



Portage Inlet Cutthroat Initiative (PICI)

Presentation for the Gorge Waterway Initiative

03/20/19

What is PICI?



Freshwater Fisheries
Society of BC

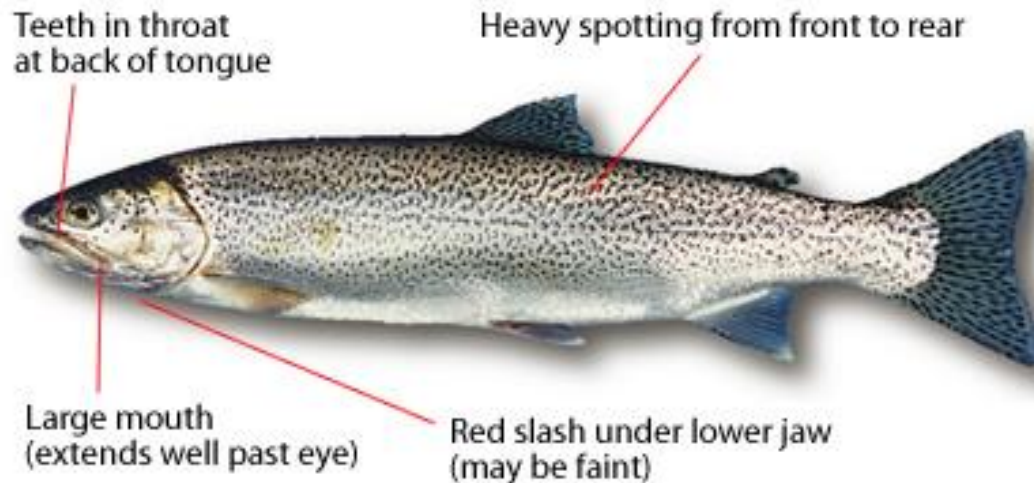


WORLD
FISHERIES
TRUST



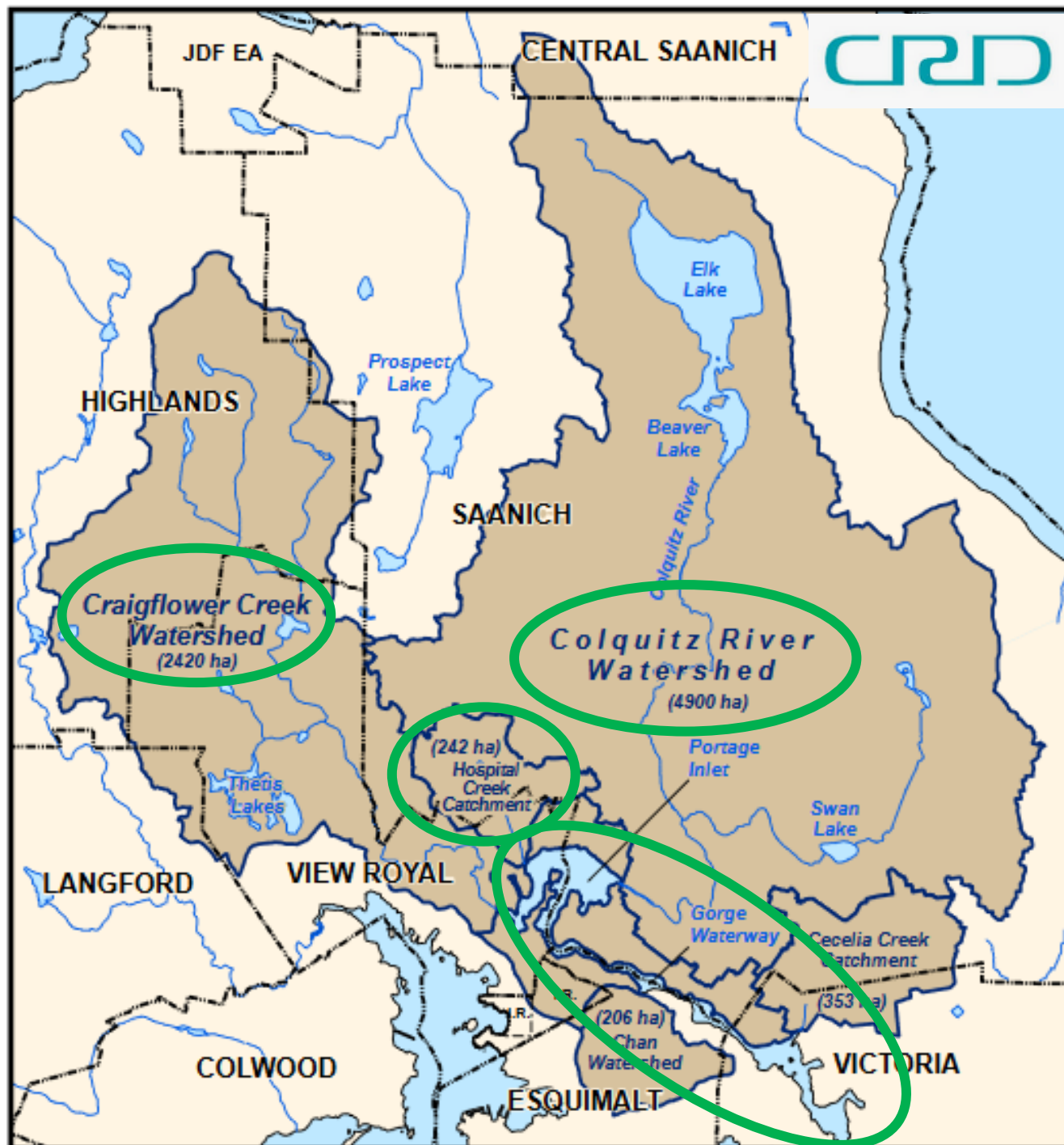
Description & Range

- In the same genus as Pacific salmon (*Onchorynchus*)
- Found from Alaska to the north-western tip of California
- Have a number of life histories including
 - anadromous (streams/rivers to ocean)
 - adfluvial-lacustrine (streams/rivers to lakes)
 - fluvial (tributary streams to main stem rivers)



