

Green Infrastructure Innovation:



**Celebrating On-the-Ground Successes on
Both Sides of the Georgia Basin**

The question we are asking is...

**What could British Columbia
look like in 50 years
with a new way-of-thinking?**

Where and how land is developed determines

how water is used => *sustainability of supply,*

and how water runs off the land

=> *sustainability of terrestrial & aquatic habitat*

The Water Sustainability Action Plan provides the partnership umbrella for Showcasing Innovation

In Metro Vancouver:



On Vancouver Island:



In May 2005, we convened a Consultation Workshop that resulted in 'Celebrating Green Infrastructure'



Because it is lonely being a champion, and everyone in local government is so busy, participants expressed a strong desire to pool resources and convene on-the-ground to share 'how to do it' experiences

The goal in Showcasing Innovation is to build regional capacity ...



... by sharing green infrastructure approaches,
experiences and lessons learned as an
outcome of '*designing with nature*'.

A 'Design with Nature' approach to community design means...



- Develop compact, complete communities
- Increase transportation options
- Reduce the loads on water, waste and energy systems
- **Protect and restore urban 'green' space**
- **Strive for a lighter 'hydrologic footprint'**
- **Achieve higher levels of receiving water protection**



**The Showcasing Innovation Series
is resonating because it enables local
governments to tell their stories in a way
that no other forum currently provides**



In 2007, there were parallel series
in Greater Vancouver and on
Vancouver Island

The Showcasing Innovation Series creates opportunities to have conversations where learning takes place



First, the project preview



Then, the site visit

2007 Vancouver Island Series

Funded by Ministry of Community Services

Convening for Action on Vancouver Island
Leadership in Water Sustainability



Presents

Showcasing Green Infrastructure Innovation on
Vancouver Island: The 2007 Series

In partnership with

Regional District of
Nanaimo
City of Nanaimo

Cowichan Valley
Regional District
District of
North Cowichan
City of Duncan

Comox Strathcona
Regional District
City of Courtenay



- Nanaimo Region
- Cowichan Valley
- Comox Valley

2007 Metro Vancouver Series

Funded by Stormwater Interagency Liaison Group



Green Infrastructure Partnership

Present

Showcasing Green Infrastructure Innovation in
Greater Vancouver: The 2007 Series

In partnership with



Delta



Est. 1973

UniverCity

THE UNIVERSITY OF BRITISH COLUMBIA



- Delta
- Langley Township
- UniverCity



Connecting People – We Make It Easy!



Creating Our Future: Convening for Action on Vancouver Island


Province of British Columbia
Ministry of Environment, Lands and Parks
**VANCOUVER ISLAND
SATELLITE IMAGE MAP**

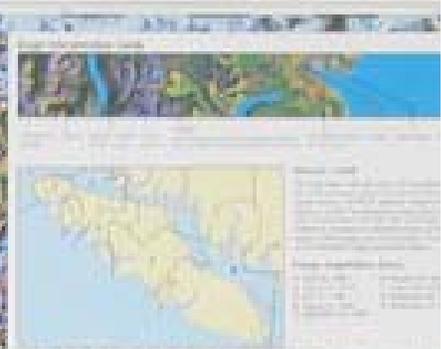
The Province of British Columbia is pleased to announce the release of the Vancouver Island Satellite Image Map. This map provides a comprehensive overview of the island's natural resources, including forests, water bodies, and protected areas. It is a valuable tool for land use planning and environmental management.

Scale 1:50,000

Legend

Symbol	Description
	Forest
	Water
	Protected Areas
	Urban
	Transportation
	Boundaries

