



the partnership
for water sustainability in bc

Drinking Water & Watershed Protection in the Cowichan Valley Regional District

Adapt to a Changing Climate

January 2023

Note to Reader:

Published under the umbrella of the Georgia Basin Inter-Regional Education Initiative (IREI), this publication is the first in the [Stories of Inter-Regional Collaboration Series](#). Each story in the series features a partner region. The emphasis is on what we have learned over the past two decades. Looking back informs how we see ahead.

The series builds on the precedent that the Partnership established with the [Watershed Case Profile Series](#) and feeds into the [Beyond the Guidebook Series](#) of guidance documents that, in turn, build on [Stormwater Planning: A Guidebook for BC](#), released by the Province of British Columbia in 2002.

ACKNOWLEDGEMENT:

Many of the photo images used in this document as backdrops for key messages were contributed by David Mackenzie, photographer extraordinaire, a Lifetime Member of the Partnership for Water Sustainability in BC.

What the Reader Will Learn

This is the first in a series of comprehensive “stories behind the stories” of inter-regional collaboration among local governments along the east coast of Vancouver Island and in the Lower Mainland region of British Columbia.

This is by no means a technical report, although it is founded on technical concepts and understanding. Neither is it written in a technical format nor a technical style. Rather, this “story behind the story” of the water sustainability mission in the Cowichan region weaves quotable quotes into a storyline that we hope readers will find enjoyable and compelling.

Through their stream-of-consciousness reflections that are transcribed from candid interviews, you will gain insight into the motivations and actions of local government thought leaders. These champions are committed to doing what is right for the **long-term common good** of their communities.

Our focus in this series is on inter-regional collaboration and how learning from each other has influenced, as well as been influenced by, initiatives and outcomes in the Cowichan region. The **‘implementation challenge’** is the driver for collaboration under the IREI umbrella.

A goal is to ‘get it right’ in stream channels and on the land draining to them. The challenge is to move from stop-gap remediation of problems to long-term restoration of properly functioning creeksheds in settlement areas. Success depends on passing the “intergenerational baton” from one administration to the next.

Know your history. Understand the context. Build on experience. Collaboration at all levels would help everyone better deliver on policy goals and regulatory requirements. Inter-regional collaboration helps the champions in each region understand what other regions are doing, what works, and what does not.

This “story behind the story” is unlikely to be a best-seller or even read widely. However, our hope is that it will have lasting value as a legacy resource for those who wish to understand the past and build on experience and turn the wheel, not reinvent it. At the end of the day, if the Partnership did not tell the story of the ongoing “convening for action” process, who would?



*Kim A. Stephens, MEng, PEng, (non-practising)
Executive Director
Partnership for Water Sustainability in BC
January 2023*



Georgia Basin Inter-Regional Education Initiative (IREI)

Educational Goal

Build practitioner capacity within the local government context to implement the whole-system, water balance approach known as ***Asset Management for Sustainable Drainage Service Delivery***

Mandate: Provide value through collaboration and partnerships.

Acknowledgments

The Partnership for Water Sustainability gratefully acknowledges the financial support of the Real Estate Foundation of BC, as well as financial support provided by the Province of British Columbia through both the Ministry of Municipal Affairs and Union of BC Municipalities, and by the federal government through the Federation of Canadian Municipalities.



About the Partnership for Water Sustainability

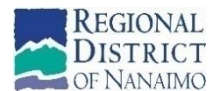
The Partnership for Water Sustainability in British Columbia has its roots in government – local, provincial, federal. Incorporation of the Partnership as a not-for-profit society, on November 19th 2010, was a milestone moment.

*The Partnership had evolved from a technical committee in the 1990s, to a “water roundtable” in the first decade of the 2000s, and then to a legal entity in 2010. Incorporation enhanced the capabilities of the Partnership to develop tools and resources, and facilitate peer-based learning, to sustain implementation of the vision for **Living Water Smart in British Columbia**.*

*The Partnership vision is to build **bridges of understanding** and pass the baton from the past to the present and future. To bring the intergeneration vision to fruition, the Partnership is growing a network in the local government setting, which encompasses both government and stream stewardship sectors. This network embraces collaborative leadership and **intergenerational collaboration**.*

The Partnership believes that when each generation is receptive to accepting the inter-generational baton and embracing the wisdom that goes with it, the decisions of successive generations will benefit from and build upon the experience of those who went before them.

Five regional districts have endorsed the IREI thru Board Resolutions



CVRD



Making a difference...together



TABLE OF CONTENTS

DWWP in the Cowichan Region

Executive Summary	Synopsis for Busy Reader
Part A	Inter-Regional Context for the Cowichan Water Sustainability Story
Part B	A Window into the Cowichan Water Journey
Part C	Convening for Action from 2006 thru 2011
Part D	Convening for Action from 2012 thru 2017
Part E	2018 Referendum and First Decade of DWWP Implementation

A Guide for the Busy Reader

DWWP in the Cowichan Region

Chapters in the Storyline	THIS IS A STORY, NOT A REPORT. THE FORMAT FOR TELLING THE STORY IS ALTERNATING PAGES OF TEXT AND VISUALS.
Synopsis for Busy Reader	<p>The Executive Summary provides a high-level overview of the Cowichan Water Sustainability Journey. It is written for the extremely busy who just wants to understand “what I need to know” about the story of the Drinking Water & Watershed Protection (DWWP) Program.</p> <p><i>Each of the “five parts” is distilled into two pages. A synthesis page plus an accompanying image page bring to life a key message for each part.</i></p>
Inter-Regional Context for Cowichan Water Sustainability Story	Part A establishes context and primes the reader for what follows in the next four parts. It delves into why the IREI is a unique mechanism for collaborative leadership and elaborates on how this plays out through a regional team approach.
A Window into the Cowichan Water Journey	Part B sets the stage for Parts C, D and E. To achieve this, it starts with the context for judging progress, follows with a perspective on the art of the possible for water sustainability, moves into a discussion about delegating responsibility to local communities, and concludes with the genesis for the DWWP.
Convening for Action from 2006 thru 2011	Part C traces the early history that propelled inter-regional collaboration. It interweaves anecdotes that provide insight into the contributions by CVRD and other Cowichan region local governments that create momentum for collaboration.
Convening for Action from 2012 thru 2017	Part D describes how the Cowichan region has benefitted from and influenced inter-regional collaboration. It weaves a story that illustrates how water sustainability issues have been elevated over time through CVRD participation in the IREI.
2018 Referendum and First Decade of DWWP Implementation	Part E provides an insider’s view of how the “process for change” is unfolding in the Cowichan region. It starts with the 2018 referendum and concludes with a preview of inter-regional priorities in the years ahead. Part E is built around “reflections from the heart” by key players in the DWWP story.

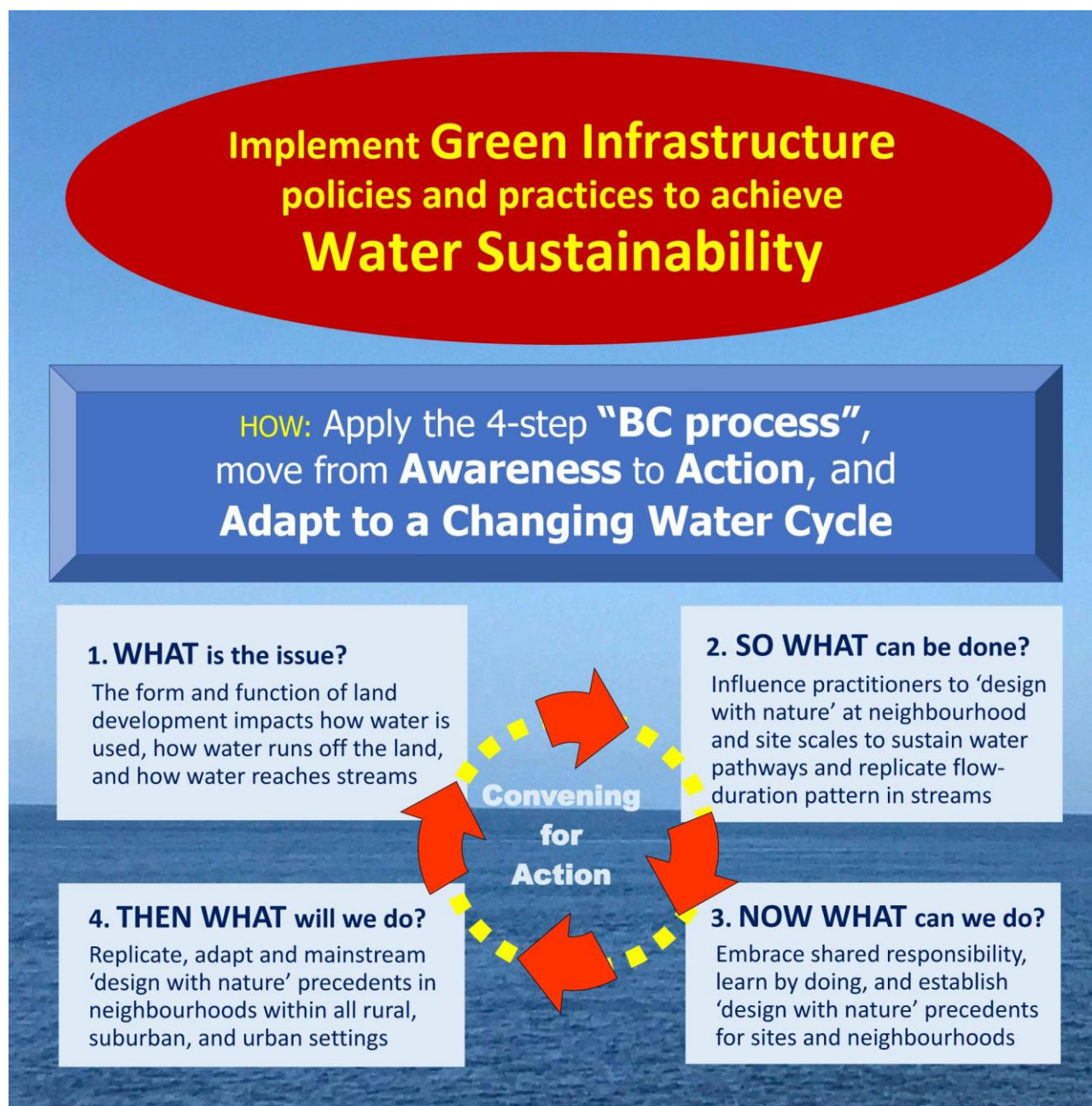
EXECUTIVE SUMMARY

Synopsis for the Busy Reader



The Executive Summary provides a high-level overview of the Cowichan Water Sustainability Journey and how it has been influenced by, as well as influenced, inter-regional collaboration. It is written for the extremely busy who just wants to understand “what I need to know” about the story of the Drinking Water & Watershed Protection Program.

Figure ES1 – Convening for action requires patience



Source: Figure 9 in *Beyond the Guidebook 2010: Implementing a New Culture for Urban Watershed Protection and Restoration in British Columbia*, June 2010

Implement Green Infrastructure policies and practices to achieve Water Sustainability

Look Back to Look Ahead

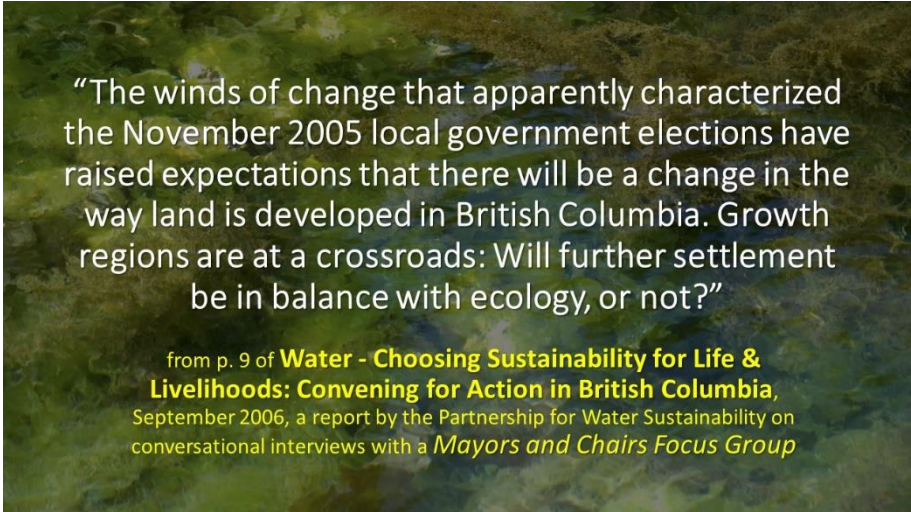
British Columbia has long been ahead of the game in linking green infrastructure practices to desired water sustainability outcomes. This reflects an understanding of the critical role played by soil, vegetation, and trees in an absorbent landscape.

To adapt to a changing water cycle – **the new reality** - soil depth as an ‘absorbent sponge’ is a primary water management tool, during both dry-weather and wet-weather periods. Less water runs off when it rains. During periods of drought, this means that less water is needed for irrigation and there is more streamflow to sustain aquatic habitat.

2006 Mayors and Chairs Focus Group

“A distinguishing feature of the focus group was that everyone had thought about how to achieve environmental, economic and social objectives through a community’s infrastructure choices.”

Ray Fung, Chair (2008-10)
Green Infrastructure
Partnership



“The winds of change that apparently characterized the November 2005 local government elections have raised expectations that there will be a change in the way land is developed in British Columbia. Growth regions are at a crossroads: Will further settlement be in balance with ecology, or not?”

from p. 9 of **Water - Choosing Sustainability for Life & Livelihoods: Convening for Action in British Columbia**, September 2006, a report by the Partnership for Water Sustainability on conversational interviews with a *Mayors and Chairs Focus Group*

Convening for action requires patience

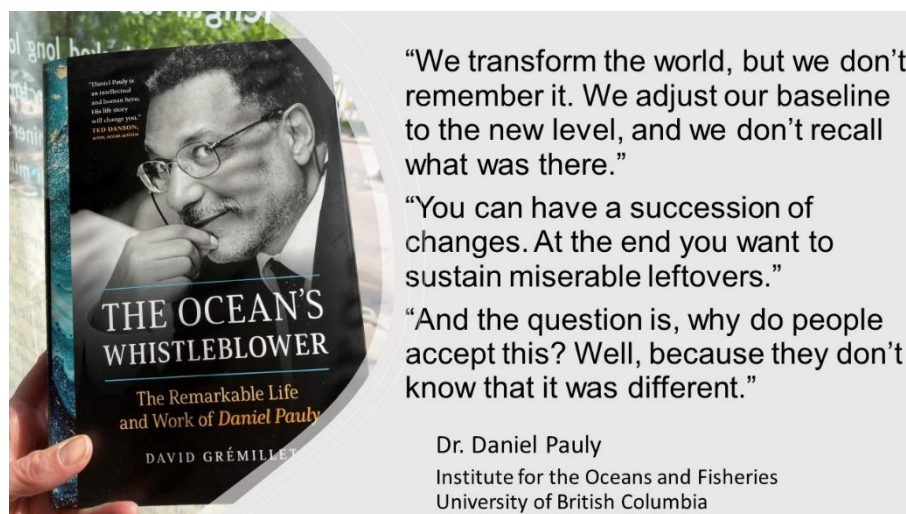
Figure ES1 synthesizes the Partnership’s 4-step process for inter-regional collaboration. This is a road map for ‘convening for action’. The process addresses the need for adaptation and illustrates “how we will get there”. Two decades ago, BC communities began the transition from SO WHAT to NOW WHAT. The reality is that it takes time.

Two foundational concepts underpin the 4-step process. They are the **Shifting Baseline Syndrome** and **Design with Nature** paradigms which were developed by Dr. Daniel Pauly and Dr. Ian McHarg, respectively. These are described next.

Shifting Baseline Syndrome: *Bend the Curve*

Every generation is handed a world that has been shaped by their predecessors – and then seemingly forgets that fact. In a short-but-influential paper published in 1995, legendary UBC fisheries scientist Daniel Pauly argued that this blind spot meant scientists were failing to account fully for the slow creep of disappearing species.

Each generation accepted the depleted ocean biodiversity they inherited as normal, he stated. He coined this effect as the **shifting baseline syndrome**. Since then, the shifting baseline effect has been observed far more widely than the fisheries community – it takes place in any realm of society where a baseline creeps imperceptibly over generations. It has influenced the [Water Sustainability Action Plan](#).

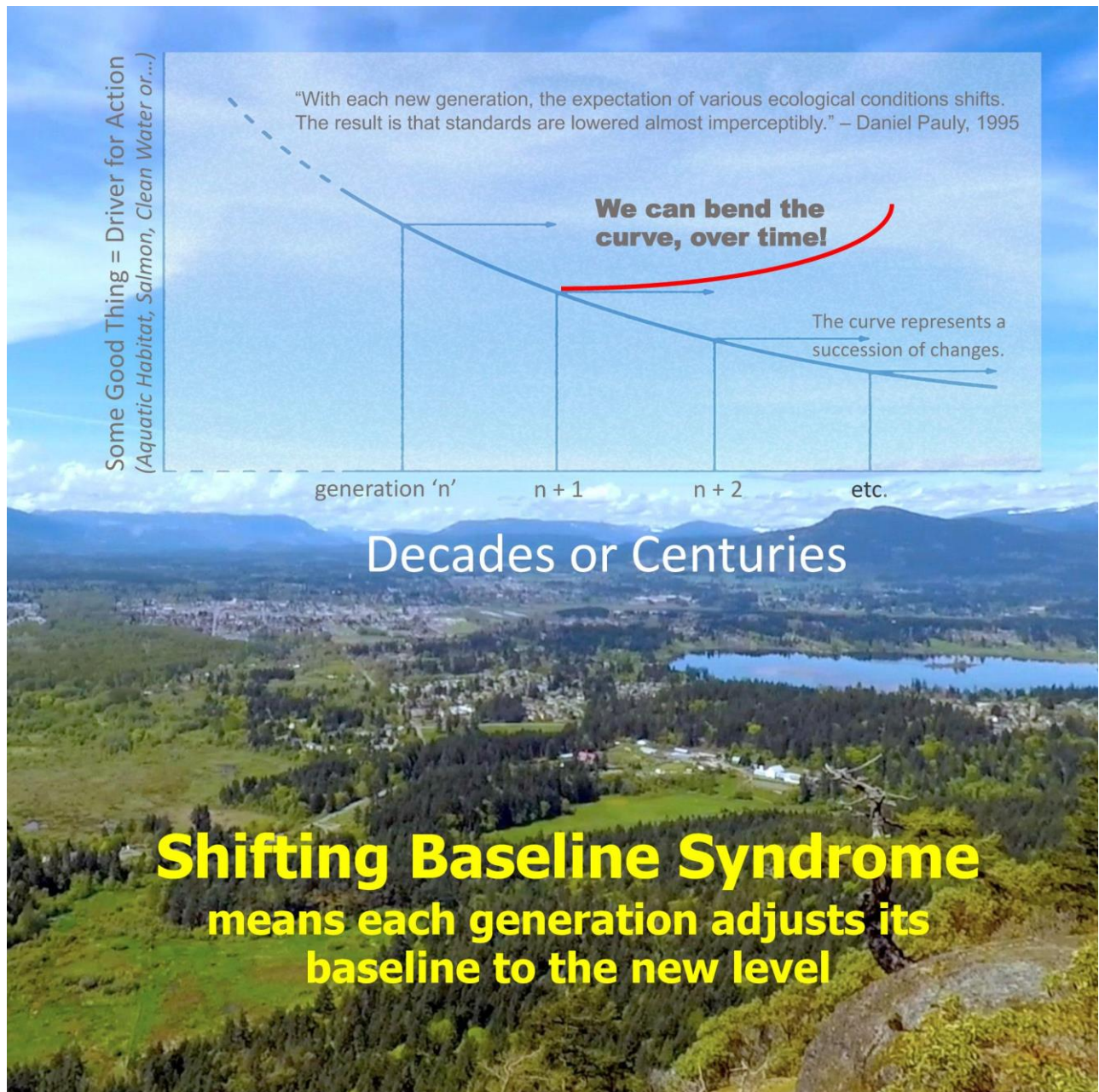


A British Columbia example of a Shifting Baseline: Riparian Ecosystems reduced to Riparian Zones

A common history of land use (settlement) on the east coast of Vancouver Island and in the Lower Mainland has been the fragmentation of the riparian network in both rural and urbanizing landscapes. Riparian ecosystems (networks) have become reduced to riparian zones and stream function has been lost.

"We can recreate the past. Seeing examples of what the past looked like enables people to re-set their baseline," stated Daniel Pauly during his TED Talk in 2010. His explanation of the Shifting Baseline Syndrome helps make the case for "Design With Nature" to develop land differently and thus **bend the curve** as illustrated on **Figure ES2**. Getting there requires patience, time, and sustained commitment.

**Figure ES2 – *Shifting Baseline Syndrome* makes the case for
'Design With Nature' to Bend the Curve Upwards**



“Design With Nature” framework for integrating across infrastructure systems

In 2005, the Green Infrastructure Partnership framed a “made in BC”, **Design With Nature** approach to community development by defining six objectives listed in **Figure ES3**. This definition is a system lens. It embraces yet at the same time transcends engineered infrastructure to provide a comprehensive view.

“When we refer to designing with nature, we are borrowing from Ian McHarg and the title of his 1969 book. *Design With Nature* remains one of the best-selling books ever written by a designer. We are consistent with what McHarg intended in terms of ecological planning and letting the landscape inform development,” explains Ray Fung, Past-Chair (2008-2010) of the BC Green Infrastructure Partnership. Ray Fung is also a founding member of the Partnership for Water Sustainability.

Design With Nature and Climate Adaptation

Ian McHarg is described as the most influential landscape architect of the twentieth century. His *Design With Nature* vision, more manifesto than scholarly text, has for two decades influenced implementation of British Columbia’s Water Sustainability Action Plan.

“On the 50th anniversary of its publication, one is struck by the durability of McHarg’s ideas and the parallels between the ecological crisis and resultant activism of his era, and those of the contemporary moment we now find ourselves in - one defined by global climate change,” wrote Billy Fleming, the lead member of four University of Pennsylvania co-authors, in a reflective article published in June 2019.

“Designing with nature captures the essence of climate change adaptation. Adaptation is about responding to the changes that will inevitably occur. Adaptation is at the community level and is therefore about collaboration.”

Ray Fung, 2007

“Man is that uniquely conscious creature who can perceive and express. He must become the steward of the biosphere. To do this, he must design with nature.”

Dr. Ian McHarg (1920-2001) - renowned landscape architect, writer, educator, “father of GIS”, and author of **Design With Nature**, the transformational textbook first published in 1969

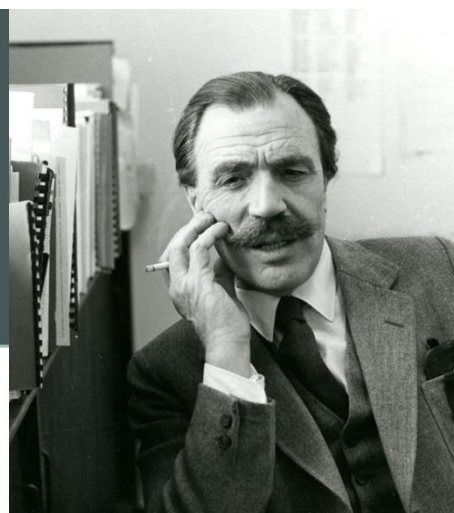
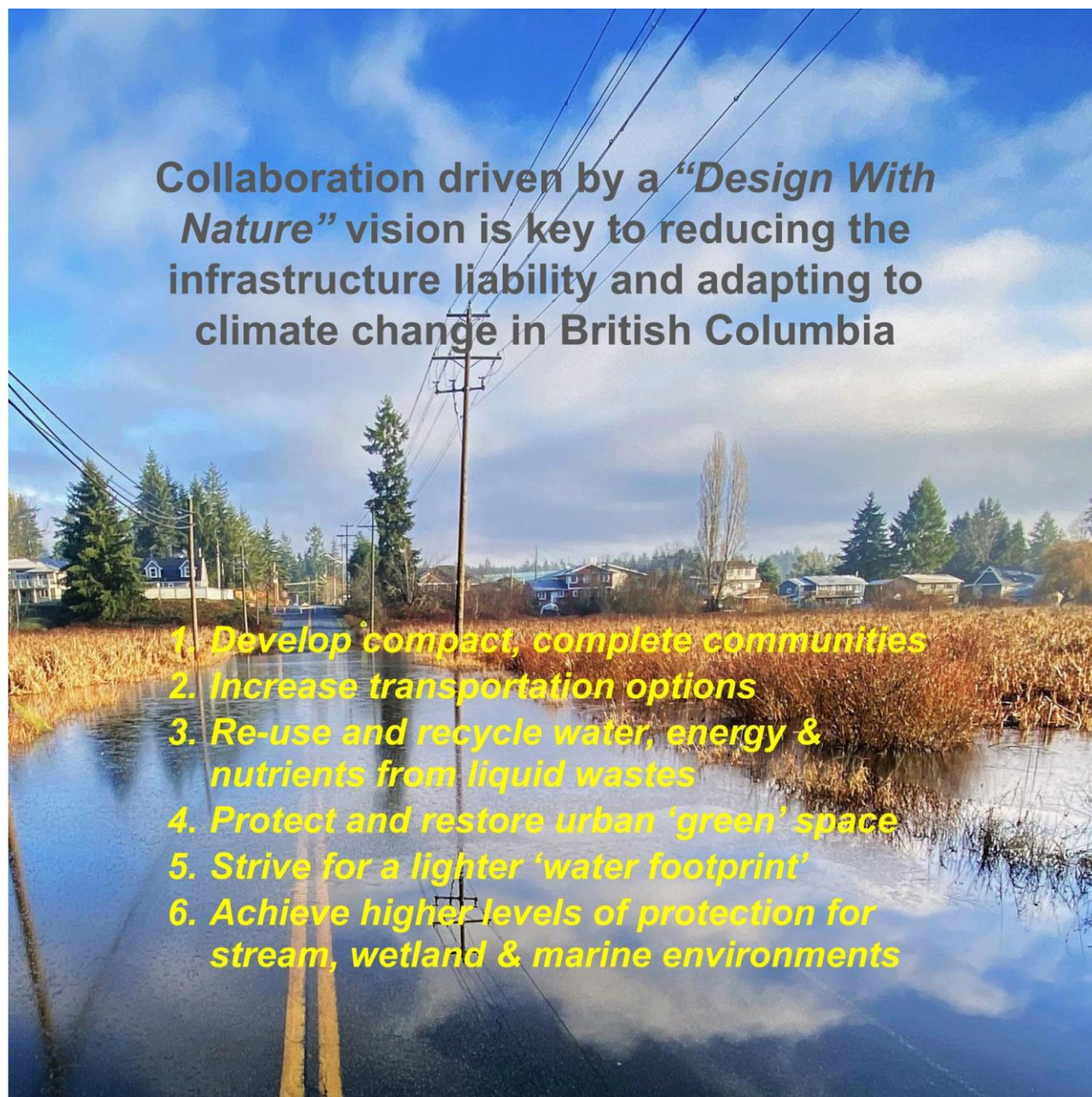


Figure ES3 – “Design With Nature” framework for integrating across infrastructure systems

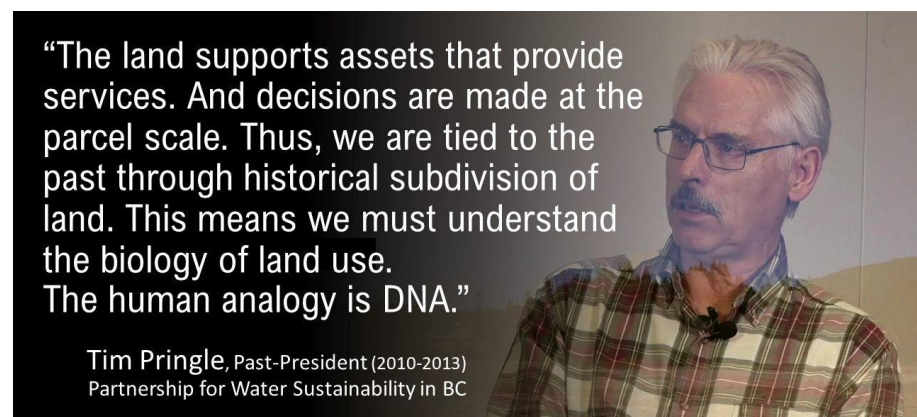


Source: *The Green Infrastructure Partnership: Convening for Action in British Columbia, July 2005 Progress Report*

What we learned though “convening for action” on Vancouver Island

Tim Pringle, a founding Director of the Partnership, is one of the architects of the [Convening for Action in British Columbia](#) initiative. He reminds us of this guiding principle for the “Design With Nature” paradigm - **use and conservation of land are equal values**.

Figure ES4 captures Tim Pringle’s observations of what local governments can learn from the “convening for action” experience of the Cowichan and partner regions. His observations provide the reader with an over-arching perspective of the narrative that follows.

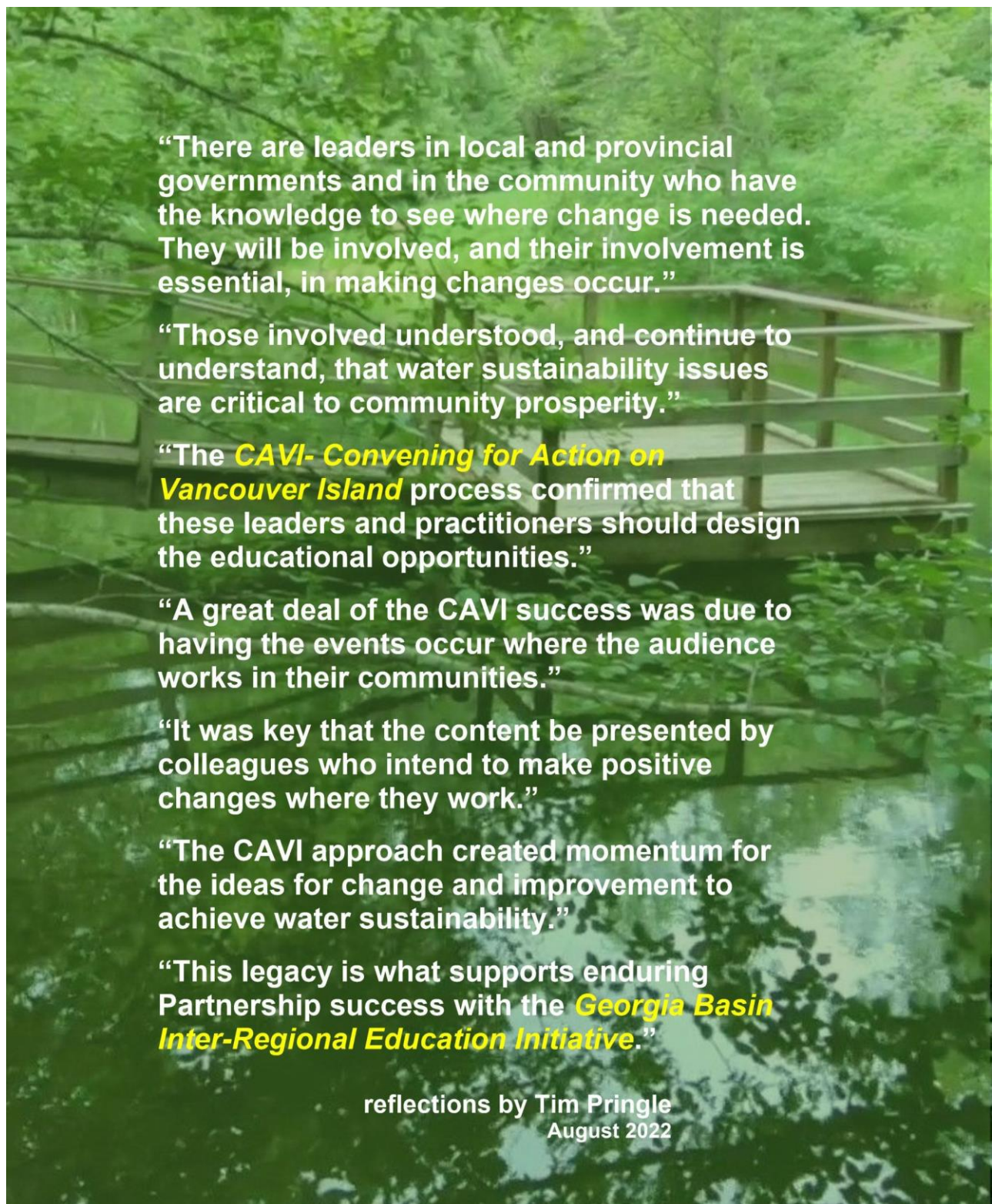


Develop differently means change the land ethic

Below is a road map for the narrative in this Executive Summary and for the five “parts” of the Cowichan storyline. The umbrella theme for the set of key messages is that a community’s “land ethic” ultimately determines whether there will be impacts or benefits for water.

Theme		Key Message
A	Inter-Regional Context for the Cowichan Water Sustainability Story	Collaborative leadership powers inter-regional collaboration
B	A Window into the Cowichan Water Journey	Inter-generational collaboration means build on knowledge, experience, and wisdom
C	Convening for Action from 2006 thru 2011	Regional team approach is founded on collaboration and partnerships
D	Convening for Action from 2011 thru 2017	Regions are at different points of understanding along the watershed health continuum
E	2018 Referendum and First Decade of DWWP Implementation	It is important to get the process right to get the right outcome

Figure ES4 – What we learned through “convening for action” on Vancouver Island



Part A - Inter-Regional Context for the Cowichan Water Sustainability Story

Collaborative Leadership powers Inter-Regional Collaboration

Collaborative leadership uses the power of influence rather than positional authority to engage and align individuals and organizations within a network; and deliver results across organizational boundaries. Context is everything. Thus, Part A paints a picture of what **Inter-Regional Collaboration** looks like in the Georgia Basin.

The Cowichan region is an important contributor in a multi-decade, shared journey. **Figure ES4** introduces key elements of a process for pushing boundaries and building inter-regional capacity through Collaborative Leadership. The journey in the Georgia Basin is ongoing.



“Water is a great metaphor for collaborative leadership. It is life giving. It nurtures. It flows and changes shape. It can be liquid, ice or steam. It overcomes obstacles with its constant presence; moving over, around or wearing down. One drop among many.”

