

Canada Cadre 2008-2009

Report to Creeks and Communities Meeting
Reno, NV March 3, 2010



Canada Team Members

◆ Patrick Lucey

◆ Cori Barraclough

◆ Brian LaCas

◆ Lehna Malmkvist

◆ Patricia Malcolm
(inactive)

◆ Les McDonald

◆ Sarah Buchanan



The Basics

- ◆ PFC assessment on Hagan, Graham and Sandhill Creeks in Central Saanich as part of an Integrated Stormwater Management Plan (2008)
 - ◆ Result is a request to develop a watercourse and ditch management manual/program for City staff (field staff).
- ◆ “Intro” PFC taught twice in 2008 in Central Saanich including Tsawout First Nations, City staff and City council members
- ◆ PFC assessment on Ella, Throup and Nott Brook in Sooke as part of an Integrated Stormwater Management Plan (2009)
 - ◆ Stormwater Plan is part of their overall Liquid Waste Management Plan (sewage and stormwater)
- ◆ Repeated PFC assessment on Hobbs Creek on UVic property 2009
 - ◆ Resulted in 5 year restoration plan and elevation of risk profile within the University management team





The Next Generation

- “Valuing ecological systems and services and community design- implications for the private market and local governments.” Daniel Hegg. M.Sc., University of Victoria. 2009. Industrial Sponsor and Co-Supervisor.
- “Evaluation of Urban Ecological Health and Resilience; Swan Lake Watershed as a Case Study, Saanich, B.C.” Lise Townsend. M.Sc. University of Victoria. 2009. Industrial Sponsor and Co-Supervisor
- “Carbon Sequestration potential of the riparian wetland in the Bateman Centre situated in Hatley Park, Victoria BC.” Mariana Cernelev. M.Sc. Candidate. Royal Roads University. 2010. Thesis Supervisor.



Major Reports

Linking riparian health and economics:

- ◆ *“Assessment of Stormwater Treatment via Engineered Ecology™ Treatment Systems and Stream Restoration”*; and
- ◆ *“Nature’s Revenue Streams™: Five Ecological Value Case Studies”* were published in December 2008.
- ◆ *“Living Water Smart BC”* is the BC government’s new 2008 Water Plan- served as advisors

Living Water Smart

imagine...

EVERYONE KNOWS WHERE OUR WATER COMES FROM
AND CARES WHERE IT GOES.

imagine our **watersheds** are places where



People **live, work, and play** in harmony with nature's resources without compromising them

Forests **stabilize our soils** and slow the melting of the snow pack to prevent flooding and erosion

Soils and wetlands absorb water, **filter** and **clean** it, and slowly release it back to our creeks and streams

Creeks flow with water clean enough to **drink**

Bears, caribou, and other wildlife have enough **wild space** in which to live and roam

Healthy water is all that flows to the sea

imagine our farms and ranches



Have enough water to irrigate their crops and only use **efficient irrigation** methods

Grow **crops suited** to our soils and climate

Preserve the top soil to **absorb and retain** water and, where possible, use reclaimed water

Have healthy streams flowing through them with their valuable stream banks (riparian zones) **restored** with the help of the local community

Keep **farm animals** out of waterways

Use fertilizers, pesticides, and compost properly to take care of our **SOILS and water**

Capture and clean the **run off** from farmyards before it reaches the creek

Living Water Smart

DOING BUSINESS DIFFERENTLY

we take care
of our water, our

Water makes up two-thirds of our body and its quality is intricately linked to the quality of life we enjoy.

Water defines British Columbia and we have helped build the province we are proud of today. It remains a vital resource, a clean energy source, a transportation link, and a crucial input for agriculture, farming and industry.



GOVERNMENT POSITION

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.

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Living Water Smart

- ◆ By 2012, all students in BC will have completed at least one stream-health assessment
- ◆ By 2010, government will mandate purple pipes in new construction for water collection and reuse

www.livingwatersmart.ca

The Digital Age

- ◆ Published our first GIS layer showing PFC ratings for the Colquitz River, Swan Creek, Durell Creek, Blenkinsop Creek on a municipal, publicly accessible website (www.Saanich.ca).
- ◆ GIS Layers for the 4 creeks above + Bilston Cr., Hobbs Cr., Bowker Cr., on region-wide Natural Areas Atlas (web-based) *coming soon*
- ◆ Touch screen display of stormwater management in BC Pavillion at 2010 Olympics



- Mayor's Message
- Public Notices
- Saanich Vision
- Strategic Plan
- Emergency Program
- Construction Projects
- GIS Maps
- Current Eng Issues

- Feedback/Comments
- Navigating Our Site
- Request For Service
- Saanich RSS Feeds
- Sitemap

Search Our Site

 Register Here for RECREATION PROGRAMS
AND View Facility Rental Information

Careers @ 

 Bid Opportunities

 Climate Change

What's New

[Limelight 2010 Youth Arts Experience](#)
Free Arts Exhibition Featuring Local Artists & Musicians at Cedar Hill Recreation Centre
February 26 & 27

[Saanich's NEW Pesticide Bylaw](#)
On January 25, 2010 Council adopted the Pesticide Bylaw. This means that residential use of synthetic pesticides will generally no longer be permitted. Enforcement of the bylaw will begin May 1, 2010. For information on the bylaw and pesticide alternatives, please view our new web pages.

[Wilkinson-Interurban Intersection](#)
Saanich is currently reviewing some key items that were voiced at the latest community meetings.

[Saanich celebrates BC Heritage Week 2010](#)
Every year the Province celebrates BC history by designating the third week of February as BC Heritage Week. This year we will be hosting a Tea and Heritage Walking Tour, Archives has a new web page and we have a display at the Municipal Hall

[Proposed New Ticket Bylaw](#)
The District of Saanich Municipal Council will consider a new Ticket Bylaw at the Committee of the Whole meeting on Monday, February 22, 2010 at 7:30 pm in the Council Chambers.

[Garbage Services Review & Survey](#)
Contemplating a change in garbage collection

Online Services & Payments

[Click for Online Services and Payments](#)



Popular Links

-- Please Select One --

Upcoming In The Community Calendar [full version]...

