

MUSQUEAM x^wməθk^wəyəm COMMUNITY NEWSLETTER

Friday, December 1, 2023 ONLINE VERSION

HIGHLIGHTS

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Elders Christmas Lunch**

... and lots more!



Important announcement!

The band office will be closed for the holidays starting Monday, December 18 until Monday, January 1.

We reopen on January 2, 2024.

See insert for emergency contacts during the break.



Have something for the newsletter?

Email community.notices@musqueam.bc.ca to submit your notice, event info, or anything else you want to share with community!



Want to receive the newsletter by email?

Email community.notices@musqueam.bc.ca to be added to the email list!



**Musqueam
Administration**
www.musqueam.bc.ca

Main Office
604-263-3261
info@musqueam.bc.ca

24/7 Security
604-968-8058

UPCOMING EVENTS

Elders Discussion (Part 2): Musqueam Village Plan

Wednesday, December 6
Elders Centre
12-2pm

Kid's Christmas Party

Saturday, December 9
11am - 2pm
Community Centre
RSVP by Nov. 30



hə́nqəmínə́m class presentations

łiłexətalə ct! *We invite you!*

Thursday, December 7
Cultural Centre
*Gathering starts at 4:30pm,
but stop by anytime!*

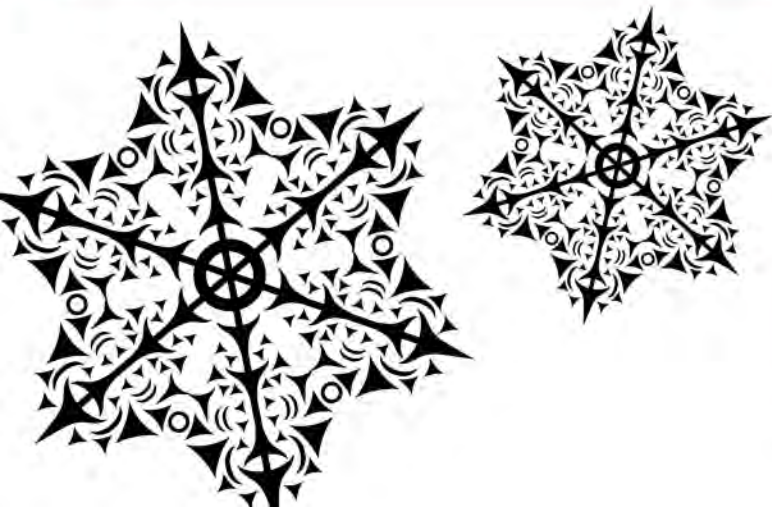
Elders Christmas Dinner

Thursday, December 14
5pm
Elders Centre



Annual Christmas Bird Count

Saturday, December 16
8am-4pm
Rain or shine!
RSVP by Nov. 30



łiłexətalə ct! *We invite you!*

hə́ŋqəmínə́m class presentations

təmtəm Thursday, December 7
4:30pm - late

ni? ʔəncə Cultural Centre




Celebrate the end of first semester for the UBC hə́ŋqəmínə́m language classes! Everyone is welcome to join us for dinner followed by student presentations.

If you've ever wondered about language classes, this is the perfect event to learn about hə́ŋqəmínə́m revitalization in Musqueam. This event is a collaboration between Musqueam and the UBC First Nations and Endangered Languages Program.



RSVP FORM

 woobox.com/byq3oh



Kid's Christmas Party

Saturday, December 9 11am-2pm
Community Centre

Let us know you are coming!
RSVP using the online form to make sure there is a gift for your child(ren).

RSVP deadline: November 30

Please only register if your child is attending.
If your child isn't registered, there is no guarantee of a gift.



Food! Gifts! Photobooth!
Christmas Show! Santa!
and much, much more!

Musqueam Land Code Committee is seeking an Elder representative!



Open position on the Musqueam Land Code Committee for an Elder representative.

**Deadline to apply:
December 7, 2023**

This committee is comprised of seven band members who work to implement the Musqueam Land Code (2012), which is one of the first steps we have taken towards self-governance. The committee supports lands governance by reviewing draft laws, lands and development applications and other considerations for council.

Interested band members should be:

- 60 years or older
- dedicated to understanding the Musqueam Land Code
- keen to learn about how we govern our reserve lands, including how we develop laws, processes and applications that comply with our land code

Submit letters of interest to Kim A. Guerin, Lands Governance: kim@musqueam.bc.ca or hand deliver to the band office

Bingo Night!

Tuesday, December 5
Musqueam Cafe
6pm

Lots of great prizes and a guaranteed \$200 last special!

Concession available, with soup and scow bread.



SOCIAL DEVELOPMENT

Please note this month's date changes due to the holiday!

Deadline to submit renewal and job search forms is Friday, December 8.

Renewal and job search forms can be picked-up from the band office.

January 2024 cheques will be available on Friday, December 29 between 9am-12pm at the band office.