Dr. Kathy Bishop

associate professor in the School of Leadership Studies, Royal Roads University

Inter-Regional Collaboration Helps Everyone

In light of a changing climate, local governments in the Georgia Basin have been struggling for the best part of two decades with the question of how best to move forward on three priorities: **Watershed Health, Rainwater Management** and **Sustainable Service Delivery**.

This quandary leads to an ‘implementation challenge’. This is the driver for inter-regional collaboration that helps everyone better deliver on policy goals and regulatory requirements. Inter-regional collaboration helps those who are managing change in each region understand what other regions are doing, what works, and what does not.

Figure ES4 – Mind Map for Collaborative Leadership



Part B - A Window into the Cowichan Water Journey

Inter-Generational Collaboration means Build on Knowledge, Experience and Wisdom

Look back to see ahead. Part B tells the story of the **Cowichan Water Journey** through the lenses of two of the CVRD's longest serving elected representatives and staff members. Part B is broad-brush in painting a picture of the past three decades.

Part B is the bridge to Parts C, D and E which elaborate on defining moments and building blocks during the period 2006 through 2023. Since 2006, the **“water baton”** has been handed from one administration to the next over five election terms and three CAOs.

Reflections by Kate Miller in **Figure ES5** provide insight about the foundation for intergenerational collaboration in the Cowichan region.



“My underlying message is that we are leaving the community with hope, and we are giving the new politicians hope, that we have a strategic plan which is designed to be efficient and effective in utilizing extremely limited dollars, to the best capacity, to make better decisions.”

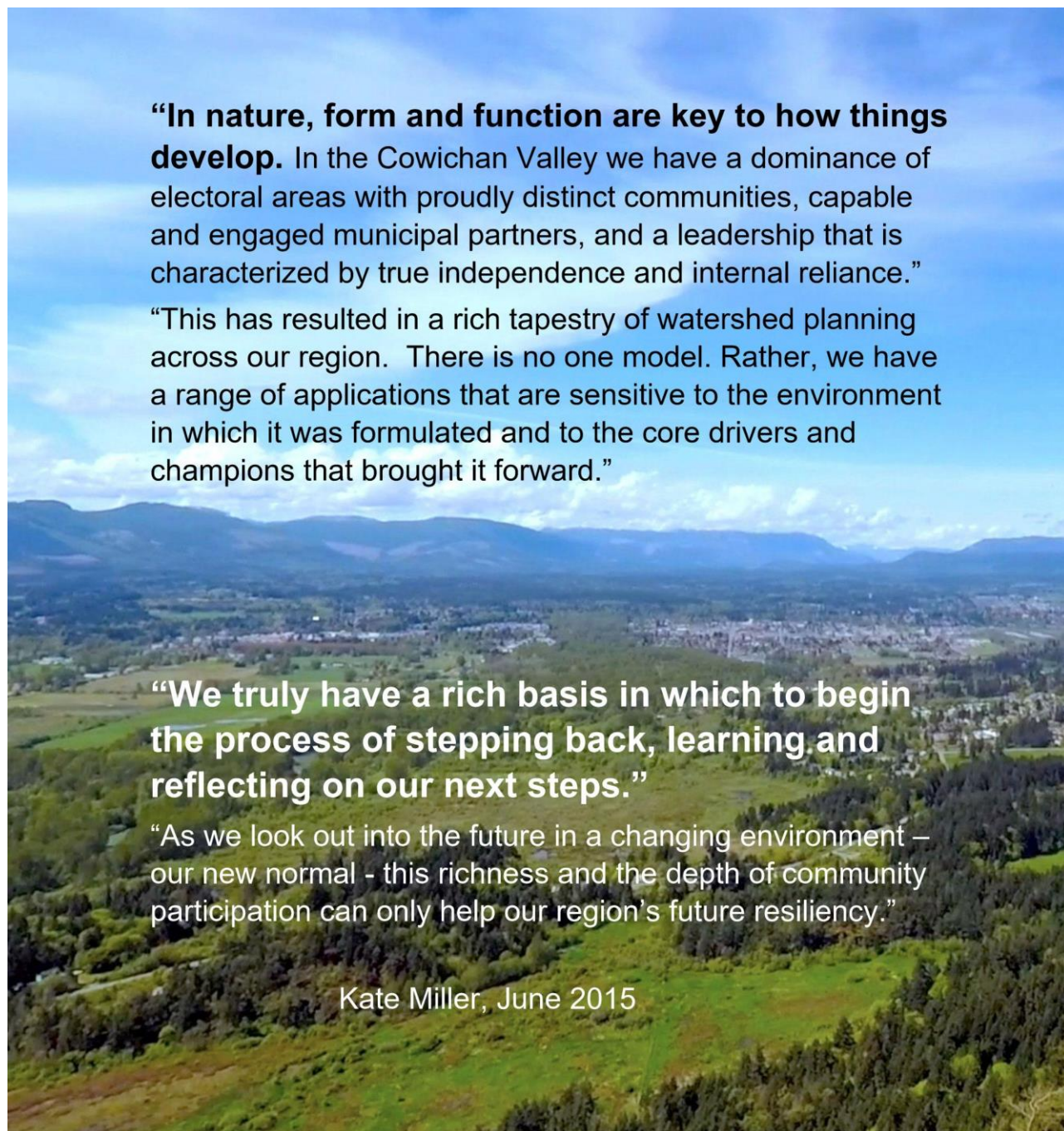
Kate Miller, Manager of Environmental Services
Cowichan Valley Regional District

Future Resiliency of the Cowichan Region

The influence of the **“Our River, Our Future Symposium”**, held in 1995, has rippled through time. It set in motion the processes that led to development of the **Cowichan Basin Water Management Plan**. Issues and concerns that were the catalyst for the 1995 forum are front-and-centre three decades later, and with heightened urgency.

The Cowichan experience reminds us that the **journey must be measured in terms of decades** rather than years. One can only realistically judge progress by looking back to assess how far one has travelled. Hence, essential ingredients for mission success are intergenerational commitment and oral history. They go hand in hand.

**Figure ES5 – Step Back, Learn from History,
and Reflect on Next Steps**



“In nature, form and function are key to how things develop. In the Cowichan Valley we have a dominance of electoral areas with proudly distinct communities, capable and engaged municipal partners, and a leadership that is characterized by true independence and internal reliance.”

“This has resulted in a rich tapestry of watershed planning across our region. There is no one model. Rather, we have a range of applications that are sensitive to the environment in which it was formulated and to the core drivers and champions that brought it forward.”

“We truly have a rich basis in which to begin the process of stepping back, learning and reflecting on our next steps.”

“As we look out into the future in a changing environment – our new normal - this richness and the depth of community participation can only help our region’s future resiliency.”

Kate Miller, June 2015

Part C - Convening for Action from 2006 thru 2011

Regional Team Approach is founded on Collaboration and Partnerships

The regional team approach seeks to align efforts for the **common good**. Collaboration grows from a shared vision about the future and commitment to action.

Viewed primarily through a Cowichan Valley lens, Part C is the story of the **building blocks process** that coalesced a regional team steered by Kate Miller in the Cowichan region. During the years 2006-2011, each CAVI building block was the springboard to the next defining moment in a process. In turn, CAVI was the launch pad for the **IREI**.

Figure ES6 is the branding image for the **Regional Team Approach**. As Cowichan Valley experience demonstrates, it is mission possible. Part C is a narrative, told by weaving “quotable quotes” by key players.



Doing Business Differently is Mission Possible

In February 2005, at a water conference held in the Okanagan, the Partnership announced the **Convening for Action in British Columbia** initiative. Over the next 18 months, the Partnership undertook pilot projects in the Okanagan and Metro Vancouver regions.

In September 2006, in a bold leap forward, the Partnership launched **CAVI-Convening for Action on Vancouver Island** as a demonstration initiative at an Island-wide, inter-regional scale. The Province of British Columbia and Real Estate Foundation provided multi-year funding to implement the CAVI program during the years 2006 through 2011.

**Figure ES6 – Everyone who embraces Shared Responsibility
has a role to play under a Regional Team Approach**



**MISSION POSSIBLE:
The 'regional team approach' brings together....**

The Province - *those who provide legislative framework*

First Nations – *those who connect to the land*

Local Government - *those who plan, regulate, operate, maintain, and build*

Developers - *those who build*

Stewardship Sector – *those who educate, undertake and advocate for conservation*

Agricultural Sector – *those who grow food*

Academia - *those who provide research*

As well as others!

Part D - Convening for Action from 2012 thru 2017

Regions are at different points of understanding on watershed health continuum

During the period between 2006 and 2011, the CAVI program served as a “proof of approach” for collaboration within a region. By 2012, the partner regions were primed for formal collaboration between regions to help each other move forward on the Watershed Health issue.

Figure ES7 reflects the essence of the vision for bringing together an [Inter-Regional Leadership Team](#). Each region faced implementation challenges due to the gap between awareness of what should be done versus ensuring action on the ground. Bridging the gap was the IREI focus for the 5-year period 2012 through 2017.

In 2015, the CVRD stepped up to act as co-applicant with the Partnership to secure senior government funding for the IREI program. All five Regional Boards passed resolutions of support. They did so again in 2016 with a 5-year commitment to collaboration through 2021.

Through sharing and learning, ensure that where everyone is going is indeed the right way

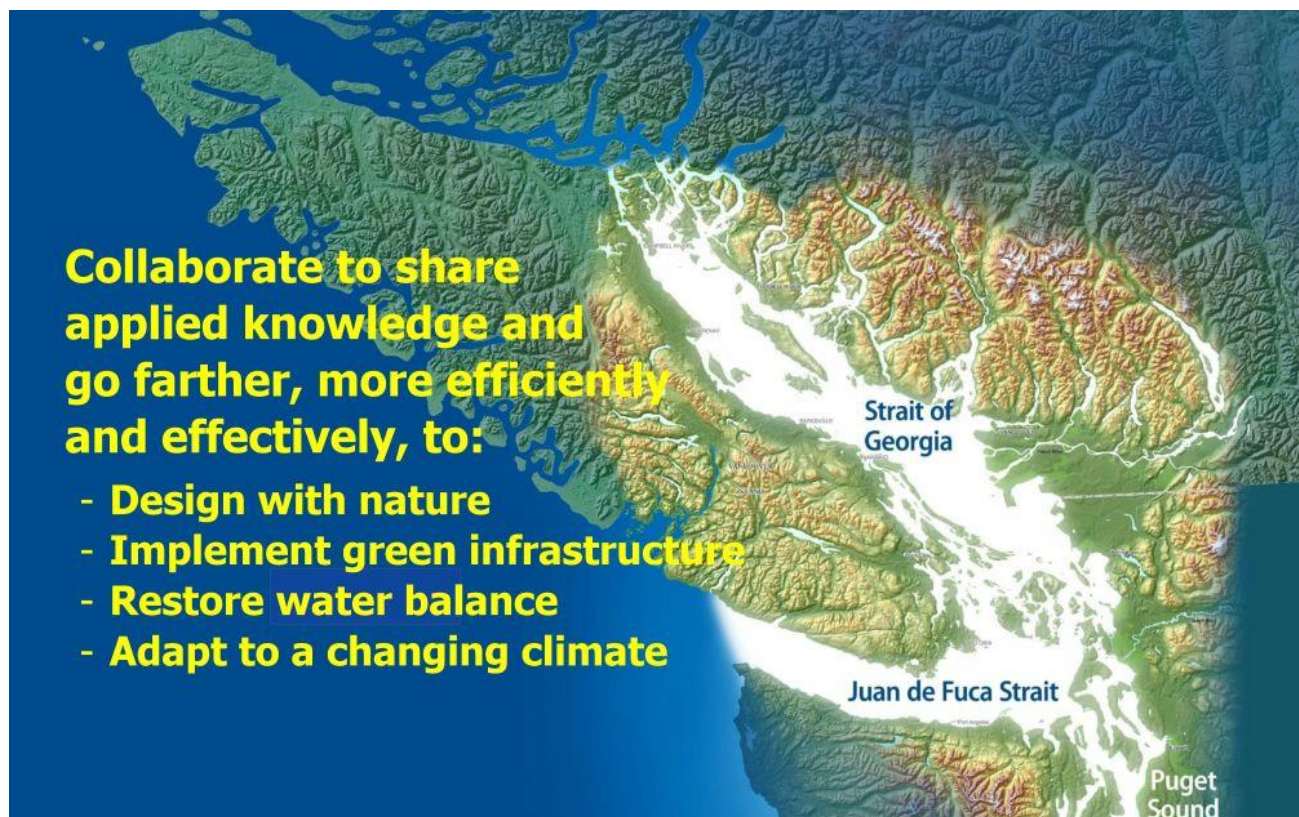
During this 5-year period, a track record of success showcased the benefits of inter-regional collaboration. This set the stage for the third phase of collaboration which is ongoing. A desired outcome, which is transformational in scope and impact, is that all local governments would learn from each other’s experience and would understand **how** natural systems support municipal services and would be able to fully **integrate** this understanding and associated methodologies into programs, planning and funding.

“The Ministry looks forward to aligning efforts with the Partnership. 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.”

wrote Cairine MacDonald, Deputy Minister of Environment,
in a letter to the Partnership (September 2012)



Figure ES7 – Within the Georgia Basin eco-region, inter-regional sharing and peer-based learning helps everyone move along the Watershed Health Continuum



Part E - 2018 Referendum & First Decade of DWWP Implementation

It is important to get the process right, to arrive at the right outcome

In October 2018, Cowichan electors passed a referendum, by a decisive 58% in favour, to implement the [Drinking Water & Watershed Protection](#) regional service. This watershed moment resulted from a change in direction in 2015 when CVRD moved away from the concept of a regional water authority.

The DWWP service addresses longstanding surface and groundwater concerns. Implementation, however, is proceeding more slowly than anticipated. This is due to multiple competing demands which result in shifting priorities. Emergency management, for example, is an overarching issue due to a pattern of one extreme weather event after another – droughts of unprecedented durations, a record-smashing heat dome, and flooding induced by massive atmospheric rivers.

Poised for Action

Constructed over decades, the DWWP foundation is solid. Powered by collaboration, the DWWP is the platform for a building blocks process that is ongoing....to achieve the Cowichan region's water sustainability mission. "What we really want at the end is success. To understand where we are now helps us understand where we have been, and to be clear about where we want to go. The communities have been with us all the way through this process," states Kate Miller.

Context

"We worked so hard to get the DWWP established. We put our hearts and souls into getting the referendum passed so that the DWWP would be in place for the future of the region."

Brian Carruthers, 2022

"History is important. It is important to understand how we got to where we are. And we need to celebrate that work. So, the foundation the DWWP has provided for the region as a whole, and the impetus it has provided, has allowed CVRD staff to evolve and to continue to grow and do good work."

Brian Carruthers, former CAO

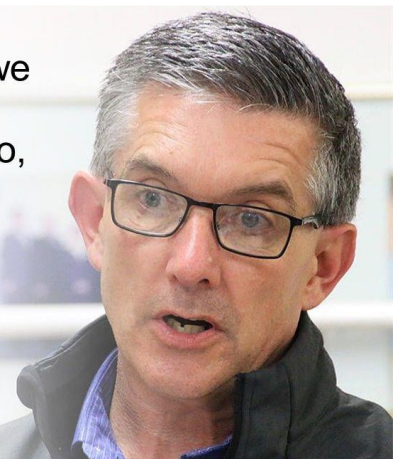
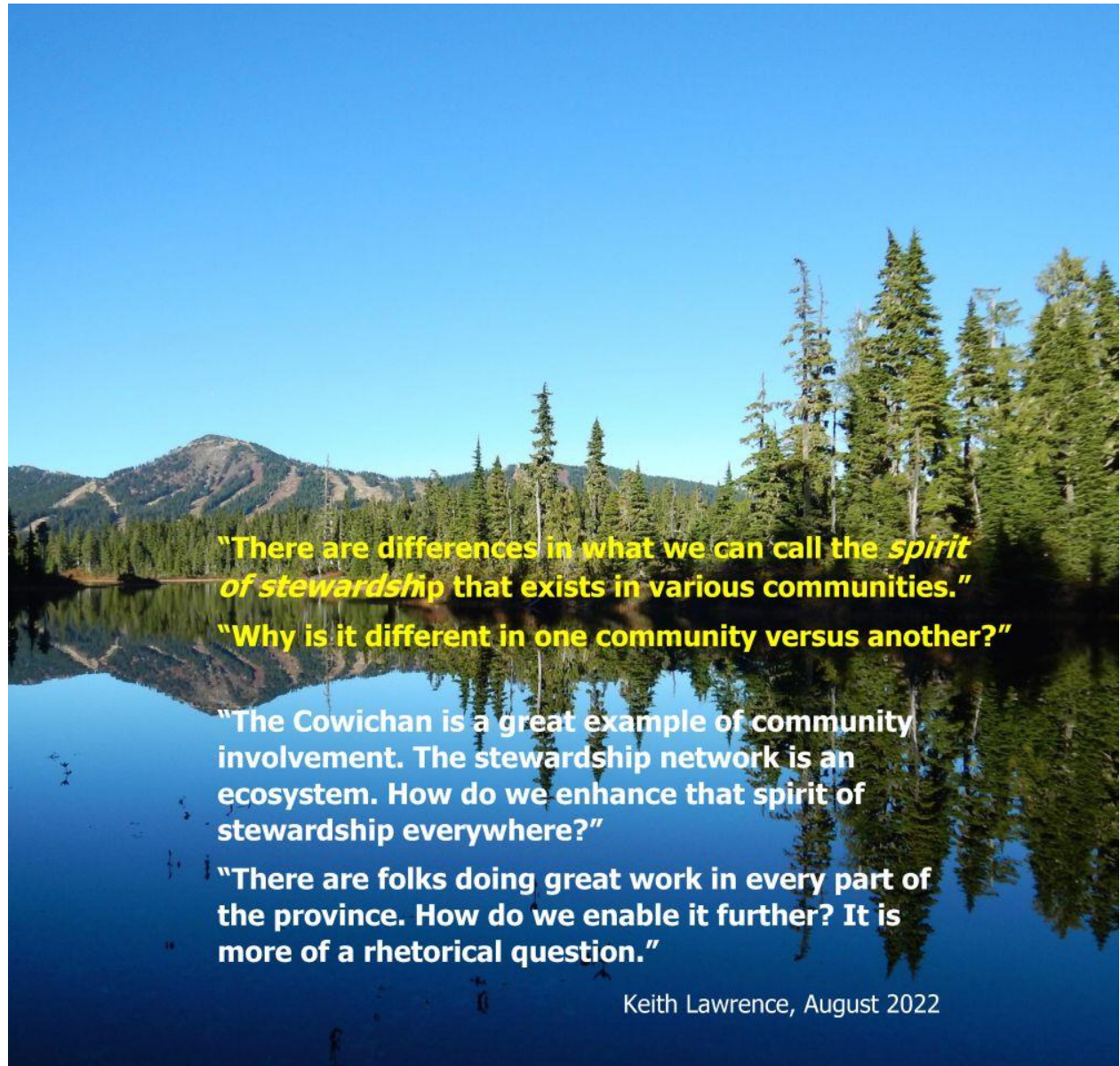


Figure ES8 – Collaboration taps into the passion and ingenuity of volunteers who are driven by commitment



This page intentionally left blank

PART A

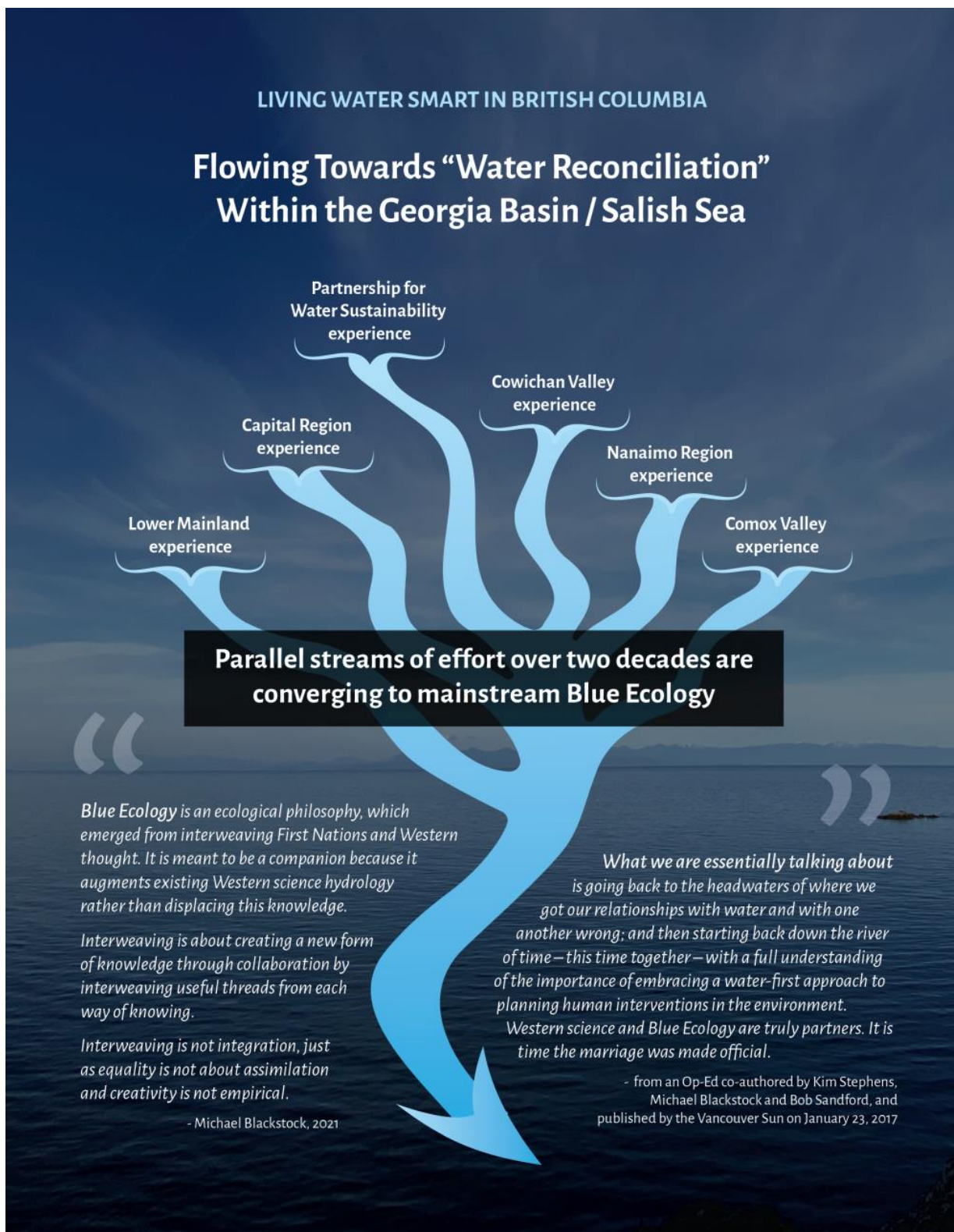
Inter-Regional Context for the Cowichan Water Sustainability Story



To provide the reader with an over-arching understanding that then establishes context and insight for the four parts that follow, this Part A is structured in four segments:

- 1. Georgia Basin Inter-Regional Initiative,
a unique mechanism for collaborative leadership**
- 2. Towards a Watershed Health Legacy
in the Georgia Basin**
- 3. ‘Design With Nature’ going forward**
- 4. Regional Team Approach**

Figure A1



1. Georgia Basin Inter-Regional Initiative, a unique mechanism for collaborative leadership

Flowing Towards “Water Reconciliation”

There is no formal mechanism to enable or facilitate inter-regional collaboration in British Columbia. For the past decade, the Partnership has filled this gap in the southwest corner of the province, where 75% of the population lives, through the [Georgia Basin Inter-Regional Education Initiative \(IREI\)](#).

Launched in 2012, the IREI facilitates peer-based education among local governments located on the east coast of Vancouver and in the Lower Mainland. In 2016, five Regional Boards – **Cowichan Valley**, Nanaimo Region, Comox Valley, Capital Region, and Metro Vancouver - recommitted through 2021 to support inter-regional collaboration.

Parallel Streams of Effort

Figure A1 conceptualizes parallel streams of effort over two decades in the five partner regions. With this document, we are setting the stage for handing off the inter-generational baton in conjunction with a reinvigorated commitment to inter-regional collaboration.

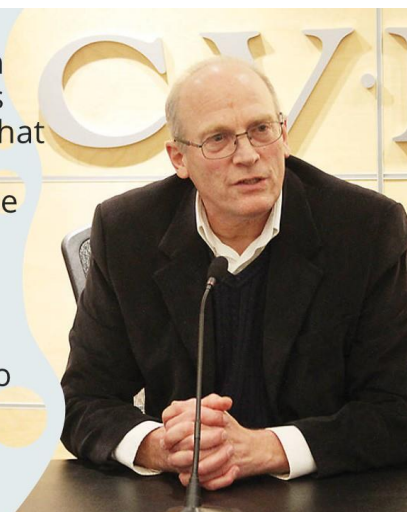
The IREI is nested within the [Water Sustainability Action Plan](#) which, in turn, is nested within [Living Water Smart](#). Cascading is the reverse way to think about this nesting concept. Each successive layer in the cascade adds depth and detail to enable the **move from awareness to implementation** – that is, action.



*2022, the 10th
anniversary of the IREI*

“Local government collaboration under the umbrella of the IREI is producing tools and resources that will help communities integrate watershed systems with land use and infrastructure decisions. There is no reason for any of us to re-invent the wheel. We are sharing and learning from each other. Collaboration is leading to precedents for getting it right.”

Jon Lefebure, Past-Chair,
Cowichan Valley Regional District, 2017



Focus on Context, Intent and Results

Watershed Health, Rainwater Management and **Sustainable Service Delivery** have been related priorities for communities on the east coast of Vancouver Island and in the Metro Vancouver region for the best part of two decades, and in some cases longer.

Furthermore, local governments have for years been struggling with the question of how best to move forward on these priorities, particularly in light of a changing climate and community expectations to provide higher levels-of-service at reduced levels-of-cost.

The **‘implementation challenge’** is the driver for collaboration under the IREI umbrella. Collaboration at all levels would help everyone better deliver on policy goals and regulatory requirements. Inter-regional collaboration helps the champions in each region understand what other regions are doing, what works, and what does not.

‘Mind Map’ for Collaboration

The IREI program for **‘sharing and learning’** in the local government setting transitioned from the successful ‘proof of approach’ on Vancouver Island in 2012 to full-scale implementation by 2014, including Metro Vancouver.

Figure A2 conceptualizes the scope and focus of the IREI program in facilitating and aligning integration at two scales, provincial and inter-regional. Beginning in 2014, the IREI program aligned with the rollout of the three landmark provincial initiatives identified in the sidebar.

The implementation spotlight is on what does the Watershed Health Goal mean in practice, and how will it be translated into action on the ground. As defined on Figure A2, the goal is to create a legacy.

Move from Stopgap to Long-Term Solutions

A goal is to ‘get it right’ in stream channels and on the land draining to them. The challenge is to move from stop-gap remediation of problems to long-term restoration of properly functioning creeksheds.

In 2014, three landmark provincial initiatives came to fruition. Together, they provide a platform for integrated and coordinated actions.



“Sustainable and resilient are complementary terms that draw attention to the future and help focus thought and action. However, use of resilient more clearly shines the spotlight on **Context, Intent and Results.**”

Erik Karlsen (1945-2020)
former Director of Regional Growth Strategies
Ministry of Municipal Affairs

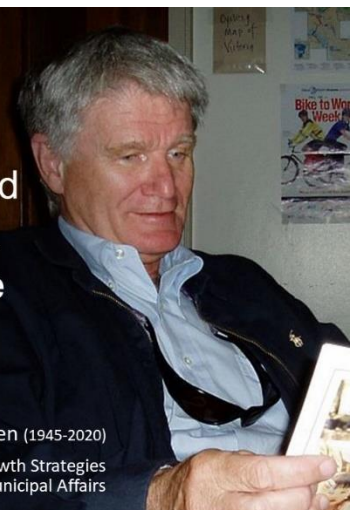
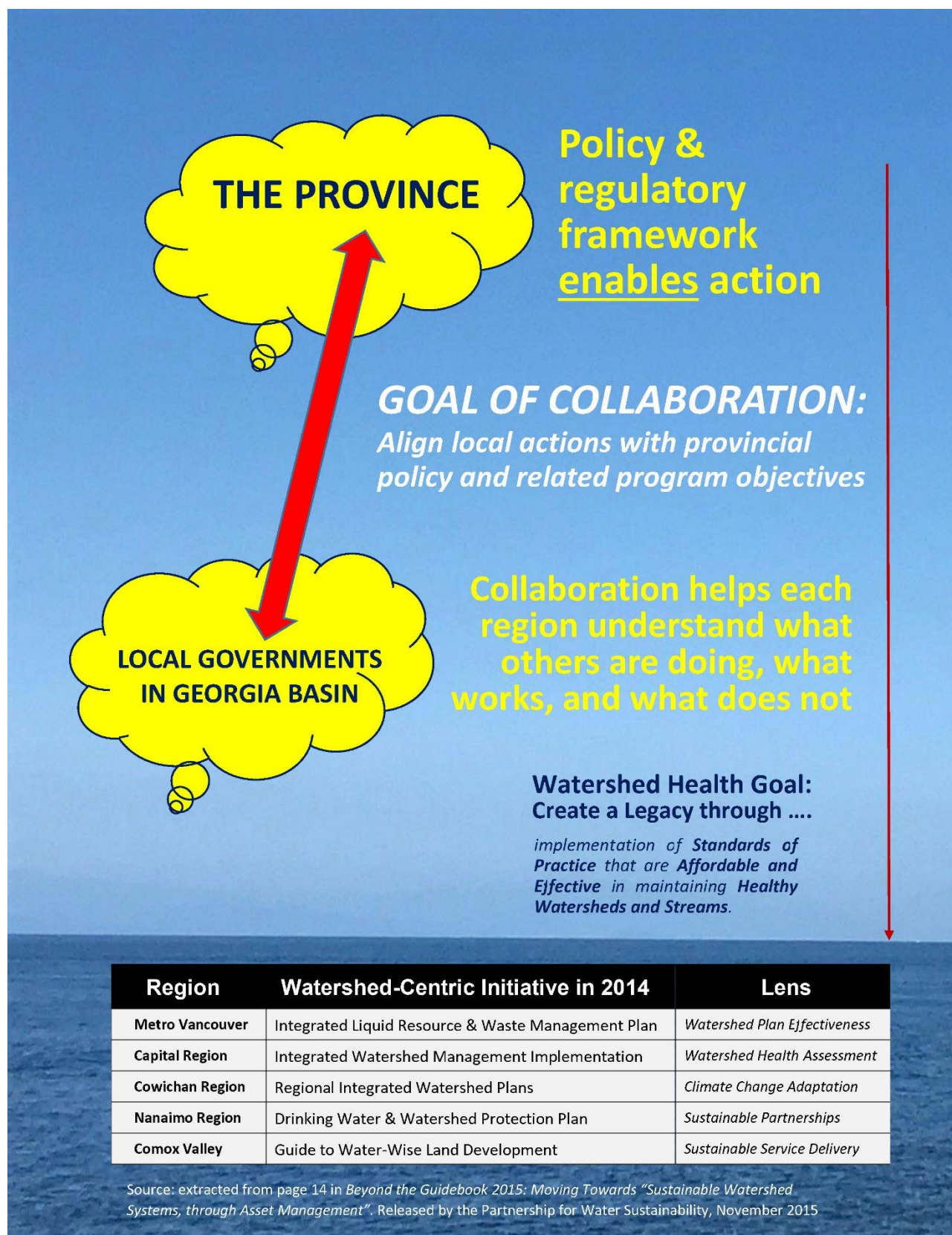


Figure A2 – Historical Context for Inter-Regional Collaboration



2. Towards a Watershed Health Legacy in the Georgia Basin

Know the History & Understand the Context

In 2012, the Partnership for Water Sustainability asked the five Regional Boards to endorse local government collaboration under the IREI umbrella; and furthermore, to support a grant application to UBCM for a “Gas Tax Fund Capacity-Building Grant”. The grant application was not successful. Nevertheless, the partners carried on because:

A goal of inter-regional collaboration is to help everyone go farther, more efficiently and effectively.

What inter-regional collaboration looks like

In 2012, each region hosted a ‘sharing and learning’ event to initiate the IREI program. Year 1 constituted the ‘proof-of-approach’ for aligning efforts and leveraging more with the same resources. 25 local governments participated.

In 2013, a group of local government champions representing the five geographic regions convened as an “inter-regional leadership team” and committed to working together to achieve this goal: **Restore and/or protect stream and watershed health**. Alignment with provincial policies was deemed to be a critical success factor.

In 2014, the partner regions hosted a series of [Inter-Regional Collaboration Sessions](#). This process aligned with each region’s priorities and individual work plans. Regions shared with, and learned from, each other. [Beyond the Guidebook 2015](#) was the deliverable.

Collaborating regions view Watershed Health Goal through complementary lenses: Together, these lenses form a complete picture. This is illustrated by **Figure A3** which expands upon the framework conceptualized as Figure A2.

Figure A3 is the mind-map that guided the program design for the 2014 Inter-Regional Collaboration Series. It shows how all the pieces fit together. It is as relevant in 2022 as it was in 2014.

The vision - create an enduring legacy

The mantra for inter-regional collaboration is framed in these terms: “Through sharing and learning, ensure that where we are going is indeed the right way.”

**Figure A3 – Towards a Watershed Health Legacy
in the Georgia Basin**





The provincial GBI pre-dated the federal initiative

“Erik Karlsen and I worked together on the federal Georgia Basin Ecosystem Initiative (GBEI) and he was instrumental in helping to shape the program and bring together many partners and interests that would not normally fall into the federal sphere.”

“There has always been a bit of confusion between GBI and GBEI, as they were developed by different governments with differing mandates. Erik was able to help mesh many of the federal programs with more local government needs to provide science and tools that could and would be used by local government to improve the Georgia Basin ecosystem.”

Bruce Kay, 2020,
(retired) Manager, Georgia
Basin Ecosystem Initiative

History-at-a-Glance

A considerable body of inter-regional work provides context and a backdrop for the “Cowichan water sustainability story”. The genesis for the IREI is the original **Georgia Basin Initiative (GBI)** in 1994. Led by the late Erik Karlsen (1945-2020), this was an initiative of the Ministry of Municipal Affairs. He was an amazing individual, and one of a kind.

