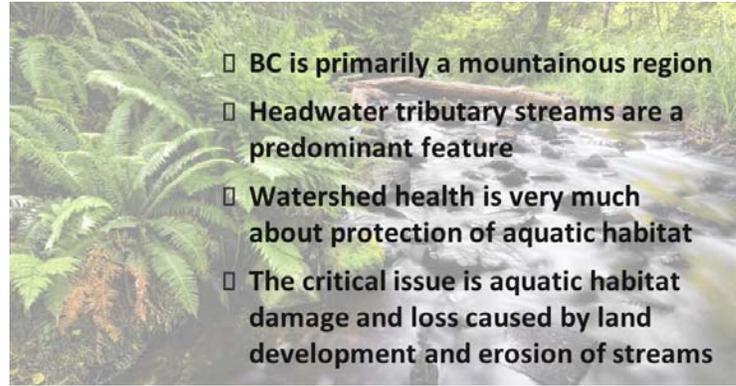


Part A

Restore Watershed Health in the Built Environment:

Focus on Context, Intent & Results

British Columbia's
Watershed Health Goal
differs from other regions
because:



- BC is primarily a mountainous region
- Headwater tributary streams are a predominant feature
- Watershed health is very much about protection of aquatic habitat
- The critical issue is aquatic habitat damage and loss caused by land development and erosion of streams

Part A – Restore Watershed Health in the Built Environment	
Chapter No. & Title	Key Messages
1 Focus on Context, Intent and Results	Collaborate to understand what others are doing and what works. Leverage more with the same resources. Create a watershed legacy - implement practices that are affordable, effective and mimic the Water Balance.
a. Historical Context Provides Perspective	Look back to look ahead. Accept risk to open the door to creativity and innovation. Develop tools. Design with nature. Establish precedents. Learn by doing. Adapt experience. Constantly improve.
b. ‘Sustainable Service Delivery’ Introduced	Integrate financial accountability, infrastructure sustainability and service delivery. Focus on desired outcomes, not prescriptive methodologies. Get plans right at the front-end. Prepare for the future.
c. ‘Regional Team Approach’ Introduced	Embrace shared responsibility. Everyone has a role to play to achieve the goal. Agree on expectations and how all the players will work together. Take a leap of faith and apply pragmatic skills to the ‘big picture’.

1. Focus on Context, Intent and Results

Watershed Health, Rainwater Management and Sustainable Service Delivery are related priorities for communities on the east coast of Vancouver Island and in the Metro Vancouver region.

Furthermore, local governments are tackling 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.

Inter-Regional Collaboration

In early 2012, Metro Vancouver and the Regional Boards for the Capital Region, Cowichan Region, Nanaimo Region and Comox Valley agreed to collaborate under the umbrella of the *Georgia Basin Inter-Regional Educational Initiative* (IREI).

Previously, all had adopted strategies that were watershed-based and established a vision. Now, emphasis is on 'implementation and integration'. Hence, collaboration helps everyone better deliver on policy goals and regulatory requirements.

Inter-regional collaboration helps the champions in each region understand what the other regions are doing, what works and what does not.

Benefit of Sharing: In his staff report to the Capital Regional District Board in March 2012, Glenn Harris (Senior Manager, Environmental Protection) wrote:



"Board support for the Inter-Regional Education Initiative enables CRD staff participation in a coordinated inter-regional information sharing process. Local governments will benefit from the information sharing between four Vancouver Island regional districts, learn from the experiences of the other regional districts, and be able to participate in workshops delivered locally and elsewhere on Vancouver Island."

'Mind Map' for Collaboration

The IREI program for 'sharing and learning' in the local government setting has transitioned from the successful 'proof of approach' on Vancouver Island in 2012 to full-scale implementation by 2014, including Metro Vancouver. In 2016, IREI program delivery will be in its 5th year.

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. The definition of the goal is reiterated on Figure 5.

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 – and thereby influence community planning by means of an environmentally adaptive approach.

The IREI program will help local government partners leverage more with the same resources.

Align Local Actions and Provincial Policies:

Figure 5 illustrates the scope of the IREI program. It is designed to facilitate and align integration at two scales: provincial and inter-regional. It has been a two decade journey to reach this point. Progress has been an incremental building blocks process. In the chapters that follow, Beyond the Guidebook 2015 elaborates on the elements introduced on Figure 5.

