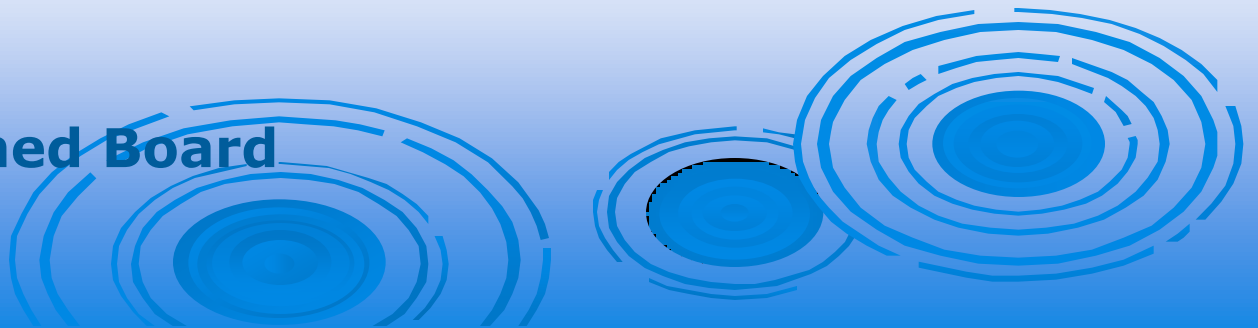
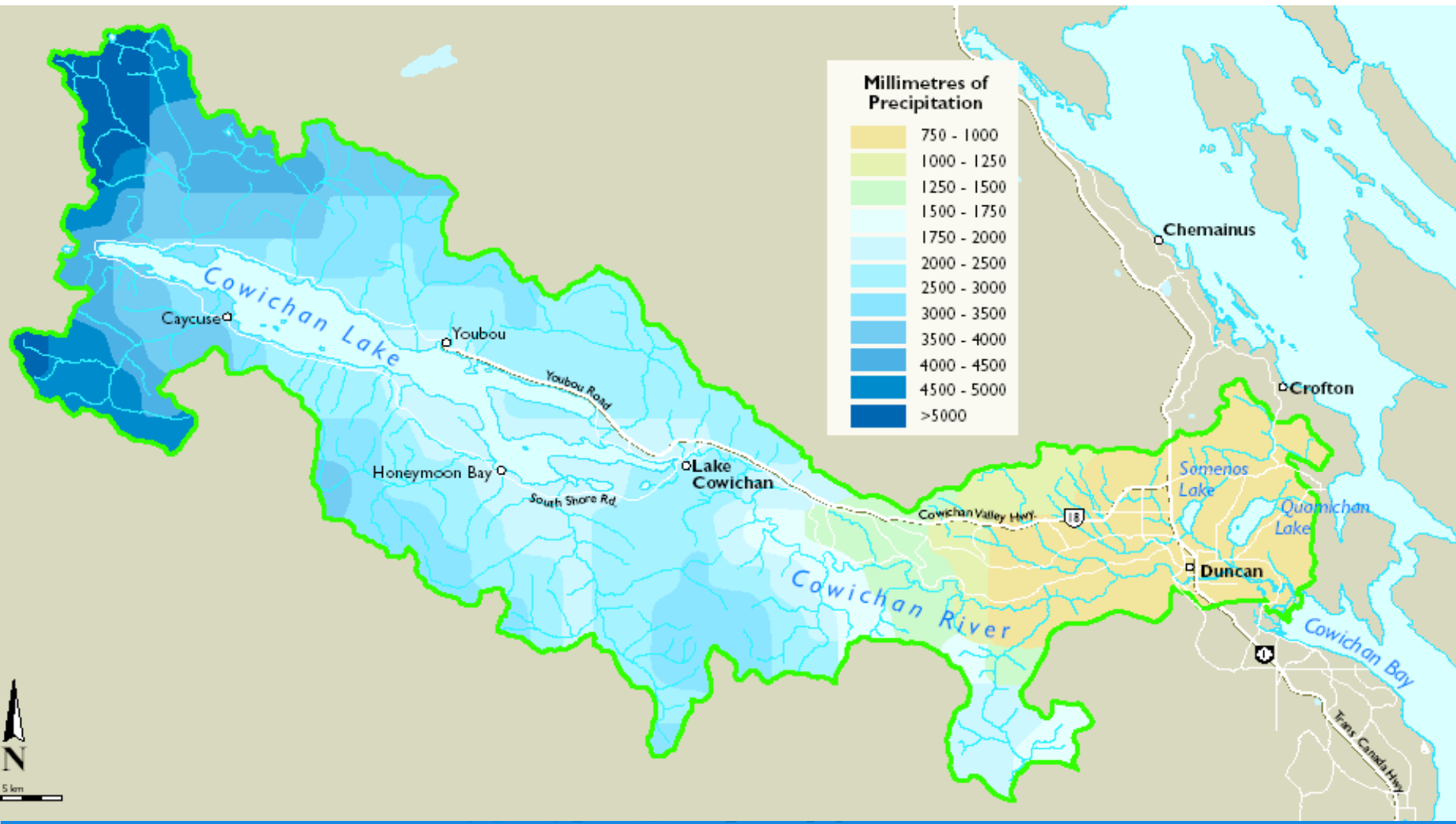


A Virtual Tour of the Cowichan Watershed

**Rodger Hunter
Cowichan Watershed Board
April 15, 2015**

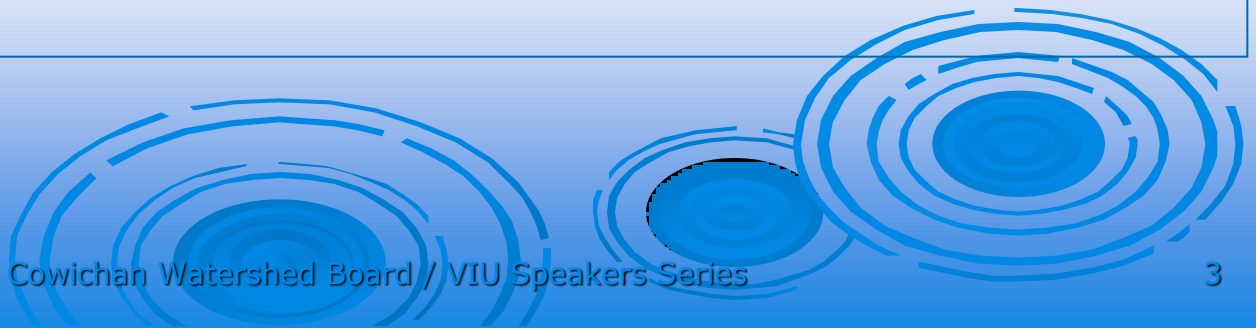


Cowichan Watershed



This Evening

- **Background**
 - **Bigger Picture Issues**
 - **Cowichan Watershed Plan - Context**
- **Cowichan Watershed Board**
 - **7 Targets – giving meaning to the Plan**
- **Virtual Watershed Tour**