Erik Karlsen’s career bridged the worlds of municipal affairs and environmental stewardship. He handed the inter-generational baton to the Partnership when he seeded the idea of the IREI as a mechanism to build on initiatives and programs that he started while in government.

“Erik Karlsen served the public interest – the public hopes and dreams for a better tomorrow, for the environment, for human communities, and for future generations – almost without equal. And, he did it with a style likely not to be seen again for a very long time.”

Joan Sawicki, a former Speaker of the BC Legislative Assembly and Minister of Environment, Lands and Parks during the period 1991 through 2001



Timeline and Milestones

It was Sir Winston Churchill who said: “The farther back you can look, the farther forward you are likely to see”. This insight provides context for **Figure A4**. The timeline identifies milestones in the building block process for inter-regional collaboration. It provides a perspective on the Partnership’s commitment to support local government champions who strive to achieve the Watershed Health Goal.

Integrate and apply science-based understanding to develop tools and establish precedents. Learn from experience to successfully implement, through collaboration, an environmentally adaptive approach to community design.

Figure A4 – History-at-a-Glance: Timeline & Milestones for Moving Towards a Watershed Health Legacy



COLOUR CODE: yellow represents a provincial government over-arching deliverable;
white represents a Partnership for Water Sustainability nested deliverable

3. 'Design With Nature' going forward

A Framework for Bridging Generations

With release of the [Water Sustainability Action Plan](#) in 2004, a 'design with nature' philosophy became an integral part of the branding for green infrastructure, rainwater management and water sustainability in BC. This borrows from the title of the seminal book by Ian McHarg, published in 1969, one of the most influential works of its kind.

Integration of two foundational concepts

In 1995, UBC's Daniel Pauly wrote a short but impactful article titled the **Shifting Baseline Syndrome**. This concept is a driver for intergenerational collaboration. Environmental baselines shift when successive generations of planners, engineers, and decision-makers do not have an image in their minds of the recent past. Pauly described how a lack of understanding plays out as a 'failure to notice change'.

In 1996, the University of Washington's Richard Horner and Chris May published seminal research that correlated land use changes with the impacts on stream condition. They identified and ranked four limiting factors in order of consequence from an ecological perspective. This ranking is the **Road Map for Protecting Stream System Integrity**.

In 2015, Erik Karlsen showed how to integrate these two foundational concepts. The matrix included as **Figure A5** is the result of his efforts. The matrix conceptualizes how local governments can operationalize the work of McHarg, Pauly, Horner and May and bend the curve upwards to restore a desired watershed and stream condition.

EAP, the Ecological Accounting Process, is the latest iteration in the "ecological integration process" initiated by Erik Karlsen.



"I set out to capture three 'states of play' as row headings: naturally functioning, degraded through lack of awareness, and going forward with science-based understanding. The cells contain the actionable points which relate to the row and column headings."

– Erik Karlsen, 2015

An example of the Shifting Baseline: riparian ecosystems have been reduced to riparian zones

"A stream in a natural condition is supported by a riparian ecosystem. A riparian zone is a fragmented portion of the riparian ecosystem in developed areas. Diminution due to fragmentation results in a loss of a riparian network's ecological services. This has become the norm because the intent of the Riparian Areas Protection Regulation has been compromised over time. This loss is what Daniel Pauly describes as a 'failure to notice change'. We must face up to this situation."

Tim Pringle, Chair
EAP Initiative

**Figure A5 – Integration of Shifting Baseline Syndrome
& Road Map for Protecting Stream System Integrity**

'Design With Nature' going forward:

The matrix illustrates how to integrate the work of Daniel Pauly (left column), Richard Horner and Chris May (top row) to apply science-based understanding & adapt to changing conditions:

From top to bottom - illustrates a watershed's progression through three stages along the Shifting Baseline (before, now and in future).

From left to right - describes the implications for each of the four Limiting Factors for stream system integrity at each stage of the progression.

		Road Map for Protecting Stream System Integrity			
		Watershed Hydrology	Riparian Corridor	Within the Stream	Quality of the Water
Shifting Baseline	Nature As It Was Before Settlement	Clean and clear water supported aquatic habitat, fish lifecycles, and community uses of streamflow	Intact corridor provided multiple functions related to water quality and beneficial nutrients	Instream gravel supported spawning; large woody debris moderated streamflow and sheltered fish	Beneficial water quality, in particular temperature, supported ecosystem functions and community uses of streamflow
	Cumulative Impacts After Development	Changes in water balance distribution resulted in erosion, degrading of habitat, drought, or flooding	Habitat removal exposed fish to interventions and resulted in multiple impacts	Streams no longer support fish lifecycles	Toxic liquid wastes destroyed habitat, killed fish, and impacted community uses of streamflow
	By Designing with Nature	Water balance approach can restore hydrologic integrity & habitat function	Restoration of riparian integrity can restore ecosystem functions	Streams can again support fish lifecycles	Source-controls can prevent toxic liquid wastes from entering streams

Matrix Creator: Erik Karlsen, 2015

Source: "Moving Towards Sustainable Watershed Systems, through Asset Management", published November 2015

Twin Pillars of Stream System Integrity

Richard Horner and Chris May had a clear message for land use and drainage practitioners: changes in hydrology, not water quality, must be the primary focus of their efforts.

In 2015, the “road map” for protecting stream system integrity evolved into the “twin pillars” concept for reconnecting hydrology and stream ecology through asset management, for the “drainage service”.

The top two consequences of **changes in land use** are:

1. short-circuiting of water balance pathways, and
2. loss of riparian integrity.

The consequences of changes to the top two factors then play out as:

3. degradation of aquatic habitat, and
4. deterioration of water quality.

The “twin pillars” of stream system integrity, conceptualized as **Figure A6**, build on this science-based understanding.

What Happens on the Land Does Matter!

The Water Balance Accounting pillar addresses “changes in hydrology” on the land draining to the stream. The Ecological Accounting pillar addresses “loss of riparian integrity” within a stream corridor.

Linkage of the two pillars would be the over-arching goal of a **Sustainable Funding Plan for the Drainage Service**. Because it determines eligibility for senior government grants, alignment with *Asset Management for Sustainable Service Delivery: A BC Framework* provides local governments with the incentive to go down this path.

Understand the Watershed as a System

For two decades, Chris May put science into practice in Kitsap County, his living laboratory for testing a hydrology-based approach at multiple scales to cope with an altered flow regime.

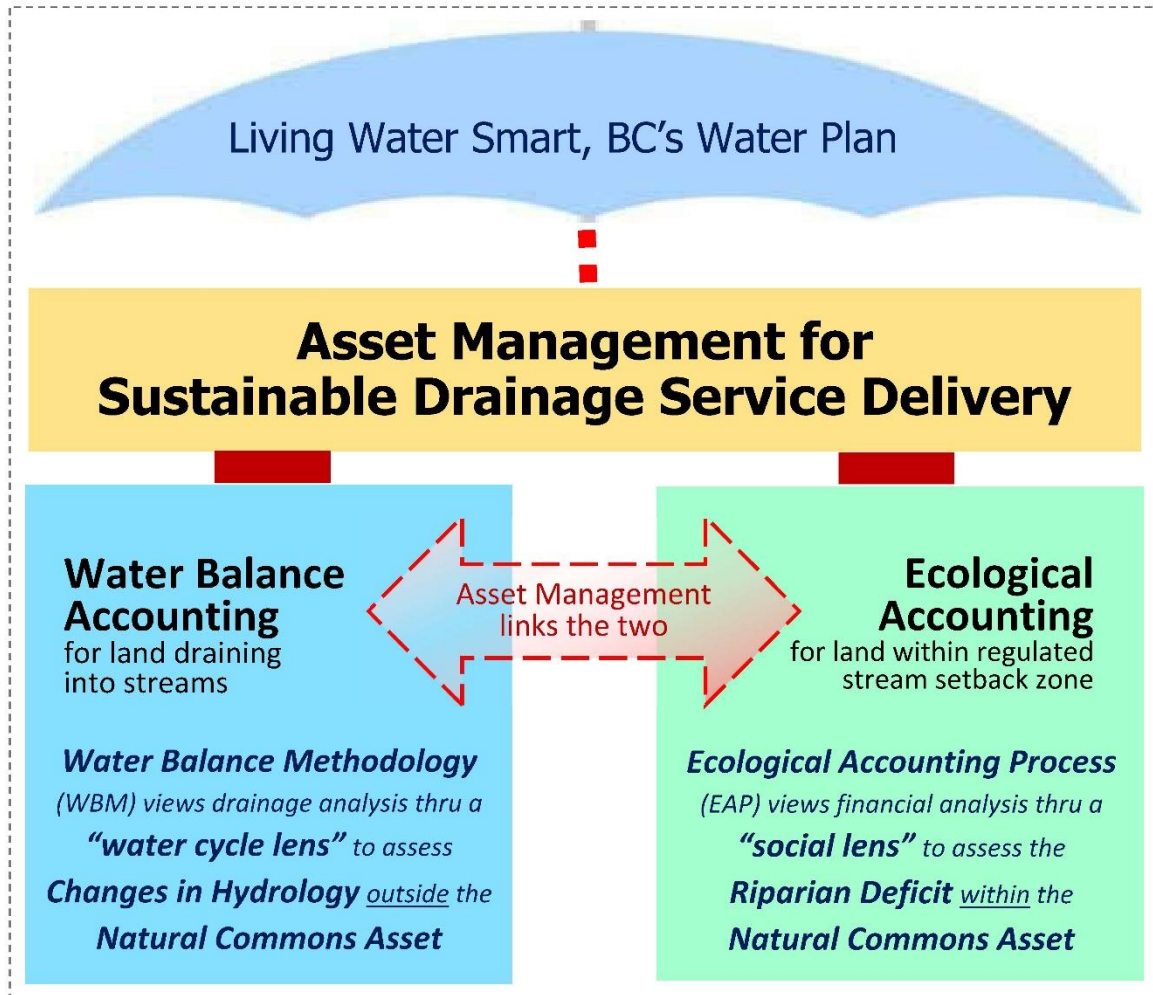


“The key is understanding the integrated significance of the three flow paths in a watershed. Unlock that key and we can successfully implement appropriate measures so that creek systems are more resilient.”

Dr. Chris May
retired Surface & Stormwater Division Director,
Kitsap County Public Works in Washington State

Figure A6

Twin Pillars of Stream System Integrity



Hydrology is the Engine that Powers Ecological Services

Source: The "road map" introduced as Figure 60 on page 156 in *Beyond the Guidebook 2015: Moving Towards "Sustainable Watershed Systems, through Asset Management"*. Released by the Partnership for Water Sustainability, November 2015

4. Regional Team Approach

The Partnership has a facilitating role on the regional team

“Operationally, the Partnership is the hub for a network that is guided by the collaborative leadership model. This approach reflects our genesis.”

“Collaborative leadership uses the power of influence to engage and align individuals and organizations to deliver results across boundaries.”

“The network holds the key to intergenerational collaboration. It is how we build bridges of understanding and pass the baton.”

“To be successful in facilitating changes in practice over the long-term, the groundwork must be done by our partners. This requires that we be aligned with and support their organizational aspirations and objectives.”

Derek Richmond, Chair, Ambassadors Program & Director, Partnership for Water Sustainability

Community Charter is Enabling Legislation

One size does not fit all. Communities are in the best position to develop solutions which meet their own unique needs and local conditions. This is the essence of the enabling philosophy behind the **Community Charter**. With this understanding as the context, the ‘regional team approach’ is founded on partnerships and collaboration.

The regional team approach seeks to align actions at three scales – provincial, regional, and local. 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.

Guiding principles for successful collaboration

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. Partnership experience is synthesized as the set of 10 guiding principles for success listed in **Figure A7**.

The IREI process involves drilling down from the vision and goals of a regional plan and exploring the ‘how-to’ details of implementation and integration. 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 landowner affects land and water sustainability.

“Insertion of the word **team** in ‘regional approach’ has a profound impact on how practitioners view their world. Team implies there is a personal commitment; it also suggests there is a game plan and a coachable context.”

Tim Pringle
Chair, Ecological Accounting Process Initiative
Partnership for Water Sustainability in British Columbia

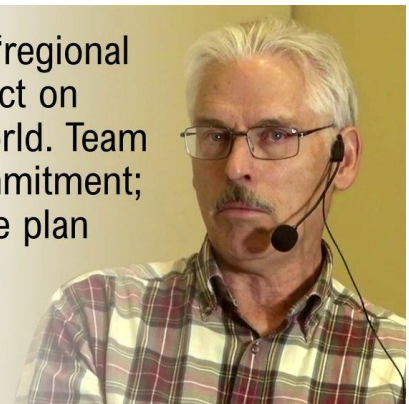


Figure A7 – 10 Principles for Success

'Convening for Action' experience shows that success will follow when local governments....

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
9. Promote shared responsibility
10. Change the land ethic for the better

Source: "Beyond the Guidebook 2010: Implementing a New Culture for Urban Watershed Protection and Restoration in British Columbia", published June 2010

Doing Business Differently

The desired future when ‘convening for action’ is to create desirable communities and at the same time 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. Creating change must be a shared commitment on the part of all the players.

Figure A8 provides the reader with valuable historical context for the regional team approach. Coupled with Figure A3, this mind-map is standing the test of time. It guided the work plan for the [2014 Inter-Regional Collaboration Series](#).

Engagement of community through stewardship

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

TOP-DOWN & BOTTOM-UP collaboration between local governments and the stream stewardship sector is a critical success factor for “getting the local watershed vision right”.

Inter-regional KNOWLEDGE-SHARING, collaboration, alignment, and consistency will allow everyone in local government to go farther, more efficiently and effectively, with implementation.

Achieving desired outcomes for protecting stream system integrity is contingent on regulators, planners, developers, designers, and others embracing SHARED RESPONSIBILITY and aligning their efforts.

Springboard to EAP: A cornerstone of collaboration, the 2014 series was followed by **EAP, the Ecological Accounting Process**. Between 2016 and 2022, the 3-stage EAP program of applied research tested, refined, and mainstreamed the EAP methodology and metrics.



“When citizen talent is aligned with a local government that is both visionary and focused, outstanding achievements are not only possible, but realistic.”

Eric Bonham, former Director in the
BC Ministries of Environment and Municipal Affairs

Figure A8 – Framework for Inter-Regional Collaboration

About the Watershed Health Goal

- A. Since the late 1990s, and largely due to heightened awareness as an outcome of the impact of the “salmon crisis”, governments have recognized the need to restore and protect watershed health.
 - ▶ By 2002, looking at rainfall differently led the BC government to adopt the Water Balance Methodology, initiate a performance target approach to capturing rain where it falls, and initiate changes in the ways rainwater runoff is returned to streams.
 - ▶ Released in 2002 to support / facilitate the “rainwater component” of Liquid Waste Management Plans, the underlying premise for “**Stormwater Planning: A Guidebook for BC**” was expressed as:
 - Land development and watershed protection can be compatible.*
 - Science-based understanding bridges the gap between policy and site design.*
 - ▶ The Guidebook presents a framework for implementing an ‘adaptive approach’ to watershed-based actions (i.e., learn by doing; change direction when science-based understanding leads to a better way).
- B. Watershed health is a priority for local governments throughout the Georgia Basin.
 - ▶ In 2012, the Regional Boards for the Comox Valley, Nanaimo Region, Cowichan Valley, Capital Region and Metro Vancouver Region agreed to collaborate under the umbrella of the *Inter-Regional Education Initiative*.
 - ▶ All five regions have over-arching plans that are watershed-based and establish a vision.
 - ▶ Everyone is primed to move from talk to “implementation and integration”.
 - ▶ Collaboration will accelerate affordable and effective outcomes within each region.
- C. A core group of local government champions representing the five geographic regions is functioning as an inter-regional leadership team:
 - ▶ The vision for collaboration is that a series of working sessions will inform and educate the leadership team and others about watershed health:
 - a. *All regions are dealing with challenges associated with watershed monitoring*
 - b. *Each region is at a different point along the Watershed Health continuum*
 - c. *Each region has something unique to contribute to the mix*
 - ▶ The vision for collaboration boils down to three objectives:
 - 1. *Share experience on how to measure watershed health, and how to monitor progress*
 - 2. *Understand what each regional district is doing, what works and what does not*
 - 3. *Understand the elements of a performance monitoring framework that can be used to adjust actions **and inform community planning** that maintains healthy streams*
 - ▶ The deliverable will be a guidance document that is a compilation of session and series outcomes.
- D. Over the past 15 years, local government leaders have been applying science-based understanding to develop tools, establish precedents and gain the experience necessary to achieve the Watershed Health Goal.
 - ▶ Going forward, a guiding principle for collaboration is to leverage “science-based understanding” of the relationship between land use changes and resulting stream health (and also financial liability) consequences in order to influence community planning.
 - ▶ The mantra for the ultimate outcome of the Inter-Regional Collaboration Series is framed this way:
 - “through sharing and learning, ensure that where we are going is indeed the right way”*
- E. Because affordability ultimately drives standards of practice, “Sustainable Service Delivery” is a way to view watersheds through an asset management lens and provide a higher level-of-service at a reduced level-of-cost.
- F. Looking ahead, one of the desired outcomes of collaboration is to galvanize additional champions who will both implement needed changes in practice and maintain the watershed health legacy over time.

Blue Ecology: Interweaving of Indigenous Knowledge and Western Science

Beginning in 2018, the Partnership and the Nanaimo & Area Land Trust (NALT) have co-produced [Watershed Moments](#), the [Vancouver Island Water Stewardship in a Changing Climate Annual Symposia Series](#) under the IREI umbrella. Symposia are inter-regional in scope. Ten organizations are represented on the Watershed Moments team.

The Cowichan Valley Regional Board, acting on behalf of the Partnership and the Watershed Moments team, has initiated a conversation with First Nations in the region. The purpose is to explore how the Blue Ecology framework applies in their territories and whether there is potential for Blue Ecology to achieve water reconciliation through interweaving of Indigenous knowledge and Western science.

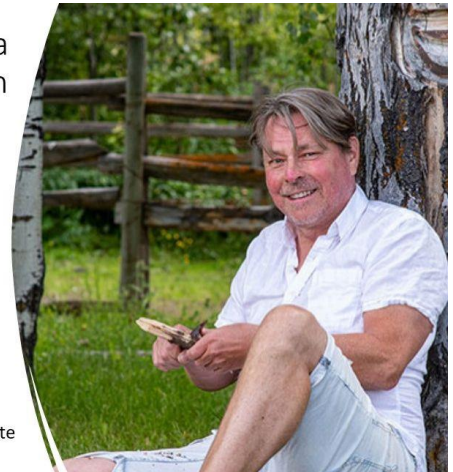
“We have landed at the crux of two of the most important issues facing Canadians – relationships with First Nations and relationships with water. We must ensure that we do not rush the process. We must get the process right, and that what we deliver is the water reconciliation piece.”

*Paul Chapman, Chair
Watershed Moments Team
NALT Executive Director*



“Interweaving is about creating a new form of knowledge, through collaboration, by interweaving useful threads from each way of knowing. Blue Ecology augments Western science hydrology rather than displacing this knowledge.”

Michael Blackstock (aka Ama Goodim Gyet)
Independent Indigenous Scholar, former member of
UNESCO Expert Panel, and founder of Blue Ecology Institute



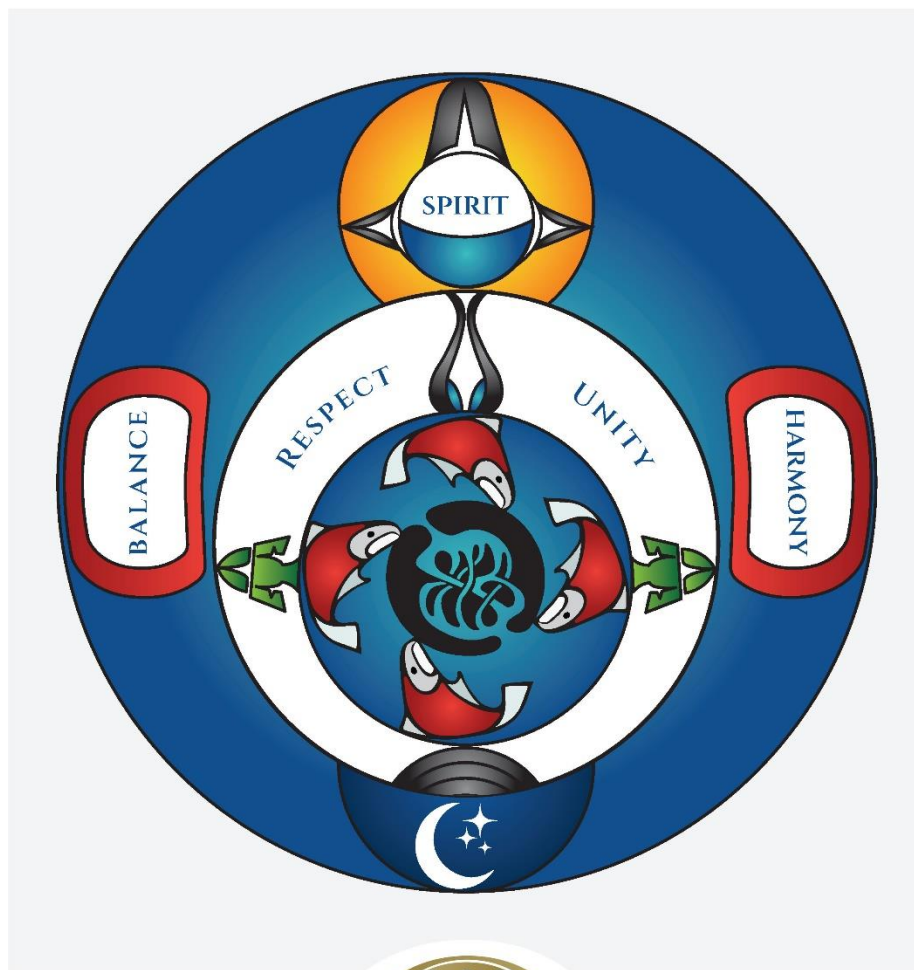
Build a bridge through “Water Reconciliation”

More than a decade ago, international recognition gave Blue Ecology early credibility and profile. However, there was limited awareness within BC of what Michael Blackstock had accomplished on the global stage. Fast forward to November 2017. That is when the Partnership held the [Blue Ecology Workshop](#) to begin the process of mainstreaming Michael Blackstock’s work and ecological philosophy into the local government setting.

Symposia programs are built around success stories – inspirational in nature, local in scale, and precedent-setting in scope and outcome. Watershed Moments 2021 is the event of record for launching Michael Blackstock’s [Blue Ecology Institute](#). The vision is to build a bridge between two cultures through a water-first approach (**Figure A9**).

Figure A9 – Five Guiding Principles are Spirit, Harmony, Respect, Unity, and Balance

BLUE ECOLOGY WATER CYCLE



“Interweaving means bring together two different ways of knowing into one new concept that weaves the strengths of both ways of knowing, rather than criticizing one or the other; or trying to make them compete.

“It is a more collaborative way of knowing. There is a sense of humility that comes with interweaving and acknowledging that Western science is not the only way of knowing. There are other ways of knowing.”

“And so, the humility part is interweaving the strengths of those other ways. The big picture context for Blue Ecology is the daunting climate change crisis that now confronts the world. We need everyone working on the solution. So that is part of the long-term goal of the Blue Ecology interweaving approach.”

Michael Blackstock

This page intentionally left blank

PART B

A Window into the Cowichan Water Journey



To prepare the reader for the three parts that follow it, this Part B is structured in five segments:

- 1. Context for Judging Progress: Decades***
- 2. Art of the Possible for Water Sustainability***
- 3. Drinking Water and Watershed Protection is Community-Led in the Cowichan Region***
- 4. Benefits of Regional Team Approach***
- 5. Genesis for a Regional Water Service Function***



Our 'Regional Team Approach' - why it is different but perfect for us

Kate Miller, Manager, Environmental Services
Engineering & Environmental Services Department
Cowichan Valley Regional District
June 2015

Editor's Note: This essay is reproduced from [Beyond the Guidebook 2015¹](https://waterbucket.ca/wp-content/uploads/2017/10/Beyond-The-Guidebook-2015.pdf) because of the relevant historical context and foreshadowing it provides for this window into the Cowichan water journey

"In nature, form and function are key to how things develop. In the Cowichan Valley Regional District our regional landscape outside the established towns is dramatically different than those of our CAVI (Convening for Action on Vancouver Island) partners - we do not own or control our watersheds; we do not have urbanized areas with attendant funding resources or regulatory frameworks. Nor have we had mandated development of unified watershed plans. But we do have a dominance of electoral areas with proudly distinct communities, capable and engaged municipal partners, and a leadership that is characterized by true independence and internal reliance."

"The outcome is a unified perspective on the issues across our region and a deeper understanding of the distinctive local and organizational frameworks in which we work. We are partners but have distinctly different ways of applying the underlying issues and philosophies of a 'design with nature' approach – one that respects the broad range of our communities and political and organizational imperatives we live and work with."

"This has resulted in a rich tapestry of watershed planning across our region. There is no one model. Rather, we have a range of applications that are sensitive to the environment in which it was formulated and to the core drivers and champions that brought it forward. The range of participants is truly astounding and brings richness to the regional approach. This cannot be developed in a linear manner. No amount of funding or imposed organizational structure can create a sense of the genuine unless it has come from the heart, and in our region it has. Each plan and initiative is distinct, place-based, and respectful of its community of interest and of others. Each makes room for the circle to be continually enlarged by sharing of learning and resources."

"We truly have a rich basis in which to begin the process of stepping back, learning and reflecting on our next steps. It started with the foundational Cowichan Stewardship Roundtable's collaborative and participatory model under Cowichan Tribes leadership that brought the first community together. It continued with the CAVI partnership for technical and professional support which brought the full range of local government players to the table. It encompasses the evolving panoply of local plans as each community stepped forward (Cowichan, Somenos, Quamichan, Shawnigan, Bonsal, Yellow Point) and put the various visions into action."

"As we look out into the future in a changing environment – our new normal - this richness and the depth of community participation can only help our region's future resiliency. While we can build the tools and the technical backstops at a professional and technical level, at the end of the day we need to have everybody at the table."

¹ <https://waterbucket.ca/wp-content/uploads/2017/10/Beyond-The-Guidebook-2015.pdf>

1. Context for Judging Progress: Decades

Look Back to See Ahead

Part A introduced a set of themes that weave through and unify inter-regional collaboration. A vision for designing with nature to bend the shifting baseline influences and inspires “commitment to the mission” among elected representatives, local government staff, and members of community groups. These individuals aspire to make a difference.

Motivated by the common good, such individuals are passionate about achieving water sustainability in the Cowichan region. It is necessary to look back so that we can see ahead. For some, the journey began in the 1990s. Thus, the value of Part B is the bridge it provides to Parts C, D and E. It lays out a big picture assessment of the journey to date.

Intergenerational Perspectives

Lori Iannidinardo and Kate Miller are long serving

Lori Iannidinardo’s family moved to the region in 1969. First elected to the Regional Board in 2008, she retired in 2022 after serving 4 terms.

Kate Miller moved to the region in 1984. After a 6-year stint with the Cowichan Tribes, from 2000 through 2006, she joined the regional district as manager of environmental services, a role created with her in mind. Ever since, Kate Miller has been the CVRD’s point person and internal champion for water sustainability.

In this Part B, we tell the story of the **Cowichan Water Journey** through the eyes and words of two long-time residents of the region, namely: Lori Iannidinardo (over 50 years), Chair of the Cowichan Valley Regional District in 2022, and Kate Miller (almost 40 years), Manager of Environmental Services with the regional district.

Lori Iannidinardo and Kate Miller are in select company. They are among the longest serving elected representatives and local government staff, respectively. Lori Iannidinardo and Kate Miller provide context for the journey to date. Their insights should inform and educate the reader who is curious to learn more.

“My underlying message is that we are leaving the community with hope, and we are giving the new politicians hope, that we have a strategic plan which is designed to be efficient and effective in utilizing extremely limited dollars, to the best capacity, to make better decisions.”

“What it means is that people need to line up to be able to receive those decisions effectively...so that we are organized, we coordinate, we collaborate, and we are not competing over the same limited dollars.”

Kate Miller, Manager of Environmental Services,
Cowichan Valley Regional District



The More Things Change....

In Part A, we introduced the Georgia Basin Initiative and included a contextual quote by Joan Sawicki, a former provincial cabinet minister. In addition, she provided the Partnership with a scanned image of the newsletter included as **Figure B1** for historical reference. In an email, Joan Sawicki made this pithy observation:

“The cover story of the premiere issue of the GBI newsletter in 1995 was the water situation in the Cowichan Valley. This is a reminder that those were indeed heady times when the concepts of ‘sustainability’ were just beginning to gel in public policy.”

Flashback to 1995 / Continuity of the Mission

The issues and concerns expressed in the 1995 article about Cowichan water are still topical three decades later. Expressed another way, a reality is that change does not happen overnight, and it takes hard work and determination to inspire change.

This flashback to 1995 reminds us that the journey must be measured in terms of decades rather than years. And one can only realistically judge progress by looking back to assess how far one has travelled. Hence, essential ingredients for mission success are intergenerational commitment and oral history. They go hand in hand.

Viewed through the *inter-regional collaboration lens* for this story of drinking water and watershed protection in the Cowichan region, Figure B1 also draws attention to the **“continuity of the mission”** flowing from the original GBI to the contemporary Georgia Basin IREL.

The people of the Cowichan Valley region took the future of their River into their own hands: In June 1995, the “Our River, Our Future Symposium” set a process in motion. The ripple effects continue to this day. In the premiere issue of the GBI newsletter, Joan Sawicki foreshadowed the future:

“From here, the community will put together an action plan that sets out what needs to be done, when and by whom. This project, by taking a sustainability approach and involving governments and the community together, has the potential to provide us with a solid working model that can be used elsewhere.”

Kate Miller attended the 1995 Symposium. Seeds planted at that moment in time have taken root in subsequent initiatives, culminating with the successful referendum in 2018 to create the **Drinking Water and Watershed Protection** function as a regional service.

Context for judging progress

*Measure a journey
in terms of decades
rather than years.*

Figure B1 – Protecting Their River, Their Future



INITIATIVE

GEORGIA BASIN

Newsletter for the Georgia Basin Initiative • Joan Sawicki, MLA Parliamentary Secretary • Premiere Issue 1995 • ISSN 1203-1321

This Newsletter

The Georgia Basin is the British Columbia portion of a larger bioregion that includes the area surrounding the Puget Sound in Washington State.

It is one of the most ecologically diverse areas of North America, containing a wide range of vegetation and fish and wildlife habitats of international significance.

It is also one of the most threatened.

The Georgia Basin Initiative is working to promote a sustainable future for the Basin through partnership, consultation and innovation involving all levels of government and every sector of the community.

The Georgia Basin Initiative newsletter is published quarterly to keep everyone concerned about the Basin – including planners and developers, families and individuals, elected officials and government staffs – up-to-date on our progress.

We welcome your comments, questions and suggestions for future articles. Please write or call:

The Georgia Basin Initiative
Ministry of Municipal Affairs
6th Floor, 800 Johnson St.
Victoria, B.C. V8V 1X4

Tel: (604) 953-3009
Fax: (604) 953-3225
E-Mail: chall@hq.marh.gov.bc.ca

 **Province of British Columbia**
Ministry of Municipal Affairs
Hon. Darlene Marzari
Minister

The People of the Cowichan Valley are Protecting Their River, Their Future

The people of the Cowichan Valley region are taking the future of their River into their own hands.

“The Cowichan River is central to this community,” says MLA Joan Sawicki, Parliamentary Secretary for the Georgia Basin Initiative, “and this community is determined to protect and preserve it. The financial support we’ve given to the Cowichan River Sustainability Initiative is one way for us to show our commitment to their community goals.”

The funding – a total of \$45,000 shared among the Georgia Basin Initiative, the Ministry of Environment, Lands and Parks, and the federal Department of Fisheries and Oceans – will go towards research, public consultation and the preparation of an action plan for cleaning up the river and protecting it for the future.

The Cowichan initiative was begun by Cowichan-Ladysmith MLA Jan Pullinger, in response to



This photograph won first prize in the River Awareness Photo Contest at the Cowichan “Our River, Our Future” Symposium, June 1995.

Tom Walker

widespread concern in the community about the river system. “Things like resource extraction, increase in sewage and other pollutants in the system, fluctuating water levels and damaged fish habitat have caused local people to be concerned about the sustainability of the river,” says Pullinger. “With population in the area expected to increase from 60,000 to 80,000 over the next two decades, it is clear that we need to find solutions now.”

A Steering Committee made up of representatives from provincial, federal, local, regional and First Nations governments selected a community-based organization – Cowichan Community Futures – to compile existing information about the

Cowichan River system and undertake a broad public consultation. Results from this consultation were presented for discussion at a symposium held in Duncan in June.

“From here, the community will put together an action plan that sets out what needs to be done, when and by whom,” says Sawicki. “This project, by taking a sustainability approach and involving governments and the community together, has the potential to provide us with a solid working model that can be used elsewhere.”

For more information on the Cowichan River Sustainability Initiative, please call Cowichan Community Futures at (604) 746-1004.



2. Art of the Possible for Water Sustainability

Time Provides Us with Perspective

“It is important that we look back to see the ‘art of the possible’. Understanding what this phrase means in practice is critical,” emphasizes Kate Miller.

“We must continuously foster the ability in our contemporaries and successors to look through the lens of what is possible. Can we re-build, can we restore, can we adapt in such a way that we build additional resilience? That is the question. Institutional barriers are incredibly frustrating. But success depends on breaking them down.”

Foundation Setting Pieces in the Cowichan Region

“When we look back, we can say with pride that we have made major progress in the Cowichan region. Three foundation setting pieces are:

- the provincial government order-in-council that created the [Cowichan Estuary Environmental Management Plan](#) (1987);
- which was followed by inclusion of the Cowichan River in the inaugural group of eight rivers recognized by the [British Columbia Heritage Rivers System](#) (1995); and
- culminated with ratification of the [Cowichan Basin Watershed Management Plan](#) (2008).”

“Building on these foundation pieces, local government has a major role to play. **It is a forward-looking role about making better land use decisions.** They are not always going to be easy decisions when it comes to making sure that we always have a long-term water supply and recognize potential limits to growth.”