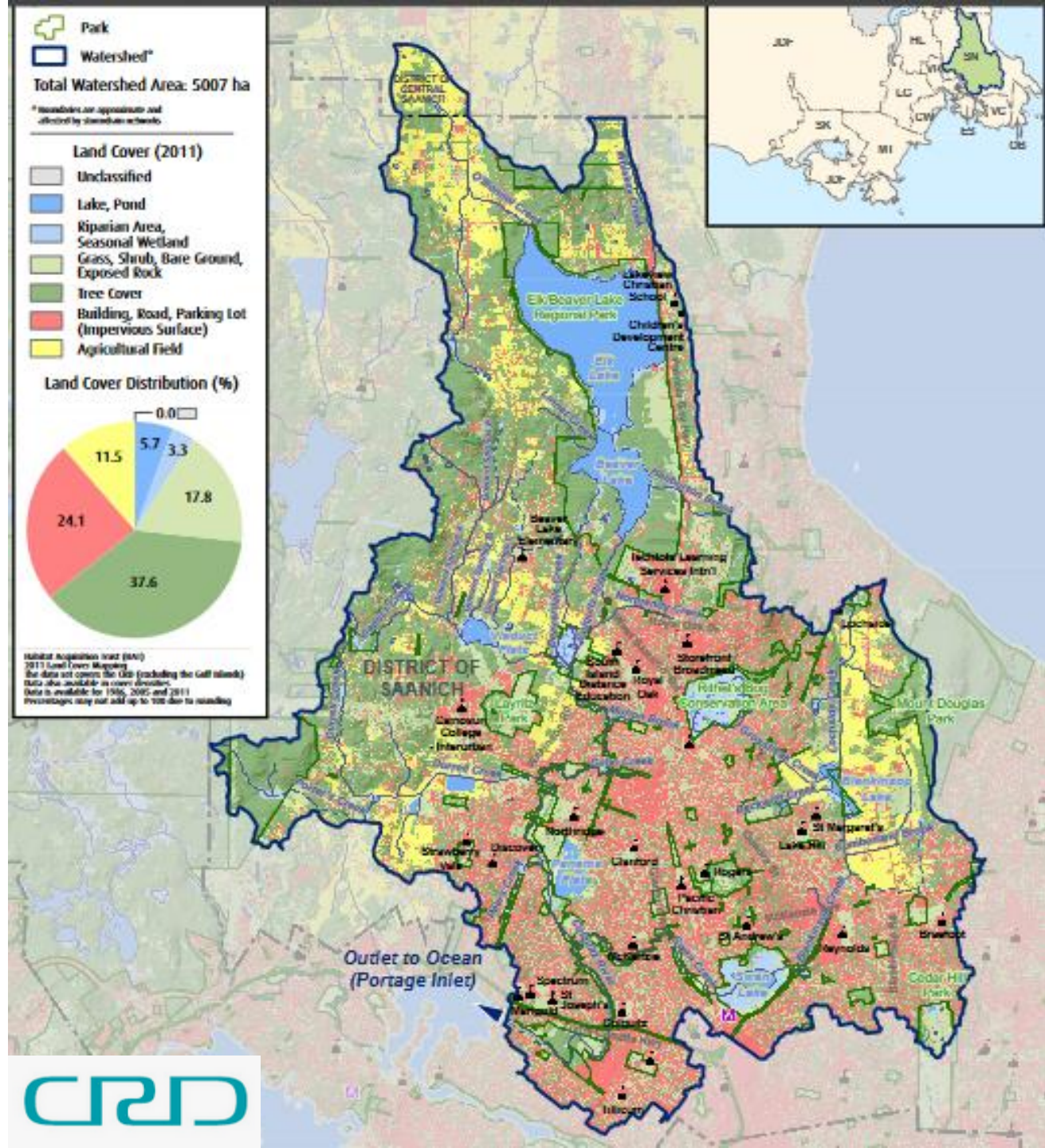
http://www.env.gov.bc.ca/fw/fish/sport_fish/

PICI's Area of Focus



Colquitz River

- Mainstem 9.5 km long
- 46 km² (5007 ha) watershed
- Almost the entire length has been altered in the past
- Generally poor habitat complexity



