ENVIRONMENTAL STEWARDSHIP

NEWSLETTER

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VISION

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"We, the Musqueam, will work together to take care of our territory so the following generations will know how to be self-reliant. We will remember our own history and as well, use our traditional teachings to take care of everyone and everything on this earth".

IN THIS ISSUE...

FROM THE EDITOR

Happy December Everyone!

On behalf of the Environmental Stewardship Department we hope everyone has had a relaxing Autumn, despite the cold weather. As we approach the new year, it is a good time to reflect on all that we have accomplished over the last year. We look forward to continue working on initiatives, and projects, that will leave a positive impact for the community and the environment. We hope everyone continues to stay safe, and has an enjoyable holiday season.

Happy Holidays,

Yeganeh Asadian, M.Sc., P.Ag., Environmental Stewardship Manager

AFTER THE FRASER VALLEY FLOODS, FIRST NATIONS CALL TO BUILD BACK MORE SUSTAINABLY

Last year's catastrophic flooding in the Fraser Valley is still fresh on the minds of its residents. The flood destroyed infrastructure, resulted in 5 fatalities and hundreds of thousands of farm animals, cost billions of dollars in damage, and caused weeks of blocked highways and railways. In spite of this flood, there is hope that the disaster will act as a catalyst to incorporate First Nations' perspectives into a strategy of "building back better", working with the water and land rather than against it.

While climate change is resulting in conditions that create more intense storms, it is only one part of the issue. Immediately apparent, especially in the Fraser River Valley, are the design choices of our infrastructure that are at risk of failure when faced with changing environmental conditions. Urban development and sea rise have resulted in the loss of 85 percent of floodplain habitat in the Lower Fraser River. City sprawl has resulted in impermeable surfaces which interrupts the ability of water to infiltrate into the soil, increasing runoff which increases flood risk. Animals such as beavers, which had maintained wetland ecosystems and slowed water flow throughout North America, had dropped from up to 400

million to the edge of extinction after colonization. Many urban centers around the world are built below sea level, and as such, their very existence is reliant on dikes and dams to redirect the flow of natural watercourses. Our continued entrenchment in this system, building larger dykes and redirecting more rivers, may set us up for more disasters, especially as record flooding events become commonplace. "If this road was washed out, what's the likelihood of that road washing out again?" asked Tyrone McNeil, Stó:lō Tribal Council Chief and chair of the First Nations Emergency Planning Secretariat. "Let's relocate that road and put in a bridge instead of a culvert. That will actually save us money over time". He also says, "we need to be included in discussions as rights holders, not stakeholders. From there we put forward principles of salmon habitat, ecology, slowing the water, water storage".

A hundred years ago, Semá:th Xa̱ó:tsa (also called Sumas Lake) ebbed and flowed from 36 square kilometers to 65, and far more in flood years, according to Chad Reimer, author of *Before We Lost the Lake: A Natural and Human History of Sumas Valley*. The Semá:th Xa̱ó:tsa "was the provider for our people," and provided a wealth of sturgeon, salmon, mussels, trout, ducks, and deer. The bands of the Stó:lō Nation worked with the water rather than against it, and built no permanent structures on the wetlands surrounding the lake. "My grandfather said the Stó:lō — which means river or water — is regarded as the great giver of life, but you need to be careful when you're out there, travelling or harvesting fish", Silver said. He continued, "Water is also a very powerful entity that can take your life as well". However, settlers did not see the lake that way, only an obstacle to farmland. "The view of the western world is very much a binary one", Reimer said. "Stuff is either land or water. And where you have water on top of good land, you've got to get rid of that water". Restoring the lake would also be a step towards reconciliation and righting colonial wrongs. McNeil asks, "how do we come together for our collective long-term aspirations that speak to resilience, that speak to promoting salmon and a broader ecological footprint here in the valley, rebuilding a lot of what was here before development started?".

There is a growing chorus of people around the world who echo the sentiment of many First Nations, believing that returning space to water can help protect communities and create climate resilience. The Build Back Better, Together Collaborative is an Indigenous-led working group formed shortly after the flood. This month, they issued a press release calling on the provincial government to use billions of dollars of unspent federal funding announced in December 2022 to support nature-based solutions and to rethink standard practices, rather than using the money to build more dikes. "Governments at all levels have been making significant investments in flood recovery to deal with immediate impacts of the November 2021 floods, but we can't stop at repairs; we need to prepare for future events", said Lina Azeez, Campaign Manager at Watershed Watch Salmon Society. "Instead of rushing to build back exactly what we had before, as currently required under provincial legislation, we are urging the BC Government to use this window of opportunity to build back better to address vulnerabilities and inequities for a safer, more resilient future". Some of the nature-based proposals in the press release include directing at least 15 percent of the disaster recovery costs to restoring stream connectivity for salmon. Fish friendly flood boxes and pump stations, as well as green infrastructure on family farms, illustrate a multi-faceted and multi-level approach.