Cowichan River is a Heritage River: “The First Nations cultural heritage and recreational values of the Cowichan River were dominant in the assessment of its suitability for heritage status. It has been described as ‘one of the world’s best salmon and trout rivers, although it is relatively unknown’.”

“The Cowichan is the smallest heritage river and we have completed major initiatives to protect it. We won the federal Heritage Award for the work done to stabilize the river and move it away from the major sediment source that was basically choking salmon.”

Art of the possible

“Can we re-build, can we restore, can we adapt in such a way that we build additional resilience?”

Kate Miller, 2022

Interweaving of Indigenous and Western ‘ways of knowing’ is a goal of Water Reconciliation

“The work that the Cowichan Valley Regional District is doing right now with the Cowichan Tribes around the long-term Cowichan River water supply is setting the table for discussions with the other First Nations communities within our region.”

“We will be addressing questions such as, how do we intersect traditional and ecological knowledge into a functional framework that looks at key performance indicators that help us to communicate effectively to audiences about what matters most, instead of saying we want to protect it just because we want to protect it?”

“We want to be able to say, it is foundational.”

Kate Miller, 2022

Cowichan Basin Watershed Management Plan: “Completed in 2006 and ratified during the period 2007-2008, the Cowichan Basin Plan was the first multi-party watershed management plan to be completed in BC. It set the table for a different form of collaboration between First Nations, local government, and the Province of British Columbia. They are all institutional pieces,” continues Kate Miller.

“When the province downloaded all the floodplain management responsibilities onto local government, the collaboration between CVRD and the Cowichan Tribes to update the flood management maps went vastly beyond that traditional scope of work.”

“We said, let’s think about an integrated flood management strategy that tries to put the rivers back into their natural function, that protects cultural values, that looks at fisheries and at flooding as a positive in some situations as opposed to the very old, traditional approach of dyke it, dam it, and push the water onto somebody else.”

Towards Water Reconciliation: “The theme woven through these foundational pieces is the importance of relationships. We have to build trust. It is two pieces. It does take time. It does take a whole pile of work. But it is worth it at the end of the day,” concludes Kate Miller.

Convening for Action in Cowichan Region

CAVI is the acronym for [Convening for Action on Vancouver Island—Leadership in Water Sustainability](#). In 2006, a consultation workshop held as an adjunct to the [Water in the City Conference](#) was the event that formally launched CAVI. After 5 years, it morphed into the Georgia Basin IREI in 2012. CVRD is a founder partner in both initiatives.

In 2006, the bold prediction to kickoff the workshop was that **“by 2010, Vancouver Island would be well on the way to achieving water sustainability”**. Viewed in context, this desired outcome was realized. “I still remember the visioning exercise led by Erik Karlsen. It was about leading and managing change. Erik posed outrageous assumptions to start group conversations. He was effective,” recalls Kate Miller.

Figure B2 (presented on the next page) parallels the timeline graph included in Part A but drills down to elaborate on Cowichan Region leadership and contributions within an inter-regional collaboration setting. The early success of the Cowichan Basin Plan provided the Cowichan Valley Regional District with a springboard for inter-regional sharing and learning. The Cowichan region’s CAVI and IREI program elements listed in the image are described in Parts C, D and E. The value of the image is its function as a visual bridge.

**Figure B2 – History-at-a-Glance: Timeline & Milestones for
“Convening for Action in the Cowichan Region”**



CVRD is a Champion Supporter of the Georgia Basin Inter-Regional Education Initiative



Board perspective on inter-regional collaboration

“Benefits flow to this region because we collaborate with other regions through our involvement with the Partnership for Water Sustainability.”

statement in 2013 by
Rob Hutchins, CVRD
Director (1993-2018) and
a Board Chair for 5 yrs.

Cowichan experience has influenced core content for provincial guidance documents and curricula for training sessions, workshops and seminars held around the province and delivered by the Partnership for Water Sustainability under the umbrella of the Water Sustainability Action Plan.

CVRD collaboration with the Partnership has been supported by successive Regional Boards and Chief Administrative Officers (CAOs). Their support is the essence of handing off the baton from one administration to the next over five election terms and three CAOs, namely - Frank Raimondo (2006-2007), Warren Jones (2008-2014), and Brian Carruthers (2014-2022).

Passing the baton leads to intergenerational understanding:

Support by elected representatives and staff for program elements delivered by the Partnership (through initiatives such as CAVI and the IREI) enables the Partnership to foster and support collaborative leadership among participating local governments. In turn, that builds bridges of understanding through intergenerational collaboration.

Champion Supporter designation is how the Partnership recognizes enduring commitment by our partners to a shared vision for ‘Living Water Smart in British Columbia’. Figure B2 illustrates at-a-glance the multiple contributions over time that define why the CVRD is a Champion Supporter of the Partnership and the IREI.

Champion Supporter recognition celebrates the leadership of CVRD Boards since 2007, while **Ambassador** recognition celebrates the commitment of staff (led by Kate Miller), in bringing special value to the partnership mission for building bridges of understanding through intergenerational collaboration.

When we pull threads of understanding from the past through to the present and future, this helps everyone achieve a shared vision for ‘Living Water Smart in British Columbia’.



3. Drinking Water and Watershed Protection is Community-Led in the Cowichan Region



Frank Raimondo played a critical role

"In his last year as CAO, Frank Raimondo believed that CVRD should move into the new century and undertake watershed management and environmental planning. At a critical time, he had a critical input to the development of the Cowichan Basin Plan. He also supported going the critical next steps to look at a governance model. He saw it as a role for government to step into. Although he did not believe in delegating responsibility to ENGOS, his view did not prevail. That is when the point of diversion with the RDN happened."

Kate Miller

Different Drivers, Different Physical Situations Characterize IREI Partners

CVRD is the second regional district to create a regional service function for drinking water and watershed protection in BC. The first was the Regional District of Nanaimo (RDN), in 2008. The milestone moment for CVRD was the resounding referendum result in October 2018, a full decade after the RDN referendum was approved by voters.

"In a sense, the referendum is just a bureaucratic step," Kate Miller believes. "The journey around whole-system or whole-of-watershed thinking, and where that leads, is now coming up to 25-plus years."

CVRD versus RDN Models

"CVRD chose to go through a process of partnerships and leveraging resources, perspectives, skills, and champions in a very different way than the RDN and other IREI partners. And this was largely because the Cowichan region is incredibly different from a physical and community perspective," explains Kate Miller.

"Different drivers, different physical situations. In some ways, I think CVRD is the more complex of all just because of the distinctive nature of each of the Cowichan communities and the various, very substantial provincial levers that CVRD needed to pull to make things happen throughout our region."

Delegation of responsibility to local communities: "CVRD is guided by a philosophy of working with the community within each watershed to find solutions. The model is a collaborative, cooperative arrangement with various partners. This contrasts with the RDN model under which local government retains the sole mantle of responsibility and does not delegate it to non-government entities."

"The point of diversion with the RDN goes back to the prevailing view of the CVRD Regional Board in the mid-2000s. This led to creation of the Cowichan Watershed Board in 2010 as a separate local governance entity. Thus, CVRD diverted to a community-led program whereas the RDN carried on with its [Drinking Water and Watershed Protection](#) (DWWP) service function being part of local government."

View of Cowichan Estuary from Mount Tzouhalem



Collaboration with community leads to desired outcomes

“Engagement of community through stewardship is a credible formula to be encouraged and mainstreamed at every opportunity.”

“Collaboration, teamwork, and a recognition that the whole is greater than the sum of its parts is the energy that stokes creativity and determination.”

“When this combination of citizen talent is aligned with a local government that is both visionary and focused, outstanding achievements are not only possible, but realistic.”

Eric Bonham, founding member, Partnership for Water Sustainability

“I am very proud of what has been achieved during my 14 years on the Regional Board. CVRD and the region have come a long way in everything we do. It is not just about water. There is a recognition that everything is connected,” comments CVRD Chair Lori Iannidinardo.

“When I go up Mount Tzouhalem and look down at the estuary, it reminds me of a big heart with all the arteries. It is a fascinating picture for me. It also shows you that each artery is so important. And that is what we are learning.”

“We once thought nothing of those small streams. Now we are more aware, and we need to be even more aware with a changing climate, that the health of these streams is critical to the community wellbeing.”

“And that is why I believe stewardship groups are so wonderful. They are hands-on. They are out there doing the hard work necessary to maintain and improve streams. We have come so far as a community in recent decades. Many of us now think completely differently than we once we did about small streams and their value.”

Busy Place Creek is a success story: “There is reason for hope. All I need do is think of Busy Place Creek and the ditch that once was in front of ICBC in an industrial park. I will never forget Kathy O’Donnell and her leadership. She was the elementary schoolteacher who took her classes to the ditch as part of the school streamkeepers program.”

“Kathy is one of those quiet champions. She brought awareness to her students and the school community. It may take a long time, but you can get to see the results. Although Kathy is now retired, her vision has been realized. The ditch has been restored as a creek amenity.”



“When I think of the big picture, I am reminded of the view of the Cowichan estuary from Mount Tzouhalem. From there, I see the estuary as a heart and the Cowichan and Koksilah Rivers as the arteries with their important side channel streams. The challenge is how are we going to work together, really, for the betterment of the environment? We need a collective approach so that together we focus on what is needed most. Recent weather extremes show us how critical it is that we do start working together. That is the message!”

Lori Iannidinardo, Chair (2022),
Cowichan Valley Regional District

4. Benefits of Regional Team Approach

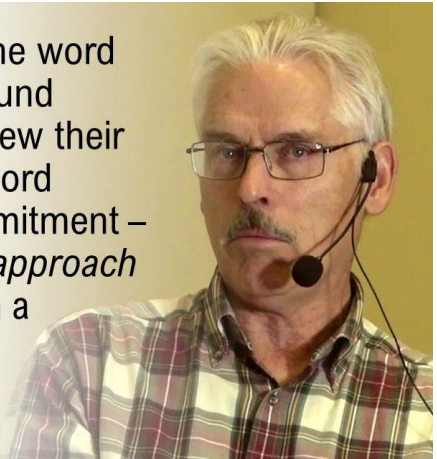
Shared Responsibility

Shared responsibility means that everyone has a role to play in accomplishing a community goal, such as tackling the [Shifting Baseline Syndrome](#) to restore watershed and stream health. In 2008, Cowichan Valley local governments embraced ‘*shared responsibility*’ and the Cowichan region became a demonstration region for rollout of the provincial Living Water Smart and Green Communities initiatives.

This ‘convening for action’ process launched the **Regional Team Approach** and exploration of what could be accomplished through alignment, partnerships, and collaboration. The approach seeks to align local actions with provincial and regional goals. Everyone needs to agree on expectations and how all the players will work together. After that, each community can reach its goals in its own way.

“It is revealing that inserting the word **team** could have such a profound impact on how practitioners view their world. Inclusion of the team word implies there is personal commitment – that is why the *regional team approach* is fundamentally different than a *regional approach*.”

Tim Pringle
Founding Director and Past-President
Partnership for Water Sustainability in B.C.



Hollowing Out of the Provincial Civil Service

“In the 2000s, we had so much capacity at the provincial level and within key organisations where those professionals came up together through university and co-op programs. They worked very much under a mentorship and a collaborative structure,” Kate Miller remembers.

“And when they retired, they were replaced by a whole new slate of folks who do not have that depth of career experience and commitment in their DNA, and just take a position to look for the next position. This has destabilized our ability to make long term foundational change.”

Essence of the 'Regional Team Approach'

"All players set their sights on the common good and challenge old barriers of jurisdictional interests."

page 22, Beyond the Guidebook 2015

Provincial government is a revolving door: "You can only try to work with relationships and move things forward for so long. It is exhausting. As soon as you establish a relationship with someone in a provincial ministry, they move on. It is every year or two. Staff turnover is constant. Or they do not have staff," adds Chair Lori Iannidinardo when she reflected on the hollowing out of the provincial civil service.

"Relationships are important. Working together is important. But it has to be both sides working together, and I don't see that. It is a constant frustration to watch and anticipate what is going to happen next, or not, when provincial ministries have jurisdiction but do not act."

Value of the team approach: "You need a team to be effective. Land use is a CVRD responsibility. But we need much stronger provincial regulations and support so that regional districts are able to mandate requirements for better and more effective land use practices. That is where the importance of intergovernmental teamwork comes into play," Lori Iannidinardo continues.

"We all need to be backed up by each level of government responsibility. As a CVRD Director, I will take on my responsibility regarding land use. But so must the other levels of government. Senior governments need to use their regulations to help local governments solve local problems."

Consequences of provincial downloading: "We need a provincial hammer. But there is nobody on the ground to take responsibility and follow through to resolve issues and concerns. All the agencies have cut back staff. The result is a free-for-all. Sure, we believe CVRD is doing amazing work. But that can go down the drain when you do not have a team supporting each other."

"When I look back and reflect on my 14 years as a regional director, I feel good in saying CVRD has come a long way as an organization that does good work. We have taken on responsibilities downloaded by the provincial government because we have a necessity to get things done. Yet downloading is especially hard on regional districts because of the demands it places on everyone to pick up the slack."

"Land use is our primary responsibility, but we also have our fingers in many pies that are super important. What is missing is support from senior government for drinking water and watershed protection. The breakdown of the team is what I have noticed over 14 years. I wish we had every level of government working on this as a team. How do we get everybody up to speed and working together when participation on committees is not a provincial priority to help local government?"

5. Genesis for a Regional Water Service Function

Watershed Governance Study

“I had a real incentive to come to the CVRD in 2014 because water was the primary focus. I was really impressed by the CVRD’s work in terms of water, the Cowichan Watershed Board, and protection of the Cowichan watershed,” states Brian Carruthers, former CAO.

“It made it intriguing for me because I came from a regional district that had no desire to be involved in those kinds of things. When I started at CVRD, the region was in the midst of a watershed governance study. It was looking at how the CVRD could take a more active role in watershed governance.”

“The Board Chair and I did tours of First Nations communities and met with their chiefs and councils around the intent of this initiative and what would their interest be. We realized that this was bigger than we could take on at that time. Instead, we turned our attention to the Drinking Water & Watershed Protection (DWWP) model for a regional service.”

The DWWP Story: A Look Ahead to Part E

“It is a story of ups and downs. Running into obstacles and resistance, whether in the community or at the Board table, but always keeping the end-result in mind: *making sure we have enough water in our region to satisfy a growing region*. And that outcome is what always kept us focused on moving drinking water and watershed protection forward.”

What the regional team approach strives to achieve through partnerships, collaboration, and alignment at three scales - provincial, regional and local.

Turn a vision into action. Refer to Figure B3

“We all have become very isolated due to COVID. If I had to give some advice to my successor, I would say spend some time getting partnerships back on track. And having facetime with those folks and re-establishing that common, mutual will to move things forward.”

Brian Carruthers
Chief Administrative Officer (2014-2022)
Cowichan Valley Regional District

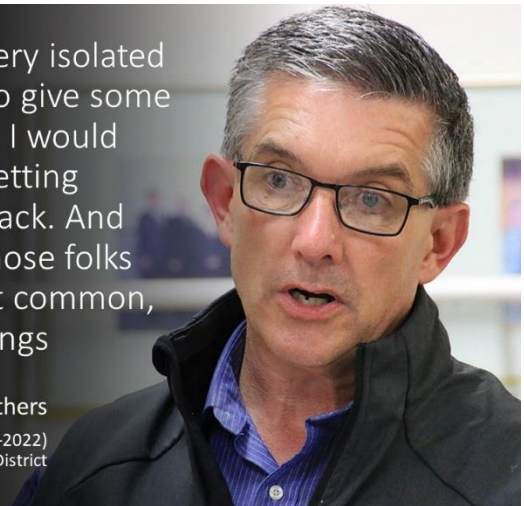
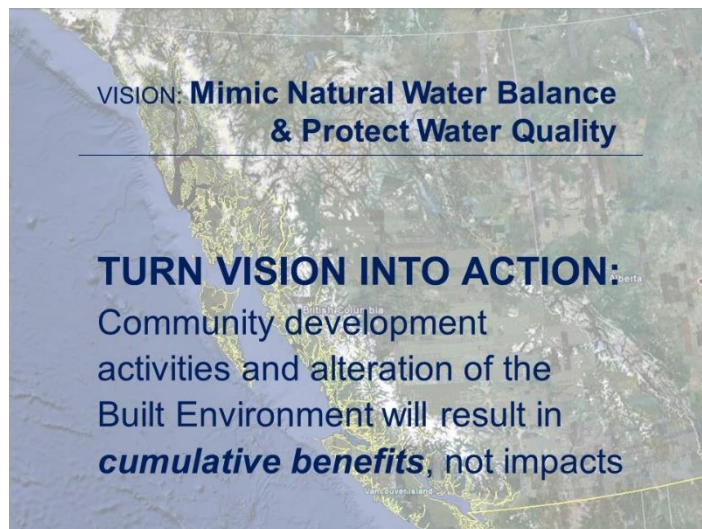


Figure B3

Essence of the 'Regional Team Approach' is that all players set their sights on the common good and challenge old barriers of jurisdictional interests:

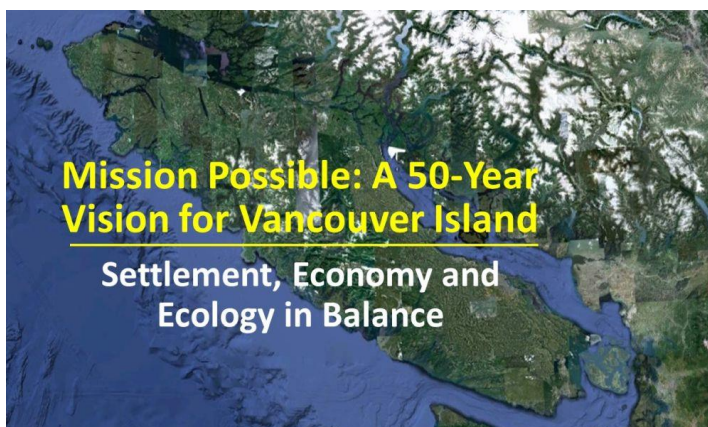


WHAT WE STRIVE TO ACHIEVE:

"The shared vision is to control our destiny and create a legacy for our children and grandchildren. Having a shared vision means that we will visualize what the regions of British Columbia can look like in 50 years, and today we will set in motion actions that will ripple through time to produce that future."

Living Water Smart & Building Greener Communities: Implementing a 'regional team approach' in British Columbia, August 2009

Water Sustainability Action Plan for BC



Collaboration grows from a shared vision about the future and commitment to action:

"Collectively this is what we want to incrementally achieve, and over time, this is how we will work together to get there."

Source: Adapted from the "mind map" introduced as Figure 9 on page 22 in *Beyond the Guidebook 2015: Moving Towards "Sustainable Watershed Systems, through Asset Management"*. Released by the Partnership for Water Sustainability, November 2015

This page intentionally left blank

PART C

Convening for Action from 2006 thru 2011



To orient the reader about the importance of knowing one's history, this Part C is structured in seven segments:

- 1. Meeting of the Minds: Genesis for CAVI***
- 2. Leadership for Water Sustainability on Vancouver Island***
- 3. Showcasing Green Infrastructure Innovation on both sides of the Salish Sea***
- 4. Dialogue About 'A Positive Settlement Strategy' for Vancouver Island & Coastal Communities***
- 5. Design With Nature to Create Liveable Communities and Protect Stream Health***
- 6. Establish Expectations for Land Development***
- 7. Change the Land Development Culture to Protect and Restore Watersheds***

Figure C1 – History-at-a-Glance: Convening for Action in the Cowichan Region between 2006 and 2011



1. Meeting of the Minds: Genesis for CAVI

Convening for Action in the Cowichan Region from 2006 to 2011

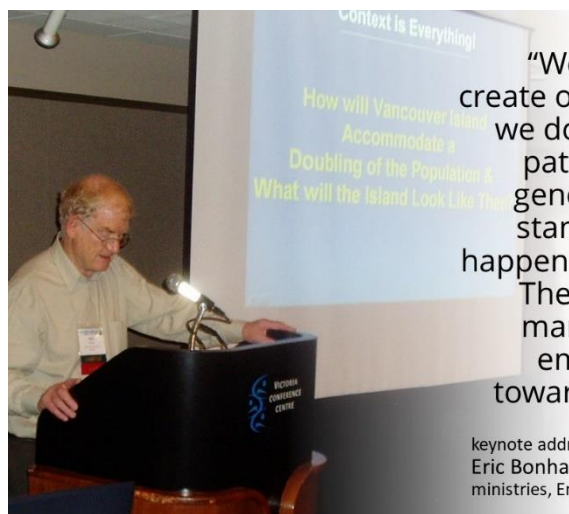
Figure C1 is adapted from the timeline introduced in Part B. It highlights inter-regional contributions by CVRD during this 5-yr period.

Look Back to See Ahead

“Commencing in 2005, the Partnership initiated and cross-fertilized ‘convening for action’ programs in three regions: Vancouver Island, Okanagan, and Metro Vancouver,” recalls Tim Pringle. In 2005, he was Executive Director of the Real Estate Foundation, a co-funder of those programs. “Each regional initiative had its own vision and road map. However, a commonality was a desire for a Regional Team Approach founded on partnerships and collaboration.”

“The South Okanagan was the pilot for testing ‘convening for action’ at a sub-regional scale. Starting in September 2006, South Okanagan experience was successfully adapted by the CAVI initiative as a demonstration program at an Island-wide, inter-regional scale. The path forward was trailblazed by the leadership of Eric Bonham. While still in government, he spearheaded the [Meeting of the Minds](#) idea.”

Call to Action: “In September 2005 and again in May 2006, we held what we called ‘Meeting of the Minds’ workshops in the City of Parksville. We invited individuals who were committed to action. Our goal in convening was to **build an effective long-term communications network**. We re-branded Meeting of the Minds as CAVI at the [2006 Water in the City Consultation Workshop](#). During workshop program development, it was Mac Fraser of the Islands Trust who suggested the CAVI acronym. It stuck,” explains Eric Bonham. His keynote presentation at the 2006 launch of CAVI was a call to action.



“We have it in our hands to create our future, because what we do on the ground sets the pattern of development for generations. Also, change in standard practices does not happen overnight. It takes time. Therefore, it is important to manage expectations when embarking on this journey towards water sustainability.”

keynote address at 2006 CAVI launch event by Eric Bonham, a former Director in two ministries, Environment and Municipal Affairs

CAVI Genesis / Filling a Vacuum

“This all started in 2002 when I was still with the Ministry of Municipal Affairs,” recalls Eric Bonham, a founding member of the CAVI Leadership Team. His reflections on CAVI are published in [Beyond the Guidebook 2010](#). “I had the opportunity to travel the length and breadth of Vancouver Island and talk to people about the issues of concern to them. I would ask, *where are we going on Vancouver Island?*”

“It became clear through these conversations that there was a shared concern: there was no forum for discussing the future of Vancouver Island. Filling a vacuum provided the impetus for CAVI.”

Engagement of partners who ‘buy-in’ to a vision

Figure C2 conceptualizes the extent of the CAVI network during the first 5-year period



“You will not find CAVI listed in the Yellow Pages. CAVI is a process. CAVI is a vision. CAVI is you and me and everyone else. That is the strength of this grass-roots initiative. It is a collective effort to see where we can go on Vancouver Island and do it in a way that is a little bit different. We are doing this as a genuine team.”

“The big issues are settlement change and ecology. What we have is precious and unless we have a vision now, 50 years down the road we will end up where we do not want to be.”

“The strength of the CAVI approach on Vancouver Island is the engagement of our partners on a one-on-one basis who ‘buy in’ to the vision of water-centric planning. The process is accumulative, as others from diverse backgrounds are drawn to the common goal of achieving water sustainability.”

Cowichan Valley representation: Brian Dennison, Manager of Water Management, represented CVRD at Meeting of the Minds. He was followed by Kate Miller who has carried the flag ever since.

Her involvement began with the 2006 CAVI Consultation Workshop, held as an adjunct to the [Water in the City Conference](#) in Victoria. During the period 2006-2011, Kate Miller was joined by municipal representatives from North Cowichan, Duncan, Ladysmith, and Lake Cowichan on the CAVI-Cowichan Valley team.

**Figure C2 – Water Sustainability – Convening for Action Network
(during the period 2006 through 2011)**

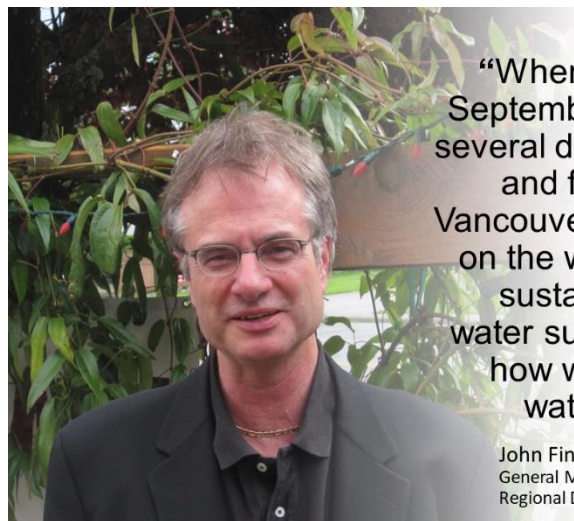


2. Leadership for Water Sustainability on Vancouver Island

What Will Vancouver Island Look Like?

Two workshops set CAVI in motion as a network for inspiring change. The first, in September 2006, had a consultation focus and challenged participants to visualize what they wanted Vancouver Island to look like in 50 years. The second, in June 2007, initiated the process to influence local governments to adopt “**Design With Nature**” as the preferred process of approving land development applications.

“**Water Sustainability will be achieved by implementing Green Infrastructure policies and practices.** How we get there relies on a change in mind-set. The CAVI role is to facilitate that change,” stated John Finnie, CAVI Chair, when he opened each workshop.



“When we launched CAVI in September 2006, we identified several desired outcomes. First and foremost, that by 2010 Vancouver Island would be well on the way to achieving water sustainability. CAVI defines water sustainability in terms of how we use water, and how water drains off the land.”

John Finnie, CAVI Chair (2006-2011) and former General Manager, Regional & Community Utilities, Regional District of Nanaimo

Workshop 1 - Towards Water Sustainability

Figure C3 is the Program Overview for the CAVI launch event. In 2006, it was seen as a bold move to frame a local government forum around the question, *what will this place look like in 50 years*. The heart of the program was the segment led by Erik Karlsen on **leading and managing change**. At the time, he was a sessional instructor in the topic at Royal Roads University after his retirement from government and appointment as Chair of the Agricultural Land Commission.

Figure C3 – “Towards Water Sustainability on Vancouver Island” (2006) – Program Overview

Segment Theme	Scope of Discussion: <i>Help Us Help You Help Us</i>
Convening for Action: Context is Everything (Mac Fraser, Eric Bonham, Kim Stephens)	Setting the Scene - context & desired outcomes for workshop: <ul style="list-style-type: none"> ▪ The Issue: How will Vancouver Island accommodate a doubling of the population; and what will the Island look like in 50 years? ▪ Context: <i>Meeting of the Minds</i> initiative has morphed into a <i>Convening for Action</i> pilot
Roundtable Sharing: Water-Centric Innovation - Who is Doing What & What Has Worked (or Not) (John Finnie & Cori Barrclough, facilitators)	WHAT is an example of water-centric innovation in your community? Because many Island communities are “doing it” - <ul style="list-style-type: none"> ▪ What is your experience on the barriers to implementing new approaches and standards? ▪ What lessons can be learned from the experiences of your communities? ▪ How can other Island communities build on regional case study successes?
Implementing Change: If You Can Measure It, You Can... (Erik Karlsen)	SO WHAT are the ways we inform, inspire and enable people to work together through partnerships to act now?
Breakout Groups & Roundtable Input for: A Water-Centric Protocol for Streamlining Environmental Approvals – What Would It Look Like?	NOW WHAT would a water-centric protocol look like in order to provide certainty and reward innovation? Any time a land use decision is made, it creates a legacy. <ul style="list-style-type: none"> ▪ What can Vancouver Island communities do better or differently to achieve <i>water-centric sustainability</i>? ▪ What can new developments on Vancouver Island do to integrate and harmonize the development footprint within the watershed context and achieve water sustainability as a condition of land development approval? ▪ How could local governments implement a water-centric protocol to reward innovation?
Next Step: A Report on the Workshop (John Finnie)	THEN WHAT - moving from concept to policy to implementation: <ul style="list-style-type: none"> ▪ The workshop outcomes provide the framework for moving forward ▪ You have provided insights and there are potential tools that you can use

Implementing Change: *Inform, Inspire, Enable*

After the breakout groups reported out in a plenary session, CAVI Chair John Finnie closed the workshop with a look ahead:

“This first workshop has served a useful purpose in getting the ball rolling for a Vancouver Island pilot program. It is the first step in an educational and consultative process. ‘Towards Water Sustainability’ is now formally launched.”

“The next step of the organizing committee is to design a workshop for local government, sometime in 2007. The spotlight is on local government because implementing new practices will need clearly defined standards and regulatory models. Also, willing municipalities will be invited to pool resources under a partnership framework.”

Workshop set stage for moving Green Value from concept to practice

“We had an excellent mix of people from local government, provincial agencies, First Nations, and the private sector – including Corix, TimberWest and the real estate industry. Because we believe that how land is developed within the domain of local government holds the key to achieving settlement in balance with ecology, the CAVI Leadership Team is excited that we had representation from five regional districts and fifteen municipalities. We are also excited that the Songhees and Esquimalt First Nations were represented by Michael McCarthy.”

John Finnie, 2007

Workshop 2 – Creating Our Future

Figure C4 is the Program Overview for the second CAVI event, held as an adjunct workshop to the [Gaining Ground Summit](#) in Victoria, the second in a series of seven urban sustainability conferences organized by Gene Miller, founding publisher of Monday Magazine.

CVRD stepped up to play a key role. “We subsequently referred to the Cowichan Valley as our beachhead region. CVRD’s Cowichan Basin Plan aligned with the CAVI goal of informing, educating, and enabling action to move towards water sustainability,” said John Finnie.

CVRD’s Tom Anderson was a central figure in the program. “The need to mitigate pressures on land and water resources provides a driver for a ‘green infrastructure’ movement that is water-centric and is founded on a natural systems approach,” stated Tom Anderson.

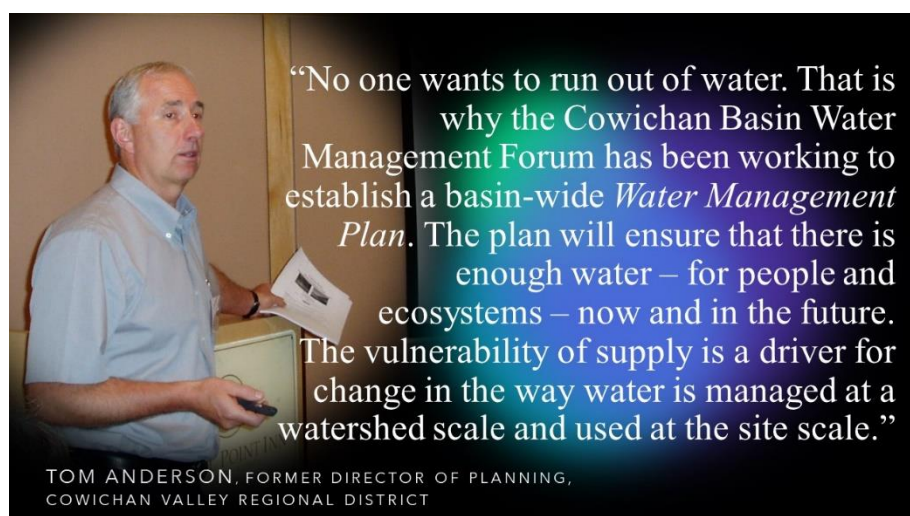


Figure C4 – “Creating Our Future: What will Vancouver Island look like in 50 years?” (2007)

Program Overview (Kim Stephens, Moderator)	
Desired Outcomes in Convening for Action on Vancouver Island	<ol style="list-style-type: none"> 1. Influence Vancouver Island local governments to adopt Design with Nature as the preferred process of approving land development applications. 2. Facilitate the move from <i>awareness</i> (interest) to <i>action</i> (practice) in changing the way land is developed and water is used on Vancouver Island.
Introduction of the Green Vocabulary Hierarchy	<p>Green Value is an over-arching concept; and encompasses market, social and environmental values.</p> <p>Design with Nature is one approach to achieve Green Value and is supportive of community goals that relate to building social capacity.</p> <p>Green Infrastructure is the on-the-ground application of Design with Nature standards and practices.</p> <p>Water Sustainability is achieved through Green Infrastructure practices that reflect a full and proper understanding of the relationship between land and water.</p>
An action arising from the <i>Water in the City Workshop</i> (Sept 2006)	<p>The Water in the City Workshop was the first step in an educational and consultative process. The workshop was by invitation and had a broad cross-section of representation. A workshop specifically for local government was identified as the logical “next step” because:</p> <ol style="list-style-type: none"> 1. Implementing new practices would need clearly defined standards and regulatory models. 2. Willing municipalities would be invited to pool resources under a partnership framework.
Desired Outcomes for the <i>Creating Our Future Workshop</i> (June 2007)	<ol style="list-style-type: none"> 1. Participants would embrace the vision for being leaders in water sustainability. 2. Participants would have absorbed the vocabulary of <i>green value</i>, <i>convening for action</i>, <i>designing with nature</i>, <i>water sustainability</i>, and <i>green infrastructure</i>. 3. Participants would commit to showcasing on-the-ground innovation in their communities and participating in the Green Infrastructure Leadership Forum in Fall 2007

3. Showcasing Green Infrastructure Innovation on both sides of the Salish Sea

2007 Cowichan Valley Showcasing Day

“By 2007, the actions of early adopters in local governments on the Island and Lower Mainland demonstrated that there was an appetite to influence the practitioner culture through collaboration, partnerships, and alignment. But a mechanism was needed to share approaches, experiences, and lessons learned. The Creating Our Future Workshop was the venue for announcing a new program, the [Showcasing Green Infrastructure Innovation Series](#),” recalls John Finnie.

Network and Relationship-Building on Vancouver Island and in Metro Vancouver

“CAVI teamed with the Metro Vancouver-based [Green Infrastructure Partnership](#) in 2007 to deliver the Showcasing Series on both sides of the Salish Sea. Launched the year before in Metro Vancouver as a provincial pilot, the program concept was an instant success.”