REMINDERS

- Consider direct deposit for monthly payments. Talk to your bank to get a direct deposit form or bring us a voice cheque.
- If you are eligible for bill payments (e.g. hydro, gas, phone) - please submit your bills ASAP. We can't pay for bills that are not submitted to our office.
- Paperwork submitted late is processed after the band office reopens after the holidays.
- If you are considered "employable" - you must complete a job search form every month.
- If you are not able to work - you must provide a doctor's note with an explanation and duration of exception.

WE ARE *hiring!*

🔍 www.musqueam.bc.ca/careers

For more information about career opportunities with Musqueam:

Kia Coles, HR Manager
kcoles@musqueam.bc.ca

Musqueam is hiring for permanent, casual, full-time and part-time roles.

- Fisheries Manager
- Lands Governance Director
- Health Department Manager
- Prescribing Health Nurse
- Community Health Nurse
- Drug & Alcohol Worker
- Home Care Attendant (casual)
- Youth Outreach Worker
- Intergovernmental Analyst
- Intergovernmental Coordinator



Musqueam 101

Wednesday, December 6

Dinner: 6pm Elders Centre



Holiday Dinner

Please join us for our annual Musqueam 101 holiday dinner! After dinner, there will be a short presentation followed by our annual game of Musqueam Bingo!

Roberta's Rubbish Reminders



Put your bins out on Monday night!

The next garbage, green bin and recycling pick up is on Tuesday, December 5.



tə meməhəs?ewtx^w

The Children's House

KINDERGARTEN REGISTRATION

Children born in 2019 can now be registered for kindergarten! See page 14 for more info.

CHRISTMAS CLOSURE

The Children's House is closed for the holidays from December 18 - January 1.

We will close at 4pm on Friday, December 15 and reopen on January 2, 2024 for regular business hours.



Preschool: 9am-3pm

Daycare: 7:45am-5pm

604-269-3302

childcaresup@musqueam.bc.ca

Manager Renee Stogan

Infant & Toddler
Christy Friesen,
Kelly Herman &
Ernestine Herman

Preschool
Sherry Point,
Alice Stogan &
Stacy George

x^wməθk^wəyəm (Musqueam) Elders

please join us for the second part of our discussion for

Musqueam Village Plan for IR2

Wednesday, December 6th

12:00pm to 2:00pm at the Musqueam Elders Centre

Lunch will be provided with vegetarian options.

Discussion facilitated by:

Paige Parent, Senior Development Manager (MCC) and

Tecla Van Bussel, Community Planner (MIB)



x^wq^wəlq^wəliwən ct ʔə tə sʔa:nɫ x^wəlməx^w
Thinking About Our Community (Village)





 **SIGN-UP FORM**

woobox.com/6p6uce



Want to see Christine Sinclair's play in her final international match?!

Tuesday, December 5 at BC Place

Canada Soccer has generously provided 50 tickets for Musqueam to attend the game!

To request tickets, complete the online form.



Musqueam Employment & Training **CAREER & TRADES EXPLORATION PROGRAM**

Enhance your skillset, tour exciting work places and learn about Musqueam's partners for potential employment opportunities!

Obtain certification in:


- Traffic Control
- Skid Steer Certificate
- Occupational First Aid
- Piping Foundations (UA Local 170)
- Forklift Certificate
- WHMIS


8-week program Classes held in Musqueam
3 days a week (Tuesday, Wednesday & Thursday)

**3rd COHORT STARTS
FEBRUARY 2024!**

Krista Brisk

Program Coordinator

 604-269-3461

 kbrisk@musqueam.bc.ca

EMPLOYMENT & TRAINING

BUILDING SKILLS FOR SUCCESS

The Musqueam Employment & Training Department continues to support community members in gaining the hands-on skills and certifications needed for long-term careers. Our Careers and Trades Exploration Program just completed its sixth week of learning. See what they've been up to...



BOMA

Thank you BOMA BC (Building Owners and Managers Association of BC) for presenting to the class. BOMA represents the commercial real estate industry in BC. Lots of employment and business opportunities for our members!

SKID STEER

Congrats to our participants who completed skid steer certification: Noah Campbell, Nicholas Smith, Edward Corcione, Michael Bradley, Deanna Point, Casmire Charlie, Lelania Pavlic, Allan Boschman, Clarence Thompson, Robert Nahanee, Charles Stewart, Christian Haldane and Patrick August.



SEASPAN

Thank you George Mitchell from Seaspan for taking time to speak to our Career & Trades Exploration Program.

Interested in taking our exploration program?

The next cohort starts in February.

Contact Krista Brisk: 604-269-3461, kbrisk@musqueam.bc.ca

EMPLOYMENT & TRAINING

BUILDING SKILLS FOR SUCCESS**FORKLIFT**

Two weeks ago, our class completed their forklift training, which consists of one day of theory and two days of hands-on practical training.

