve the needs of human settlements and provide natural habitats and their integral ecological systems.

Water features include coastlines, river fronts, lakes, riparian areas, aquifers and other elements that contribute to the values of land for habitat, agriculture, recreation and real estate. In numerous ways, the built environment has to adapt to watershed features and water movements to maintain viable settlements.

Infrastructure Implications: "Canada's built environment (roads, bridges, buildings, water mains, wastewater systems, offshore structures, dams, etc.) represents a major investment for both governments and taxpayers." (reference: National Research Council Canada - <http://www.nrc-cnrc.gc.ca/eng/ibp/irc/sbe/life-cycle.html>). Infrastructure related to water is extensive in any Vancouver Island community.

While attendant life-cycle costs are unavoidable, there are options to reduce the current and future financial burden. This is the focus of 'designing with nature to achieve water sustainability'. For example:

- Drainage systems for subdivisions and developments can be designed to handle rainwater on the surface, maintain hydrology in the reach of the watershed; and, thereby reduce initial and life-cycle costs. Parcels approved for development ought not impede aquifer recharge, dry out wetlands or result in increased runoff volumes or erosive flows. Instead, designing for water sustainability can add value to real development and community amenities, including preservation of natural habitat.

The built environment can naturalize settlement works to the features of the watershed and its land and waterscapes. This designing with nature approach is fundamental to achieving water sustainability from any perspective.

Rainwater Management in a Watershed Sustainability Context

Briefing Document for an Inter-Regional Education Initiative on Vancouver Island

Responsibility Matrix		
Goal	Party	Tool
<ul style="list-style-type: none"> Objectives Situations Responsibilities 	<ul style="list-style-type: none"> Regional staff and elected representatives Municipal staff and elected representatives Private actors (developers, builders, homeowners, stewardship groups, universities and colleges, etc.) 	<ul style="list-style-type: none"> Law Bylaw Policy Procedure Incentive Penalty Security Budget
Desired or Required Outcomes	Relevant Staff or Other Actors	Instruments for Action

Application of Responsibility Matrix		
Desired Outcome	Relevant Actors	Instruments for Action
Onsite Rainwater Management	1. Regional Government	1. Living Water Smart policy direction; Regional liquid resource management plan
	2. Municipal Government	2. Regional targets translated to site level action using Water Balance Mode tool and Land Use Planning, site standards; linkage made between watershed plan and development practices/neighbourhood plan; Official Community Plan direction; visible political leadership on issue
	3. Developer	3. Bylaws require a) onsite rainwater management facilities b) security for performance c) regular inspection and reporting re: maintenance (e.g. on business license renewal); departments charged and funded to inspect
	4. Builder	4. Communication, contractual provisions, occupancy permit

Figure 2 – Shared Responsibility Matrix

Explanatory Notes

The Matrix was developed as a communication tool to support the Beyond the Guidebook initiative. Between 2007 and the end of 2009, the Matrix evolved from a set of generic “what would we like to do” questions that were framed through the eyes of those in local government. The purpose of the Matrix is to encourage players with different perspectives to talk candidly with each other about implementation of green infrastructure or other sustainability goals. There are solutions to be found if all parties simply talk to each other about how they could all work together more effectively, using law reform or other process changes as tools.

Rainwater Management in a Watershed Sustainability Context

Briefing Document for an Inter-Regional Education Initiative on Vancouver Island

3. Inter-Regional Education Initiative

Since 2003, the Partnership has been delivering an Outreach and Continuing Education Program (OCEP) that is outcome-oriented. The ultimate objective is framed by this policy statement in Living Water Smart:

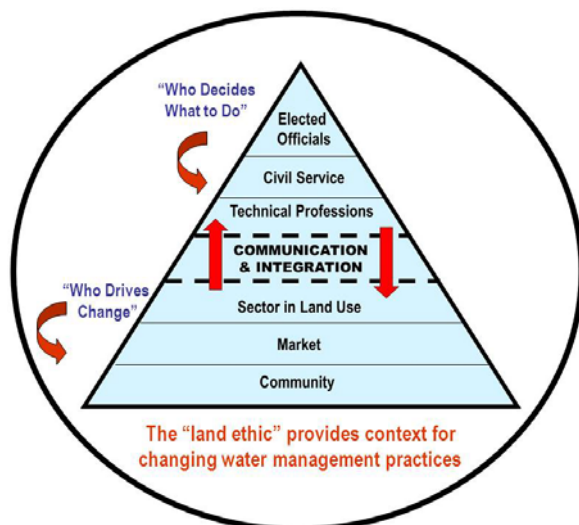
By 2012, all land and water managers will know what makes a stream healthy, and therefore be able to help land and water users factor in new approaches to securing stream health and the full range of stream benefits. – page 43

Founded on local government experience, OCEP is knowledge-based and connects the dots between the site, watershed and stream.

Mission Possible: Protect Stream Health and Adapt to Climate Change

OCEP is multi-layered and crosses boundaries as illustrated in the graphic below. The goal is to inform, educate and provide useful tools. A key message is that water sustainability at a watershed scale can be achieved through implementation of green infrastructure policies and practices at the neighbourhood scale.

The desired outcome is that there will be a common understanding of core concepts; and those involved in land use and/or water use will utilize those core concepts to protect stream health and adapt to climate change. This is “mission possible”.



Program Modules / Deliverables

Over the next two years, the Inter-Regional Education Initiative will help advance implementation of each regional district plan. The technical foundation of the program is the web-based Water Balance Model (WBM). Program modules and deliverables will initially comprise:

- ☐ Water Balance Model Training Workshops
- ☐ A Course on Watershed Blueprints
- ☐ Learning Lunch Seminars & Series
- ☐ Watershed Blueprint Case Profiles

These provide a consistent framework. There is flexibility to adapt it to incorporate local content.