Art Exhibit: "Views of Victoria" by Leslie Redhead
• March 2-28

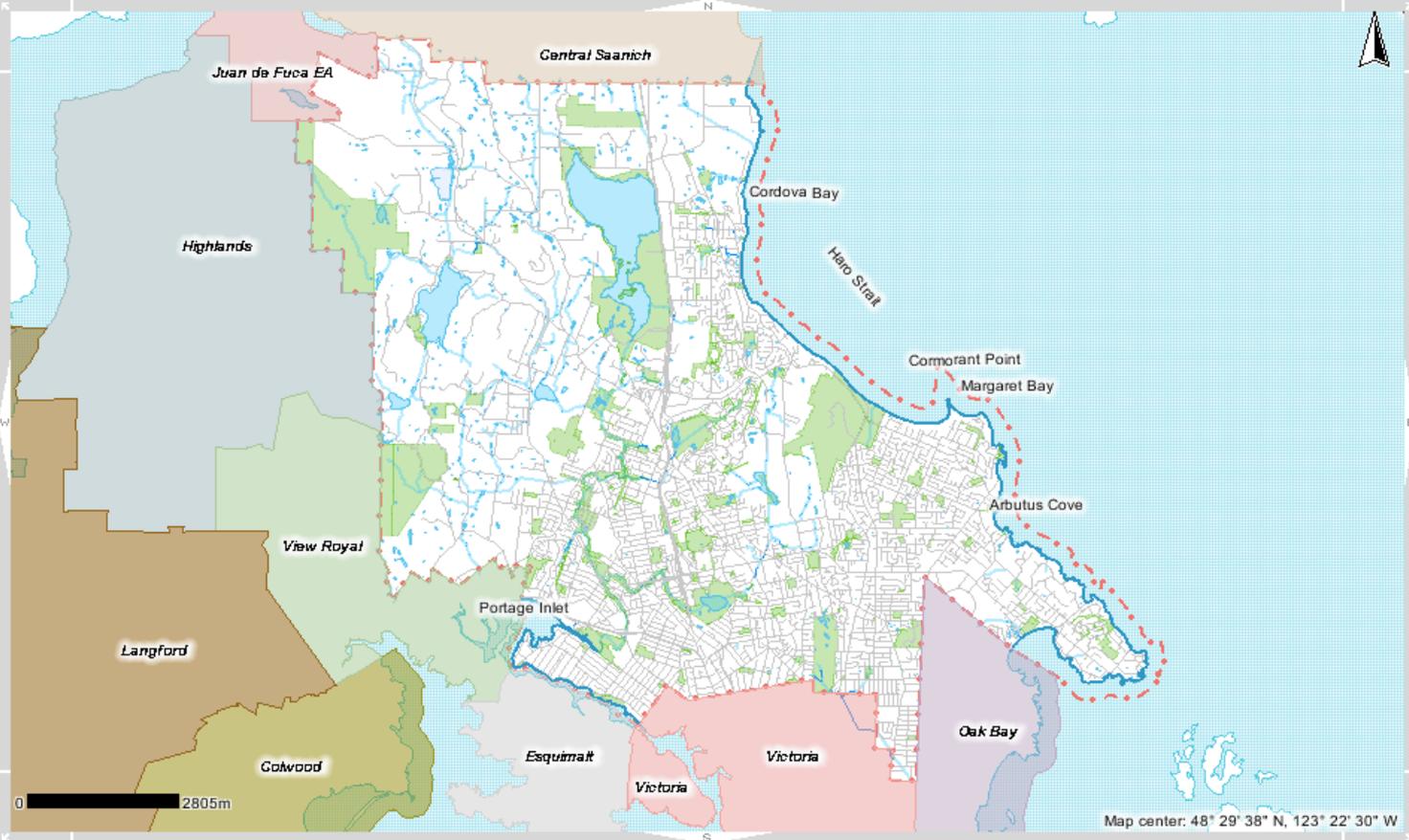
"Speakwell" Conversation Club
• March 3-31