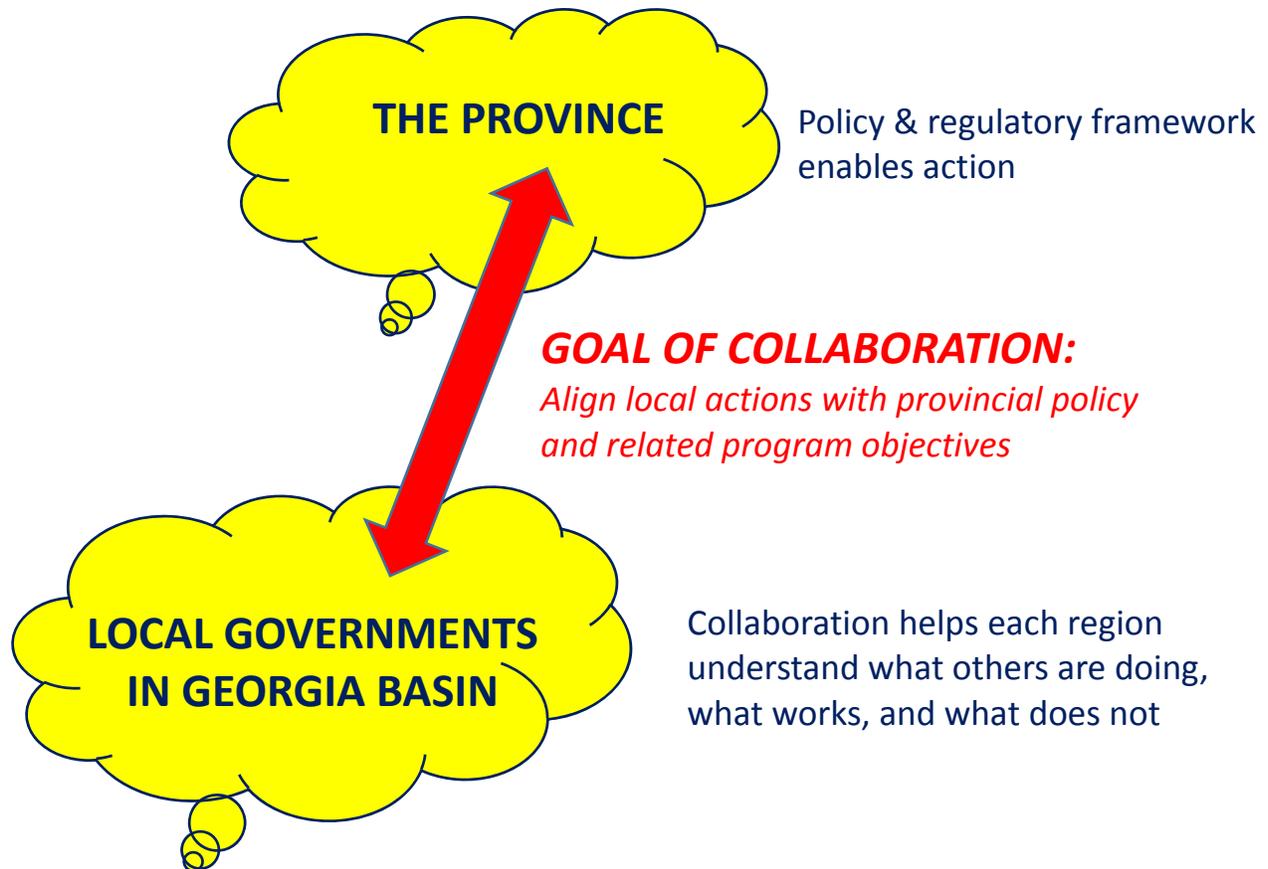
Common Interests:

When the Comox Valley Regional Board voted in March 2012 to play a leadership role in launching the IREI, then Chair Edwin Grieve provided this perspective in a news release: *"Inter-regional sharing, collaboration, alignment and consistency will accelerate effective implementation of watershed protection objectives within each regional district. The regions are linked by common interests, but are not dependent on each other."*



To achieve the Watershed Health Goal

Implement standards of practice that mimic the natural Water Balance, are affordable and effective, and achieve the desired outcome, which is - healthy watersheds and streams.