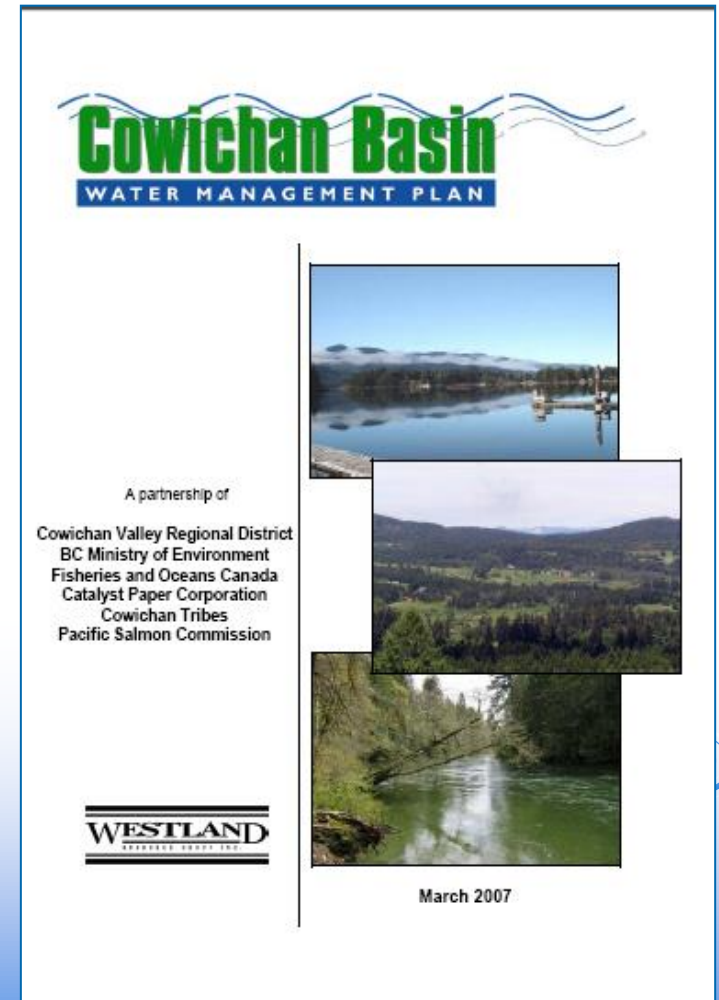
Big Picture (elephants to consider)

- **Climate Change**
- **Pop Growth/Bio-diversity Concerns**
- **Financial Crisis/
Peak Debt**
- **Peak Sr Govt.**
- **Rights**



The Water Management Plan

- **Completed early 2007**
- **6 Goals, 23 Objectives, 89 Actions**
- **For 3 yrs implementation scant due to governance /leadership issues**



Cowichan Watershed Board Model

- **Local leadership**
- **CVRD/Cowichan Tribes full partners**
- **Inclusive of fed. & prov. gov'ts**
- **Include opinion leaders**
- **Special advisors**
- **Strong Technical Advisory Committee**



CWB Governance

- **Legitimately represent all interests (accountability)**
- **Integrated-whole watershed thinking**
- **Attract partners & funding**
- **Consensus approach**



CWB Members

Cowichan Tribes

- Chief Chip Seymour*
- Debra Toporowski

At Large

- Hon. David Anderson
- Mayor Ross Forrest
- Lori Iannidinardo
- Tim Kulchyski
- Matthew Louie

B.C.

- Dr. David Froese
- David Slade

* Co-chairs

CVRD

- Mayor John Lefebure*
- Klaus Kuhn
- Ian Morrison

Canada

- Andy Thomson

Special Advisors

- Arvid Charlie
- Dr. Bruce Fraser
- Ted van der Gulik
- Dr. Rick Nordin
- Oliver Brandes
- Rob Hutchins

Tech. Advisory Comm.



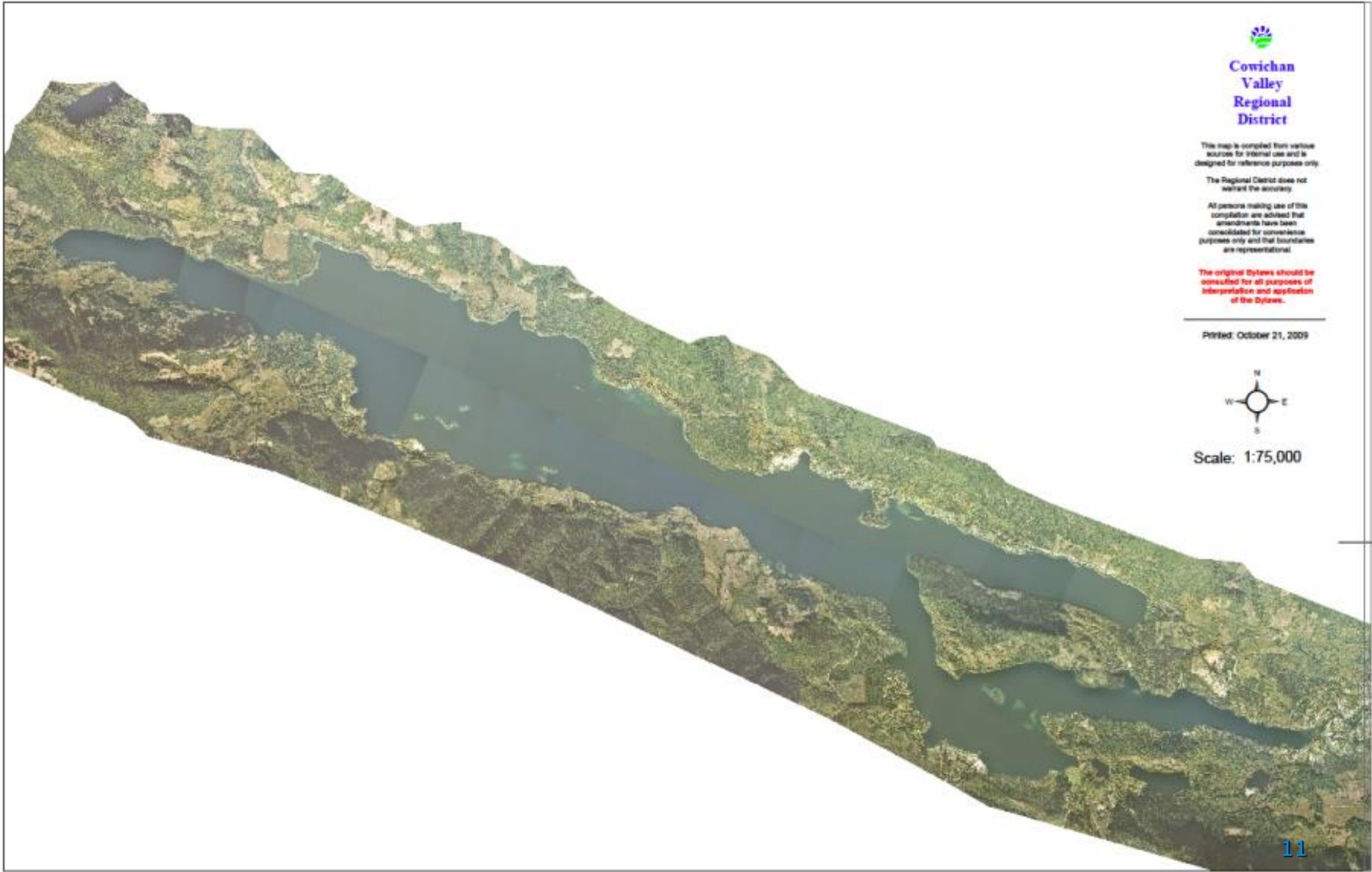
Targets:

- **Fish Sustainability**
- **Summer Flows**
- **Water Quality**
- **Estuarine Health**
- **Efficient Water Use**
- **Watershed IQ**
- **Protect Riparian Areas**





Cowichan Lake



**Cowichan
Valley
Regional
District**

This map is compiled from various sources for internal use and is designed for reference purposes only.