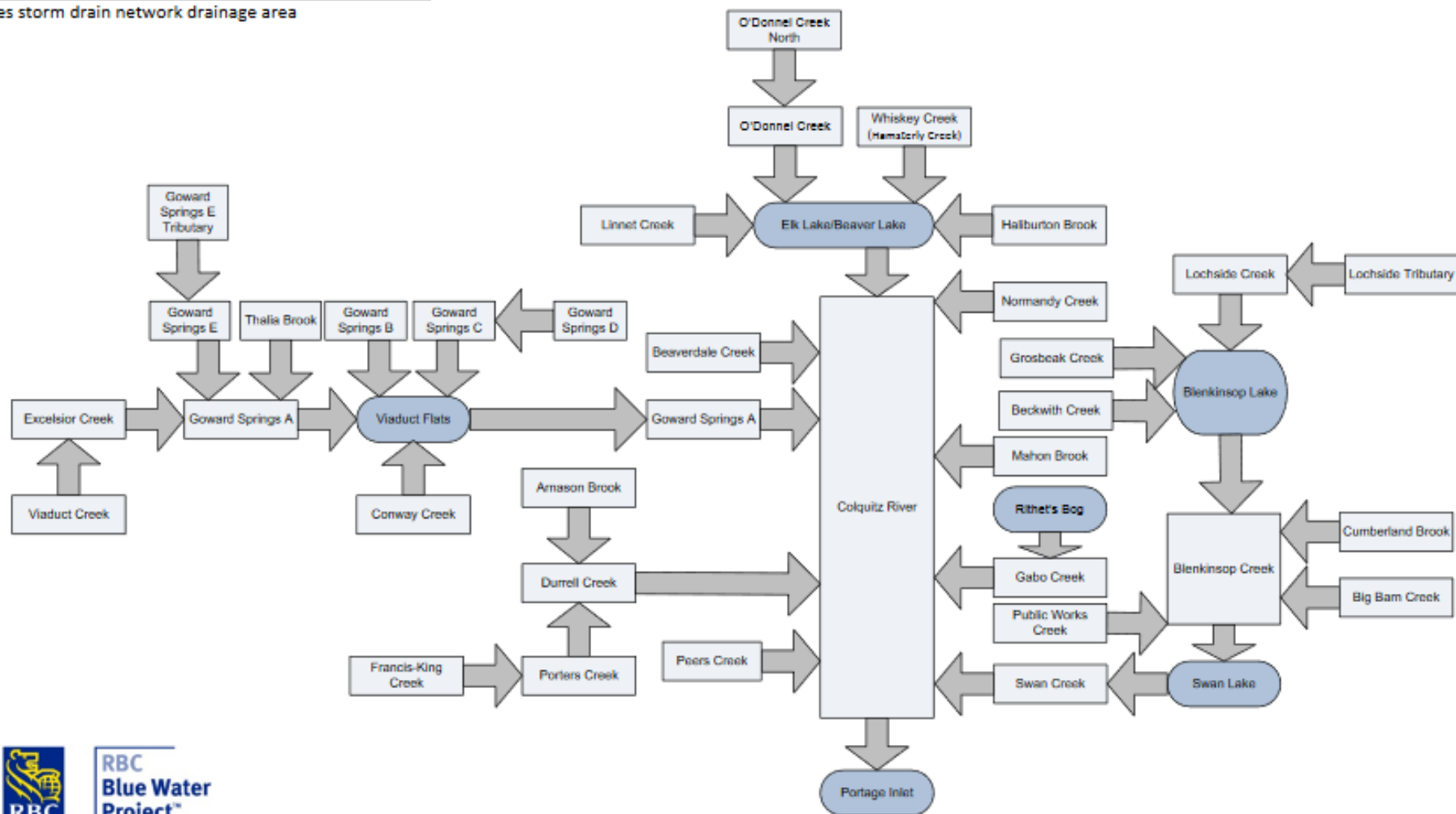
Colquitz River Watershed "Flow Diagram"



Making a difference...together

Name of Watershed	Total Area (ha)	Length of Creek Main Stream (km)
Colquitz River Watershed	5007*	15.3

*includes storm drain network drainage area



RBC
Blue Water
Project™

- Drains four lakes (Elk, Beaver, Swan & Blenkinsop) and two wetlands (Viaduct flats & Rithets Bog)
- 8 tributaries

THREATS



Urbanization

- Pollution
- Flash floods
- Dams and culverts
- Riparian & drainage area destruction



Hydrology

- Summer water levels reduced to 0 in some areas
- Low minimum flow of 0.5 cfs and high maximum flow of 300 cfs
- Scouring due to peak floods
- Lack of protection of minimal water flows



Temperature

- Up to 25 degrees Celsius in the summer



Dissolved Oxygen

- Frequently falls below the sublethal level and “fish kill” level on occasion



Turbidity

- Adds sediment to spawning gravel and smothers eggs
- Damages gills and in severe cases kill fish