Region	Watershed-Centric Initiative	Lens
Metro Vancouver	Integrated Liquid Resource & Waste Management Plan	<i>Watershed Plan Effectiveness</i>
Capital Region	Integrated Watershed Management Implementation	<i>Watershed Health Assessment</i>
Cowichan Region	Regional Integrated Watershed Plans	<i>Climate Change Adaptation</i>
Nanaimo Region	Drinking Water & Watershed Protection Plan	<i>Sustainable Partnerships</i>
Comox Valley	Guide to Water-Wise Land Development	<i>Regional Team Approach to Sustainable Service Delivery</i>

Figure 5

Resilient Rainwater Management: Across Canada Workshop Series

Funded by the Climate Change Adaptation Project at the University of Waterloo in 2014, the *Across Canada Workshop Series on Resilient Rainwater Management: Adapting to a Changing Climate* introduced audiences in Alberta, Ontario, Quebec and the Maritimes to the case study experience of BC local government champions who are leading implementation of 'design with nature' practices.

The relevance of the Across Canada Series is two-fold: resulted in the storyline for Part A; and has provided an informed basis for comparing BC's approach with initiatives in other provinces.

About the Series Title, Focus and Branding: The series was branded as an opportunity for Across Canada audiences to learn about BC's *collaborative and adaptive* approach to protecting and restoring watershed health.

"We had to be sensitive to what worked for each of our Across Canada partners. They had to show that it would be worthwhile for their target audiences to take a day away from work. So, how we messaged the series became crucial. For the title, we chose *resilient* over *sustainable* because it represents the Shifting Baseline vision for restoring watersheds," reports Ted van der Gulik, Partnership President.

Ability for Recovery: "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,**" states Erik Karlsen, former Director of Regional Growth Strategies, BC Ministry of Municipal Affairs. "Sustainable refers to attaining certain conditions in the context of social, economic and environmental considerations. Resilient in a biological sense is primarily the ability for an ecosystem to recover from an intervention."



Watershed Health Goal: Focus on What Local Governments Regulate

Viewed from the perspective of local government, a fundamental difference between BC and other provinces is that BC legislation enables 'bottom-up' solutions and action, whereas other jurisdictions prescribe 'top-down' requirements.

In BC, the emphasis is on progressing towards a desired outcome. In other regions, the main focus is on compliance with engineering criteria.

Figure 6 reproduces two Key Messages from presentation slides. These provide context for BC's collaborative, adaptive and still evolving approach.

In 2002, the premise that '*land development and watershed protection can be compatible*' was a major departure from contemporary thinking. The premise drew attention to the application of science-based understanding to a sphere of activity that local government can regulate: that is, 'standards of practice' for land development.

The Watershed Health Goal is defined as: implement standards of practice that mimic the natural Water Balance, are affordable and effective, and achieve the desired outcome, which is - healthy watersheds and streams.

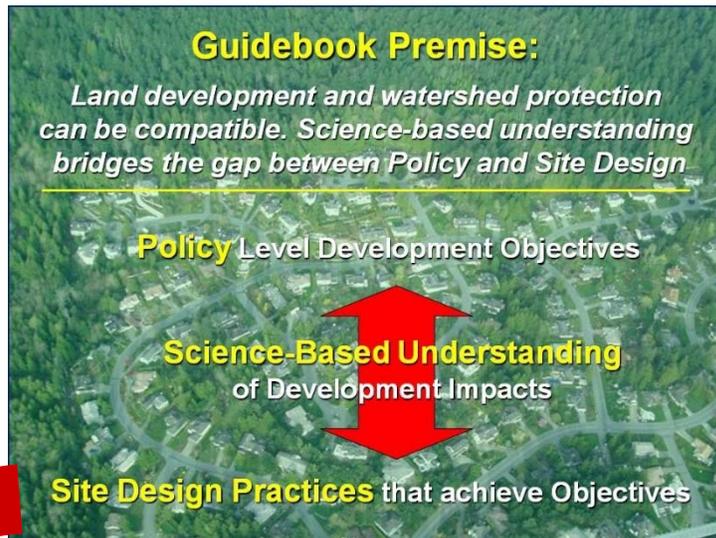
Shared Responsibility: "Storm Water Management innovation in BC is the result of not being overly regulated," observes Hugh Fraser, Deputy Director of Engineering, Delta Municipality. "Establish sound principles. Apply them. Adapt to the specific site conditions. Do not be too prescriptive, it may take away the opportunity for innovation."