Congratulations Allan Boschman, Deanna Point, Casmire Charlie, Dion McKay, Charles Stewart, Nicholas Smith, Edward Corcione, Clarence Thompson, Michael Bradley, Patrick August, Noah Campbell, Preston Brooks, Christian Haldane and Leah Charlie.

**FNESS, JIBC AND VANCOUVER FIRE**

A big thank you to the First Nations Emergency Services Society, Justice Institute of BC, and City of Vancouver Fire Department for presenting to our class about firefighting careers.

It definitely sparked interest for many students!

SCISSOR LIFT

Great job to all participants:

Christian Haldane, Nicholas Smith, Noah Campbell, Preston Brooks, Charles Stewart, Lelania Pavlic, Clarence Thompson, Patrick August, Michael Bradley, Edward Corcione, Terry Francis, Casmire Charlie and Deanna Point.



MUSQUEAM HEALTH

Musqueam Primary Care Clinic

4010 Si-Lu Drive, Musqueam Reserve
[Primary Care Trailer]

Hours:

9:30am – 3:30pm

Closed for lunch: 12-1pm

Book an appointment:

604-266-0043

Messages are returned as soon as possible.

CLINIC SCHEDULE: December 4 - 8, 2023

Mon. 12/4

Tues. 12/5

Wed. 12/6

Thurs. 12/7

Fri. 12/8

Dr. Marchand, GP
Karen Chandra, NP
(until 11:30am)

Dr. Dumont, GP
Karen Chandra, NP

Karen Chandra, NP
Jane Estey, NP
(virtual)

Dr. Marchand, GP

Karen Chandra, NP
(until 2:30pm)

Dr. Noah Marchand is accepting patients from our waitlist. Priority given to Musqueam band members living on reserve without a doctor. Call the clinic to be added to the waitlist.

Dr. Anamaria Richardson from Granville Pediatrics is working in Musqueam twice a month for scheduled appointments and walk-ins. Contact Granville Pediatrics (604-423-4803) to book an appointment or to inquire about their walk-in times. Next Visits: December 13 & 14

REMINDERS

- Unable to attend your appointment? Please let us know as soon as possible.
- Virtual: Please be available 15 minutes before and after your scheduled appointment time.
- Enrolled patients are seen by appointment only. We are no longer a walk-in clinic.
- For urgent matters, please call 911 or proceed to the nearest emergency department.
- Naloxone kits are available at the clinic.
- Prescription refills: Ask your pharmacy to submit a 'refill request' a few days before running out.

ALTERNATE RESOURCES

HealthLink BC: 8-1-1 or healthlinkbc.ca

FNHA Virtual Doctor: 1-855-344-3800
7 days a week from 8:30 am to 4:30 pm

Walk-in clinics nearby

Highroads Medical: 5960 E Boulevard (Kerrisdale)

WELL Health: 2077 W 42nd Avenue (Kerrisdale)

City Centre Urgent Primary Care: 1290 Hornby St.

Check wait-times for BC walk-in clinics: www.medimap.ca

MUSQUEAM HEALTH

Addictions & Mental Wellness Supports

Brad Morin, NNADAP Worker

604-652-1368

nnadap.bmorin@musqueam.bc.ca

Mondays & Fridays: 5:30-9:00pm

Saturdays & Sundays: 10:00-5:00pm

Office location: Second floor of
Community Centre

Janice Cross, Wellness Counsellor

236-558-9977

Looking for support? We can help you with:

- one-on-one, family and group counselling
- referrals to treatment and mental health agencies
- detox support
- relapse prevention planning
- family intervention
- harm reduction information and supplies
- drug testing strips
- clean supplies
- travel assistance to wellness support sessions

BUS TICKETS available for
attending programs and services.

SAFE USING SAVES LIVES

Harm reduction is practical strategies and ideas aimed at reducing negative impacts associated with drug use, including:

- naloxone training and kits
- testing drugs before using
- using the LifeGuard app
- safety plan for using, every time

Naloxone kits are available at the primary care clinic.

Don't leave naloxone kits in cars during freezing weather!

LifeGuard App

Download on iOS & Android

How does it work?

- 1 Before using drugs, especially alone, download the LifeGuard app on your phone to record substance and location
- 2 Start the timer (pause or extend at any time)
- 3 When the timer ends, your phone will ring, flash a light, and vibrate. You must turn off the alarm and indicate you are fine.
- 4 If the alarm is not turned off, 9-1-1 is notified to alert emergency medical dispatchers.



MUSQUEAM HEALTH

Elders Centre

Elders Christmas Dinner
Thursday, December 14
5pm

Merv's Walking Group
Tuesdays & Thursdays
10 - 11am

Ladies' Craft Gathering
Tuesdays
1 - 4pm

Youth Centre in the community centre

2 - 9pm 604-269-3465

Children aged seven years or younger must be accompanied and cared for by someone 14 years or older at all times, otherwise they will be sent home.