Art Exhibit Reception: Leslie Redhead
• March 5

Coast Capital Savings Free Swim
• March 12

Family Kayaking
• March 13

Easter Eggstravaganza
• March 28-28

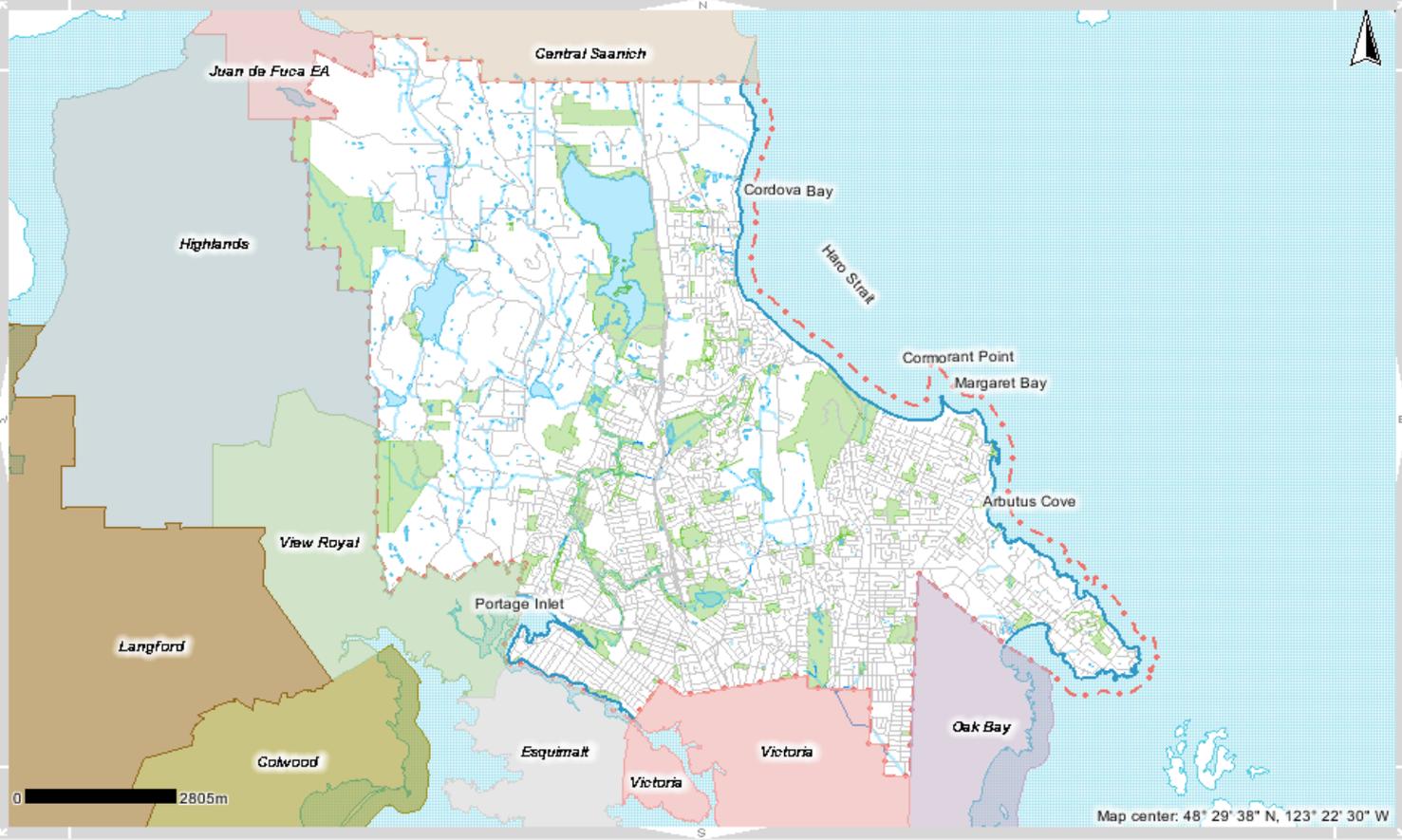


Map Layers

- Terrain
- Aerial Photos
- Land
- Transportation
- Parks
- Planning
- Environment
- Engineering and Public Works
- Base Information

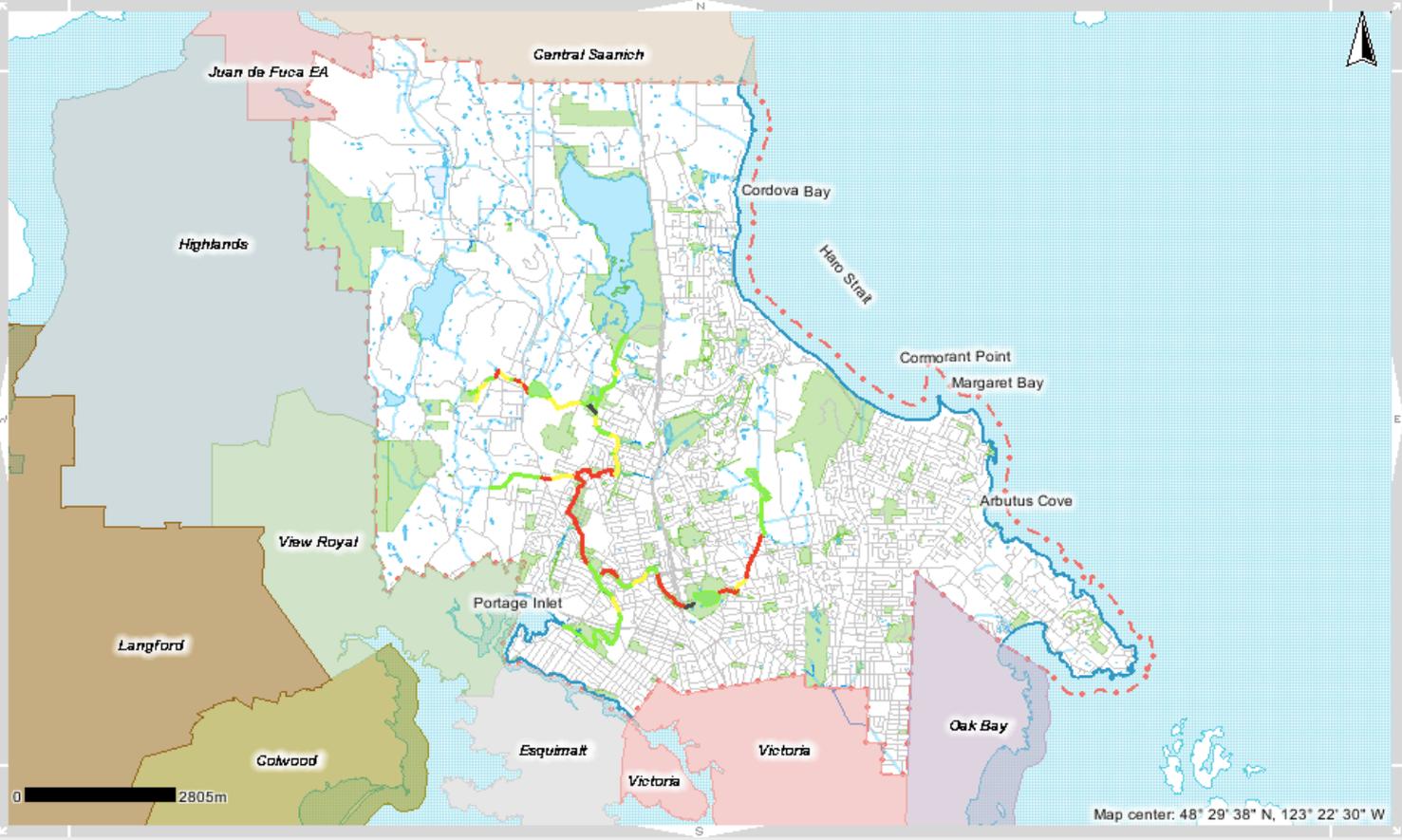
Automatically Refresh Map

Hints: (click to expand)



Map Layers panel with a list of layers including Terrain, Aerial Photos, Land, Transportation, Parks, Planning, Environment, and Functioning Condition options.