"Creating a watershed health legacy will ultimately depend on how well we are able to achieve rain water management improvements on both public and private sides of a watershed. There is a huge up-side if the private sector embraces their contribution to shared responsibility."

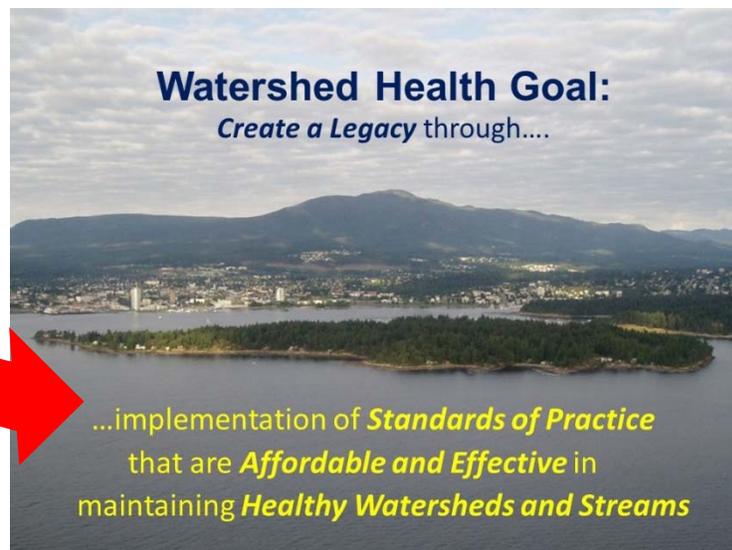
A Focus on Outcomes: in 2002, the ‘Guidebook Premise’ signalled a fresh approach to ‘Land Development & Watershed Protection’....

Guidebook Branding:
“Build the Vision,
Create a Legacy



Reference: *Stormwater Planning: A Guidebook for British Columbia, 2002*

Science-based understanding has evolved the Guidebook Premise into this definition:



Reference: *Georgia Basin Inter-Regional Education Initiative, 2014*

Figure 6

a. Historical Context Provides Perspective

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 7. The time-line identifies milestones in the building block process, and provides a perspective on BC’s long-term commitment to incrementally 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.

Learning by Doing

The 2002 Guidebook established a North American precedent for application of ‘adaptive management’ in the local government setting. Adaptive management means ‘learn by doing’ and changing direction when the science leads to a better way. The goal is to learn from experience and constantly improve standards of practice.

Accept and manage risk to advance accepted practices. Accepting risk opens the door to creativity and results in innovation.

Water-Centric Focus: *“Part of the reason for the success in BC of our way of thinking is a result of the efforts of various organizations who have managed to successfully engage governments, developers, the community, academia, etc., in water-centric thinking, planning and development activities. In many jurisdictions, water-centric has become a focus and part of our daily conversations,”* stated John Finnie.



John Finnie is Past-Chair of the CAVI-Convening for Action on Vancouver Island initiative. He retired from local government as General Manager, Regional and Community Utilities, Regional District of Nanaimo.

Design with Nature

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. The phrase is adapted from the title of the seminal book by Ian McHarg.

*Published in 1969, **Design with Nature** is widely considered one of the most important and influential works of its kind.*

In 2005, the BC Green Infrastructure Partnership translated a ‘design with nature’ way-of-thinking into a set of action statements that have meaning for practitioners in the local government setting:

‘Design with Nature’ Means:

- Develop compact, complete communities
- Increase transportation options
- Re-use and recycle water, energy and nutrients from liquid wastes
- Protect and restore urban ‘green’ space
- Strive for a lighter ‘water footprint’
- Achieve higher levels of stream, wetland and marine environment protection

Gradient of Meaning: In the Preface to the 1992 edition, Ian McHarg reflected on the historical context leading up to publication of *Design with Nature*, and also the two decades following publication. He concluded with the following statement:



*“So, I commend **Design with Nature** to your sympathetic consideration. The title contains a gradient of meaning. It can be interpreted as simply descriptive of a planning method, deferential to places and peoples, it can invoke the Grand Design, it can emphasize the conjunction with and, finally it can be read as an imperative. **DESIGN WITH NATURE!**”*

Watershed Health Goal: Time-Line & Milestones



Figure 7

b. 'Sustainable Service Delivery' Introduced

The term *Sustainable Service Delivery* was coined in 2010. It was introduced by the Province to integrate:

- financial accountability,
- infrastructure sustainability and
- service delivery.