Safe Drinking Water Monitoring Program Charlene Campbell-Wood

SPRING WATER

What is the healthiest water to drink? When sourced and stored safely, spring water is typically the healthiest option. When spring water is tested, and minimally processed, it offers the rich mineral profile that our bodies desperately crave.

Suicide prevention

Open 24 hours, 7 days a week
1-833-456-4566

Helplines



Mental Health Support Line: 310-6789 (no area code)

Senior Distress Line: 604-872-1234

Trans Lifeline Canada: 877-330-6366

Crisis lines

KU-US: 1-800-588-8717

Talk Suicide Canada: 1-800-784-2433

Indian Residential School Survivors Society: 1-866-925-4419

2-1-1 is a support line for all of life's challenges. They can help with information & referrals to physical & mental health resources, housing, utility, food & employment assistance; suicide & crisis intervention.

MUSQUEAM HEALTH

Home & Community Care

Available to community members for assistance with hospital discharges, home care aides, all medical supplies & equipment.

All home care services & medical equipment require a note from a doctor with specific needs.

HOME CARE CLIENTS: If you will not be home during your scheduled visit, please contact the Arlene or Romeo.

Romeo Cosio, RN

Monday, Wednesday - Friday
8:30-5:30

604-269-3463

homecare@musqueam.bc.ca

Arlene Haldane, Assistant

Tuesday - Friday
8:30-4:30

604-269-3354

nurseassist@musqueam.bc.ca

*If there is no answer please leave a message

In an
emergency,
always call
9-1-1

Free hearing test with Echo Hearing Care

Friday, December 8

1:30 - 4pm

Elders Centre

Echo Hearing Care can help you with:

- Hearing screenings
- Hearing aid clean and checks
- Hearing aid information

Echo Hearing Care 604-259-7704
echohearing.ca info@echohearing.ca



Please call Trish at
(778)239-4325 to book

Need to renew or replace your status card?

The membership department can help you with:

- laminate status cards (the old status cards)
- secure status cards

Contact Karen R. Campbell to discuss the two types of status cards and make an appointment:

kcampbell@musqueam.bc.ca

HOMework CLUB

Mondays & Wednesdays



3:30-5:30pm

Community Centre
Library (Upstairs)



Saint Michael Church

Service every Sunday at 1pm

Contact Jeannie Campbell for more
information: 604-781-5641

Adult Rec Indoor Sports in the gymnasium

Soccer

Mondays & Wednesdays
6:30pm

Floor Hockey

Tuesdays
6:30pm

Adult volleyball

Thursdays
6pm



Watch Canucks games from the Musqueam suite

Home games between November 2023 and January 2024 are currently available for request. One game per entry form, but members can apply more than once.

Games between February and April 2024 will be available to request at a later date.

SIGN-UP FORM

woobox.com/ut958t





MST Nations' Community Member Newsletter

Winter 2023

ᑲᓐᙱᓂᓄᗪ/ᐅᓐᙱᓂᓄᗪ/JERICO LANDS POLICY STATEMENT: A MAJOR MILESTONE

In early December 2023, the City of Vancouver will be releasing a draft Policy Statement for ʔəyalməxʷ/Iyálmexw/Jericho Lands, which was developed in partnership with the MST Partnership and Canada Lands Company (MST-CLC). The Policy Statement, if approved by Vancouver City Council, will set the principles and policies that guide development of the site.

YOUR INPUT SHAPED THE POLICY STATEMENT

The input we've received from MST Nations' Community Members since 2019 has informed the site plan shown in the Policy Statement. Our project team has been honoured to work closely with Cultural Liaisons from the three Nations, the MST-CLC Joint Venture Management Committee, Elders, Knowledge Keepers and Community Members to embed MST culture and values throughout the design vision for the site and the Policy Statement document.



An artist's rendering developed with Cultural Liaisons from MST Nations showing the Energy Oval, a central community park and gathering place.

We thank you for all of the knowledge, stories and wisdom that you have shared to get the project to this point. We look forward to sharing more good news in 2024.

READ THE DRAFT POLICY STATEMENT

The Policy Statement and other materials will be available on the City of Vancouver's engagement website at shapeyourcity.ca/jericho-lands in early December. Vancouver City Council will be considering the draft Policy Statement in early 2024.



An artist's rendering developed with Cultural Liaisons from MST Nations showing the Weave Walk along West 4th Avenue.



WE WANT TO HEAR FROM YOU

Contact the project team:

Brennan Cook
bcook@mstdevelopment.ca
Elisa Campbell
ecampbell@clc.ca

Visit:

inspirejericho.ca

Contact Cultural Liaisons:

xʷməθkʷəy̓əm (Musqueam)
Charleen Grant
cmgrantmusqueam@gmail.com

Sḵw̓x̓wú7mesh (Squamish)

Sxeláltenaat – Adrienne Charlie
adrienne.charlie@shaw.ca

Ts'kanchtn – Calvin Charlie-Dawson
calvincdawson@gmail.com

səlilwətał (Tsleil-Waututh)

Hunas – William George Thomas
wgthomas@twnation.ca



Kindergarten registration for children born in 2019 begins on November 1.