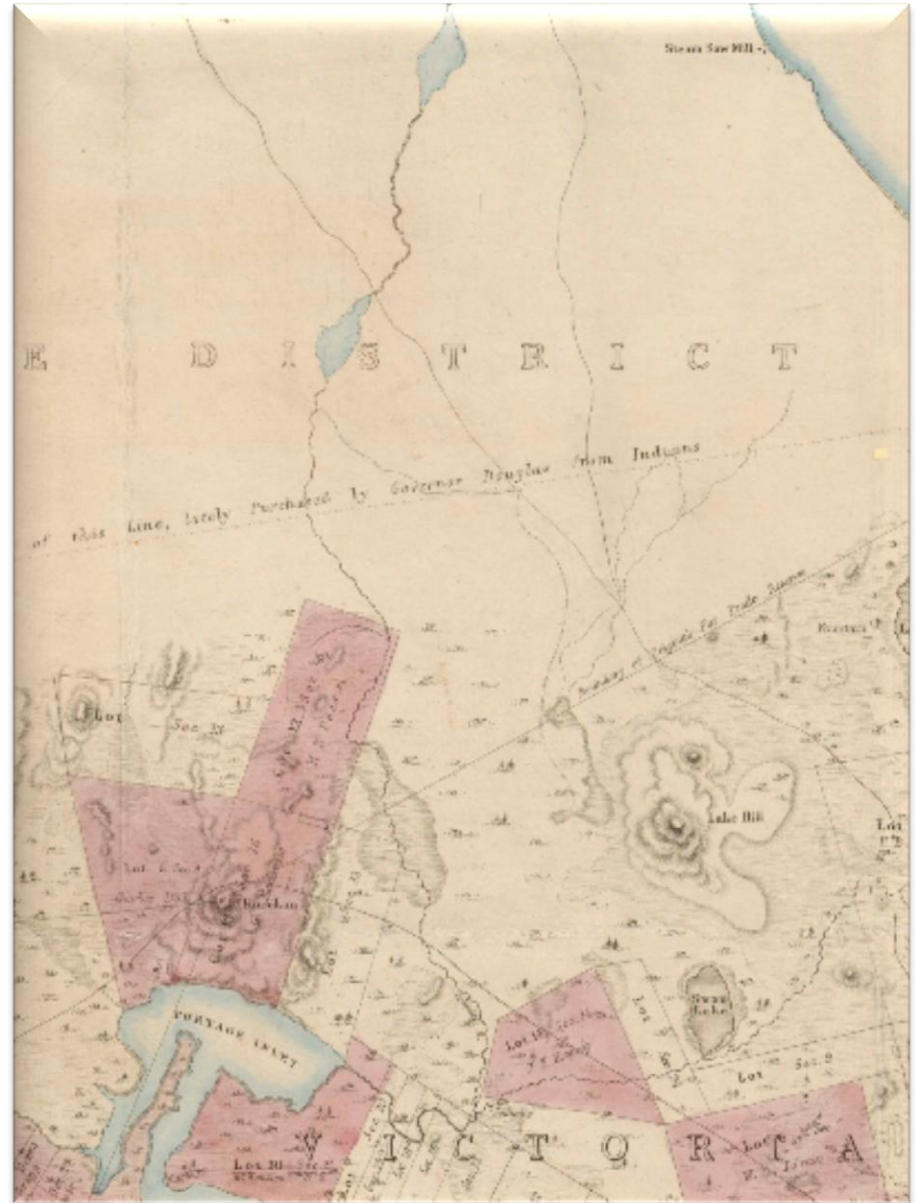


Predation

- Otters, seals, birds

Colquitz History

- Once called the most important trout stream in the area
- Beaver Lake dammed for a saw mill on Yale's farm near West Saanich and Wilkinson roads
- Early 1870's - City of Victoria turned to Beaver Lake as a source of water
- Prior to dam work, sizable swimming holes were present where Colquitz Middle School now is, and water was plentiful enough in the summer to use for irrigation
- 1981 - Saanich acquired land and opened the first phase of the 'Colquitz River Linear Park'