Hints: (click to expand)

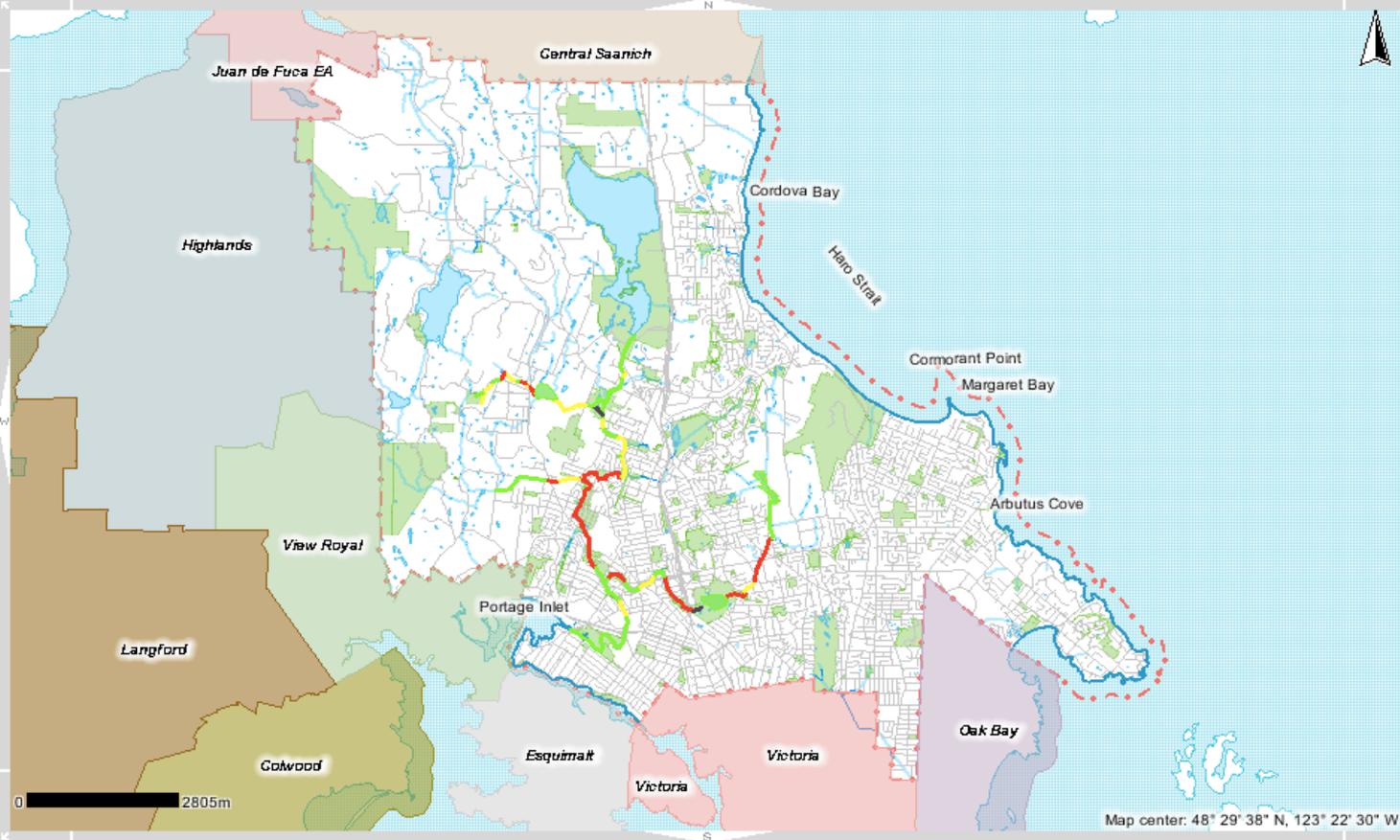


Map Layers

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- Functioning Condition - Lotic
- Functioning Condition - Lentic
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Automatically Refresh Map

Hints: (click to expand)