All kindergarten applicants are required to submit an application to their English catchment elementary school. This includes families who wish to apply for choice programs (Early French Immersion, Montessori, Indigenous Focus School, Early Mandarin Bilingual, Nootka Fine Arts) and/or make a cross boundary application to attend a non-catchment school.

The priority registration period for Kindergarten opens on **November 1** and closes on **January 31**. Students who submit an application within this priority period will be accommodated before late applicants.

Applying for kindergarten is a **2-step process**:

Step 1: Online Application (ApplyNow)

- Completion of an online application form (<https://applynow.vsb.bc.ca/>) for the school year **2024-25**



Step 2: Verification of documentation

- Contact your English catchment school office to set up an appointment to bring your supporting documentation
- Bring supporting documentation to your English catchment school office during your scheduled appointment



Supporting documents needed:

1. Proof of residence in Vancouver
2. Child's birth certificate
3. Immigration documentation (if applicable)
4. Immunization records
5. Court orders/documents (if applicable)

If you want to apply for a Choice Program or cross-boundary, you must first apply to your English catchment elementary school. Choice Programs and Cross Boundary applications will begin to be accepted in early 2024.

In the event there are more in-catchment applicants than available space* at the school, the following process will be used to prioritize enrolment:

Kindergarten Applications Received Between November 1 and January 31

1. **In-catchment** kindergarten applicants with siblings in attendance at the school (and who will be attending next year) will be placed first.
2. The names of all other in-catchment registrants will be entered into a **random draw** for the remaining kindergarten spaces.
3. Students who cannot be accommodated will be placed on a waitlist in the order in which their name was drawn.
4. Between January 31 and the second Friday in June students on the ordered waitlist will be accommodated as space becomes available.

Kindergarten Registrations Received AFTER January 31st

In-catchment kindergarten students who apply **after** January 31 will be accommodated if there is space. If there is no space, their names will be added to the bottom of the existing waitlist.

Note: There will be **no priority** given to registrants with siblings if they register after January 31.

For more information on kindergarten registration visit: <http://www.vsb.bc.ca/kindergarten>

* Available Space includes physical capacity, resources, staffing, or educational programs available or planned for a school as defined by the District (Administrative Procedure 300).

The Native Education College invites
you to our



Winter Wonderland
Christmas Luncheon

DEC
7 2023

Walking in a
Winter
Wonderland

1:00 PM
4:00PM

Musqueam Gym@ 6777 SALISH DRIVE VANCOUVER BC V6N 4C6

Contact: ExecutiveAssistant@necvancouver.org

ANNUAL VANCOUVER CHRISTMAS BIRD COUNT

SATURDAY DECEMBER 16, 2023



8AM TO 4PM - RAIN OR SHINE

*Are you interested in Birds & Nature?
Come join us in our quest to count all
the birds in the Musqueam area on
December 16.*

Contact Donna or Alan McKenzie at **604-261-1929**
or admckenzie@shaw.ca for further information.

No experience or equipment is needed. Pre-registration is required as group sizes are limited. Participants under 16 must be accompanied. Bring binoculars if you have them. Feeder Watchers can also join in by keeping a bird list that day.

This Count is organized by Nature Vancouver, as part of an annual international citizen science volunteer effort to document bird populations and status. The counts have been running annually for over 120 years.

Invitation to Join the Indigenous Elders Program at TransLink

Embracing Wisdom, Building Relationships, and Enhancing Cultural Understanding

Program Overview

TransLink's Indigenous Elders Program is a unique initiative that seeks to honour the wisdom of Indigenous elders. We are committed to:

- **Enhancing Cultural Competency:** Incorporating Indigenous teachings into our business.
- **Building Stronger Relationships:** Connecting with Indigenous communities in meaningful ways.
- **Supporting Indigenous Employees:** Providing opportunities for education, healing, and wellness.

Elder Participation

We invite elders to join us on this journey, offering their invaluable insights and guidance. Participation can include:

- **Sharing Cultural Knowledge:** Through training sessions and events.
- **Advising on Policies:** Helping TransLink align with Indigenous perspectives.
- **Engaging in Dialogue:** Regular meetings to discuss ideas and provide feedback.

Benefits of Joining

- **Influence:** Shape TransLink's approach to Indigenous relations.
- **Collaboration:** Work closely with TransLink to foster cultural understanding.
- **Recognition:** Be acknowledged for your wisdom and contributions.
- **Support:** Receive orientation, technology tools, honouraria, and considerate engagement.