About the Water Balance Model: The WBM is a unique scenario comparison tool. It bridges planning and engineering, links development sites to the stream and watershed, and helps define science-based performance targets for reducing the ‘water footprint’. See Appendix C.

About the Course on Watershed Blueprints: Refer to Table 2 in Appendix D for a curriculum overview. The 2-day course comprises eight modules. It guides land use and infrastructure professionals through the stages and steps in developing a ‘watershed blueprint’ that is balanced, landscape-based and financially sustainable. Each module can be expanded into either a half-day or full-day stand-alone seminar.

About Learning Lunch Seminars and Series: Since 2007, these have been the mainstay of the CAVI program. To date, they have provided neutral forums for building relationships that provide the foundation for the *regional team approach*. The next evolution is to design them as working sessions that result in regional action.

About Watershed Blueprint Case Profiles: Refer to Table 3 in Appendix D for scope outline. “Case Profiles” would complement a CAVI agricultural initiative in collaboration with the Ministry of Agriculture, Living Rivers, and the Vancouver Island Economic Alliance (VIEA). The Ministry is implementing a Vancouver Island Water Demand Model. The land use inventory could also be utilized for WBM purposes.

Rainwater Management in a Watershed Sustainability Context

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4. Alignment of Regional Approaches and Plans

Starting in 2007, CAVI has championed a shared vision for Vancouver Island communities; and for a consistent Island-wide approach to green. The emphasis is on green infrastructure because water sustainability will be achieved by implementing effective green infrastructure policies and practices. How communities get there requires a change in mind-set. The Partnership role is to facilitate that change.

In February 2010, the Bowker Creek Forum drew attention to five watershed-based initiatives in five regional districts (refer to Figure 2), including Metro Vancouver. All five are keyed to integration of water and land planning. All reflect a 'design with nature' guiding philosophy.

The 'design with nature' phrase is borrowed from the title of a seminal book by Ian McHarg. He pioneered the concept of ecological planning. McHarg advocated this principle: *"that the shaping of land for human use ought to be based on an understanding of natural process."*

"What It Would Look Like"

The purpose of the *Inter-Regional Education Initiative* is to learn and apply what 'designing with nature' looks like in practice. The process involves drilling down from the vision and goals of a regional plan, and exploring the 'how-to' details of **implementation and integration**.

Context for integration of water and land planning is captured as follows:

One can have "implementation" without "integration"; but implementation will likely be ineffective without integration.

Integration means a holistic approach to use and conservation of land and water. It encompasses physical infrastructure, the built environment (land use, development and building design) and the ecosystems within which we work and recreate. And it includes all practitioners whose profession, work, volunteer role or responsibility as a landowners affects land and water sustainability.

Why the Bowker Blueprint is Important: The significance of the Blueprint is that the Bowker process has demonstrated how a community can move from 'vision and goals' to 'implementation and integration' ("what it would look like").

The Blueprint was preceded by a Stormwater Management Plan. While that plan gave strategic direction, it did not provide municipal planners with the level of detail they need to effectively review individual development applications. The Blueprint provides the details for implementation.

Implementation and Integration

The Partnership recognizes the leadership shown by each regional district in developing provincially significant plans. It also recognizes that the community-at-large within each region has been involved in creating that leadership.

Through the *Inter-Regional Education Initiative*, the Partnership can help each region with the "next step" – i.e. implementation and integration, with emphasis on what integration looks like.

Integration is about tools and education. The Water Balance Model and Agricultural Water Demand Model are example of tools that facilitate integration through education. They also provide a focus for aligning efforts, both within a region and inter-regionally. While the two models are not linked, the land use data inventory undertaken for the Water Demand Model is also useful for the Water Balance Model in the context of watershed planning.

Budget for Educational Program: All four regions have funded activities that they are scheduled to do in 2012 and beyond. Those activities can leverage matching funding that can then be used by the Partnership / CAVI to implement the *Inter-Regional Education Initiative*.

Table 4 has two parts: CAVI provisional budget for program delivery (top); and total value of related work by CAVI partners (bottom). Through leveraging, the Partnership objective is to secure a minimum of \$150,000 per year from various funding sources. Table 4 will provide a strong supporting case when Partnership submits grant applications to external funders.

Rainwater Management in a Watershed Sustainability Context

Table 4 – Funding Overview

PROVISIONAL BUDGET FOR IMPLEMENTATION OF CAVI EDUCATIONAL PROGRAM			
PROGRAM MODULE / DELIVERABLE	YEAR ONE	YEAR TWO	TOTAL
Course on Watershed Blueprints (2)	\$ 15,000	\$ 15,000	\$ 30,000
Water Balance Model Training Workshops (6)	\$ 30,000	\$ 30,000	\$ 60,000
Learning Lunch Seminars & Series (4)	\$ 25,000	\$ 25,000	\$ 50,000
Watershed Blueprint Case Profiles (2)	\$ 20,000	\$ 20,000	\$ 40,000
Primers in the Beyond the Guidebook Series (2)	\$ 10,000	\$ 10,000	\$ 20,000
Vancouver Island Water home on Waterbucket.ca website	\$ 10,000	\$ 10,000	\$ 20,000
Plus Travel Expenses	\$ 20,000	\$ 20,000	\$ 40,000
Plus Program Management / Administration	\$ 4,000	\$ 4,000	\$ 8,000
SUB-TOTALS	\$134,000	\$134,000	\$268,000
Plus HST (12%)	\$ 16,000	\$ 16,000	\$ 32,000
GRAND TOTALS (i.e. basis for grant applications)	\$150,000	\$150,000	\$300,000

SUMMARY OF INTER-REGIONAL COMMITMENTS TO WATERSHED-BASED INITIATIVES

(Note: the table below is a work-in-progress; consultation is continuing with partners to confirm items and/or fill in blanks)