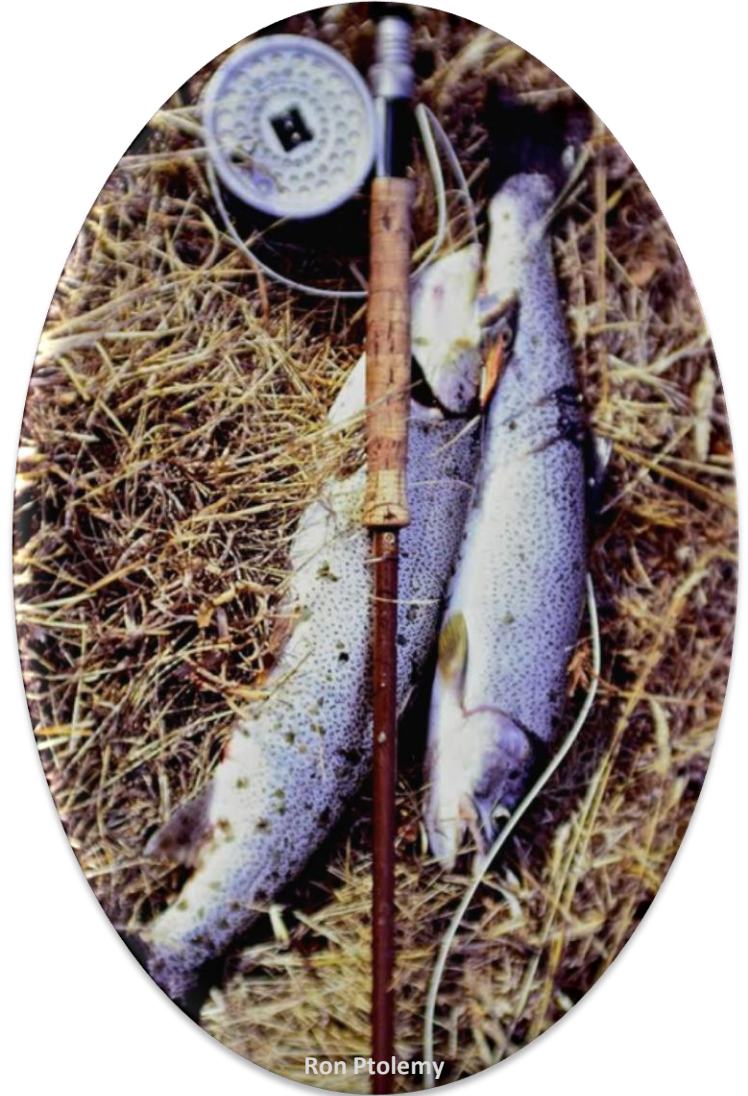
Colquitz River Species History

- In the 1930's 25,000-30,000 fingerling CCT moved from a drying up pool to Beaver Lake.
- Prior to the 1960's spawning salmon were plentiful enough that farmers used them as fertilizer
- In the 1960's it supported CCT, Coho, pumpkin seed sunfish, brown bullhead, threespine stickleback, prickly sculpin and a small population of chum. Steelhead and Dolly Varden Char were also noted.
- Chum were spotted spawning along interurban road in 1967
- In 2018 species found included Coho, CCT, Prickly sculpin, Signal crayfish, Yellow perch and stickleback.