Support and Respect

We are dedicated to ensuring a respectful and supportive experience for all elders involved. From thoughtful planning to care during events, we strive to honour your wisdom and time.

Join Us on This Journey

We believe that your wisdom can guide TransLink towards a path of genuine connection with Indigenous Peoples. If this opportunity resonates with you, or if you would like to learn more, please don't hesitate to contact me directly.

Johnny Reyes
Advisor, Indigenous Relations
Email: johnny.reyes@translink.ca
Phone: 604.902.5989



ENVIRONMENTAL STEWARDSHIP

NEWSLETTER

VOLUME 7, ISSUE 2

VISION

č̣hi:yaýəstəł ct tə ɬniməɬ xʷməθkʷəy̓əm kʷ s xaɬtəmət ct tə sɬa:nɬ təməxʷ. stəne ʔə tʰeʔ wə ɬəqəlləxʷəs ʔaɬ kʷθə m̥is yəʔeyəqtaɬxʷ wə scəkʷəlaməxəs kʷθə nəxʷskʷəyχθət. nəʔeməstəxʷ ct ceʔ kʷθə sɬa:nɬ syəθ ʔiʔ ʔəw haʔkʷəx tə snəwəyət kʷ s xaɬtəmət ct kʷθə məkʷ wet ʔiʔ kʷθə məkʷ stem.

"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".

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FROM THE EDITOR

Happy December Everyone!

On behalf of the Environmental Stewardship Department we hope everyone has had a relaxing Autumn. As we approach the new year, it is a good time to reflect on all that has happened over the last year and how we can continue to have a positive environmental impact. We look forward to continuing to work on initiatives and projects to achieve this and leave a positive impact for the community. Stay safe and have an enjoyable holiday season.

Happy Holidays,

Sarah Skapski, Interim Environmental Stewardship Manager

USING ARTIFICIAL INTELLIGENCE TO MONITOR SALMON STOCKS



Salmon are a vital species for many reasons. They are a key commercial species contributing to BC's economy and providing thousands of jobs, especially important in remote regions where jobs are limited. Salmon also play a key role in healthy ecosystems and are of utmost importance for many First Nations. Monitoring the return of salmon when they migrate upstream to spawn is an essential part of understanding the health and status of salmon populations. Accurate information of populations is needed to inform conservation and management actions and is used to guide decision making, including determining how many salmon can be sustainably harvested.

In small to medium sized streams, spawning salmon are mainly counted by teams of volunteers or technical staff. This method is labour intensive, time consuming, and often error prone. In central and northern parts of the coast salmon often spawn in remote areas and often streams can only be accessed by boat. This adds to costs, logistical constraints, and is more resource intensive. This can be especially problematic for First Nations, whose resources are often limited and whose capacity is also needed for other work and projects. Issues are also compounded by the sheer size of BC's coastline and the huge number of streams.

In some cases, the salmon are monitored with in-river video. While using underwater cameras reduces the amount of field work needed, it is still extremely time consuming, labour intensive and error prone since all of the recorded video must be watched, and the data manually counted and calculated. According to Will Atlas of the Wild Salmon Foundation, it can take technicians “four or five months reviewing the video before [they] have the final count”. This limits the information’s usefulness in making timely decisions.

In order to overcome some of these challenges, researchers are developing a new AI tool to assist in monitoring spawning salmon. Since 2020, two environmental organizations, the Pacific Salmon Foundation and Wild Salmon Foundation, have been working with Simon Fraser University and First Nations on developing an AI tool to assist with monitoring. The computer-vision deep learning model, called ‘Salmon Vision’, identifies and counts salmon as they pass by video cameras located in streams. The pilot project focused primarily on sockeye salmon in Heiltsuk territory. This in part because the Nation and DFO had minimal information about the health of salmon stocks in the area, raising questions surrounding the health of the populations and levels of sustainable harvesting. “A central part of managing and conserving salmon is monitoring the number of adult salmon that return to the river to spawn”, says Will Atlas of the Wild Salmon Foundation.

During the initial pilot project, the research team collected and labelled 530,000 images and video clips which were used to develop and train the model. The images and videos were gathered from the Gitanyow Fisheries Authority and the Skeena Fisheries Commission, who recently started using underwater cameras to monitoring spawning salmon.

The powerful artificial intelligence uses this inputted information to learn how to differentiate and identify fish. In this case, the tool can identify and differentiate 12 species of fish, including all five native species of salmon. The AI model was roughly 90% effective at identifying coho and 80% effective for sockeye. However, it is currently less effective at identifying pink and chinook salmon. This is due largely to the fact that these species change in appearance when they spawn. Increasing the amount of data used to train the AI model can overcome this challenge since AI models become more effective the more information they have available.

While Indigenous Knowledge was not used to develop the AI model, it was used to make it more effective. Weirs based on Indigenous practices were built to guide the movement of salmon passed the cameras so no fish are missed. Indigenous Knowledge was also used to determine when to set up cameras and where within streams.