Furthermore, the press release calls for increased regional dialogue and a redesign of the funding programs to promote collaboration between different levels of government, First Nations, and the community. "The tragic flooding events of November 2021 drove home the pressing need to move beyond outdated approaches to flood control in the Lower Fraser", said Tyrone McNeil, President at

Stó:lō Tribal Council. “Our communities learned that we need to work together for multi-beneficial flood management that will protect communities and critical infrastructure, advance reconciliation, and ensure long term resilience in a changing climate”.

ENVIRONMENTALISTS GIVE BC A FAILING GRADE FOR ITS LOGGING PRACTICES

The province of BC is failing to meet expectations of protecting old-growth forests, resulting in faulty grades from environmentalists for the government’s lack of proficiency in best management practices and old growth conservation. These grades also reflect the lack of what was promised and contradicting official statements of exceeding goals on multiple report recommendations two years prior.

In the report titled *BC Government Old-growth Report Card*, developed by Ancient Forest Alliance, Sierra Club BC, STAND.earth and the Wilderness Committee, BC received failing grades for their lack of adherence to following the three-year plan, as well as its failure to prioritize ecosystem integrity and biodiversity.

BC was also granted a "D-" in two categories: 1)transparency and communication and 2) lack of follow-up action for at-risk forests. According to the report, there is “insufficient communication about the province’s intentions, progress updates, and actual logging rates. There is a lack of information about where deferrals have actually been implemented, meaning entire ecosystems or regions may be left out of the deferral process”. Since the last report card in March 2022, grades for four of the five major topics have declined. “We’re still marching towards ecosystem and climate breakdown,” said Jens Wieting, Senior Forest and Climate Campaigner at Sierra Club BC. “The B.C. government has been dishonest about progress. We have not seen the paradigm shift. At-risk old-growth forests are still being clear-cut”.

Environmental organizations in BC have evaluated the province's efforts to safeguard old-growth forests from logging as failing or nearly failing grades in various instances. On September 11, 2020, the Old-Growth Strategic Review Panel presented their report, which included 14 suggestions that they claimed should be carried out by 2023. These include halting logging immediately in some of the most dangerous

regions, assisting communities in economically transitioning from logging old-growth stands, and improving communication with affected Indigenous communities.

Wieting stated that former BC Premier John Horgan had pledged to put all recommendations into practice. “It’s now two years. The recommendations were shared with a three-year framework. There’s only one year left but we have not seen the promised change. In fact, even some of the most at-risk old growth forests are still being logged”.

An impartial Old Growth Technical Advisory Panel determined in November of last year that deferrals, or the temporary halt of logging, should be prioritized for 2.6 million hectares of unprotected, at-risk old-growth in British Columbia.

RESEARCHERS MAP LANDSLIDES IN THE FRASER RIVER TO PROTECT SALMON

In 2018 a massive landslide Southwest of Clinton BC struck the Fraser River. The Big Bar landslide, as it is now known, deposited an estimated 85,000 cubic meters of rock into the river. This debris in the river resulted in the formation of a waterfall roughly 5 meters tall, making passage for spawning salmon nearly impossible. This blocked a significant number of salmon from reaching their upstream spawning grounds. According to Fisheries and Oceans Canada(DFO) the slide was a major contributing factor to some of the worst salmon returns ever recorded in the Fraser River.

Unfortunately, the slide happened in a remote area which delayed the response. When it was discovered some fish were helped across the blockade with helicopters, trucks and a fish cannons. These were deployed until a fish ladder was built. However, a more permanent solution is still needed. The focus of natural disasters is usually their impact on people, and not ecosystems and animals, and so this landslide helped bring attention to the issue.