“We held events both on Vancouver Island and in Metro Vancouver on alternating Fridays throughout September and October. We asked each Vancouver Island regional district to partner with its largest member municipality to co-host a day. The resulting collaborative process was team building in action.”

Figure C5 is the program-at-a-glance for the companion series on both sides of the Salish Sea.

Celebration of innovation by local governments

“There are a lot of good things happening in communities throughout Vancouver Island, but those stories had not been getting out. Through many one-on-one conversations, we found those stories; and then we pulled together a partnership of three regional districts and their member municipalities to host a series of one-day events.”

Kim Stephens, 2007

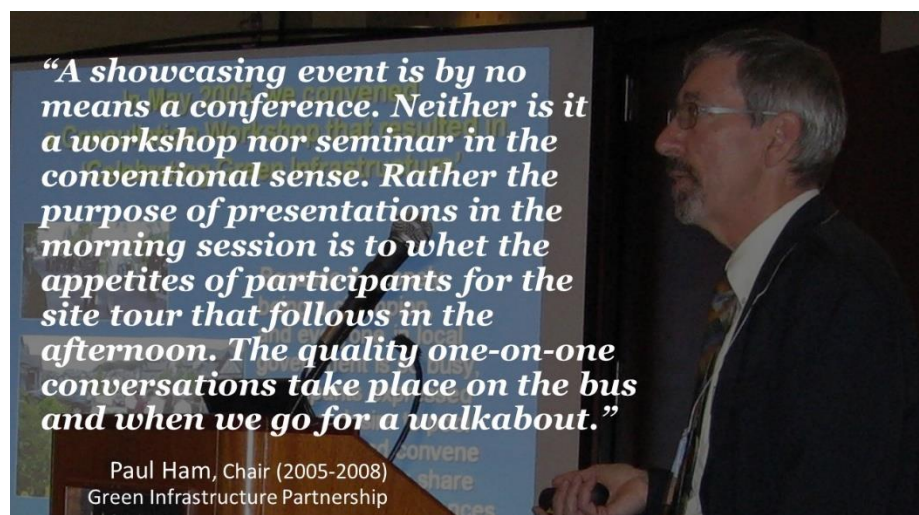


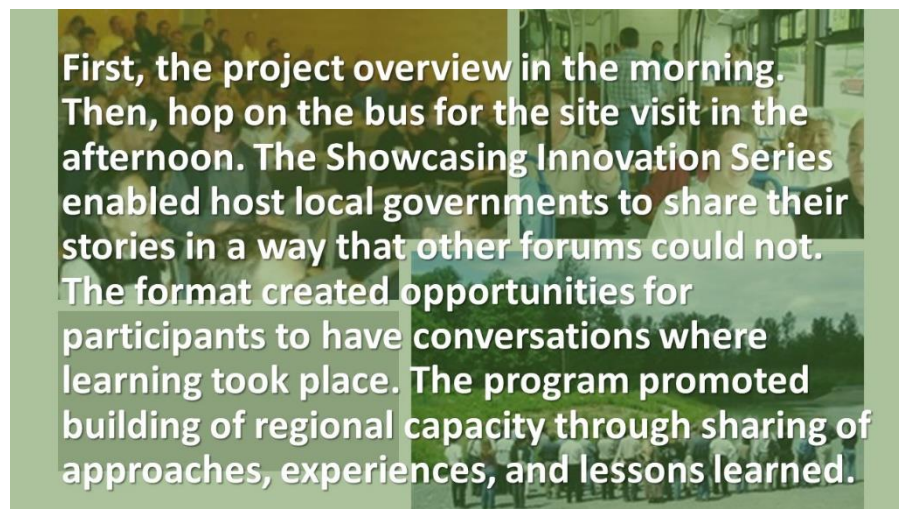
Figure C5 – “Showcasing Green Infrastructure Innovation on both sides of the Salish Sea” (2007) – Program Overview



2007 Vancouver Island Series

Network and Relationship-Building

- **Nanaimo Region** - *Designing with Nature*
- **Cowichan Valley** - *Partnerships & Collaboration
- moving from Concept to Reality*
- **Comox Valley** - *Connecting to Sustainability*



First, the project overview in the morning. Then, hop on the bus for the site visit in the afternoon. The Showcasing Innovation Series enabled host local governments to share their stories in a way that other forums could not. The format created opportunities for participants to have conversations where learning took place. The program promoted building of regional capacity through sharing of approaches, experiences, and lessons learned.



2007 Metro Vancouver Series

How land is developed determines how water is used and runs off the land

- **Corporation of Delta** - *Greener Developments, Roadside Rainwater Management, and the Urban Forest*
- **Township of Langley** - *Harmony & Integration*
- **UniverCity at Burnaby Mountain**
A Partnership in Action: from Vision to Implementation

Cowichan Showcasing Theme: Partnerships and Collaboration

Cascading Program for Showcasing Multiple Scales

“The Cowichan Basin Water Management Plan, developed through an inclusive consultation process, provided the umbrella for a cascading program. Featured projects illustrated how to align community development policies with emerging best practices. The cascade in scale was from the basin to a neighbourhood and subdivision, to an industrial park, and to the site/house.”

“The setting for an interactive experience was O.U.R. Ecovillage, located near Shawnigan Lake. The theme was blending urban with rural to achieve quality of life. Participants were challenged to brainstorm what aspects of the Ecovillage experience could local governments transfer to an urban development setting?”

Kim Stephens, 2007

Figure C6 is the Program Overview for the ‘showcasing day’ hosted by three Cowichan Valley local governments. CVRD, District of North Cowichan and City of Duncan celebrated the role of partnerships – first, in developing a shared vision of what the ‘valley future’ could look like; and next, in implementing actions that would bring the vision to fruition. The unifying theme was expressed as follows: **to make things happen, local governments need to partner and pool resources.**

Build the ‘Engine of Development’ Differently

“The Cowichan Basin Water Management Plan is such an important regional initiative that we simply must follow through, because there are major issues around water supply, and I relate those issues to how land is developed,” stated CVRD Chair Jon Lefebure in his welcoming remarks to an audience of 50 from up-and-down Vancouver Island.

“I believe and hope we can use the limitations of the water resource to plan our future better. As an elected representative, I find myself continually in a state of contradiction. As local government, we have been responsible for growth. That’s been our business. Looking back, we never anticipated that one day we might conclude that there are limitations.”

“There is an engine of development. We have to think about how to operate that engine differently. We must focus on preserving what we have that provides our quality of life.”

Jon Lefebure, Past-Chair of the
Cowichan Valley Regional District,
a quote from his opening statement in 2007



“As a group, politicians tend to be conservative. This means we tend not to be as forward looking as perhaps we should be. Moving forward from today, I would like the political leadership of Vancouver Island to be more proactive. I am pleased and excited that CAVI is partnering with the Association of Vancouver Island Coastal Communities to co-host the [Green Infrastructure Leadership Forum](#).”

Figure C6 – Showcasing Innovation in the Cowichan Basin (2007)
Partnerships and Collaboration – Moving from Concept to Reality

PROGRAM OVERVIEW (Kim Stephens, Moderator)	
Context & Overview <ul style="list-style-type: none"> Opening Remarks – “Learning outcomes for today” Water for BC – Safe, Sustainable and Valued by All Convening for Action on Vancouver Island: Leadership in Water Sustainability 	Mayor Jon Lefebure Zita Botelho, MOE John Finnie, CAVI
Cowichan Basin Water Management Plan: from Awareness to Action Moving ‘green infrastructure’ and ‘water sustainability’ from awareness to action requires equipping local governments and the development community with new tools and the capabilities to use those tools.	Tom Anderson, CVRD
City of Duncan – Vision for a Livable Small Town Consistent with the direction provided by the Water Plan, the City had adopted a new <i>Official Community Plan</i> that established expectations for implementation of green infrastructure standards in conjunction with redevelopment and densification	Cheryl Wirsz, City of Duncan
Blending Urban with Rural in the District of North Cowichan Two projects were profiled: the Echo Heights neighbourhood in Chemainus and Stonegate subdivision. This was an interactive session as the District wished to tap the expertise and common-sense of participants. Feedback on Vancouver Island examples that show how to implement green infrastructure effectively became input to the District’s planning framework for Echo Heights.	Facilitated by Brigid Reynolds & Peter Nilsen, District of North Cowichan
Koksilah Industrial Park - Adding Value through Green Design Multi-stakeholder collaboration and property redevelopment combine to create an opportunity for development and implementation of a Master Plan that would produce ‘green value’ by retrofitting green infrastructure and stream habitat restoration	Kate Miller, CVRD
Field trip to “O.U.R. Ecovillage” near Shawnigan Lake	
O.U.R. Ecovillage – What Can Local Governments Learn? Ecovillages are full featured settlements in which human activities are harmlessly integrated into the natural world in a way that is supportive of healthy human development and can be successfully continued into the indefinite future.	Guided tour and presentation by Brandy Gallagher
Roundtable Forum – How transferable is the Ecovillage experience to a small-town urban setting?	Facilitated by Brigid Reynolds
Closing Remarks - “What we learned today”	Sharon Jackson, Duncan Councillor

4. Dialogue About *A Positive Settlement Strategy* for Vancouver Island & Coastal Communities

Springboard to the 2008 Learning Lunch Seminar Series

“Although this high-profile event was a success, in our debriefing for the Leadership Forum we concluded that there had to be a more effective way to inform and educate those who would benefit most. That realization led us to sound out several local governments about an idea we had for inter-departmental learning that would result in a shared understanding of green infrastructure challenges and solutions.”

“The Green Infrastructure Leadership Forum was the genesis for the Vancouver Island Learning Lunch Seminar Series, launched in 2008 in the Cowichan Valley and Comox Valley.”

John Finnie, 2008

2007 Green Infrastructure Leadership Forum

The Showcasing Innovation Series served as the springboard to the [Green Infrastructure Leadership Forum](#) in December 2007. In turn, the forum was the springboard to the next phase of building capacity.

Co-hosted by CAVI and the Association of Vancouver Island Coastal Communities (AVICC) in Nanaimo, the forum goal was to initiate an Island-wide dialogue around a vision for achieving **settlement in balance with ecology**. **Figure C8** is a Program Overview.

AVICC and CAVI called this desired outcome [A Positive Settlement Strategy for Vancouver Island & Coastal Communities](#).

Desired Outcome: *Benefits Exceed Liabilities*

It was Tim Pringle who coined the phrase **A Positive Settlement Strategy** to provide a frame-of-reference for dialogue. “Simply put, it means benefits exceed liabilities. Settlement and ecology are equal values, and they must be as much in balance as possible for the wellbeing of human and natural systems. We are convening for action so that we can provide practitioners with the tools and experience to implement *Design with Nature* policies and practices,” he explained.

“The conversations at the Forum can evolve into a dialogue about Why, Where and How development should occur so that settlement is in balance with ecology,” added Rod Sherrell, then the AVICC President.



“We can create our future because local government controls land use. Elected representatives and staff at the local government level clearly have the opportunity, and responsibility, to make decisions that support *A Positive Settlement Strategy for Vancouver Island*.”

Rod Sherrell, President of the Association of Vancouver Island Coastal Communities, in his opening statement at the Green Infrastructure Leadership Forum, Dec 2007

Figure C7 – “A Positive Settlement Strategy - What could it look like?”

Program Overview (John Finnie, Moderator)
<p>We Can Create Our Future</p> <p>In a fully integrated landscape, water is the unifying element. When we get the water part right, other parts are more likely to follow. The purpose of the Leadership Forum was to start the conversation as to what A Positive Settlement Strategy for Vancouver Island and Coastal Communities might look like, and how it could be implemented through regional growth strategies and official community plans.</p>
<p>Showcasing Green Infrastructure Innovation on Vancouver Island: The 2007 Series</p> <ol style="list-style-type: none"> Inland Kenworth in Nanaimo: “Where <i>Designing with Nature</i> meets <i>Green Value</i>” Reporting Out: “The Culture of Doing & Lessons Learned” <ul style="list-style-type: none"> The Cowichan Valley was represented by Tom Anderson and Kate Miller of CVRD and Peter Nilsen of North Cowichan. They reflected on the Showcasing Innovation Series and highlighted: <ul style="list-style-type: none"> The need for action from the provincial government to develop needed policies and regulations to support the Cowichan Basin Plan. The benefits of sharing ideas with others – something that doesn’t happen in the normal course of business. By exposing staff to green infrastructure concepts, this gave them a chance to see what is possible, thus expanding the pool of staff committed to doing things differently. As well, there was a recognition that “we don’t need to invent the wheel ourselves.” Roundtable Sharing: “What Else is on the Drawing Board?” Beyond the Guidebook 2007: “Designing with Nature to Create Liveable Communities that Protect Stream Health” - <i>Chris Jensen, Ministry of Community Development</i>
<p>Creating Our Future in Ucluelet: from Vision to Implementation</p> <p>Felice Mazzoni & Geoff Lyons explained how, through careful planning and strong local political support, the District of Ucluelet had successfully implemented ‘smart growth’ sustainable planning tools such as density bonusing, alternative design standards, affordable housing policies, public access, comprehensive development zoning, and mandatory LEED construction.</p>
<p>Regional Growth Strategies and Official Community Plans: How can they be aligned with <i>A Positive Settlement Strategy</i>?</p> <p>Two inter-regional case study examples provided a frame-of-reference for breakout groups:</p> <ul style="list-style-type: none"> Theme 1 – Aligning Regional Growth Strategies: The <i>South Okanagan Regional Growth Strategy</i> helped participants think about how to provide policy direction. Theme 2 – Aligning Official Community Plans: The City of Courtenay Official Community Plan helped participants think about how to translate policy into actions on the ground.

5. Design With Nature to Create Liveable Communities and Protect Stream Health

2008 Cowichan Valley Seminar Series


The [Vancouver Island Learning Lunch Seminar Series](#) initiated a Partnership-led outreach program for [Living Water Smart](#), [British Columbia's Water Plan](#), released in June 2008. The series tested a peer-based approach to professional development. The desired outcome was inter-departmental alignment and a consistent regional approach to implementing the **New Business As Usual**.

Both the Cowichan Valley Regional Board and City of Courtenay Council voted unanimously to sponsor and host series in the Cowichan Valley and Comox Valley, respectively.

Inter-departmental idea morphed into inter-governmental

"Initially we were thinking in terms of a small group setting, perhaps 12 to 15 people drawn from the various departments within a willing local government. The jump in scope from inter-departmental to inter-governmental had major implications for the curriculum design. Now we had the challenge of designing a program that would hold the attention of a group of 50-plus over an extended period of time. The dynamics of the two situations are totally different."

John Finnie, 2008



"We are using the slogan 'The New Business As Usual' to convey the message that, for change to really occur, practices that until now have been viewed as the exception must become the norm moving forward. We have to build regulatory models and develop models of practice and expertise to support *The New Business As Usual*."

Dale Wall, Deputy Minister, statement about CAVI program at 2008 Gaining Ground Summit

Inter-Governmental Commitment

"The CVRD Board viewed the Learning Lunch Series as an opportunity to develop a Living Water Smart policy framework for the Cowichan Valley," reports Kate Miller. "It meant that we could foster an informed dialogue that would ultimately lead to adoption of a set of tools for implementing green infrastructure region-wide."

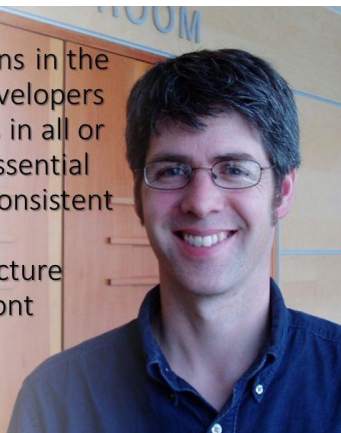
"The political commitment was substantial and tangible. Inter-departmental participation by member municipalities effectively meant closing front counters on three Fridays for most of the day so that planning, engineering, operations and building inspection staff could attend the Learning Lunch seminars."

Today's Expectations, Tomorrow's Standards

The seminar program was developed by an organizing committee comprising representatives of the CVRD, District of North Cowichan, City of Duncan, and Partnership for Water Sustainability. The team represented the spectrum of departmental perspectives within local government, namely: environmental planning, engineering, development services, and building inspection.

"There are five local government jurisdictions in the Cowichan Valley; and the same group of developers and development consultants have projects in all or most of those jurisdictions. It is therefore essential that the development community hears a consistent message from local governments regarding rainwater management and green infrastructure expectations when doing business at the front counters in each of those jurisdictions."

Peter Nilsen, former Deputy Engineer
with the Municipality of North Cowichan, 2008



Learning Lunch Series Organizing Team

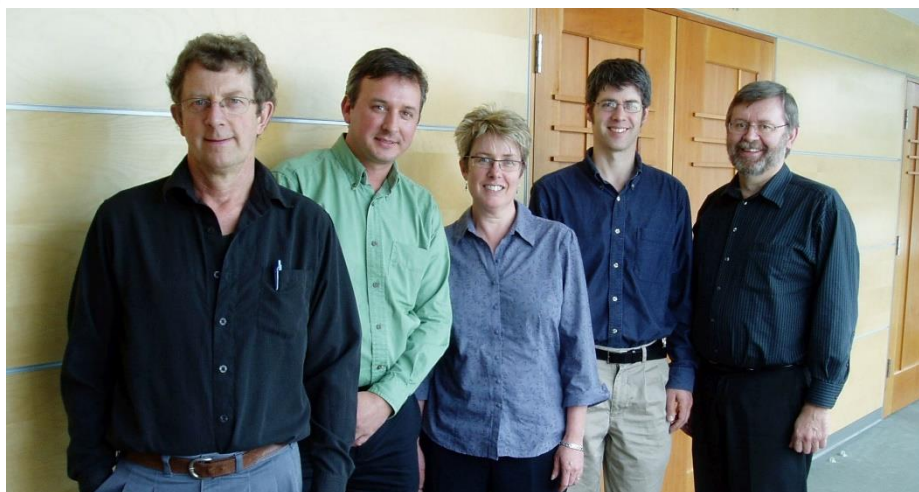
David Hewitson, Building
Inspector, City of Duncan

Rob Conway, Manager of
Development Services, CVRD

Kate Miller, Manager of
Environmental Services, CVRD

Peter Nilsen, Deputy
Engineer, North Cowichan

Kim Stephens, Partnership for
Water Sustainability



"We wanted to make it easy for participants to remember what they heard and why it is relevant to their day jobs. So, we identified a defining or over-arching message for each seminar, such as *'the risk is in carrying on with the Old Business As Usual'* for the seminar on legal and policy strategies."

Rob Conway, former Manager of
Development Services with CVRD, 2008



Program Design for the 2008 Seminar Series

Figure C8 is a Program Overview for the 2008 Seminar Series. The curriculum was spread over three sessions and the series was conducted as a cumulative process, from philosophy to tools.

"We drew on a set of provincial guidance documents and made them interesting and relevant to a mixed audience. Five resources ultimately formed the curriculum backbone: the *Stormwater Planning Guidebook for BC*, *Beyond the Guidebook*, *Develop with Care*, and *A Guide to Green Choices*, as well as the *Green Infrastructure Guide* by Susan Rutherford of West Coast Environmental Law," explains Kate Miller.

"The Partnership also produced a *Guide to the Guidebook*. Written for both expert and non-expert audiences, it provided a broad-brush picture. The emphasis was on core concepts. We hoped to interest readers in learning more by delving into the 2002 Guidebook."

Living Water Smart, BC's Water Plan

"We designed the Learning Lunch curriculum to help local governments determine how they will achieve the provincial policy statement on page 43 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."

"In early 2008, the provincial government's Speech from the Throne provided a timely impetus for branding Beyond the Guidebook as The New Business As Usual and rolling it out through the Learning Lunch Series."

Kim Stephens, 2008

Beyond the Guidebook Context

The evolution of planning for water sustainability by implementing green infrastructure achieved a milestone with release of [Beyond the Guidebook: Context for Rainwater Management and Green Infrastructure in British Columbia](#) in June 2007. This was followed by the first Beyond the Guidebook Seminar, organized by the Green Infrastructure Partnership in November 2007 in Metro Vancouver.

"The announcement by Deputy Minister Dale Wall at the Gaining Ground Summit in May 2008 underscored provincial commitment. But it was the release of [Living Water Smart, BC's Water Plan](#) in June 2008 that provided clear provincial policy direction for doing business differently," recalls CAVI Chair John Finnie.



"By 2008, one of the lessons we had learned from our Guidebook outreach implementation experience was the need for a program that would ensure province-wide consistency in understanding of approaches and desired outcomes. This is why a premise underpinning the Learning Lunch Seminar Series is that consistency is best achieved by taking a continuing education program into the places where local government practitioners work."

2008 quote by Peter Law, Ministry of Environment & Chair, Stormwater Guidebook Steering Committee

Figure C8 – 2008 Vancouver Island Learning Lunch Seminar Series
“Design With Nature to Create Liveable Communities and Protect Stream Health”

BEYOND THE GUIDEBOOK / THE NEW BUSINESS AS USUAL:	
The series was the first step in building a regional team approach so that there would be consistent messaging regarding on-the-ground expectations for rainwater management and green infrastructure.	
Seminar Themes	Scope of Each Seminar
<p><i>Today's Expectations are Tomorrow's Standards</i></p> <p>EVOLUTION (What)</p>	<p>Session #1 traced the evolution of rainwater/stormwater management policies and practices over the past two decades. This provided a frame-of-reference and a common understanding for subsequent sessions.</p> <p>The <i>2002 Stormwater Guidebook</i> and the <i>Water Balance Model</i> were introduced so that participants would understand the purpose and application of performance targets.</p> <p>A desired outcome was that participants would understand WHY drainage practice comprises a continuum of paradigms, and communities progress at different rates along the continuum.</p>
<p><i>Legal and Policy Strategies to Support Green Infrastructure</i></p> <p>TOOLS (So What)</p>	<p>Session #2 introduced the extensive and very specific tools available under the Local Government Act so that they can proactively manage the complete spectrum of rainfall events: from light showers to heavy rain to extreme storms.</p> <p>The <i>Green Infrastructure Guide</i> was explained so that participants would know how to use it effectively as a resource.</p> <p>A desired outcome was that participants would understand WHAT bylaw and policy tools enable incorporation and retrofitting of engineered green infrastructure into development plans.</p>
<p><i>Nature Knows No Boundaries</i></p> <p>TARGETS (Now What)</p>	<p>Session #3 elaborated on a performance target approach to land development that makes sense, meets multiple objectives, is affordable, and results in net environmental benefits at a watershed and/or regional scale.</p> <p>A framework for 'bringing it all together' was introduced so that participants could explore a regional team approach that ensures a common understanding and consistency at the front counter.</p> <p>A desired outcome was that participants would understand HOW a Design with Nature approach to rainwater management (i.e., using infiltration and trees) will influence the greening of the built environment and protect stream health.</p>

6. Establish Expectations for Land Development

Cowichan Valley established a “water balance” precedent

“The forum was a ‘hybrid-training workshop’ to inform, educate and enable those who wished to apply the Water Balance Model to support a Design with Nature approach to land development which results in Green Value.”

“Willing development proponents and their planning/design consultants collaborated with the Water Balance Model team to develop three case study applications that were shared at the Forum.”

“Building on the Cowichan precedent, the City of Surrey hosted the first Metro Vancouver Water Balance Model Forum in March 2009 and adapted the Cowichan format for setting expectations.”

Kim Stephens, 2009

2008 Cowichan Water Balance Model Forum

The Learning Lunch Series was the springboard to the Water Balance Model Forum held in October 2008. The audience of over 50 primarily comprised developers and their consultants. Personal invitations from the Chair of the Regional Board enhanced the profile of the Forum.

Process for Developing a Common Understanding

“When we did an orientation session for the newly elected Board in January 2009, we briefed them about the Learning Lunch Series and informed them that they are change agents for the rollout of **The New Business As Usual** in this region. This resonated,” stated Kate Miller.

“What is unique about our approach is the educational context. Through this process, we believe the design community is gaining an appreciation for protection of ecological values,” added Rob Conway. “The case study applications by development proponents helped build a common understanding of how to achieve runoff-based performance targets for rainwater management and green infrastructure.”

“The educational approach is helping us to identify and empower a core group of local champions who will then have the expertise to apply and advance the water balance approach to land development,” concluded Peter Nilsen. “This building of practitioner capacity encompasses both local government and the development community. Project proponents and reviewers will have a common language.”



“Our watersheds have been experiencing death by a thousand cuts. The message for local governments is clear: single family properties hold the key to watershed health; we must do a better job of educating residents about the link between their back yards and stream health.”

Richard Boase, District of North Vancouver, and Co-Chair, Intergovernmental Water Balance Model Partnership, at the Cowichan Water Balance Model Forum, October 2008

Figure C9 – 2008 Cowichan Valley Water Balance Model Forum
“Create Liveable Communities & Protect Stream Health”

Program Overview
<p>PART ONE:</p> <p><i>Living Water Smart: Today’s expectations are tomorrow’s standards</i></p> <ul style="list-style-type: none"> a. Context and Overview (<i>Kate Miller, Jay Bradley & Kim Stephens</i>) b. How Water Moves Through Soil & Trees Intercept Rainfall (<i>Richard Boase</i>) c. Stormwater Guidebook, Performance Targets and the Water Balance Model (<i>Kim Stephens & Richard Boase</i>) <p>PART TWO:</p> <p><i>Use the Water Balance Model to inform land development strategies</i> <i>(Jim Dumont)</i></p> <ul style="list-style-type: none"> a. Define the Problem First b. Place the Emphasis on What is Important c. Generate Reliable Numbers Quickly d. Application of the Water Balance Model at Three Scales: Introduction to Case Studies
<p>Meeting Expectations: How do you know when you have been successful?</p>
<p>PART THREE: <i>Case Study Reports: What we learned, and how we anticipate using the Water Balance Model in future</i> <i>(Michelle Mahovlich / Oleh Dubek; Shaun McIntyre; Dave Conway)</i></p> <ul style="list-style-type: none"> – Each case study team shared their experience in applying the WBM, the outputs they generated, and how the process has influenced their thinking. – This reporting out set the scene for the roundtable segment. <p>PART FOUR: <i>Town Hall Sharing: Creating our future – taking actions on-the-ground that add up</i></p> <ul style="list-style-type: none"> – Forum participants reflected on what they heard, and talked about what they have done or what they want to do.

7. Change the Land Development Culture to Protect and Restore Watersheds

How to Move from Education to Action and Implementation

Beyond the Guidebook 2010 includes a section titled **Changing the Culture**. This places in context the understanding and perspective gained through CAVI program experience. The synopsis provides a bridge to Part D which deals with the years 2012 through 2017.

Process for Leading and Managing Change

Beyond the Guidebook 2010 explains WHY and HOW changing the land development culture depends upon a 5-step process:

- First, Inform & Educate
- Second, Empower a Team
- Third, Define the Goal
- Four, Build the Vision
- Fifth, Create a Legacy

The potential for creating change revolves around three basic ingredients described in the sidebar.

Collaboration, Partnerships and Alignment

Figure C9 illustrates the multiple pathways for moving from education to action and implementation through collaboration, partnerships, and alignment. Leading and managing institutional change is a function of putting three principles into play while also having a long-term horizon:

- **Principle #1 - Melt the Opposition:** Obtain commitment from key stakeholders to support change (i.e., new values and beliefs).
- **Principle #2 - Implement the Change:** A good idea is immediate, but preparation for implementation can take 5 to 10 years, or longer. Change will then take place quickly.
- **Principle #3 - Re-Freeze:** Reinforce new values and institutionalize the change.

Operationalizing these principles is achieved through collaboration that builds consensus and aligns all levels of government. Four factors that are foundational for success are also identified on Figure C9.

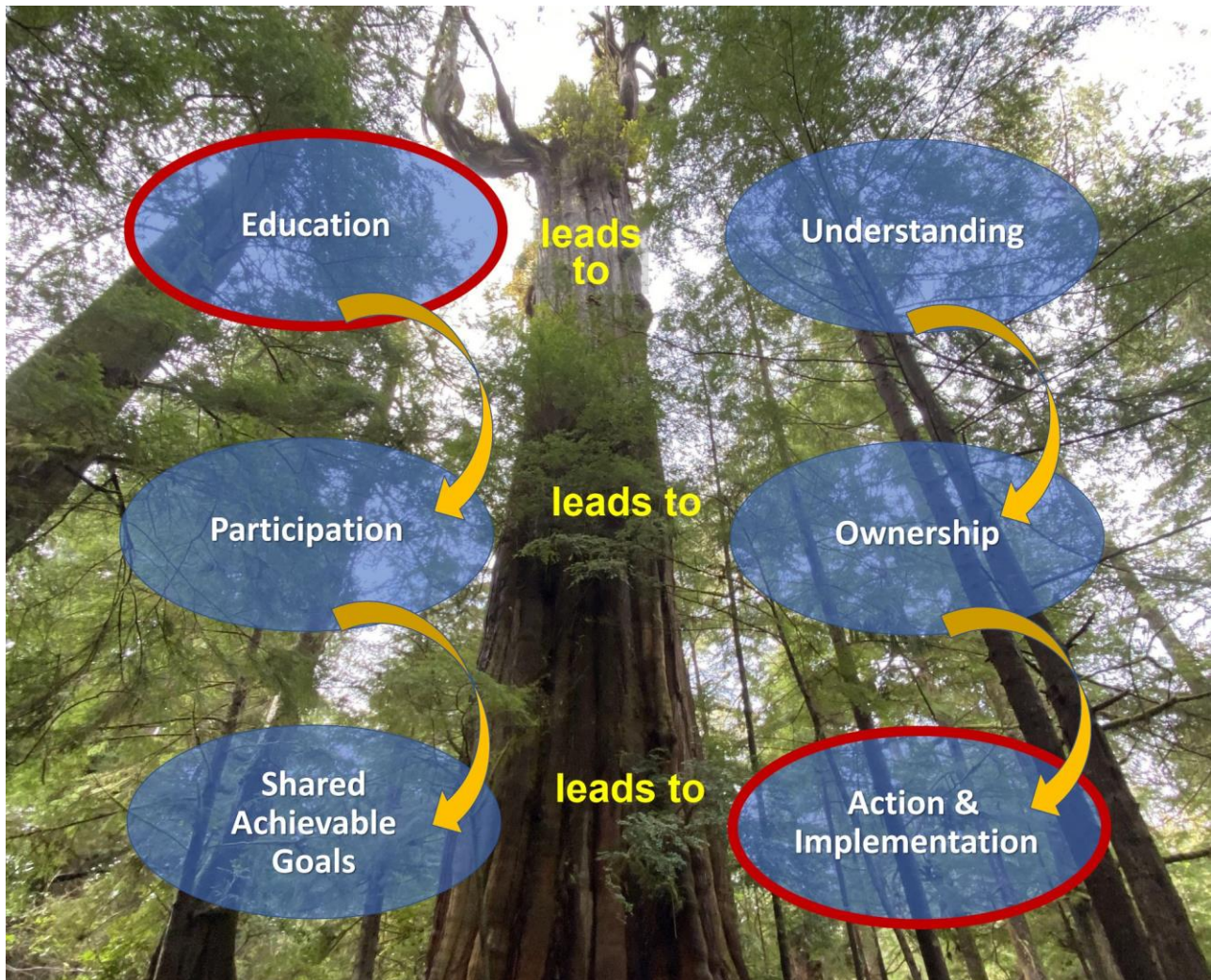
Ingredients for creating change

First, start with a unifying concept that makes sense to audiences (for example, Design With Nature).

Secondly, develop a supporting methodology that is science-based and pragmatic in reflecting a whole-system approach (for example, Water Balance Methodology).

Thirdly, implement a multi-audience outreach and continuing education program that is consistent in explaining the first two in plain language.

Figure C9 –Education Leads to Action and Implementation:
Inform, Educate, Inspire



Source: Figure 11-3 in *Stormwater Planning: A Guidebook for British Columbia*, 2002

Critical Success Factors for Making Things Happen:

- *Commitment* to take action & deliver
- *Champions* to provide energy & drive
- *Accountability* to deliver at all levels
- *Resources* to get the job done

This page intentionally left blank

PART D

Convening for Action from 2012 thru 2017



To provide the reader with a sense of how the Cowichan region has benefitted from and influenced inter-regional collaboration, this Part D is structured in seven segments:

- 1. Different Points of Understanding
Along the Watershed Health Continuum***
- 2. Annual Water Sustainability Forums within
the State of the Island Economic Summit***
- 3. Inter-Regional Collaboration for
Water Sustainability & Watershed Health***
- 4. Solutions and Tools in Response to a
Changing Climate in BC***
- 5. Regional Water Resources:
Governance versus Management***
- 6. Asset Management for Sustainable
Drainage Service Delivery***
- 7. Implementing Change: Moving an Idea
from Genesis to Mainstream***

Figure D1 – History-at-a-Glance: Convening for Action in the Cowichan Region between 2012 and 2017



1. Different Points of Understanding Along the Watershed Health Continuum

What Have We Learned: *Look Back to See Ahead*

During the period between 2006 and 2011, the CAVI program served as a “proof of approach” for collaboration within a region. By 2012, the partner regions were primed for formal collaboration between regions. Creation of the IREI, supported by Regional Board Resolutions, was a bold leap forward in 2012. This unique mechanism for inter-regional collaboration seeks to bridge the “implementation and integration gap”. It does this through a **peer-based, collaborative education process**.

Inter-regional sharing & learning helps everyone

The Partnership asked five Regional Boards to endorse and support the IREI through commitment of staff resources because “collaboration would result in alignment and a consistent approach to [Rainwater Management in a Watershed Sustainability Context](#). This would help everyone to go farther, more efficiently and effectively.”

Convening for Action in the Cowichan Region from 2012 to 2017

Figure D1 is adapted from the timeline introduced in Part B. It highlights inter-regional contributions by CVRD during this 5-yr period.



Benefits of Collaboration: The IREI concept resonated because benefits were clear and outcome-oriented:

- Align workloads.
- Share tools and resources.
- Achieve more with the same resources.

In March 2012, the CVRD hosted the IREI launch event, namely the [2nd Water Balance Forum](#). This was followed by Water Balance Workshops in the other regions.

IREI spotlight is on bridging the “Implementation and Integration Gap”

“The purpose of the IREI 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 to explore the *‘how-to’* details of implementation and integration,” stated the Partnership’s Tim Pringle in 2012.