The Regional District does not warrant the accuracy.

All persons making use of this compilation are advised that amendments have been consolidated for convenience purposes only and that boundaries are representational.

The original Bylaws should be consulted for all purposes of interpretation and application of the Bylaws.

Printed: October 21, 2009



Scale: 1:75,000





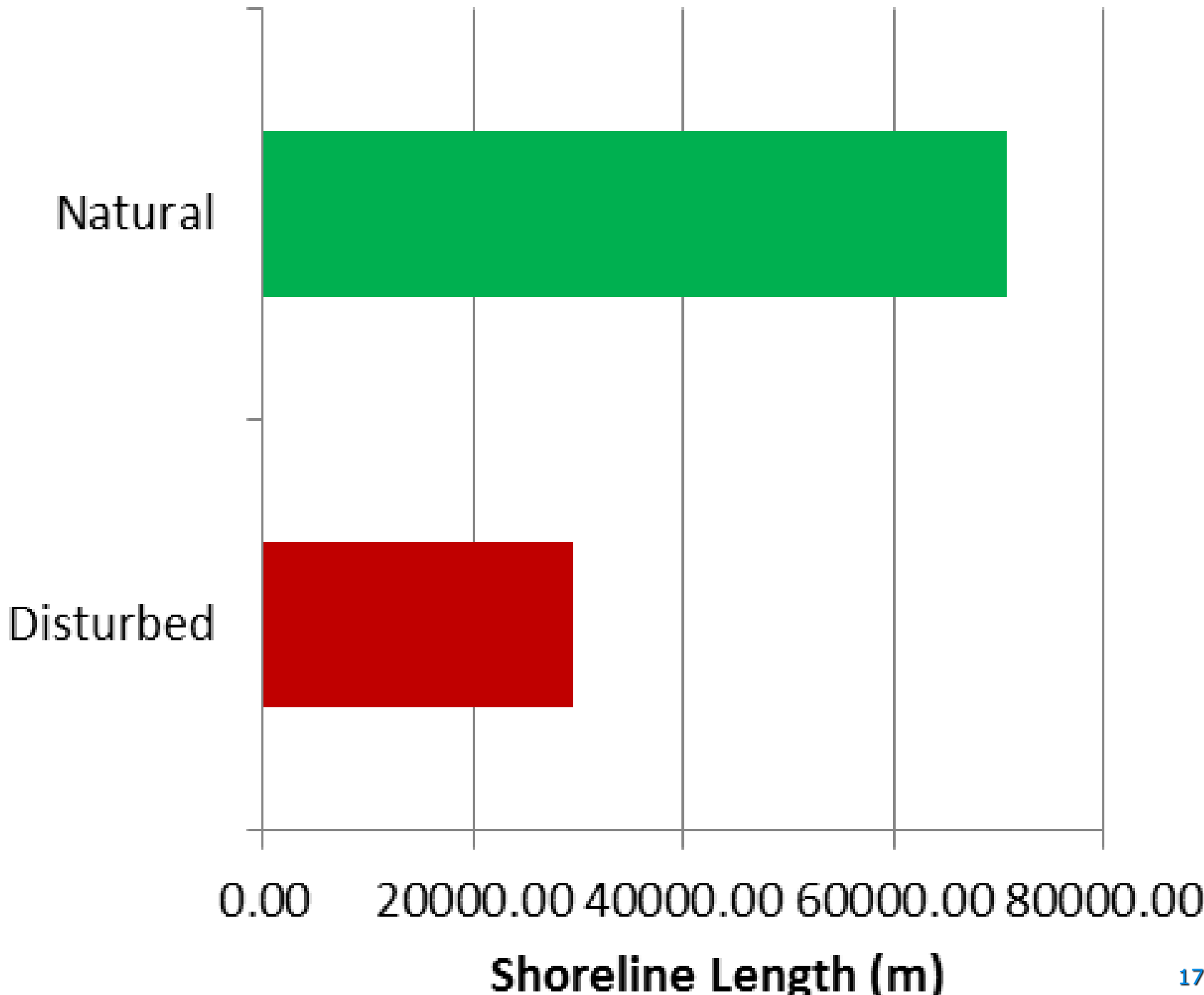






Mapping of FIM Reports using Google Maps
<http://www.cowichan-lake-stewards.ca/workshop.htm>