ORGANIZATION	BUDGET LINE ITEMS			IN-KIND CONTRIBUTIONS			
	2012	2013*	TOTAL	2012	2013*	TOTAL	TOTAL
Comox Valley Regional District							
▪ <i>Agricultural Water Demand Model</i>	TBD	---	TBD	TBD	---	TBD	TBD
▪ <i>Integrated Watershed Approach</i>	\$60,000	---	\$60,000	TBD	TBD	TBD	\$60,000
CAVI - Comox Valley Regional Team							
▪ <i>Comox Valley Regional District</i>	\$2,500	\$2,500	\$5,000	\$10,000	\$10,000	\$20,000	\$25,000
▪ <i>City of Courtenay</i>	\$4,000	\$4,000	\$8,000	\$10,000	\$10,000	\$20,000	\$28,000
▪ <i>Town of Comox</i>	\$4,000	\$4,000	\$8,000	\$10,000	\$10,000	\$20,000	\$28,000
▪ <i>Village of Cumberland</i>	\$ 500	\$ 500	\$1,000	\$ 5,000	\$ 5,000	\$10,000	\$11,000
▪ <i>Comox Valley Land Trust</i>	---	---	---	\$ 5,000	\$ 5,000	\$10,000	\$10,000
Nanaimo Regional District							
▪ <i>Agricultural Water Demand Model</i>	\$ 25,000	---	\$ 25,000	TBD	---	TBD	\$ 25,000
▪ <i>Drinking Water & WP Plan</i>	\$270,000	\$270,000	\$540,000	---	---	---	\$540,000
▪ <i>Rainwater Collection Manual</i>	\$ 20,000	---	\$ 20,000	---	---	---	\$ 20,000
Member Municipalities	TBD	TBD	TBD	TBD	TBD	TBD	TBD
Cowichan Valley Regional District							
▪ <i>Cowichan Basin Plan</i>	\$50,000	\$50,000	\$100,000	---	---	---	\$100,000
▪ <i>Agricultural Water Demand Model</i>	\$30,000	---	\$ 30,000	TBD	---	TBD	\$ 30,000
▪ <i>Water Balance Model</i>	\$10,000	\$ 5,000	\$ 15,000	\$ 5,000	\$ 5,000	\$10,000	\$ 25,000
▪ <i>South Cowichan Water Study</i>	\$75,000	TBD	\$ 75,000	---	---	---	\$ 75,000
▪ <i>CAVI Program</i>	---	---	---	\$10,000	\$10,000	\$20,000	\$20,000
District of North Cowichan	TBD	TBD	TBD	\$10,000	\$10,000	\$20,000	\$20,000
City of Duncan	TBD	TBD	TBD	\$10,000	\$10,000	\$20,000	\$20,000
Town of Lake Cowichan	TBD	TBD	TBD	\$10,000	\$10,000	\$20,000	\$20,000
Town of Ladysmith	TBD	TBD	TBD	\$10,000	\$10,000	\$20,000	\$20,000
Cowichan Tribes	TBD	TBD	TBD	\$10,000	\$10,000	\$20,000	\$20,000
Capital Regional District							
▪ <i>Integrated Watershed Management</i>	\$300,000	\$300,000	\$600,000	\$10,000	\$10,000	\$20,000	\$620,000
Other Municipal Contributions	TBD	TBD	TBD	TBD	TBD	TBD	TBD
SUB-TOTAL FOR LOCAL GOVT							\$1.717M
Ministry of Agriculture	---	---	---	\$5,000	\$5,000	\$10,000	\$10,000
▪ <i>Agricultural Water Demand Model</i>	\$98,000	TBD	\$98,000	---	---	---	\$98,000
Ministry of Environment	TBD	TBD	TBD	TBD	TBD	TBD	TBD
SUB-TOTAL FOR PROVINCE							\$108,000
Living Rivers Trust	\$20,000	\$10,000	\$30,000	\$20,000	\$20,000	\$40,000	\$70,000
▪ <i>Agricultural Water Demand Model</i>	\$ 8,000	---	\$ 8,000	---	---	---	\$ 8,000
Van Island Economic Alliance	TBD	TBD	TBD	\$20,000	\$20,000	\$40,000	\$40,000
TimberWest	TBD	TBD	TBD	TBD	TBD	TBD	TBD
Partnership for Water Sustainability	\$90,000	\$40,000	\$130,000	\$75,000	\$75,000	\$150,000	\$280,000
SUB-TOTAL FOR "OTHERS"							\$398,000
Metro Vancouver Region & Members	TBD	TBD	TBD	TBD	TBD	TBD	TBD
GRAND TOTALS	\$1.067M	\$0.686M	\$1.753M	\$0.235M	\$0.235M	\$0.470M	\$2.223M

*NOTE: line items are subject to confirmation through the annual budget approval process for each participating organization

Rainwater Management in a Watershed Sustainability Context

Briefing Document for an Inter-Regional Education Initiative on Vancouver Island

5. Implementation Plan

An over-arching principle for implementation of the *Vancouver Island Inter-Regional Education Initiative* is that the choice of program elements will align with regional priorities and staff workloads. Hence, a key consideration in program implementation is that there be flexibility and adaptability to accommodate everyone's needs.

Program Modules are Connected

Table 4 lists six program categories and potentially 16 deliverables over a 2-year period. While they are stand-alone, program modules will inform and/or build on each other:

- Primers provide science-based guidance;
- A Course on Watershed Blueprints provides the planning framework for setting targets;
- Water Balance Model Workshops provide the how-to training to actually set the targets; and
- Vancouver Island Water on Waterbucket.ca website tells the stories.

Everyone is at a different place on a knowledge continuum. Hence, it is a matter of customizing program delivery within each region so that over time they will all arrive at the same destination.

Return on Investment: Table 4 demonstrates that the total investment by local governments in watershed-based initiatives will be substantial in 2012 and beyond. Table 4 is a work-in-progress. The final tally is expected to be in the order of \$3 million (or more) once blank line items are filled with budget information obtained through further one-on-one consultation with participating municipalities.