In response, a project based out of Simon Fraser University, SFU, called “Landslide Impact of Flow Dynamics, Fish Migration and Genetics of Fraser River Salmon” is examining how past and present landslides in the Fraser River impacts the flow of the river and migrating salmon. The project, which has received funding from both the provincial and federal governments, includes a multidisciplinary team of experts in natural hazards, geomorphology, remote sensing and salmon. While the project is being led

by SFU it also includes collaboration with many other universities and organizations, as well as First Nation communities to allow for the inclusion of traditional Indigenous knowledge.

Their field work has two components. Firstly, they are using visual inspections and Light Detection and Ranging (LiDAR) data to map the location and timing of past slides. This data can be compared to historical information about salmon abundance in the Fraser River to determine the impacts caused by past landslide events. The researchers are also identifying sites along the Fraser River that are at risk of future slides by conducting riverbed surveys, studying bank topography, and using LiDAR. These can be used to identify at risk sites that require a more detailed geotechnical assessment. This data and information can also be used by DFO and local First Nations to prepare for future slides and make plans to protect salmon and their habitat. Jeremy Venditty the lead of the project and director of SFU's School of Environmental Science highlighted the importance of this work in stating,

> *The 2018 landslide raised the issue that I think a lot of people knew might be possible, but no one really thought too much about: that if there was a landslide lower in the Fraser Basin, it would wipe out and cause the Fraser salmon to become extinct… We tend to think about landslides as being natural hazards in the sense that they can affect people. We don't think of them as the sorts of events that can wipe out populations of plants and animals, but they can.*

As part of their project, the team returned to the site of the 2018 landslide to collect data about the slide. The Big Bar landslide took place at a location that was previously studied in 2009. This allows the research to accurately compare data to see how the slide impacted the river and how to better predict these events in the future. Their fieldwork was delayed by more landslides which hit the province last fall, further emphasizing the importance of conduct this type of work.

WINTER EVENTS AROUND VANCOUVER

** Please note that all events are in accordance with BC Health & Safety Guidelines regarding COVID-19**

- **Bill Reid Gallery presents Keeping the Song Alive, November 2 2022 – March 19 2023**
  This winter the Bill Reid Gallery of Northwest Coast Art is hosting the premier exhibition of *Keeping the Song Alive*. The exhibit is a mix of music, art, historical documentation, film and other art forms to explore the work of ethnomusicologist Dr. Ida Halpern and two late Chiefs of Kwakwaka'wakw. For more information visit https://www.billreidgallery.ca/blogs/exhibitions-page/keeping-the-song-alive.

- **Bright Nights in Stanley Park, December 1 – January 1**
  Come down to Stanley Park to see this dazzling display of lights all December long. This family friendly event also features food vendors and live entertainment. Admission is by donation with all proceeds going to the BC Professional Fire Fighters' Burn Fund. For more information visit https://vancouver.ca/parks-recreation-culture/bright-nights-train.aspx.

- **Capilano Canyon Lights, November 19, 2022 – January 22, 2023**
  The famous Capilano Suspension Bridge Park will be transformed into a winter wonderland this holiday season. The park, and all its suspension bridges, will be lit up with a beautiful display of

holiday lights. Enjoy a hot chocolate and festive music at this magical light display. Tickets must be purchased in advance so don't wait! For more information visit https://www.capbridge.com/.

- **CONNECT X-Mas Market & Music Festival: Love is the Warmest Colour, December 3rd and 4th**
  Held in the City Center Artist Lodge, a converted hotel containing 79 artist studios, this event is a two-day community festival that combines an open studio art sale with music and food trucks. This is a unique opportunity to view and purchase beautiful art while also meeting the artists and learning about their work. The event will be held December 3rd and 4th from 11 am – 7 pm. There will also be a music festival held each day following the event from 7 pm – 11 pm. There is no admission fee for the Open Studio Art Sale and info for the music festival can be found on Instagram @icecreamtrucklive. For more information visit https://narrowgroup.ca/project/city-centre-events/.

- **Festival of Lights at VanDusen Botanical Garden, September 25 - January 2**
  Ever wonder what 1 million Christmas lights looks like? Starting on November 25th over 15 acres of VanDusen Botanical Gardens will come to life in a dazzling display. The lakeside will also see the return of Dancing Lights, a must-see light show. The gardens will feature different themed areas, holiday music and tasty treats. For more information visit https://vancouver.ca/parks-recreation-culture/festival-of-lights.aspx.

  For many more events taking place in Metro Vancouver this winter, visit Destination Vancouver's website at https://www.destinationvancouver.com/events/calendar-of-events/.

CONTACT US

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