“ONE CAN HAVE ‘IMPLEMENTATION’ WITHOUT
‘INTEGRATION’; BUT IMPLEMENTATION WILL LIKELY BE
INEFFECTIVE WITHOUT INTEGRATION.” – TIM PRINGLE

Ian McHarg, ‘father of GIS’, pioneered the concept of ecological planning. He advocated this principle:

“The shaping of land for human use ought to be based on an understanding of natural process.”

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

Regional Water and Watershed Initiatives

Figure D2 identifies the set of regional initiatives that formed the foundation for inter-regional collaboration. Each region was at a different point of understanding on the watershed health continuum.

Prior to 2012, each IREI partner region had typically established its **vision and goals** for water and watershed sustainability through a community consultation process.

“Each region faces implementation challenges due to the gap between awareness of what should be done versus ensuring action on the ground. Bridging the gap is the IREI focus for the 5-year period 2012 through 2017. A program goal is to help all regions move forward with consistent and effective *‘implementation and integration’* on the ground,” Tim Pringle explained.

“Through sharing and learning, ensure that where we are going is indeed the right way”

Jody Watson
CAPITAL REGIONAL DISTRICT, 2014



Figure D2 – Georgia Basin Regional Water & Watershed Initiatives



Explanatory Notes – Provincial Significance in 2012

- 1** The provincial government intervened in the Comox Valley in 2008 to both create a new regional district and mandate regional plans. The *Comox Valley Sustainability Strategy* and *Comox Valley Regional Growth Strategy* provided 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 had been expanded to include the member municipalities, this meant the plan had a regional function.
- 3** The **Cowichan Basin Water Management Plan** was a provincial case study for watershed governance changes being contemplated as part of *Water Act Modernization*. Co-governance with First Nations had been identified as a primary condition for success in managing water resources.
- 4** In the Capital Region, the Bowker Creek Watershed Blueprint and District of Sooke Rainwater Management Plan were demonstration initiatives for **Integrated Watershed Management**. Both are founded on partnerships that 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.

Cowichan is an ‘Incubator Region’

The Cowichan region has a history of being an incubator for approaches replicated elsewhere in the Georgia Basin. The CVRD has hosted three Water Balance Forums - in 2008, 2012 and 2014. The second forum was the launch event for the IREI. Refer to **Figure D3**.

The members of the Cowichan Valley regional team reported out on how each has progressed since 2008. Their emphasis was on ‘targets and criteria’, lessons learned, and practices necessary to protect stream health.

Over the past three decades, a pattern of extreme floods and droughts has heightened awareness of the need to look at rainfall differently and ‘design with nature’ – that is, if communities are to adapt to a changing climate (wetter, warmer winters; longer, drier summers).

Launch of the IREI at 2012 Cowichan Forum

Held at the Cowichan campus of Vancouver Island University, the 2012 Water Balance Forum attracted representatives from 29 organizations, including the City of Calgary.

*Refer to **Figure D3**.*

“It is a great honor for me to be part of the Cowichan Valley team. Our goal is to ensure a consistent approach to rainwater management on Vancouver Island, one that mimics the water balance. By working together we can make a difference. I am excited to think about the future and the great progress we can achieve together in the coming years.”

Nagi Rizk, Municipal Engineer with the Town of Cowichan Lake, delivered the closing remarks at the IREI launch



2014 Water Balance Forum

The third forum (February 2014) was the venue for release of the [Primer on the Water Balance Methodology for Protecting Watershed Health](#) and unveiling of the Water Balance Model Express, an online and interactive tool that quantifies how well properties capture, sink, and spread rainwater runoff.

At the April 2014 Board Meeting, Ladysmith Mayor Rob Hutchins moved the motion that: *"the Water Balance Web Tool and supporting documents be shared with the CVRD and partner municipal planning staff; and further, that planning staff consider integrating the tool into the planning framework to support watershed management objectives at the Official Community Plan level and Development Permit level."*

Figure D3 – 2012 Cowichan Water Balance Forum



The 2012 Cowichan Valley forum team comprised representatives of Cowichan Tribes, five local governments - Lake Cowichan, Duncan, North Cowichan, Ladysmith, and CVRD - and the Cowichan Watershed Board.

The team also included provincial and federal representatives. John Deniseger (Ministry of Environment), Wilf Luedke (Department of Fisheries & Oceans), and Bob Wylie (Approving Officer, Ministry of Transportation & Infrastructure) elaborated on regulatory requirements that provide a driver for local governments to protect and/or restore watershed health over time.



Water Balance Express: A tool to help restore ‘water balance’ in urbanizing areas

In 2002, the provincial government released [Stormwater Planning: A Guidebook for British Columbia](#). This established a new direction for urban hydrology and drainage engineering. Introduction of the **Water Balance Methodology** enabled the setting of performance targets for rainfall capture, runoff control and groundwater recharge:

If we manage the annual runoff volume, and if we mimic the natural flow-duration pattern in streams, then we can prevent increased stream erosion, prevent increased risk of flooding, and sustain aquatic habitat.

The Cowichan Region is viewed as a provincial leader in demonstrating how to apply science-based understanding, evidence, and strategies to develop criteria and tools for use in areas where local government action can influence Water Balance outcomes.

Cowichan Water Balance Express

The guiding principle for application of the Water Balance Methodology is to maintain the proportion of rainwater volume entering the stream via each of three pathways.

In coastal BC, interflow accounts for about 60% of the total annual volume. Historically, interflow has been eliminated when land development alters the landscape. What is the implication? It means the volume of surface runoff to be conveyed would be increased up to 7-fold.

<https://cvrld.waterbalance-express.ca/>

Application of Performance Targets

In 2013, CVRD and the Partnership jointly funded a case study to develop a logical and straightforward way to assess potential impacts resulting from urban development; and analytically demonstrate how to restore the hydrologic function of a watershed through application of **Water Balance Performance Targets**. The case study is part of the technical foundation for the Partnership’s [Primer on the Water Balance Methodology for Protecting Watershed Health](#).

A joint Partnership-CVRD staff presentation to the CVRD Board in April 2014 provided a public platform to announce the launch of the **Water Balance Express for the Cowichan Region** and introduce the CVRD’s supporting Rainwater Brochure. **Figure D4** illustrates content elements from the joint presentation.

“What we have done with the Water Balance Model Express is develop a clear tool that our communities will be able to use as they develop or redevelop over time. Stormwater starts as rain. And if we can deal with it at that level on each site, our infrastructure will last longer, and it will cost our communities less in terms of direct infrastructure. Also, there will be potentially less damage.”

Kate Miller, 2014



Figure D4 – Performance Targets for Maintaining Water Balance



Reference:

http://waterbucket.ca/wp-content/uploads/2012/05/Primer-on-Water-Balance-Methodology-for-Protecting-Watershed-Health_February-2014.pdf

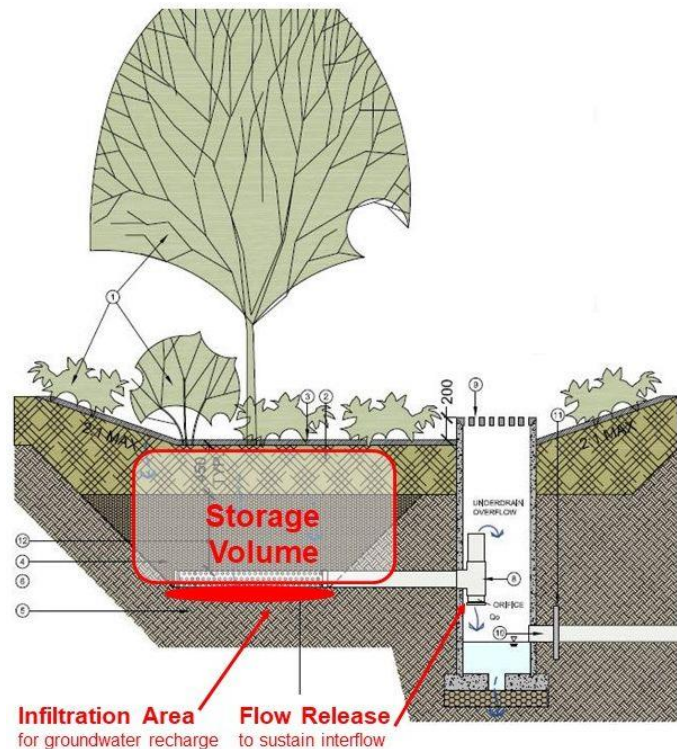


Image Source: Stormwater Source Control Design Guidelines 2012 (Final Report), Metro Vancouver

How Performance Targets for Storage, Infiltration and Flow Release are incorporated in a Rain Garden Design

Watershed-Specific Performance Targets			
Target Parameter	Water Balance Function	Units of Measurement	Example Target Values*
Base Flow Release Rate	Interflow Replicator Rate	litres per second per hectare of drainage area	0.5
Storage Volume	Interflow Storage Replicator	cubic metres per hectare of hardened land surface	300
Infiltration Area	Groundwater Storage Recharge	percentage of project site area in contact with native ground	3%

*represents expected order-of-magnitude of target value

2. Annual Water Sustainability Forums within the State of the Island Economic Summit

Just Imagine

The Vancouver Island Economic Alliance (VIEA) holds an annual [State of the Island Economic Summit](#). As an outcome of CAVI participation in the 2010 Summit, the VIEA Board adopted a 3-Year Plan which made collaboration with CAVI a high priority. VIEA then hosted a **“CAVI Forum within the Summit”** in each of 2011, 2012 and 2013.

“By aligning VIEA with the Partnership, we can play a role in building strong communities and ensure that careful stewardship of our natural resources is preserved,” stated George Hanson, VIEA President.

The in-kind support by VIEA enabled the Partnership to reach beyond the local government sector and share our *Mission Possible: Settlement, Economy, and Ecology* message with the business sector. **Figure D5** illustrates the level of VIEA commitment. It features the cover of the summit supplement published by Douglas newsmagazine.

Towards a 50-Year Vision for Vancouver Island

“The value of a Vancouver Island Vision, as well as the purpose of the forum within the summit, is that it provides a vehicle to relay success stories that otherwise might not be shared other than in their immediate locale. In essence, each new initiative builds upon the energy of those gone before it towards the common objective of creating sustainable communities on Vancouver Island,” summarized Eric Bonham in 2012.

“Eva Kras, author and featured guest speaker, brought to the discussion an invaluable viewpoint on left brain right brain thinking which nicely balanced the program as well as challenging some core issues.”

Eric Bonham, 2012



Figure D5 – Water Sustainability Forum within the 2012 Summit

***“Economy and Ecology
– A Necessary
Partnership for Water
Sustainability” →
A Future Vision for
Vancouver Island***

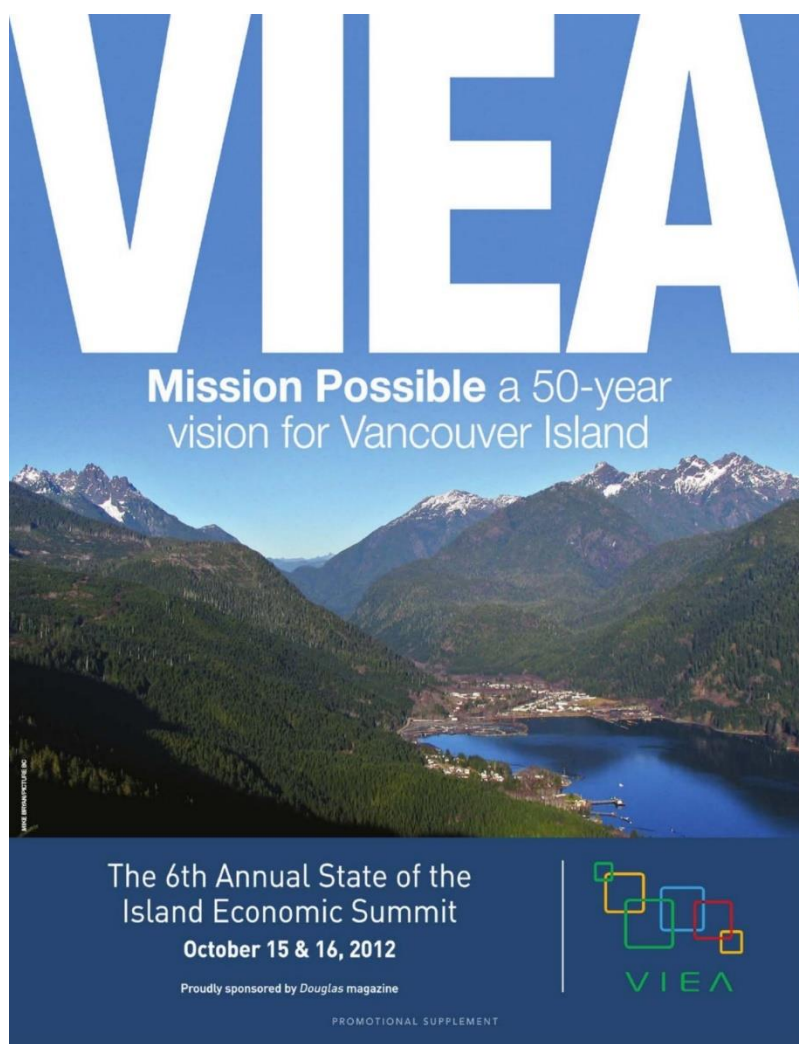
**“Just imagine the strength
of committed individuals
all working towards a
common focus.”**

David Willie
Chair, Vancouver Island Economic Alliance (VIEA)
Councillor, Town of Qualicum Beach



***“The Partnership’s
initiative-based approach
has helped VIEA recognize
how important it is to
bring participants to the
table, and to develop
plans and strategies that
will help identify and
protect sustainable
resources. And VIEA fully
recognizes that we cannot
have effective watershed
management if we do not
have all parties buying
into that perspective.”***

Marianne Stolz, 2012
VIEA Director



3. Inter-Regional Collaboration for Water Sustainability & Watershed Health

Inter-Governmental Alignment

Building on the success of the IREI launch in 2012, the five partner regions formed an [IREI Inter-Regional Leadership Team](#) in 2013. This decision set in motion a 3-step planning process:

- **Step One**, the Capital Regional District hosted the first local government team-building session in June 2013. The session crystalized desired outcomes for inter-regional collaboration.
- **Step Two**, an inter-ministry working session, followed in July 2013. During the session, it became clear that [Sustainable Service Delivery](#) as a requirement for infrastructure grants would be the ultimate driver for influencing local government actions.
- **Step Three**, the Ministry of Community Development hosted a joint working session in October 2013.

In 2014, the team delivered a year-long [Inter-Regional Collaboration Series](#). **Figure D6** is a synopsis of the work plan elements.

Springboard Session held in Victoria

The Ministry of Community Development hosted the Springboard Session that launched the series in January 2014. The Metro Vancouver members of the team provided the program content. The Ministry's Glen Brown established context for the series with a storyline titled [Provincial Policy Framework Enables Action](#). "An aspect of my involvement in the initiative is looking at the financial aspect as a potential driver to help support implementation," he stated.

Affordability ultimately drives standards of practice

Sustainable Service Delivery is a way to view watershed protection through an "asset management lens", with a goal of providing a higher level-of-service at a reduced level-of-cost.

"Our Ministry's goal, and one of our mandates, is to support local government in moving forward with innovation, new ideas and better governance that will lead to evolving standards of practice. One of those outcomes should be protection of watersheds and restoration of watershed health."

Glen Brown, former Executive Director
Ministry of Community Development



Figure D6 – Synopsis of 2014 IREI Work Plan

WHY	<ul style="list-style-type: none"> ▶ Watershed/stream health and rainwater/stormwater management are priorities for communities on the east coast of Vancouver Island and in the Lower Mainland region ▶ Communities have been struggling with the question of how best to move forward on the Watershed Health issue, particularly in light of a changing climate and financial drivers to provide higher levels-of-service at reduced levels-of-cost ▶ Inter-regional collaboration is helping each region understand what the other regions are doing, what works and what does not ▶ Collaboration will help everyone better deliver on regulatory requirements, especially for the watershed/rainwater component of Liquid Waste Management Plans (LWMPs)
WHAT	<ul style="list-style-type: none"> ▶ The collaborating regions view the Watershed Health issue through complementary lenses that together form a complete picture ▶ Each region has something unique to contribute to the mix: <ol style="list-style-type: none"> 1. Metro Vancouver – <i>watershed plan effectiveness</i> 2. Capital Region – <i>water quality assessment</i> 3. Cowichan Valley – <i>climate change adaptation</i> 4. Comox Valley – <i>sustainable service delivery</i> 5. Nanaimo Region – <i>sustainable partnerships</i> ▶ The inter-regional deliverable is a workbook on application of performance monitoring approaches that are affordable, effective and adaptive
SO WHAT	<ul style="list-style-type: none"> ▶ The vision is that collaboration would result in implementation of standards of practice that are affordable and effective in maintaining healthy watersheds and streams ▶ The mantra for inter-regional collaboration is framed in these terms: <i>Through sharing and learning, ensure that where we are going is indeed the right way</i>
NOW WHAT	<ul style="list-style-type: none"> ▶ Organize a series of Inter-Regional Collaboration Sessions: <ul style="list-style-type: none"> □ Springboard Session – January in Victoria - <i>hosted by the Province, featured Metro Van</i> □ Capital Region – March in Victoria □ Cowichan Valley – May in Ladysmith □ Comox Valley – June in Courtenay □ Nanaimo Region – September in Nanaimo ▶ At each regional session, inform and educate the local audience about necessary actions to fulfil regulatory objectives, commitments, and requirements in the host region
THEN WHAT	<ul style="list-style-type: none"> ▶ Document the set of session outcomes in Beyond the Guidebook 2015: Moving Toward “Sustainable Watershed Systems, through Asset Management” <ul style="list-style-type: none"> □ This would inform anyone involved in a watershed health monitoring process □ This would be the starting point for sharing, learning and adapting over time □ This may be used by local governments to adjust actions, inform community and watershed planning, and create a legacy (i.e., healthy watersheds & streams)

Go farther together, more efficiently and effectively

"All regions are dealing with challenges associated with watershed monitoring. Each region is at a different point along the Watershed Health continuum. Each region has something unique to contribute to the mix. Our vision for collaboration is that the series of working sessions will inform and educate the leadership team and others about watershed health."

Kate Miller, 2014

IREI Leadership Team

Figure D7 presents the members of the 2014 IREI Leadership Team. The cities of Coquitlam and Surrey represented the Metro Vancouver region and reported back through the Stormwater Interagency Liaison Group (SILG). Local government and stewardship sector members jointly represented the CAVI-Comox Valley Regional Team.

The team framed the mantra for the [Inter-Regional Collaboration Series](#) this way: *"through sharing and learning, ensure that where we are going is indeed the right way."*

Adaptive Management Framework

Coquitlam's Melony Burton chaired SILG as well as the interagency working group tasked with developing an [Adaptive Management Framework](#) (AMF), a weight-of-evidence performance measurement approach.

"The AMF is meant to be a *living document*, adaptively managed itself, and updated as required to reflect advances in rainwater management, monitoring techniques, and to build on the accumulated experience of stakeholders," stated Melony Burton at the IREI Springboard Session.

"The AMF enables Metro Vancouver municipalities to report out biannually to the Ministry of Environment, pursuant to the requirements of the region's [Integrated Liquid Waste and Resource Management Plan](#), on the effectiveness of watershed-based planning initiatives and the health of their watersheds," she added.



Figure D7



Cowichan Collaboration Session: *Managing risks in the face of climate change*

When the CVRD hosted the Inter-Regional Collaboration Session held in May 2014, the Cowichan Region team chose [Adapt to a Changing Climate – Manage the Water Balance](#) for the session theme.

The 2-page **Figure D8** is included to illustrate the scope of the discussion. The is intended to provide readers with a sense of the commitment and how much work had been done or was underway in the Cowichan region as of 2014.

The presentation team represented the five Cowichan Valley local governments, Cowichan Tribes, Cowichan Watershed, the Cowichan Watershed Board, and the Shawnigan Basin Society. All shared their insights flowing from the processes and products they had under development to manage risks to water resource infrastructure, water supply and water quality in the face of climate change.

Climate threats to water resources: “The Cowichan region seems well advanced in advancing processes and developing products that could eventually be packaged together as elements of an over-arching Water Sustainability Plan as anticipated in [Living Water Smart, BC’s Water Plan](#),” observed Thomas White in 2014 when he spoke on behalf of the BC Climate Action Secretariat.

Fast forward to 2022: “Early in my career, working with agencies across Western Canada gave me an appreciation for the urgent need for collaboration between organizations,” states Keith Lawrence, Cowichan session moderator. “When I joined CVRD in mid-2013, I had a strong sense that this would be a place where I could work in a more collaborative setting. There was a willingness to foster a collaborative framework between partnering organizations so that together we can respond to climate threats to our water resources.”

Climate threats to water resources

“Beginning in 2014, the IREI sessions have allowed me to meet my peers in neighbouring jurisdictions, to check in with each other on validating new approaches for addressing threats to water resources. But also, to ensure that in some cases we might already be on the right path to getting ready for climate threats and impacts.”

Keith Lawrence, 2022

“Being part of the IREI collaborative network helps us reinforce CVRD’s long-term strategies. These are necessary to respond to climate threats which are projected to be long-term in duration and changing over the long-term.”

Keith Lawrence, CVRD Environmental Services

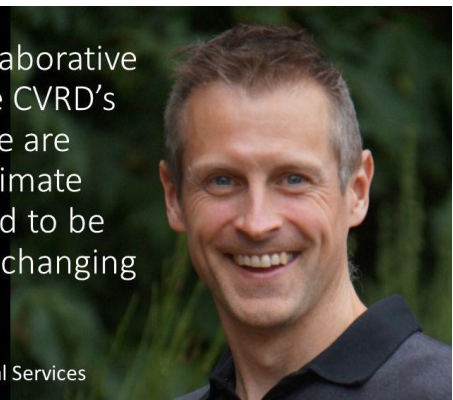


Figure D8 – Agenda for Cowichan Collaboration Session (part 1 of 2)



At the inter-regional session hosted by CVRD in May 2014, the ‘town-hall’ format encouraged interactive sharing and learning about what ‘water sustainability planning’ looks like in the Cowichan region. The roundtable segments for the four modules were pivotal to a successful workshop outcome.

Watershed Health Goal

- ▶ **Vision & Work Plan for Inter-Regional Collaboration:** Kim Stephens, Partnership for Water Sustainability
- ▶ **The Cowichan Valley Region: An Overview & Key Actors** – CVRD’s Kate Miller and Keith Lawrence

A Changing Climate - Context for Protecting the Water Balance

- ▶ **Climate Change Impacts on the Georgia Basin** - Trevor Murdock, Pacific Climate Impacts Consortium (PCIC)
- ▶ **The provincial government’s direction on climate change** - Thomas White, BC Climate Action Secretariat

Module 1 – Managing Risks to Infrastructure: *How the Cowichan region is taking measures to address water resource infrastructure risks from Climate Change:*

- ▶ **Module Introduction** – Keith Lawrence
- ▶ **Local Sea Level Rise impacts** – Kate Miller
- ▶ **Flood construction level mapping** - Clay Reitsma, Municipality of North Cowichan
- ▶ **Bylaws and Development on Floodplains** - Mike Tippet, CVRD
- ▶ **Cultural & Social Risks in South Cowichan** – Georgia Collins, Executive Director, Shawnigan Basin Society
- ▶ **Lake Cowichan’s Stormwater Management Plan** – Nagi Rizk, Town of Lake Cowichan
- ▶ **Water Balance Express** – Jim Dumont, Partnership for Water Sustainability
- ▶ **Asset Management & Sustainable Service Delivery** – Abbas Farahbakhsh (Duncan) & Nagi Rizk (Lake Cowichan)

Town Hall Segment: How can we collaborate across the regions within the Georgia Basin to address the risks of climate change to infrastructure?

Module 2 – Managing Risks to Water Supply: *How the Cowichan region is developing processes to address water supply issues in the face of Climate Change*

- ▶ **Module Introduction** – Keith Lawrence
- ▶ **Lake Cowichan’s Stormwater Management Plan** – Nagi Rizk, Town of Lake Cowichan
- ▶ **Drought Planning in the Cowichan Valley Region** – Mike Tippet, CVRD
- ▶ **The Cowichan Valley Region’s agricultural adaptation strategies** – Kathy Lachman, CVRD
- ▶ **Holland Creek and Stocking Creek watershed modelling** – John Manson, Town of Ladysmith

Town Hall Segment: In the face of climate change, what are you most concerned about when it comes to managing water supply?

Figure D8 – Agenda for Cowichan Collaboration Session (part 2 of 2)

Module 3 – Managing Risks to Water Quality: *How the Cowichan region is addressing water quality issues in the face of Climate Change*

- ▶ **Module Introduction** – Keith Lawrence
- ▶ **Cowichan/Koksilah water quality** – Keith Lawrence
- ▶ **Enabling Adaptive Management in South Cowichan** – Emily Doyle-Yamaguchi, CVRD
- ▶ **Lake Cowichan’s Stormwater Management Plan** – Nagi Rizk, Town of Lake Cowichan

Town Hall Segment:

What are you most concerned about when it comes to managing water quality?

What would you like to see “more of” when it comes to managing water quality in the face of climate change?

Module 4 – Changing How We Make Decisions: *How the Cowichan region is developing governance structures and processes to make the connections between high-level decision making and actions on the ground*

- ▶ **Module Introduction** – Keith Lawrence
- ▶ **CVRD Regional Water Governance and Management Study** – Keith Lawrence
- ▶ **Integrated Flood Management** – Kate Miler, CVRD
- ▶ **Cowichan Watershed Board’s role in responding to the impacts of climate change** – Mayor Rob Hutchins
- ▶ **Cowichan Tribes – Why there is a need to manage water at Cowichan Lake** – Tim Kulchyski, Cowichan Tribes

Town Hall Segment:

How is your region going about ensuring accountable, effective oversight of water resources?

What powers and authorities can and should be sought by local authorities to provide sufficient legislative powers to protect and restore watershed health?



Cowichan Climate Adaptation Story

"I grew up in rural BC near Prince George in a small tributary of the Fraser River. We played in streamside areas, and we connected with nature," continues Keith Lawrence. "Without fully appreciating and understanding what was needed to protect those places, we had this sense growing up that stream corridors are important to nature, and that they are important to our well-being. This way of knowing has influenced my work on the [Cowichan Climate Adaptation Strategy](#)."

"My focus at university was on botany and the role that streamside plants play in protecting the water resource and that stream corridors are important. After graduation, my time doing environment assessments while employed by a national accounting firm gave me the opportunity to see the landscape around our province, and to understand some of the impacts that were happening throughout BC."

Relationships built on respect and trust

"IREI convening for action forums have been places for CVRD to build partnerships with neighbouring jurisdictions who are facing the same problems and developing similar sets of actions. It helps us to validate that we are on the right track. But also, to learn new approaches which we may not have yet attempted to do."

"The IREI has really helped CVRD to lay the groundwork for some of the relationships that will be needed, and that will need to be strengthened, in order to develop and implement adaptation actions in response to climate impacts anticipated to come."

Keith Lawrence, 2022



A decade grinding away to set up the long-term game plan:

"One of the pieces that came out of CVRD's strategic planning was the need for a strategy to respond to climate threats. It is a multi-phase process. The first phase of work involved development of climate impact projections. In 2016, this gave us an idea of what to expect out to 2080 in terms of changes to temperature and precipitation patterns."

"In the second phase, we did risk assessments for flood, drought, and wildfire. The third phase is the actual adaptation strategy. We convened partner organizations throughout the region to identify goals and actions that would be needed to respond to those climate impacts."

"The key to the [Climate Adaptation Strategy](#) is Board approval to develop an implementation framework, which is essentially a work plan. The main recommendation is to develop a collaborative working group of various government agencies that will be needed to support implementation of the actions."

4. Solutions and Tools in Response to a Changing Climate in BC

Feast AND Famine!

By the summer of 2015, it was evident that Western North America had crossed an invisible threshold into a different hydro-meteorological regime. Annual volumes of water entering and exiting regions are not necessarily changing. Instead, what is changing is how and when water arrives and leaves – it is flood and drought.

At year-end, the Partnership's [Feast AND Famine Workshop](#) addressed this over-arching question: *What should we expect and what can we do to build **water-resilient communities**?* **Figure D9** is the program overview. The event attracted media attention, resulting in front-page headline stories in both of BC's major daily newspapers.

"After a period of relative hydro-climatic stability, changes in the composition of the Earth's atmosphere have resulted in the acceleration of the global hydrologic cycle with huge implications. We can expect deeper, more persistent drought punctuated by flooding."

Bob Sandford, Global Water Futures Chair, Water and Climate Security,
United Nations University Institute for Water, Environment and Health



Droughts and Floods: *Communicating the 'New Normal' in the Cowichan*

Keith Lawrence described climate adaptation initiatives underway in the Cowichan region. "It is proposed to apply whole watershed thinking and follow a risk-based approach to decision-making and management across the region," he stated.

"The [New Normal Cowichan](#) initiative is a coordinated approach to communicating what is happening in our region and providing the community with easy, clear information and tools that make adapting to the 'new normal' easier. The focus is on practical actions, such as using the Water Balance Express, that emphasize what is possible."

Figure D9 – Feast AND Famine! - Solutions and Tools in Response to a Changing Climate in BC (Dec 2015)

Module A – Resilient Communities & Water – What Happens on the Land Matters

Watershed Health, Rainwater Management and Sustainable Service Delivery are priorities in BC. Local governments are tackling the question of how best to move forward on these priorities.



Kim Stephens

Do business differently. Accepting risk opens the door to creativity and results in innovation. Know the context for action; change the culture and instil a new ethic; create a legacy.



Bob Sandford

Module B – How are Local Governments Responding to a Changing Climate?

Practitioners in local government want to learn from those who are innovating. The Cowichan Valley Regional District and North Vancouver District are incubators for approaches that are being replicated elsewhere.



Keith Lawrence

Local government regulates how land is developed, drained, and serviced. It has the authority to restore the absorbency of the urban landscape and Water Balance distribution, over time.



Richard Boase

Module C – Will There be Sufficient Fresh Water for Agriculture in the Future?

Food security, protection of agricultural lands and water use are issues facing BC. Agriculture is a high consumer of water. How will water supply be affected by rising sea levels and a changing climate in the Fraser Delta?



Ted van der Gulik

Understand the complexities of the water supply for agricultural lands in the Delta region, what impacts sea level rise may have, and how climate change will affect water demand to grow our food.



John ter Borg

Module D – Sustainable Service Delivery for Watershed Systems

Released in December 2014, *Asset Management for Sustainable Service Delivery: A BC Framework* is a game-changer. It signifies the dawn of a new era for British Columbia local government.



Glen Brown

Sustainable Service Delivery for Watershed Systems, and 'getting it right at the front-end,' would apply to land uses that local governments regulate and/or can influence within settled areas of watersheds.



Kirby Ell

3rd Annual Water Sustainability in BC Workshop, co-hosted by the Partnership for Water Sustainability in BC and the Irrigation Industry Association of BC, and held in Richmond, Dec 2015

5. Regional Water Resources: Governance versus Management

Changing How We Make Decisions

Recurring region-wide consequences of water-related challenges prompted regional action to develop governance structures and processes to make the connections between high-level decision making and actions on the ground. This resulted in a [Regional Surface and Groundwater Management and Governance Study](#) (2015).

Concept for a Regional Water Authority

“When I started here in 2014, the CVRD was in the midst of a watershed governance study. This was looking at how could the CVRD take a more active role in watershed governance. The study laid out some options in terms of how we might undertake it,” states Brian Carruthers, former Chief Administrative Officer, in providing context.

“The work had been done through a series of workshops with our partners, including First Nations, municipalities, and NGOs. The final report came out with some options. We knew that to move it forward we would need buy-in from First Nations on any kind of regional watershed governance regime.”

Conversations with First Nations: “At the time, the Chair (Jon Lefebure, Mayor of North Cowichan) and I did tours of the various First Nations and met with their chiefs and councils around the intent of this initiative and what would their interest be in terms of protecting their interests and being involved.”

“We realized that this probably bigger than we, the CVRD, could take on at that time. There were all kinds of questions from First Nations, overlapping territory, a pending treaty, and any number of complicating factors such that we came to the conclusion that this likely was not going to see the light of day.”

A Change in Direction: “So, at that point we took our foot off the gas pedal and turned our attention to the [Drinking Water and Watershed Protection](#) service function model as an avenue to address the longstanding surface and groundwater concerns,” concluded Brian Carruthers. Looking ahead, Part E tells the story behind the DWWP.

Relationship with First Nations

“In February 2015, the <Regional Surface and Ground Water Management and Governance Study> made four primary recommendations.

Establishing a Regional Water Authority was #1. Co-governance with First Nations was identified as a primary condition for success in managing water resources.”

“The feedback from the Board was to hear from First Nations on their recommendations for Regional Governance before taking further steps.”

Keith Lawrence, Dec 2015

Learn about and play forward the oral history

Keith Lawrence led the Water Governance Study and worked with Brian Carruthers to have dialogue with all First Nations in the region.

“It was incredibly valuable to be part of the whole water governance program, to convene all the various partnering organizations, and to listen to the various water governance challenges that were occurring across the region, and to be able to synthesize common problem statements as well as actions which need to be in place.”

Listening leads to conversations and then dialogue: “Meeting with First Nations councils, staff and community members was a tremendous honour. We would sit with them and listen to their views on the values of the watersheds, what was important to them, what had been passed down through their oral histories, and what they saw in some cases as the way forward to support collaborative watershed management approaches,” recalls Keith Lawrence.