Natural vs. Disturbed Shoreline









Sept.25, 2007
Weir on Cowichan Lake

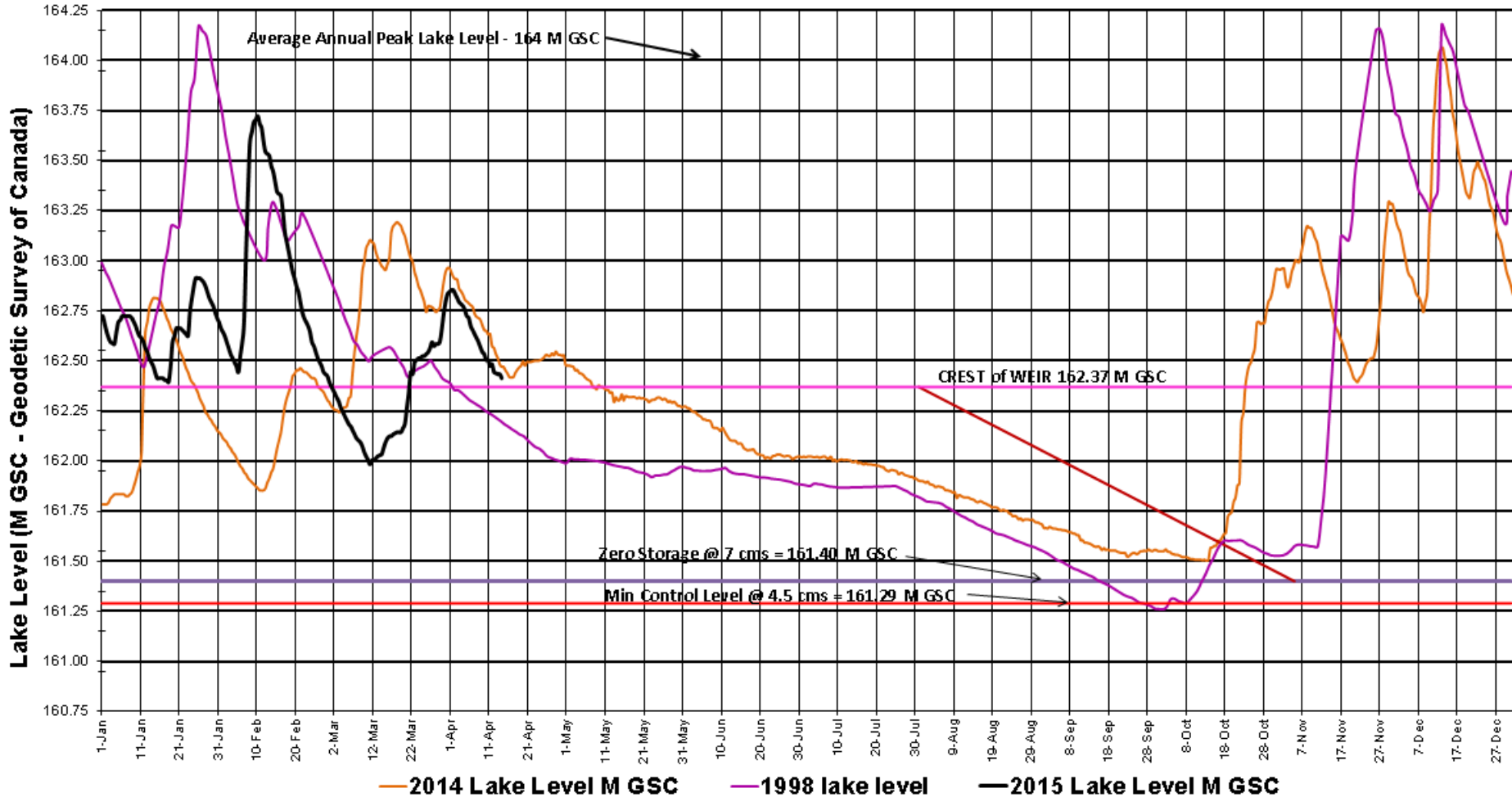


average
high
water

+30 cm
crest of
weir

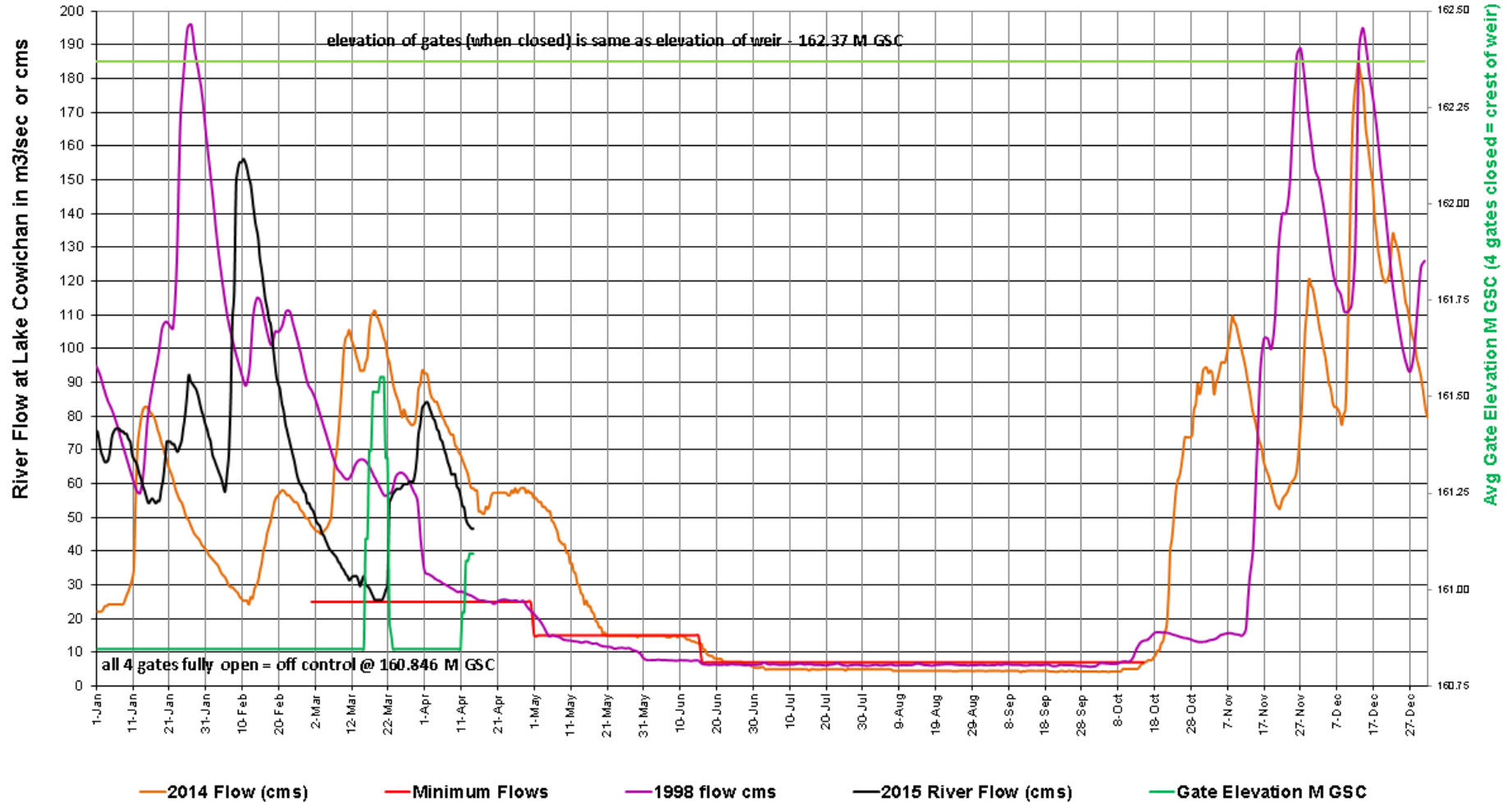
Lake level approaching full supply

Cowichan Lake Level - 2015 (black) & 1998 (Purple) & 2014 (orange)



River Flow currently 47 cms and dropping

2015 Cowichan River Flow (black) Including 1998 (Purple) & 2014 (orange)









Minimal Snow Pack / near zero

3B23P - JUMP CREEK

Drainage: Vancouver Island
Latitude: 48° 58'
Longitude: 124° 16'
Elevation: 1,134 m

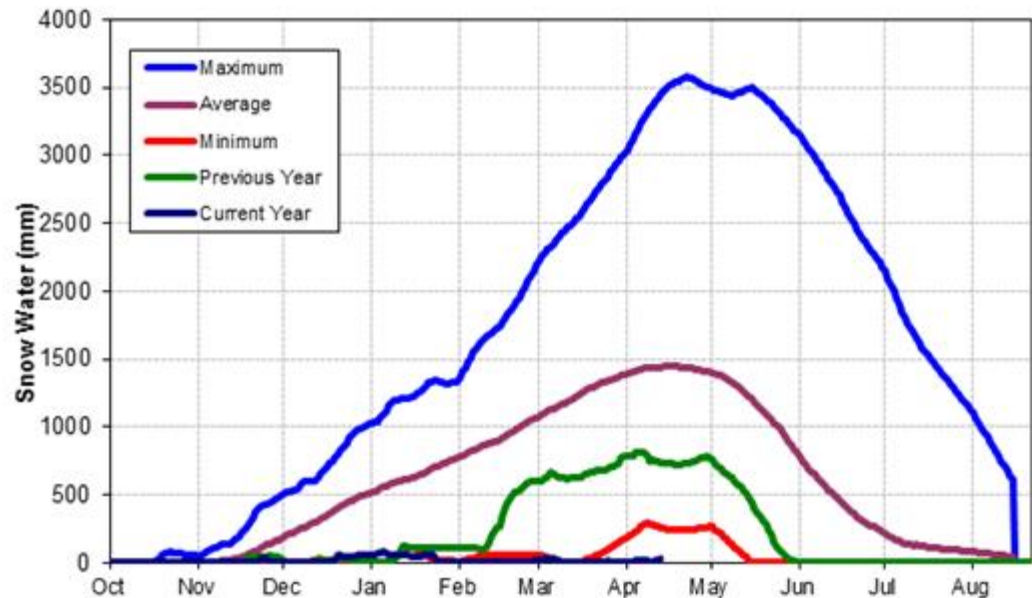
Owner: Ministry of Environment
Year Established: 1995
Sensors: Air temperature, precipitation, snow water and snow depth