Historical Colquitz Fish Counts

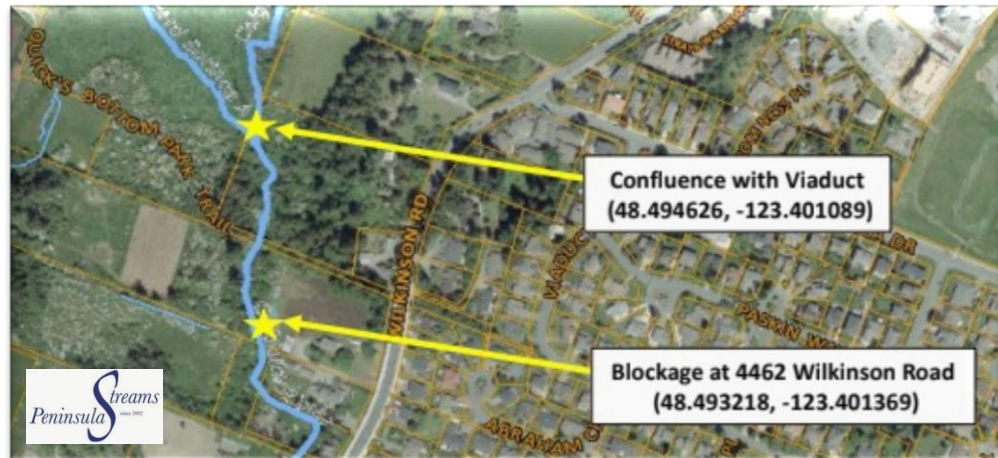
- Runs of CCT used to number in the thousands prior to the 1960's
- Estimated in 1977 that Colquitz should support a population of ~1,500 adult CCT, only 167 adults were counted that year
- In 1982 a minimum size limit of 30cm was introduced
