

# Cowichan Stewardship Roundtable Meeting notes - October 18<sup>th</sup>, 2022

Taken by Lisa Marie Fox

Regrets - MP Alistair McGregor is in Ottawa, Cole Smith

Attending: Karen Deck, Barry Hetschko, Pam Jorgenson, Goetz Schuerholz, Dorothy Marshall, Katie Fulton, Parker Jefferson, Genevieve Singleton, Lisa Fox, Bruce Coates, Joanna VeraFlores (Students from Cowichan High School Environmental Stewardship class), Ellen Campbell.

- We are hosted on Cowichan Tribes continuously occupied, unceded territory
- Appreciation to Jill Thompson and the Cowichan Watershed Board for kindly donating the Zoom platform for our meeting.
- Note taking: Thank you to Karen Deck for doing September notes. Karen has been elected as CVRD Director and will no longer be able to take notes. Please reach out to Genevieve as to whether you can take this on. Thank you to Lisa Fox, who on short notice took on today's note taking.
- Terms of Reference carried over, Genevieve and Rick working on this.
- Website. Sarah Mullock has updated our gallery files with photos of Quw'utsun Sta'lo' Skweyul, please look at them.  
<http://www.cowichanstewardship.com/gallery.html>. Thank you, Sarah!

## Update from Quw'utsun Sta'lo' Skweyul September 25.

Higher numbers, but for the increased effort and funds spent on advertising - we would like to have seen higher numbers. There is a lot of lost-and-found, still missing a pop-up tent, and Genevieve has a blue tent that is not hers.

Other recent years at Black Bridge Beach - we missed that this wasn't hosted in partnership with Cowichan Tribes. It was not hosted on CT Lands, and sites were not all that accessible to CT Members. Big thanks to Philomena Williams for being our Cultural Advisor and for bringing in Knowledge keepers, this was important and very valuable.

Would be great to get more support from municipalities to help bring public engagement out. Not much feedback here from our group re doing future events, Bring forward to future meetings.

## Future meetings of the CSRT

Fish Health building is still not available, we will continue with zoom for now.

Parker Jefferson will speak at Nov meeting on Bats. Brian Thompson - produced a video on birds of the Cowichan valley - will be speaking at January Meeting.

Discussion about Meeting Spaces, idea about Outdoor meeting (which might avoid Covid concerns).

Consensus - let's wait for in-person, and move forward with ZOOM meeting in the in-term.

Consider recording CSRT Meetings with Speakers? What more can we do to engage with folks and bring them back. May require administration, and technical support to have the presentations up on the website.

## Round the Table

**Karen Deck, Save Our Holmes Society** – Karen has just been elected as Director for Area I, Youbou, this will cause a leadership shift in the group in Save our Holmes Society, advocating for stewardship of the forest areas around the lake and the impacts of climate change.

**Lisa Maria Fox, CWB** - The CWB is coordinating a Setting the Course workshop series over the next couple of months to re-establish the direction and priorities of the CWB with its partners (CVRD/Cowichan Tribes). In advance of the workshops, we will be developing a short survey for the stewardship community, more details will come soon. Also, important to note is that this workshop series may also help to determine resources needed for the CWB, as Tom has redirected his time to Weir and Koksilah WSP and Lisa is an interim Business Manager - there will need to be a decision made in the new year regarding permanent staffing needs.

The CWB Co-Chairs are developing an Op-Ed speaking to the need for the Weir given the recent drought and salmon access to spawning habitat.

Government to Government Meetings were coordinated with support from CWB specifically on the Weir occurred last week with Cowichan Tribes and Minister Osborn. For more details, please email Lisa and she will help to get more information.