This means that the provisional budget for the *Vancouver Island Educational Initiative* is projected to equal approximately 10% of the total investment amount. The anticipated payback is that each participating local government would be able to achieve more with the same resources, both people and financial.

From a provincial perspective, alignment and consistency across boundaries similarly has a financial value and an ongoing payback.

“Proof of Approach” Demonstration

In the first half of 2012, the Partnership has implemented a “proof of approach” pilot program to demonstrate how to make inter-regional collaboration tangible. A “sharing and learning” event has been held in each region:

- ☐ **Cowichan Valley:** Water Balance and Rainwater Management Forum
- ☐ **Comox Valley:** Learning Lunch Workshop Series on Integrated Rainwater Management
- ☐ **Nanaimo Region:** Water Balance Model Training Workshop
- ☐ **Capital Region:** Course on How to Develop a Watershed Blueprint

Looking ahead, the experience gained during the “proof of approach” period will inform HOW the Partnership moves forward with full-scale implementation of the *Vancouver Island Inter-Regional Education Initiative*.

Regional Team Approach: A program goal is to formalize the commitment to the regional team approach. One way to do this is through a document called a Charter. A lesson learned through the CAVI experience is that it takes time to build the trust relationships that then make a shared commitment to action possible.

About the Budget Allocations

The \$150,000 per year as shown in Table 4 is the budget that the Partnership needs to carry out the leadership, organization and teaching functions that comprise program delivery.

The Partnership focus is on convening for action. The Partnership is structured such that overhead costs are minimal. This means that the budget allocations in Table 4 are outcome-based, and reflect the “proof of approach” experience.

Table 4 lists budget line items for participating local governments. This is money that they will be spending on third party services to do contract work that will then inform and/or be incorporated in program deliverables.

Table 4 also lists projected in-kind contributions. This is the value of the time and effort that local governments will be investing in the *Vancouver Island Inter-Regional Education Initiative*.

Rainwater Management in a Watershed Sustainability Context

Briefing Document for an Inter-Regional Education Initiative on Vancouver Island

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Part D

Questions and Answers About the Inter-Regional Educational Initiative

- 1. “Move from Awareness to Action”**
- 2. “Be Flexible, Be Adaptable”**
- 3. “Living Water Smart / Green Communities”**
- 4. “Intended Outcomes / Benefits”**
- 5. “What It Would Look Like”**
- 6. “It Starts With a Conversation”**
- 7. “Connecting Water, Land and People”**
- 8. “Partnership is Bridging a Collaboration Gap”**
- 9. “Georgia Basin Vision”**
- 10. “Stormwater Planning: A Guidebook for BC”**
- 11. “Doing Business Differently in BC”**

Rainwater Management in a Watershed Sustainability Context

Inter-Regional Educational Initiative for Integrating Site, Watershed and Stream

Abstract

WHY:

The Georgia Basin is a hot-bed of progressive ideas and provincially significant initiatives. Regional districts and their municipal partners are advancing watershed-based strategies and programs. Yet there is no formal mechanism for inter-regional collaboration.

WHAT:

To fill this gap, in 2012 the Partnership for Water Sustainability brought together four regional districts on Vancouver Island to align their efforts and implement the “proof of approach” for an Inter-Regional Education Initiative (IREI). The four represent 90% of the population of Vancouver Island.

The desired outcome in bringing together the four regions is that there will be a common understanding of core concepts for ‘designing with nature’; and those involved in land use and/or water use will utilize those core concepts to reduce their water footprints, protect stream health and adapt to a changing climate.

HOW:

The technical foundation for this “mission possible” is provided by the web-based Water Balance Model, a unique scenario comparison and decision support tool: it can help communities create a vision for a future watershed condition; the performance target methodology embedded in the model integrates the Site with the Watershed and the Stream.

CURRICULUM:

Complementary program modules (deliverables) will initially comprise:

- ☐ Water Balance Model Training Workshops
- ☐ A Course on Watershed Blueprints
- ☐ Learning Lunch Seminars & Series
- ☐ Watershed Blueprint Case Profiles
- ☐ Primers in the Beyond the Guidebook Series
- ☐ Waterbucket.ca Website Stories

These program elements provide a consistent framework for knowledge-sharing. There is flexibility to adapt within the framework to incorporate local learning and examples.

OUTCOMES:

The legacy of the IREI ultimately depends on the Partnership connecting the dots to a myriad of related yet separate projects that will be undertaken by participating local governments. Many of those projects are likely to be implemented with assistance from consultants and contractors.

The specific success of individual program elements comprising the IREI will result from the hands-on involvement of local government staff working collaboratively with the Partnership leadership.

The Partnership leadership comprises a core of seasoned professionals who have retired from their former day jobs in government and elsewhere, but who are continuing the mission, which is: **DEVELOP LOCAL GOVERNMENT TALENT**. This core team will be hands-on in developing and delivering program modules such as Workshops,

Rainwater Management in a Watershed Sustainability Context

Question #1 (Objectives): *What do we envision that the IREI will achieve?*

1. “Move from Awareness to Action”

Each region has typically established its ‘vision and goals’ for water and watershed sustainability through a community consultation process that is associated either with a Regional Growth Strategy or a regional initiative.

Yet each region currently faces implementation challenges in bridging the gap between awareness of what should be done versus ensuring action on the ground.

The IREI will help all regions move forward with consistent and effective “implementation and integration” on the ground.

Inter-regional sharing, collaboration, alignment and consistency can accelerate effective implementation of watershed protection objectives and practices within the four regions. Together everyone can go farther, more efficiently and effectively.

Objectives

To achieve the outcome described above, the IREI will focus on the “how-to” details of integration and implementation vis-à-vis “rainwater management in a watershed sustainability context”. The Partnership will bring together local governments, regulators, the stewardship community and business to address shared issues with consistent, workable solutions.