The availability of accurate real time data provided by this type of technology can provide numerous benefits including making more timely decisions, preventing overharvesting and providing the information needed to recover unhealthy populations. Once this technology is refined it is also likely to reduce monitoring costs and can be widely deployed, increasing the amount of information available to decision makers. One of the most important benefit for First Nations is the amount of time it saves. In the case of Heiltsuk, staff were able to spend 60% of their time on other important projects to the Nation between April and October, instead of spending all of it monitoring salmon.

The success of the pilot project has led to a continuation and expansion of the work. Researchers plan to expand the use of the tool to assist 12 First Nations and develop a web application where anyone can upload videos to use the AI tool. While still in its infancy, the pilot project has shown that AI is a powerful new tool in the sustainable management of salmon.

NEW INDIGENOUS PROTECTED AND CONSERVED AREA DECLARED IN COASTAL BC



On November 16, the K̓w̓ik̓w̓asut̓'inux̓w Hax̓wa'mis First Nation (KHFN) declared that 40,000 hectares of land and water located within their traditional territory is now the Hada & Kakweikan Indigenous Protected and Conserved Area (IPCA). Documentation published to their website states the Nation's intentions are to restore, maintain, protect and manage the sensitive habitats and food sources within the area.

One way the Nation is planning on fulfilling their role as stewards is with a full review of the parks, tenures and other land use authorizations issued by the Crown without KHFN's free, prior and informed consent.

In a response to questions posed by The Narwhal, the B.C. Ministry of Water, Land and Resource Stewardship noted that "the government respects and acknowledges the efforts of K̓w̓ik̓w̓asut̓'inux̓w Hax̓wa'mis First Nation to protect ecosystems within their territories" and that "where possible, our preferred approach is for Indigenous-led stewardship interests, such as IPCAs, to be addressed through government-to-government collaborative processes like modernized land use planning".

The idea of an Indigenous Protected and Conserved Area was brought forward by The Indigenous Circle of Experts in their report *We Rise Together*, where they define an IPCA as "lands and waters where Indigenous governments have the primary role in protecting and conserving ecosystems through Indigenous laws, governance and knowledge systems".

An IPCA must also meet three criteria as outlined in the report: "They are Indigenous-led; they represent a long-term commitment to conservation; and they elevate Indigenous rights and responsibilities".

The Hada & Kakweikan IPCA has yet to receive a statement of support from the provincial government, who have not voiced their stance on any IPCA created in the last five years.

MASS TIMBER – A NATURAL ALTERNATIVE TO CONCRETE



Mass timber is a relatively new building material that has been quietly growing as an alternative to concrete and steel. It is made from laminated wood compressed together to form beams that are able to support buildings as high as 25 stories. While it was initially thought that mass timber could only be used for buildings under 6 stories, designers continue to break records and expand on the potential of building with wood. While concrete production results in huge amounts of CO₂ being emitted, mass timber has the potential to be carbon-negative, sequestering massive amounts of CO₂ within its wood structure. Provided that the wood is sustainably sourced, this emerging building material has the potential to transform the way homes and offices are built around the world.

The Expanding Potential of Mass Timber

British Columbia is widely considered to be at the forefront of mass timber design. In 2010, the Olympic Oval in Richmond awed the world with its beautiful wood structure, using mass timber as a major component. In 2017, UBC held the record for world's tallest mass timber building, the Brock Commons Tallwood House, at 18 stories. The Tallwood House showed that tall mass timber buildings were feasible. And as BC designers pushed the envelope, others followed suit. Countless high-rise structures can now be found in Europe and the United States, and the record for the tallest mass timber building is regularly broken. The current record holder is the Ascent MKE building in Milwaukee, Wisconsin, USA at 25 stories and 86.6 meters, which is claimed to sequester about 7,200 metric tons of CO₂. Several large projects are also planned in Metro Vancouver, including an overpass and a 12-story student housing tower in Burnaby. In Vancouver, the Pacific National Exhibition (PNE) Amphitheatre is expected to be the largest timber roof structure in the world when it is completed.

While the benefits for large scale buildings are apparent, the area where mass timber really has a chance to shine is in multi-family housing. In a traditionally constructed building, wood is measured and cut on-site and concrete is mixed on-site as needed. Traditional construction takes a long time and produces a lot of wasted material. Mass timber, on the other hand, is designed and prefabricated offsite. At the construction site, the parts are put together like an IKEA set. While this creates considerable design costs, they can be offset through economies of scale. Building large numbers of multi-family housing would mean that well-designed structures could be constructed at incredible speed. For example, the

Tallwood House at UBC was built at a rate of two stories a week and was completed in 66 days. If it was made with traditional materials, the building would have taken around 6 months to finish. To top it all off, it is claimed that 2,423 metric tonnes of CO₂ were sequestered by switching to mass timber from concrete. The UBC Tallwood Building demonstrates the potential of mass timber to meet the growing need for housing, and do so in a more sustainable manner than current construction methods.