**Bruce Coats, Cowichan Valley Naturalists** - Tonight at 7:30 pm: Cameron Eckert, Yukon Conservation Biologist-photographer: Dragonflies email for link: [cvns@naturecowichan.net](mailto:cvns@naturecowichan.net)

Cowichan Naturalists will have a Fungi Walk when the rains come. Arrowsmith Naturalists canceled theirs due to no rain! Thanks to Mosaic for letting CVNS conduct a walk for 18 people into the Koksilah Ancient Grove last Saturday as one of the Somenos Marsh Wild Wings events. Shawnigan Basin - meeting on how to conserve and protect forests in the valley. There will likely be a couple more meetings as follow up to that. Plan for fish-gut alley, involves a number of people, managed by the Dike Group - Dike needs to be reconstructed to restrict return flows from flooding. Huge amount of invasives, with large numbers of salmon coming up to spawn. Seems that there is value in having lower river areas for spawning, especially in dryer years.

At the Cowichan Estuary Nature Center Jane Kiltie is now in the role of Executive Director, and Jim Wisnia with Tracey Browne are Co-Chairs of the Society and still looking for board members and volunteers to man the center and keep it open for longer hours. Working on Fish Gut Alley Restoration and Larval Dungeness Crab sampling.

**Katy Fulton, BC Parks** - last week there was a fire near Stoltz, needed to close trails and manage access. Did a walk along the river to discuss signage with Rick Bryon re safety concerns. Working on an engineering on the Gordon Bay Boat Launch (water levels). Next week a Canadian Parks and Heritage River Society field trip to Horseshoe Bend will occur with Genevieve attending to represent CSRT. Initiative by the CVRD, Cowichan Upper River Water Group is meeting (mitigating flood hazards, climate impacts), contractor coming to assess the area.

**Pam Jorgenson, Mosaic - Land Use Forester.** Pam showed a copy of the South Island Daily Summary - to emphasize extreme fire danger class 5 for 42 consecutive days. This is very serious, and limits any activity on the land due to the possibility of fire, the gates are closed and while the public may not be happy it's necessary to protect the forests. Helicopter activities. Pushed back the tree planting program due to drought, about 4 weeks behind.

**Ellen Campbell, Lawyer at the Indigenous Law Research** - background in documentary (animals). Worked with Debra Curran at Environmental Law Society. Cowichan Watershed is the focus of current work.

**Goetz Schuerholz, Chair of the Cowichan Estuary Restoration Association.** There are several citizen science projects on the go. Bat Survey, 5 strategic locations - extended to 10 locations using expensive echolocation tools. There are 16 bat species in the watersheds. Suspect that with Climate Change, they are migrating northward. Another forage fish habitat monitoring, initiated by Bill Heath and Nature Centre. Interns from Cowichan Secondary School participated in the monitoring. Second phase of the microchip survey (Simon Fraser/UBC/Canadian Wildlife Service) - is now underway to identify fatty acid content of birds in the estuary and recording migration (motor station installed).

Expanded the scope from sediment samples, to now involving soil samples (sources of microplastic pollution), to track sources from Estuary and Lower Cowichan River. We also take wildlife samples - Chinook as one of the key indicators of ecosystem health. With project watersheds (Courtney Estuary) - when compared, to see how much of the microplastics are coming through the tributaries. Well equipped with researchers and support from Simon Fraser Still short of some funding to beef up the fellowships.

10th anniversary of CERCA- celebrated our achievements. Kicked off a campaign Impacts of lights on insects (Cowichan Bay, West End Terminal). Dark Sky campaign - to bring awareness of the importance of insects to the survival of all species. 70% of insect species are nocturnal. Partnered with the Cowichan Valley Naturalists.

One big issue in the Estuary is hunting - high density population in the area, and there is a disconnect between CVRD and North Cowichan in terms of management of the Estuary. No discharge of firearms in the North Cowichan and CVRD has it wide open - creating confusion and causing the increase in incidents.

**Parker Jefferson, CSRT** – looks like we will make our escapement goal for salmon. We have seen less than half of the salmon go past. The Weir was working, and so far, so good on the Chinook count. The fence has to come out soon, but we have gotten a much longer count. Getting a lot of good work done with the extended season.

**Cole Smith (written update from Sonja)** - Major update on our end: engaging actively with the Minister of Mines regarding concerns around the Bamberton site. Will have more information and updates at the next Roundtable after Sonia and the Minister have been able to meet.