IREI objectives include:

1. advance watershed sustainability and green infrastructure practices Vancouver Island-wide;
2. link activities in and between four regions so that everyone can benefit from lessons learned;
3. enhance collaboration and increase alignment of efforts across boundaries;
4. reduce workloads through sharing and cross-fertilizing of experiences;
5. improve existing and introduce new tools so that local governments and the development community will have a common understanding of how to integrate the site with the watershed and stream; and
6. increase the effectiveness of decisions about the use and conservation of land and water assets.

How

The “regional team approach” (refer to image on next page) is the lynchpin for this inter-regional initiative. The “regional team approach” seeks to align actions at three scales – provincial, regional and local. Within each region, everyone needs to agree on expectations and how all the players will work together, and after that each partner community can reach its goals in its own way.

Collaboration, alignment and consistency up and down the east coast of Vancouver Island (and on both sides of the Georgia Basin) will create opportunities for everyone to be more effective; and to implement water and watershed sustainability goals in the context of existing budgets.

Rainwater Management in a Watershed Sustainability Context

Question #1 (Objectives): *What do we envision that the IREI will achieve?*



Rainwater Management in a Watershed Sustainability Context

Question #2 (Phasing): *How can the IREI be phased?*

2. “Be Flexible, Be Adaptable”

Refer to Table 4 in the Briefing Document (included as Part C).

The flexible and adaptive nature of the IREI lends itself to “phasing” because:

1. the approach to program development and implementation provides STRUCTURED FLEXIBILITY, such that →

When the structure is well thought-out, this builds in the necessary flexibility to adapt to changing circumstances.

When there is a clear destination (goal), such as DEVELOP LOCAL GOVERNMENT TALENT, it is a matter of recognizing that there may be more than one route to reach the destination
2. the Initiative comprises stand-alone modules and deliverables in 6 categories
3. the Initiative does not rise or fall any particular module or deliverable
4. there is ample scope for “mixing and matching” modules so that the Initiative evolves to meet the knowledge-sharing needs of all four regions
5. subject to annual budget approvals, each regional district contemplates sponsoring a minimum of two and a maximum of four events and/or deliverables over a 2-year period

6. these commitments recognize that it will take a sustained effort over a period of months to bring each module or deliverable to fruition, especially when everyone in local government is always busy and always operating at full capacity
7. in view of the foregoing considerations, the total number of events and/or deliverables may range from 8 to 16, depending on what ultimately makes sense to participating local governments as the Initiative moves forward
8. furthermore, it may well become desirable to define new categories of modules and deliverables as the program unfolds and the talent development needs of participating local governments are refined.
9. Table 4 shows the budget allocations for each category of module

In summary, Table 4 establishes the basis for an annual budget. A key operating principle is that there be built-in flexibility to “mix and match” within this budget amount in order to respond to evolving and/or emerging needs. The need to build-in flexibility is underscored by the fact that the Initiative is aligning with the internal work plans of 4 regional districts plus their 24 partner municipalities.

Rainwater Management in a Watershed Sustainability Context

Question #3 (Sustainability): *How will the IREI help move communities towards sustainability and guide future decision-making?*

3. “Living Water Smart / Green Communities”

Living Water Smart, British Columbia’s Water Plan and the *Green Communities Initiative* provide the provincial sustainability context for the IREI:

1. Released in 2008, *Living Water Smart*, British Columbia’s Water Plan is a call to action to prepare communities for change, do business differently, and strive for greener communities:
2. Actions and targets in *Living Water Smart* establish expectations as to how land will be developed and water will be used.
3. Also launched in 2008, the *Green Communities Initiative* complements *Living Water Smart* and comprises plans, strategies and enabling tools to achieve the land and water stewardship vision.

Curriculum development for the IREI is guided by these two lynch-pin position statements in *Living Water Smart*:

- ☐ **Doing Business Differently** (p.43):
“By 2012, all land and water managers will know what makes a stream healthy, and therefore be able to help land and water users factor in new approaches to securing stream health and the full range of stream benefits.”
- ☐ **Preparing Communities for Change** (p.63):
“Adapting to climate change and reducing our impact on the environment will be a condition for receiving provincial infrastructure funding.”

The IREI is grounded in a Design with Nature Philosophy and the Water Balance Methodology:

- Every local government has to manage the raindrops that fall on it.
- The Water Balance is short-circuited when the land surfaces are hardened and below-ground flowpaths to streams are eliminated.
- The short-circuiting has financial and sustainability consequences over time.
- The Water Balance Methodology “integrates the Site with the Watershed and the Stream”.
- The Water Balance Model enables local governments to establish achievable and affordable performance targets.
- The desired outcome is that Vancouver Island communities will reduce their water footprints over time, protect stream health, and be resilient to climate change.

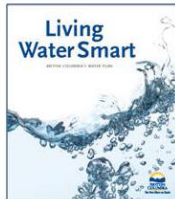
Thus, the IREI will:

- ☐ provide local governments with the tools and experience that will enable implementation of *Living Water Smart* principles on the ground; and
- ☐ advance this paradigm-shift in the way local governments make decisions:

View the watershed through an asset management lens and require that development practices “mimic the Water Balance”.

Rainwater Management in a Watershed Sustainability Context

Question #3 (Sustainability): *How will the IREI help move communities towards sustainability and guide future decision-making?*



A Call to Action

Partnerships	Better Information
Legislation	Incentives

Living Water Smart, BC's Water Plan

and the **Green Communities Initiative** provide a vision of what the regions of our province can look like if local governments.....