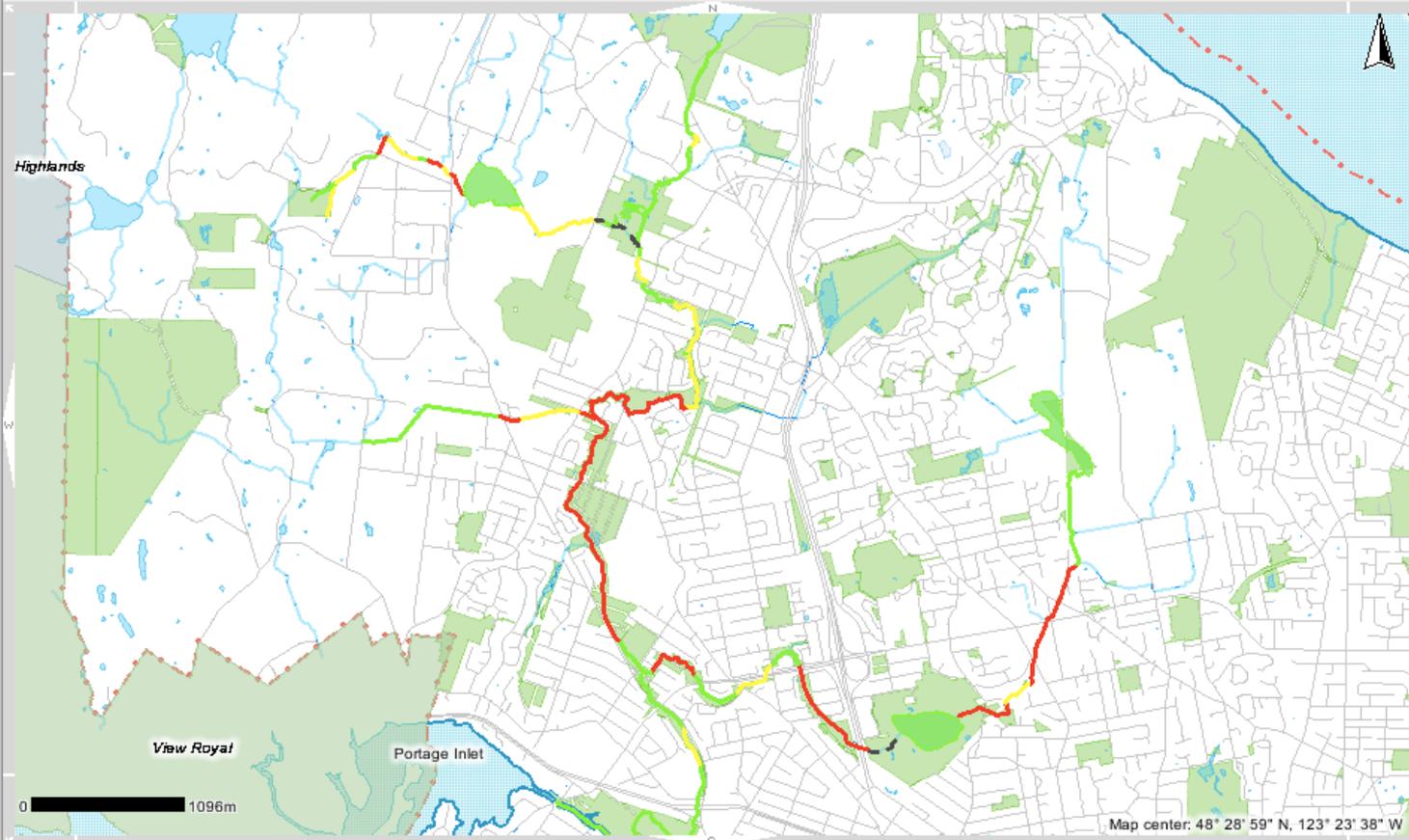


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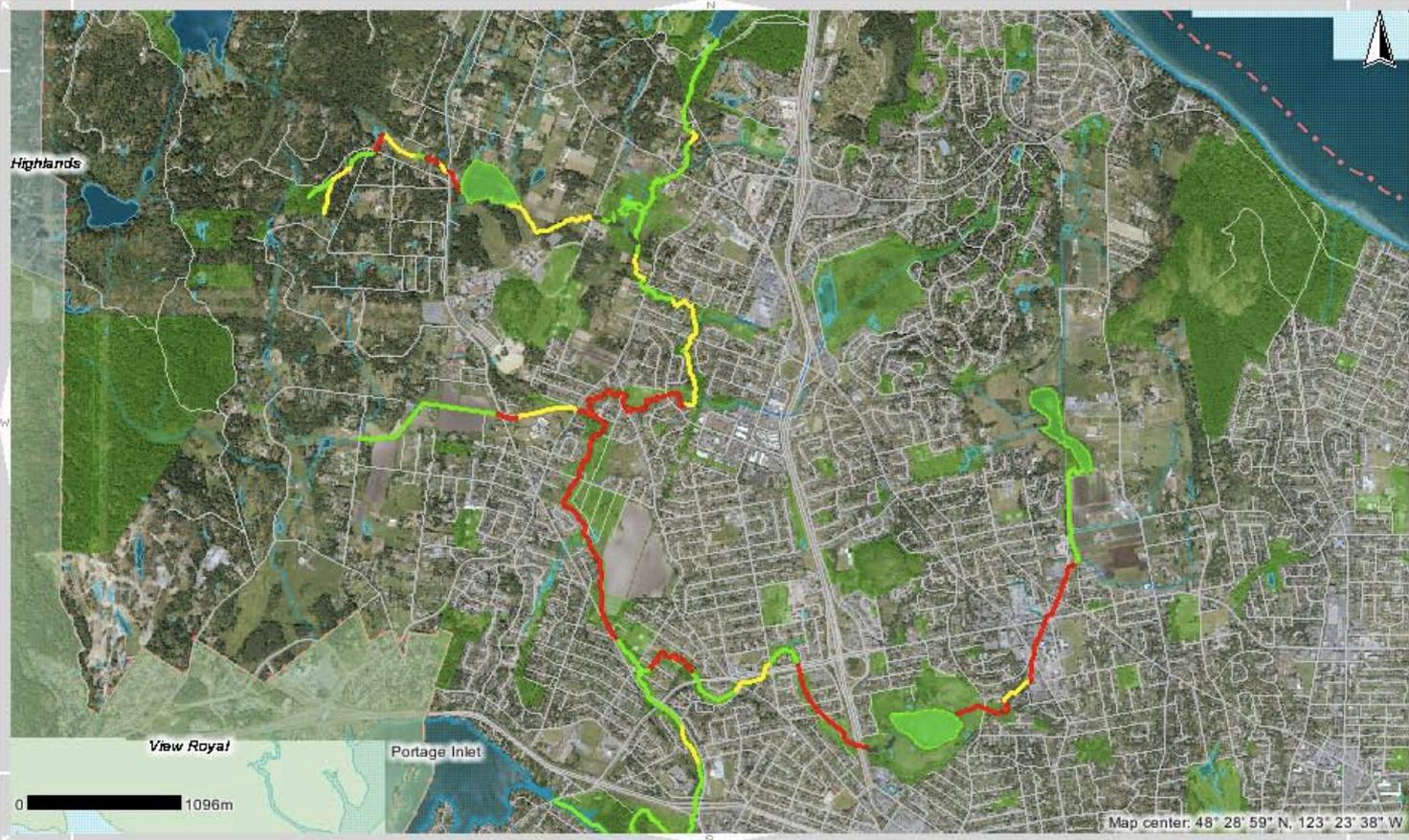