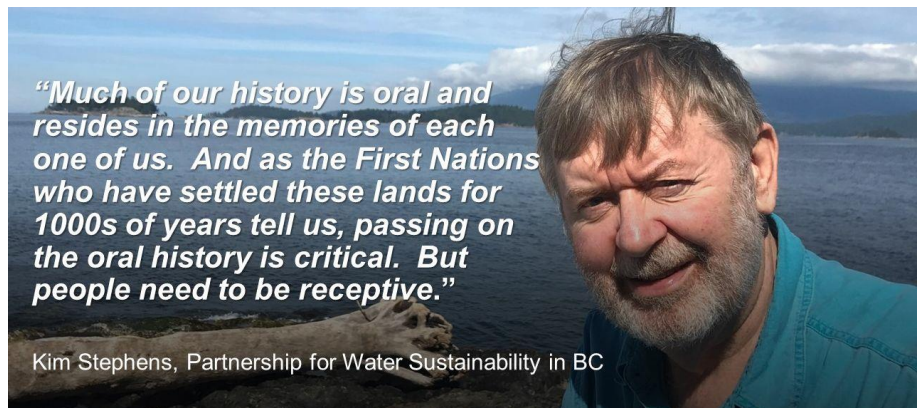
“We recognize oral history as being more and more important. One of the front-end pieces that CVRD has included in our climate adaptation presentations is a Kim Stephens quote about First Nations and oral history. He points out that people need to be receptive to the message.”

Governance versus Management: What are we talking about?

Water governance is the process of decision-making and holding decision-makers to account. It focuses on ends: “doing the right thing”.

Water management refers to ongoing, on-the-ground activities. It focuses on means: “doing things right”.

Regional Surface and Groundwater Management and Governance Study, 2015



“How do we enable that receptivity among folks, not just the folks attending the workshops but everyone in the community, so that there is recognition that we can adapt (to climate threats).”

“Our watersheds have been stewarded for thousands of years by First Nations. We can continue to steward them for thousands of years into the future. But we need to be receptive, and we need to listen to each other and to the lessons that we can learn from our First Nations partners about how that stewardship is accomplished,” stresses Keith Lawrence when he reflects on playing forward oral history.

6. Asset Management for Sustainable Drainage Service Delivery

Restore Watershed Hydrology and Re-Set the Ecological Baseline

In 2015, the CVRD stepped up to act as co-applicant with the Partnership to secure senior government funding for the IREI program. All five Regional Boards passed resolutions of support. They did so again in 2016 with a 5-year commitment to collaboration through 2021. The IREI track record of success secured high-level support:

Year	Milestone
2012	IREI 'proof-of-approach' initiated
2013	IREI Leadership Team formed
2014	IREI Inter-Regional Collaboration Series delivered
2015	<i>Moving Towards "Sustainable Watershed Systems, through Asset Management" released</i>
2016	IREI partners embarked upon a 5-year program to achieve <i>Integration of Natural Systems Thinking and Adaptation to a Changing Climate into Asset Management</i>

Sustainable Watershed Systems, through Asset Management

In 2016, the five regional districts provided bridge funding to initiate the 5-year program while waiting for the funding announcement in 2017 by the governments of Canada and British Columbia. **Figure D10** introduces a foundational concept for integration of natural systems thinking and climate adaptation into asset management.

"Successful implementation provincewide of Sustainable Watershed Systems, through Asset Management, would represent an evolution in how infrastructure is planned, financed, implemented and maintained in British Columbia."

Minister Peter Fassbender
March 2017

"The BC Asset Management Framework sets a strategic direction that would refocus business processes on outcomes that reduce life-cycle costs and risks. It links local government services, infrastructure that supports service delivery, and watershed health. IREI program goals are aligned with this strategic direction."

March 2017 announcement by Peter Fassbender,
Minister of Community, Sport and Cultural Development

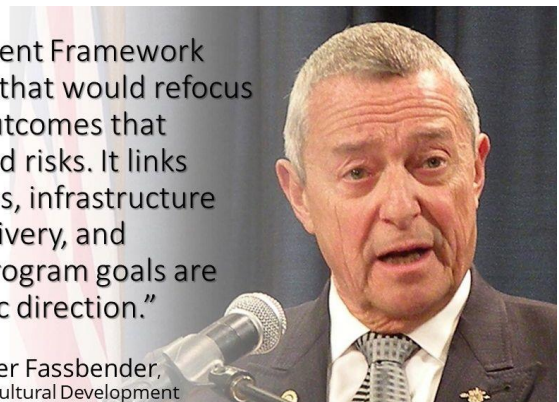
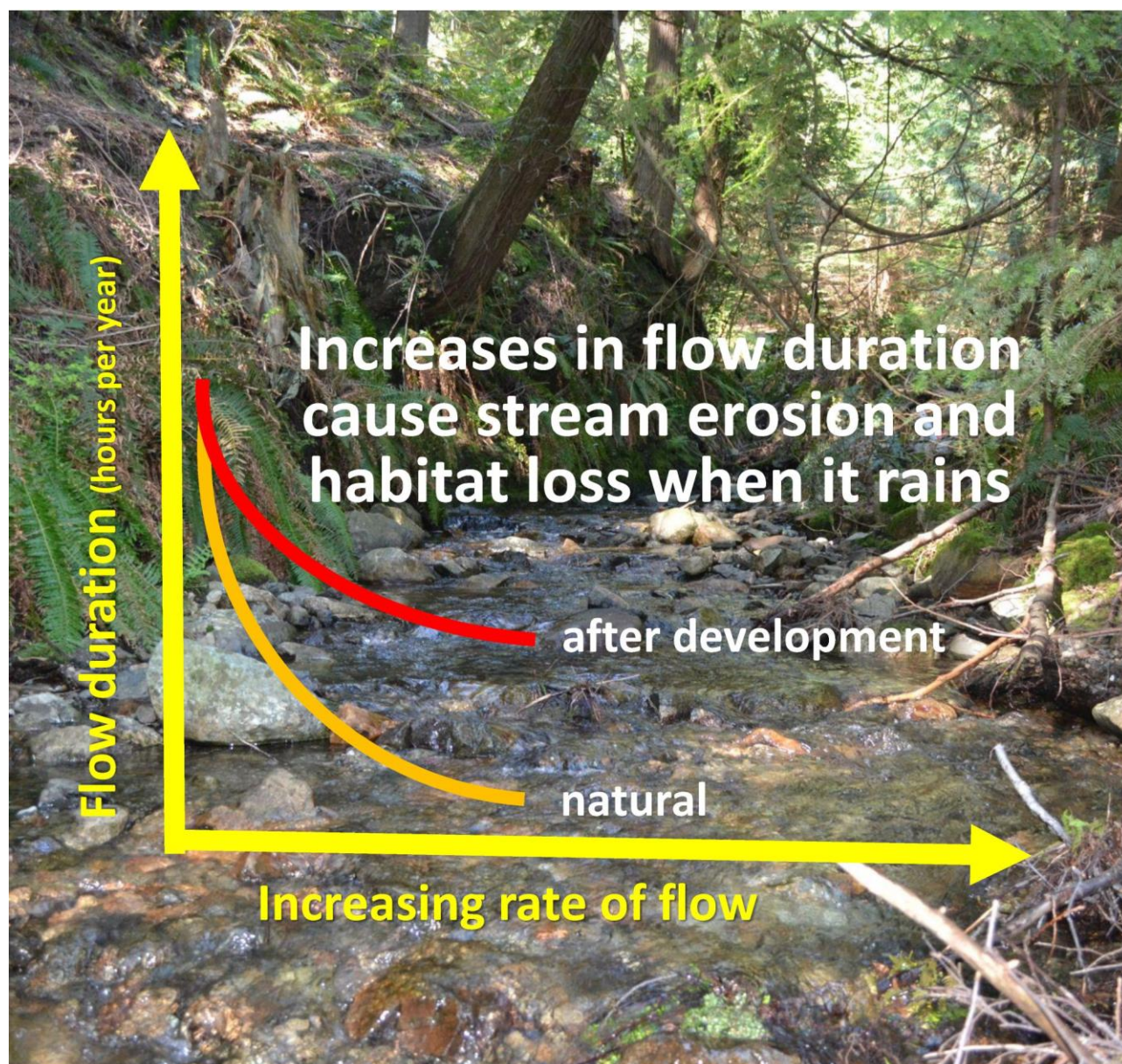


Figure D10 – Foundational concept for restoring watershed hydrology and re-setting the ecological baseline



Urban development increases streamflow duration by a factor of 10 or more!

Urban Watersheds as Infrastructure Assets

With release of [Beyond the Guidebook 2015: Moving Towards “Sustainable Watershed Systems, through Asset Management”](#) in November 2015, the Partnership launched an educational process to reframe how local governments look at urbanizing watersheds.

The reframing is captured in **Figure D11**. Alignment with [Asset Management for Sustainable Service Delivery: A BC Framework](#) is the context. The IREI focus is on the **Water Balance Methodology**.

Beyond the Guidebook 2015 includes a section titled [Convening for Action in the Cowichan Region](#). Rollout of Beyond the Guidebook 2015 included a presentation to the CVRD Board to update the Directors about the progress of inter-regional collaboration. At that time, they were introduced to a new paradigm that states: **“Functional watersheds are (your most important) infrastructure assets”**.



Unfunded drainage liability is a driver for action

The Drainage Service is the neglected service. The consequence of neglect is an accumulating financial liability to fund creek channel stabilization and riparian corridor restoration in urban and rural settings. The urgency of the drainage liability issue spurred the analytical process that linked municipal asset management and stream health as **“cause-and-effect”**, for better or for worse.

Hydrology is the engine that powers ecological services: The three pathways by which rainfall reaches streams --- over the land surface, shallow horizontal interflow through the soil layer, and deep vertical to groundwater --- are **“drainage assets”**. These pathways provide **“water balance services”** that sustain ecological services.

The Water Balance Methodology is about managing the whole rainfall spectrum and providing benefits to the stream through the wide range of stream needs - from sustaining baseflow to flood mitigation. The Water Balance Methodology bridges all ranges in rainfall and streamflow events.

“Sustainable Watershed Systems, through Asset Management” applies to land uses that local government regulates and is founded on an understanding of how the Water Balance Methodology integrates the Site with the Watershed, Stream, and Groundwater Aquifer

Figure 11 – Creeksheds & Water Balance Services

With release of **Beyond the Guidebook 2015**, an educational goal:

Those who are involved in municipal land use and drainage would understand the vision for.....

“Sustainable Watershed Systems, through Asset Management”

THE NEW PARADIGM – *“Creeksheds as Infrastructure Assets”*

A creekshed is an **integrated system**.

The **three pathways** by which rainfall reaches streams are ‘infrastructure assets’.

The three pathways provide **‘water balance services’**.



Desired Outcome: A Sustainable Funding Plan for the Drainage Service



Teach, Train, Mentor

“The IREI program is demonstrating how to integrate whole-system, water balance thinking and climate adaptation into drainage infrastructure asset management.”

“Benefits would include less flooding, less stream erosion, and more streamflow during dry weather when needed most. These water balance benefits would ultimately translate into lower life-cycle costs and a water-resilient future.”

“The Partnership’s job is to teach, train and mentor practitioners so that they are ready for that next step which is to account for the Water Balance Services provided by nature’s assets.”

Ted van der Gulik, April 2017
Partnership President

The IREI program is guided by the **Watershed Health Goal**, which is:

“Create a legacy through implementation and integration of standards of practice that are affordable and effective in maintaining healthy watersheds and streams.”

IREI alignment with **Asset Management for Sustainable Service Delivery: A BC Framework** means emphasis is placed on striving for financial sustainability. Introduced in Part A, **Figure D12** illustrates the twin pillars concept. Linking the two should be the over-arching goal of a **Sustainable Funding Plan for the Drainage Service**.

Pillars of Stream System Integrity

The IREI program for asset management for sustainable drainage service delivery has three components; they are:

1. Water Balance Methodology, Model, and Express
2. Ecological Accounting Process (EAP),
a BC Strategy for Community Investment in Stream Systems
3. Peer-based Education and Outreach

Benefits of local government collaboration: “The CVRD has been an active partner for over 10 years and has benefitted from the tools, professional development and working relationships made possible through our membership in the Partnership for Water Sustainability in BC,” stated Chair Jon Lefebure when the funding announcement was made in March 2017.

“The CVRD has identified the challenges regarding drainage due to development and the need for a whole-system, water balance approach to get it right. Through the IREI program, we can explore and test solutions. The IREI enables local governments to leverage resources for common activities such as education, research, and policy development.”

“The focus of the IREI work plan is to promote integration of service, natural asset and financial sustainability through an asset management process to achieve a healthy watershed.”

“Other regions recognize BC as a leader in this area. They perceive BC moving in the right direction with integration of watershed systems thinking and climate change adaptation into asset management,” concluded Chair Jon Lefebure.

Figure D12

Twin Pillars of Stream System Integrity



A BC Strategy for Community Investment in Stream Systems

In 2016, the Partnership embarked upon a 6-year program of applied research to evolve **EAP, the Ecological Accounting Process**. The first application was Busy Place Creek (Coast Salish: *Sh-hwuykwselu*), a small branch of the Koksilah River south of Duncan. Historically, this was the meeting place for First Nations trade and exchanges.

The 3-stage program to test, refine and mainstream the EAP methodology and metrics involved 9 case studies and 13 local governments and yielded 19 “big ideas” or foundational concepts. **Figure D13** identifies cascading core concepts leading to the **Riparian Deficit**, the big idea from the subsequent Bings Creek EAP project in the Municipality of North Cowichan.

Case Study Outcome

Although not within the EAP scope, potential elements of an affordable and readily implementable water balance restoration strategy soon became apparent. This information helped CVRD move forward with the Sh-hwuykwselu (Busy Place) Creek Stormwater Management & Mitigation Plan, completed in 2019.

Busy Place Creek “Big Ideas”

Each EAP case study has resulted in breakthroughs in building an understanding of what matters and what matters most. The Busy Place Creek process is characterized by two “big ideas”.

The EAP lens is the stream system (Big Idea #1): It is rare that someone takes a true **whole-system view**. Rather, studies and analyses are typically single purpose in scope because the work is viewed through the lens of whichever local government department initiates the work. But does anyone ever point this out?

Hydrology is the engine that powers stream ecology (Big Idea #2): It is not universally understood that land development servicing practices disconnect the three pathways by which rainwater naturally reaches streams. **Reframing the relationship** between hydrology and stream ecology in terms of an engine analogy is a foundational idea for initiating a paradigm-shift.



Figure D13 – Cascading Concepts underpin the Ecological Accounting Process, a BC Strategy for Community Investment in Stream Systems



7. Implementing Change: Moving an Idea from Genesis to Mainstream

THE IDEA: *Natural Asset Management for Sustainable Drainage Service Delivery*

A Perspective on Creating Our Future

“The ‘convening for action’ initiative is the best example of peer driven innovation that I have ever seen. It has led to nothing less than a quiet revolution in how we approach the design and construction of human settlements in British Columbia. When I see an urban stream coming back to life or an innovative approach being taken to new infrastructure, I think of the networks of innovative professionals that not only stand behind this work but also continue to create positive change. I firmly believe that this ability to creatively innovate in support of sustainable practices will enable us to meet a host of future challenges.”

Dale Wall, November 2015
retired Deputy Minister
BC Municipal Affairs

Everyone learns from stories and the most compelling ones are based on the experience of the champions who are leading implementation of watershed-based solutions. When the Partnership released [Beyond the Guidebook 2015](#), we framed an over-arching goal for the IREI program as follows in our presentations to Regional Boards:

By 2017, all local governments would learn from each other’s experience and would understand **how** natural systems support municipal services and would be able to fully **integrate** this understanding and associated methodologies into programs, planning and funding.

This was a modest goal. It was viewed as achievable because it recognizes how an idea or innovation is adopted or accepted. **Figure D14** illustrates the process of adoption of a new idea or innovation. Progress in leading and implementing change takes time, oftentimes decades. It requires commitment, perseverance, and patience.

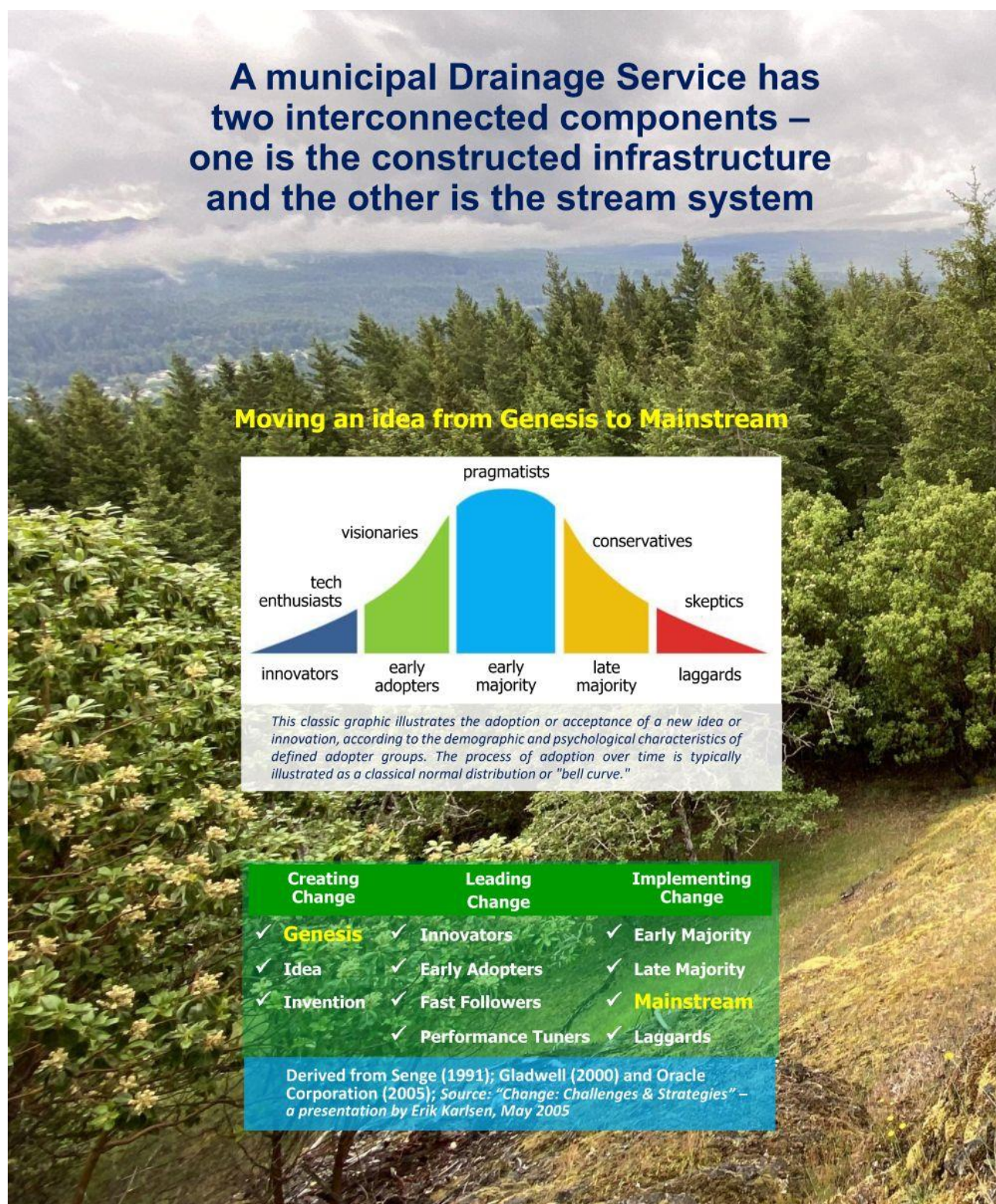
The process is incremental, which is why **playing forward the oral history** is so critical. The goal has not yet been fully realized in BC, but communities are progressing. The experience of the Cowichan region over a long period of time is inspirational.



“The IREI is a unique format for Georgia Basin local governments to learn from each other by sharing approaches and successes in managing our water resources.”

Brian Carruthers, 2015

Figure D14 – Natural Asset Management for Sustainable Drainage Service Delivery



This page intentionally left blank

PART E

2018 Referendum & First Decade of DWWP Implementation



To provide the reader with an objective look at how the “process for change” is unfolding in the Cowichan region, this Part E is structured in three segments:

- 1. Voter Approval of the DWWP Service Function: 2018 Referendum is a Watershed Moment***
- 2. Engagement of Community thru Stewardship***
- 3. A Look Ahead: The Next Five Years***

**Figure E1 – History-at-a-Glance: Convening for Action
in the Cowichan Region between 2018 and 2022**



1. Voter Approval of the DWWP Service Function: *2018 Referendum is a Watershed Moment*

A Solid Foundation for DWWP Framework

“In October 2018, Cowichan electors passed a referendum (by a decisive 58% in favour) to implement the new [Drinking Water & Watershed Protection](#) regional service. This was the culmination of more than a decade of collaboration to build capacity in the stewardship sector and enhance decision-making,” states Kate Miller.



Convening for Action in the Cowichan Region from 2018 thru 2022

Figure E1 is adapted from the timeline introduced in Part B. It highlights inter-regional contributions by CVRD during this 5-yr period.

Ongoing collaboration with IREI partners has a dual focus – Blue Ecology and EAP.

DWWP is a Work-in-Progress

The DWWP service function resulted from a change in direction in 2015 when CVRD moved away from the concept of a regional water authority. The DWWP is the vehicle to address longstanding surface and groundwater concerns. Implementation is slower than anticipated.



“Every Director knows that they have issues with water in their respective jurisdictions. I think it is just competing demands that have slowed our progress.”

Brian Carruthers, 2022

Poised for Action in the Cowichan Region: “In 2018, we felt the time was right for a referendum. We had completed the work necessary to build a solid foundation for the proposed [Drinking Water & Watershed Protection](#) regional service,” stated Kate Miller in her panel presentation at the second forum in the Watershed Moments Symposia Series, held in Parksville in April 2019.

“Our communities have been with us all the way through this process, to build the need for local government to be there for them as a warehouse, as it were, as a component of a long-term water strategy. Local government has a specific role in the community and so do the other partners. And so, the referendum passed.”

“In recent years, the communities in the Cowichan region had come together at the regional level and said, for us to manage where we want to go in the future, we need to understand where we are now so that we can put in place strategic processes.”

“What we really want at the end is success. To understand where we are now helps us understand where we have been, and to be clear about where we want to go.”

Risks to our region

"We looked at what are the risks to our region, at both the watershed and community scales, so that we could make strategic investments in the most appropriate places, with the tools that we have."

Kate Miller, 2019

Agriculture Potential: “The region undertook a long-term strategy to understand agricultural water use. We wanted to understand the potential of all land, not just that currently designated for agricultural use, because at some future time it may be needed for agriculture.”

Water Database: “In the early 2000s, we started building a database for water quality and water supply. CVRD staff built the database in collaboration with the Ministry of Environment and with help from community stewardship groups. There is an appetite for volunteering and a desire on their part to understand watershed systems.”

Watershed Atlas: “CVRD has developed tools to share information effectively. How do we take information that is buried in filing cabinets and historic records and make it live again? It all needs to be put into a publicly available framework. We have done that.”

Climate Change Projections and Application: “Rather than simply saying, the climate is changing, we are looking at the impacts of climate change. We need to understand specifically how is it changing, how is it different from one part of our region to the next, and how is it impacting on our infrastructure and our ability as a local government to provide key services? We undertook downscale climate projections for our region at an 800-metre grid cell level so that we would understand what would happen at the top and bottom of watersheds.”

Handing off the “Intergenerational Baton” - *What It Means in a CVRD Context*

Brian Carruthers retired as CVRD Chief Administrative Officer (CAO) in June 2014. Several weeks before his last day of work, he sat down for an interview about his perspective on inter-regional collaboration as well as his insights regarding the “story behind the story” of the [Drinking Water & Watershed Protection](#) regional service.



Reflections on Succession

“I have mixed feelings about succession because I think we always try to maintain what we had, we are always worried about losing the institutional knowledge, and losing the history. We should not be afraid of that, however, because the DWWP foundation is sound,” he said.

“But things change. When new people bring new ideas, we trust they build on the success that has happened. So, we should not be afraid of people moving on and new people stepping in to pick up the baton.”

“Yes, they are likely to have a different perception. And they are not likely to have the same history as those who have been part of the DWWP journey. New people will bring different experiences. There will also be a different Board with different priorities. It is an evolution, that is what it is in terms of how we progress.”

“History is important. It is important to understand how we got to where we are. And we need to celebrate that work. But I think it is equally exciting to go into the next chapter and have new people, with new ideas. Let’s face it. The world around us is changing and we must adapt accordingly.”

“So, the foundation the DWWP has provided for the region as a whole, and the impetus it has provided, has allowed CVRD staff to evolve and to continue to grow and do good work.”

The Story Behind the Story of the DWWP

“In the beginning, our focus was on the Cowichan, and we were looking at a service specifically for the Cowichan watershed,” recalled Brian Carruthers.

“We had actually tabled a bylaw when it was determined that we had omitted portions of North Cowichan that received benefit from the Cowichan River water supplied by Catalyst to the Crofton area. That put a stop to that initiative until we could correct the boundary issue.”

“And that is when we determined that, for us to move forward and have success with this, we needed to do it on a regional level. We needed to go beyond the Cowichan River watershed.”

“Until that point, the Cowichan had been the focus through the Cowichan Watershed Board and water shortage issue. We realized that it had to be a regional service just as the Regional District of Nanaimo had done with its DWWP.”

Figure E2 provides context for this change in direction. It shows the locations and sizes of watersheds within the region.

About the DWWP

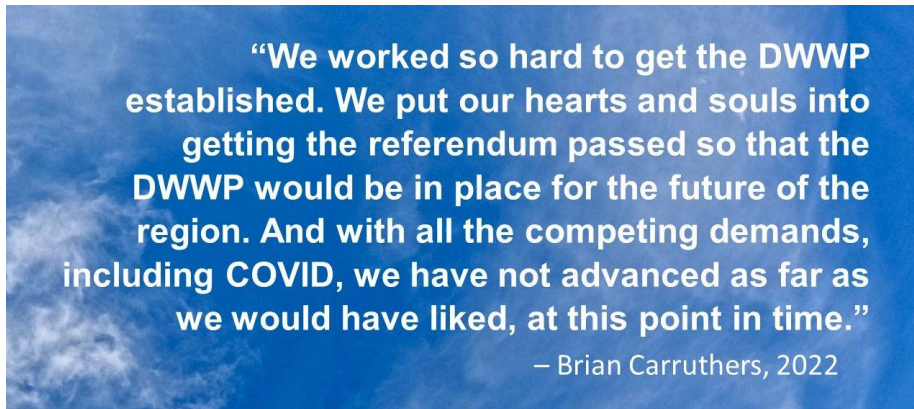
“It is not a governance model. It is a service delivery model to protect water and watersheds.”

Brian Carruthers

Going beyond the Cowichan

“That is when the work started to scope out what this service would look like. Essentially it dealt with a lot of the issues that the original watershed governance study had talked about, but without the broad governance body that would include First Nations and others.”

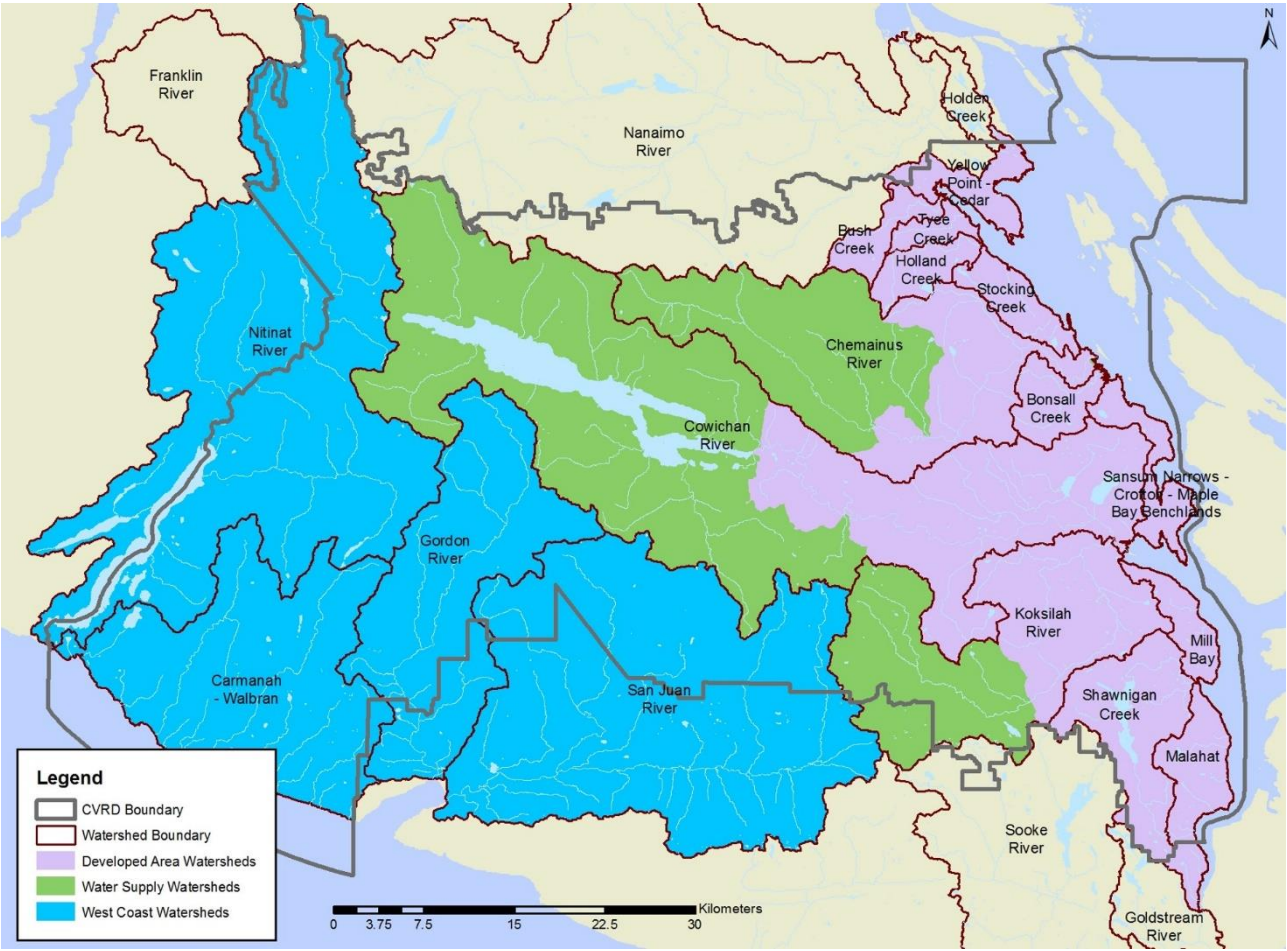
“The first attempt was confined to being more of a CVRD service. And more output-oriented in terms of gathering good information to make decisions. It is not a governance model. It is a service delivery model to protect water and watersheds.”



“We worked so hard to get the DWWP established. We put our hearts and souls into getting the referendum passed so that the DWWP would be in place for the future of the region. And with all the competing demands, including COVID, we have not advanced as far as we would have liked, at this point in time.”

– Brian Carruthers, 2022

Figure E2 – Watersheds in the Cowichan Region



DWWP framework evolved through an adaptive process:

“When you talk about history and what got us to where we are today, it was obstacles that we ran into during our early attempts to tackle the problem that caused us to re-tool and re-examine our approach. And through this adaptive process, we ended up going down the road that we did with the DWWP,” explained Brian Carruthers.

“Initially, the DWWP was a challenging initiative for the community to grasp because scope of the proposed service was outside of what most people would consider a core service of a regional district.”

About the journey

“Obstacles that we ran into during our early attempts to tackle the problem caused us to re-tool and re-examine our approach.”

Brian Carruthers

Compromises established how much to invest in DWWP: “Our first iteration of the DWWP bylaw had a substantial requisition in to provide the funding necessary to meet all the objectives of the service. We would have had a budget of \$1.5 million per year to do the basic work.”

“We pared it down considerably due to the lack of Board appetite for taxation. At the end of the day, a compromise at the Board table landed on \$750,000. There was some concern in the community that \$750,000 was not enough. And there were others that were concerned that it was still too much to do something that the Province of BC is ultimately responsible for. But we found a compromise.”

“In broad strokes, that it is the kind of journey to get here. We have done the best we can with the limited amount of money that has been requisitioned. Arguably, \$750,000 is not sufficient to do everything that needs to be done in the region. But it is a good start.”

A work plan was developed through a consultative process: “We convened an implementation group after the service was established, to prioritise the work of the DWWP so that we could put our efforts into the most important aspects of the work. The group developed the work plan for the DWWP to move forward.”



Startup Challenges

“Our biggest challenge in the last two years, on top of COVID, has been staffing and just being able to recruit the necessary staff to fully implement the program. We just cannot find a suitable candidate for DWWP Coordinator,” Brian Carruthers added.

“The CVRD is trying to rollout various aspects of the DWWP program at the same time as we are in high gear on the Cowichan Weir project in terms of weir design, shoreline impact assessment, and then preparing for a joint water licence application with Cowichan Tribes.”

“Unfortunately, due to no lack of desire, we have been unable to implement the DWWP to the full extent that we would like.”

Story in a nutshell

"The DWWP is a story of ups and downs. And running into obstacles and resistance, but always keeping the end-result in mind. And that is, making sure we have enough water in our region to satisfy a growing region. And that is what has always kept us focused on moving this forward."

Brian Carruthers

Cowichan River is the spine of the water management issue:

“I come at the issue from a bureaucratic, administrative approach. That is not to say I have not lived and breathed this for my entire tenure, because I have lived it. Water and asset management have been the two biggest issues facing CVRD, and they are tied together.”

“The water issue has been driven by the Cowichan River. That has been, and is, constantly the spine of the issue, metaphorically and literally. Everything revolves around the Cowichan River in the Cowichan Valley. And much of our effort is spent on addressing issues in the Cowichan, sometimes at the expense of other issues.”

“Four years after the 2018 referendum, we have not made as much progress on the DWWP as everyone would have liked. A lot of that has to do with the fact that much of our attention has been focused on the Cowichan. That is a story in itself, particularly when I think about the Cowichan River story as a whole and the partnership between CVRD and Cowichan Tribes, Catalyst, and Cowichan Watershed Board.”

Process and progress take time: “The partnership got us to the point where we have the funding to do the Water Use Plan. And we also got funding to do the weir design. Now Cowichan Tribes has the funding to do the construction. Those are the three key steps that we identified 8 years ago that we needed to tackle. And we have literally ticked each one of those boxes. That is a measure of success.”

“But, again, that underscores the reality of where much of our focus has been. In terms of the broader DWWP, we have a lot of work to do, and I am not sure what the future looks like, honestly, in terms of moving that forward. A shortage of skilled labour is an issue. That is our biggest inhibitor. Yet the water issues are not getting any less in terms of the impacts of drought, depleting aquifers, and flooding.”