- ☐ prepare communities for climate change,
- ☐ choose to live water smart, and
- ☐ strive to build greener communities

Collaboration, a 'Design with Nature' approach, and re-use of resources are keys to climate change adaptation and infrastructure deficit mitigation

To achieve higher levels of stream, wetland and marine environment protection:

- Protect and restore urban 'green' space
- Strive for a lighter 'water footprint'
- Re-use and recycle water, energy & nutrients from liquid wastes
- Develop compact, complete communities



Rainwater Management in a Watershed Sustainability Context

Question #4 (Deliverables): *What benefits or products will result from the IREI?*

4. “Intended Outcomes / Benefits”

Local governments will be informed and educated as to what steps to take to:

1. Reduce risk, both financial and environmental.
2. Protect and/or improve watershed health
3. Comply with regulatory requirements

Further to #3, and as referenced in the Briefing Document, the IREI is supported by two provincial Ministries because it will:

- Facilitate inter-regional alignment with program goals for the Province’s Living Water Smart and Green Communities initiatives.
- Help local governments fulfill commitments they have made pursuant to the Climate Action Charter.
- Enhance the drainage component of Liquid Waste Management Plans (LWMP).

Inter-regional collaboration will help everyone go farther, more efficiently and effectively:

- Align workloads
- Share tools and resources
- Achieve more with same resources (people and money)

If all the players know their role in relation to the goal, then together they can create future that everyone wants.

Inter-regional collaboration will result in alignment and a consistent approach to RAINWATER MANAGEMENT IN A WATERSHED SUSTAINABILITY CONTEXT on Vancouver Island and throughout the Georgia Basin.

“Deliverable / Products”

The IREI will initially comprise these modules:

- ☐ Water Balance Model Training Workshops
- ☐ A Course on Watershed Blueprints
- ☐ Learning Lunch Seminars & Series
- ☐ Watershed Blueprint Case Profiles
- ☐ Guidance Documents (aka “Primers”)
- ☐ Waterbucket.ca Website Stories

Refer to Briefing Document for details about the above modules. The Partnership will continue to develop Primers that add depth to the curriculum and serve as provincial guidance documents. In 2011-2012, for example, the Partnership released three Primers:

- ☐ Rainwater Management in an Urban Watershed Context (2011)
- ☐ Urban Watershed Modelling to Inform Local Government Decision Processes (2011)
- ☐ Integrated Rainwater and Groundwater Management for Lands on Vancouver Island and Beyond (2012)

Everyone needs to agree on expectations and how all the players will work together, and after that each community can reach its goals in its own way



“The ‘regional team approach’ is founded on partnerships and collaboration; and seeks to align actions at three scales – provincial, regional and local.”

Glen Brown, Executive Director
BC Ministry of Community, Sport & Cultural Development
& Deputy Inspector of Municipalities

September 2009

Rainwater Management in a Watershed Sustainability Context

Question #5 (Integration): *In what ways will the IREI improve the integration of other plans or activities? Does it develop or support strategic infrastructure investment decisions or link sustainability and capital investment plans?*

5. “What It Would Look Like”

Context for integration of water and land planning is captured as follows:

One can have “implementation” without “integration”; but implementation will likely be ineffective without integration.

The IREI will advance a holistic approach to use and conservation of land and water; this approach:

- encompasses physical infrastructure, the built environment (land use, development and building design) and the ecosystems within which we work and recreate; and
- includes all practitioners whose profession, work, volunteer role or responsibility as a landowners affects land and water sustainability.

The IREI will shine the spotlight on this call to action:

The land ethic of a community ultimately determines whether water sustainability is achievable.

Integration Within and Across Boundaries

The Partnership recognizes the leadership shown by each regional district in developing provincially significant plans:

- Yet each region currently faces challenges in bridging the gap between awareness and action.
- Through the IREI, the Partnership will help all regions bridge the “implementation and integration gap”.

The IREI will drill down from the vision and goals of each regional plan, and explore the ‘how-to’ details of **implementation and integration**:

- The emphasis is on green infrastructure because water sustainability will be achieved by implementing effective green infrastructure policies and practices.
- How communities get there requires a change in mind-set.
- The Partnership role is to facilitate that change.

Water Balance Model

The Water Balance Methodology is the technical foundation for the program. The Water Balance Model meets these educational tests in order to achieve integration:

- A scenario comparison tool that provides the means to an end (desired outcome).
- Allows a local government to create a picture of a future watershed condition.
- A way to align efforts, both intra-region and inter-regionally, to implement land development practices that mimic the water balance.

Rainwater Management in a Watershed Sustainability Context

Question #5 (Integration): *In what ways will the IREI improve the integration of other plans or activities? Does it develop or support strategic infrastructure investment decisions or link sustainability and capital investment plans?*

Watershed Blueprints

The IREI will showcase examples of how implementation and integration come together in an outcome-oriented Watershed Blueprint that provides:

- a clear picture of how local governments can apply land use and infrastructure planning tools to create a desired future watershed condition;
- the level of detail that municipal planners will need to review development applications; and
- the level of detail that municipal engineers will need to implement multi-objective projects

The IREI will focus local government attention on applying the right tools.

Sustainable Service Delivery

The IREI will inform strategic infrastructure investment decisions, and will link sustainability and capital investment plans.

The IREI will communicate the “mind-map” of key message as listed below. Local government administrators, planners and engineers should then have a common understanding that:

- The linkages between the natural Water Balance, watershed and stream health, and infrastructure liability are important pieces in ensuring ‘sustainable drainage infrastructure’, both fiscally and ecologically.
- As conventional infrastructure ages and fails, local governments cannot keep up with renewal and/or replacement. Each year, the funding shortfall grows. This fiscal reality creates the incentive to prevent additional financial impacts.

- Asset management usually commences after something is built. The challenge is to think about what asset management entails BEFORE the asset is built. This paradigm-shift starts with land use and watershed-based planning, to determine what services can be provided sustainably.
- Viewing the watershed through an asset management lens highlights why ‘cost-avoidance’ is a driver for local governments to require that development practices mimic the Water Balance.
- The Province’s branding for this holistic approach is *Sustainable Service Delivery*. The legislative authority for integration of land use planning and asset management, including financial management, already exists.
- Local governments can develop a truly integrated Asset Management Strategy that views the watershed through an environmental lens.