Download current year's hourly real-time data*:

[Click here](#)

Download daily archive data:

[Click here](#)



Current to noon 2015-04-12
Updated 2015-04-13 10:28:52 AM

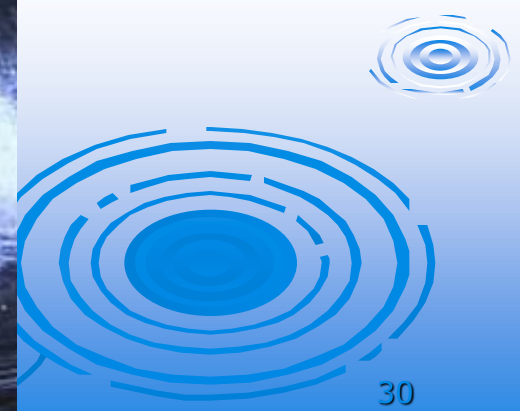




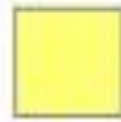




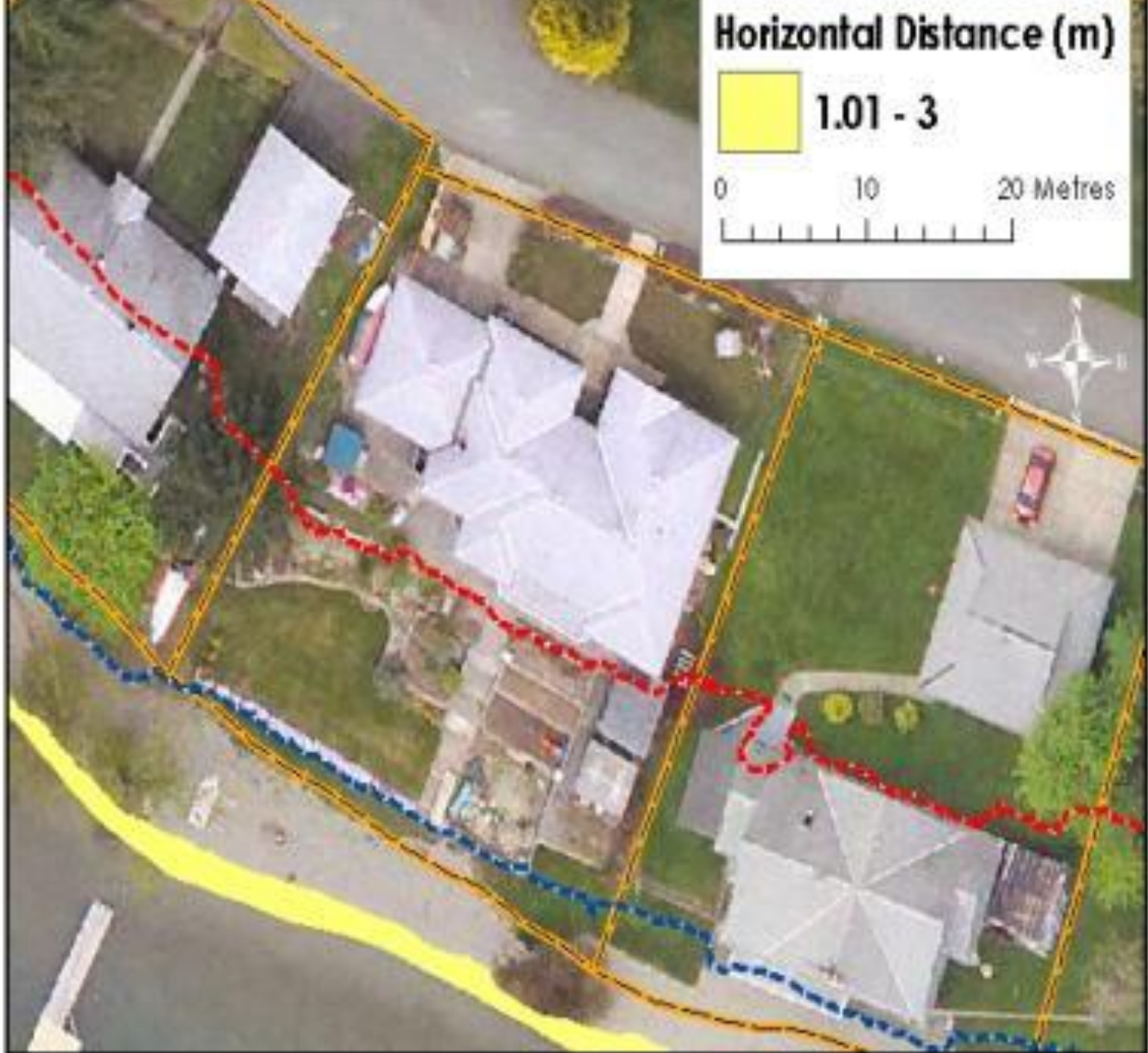
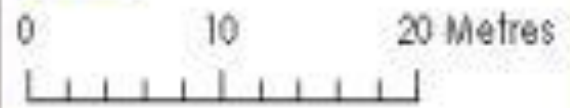
200 chinook salmon are moved by truck to suitable spawning sites upstream



Horizontal Distance (m)