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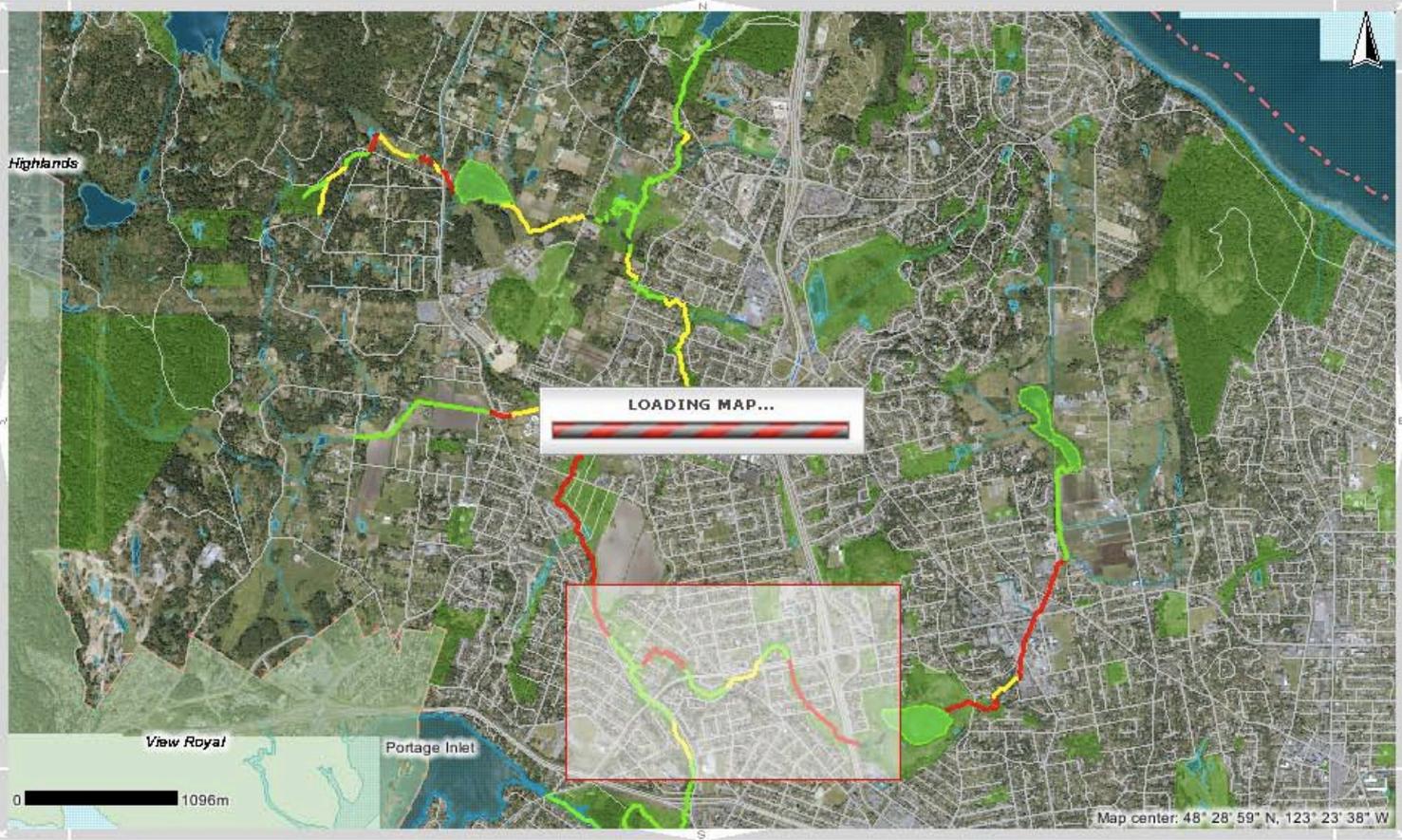


Map Layers

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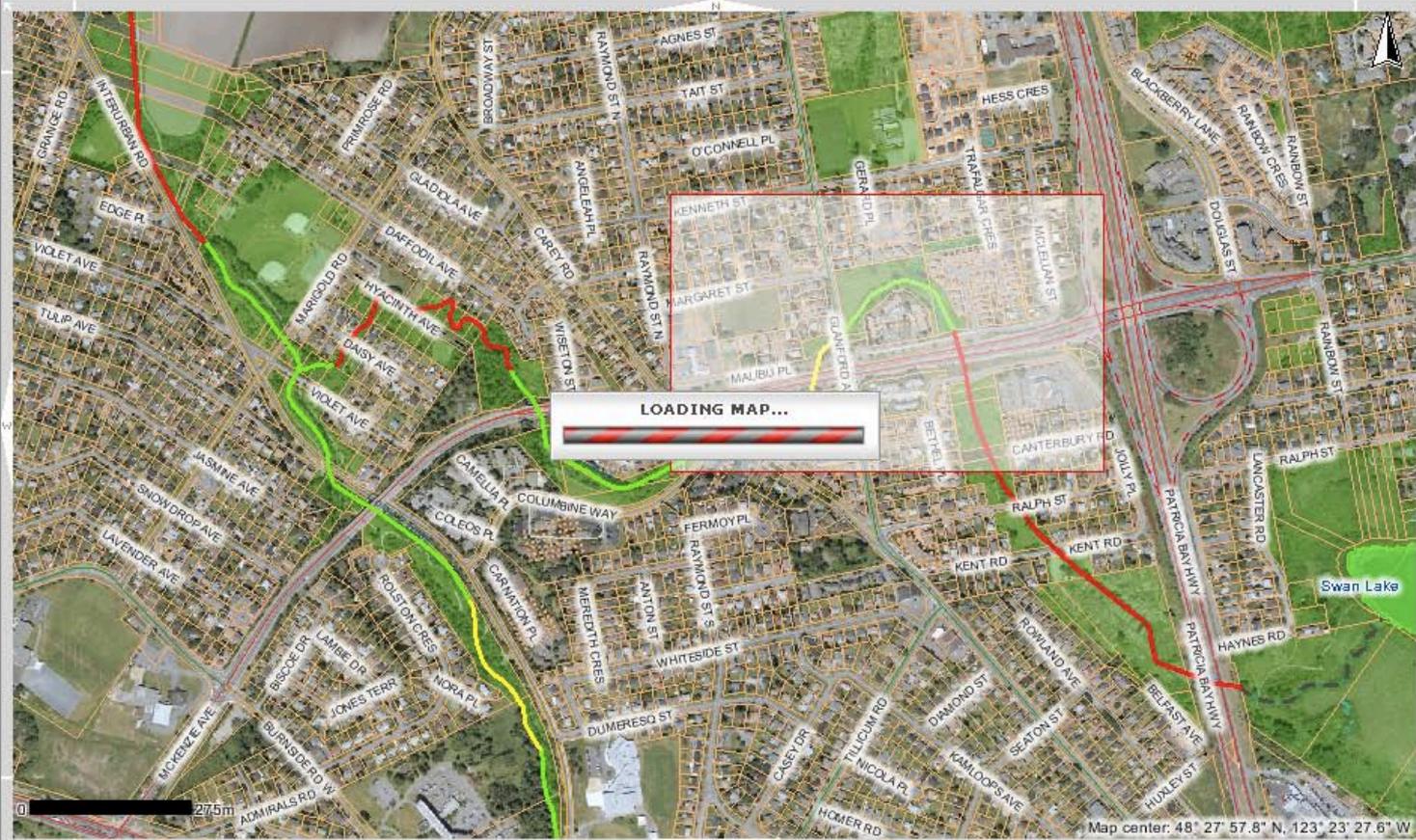
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 - Galloping Goose & Lockside Trail
 - Trail Connector
- Planning
- Zoning
- Heritage Sites
- Environment
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- Engineering and Public Works
 - Sewer
 - Sewer Gravity Main
 - Sewer Pressurized Main
 - Sewer Manhole
 - Sewer Cleanout
 - Sewer Main Cap
 - Sewer Network Structure
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 - Sewer System Valve
 - Sewer Lateral
 - Sewer Service Area