The *Worth Every Penny Workshop* hosted by the Regional District of Nanaimo in September 2010 initiated the branding of the concept.

Figure 8 reproduces Key Messages from provincial government presentations, starting with a broad definition of Sustainable Service Delivery, followed by what it should mean in practice.

Prepare for the Future

Released in 2008, *Living Water Smart: BC's Water Plan* is a call to action to prepare communities for change and do business differently. Living Water Smart has 45 actions and targets. Introduction of *Sustainable Service Delivery* achieved this Living Water Smart policy objective.

"Governments will develop new protocols for capital planning that will look at the life-cycle costs and benefits of buildings, goods and services." – Reference: p 69, Living Water Smart

Natural Services: Released in December 2014, *Asset Management for Sustainable Service Delivery: A BC Framework* facilitates the new way



of doing business. *"It identifies natural services and the use of natural resources – and how they are part of / integrated into the overall services provided at a local government level,"* states Glen Brown, General Manager - Victoria Operations, Union of BC Municipalities (UBCM).

The BC Framework for Action

In May 2014, Canada, BC and UBCM signed the renewed Gas Tax Agreement for a 10-yr term. The Agreement identifies that local governments will be required to meet asset management commitments, as established by the Partnership Committee (the committee that oversees the strategic implementation of the agreement).

These asset management commitments are aligned with the newly developed *Asset Management for Sustainable Service Delivery: A BC Framework*; and support local governments moving towards service, asset and financial sustainability. The Framework provides a circular, continuous pathway to link all components of the asset management process (Figure 8).



While the launch and rollout of the BC Framework is recent, it has already garnered both national and international attention. Other provinces, as well as the Federation of Canadian Municipalities, are integrating the BC Framework into their respective work, and have identified it as a holistic and 'easy to understand' resource.

The Framework focusses on desired outcomes – such as the Watershed Health Goal – purposely not prescribing specific methodologies.

Get It Right at the Front-End: *"The unfunded 'infrastructure liability' is a driver for local governments to consider longevity, focus on what happens after developers hand-off municipal infrastructure, get it right at the front-end, and prepare for the future. Climate change is part of the liability equation – adaptation has level-of-service implications for infrastructure,"* explains Derek Richmond, Chair of the CAVI-Convening for Action on Vancouver Island initiative, and previously Manager of Engineering with the City of Courtenay.



Moving Towards Sustainable Watershed Systems, through Asset Management

Beyond the Guidebook 2015: *Towards a Watershed Health Legacy in the Georgia Basin*

Between 2010 and 2015, ‘Sustainable Service Delivery’ evolved from a concept to implementation as the ‘BC Framework’:

BRITISH COLUMBIA
The Best Place on Earth

Sustainable Service Delivery

AKA: What is Asset Management?

Integrated approach involving **planning, engineering and finance** to effectively manage existing and new municipal infrastructure in a sustainable manner to maximize benefits, reduce risk and provide satisfactory levels of service to the community user in an **environmentally and ecologically responsible manner.**

(Source: National Asset Management Working Group)



The BC Framework has been developed to recognize the diversity of BC’s communities. It also recognizes that asset management, and the best practices that support asset management, must be scalable to community size, character and capacity.

BRITISH COLUMBIA
The Best Place on Earth

So What is Sustainable Service Delivery?