1.01 - 3



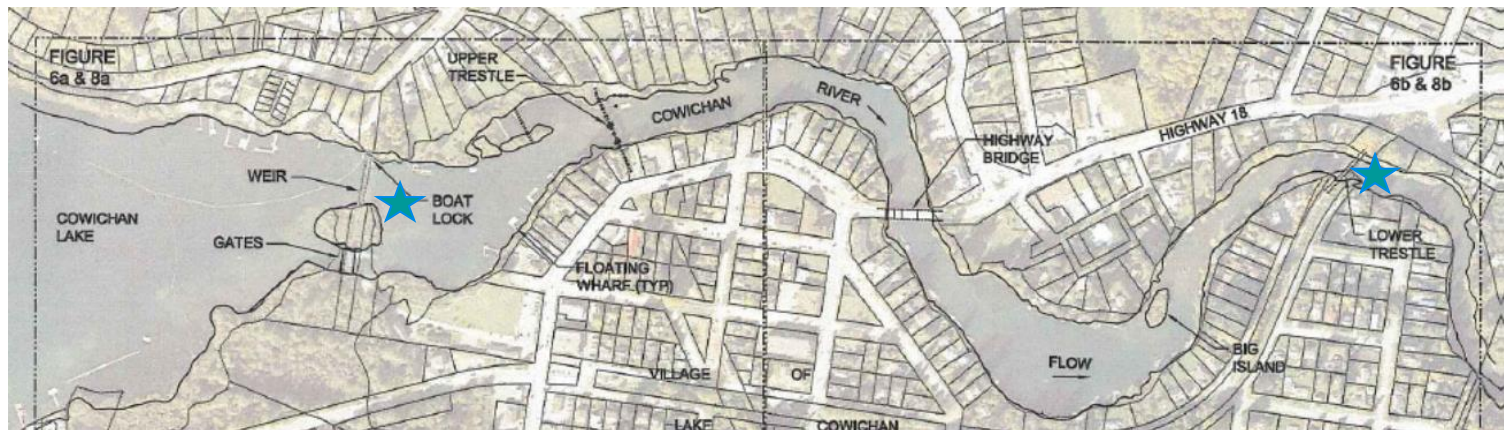
Cowichan Lake Outlet

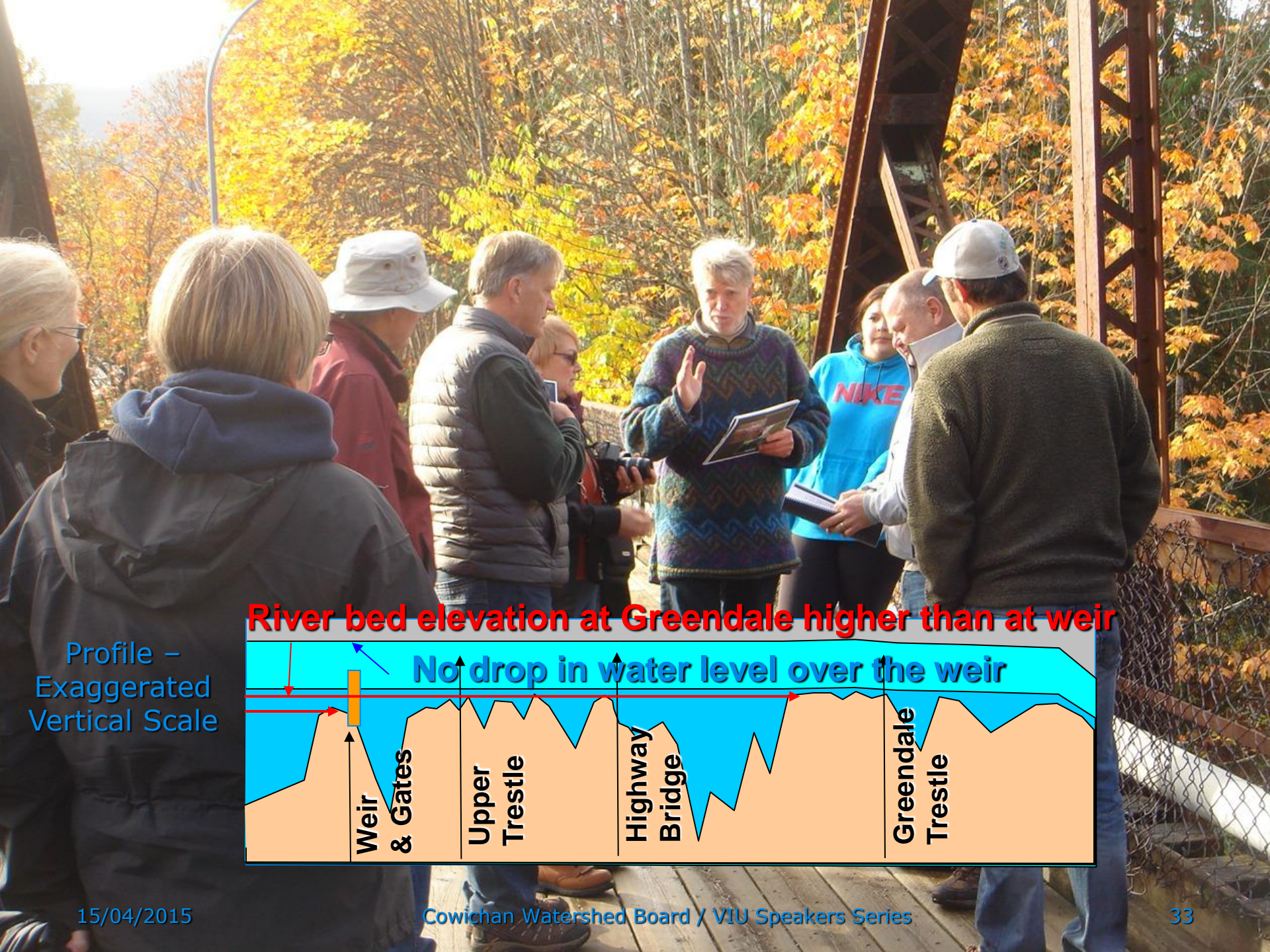


Downstream of weir

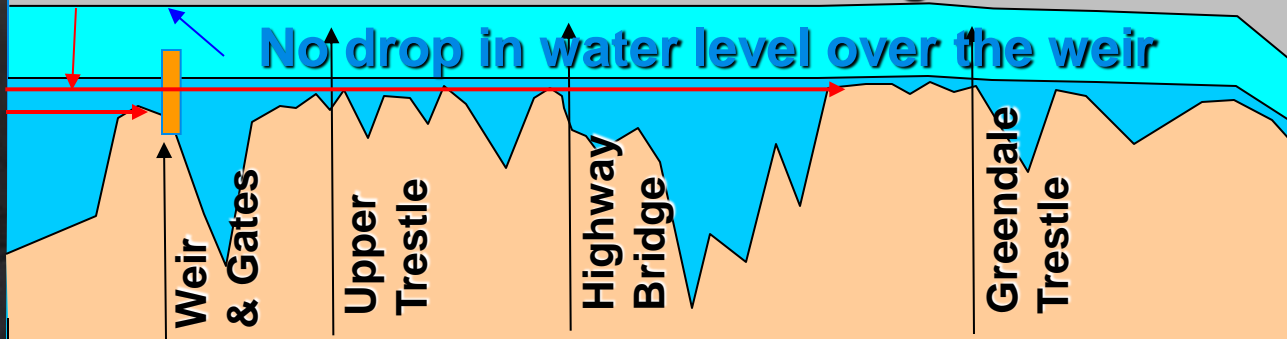


Greendale Trestle





River bed elevation at Greendale higher than at weir



Profile -
Exaggerated
Vertical Scale



Broadway Run



Slide adds sediment to the Cowichan River





Ripping apart old stumps



Treatment designed to use natural processes of landslide recovery to treat the slide.

Dense live staking





Slows flow velocities,
adds root strength and
removes excess water.
Assists recovery.