The IREI will articulate that the Living Water Smart and Green Communities initiatives are catalysts for ‘designing with nature’: *Start with effective green infrastructure and protect environmental values. Get the watershed vision right. Then create a blueprint to implement green infrastructure.*



Rainwater Management in a Watershed Sustainability Context

Question #6 (Implementation): *How do you describe the anticipated implementation plan?*

6. “It Starts With a Conversation”

An over-arching principle for implementation of the IREI is that the program elements (deliverables) align with regional priorities and staff workloads. Hence, a key consideration in program implementation is flexibility and adaptability to accommodate everyone’s needs.

Subject to annual budget approvals by the collaborating jurisdictions, each region contemplates hosting up to four “sharing and learning” events over a 2-year timeframe:

Build Consensus

The initiative is “high touch” because it involves many conversations with many people at various levels in local government. It also relies on active listening because “it is all about THEIR needs and wants, not what we want to do”.

To build support for the concept of an IREI on Vancouver Island, it required a 5-step process during the period December 2011 through April 2012:

- **Step One:** Meet with Chief Administrative Officers and Senior Managers to share the vision, explore the implications, and secure a commitment to take a request for endorsement to each Regional Board
- **Step Two:** Prepare a Briefing Document
- **Step Three:** Submit a formal request to each Regional District; prepare a staff report
- **Step Four:** Make presentations to Regional District Committees (i.e. Regional Services or Committee of the Whole); secure a recommendation of support from each
- **Step Five:** Obtain Board Resolutions

This process has already yielded unforeseen benefits. It has started conversations. It has created awareness, interest and excitement about exploring what a shared vision for water sustainability on Vancouver Island would look like in practical terms.

“Proof of Approach” Period

To sustain this early momentum, and demonstrate how to make inter-regional collaboration tangible, the Partnership implemented a “proof of approach” in 2012. A “sharing and learning” event was in each of the four participating regions on Vancouver Island.

The events comprising the “proof of approach” have yielded invaluable experience. Now, the “learning” gained from each event is informing HOW the Partnership moves forward with full-scale implementation of the IREI on Vancouver Island and beyond.

Seek to Understand:

To Build Trust & Respect,
It Starts with a Conversation.

Listen, Listen, Listen.

Because...

Conversations →
will lead to Dialogue →
will lead to Consensus

Rainwater Management in a Watershed Sustainability Context

Question #7 (Process): *What are the key steps in completing the IREI?*

7. “Connecting Water, Land and People”

During the period 2007 through 2011, the Province and the Real Estate Foundation co-funded implementation of *CAVI-Convening for Action on Vancouver Island*. Based on the success of this experience, the Partnership has synthesized a set of guiding principles that are influencing and/or shaping how the IREI is being implemented.

Guiding Principles

The CAVI experience is that lessons learned by those who are leading change can help those who want to move to a design with nature strategy. Thus, guiding principles for “moving from awareness to action” in BC are:

1. Choose to be enabled.
2. Establish high expectations.
3. Embrace a shared vision.
4. Collaborate as a ‘regional team’.
5. Align and integrate efforts.
6. Celebrate innovation.
7. Connect with community advocates.
8. Develop local government talent (i.e. Inter-Regional Education Initiative)
9. Promote shared responsibility.
10. Change the land ethic for the better.

The CAVI experience demonstrates that systemic change is possible, even in the complicated sphere of planning for use and conservation of land. It requires understanding and pursuit of holistic outcomes.

Choose to Be Enabled

One of the Partnership’s key messages is that BC local government is among the most autonomous in Canada, and BC is perhaps the least prescriptive province:

- Historically, the Province has enabled local government by providing policy and legal tools in response to requests from local government. **This means that local government can choose to act, or not.**
- In general, the enabling approach means the onus is on local government to take the initiative. Communities are in the best position to develop solutions which meet their own unique needs and local conditions.

This leads to another of the Partnership’s key messages:

- BC’s enabling philosophy has become a driver for a regional team approach to implementing a new culture for urban watershed protection and restoration in BC.
- Insertion of the word team in ‘regional approach’ has had a profound impact on how practitioners view their world – “team” implies there is personal commitment.

Rainwater Management in a Watershed Sustainability Context

Question #8 (Collaboration): *What internal and external collaborations are anticipated?*

8. “Partnership is Bridging a Collaboration Gap”

The IREI is a precedent-setting undertaking. There is no formal mechanism to enable inter-regional collaboration as envisioned. The Partnership is uniquely positioned to fill this gap because it has a history of providing leadership and bringing individuals and organizations together under the umbrella of *Convening for Action in British Columbia* in general, and *CAVI-Convening for Action on Vancouver Island* in particular:

- This is the ‘convening for action’ mantra: *When we gather, it is for a purpose*. There must be an action item or an outcome.
- Committed to achieving settlement in balance with ecology and economy, the grass-roots collective partnership approach is founded upon collaboration.
- It reaches across boundaries. It brings together those who plan and regulate land use (local government) those who build (developers) and those who provide the legislative framework (the Province).
- This collaborative model results in the provision of expertise and support to local governments and organizations with a focus on achieving water sustainability through the sharing of ideas and success stories based upon a common vision.

Vancouver Island Local Governments

The program goal for the IREI is to enhance collaboration and increase alignment of efforts across boundaries – that is, within regional districts; and among regional districts. This approach is shaped by five considerations as listed below:

- all four regional districts have overarching plans and/or initiatives in place;
- all four have funded activities that they are planning to do in 2012 and beyond;
- those activities can leverage matching funding to be used to implement the inter-regional education program;
- the educational program will align with regional district priorities and workloads; and
- the program will link activities in the four regions so that everyone can share experiences and benefit from lessons learned.