**Genevieve Singleton, CSRT** - shout out to North Cowichan for funding, Somenos Marsh Society for suggesting and Tracy Fleming, Philomena Williams and Tim Kulchyski for providing me with the information to write the cultural and nature interpretation signs now found along the Dike Trail from the Open-Air Classroom on the highway to Trunk Road). This has many words in Hul'q'umi'num'. A wonderful job to coordinate.

### **10:30-10:40 Break**

### **10:40-11:45 Main speaker: Tristan Douglas speaking on Blue Carbon Storage in the Cowichan Estuary**

Estuaries are being looked at as important carbon storage reservoirs around the world as a trend. Cowichan Estuary is the 4th largest estuary on Vancouver Island, with  $\frac{1}{3}$  vegetated and  $\frac{2}{3}$  mudflats - and has significant degradation by "grounding" log booms. Cowichan Bay - doesn't have a sill, or any blockages to tides and flows.

Three main habitats in the study: Salt Marsh, Mud Flats, Eelgrass The areas of reclaimed lands - Sawmill, causeway, terminal and farms (Agricultural Lands - and Westcan Terminal) are reclaimed mudflat areas.

**Assumptions:** Grounding log booms results in loss of eelgrass, degradation of microphytobenthos biofilms, reduction in ecosystem functioning by dredging and tugboat activities.

Study involved 18 levels of analysis of sediment cores complemented by above ground vegetation sampling (carbon in living biomass - and creating end-type analysis for stable isotope analysis).

Sediments were generally sandy, the upper and lower mudflats have much lower silt and clay content than the Saltmarsh, which had higher carbon (more roots).

Sediments were also analyzed using carbon dating, to understand the rate of accumulation of carbon (sequestration), revealing that there is mixing happening in the mudflats that is not seen in the Salt Marsh / Eelgrass. Basically, the Saltmarsh and eelgrass are buffering hydrological flows.

Compared to global average - Cowichan Estuary sequesters carbon much lower than global averages.

Total bulk storage of carbon in all ecosystems - the saltmarsh sequesters more carbon than all others combined. Most of the carbon is in the sediment. The next highest sequester of carbon is the upper mudflat (due to the sheer size).

Where does organic carbon source from? Research used stable isotope analysis and carbon to nitrogen ratio (tells us bioavailability - ready for decomposition). Marine origin

has more carbon proportionately than terrestrial origin. Result is that a lot of the plant material in the Eelgrass meadow is not being buried in the sediments. It is likely being sequestered elsewhere.

Source or Sink - proportion of organic vs. inorganic carbon in the soil. (SOC: SIC.0.63) all habitats except oyster shell beds primary production - are contributing to carbon sequestration (sink).

Compare to forest and GHG from Vehicles - the organic carbon in the sediments is 2X the volume of second growth forest soils. Cowichan sediment sequestration rates are equivalent to a 20yr forest / 137 vehicles, or 1.7% of the local population.

### **Conclusions:**

1. Salt marsh most important carbon reservoir
2. Hydrodynamic mixing, erosion, resuspension or export likely in mudflats
3. No evidence that log booms affect carbon sequestration, but possibly degrade MPB
4. Carbon stocks = in eelgrass and mudflats, lower than global averages but consistent with meadows globally.
5. Significant marina out welling is probable.

**\*Q&A** - Tristin's Research is also looking at biofilm distribution and abundance (using drones to identify chlorophyll A - as it sees beyond red/blue) in Roberts Bank, Sturgeon Bank, areas near Iona to understand the impacts on shorebird migration season (biofield blooms). Once models are complete regarding biofilm digestion and fatty acids degradation - to understand the impacts of the Roberts Bank Container Expansion.

Goetz is also looking to this biofilm research to understand micro-plastics in our food ecosystem. Problematic in terms of accessing the shorebirds at the time of consumption of phytoplankton to determine impacts.

### **Future meetings:**

Nov. 15, Parker Jefferson, Cowichan Bats, zoom

Dec. 20, in person, Horseshoe Bend group site

Jan. 17, Bryon Thompson, Cowichan Birds likely zoom