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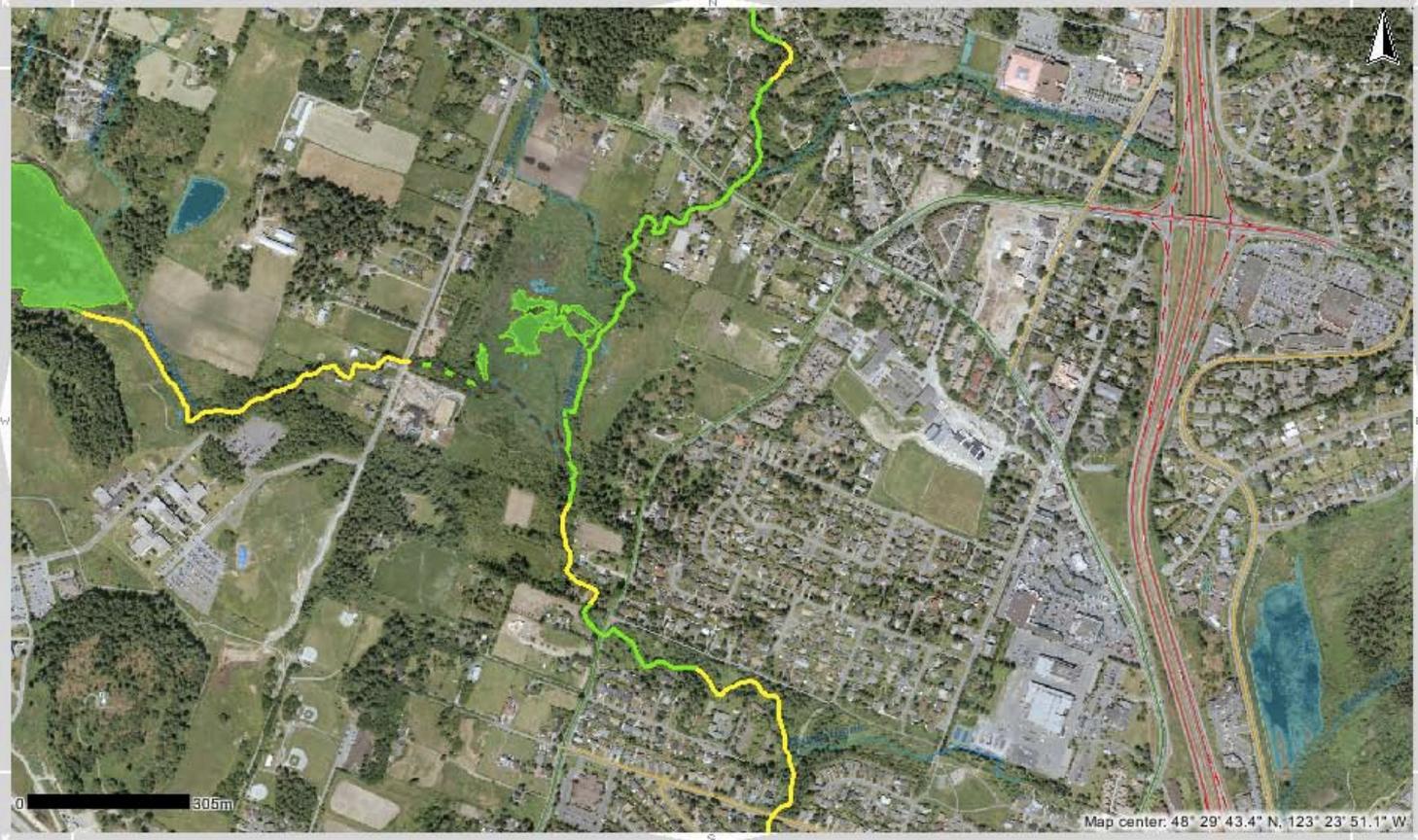
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Identify Results

Coordinate Position
Geographic: 48° 29' 29.9" N, 123° 23' 59.4" W

Functioning Condition - Lotic
Condition: Proper Functioning Condition
Watercourse Name: Colquitz River
Reach ID: CR11
Hyperlink: [More data](#)

The following information was excerpted from the report entitled "Colquitz River Watershed: Proper Functioning Condition Assessment July 2009" prepared by Aqua-Tex Scientific Consulting Ltd. (www.aqua-tex.ca) for the District of Saanich. This project was funded by the Federation of Canadian Municipalities and the Real Estate Foundation of B.C.