- Colquitz was closed to fishing by the mid 1980's
- ~57,000 CCT smolts released over four years in the early 1980's; put pressure on the natural population
- Return of only 63 wild adult CCT over 3 years (1979-1981)



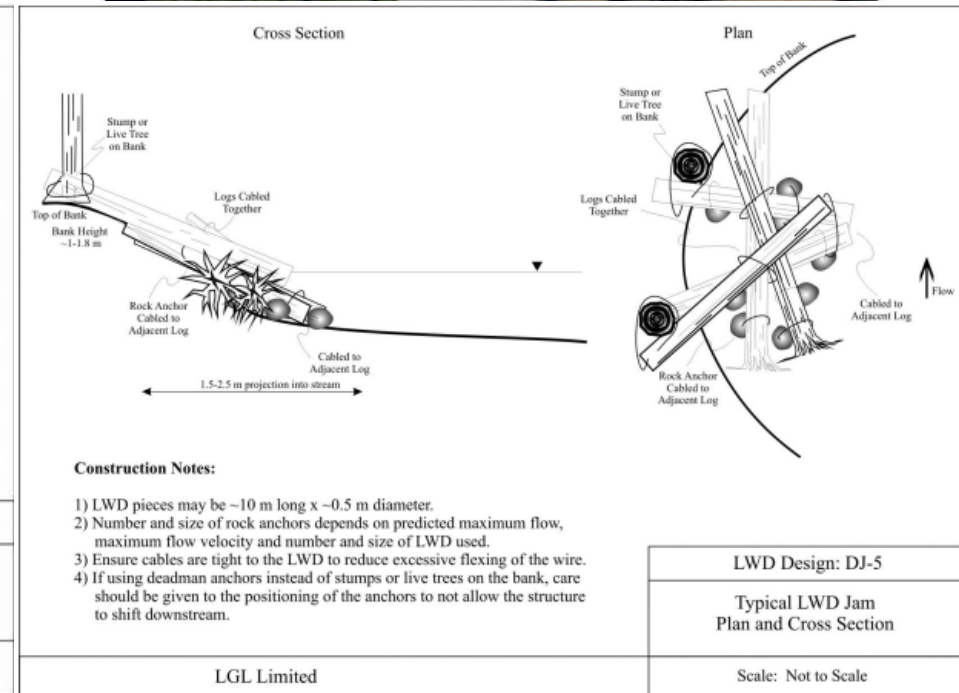
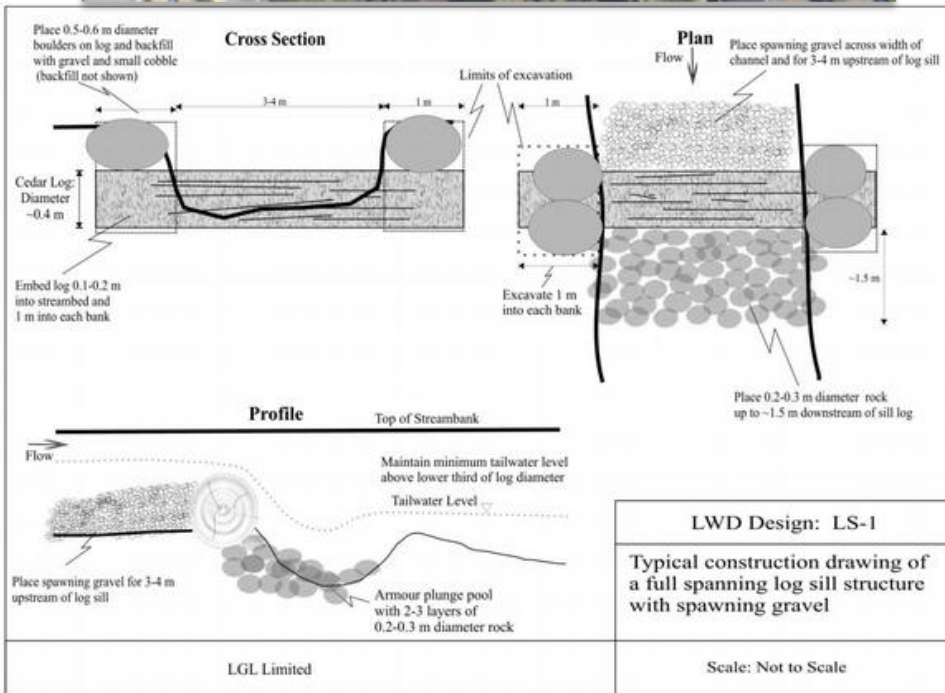
Ron Ptolemy