Stolz Bluff



June 23, 2006
15/04/2015
Photo by Don Fern







15/04/2015

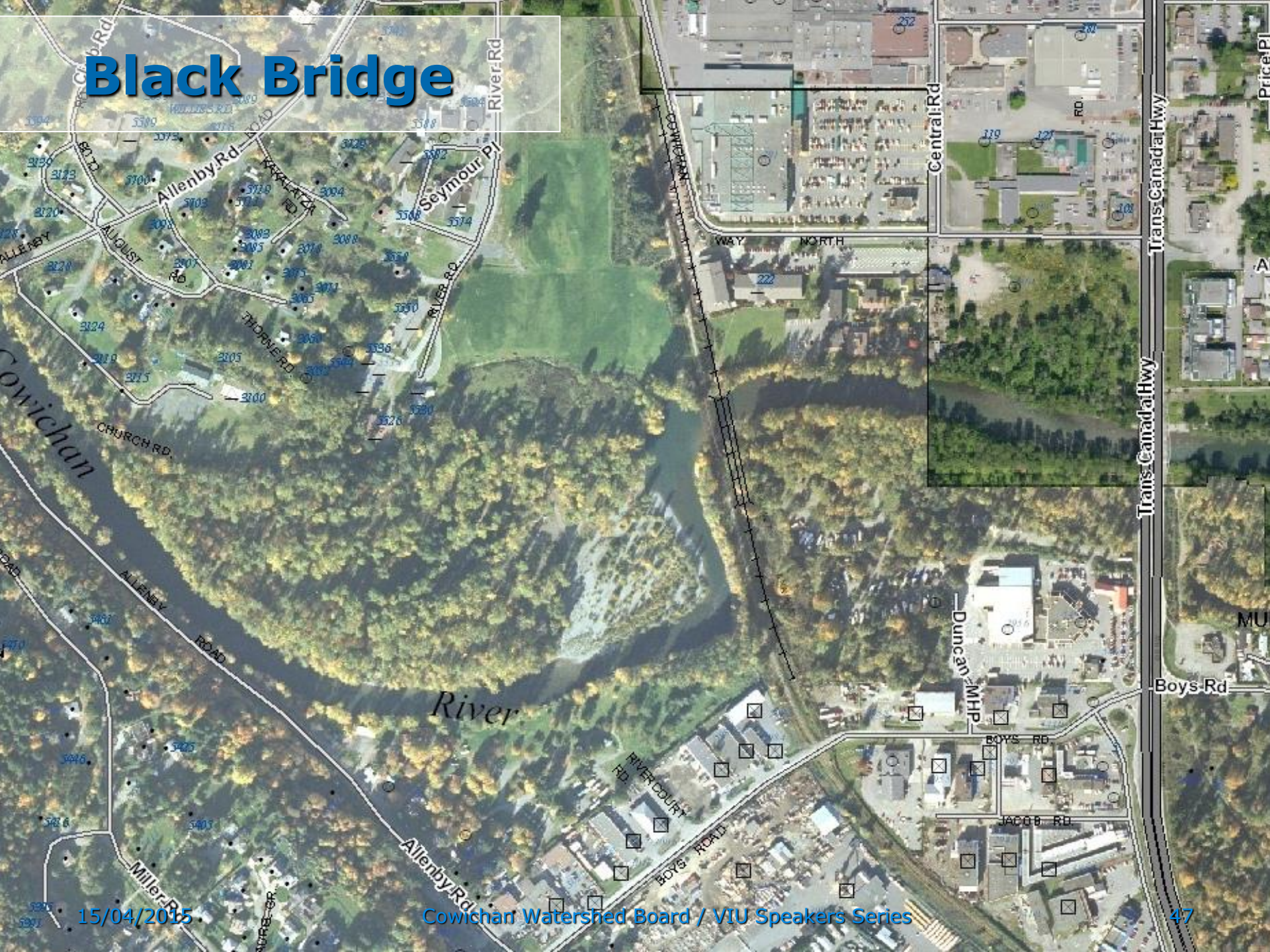
Cowichan Watershed Board / VIU Speakers Series