- It integrates all the principles of Asset Management
- It understands the value of land-use planning
 - And understands the impacts land-use planning has on service delivery
- It integrates the ‘Design with Nature’ philosophy:
 - Nature is a valuable asset that must be ‘maintained’ in order to ‘operate’ effectively
 - Nature’s assets often appreciate rather than depreciate – What can we do to leverage this?
 - Nature provides multiple ‘services’ – some similar to traditional community services – i.e. Rainwater Management
 - Nature, and many of the resources it provides, are finite

Source: presentations by Glen Brown, former Executive Director, Local Government Infrastructure & Finance Division, Ministry of Community, Sport & Cultural Development

Figure 8

c. 'Regional Team Approach' Introduced

The notion of shared responsibility underpins an approach to community sustainability that enables and encourages 'learning by doing'. Furthermore, 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.

Shared responsibility is a foundation piece for Georgia Basin Inter-Regional Education Initiative.

Provincial legislation **enables** local governments to implement watershed-based solutions that will result in **resiliency** to adapt to a changing climate



A Game Plan: "Each regional initiative has its own vision and road map. However, a commonality is a desire for a **Regional Team Approach** founded on partnerships and collaboration," observes Tim Pringle, Partnership Past-President and founding Executive Director of the Real Estate Foundation of BC (1988-2008).



"The term 'regional team approach' is resonating. Insertion of the word **team** in 'regional approach' has had a profound impact on how practitioners view their world. Team implies there is personal commitment; it also suggests there is a game plan and a coachable context. The regional team approach is proving to be a powerful motivator."

Mission Possible

In 2008, Comox Valley and Cowichan Valley local governments embraced 'shared responsibility' and became 'demonstration regions' for rollout of the Living Water Smart and Green Communities initiatives. These two 'convening for action' processes launched the 'regional team approach' and exploration of what could be accomplished through alignment, partnerships and collaboration.

Turn Vision into Action: Refer to Figure 9. The 'regional team approach' is founded on partnerships and collaboration; and seeks to align actions at three scales – provincial, regional and local. A shared vision is that community development will result in cumulative benefits. This can be achieved by 'designing with nature'.

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

The way to bridge the gap between talk and action is captured by this 1786 church inscription in Suffolk, England: "A vision without a task is but a dream. A task without a vision is but drudgery. A vision with a task is the hope of the world."

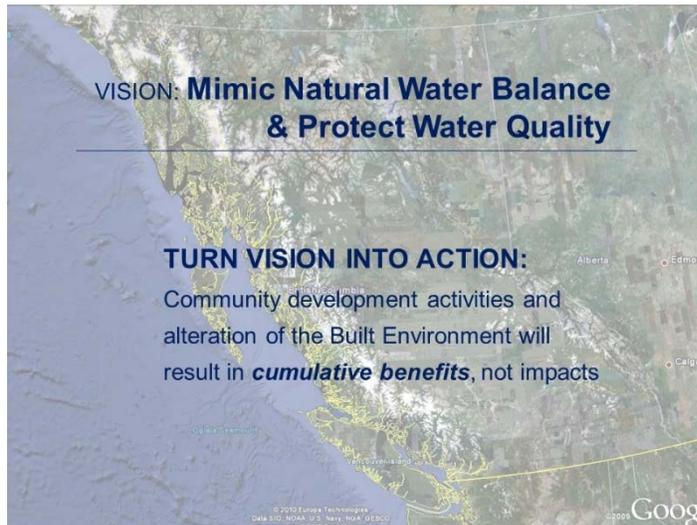
Collaboration: "We need both immediate-term pragmatism and visionary dedication to sustainability if we are to preserve our capacity for positive and permanent regional vitality. Breakthroughs result when we take leaps of faith and apply our pragmatic skills to the 'big picture'. The knack is to demonstrate that the road to both short and long term economic security is through **COLLABORATION**. This is why I am so impressed by the collaboration that is gathering momentum on Vancouver Island," concludes Eva Kras, author of **'THE BLOCKAGE – Rethinking Organizational Principles for the 21st Century'**.



Moving Towards Sustainable Watershed Systems, through Asset Management

Beyond the Guidebook 2015: *Towards a Watershed Health Legacy in the Georgia Basin*

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 WANT 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."

HOW WE WILL GET THERE:

"We are NOT saying that every community must follow the same formula; what we are saying is that everyone needs to agree on expectations and how all the players... regulators, developers, designers, etc....will work together, and after that each community can reach its goals in its own way."

Eric Bonham
Former Director
Ministry of Municipal Affairs
August 2009



Source: Outreach archives for Water Sustainability Action Plan

Figure 9