The IREI focus is on actions related to land use and watershed health on Vancouver Island and beyond.

In addition to the four regional districts on Vancouver Island, in 2012 the program reached out to 24 partner municipalities within those regions for a grand total of 28 participating local governments.

Regional Team Approach

Participation in the IREI extends beyond local government. Other notable collaborators include the Vancouver Island Economic Alliance and the Living Rivers Trust Foundation (created by the Province in 2006).

Rainwater Management in a Watershed Sustainability Context

Question #9 (Larger in Scale or Regional In Impact): *How could the IREI be larger in scale or impact?*

9. “Georgia Basin Vision”

While the four largest regional districts on Vancouver Island have come together to bring the vision for the IREI to fruition, the program is open to any and all local governments. Their participation in program deliverables will be encouraged.

Also, the program is Georgia Basin in scope and scale. Metro Vancouver municipalities will be participating and sharing their tools and experience.

The Partnership’s ultimate objective is to formalize participation of the Metro Vancouver region so that the initiative truly morphs into the ***Georgia Basin Inter-Regional Education Initiative***. To achieve that outcome:

- The Partnership made an introductory presentation to elected representatives on the Metro Vancouver Utilities Committee on May 9, 2012.
- The Partnership has obtaining input from Metro Vancouver technical municipal advisory groups (i.e. Regional Engineering Advisory Committee, Regional Planning Advisory Committee, and Stormwater Interagency Liaison Group) to identify roles and opportunities, and ask for their support for the initiative.
- The Partnership has been providing the Utilities Committee with progress updates

At meetings with Utilities Committee, the Partnership has highlighted that inter-regional collaboration can help fulfill specific Metro Vancouver member actions in the region’s Integrated Liquid Waste and Resource Management Plan regarding performance standards, codes of practice, certification and guidelines for on-site rainwater management - i.e. green infrastructure.

Rainwater Management in a Watershed Sustainability Context

Question #10 (Innovation): *What are innovative research, planning, testing, technology, methodology or approaches that will be used, and how may these innovative elements be transferable to other jurisdictions?*

10. “Stormwater Planning: A Guidebook for British Columbia”

The GOAL of the Inter-Regional Educational Initiative is inter-regional alignment and a consistent approach to RAINWATER MANAGEMENT IN A WATERSHED SUSTAINABILITY CONTEXT. In terms of responding to the question posed above:

- The IREI is a building block in an incremental process that has been underway in BC for the past decade.
- Furthermore, it represents the next “bold leap forward” in the evolution of the provincial “Beyond the Guidebook” initiative.

A decade ago, looking at rainfall differently led the Province of BC to develop the Water Balance Methodology, and initiate a paradigm-shift in the way rainwater is managed. The Province:

- ☐ Formalized the performance target methodology in *Stormwater Planning: A Guidebook for British Columbia*, a provincial guidance document released in 2002.
- ☐ Translated science-based understanding so that local governments could establish achievable and affordable performance targets for rainfall capture and runoff control.

BC was the first provincial or state government in North America to implement the Water Balance Methodology. The Water Balance Model was developed as an extension of the Guidebook:

- The Guidebook was the catalyst for implementing the integrated, holistic and landscape-based perspective that is embodied in the term ‘Rainwater Management’.
- In 2002, the Guidebook also set the stage for defining water sustainability as an outcome of green infrastructure policies and practices. This followed four years later in 2006.

The Water Balance Methodology is dynamic; and it is being enhanced over time to incorporate fresh insights resulting from science-based understanding.

- A key goal is to improve the technical basis for local government decisions.
- In 2007, the Beyond the Guidebook initiative correlated the Water Balance Methodology with stream health.

In summary, the benefits of the IREI are:

- consistent with four elements: long term thinking, broad in scope, integration and collaboration;
- supports a regional approach that is built around partnerships; and
- replicable and/or transferable provincially.

Rainwater Management in a Watershed Sustainability Context

Question #11 (Innovation): *How is the IREI an innovative approach to achieving a more sustainable community??*

11. “Doing Business Differently in BC”

The vision in ‘convening for action’ is to create desirable communities and protect stream health:

- The Partnership mission is to develop tools and inform, educate, train and inspire those who do business in the local government setting.
- This is also the goal of the IREI
- Since 2007, the Partnership has a history of collaboration and a proven track record on Vancouver Island as a catalyst for change in the local government setting.
- The experience gained through the *CAVI-Convening for Action on Vancouver Island* initiative provides both the foundation and the springboard for this next bold leap forward via the IREI.
- While the Partnership may point the way to a desired future, creating change is a shared commitment on the part of all the players who share a vision for land and water stewardship.

The essence of what the Partnership has learned over the years from the CAVI experience is distilled into the following set of “mutually reinforcing” outcomes:

- ☐ Living Water Smart is the provincial **VISION** for sustainable land and water stewardship;
- ☐ **TOP-DOWN & BOTTOM-UP** collaboration between local governments and the stewardship sector is a critical success factor for “getting the local watershed vision right”;
- ☐ an over-arching **WATERSHED GOAL** is to manage the natural environment and built environment as integrated components of a healthy watershed;
- ☐ the watershed goal can be achieved by making ‘green choices’ and **DESIGNING WITH NATURE** to protect the water balance;
- ☐ inter-regional **KNOWLEDGE-SHARING**, collaboration, alignment and consistency will allow everyone to go farther, more efficiently and effectively, with implementation; and
- ☐ achieving the desired outcome is contingent on regulators, planners, developers, designers and others embracing **SHARED RESPONSIBILITY** and aligning their efforts.

The Partnership’s Key Message

If local governments and others are to be effective over time in creating liveable and desirable communities that also protect stream health, it follows that land development practices must strive to mimic the Water Balance.

The Partnership is developing the tools and sharing the examples that make it possible to mimic the Water Balance.