Benefits of Wood Over Concrete and Steel

Designers that play to the strengths of mass timber can create beautiful buildings that would simply not be possible with concrete. The wood material is well suited to curved shapes, leading to visually distinctive designs such as the VanDusen Botanical Garden building in Vancouver. Admirers of the Olympic Oval often cite the intricate wave pattern of the roof structure. The wood framework of family units and office buildings is often highlighted rather than hidden. Designers often mention the healing effect of being surrounded by natural wood. While it is difficult to quantify, replacing a cold, concrete environment with a bright, natural wood one may have significant positive effects on mental health, especially for urban residents who may not have access to natural spaces.



Figure 1. VanDusen Botanical Garden in Vancouver, British Columbia.

When building any large building in BC, it is important to consider their resistance to earthquakes and fires. Because mass timber is significantly lighter than concrete, there is less weight to be pushed around in the event of an earthquake. In addition, wood is much more flexible than concrete and steel. The end result is a structure that is highly resistant to collapse in the event of “the big one”. Mass timber is also fire-resistant, handling heat much better than traditional wood structures. Because mass timber is made of compressed laminated wood, there are no air bubbles, which makes it take longer for fire to burn through. Wood also has some advantages over steel. When wood burns, it chars, creating an insulative layer that protects the core. Engineers are taking advantage of these characteristics, designing buildings to stand even when damaged by fire.

Implementation is Key

While there are many benefits to mass timber construction, there are some caveats. Contrary to many claims, mass timber is not cheaper than concrete, especially in North America. Although BC is a leader in mass timber design, and despite the heavy logging presence, many projects in BC have their parts shipped from Europe where the material has been widely adopted. This is simply because there is not enough mass timber being manufactured locally. Due to the prefabricated nature of mass timber construction, cost is heavily dependent on having a large supply chain. As it stands, there are not enough North American manufacturing plants to keep up with demand. But that fact is slowly changing, as the number of mass timber plants have grown from only 4 in 2016 to 38 today. And that number is expected to more than double by 2027.

In BC, we have seen the impact of the logging industry. Old growth forests have been decimated and continue to be cut at an alarming rate. Caution about the environmental benefits of mass timber has been raised by different environmental groups. Wood for mass timber needs to come from responsibly managed forests, and not from old growth, to be considered sustainable. Since September 2022, there have been more than 800 mass timber projects in the United States alone, with 700 additional buildings currently under construction. Mass timber is projected to take up as much as 10 percent of the North American lumber supply by 2035. With this anticipated growth in demand, responsibly sourcing materials, and having a plan to reuse the wood when the building eventually comes down, will be important to provide the substantial benefits mass timber can provide while minimizing the potential impacts to our planet.

WINTER EVENTS AROUND VANCOUVER

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

- ❖ **Capilano Canyon Lights, November 17th to January 21st**
Explore an enchanting winter wonderland: Cross the world-famous bridge, lit end-to-end with a changing multi-colour display, and sway high above the illuminated Capilano River. Journey into a glittering rainforest and walk high above the forest floor on a transformed Treetops Adventure. For more info visit <https://www.capbridge.com/events/canyon-lights/>.
- ❖ **PNE Winter Fair, December 8th, 9th and 14th-23rd**
Embark on the ultimate journey to meet Santa Claus by solving puzzles and cracking riddles, ride the PNE Holiday Express, wander through Winter Lights, go skating, or try the Ice Bumper Cars. Then warm up with the culinary extravaganza at the Holiday Eats & Treats. Visit <https://www.pne.ca/winter-fair/> for more info.
- ❖ **VanDusen Festival of Lights, November 24th to January 7th**
Explore over one million magical lights at VanDusen Gardens' annual Festival of Lights. Get in the holiday spirit with the infamous Dancing Lights, explore themed light areas, and savour tasty treats from a variety of food vendors. For more information visit <https://vancouver.ca/parks-recreation-culture/festival-of-lights.aspx>
- ❖ **Vancouver Christmas Market, November 16th to December 24th**
Combining colourful décor, authentic gifts, enticing food and drink, and family entertainment, this festive celebration creates the perfect atmosphere to mix and mingle with friends and family, have a quick lunch or after-work drink, find a festive photo op, and take in a wide variety of holiday entertainment! For more info visit <https://www.vancouverchristmasmarket.com/>.
- ❖ **Vancouver International Wine Festival, February 24th to March 3rd**
Festival-goers can browse 149 wineries from 12 countries, including 71 wineries from theme country Italy. There are also wineries travelling from France, Spain, Croatia, Greece, Argentina, Australia, Chile, and New Zealand and sake brewers from Japan. For more information visit <https://www.destinationvancouver.com/event/vancouver-international-wine-festival/23648/>.

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/>.

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