Colquitz Historical and Current Barriers

- Dams at Elk/Beaver Lakes - 1977
- Falls above West Saanich Road – 1977 & 2018
- Hunt's falls received minor modifications allowing for trout passage – 1977
- Culvert below West Saanich Road – 1977
- Quicks Bottom; needs channels to be dug out, debris at fences and at the exit of Quicks Bottom needs to be removed to allow passage to spawning grounds – 1977, 2009, 2018
 - Permission has not been granted by landowner to view or remove the blockage



LGL Fish Habitat Enhancement Designs for Colquitz River



Where we are now...

- ☒ Creation of a shared drive
- ☒ In-depth review of past projects
- ☒ Annotated bibliography
- ☒ Literature review guide
- ☒ Attend 2018 Coastal Cutthroat Symposium
- ☒ Blockage removal (x2) by Colquitz fish fence
- ☒ Colquitz in-stream garbage removal
- ☒ Context report
- ☒ Eel grass mapping in Portage Inlet & the Gorge
- ☒ Mapping of past projects
- ☒ Water flow review and assessment
- ☒ Angler interviews/questionnaire

Lower Colquitz Blockage Removal



Lower Colquitz Cleanup



Removing sediment from a pool



Constructed Riffle



Goward Springs Restoration



Removing invasive plants



Clearing the channel of debris

Work to come in 2019

- ☐ Stakeholder workshop
- ☐ Habitat assessment & prioritization
- ☐ Water quality monitoring enhanced & evaluated
- ☐ Flow evaluation & lobby for improvement
- ☐ Mapping of current key habitat features
- ☐ Stock assessment and monitoring
- ☐ Invertebrate assessment
- ☐ Habitat improvements

Loblaw Water Fund | WWF

- \$25,000 to put toward....
 - Water quality monitoring plan
 - Invertebrate surveys
 - Educational programs
 - Fish surveys and monitoring
 - Obstruction removal
 - Water flow regulation



Eel Grass Mapping in the Gorge



Thank you!