© 2000 Province of British Columbia
Map 1000





CAVI

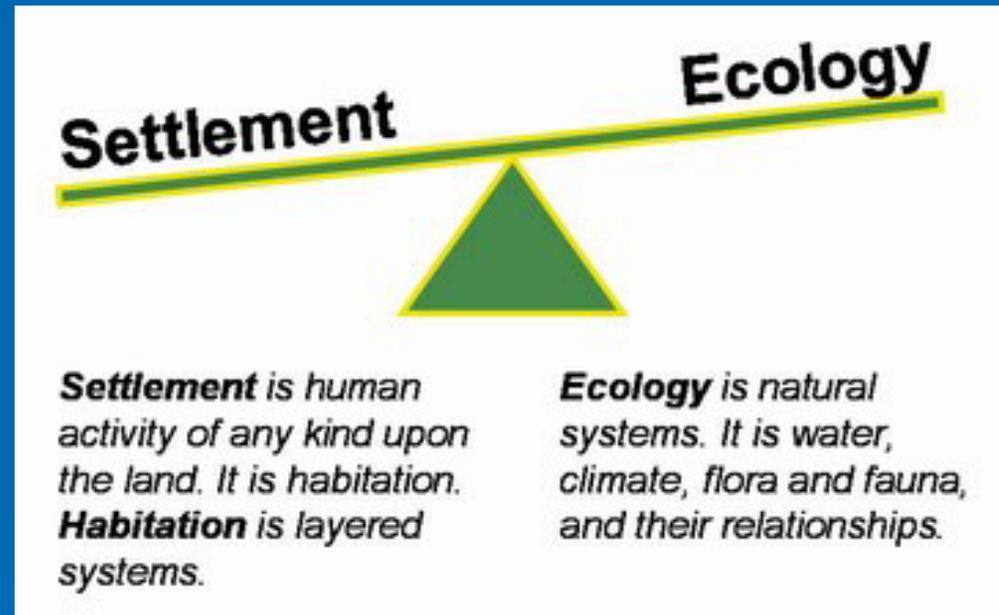
It started with an idea and a conversation.

It is about sharing knowledge and ideas.

It is about creating partnerships.

What Does CAVI do?

- Leadership
- Coordination
- Education
- Opportunity



**Planning for sustainable water resources
in the context of future settlement activity**

The CAVI Network is inclusive and expanding:

- Local Governments
- Senior Governments
- Development Community
- First Nations
- Academia
- Consulting Community
- Public

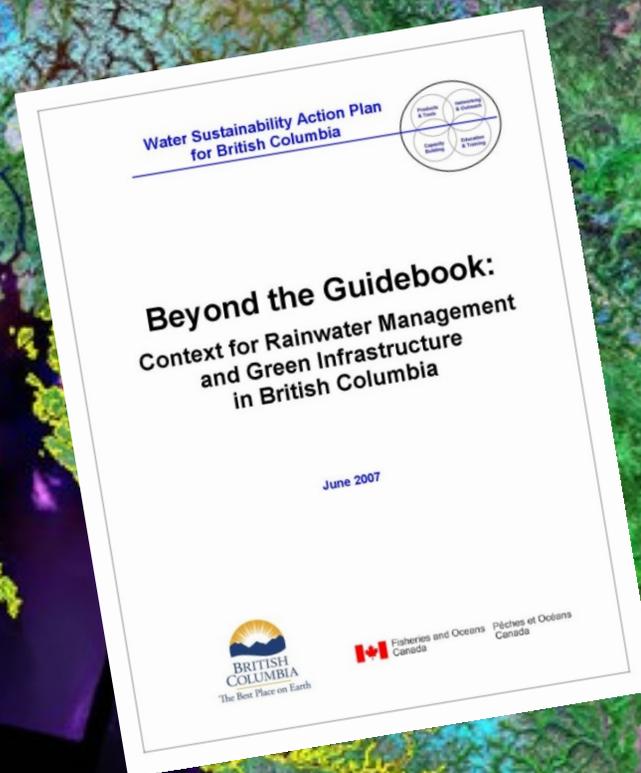
The keys to the success of CAVI are...

- We don't preach
 - We create learning and networking opportunities
 - We focus on the relationship between land and water
 - We promote sharing of ideas and experience
- 

What is coming up next?

- On December 3, it will be “Lead the Leaders”....
Green Infrastructure Leadership Forum
in partnership with AVICC
- Then, in early 2008 it will be....
***Cowichan Valley Water Balance Model
Training Workshop***
- Followed by much, much more....stay tuned for
other events and workshops being planned for 2008

‘Beyond the Guidebook’ is about changing the way we develop land:



**We call this *Designing with Nature*
To create livable communities & protect stream health**

Why we are changing the way we develop land: steps in the progression of our understanding of stream impact prevention

1. First: unrestricted development and drainage →
Result - flooding & stream erosion
2. Next: detention ponds to reduce flooding →
Result - continued stream degradation
3. Then: **Guidebook** and focus on volume control →
Result - innovation in on-site retention
4. Now: “**Beyond the Guidebook**” focus is on
streams and the watershed →
Incorporating all the lessons learned to date

A science-based stream health methodology at the heart of the



picks up where others left off

So, what is QUALHYMO?