Competing Demands and Shifting Priorities

"It takes time to make things happen, and during my time with CVRD, I have worked with three Regional Boards. And there will be a new Board this October. That is four during the span of this window that we are calling the pre-decade for the DWWP," mused Brian Carruthers.

"With that turnover comes changing views. The passion and the drive for water and watershed protection may not be as strong as it was when I first got here in 2014. There are differing opinions around the Board table, and our relationships with our partners have changed over the years as people have changed."

A perfect storm of competing demands that shift priorities

"It is almost a perfect storm where we have all these competing demands that CVRD is trying to implement and advance all at the same time. The DWWP is now not the only issue in the Cowichan region. It is one of many that CVRD is having to find time and prioritize in terms of resources and moving it forward."

Brian Carruthers

Competing demands have slowed DWWP implementation:

"Although opinions and relationships change over time, the DWWP service now exists as a legal function, and it is funded. This enables handing off the water baton from one administration to the next. So, I believe the DWWP service will outlive the various Boards to come."

"And because the DWWP service function is a bylaw with committed funding, I believe this ensures that CVRD will be able to keep the initiative moving forward despite shifting priorities. I believe everyone around the current Board table would acknowledge that water and watershed protection is an important initiative in all their areas."

"Because so many other issues and needs have hit local governments in recent years, our priorities have shifted. Our focus has shifted. This operational reality characterizes the current situation in CVRD rather than there being diminishing political or community support for water."

"The problems related to drought and flood extremes have not gone away. Every Director knows that they have issues with water in their respective jurisdictions. I think it is just competing demands that have slowed our progress."

Other high priorities for the CVRD: "When I started in 2014, water was the primary focus. Now, when I look at what is driving the agenda at the CVRD, asset management is a huge issue. After working on it for the past 6 years, we are just now getting into implementation."

"Emergency management has also emerged as a big issue. In 2021, CVRD activated the emergency operations centre 7 times. In the past, it might have been once per year. That is driving what we are doing."

"At the same time, CVRD is completely revamping the OCP (Official Community Plan) by harmonizing nine plans into one. It is a massive undertaking. This has been 5 years in the making."

Power of Partnerships

“CVRD as an organization has been successful to date, whether it is the DWWP or the Cowichan Weir initiative, because of our partnerships with Cowichan Tribes and other First Nations, Catalyst Paper, and the non-government organizations who support us,” stated Brian Carruthers in a reflective moment.

“Those partnerships are important. And I believe those partnerships have waned over the last couple of years. A lot of that is to do with COVID because, until mid-year in 2022, we were not able to get together in person and we did not meet as groups other than virtually.”

“One must never underestimate the importance of group meetings where people have sidebar conversations over coffee, and all of those things that come with those in-person gatherings.”

DWWP is a story of commitment, dedication, and resilience

"Everybody who was involved in the DWWP initiative put their hearts and souls into it to get a positive referendum outcome. And this continues as Kate Miller and others develop the implementation strategy. In my case, I put my reputation on the line in front of many public meetings when there were hostile individuals who thought we were just creating a bureaucracy and wasting taxpayer dollars."

Brian Carruthers

Spend time to get partnerships back on track: “After two-plus years of everyone working in isolation and meeting virtually, my sense is that there is work for CVRD to do to rebuild our partnerships because we have lost touch with each other.”

“During that time, people have moved on and Cowichan Tribes have a new chief. Things have changed in so many workplaces and I have observed some tensions arising from the lack of communication, and from the lack of one-on-one contact.”

“If I had to give some advice to my successor, I would say spend some time getting those partnerships back on track. And have facetime with those folks to re-establish that common, mutual will to move things forward. We all have become very isolated due to COVID. We need to get back to a place where we are interacting.”

Brian Carruthers closing thoughts on his tenure with CVRD:

“In 2014, I had lots of time to devote to water. It was one of those files that I was interested in, and I made it a personal priority. Over the course of eight years, my time was so spread between other conflicting priorities, that I simply did not have the time to spend on the water file, to advocate, and to move it along.”

“I think back often to when I first started at CVRD and how I would love to go back to those times when I had the luxury of time to travel around the region and attend meetings with First Nations and others, and work on advancing the drinking water and watershed protection initiative. I don’t know where I would find the time today to do the work that I have done in the past,” concluded Brian Carruthers.

2. Engagement of Community thru Stewardship

Towards a “Spirit of Stewardship” Culture

“When I think about the various places that I have lived, there are differences in what we can call the **spirit of stewardship** that exists in various communities,” observes Keith Lawrence. “Why is it different in one community versus another? And how do we even know that it is different? What is the indicator?” he wonders.

“Each of us has a sense that a community has a measure of stewardship spirit. And how do build that spirit in communities that still need it? Even in the Cowichan region, we have some areas that have more stewardship involvement than others.”

“The Cowichan watershed is a great example of community involvement. Given the number of organizations, one needs to create a mind map to understand it, because the stewardship network is an ecosystem in and of itself. In some other watersheds, however, there may be nobody engaged in water resource stewardship.”

Growing a Stewardship Culture

“Thinking more broadly, how do we enhance that spirit of stewardship everywhere? How do we enhance that responsibility that people everywhere can have towards the watershed that they live in, work in, and play in?”

“Within the Cowichan region especially, we do have that stronger sense of stewardship. To be clear, every place has some level of stewardship. The question is how do we grow it more in others? There are great people doing great work in every part of the province. But how do we enable that? It is more than a rhetorical question.”

“STEWARDSHIP IS NOT ALWAYS ABOUT THE ACTIONS THAT STEWARDS TAKE. IT IS ABOUT THE CULTURE OF A COMMUNITY, AND IT IS ABOUT BUILDING A CULTURE OF PROTECTION AND RESPONSIBILITY. AS LOCAL GOVERNMENT, ONE OF THE ROLES THAT WE CAN PLAY IS TO SUPPORT THAT STEWARDSHIP CULTURE.”

KEITH LAWRENCE, 2022

What a “spirit of stewardship” culture makes possible

“Engagement of community through stewardship is a credible formula to be encouraged and mainstreamed at every opportunity.”

“Collaboration taps into the passion and ingenuity of volunteers who are driven by commitment.”

“Collaboration, teamwork and a recognition that the whole is greater than the sum of its parts is the energy that stokes creativity and determination.”

“When this combination of citizen talent is aligned with a local government that is both visionary and focused, outstanding achievements are not only possible, but realistic.”

Eric Bonham, 2019
Partnership for Water
Sustainability in BC

Absorb the wisdom, harness the energy

"We work with all of these partners throughout the region, and it is about being able to harness that collective wisdom and those oral histories as well. So, it is up each one of us in local government to maintain that energy and deliver the oral history in other settings to inform other audiences who may not yet have a shared understanding of the concerns and hopes for our watersheds. For example, while we are experiencing extreme heat waves, folks may be glad to have warmer water in our lakes for recreation. However, they may not be aware that the higher water temperatures are harmful for aquatic life. When we are delivering our messages, it is important to be aware of this lack of shared understanding. It means we need to innovate in terms of our communication approaches."

Keith Lawrence

"Top-Down & Bottom-Up" Model for Collaboration

"When I first joined CVRD, watershed governance was top of mind for some folks. We were working on a program to collaborate with various organizations to look at watershed and groundwater governance. We were trying to understand the problems with the current governance framework which was informal and identify a framework that could work going forward," Keith Lawrence continues.

"Every time we would have workshops and forums that brought together folks that were all on the same page --- **that we need to act, that we need to develop plans and strategies to respond to the impacts which we know are only going to increase** --- there was an energy in the room. At the end of the day, folks were willing to commit to the solutions."

Progress is happening: "My first glimpse of that was that through the workshops that we had for the Watershed Governance Study. We had folks from across all the sectors, including our neighbouring inter-regional partners who I had met through the IREI program."

"We had folks who had the interests and the skills that are needed. The challenge is that they might not always have the tools and resources they need to carry out the work. We have also seen a similar level of participation and collaboration through the IREI projects themselves."

"In these sessions, we shared what we had been doing. As you listen to what folks are saying, you have that Aha Moment when you realize, yes, we have been having some successes across the board. There is progress happening and we can continue to make it happen. And so, it was very encouraging to see that across the various regions. Again, it is about how we build that capacity going forward."

About the path forward: "Throughout my time here at CVRD, we have seen the increase in pressure due to an increasing population. We have also seen increasing climate impacts in the past decade. Going forward, the challenges will be capacity and aging infrastructure, and climate impacts that we are still seeking to understand. New threats to our water resources could emerge. There could be existing threats which may increase in ways we have not yet anticipated."

"Watershed management issues and concerns are linked to so many sets of concerns and service areas that we deal with as an organization. The level of dialogue that we are having with First Nations, for example, also needs to happen across all departments and divisions within the CVRD," concludes Keith Lawrence.

3. A Look Ahead: *The Next Five Years*



Collaborative Leadership

"The network emerges around a common goal, rather than a particular program or organizational model. The community mobilizes the resources from throughout the network and based on existing relationships in the community."

"The solution is emergent and comes from the community members themselves, rather than being pushed from the top down."

"And finally, once a network is up and running and proves itself to be effective, it becomes the primary vehicle for change, rather than the individual organizations themselves."

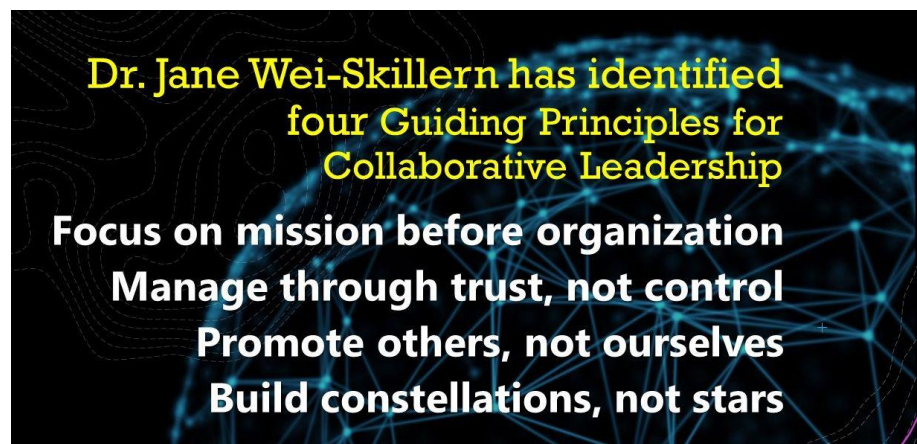
Dr. Jane Wei-Skillern,
Haas Business School,
U of California at Berkeley
&
advisor to the Partnership
for Water Sustainability i

The Power of Collaborative Leadership

The CVRD is midway through the [First Decade of DWWP Implementation](#). Constructed over decades, the foundation is solid. The DWWP is the platform for a building blocks process that is ongoing to achieve the Cowichan region's water sustainability mission.

Reflecting on the past three decades, the track record of success in the Cowichan region is attributable to **"collaborative leadership"**. This powers collaboration within the region and between regions. Collaborative leadership uses the power of influence rather than positional authority to engage and align individuals and organizations within a network and deliver results across organizational boundaries.

Guiding principles for collaborative leadership



What to expect in the second half of the first decade of DWWP implementation: From the inter-regional perspective, Cowichan collaboration under the IREI banner now has two principal areas of focus going forward:

EAP, the Ecological Accounting Process, a BC Strategy for Community Investment in Stream Systems

Blue Ecology, a Pathway to Water Reconciliation in the Cowichan Region

EAP, the Ecological Accounting Process, a BC Strategy for Community Investment in Stream Systems

During the period 2016 through 2022, the [Ecological Accounting Process](#) evolved through a building blocks process. The Bings / Menzies Creek case study in the Municipality of North Cowichan was the 7th of nine EAP projects. Each resulted in breakthroughs in building an understanding of what matters and what matters most.

Viewed through the EAP lens, the strategic importance of the Bings / Menzies Creek project as a building block is that it culminated in the concept of the **Riparian Deficit** as the environmental equivalent of the **Infrastructure Liability** (gap or deficit). This is a powerful outcome.

EAP is about ensuring that streams survive in an urbanizing setting. The riparian deficit concept adds balance to the asset management conversation by giving equal weight to the environmental protection perspective and associated financial case for stream systems.

Now What: Train the next generation of land use, GIS and drainage professionals

Figure E3 illustrates the process that is underway to embed the EAP program in the [Mount Arrowsmith Biosphere Region Research Institute](#) (MABRRI) over a 3-year period transition period, with the Partnership for Water Sustainability providing guidance and oversight.

Three willing local governments (North Cowichan, Regional District of Nanaimo, and City of Nanaimo) are collaborating as the [Ecological Accounting Process Partnership](#). The desired outcome is that knowledge of EAP is maintained and passed on to the next generations of planners and municipal staff. It is also viewed as an opportunity for local and regional governments to leverage the process to operationalize **Natural Asset Management for Sustainable Drainage Service Delivery** and address the Riparian Deficit.

"We believe that incorporating students from Vancouver Island University and other universities will support understanding and experience within municipal governments on the importance of EAP, and simply understanding EAP. Fortunately, most of VIU's Master of Community Planning, and Master GIS students find themselves working within municipal governments."

Graham Sakaki

Research & Community Engagement Manager
Mount Arrowsmith Biosphere Region Research Institute at VIU



Figure E3 – Mainstream EAP to tackle the Riparian Deficit



Blue Ecology, a Pathway to Water Reconciliation in the Cowichan Region

Watershed Moments began as an annual symposia series. In 2020, however, the COVID pandemic changed everything. The Partnership pivoted and reimagined an approach that combined elements of a TED Talk with Zoom and YouTube technology. The result is a set of legacy video educational resources that showcase stories that the Partnership hopes will inspire collaboration for some time to come.


The foregoing is the context for the next evolution in the reimagining process, a collaboration with First Nations framed as **Blue Ecology in the Cowichan**. Introduced in Part A, Blue Ecology is a water-first approach to interweaving Indigenous knowledge and Western science.

In lieu of a symposium, the “big idea” is to produce a **Blue Ecology Circle Tour** video, with stops at five First Nations communities, with host themes for the stops based on the five Blue Ecology principles: **Spirit, Harmony, Respect, Unity**, and **Balance**. It is still early days.

Towards Water Reconciliation

“It’s more important to get it right than to get it done”

Paul Chapman, Chair
Watershed Moments Team
June 2021 presentation
To CVRD Board



In August 2021, the CVRD Board Chair sent a letter of invitation, on behalf of the Cowichan Valley Regional District and the Partnership for Water Sustainability in BC, to each of the First Nations in the region to be part of the larger partnership and exploration process for co-creating the Blue Ecology Symposium

Blue Ecology process - stalled or in limbo?

“There are so many factors coming into play that muddy the waters. Stalled means that you still want to move forward but you just have to overcome a logistical issue and move forward. Whereas limbo means everyone is not quite sure of the ground they are on. In answer to the question, is the Blue Ecology process stalled or in limbo, I believe it is merely stalled,” said Brian Carruthers in a contemplative moment.

“If you are looking for a relevant analogy, think in terms of the flywheel concept. It takes a lot of energy to get it going. Once you get it spinning, it does not take as much energy, but you must keep it going. It is much the same with cultural change. It is a reinforcing cycle, and that is a lot of what we are talking about. So much depends on personal relationships or interactions. And that is the way it has always been.”

Look Back to See Ahead



Intergenerational baton for DWWP has been passed to Clayton Postings

Clayton Postings joined the CVRD in May 2022 as General Manager of Strategic Services. His portfolio encompasses the DWWP and Emergency Services Management.

Clayton's learning curve has been steep as he had to absorb and make sense of an immense amount of work that has been completed over decades. His reflections provide relevant context for what it means in practice to look back to see ahead.

"The DWWP certainly is one of the most challenging portfolios I have ever managed. Every day I am learning something new. And I am realizing that I have much more to learn. It is a portfolio that is ever-changing. Even in the 6 months that I have been with the CVRD, it has changed," states Clayton Postings.

"So much has been done and that can be overwhelming. It can be a challenge to bring all those pieces together and understand the DWWP history."

Know your history; learn from history

"We do not want to lose the oral history. It is essential for us to have a true understanding of what has happened and why decisions were made, or not made. For the past 6 months, that is how I have spent my time - asking questions to understand why we are where we are today. The situation that we at CVRD are addressing is very complex. Now I appreciate why change does not happen overnight. It takes time."

"Front of mind for me when I am having conversations during my learning process is achieving the dual objective - how we work together to protect the health and wellness of the community at the same time as our actions protect the health and wellness of watersheds."

"The web of partners and groups is complex. But everyone at the table is talking the same language in terms of where we need to go. It is pretty cool that we are on the same page. That is the foundation and confirms there has been consistency in the conversation."

"Already I see that understanding how partnerships and relationships work in the Cowichan region is key to moving the DWWP forward. There is lots for me to learn. And I have learned a lot. But I also realize that this learning will go well beyond my tenure. This is life-long."

DWWP connection with Emergency Management


“The other thing that I would say about the DWWP is the connection now with emergency management and planning,” continues Clayton Postings. “We are in one of the worst drought years in history and that leads to the question - what do we do, not only in the sense of **watershed**, but also **emergency**.”

“The impacts of a changing climate are now affecting people on a day-to-day basis. How does the fact that we are in an emergency situation help us plan for the future? This way of thinking and questioning was typically not top of mind 10 years ago. The world around us has changed. We are seeing that emergency measures are in front us, they are happening on a more regular basis, and they are much more extreme.” **Figure E4** (next page) is an introduction to the new reality.

“The new Ministry of Emergency Management and Climate Readiness is part of the provincial response, with a focus on what municipalities and regional districts are doing to prepare for climate extremes.”

“Water is connected to every single thing we do. Every municipality. Every utility. In some way it is connected.”

Clayton Postings



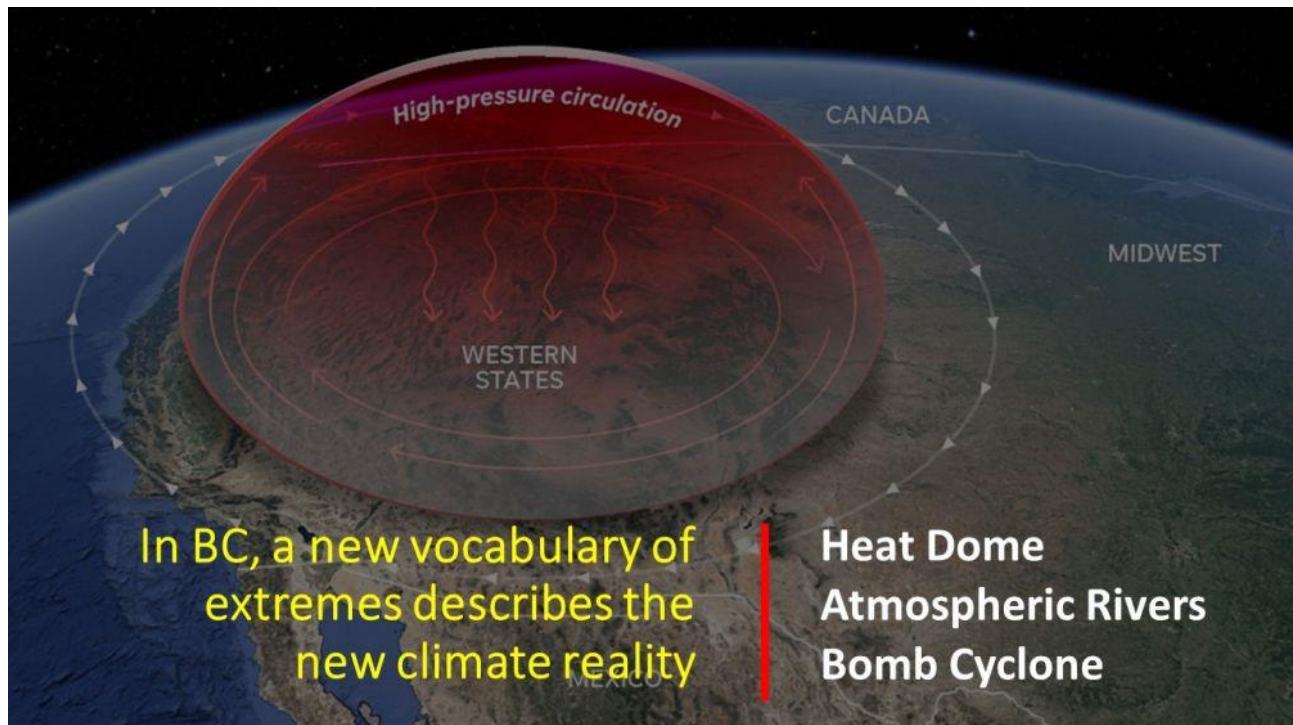
“We are talking about impacts on people. Emergency management is about protecting the health and wellness of the people within the region. How do we do that and how do we reduce future impacts of floods and droughts?”

Hazard Risk Vulnerability Assessment: “Across the region, it is a really interesting conversation about vulnerability and emergency management. My experience is that we typically talk about bridges, power stations, etc. Well, in the regional conversation to date, water has been the driving concern. It is about drought levels, flooding levels, and how we manage them.

“We have just started the assessment process. And 3 of the top 5 vulnerabilities relate to water and how we manage the resource to make sure it is there for many years to come and in difficult situations. The three vulnerabilities are drought, flood, sea level rise.”

“Looking back, CVRD definitely made the right decision to have the DWWP as a priority program within the region. And now it is interconnecting with many other aspects of the CVRD organization. Water is connected to every single thing we do. Every municipality. Every utility. In some way it is connected.”

Figure E4 – An introduction to the new climate reality



Everyone needs to be at the table

“When I reflect on the consensus finding that 3 of the top 5 hazard vulnerabilities in the Cowichan region are water-related, it drives home the message that THIS IS BIG AND WIDE in scope. It is scary and sometimes a little bit overwhelming,” comments Clayton Postings.

“This thought is top of mind for me as CVRD moves forward with our emergency management planning. Everyone must be at the table. Departments or divisions that typically have not been at the table for this conversation are now at the table.”

“Having conversations changes the level of awareness of everyone. It also demonstrates the importance across the region, and for CVRD as an organization, that everyone understand how we are supporting DWWP initiatives through an emergency management lens.”

When everyone is at the table, one learns thru conversations

“I feel that my comfort level in answering questions about a lot of things in local government is pretty strong. But I am learning very quickly that watersheds and water sustainability is an area where maybe I will never learn it all. It is a test for me because I need to take the time to think about things. And to really understand, I must talk to the right people and residents who know the oral history.”

“Take that history and factor it into engineering when creating models. Oral history is an important piece that we intend to build on.”

“I have lived in the Cowichan region for 10 years. I can see that things have changed!”



Vision for the Regional Team Approach: Observations by Clayton Postings about “everyone being at the table” brings the conversation full circle to the vision and objectives for the “regional team approach” circa 2008. Achieving this outcome is the *raison d’être* for collaboration through the IREI. The regional team approach seeks to align actions at three scales: provincial, regional, and local.

Looking ahead, then, emergency management has emerged as a lynchpin driver for the regional team approach in the Cowichan region. “The phrase everything is connected refers to water and emergency management. We want to be resilient,” emphasizes Clayton Postings.

“Terms that we use for emergency management, such as resilient management planning, align with terms used in the environmental services side of my portfolio. The language is very much the same.”

Concluding reflections on how the Cowichan region prioritises what the future looks like

“We do have a path forward with the DWWP, but capacity continues to be a challenge,” continues Clayton Postings. “We would love to do it all, but it comes down to having the organizational capability to deliver when qualified water professionals are in short supply.”

“With our limited resources, it is absolutely essential that we know and understand what the priorities are so that CVRD can be effective as an organization. If we all share a clear understanding of what the priorities are, and we stay focussed, we will be able to move them forward. With success will come momentum, even when the steps are little ones.”

“Looking ahead 5 years, my #1 goal in supporting the new board is to understand their priorities. Then staff can give them good information, sound advice and recommendations so that they can provide direction. Then we can act on that direction and deliver in a timely manner.”



“An important piece that I am living and believe in is asset management and how we manage both natural assets and engineered assets. Understanding how everything is connected is fundamental to how we invest, how we prioritize, moving forward.”

Clayton Postings, General Manager of
Strategic Services, CVRD

Adapting to a changing climate

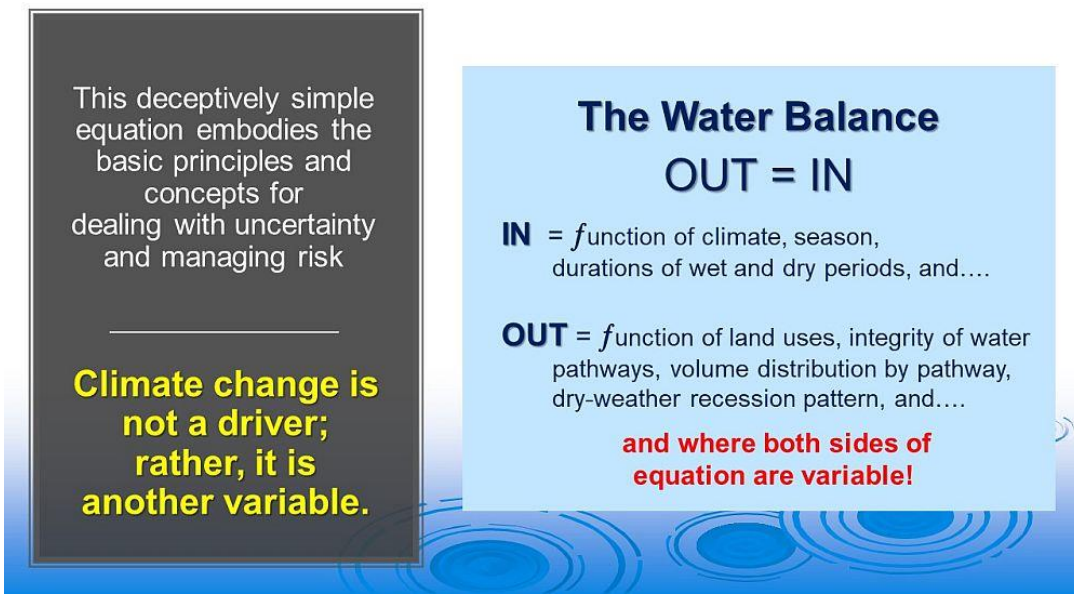
There is no silver bullet. Communities need to do many little things. Over time the cumulative benefits of doing many things do add up.

Dealing with uncertainty and managing risk: We close the Cowichan story with **Figure E5** because the equation represents the essence of water balance thinking. It was developed two decades ago to inform [BC's Drought Response Plan](#) for water supply and stream integrity in a changing climate.

“A really important piece is **sustainable service delivery** and how we manage both natural assets and engineered assets as an interconnected system.”

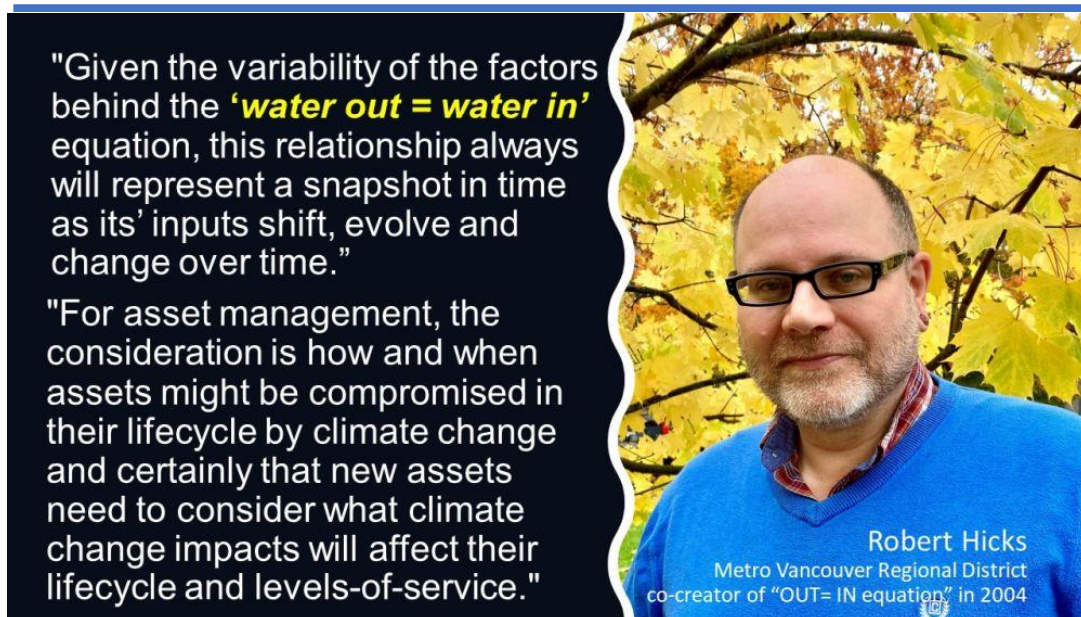
“When I talk about the next 5 years of prioritizing, it is about dealing with uncertainty and managing risk in the context of how natural and engineered assets work together. As of 2022, we are at the end of the beginning. The journey continues,” concludes Clayton Postings.

Figure E5 – Dealing with Uncertainty & Managing Risk



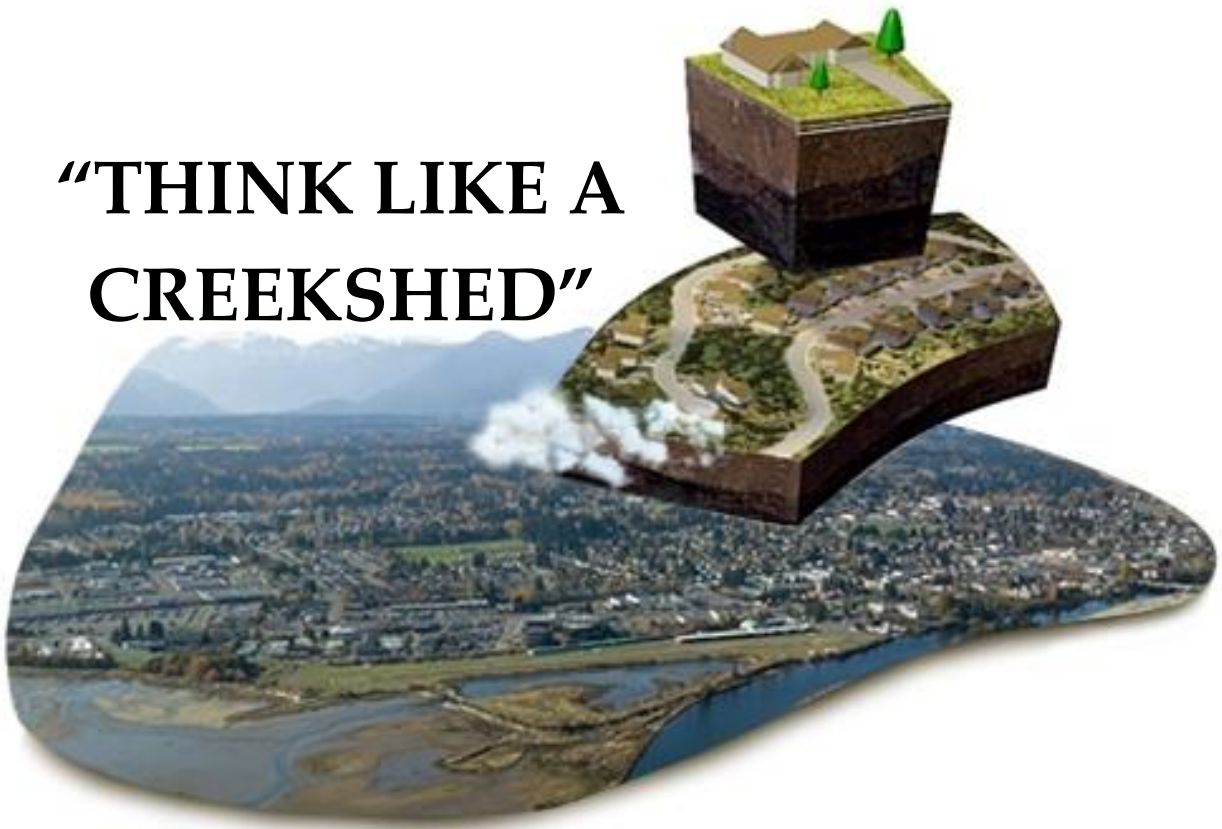
Water OUT = Water IN equation provides context for the challenge ahead:
Both sides of the equation are variable. This is a key takeaway. It means there are multiple what if combinations and permutations to consider. As a result, the inherent variability creates uncertainty which in turn creates risk.

Climate change is exacerbating vulnerability on the 'IN side' of the equation. Thus, it makes sense to build in resiliency on the 'OUT side'. There is no silver bullet. Communities need to do many little things related to land development and infrastructure servicing practices. Over time the cumulative benefits of doing many things do add up.



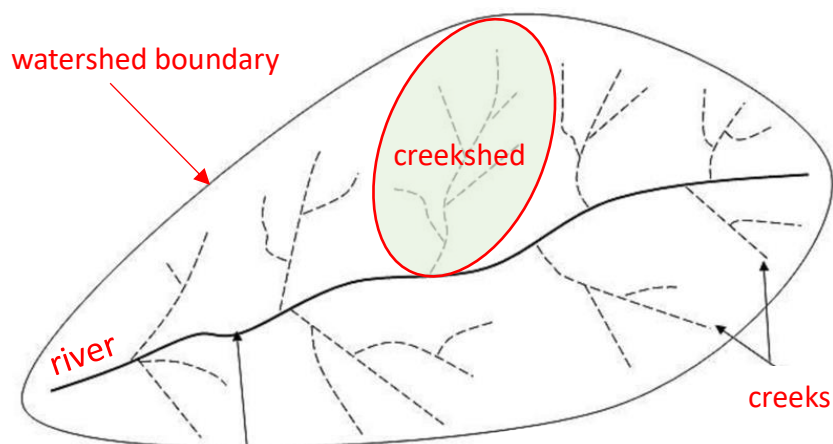
This page intentionally left blank

“THINK LIKE A CREEKSHED”



A creekshed is an integrated system:

The need to protect headwater streams and groundwater resources in BC requires that communities expand their view - from one that looks at a site in isolation - to one that considers HOW all sites, the creekshed landscape, streams and foreshores, groundwater aquifers...and PEOPLE...function as a **whole system**.





the partnership
for water sustainability in bc