Catalyst Pumps





Black Bridge





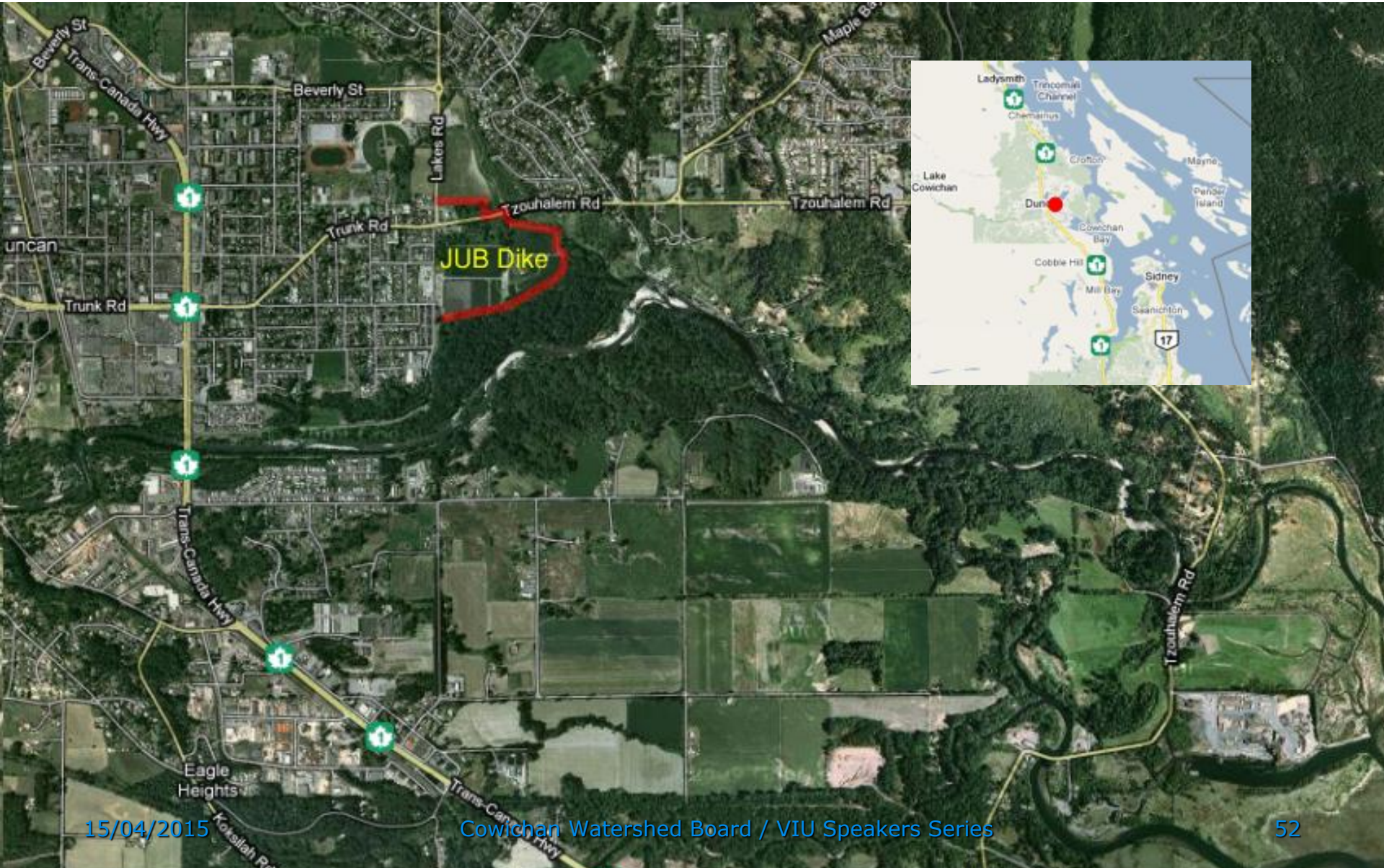


Quamichan Village





Sewage lagoons/ JUB







220 m



North arm



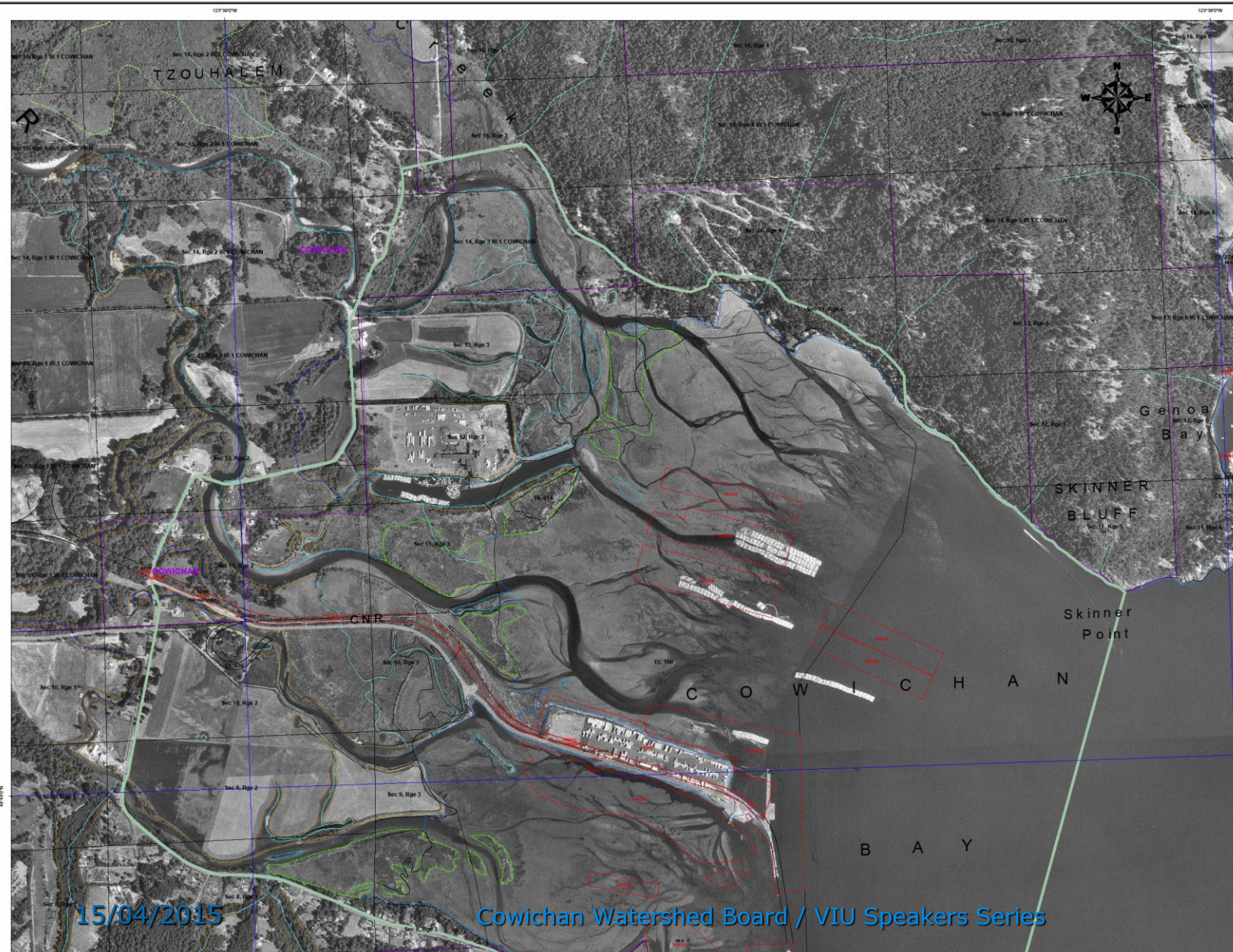
15/04/2015

Cowichan Watershed Board / VIU Speakers Series

56



Estuary



**COWICHAN ESTUARY
ENVIRONMENTAL
MANAGEMENT PLAN AREA**

**VANCOUVER ISLAND
SERVICE REGION**

Legend

- Primary Survey Parcels
- Active Tenures
- F.N. Reserve
- Cowichan Estuary
- Environmental Mngt Plan Area



15/04/2015


Cowichan Watershed Board / VIU Speakers Series










 Fisheries and Oceans Canada / Pêches et Océans Canada

Area: 19 / Secteur: 19

FISHERY NOTICE / **AVIS DE PÊCHE**



Bivalve Shellfish Notice
 (Bivalves are shellfish with two shells; this means all clams, oysters, mussels, scallops, and cockles.)
 This area is often affected by Paralytic Shellfish Poisoning (PSP), also known as RED TIDE which can occur at any month of the year.

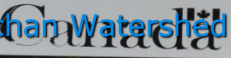
Mise en garde - Bivalves
 (Les bivalves sont des mollusques à deux coquilles : myes, les huîtres, moules, pétoncles, coques, etc.)
 Ce secteur est sujet à des épisodes de phycotoxine paralysante (PSP), phénomène également désigné MAREE ROUGE et pouvant surgir à n'importe quel mois de l'année.

PSP / RED TIDE IS A SERIOUS HEALTH CONCERN AND MAY CAUSE DEATH
 To ensure your safety
YOU MUST CHECK THAT THE AREA IS OPEN BEFORE HARVESTING BIVALVES.

LA PSP/MARÉE ROUGE REPRÉSENTE UN GRAVE DANGER POUR LA SANTÉ ET PEUT CAUSER LA MORT
 Avant de partir à la récolte des bivalves :
ASSUREZ-VOUS QUE CE SECTEUR EST OUVERT À L'ACTIVITÉ COQUILLIÈRE

For information on PSP / red tide closures by area
 • Phone toll free
1-866-431-3474
 • Check the Fisheries and Oceans Pacific Region website:
www.pac.dfo-mpo.gc.ca/PSP
 • Phone the local Fisheries and Oceans office:
 250-363-3252
 or check the blue pages of the phone book.

Pour toute information sur les fermetures de secteur dues à la PSP/marée rouge :
 • Appelez au numéro (sans frais)
1-866-431-3474
 • Consultez le site web de Pêches et Océans pour la Région du Pacifique :
<http://www.pac.dfo-mpo.gc.ca/PSP>
 • Appelez au numéro local du bureau de Pêches et Océans Canada : 250-363-3252
 ou consultez les pages bleues de l'annuaire téléphonique.





Cowichan Estuary Salt Marsh Rehabilitation Mariners Island









Huy ch qa. Thank you!

Special thanks to all the photographers, particularly Genevieve Singleton, Paul Fletcher, Eric Marshall, James Craig, Ray Dimarchi, Wilf Luedke, Cowichan Land Trust, CERCA, Clay Reitsma, and more!



Context – Local



Context – Local