- A rainfall-runoff model developed by Dr. Charles Rowney for the Ontario Ministry of Environment in the 1980s
 - The tool of choice by experts in Ontario and Alberta
- 

What integration of QUALHYMO and the Water Balance Model will achieve



Integrating the site with the watershed and the stream

Now, users will be able test alternative scenarios during planning in a watershed



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Integration of Rainwater Management & Green Infrastructure: The Province's Perspective

**Chris Jensen
Ministry of Community Services**

**Beyond the Guidebook Seminar
November 15, 2007**



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Outline

1. Education

- British Columbia vs. Washington State
- Convening for Action on Vancouver Island
- WBM Vancouver Island Coordinating Team

2. Financial Incentives

- \$ for planning
- \$ for capital
- \$ for recognition



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1. EDUCATION

The Approach: BC vs. Washington State

BC : **Education & Incentives**

Washington State: **Regulatory & Prescriptive**

What have we learned?

*“It will take public **education** to instil a culture change for us to have any hope that we can protect aquatic resources in the urban environment.”*

Ed O'Brien, Department of Ecology



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Vancouver Island Coordinating Team

- Mission: To facilitate a consistent, science-based approach to rainwater management on Vancouver Island.
- Objective: Align efforts to advance the state-of-the-practice in rainwater management
- Implementation is keyed to use of the [Water Balance Model](#)
- Team includes representatives from:
 - Ministry of Environment,
 - Ministry of Agriculture & Lands
 - Ministry of Community Services
 - Department of Fisheries and Oceans
 - First Nations
 - Local Government



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Protecting Stream Health

**Traditional
Stormwater
Management**



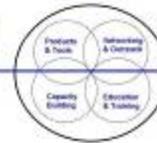
**Integrated
Rainwater
Management**





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Water Sustainability Action Plan
for British Columbia



Beyond the Guidebook:
Context for Rainwater Management
and Green Infrastructure
in British Columbia

June 2007



Fisheries and Oceans Canada
Pêches et Océans Canada



Stor





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Ministry of Community Services

RAINwater Management: WHY MCS?

- **Mandate:** To promote sustainable, livable communities.
- **Implement by:** Providing advice and resources to local governments for sustainable development and address issues related to communities' social, economic and environmental well-being
- **Local Government Department:**
 - Infrastructure Funding
 - Community Planning
 - Local Government Act
 - Community Charter



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2. FINANCIAL INCENTIVES

PLANNING:

Infrastructure Planning Grants

CONSTRUCTION:

Capital Grant Programs

- Towns for Tomorrow
- Gas Tax Agreement
- Building Canada Fund

RECOGNITION:

Green City Awards





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Capital Grant Programs

Capital Grant Programs typically support applications that:

- **Reduce environmental impacts**
- **Minimize hydrological footprint**
- **Use integrated rainwater management technologies**
- **Reduce water supply demand e.g. greywater reuse,**
- **Utilize low impact development standards**
- **Generate transferable knowledge**



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Success in View Royal

\$7.4 MILLION to Clean Stormwater and Improve Roadworks





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Success in the Capital Regional District

\$296,000 for installation of a 630 m² green roof.





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Leveraging Change

TODAY: Program guides “provide direction” and ranking criteria supports green projects

TOMORROW: Grant conditions used to bring some recipients up to a certain “green” standard

DOWN THE ROAD: Meeting a “green” standard will be a requirement for grant eligibility



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“Today’s expectations are the standards of tomorrow.”



And in closing, a local government perspective on the paradigm-shift from Stormwater Management to RAINwater Management:

“We are moving to the next stage which is to evolve from stating what we want Courtenay to look like to ensuring that it actually occurs on the ground.

We now have five good years of experience in managing the rainwater resource rather than dealing with stormwater issues.”

Kevin Lagan, Director of Engineering
City of Courtenay
November 21, 2007