Lotic Checklist
Colquitz Watershed

Name of Riparian-Wetland Area:

Date: **July 23, 2007**

Segment/Reach ID:

Reach 11: Staked trail off Lindsay Road to Wilkinson Road Bridge

ID Team Observers:

Cori Barraclough, Sarah Buchanan, Daniel Hegg, Lehna Malmakvist, Kevin O'Riordan

Potential Riparian-Wetland Vegetation: Coniferous dominated forest with deciduous patches

vegetation: Coniferous dominated forest with deciduous patches.
Characteristics: Rosgen = "B1" channel type

Potential Riparian-wetland
Potential Channel Character

HYDROLOGICAL	
1) Floodplain above bankfull is inundated in "relatively frequent" events	
2) Where beaver dams are present are they active and stable	
3) Sinuosity, width/depth ratio, and gradient are in balance with the landscape setting (i.e., landform, geology, and bioclimatic region)	
4) Riparian-wetland area is widening or has achieved potential extent	
5) Upland watershed is not contributing to riparian-wetland degradation	

Yes	No	N/A

			9) Streambank vegetation is comprised of those plants or plant communities that have root masses capable of withstanding high streamflow events <i>(community types present)</i>
			10) Riparian-wetland plants exhibit high vigor
			11) Adequate riparian-wetland vegetative cover present to protect banks and dissipate energy during high flows <i>(enough)</i>
			12) Plant communities are an adequate source of coarse and/or large woody material (for maintenance/recovery)

Yes	No	N/A	EROSION DEPOSITION
-----	----	-----	--------------------

ks, overflow channels, dissipate energy
id vegetation
ural sinuosity
nt being supplied by the

			13) Floodplain and channel characteristics (i.e., rock coarse and/or large woody material) adequate to dissipate energy
			14) Point bars are revegetating with riparian-wetland vegetation
			15) Lateral stream movement is associated with natural sinuosity
			16) System is vertically stable <i>(not downcutting)</i>
			17) Stream is in balance with the water and sediment supplied by the watershed (i.e., no excessive erosion or deposition)

Remarks

Start GPS waypoint #30 (BLC): N 48° 29.468' W 123° 23.871'

Potential channel type: Rosgen B1

Present channel type: Rosgen R1

Present channel type: Rosgen B1

Constraints:

Invasive Species

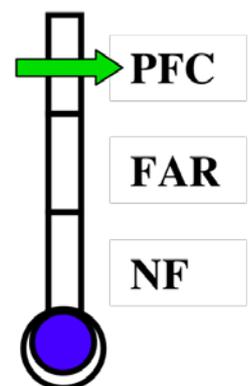
Vegetation:

Common name	Scientific Name
Arbutus	<i>Arbutus menziesii</i>
Big leaf maple	<i>Acer macrophyllum</i>
Black cottonwood	<i>Populus balsamifera ssp. trichocarpa</i>
Cattail	<i>Typha latifolia</i>
Common horsetail	<i>Equisetum arvense</i>
Common snowberry	<i>Symphoricarpos albus</i>
Daphne (spurge laurel)	<i>Daphne laureola</i>
Deer fern	<i>Blechnum spicant</i>
Douglas fir	<i>Pseudotsuga menziesii</i>
English hawthorn	<i>Crataegus monogyna</i>
English holly	<i>Ilex aquifolium</i>

	<i>Hedera helix</i>
	<i>Quercus garryana</i>
	<i>Spiraea douglasii</i>
	<i>Rubus discolor</i>
	<i>Oemleria cerasiformis</i>
	<i>Laburnum anagyroides</i>
	<i>Prunus sp.</i>
	<i>Rosa nutkana</i>
	<i>Holodiscus discolor</i>
	<i>Physocarpus capitatus</i>
	<i>Alnus rubra</i>
	<i>Phalaris arundinacea</i>
	<i>Cytisus scoparius</i>
h	<i>Scirpus microcarpus</i>
	<i>Delostichum minutum</i>

English ivy
Garry oak
Hardhack
Himalayan blackberry
Indian plum
Laburnum
Laurel
Nootka rose
Oceanspray
Pacific ninebark
Red alder
Reed canary grass
Scotch broom
Small-flowered bulrush
Sword fern

SUMMARY DETERMINATION

<p><input checked="" type="checkbox"/> Proper Functioning Condition</p> <p><input type="checkbox"/> Functional - At Risk</p> <p><input type="checkbox"/> Nonfunctional</p> <p><input type="checkbox"/> Unknown</p> <p>Trend for Functional - At Risk:</p> <p><input type="checkbox"/> Upward</p> <p><input type="checkbox"/> Downward</p>	 <p>PFC</p> <p>FAR</p> <p>NF</p>	<p>Are factors contributing to unacceptable conditions outside the control of the manager?</p> <p>Yes <input type="checkbox"/></p> <p>No <input checked="" type="checkbox"/></p> <p>If yes, what are those factors?</p> <p><input type="checkbox"/> Flow regulations</p> <p><input type="checkbox"/> Mining activities</p> <p><input type="checkbox"/> Upstream channel conditions</p> <p><input type="checkbox"/> Channelization</p> <p><input type="checkbox"/> Road encroachment</p> <p><input type="checkbox"/> Oil field water discharge</p>
<p><input type="checkbox"/> Augmented flows</p> <p><input type="checkbox"/> Other (specify)</p>		

Photographs:



Colquitz River Reach 11, Photo 1, 2007-07-23. Facing upstream, creek is lined with large rocks able to dissipate energy and reduce erosion that occurs with high flows.



Colquitz River Reach 11, Photo 2, 2007-07-23. Facing downstream. The hydrology of the creek is altered (hence the reach break) at this point due to the change in substrate.



to the change in substrate.

occurs with high flows.



vancouver 2010



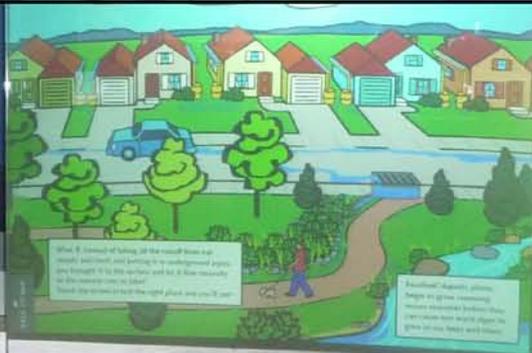
WITH DesPLUS
GLOWING HEARTS BRILLANT
HEARTS EXPLOITS



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02/22/20