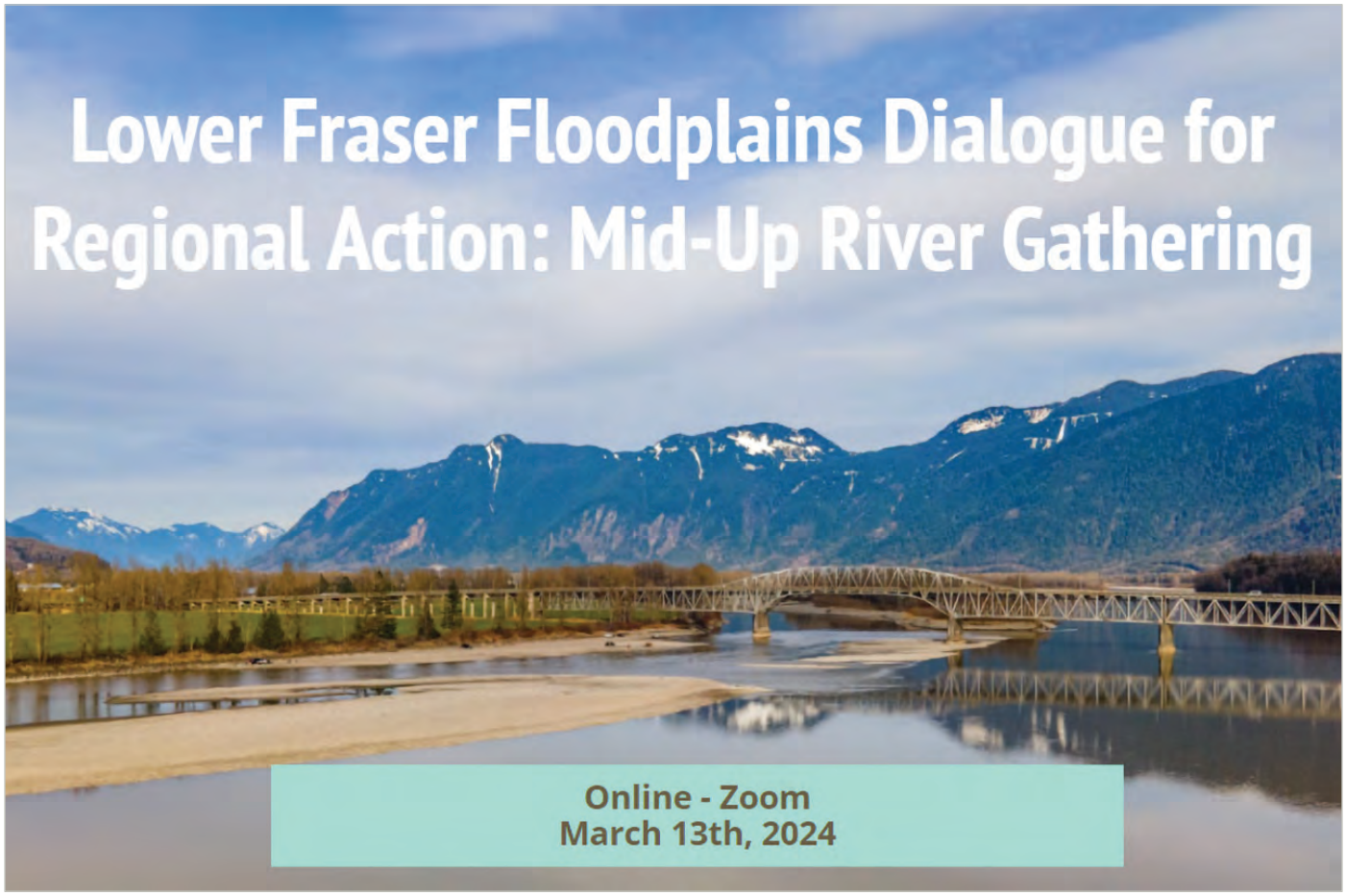
Lower Fraser Floodplains Dialogue for Regional Action

REPORTING BACK: MID & UP RIVER GATHERING – MARCH 13 2024

This report was prepared by the Lower Fraser Floodplains Coalition. Support for the March 13 virtual gathering was provided by Erica Crawford at Heronbridge Consulting and a team of facilitators. Funding for the gathering was provided by Indigenous Services Canada – Critical Infrastructure Branch and Emergency Management Assistance Program, BC Ministry of Emergency Management and Climate Resilience, and Real Estate Foundation of BC. Report design by Hanna Araza, West Coast Environmental Law.



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Executive Summary

On March 13, 2024, 64 representatives from 14 First Nations and six local governments, from Semá:th to Yale, convened online for the Lower Fraser Floodplains Dialogue for Regional Action: Mid & Up River Gathering. Staff from the BC Ministry of Water, Land, and Resource Stewardship (WLRS) also attended. The previous day, the Coastal and River Tidal subregions had gathered. Dialogue focussed on critical infrastructure, local essential services and interconnectedness across the Lower Fraser.

The gathering began with a prayer in the Halq'eméylem language by ***Slade Williams of Sqwá First Nation. Chilliwack Councillor and Board Chair of the Fraser Valley Regional District Jason Lum*** emphasized the importance of collaboration and knowledge sharing. ***Stó:lō Council Tribal Chief Tyrone McNeil*** highlighted the urgent need to reevaluate approaches to extreme events and to advocate for nature-based options with neighboring communities. He called for respectful engagement with First Nations including early, constructive dialogue and partnership, in alignment with the *United Nations Declaration on the Rights of Indigenous Peoples* (and associated provincial / federal laws) as well as the new BC emergency management legislation. He noted that this is an opportunity for First Nations and local governments to work together to build long-term resilience, for 2100 and beyond.

CONTEXT

Gillian Fuss, Emergency Planning Secretariat (EPS) Manager, and ***Laura Plante, Executive Director, Flood Resilience at the BC Ministry of Water, Land, and Resource Stewardship*** provided a brief overview of regional floodplains management efforts and alignment with provincial and federal initiatives. These include the National Adaptation Strategy, the new BC Ministry of Emergency Management and Climate Readiness and emergency management legislation, the BC Flood Strategy, and the recommendations of the final Pathways to Action report from the 2014-2023 Lower Mainland Flood Management Strategy process.

Two examples of inspiring work were shared. ***Mayor Sylvia Pranger, District of Kent,*** described a collaborative effort to replace an outdated floodbox in Kent that restored fish passage and increased flood resilience.The floodbox remained intact during the flood events of November 2021 and managed stormwater from the Agassiz townsite. In April 2023, the first coho salmon since 1948 was in the waterway.

Rick McKamey, staff member at Leq'á:mel First Nation, presented on the value in partnering with local governments, professionals, and other First Nations. These collaborations have led to projects in Nicomen Slough, Hatzic Valley, and Semá:th prairie. McKamey emphasized the critical role of Traditional Knowledge (TK) that can be weaved with western science for more innovative solutions. TK offers evidence and insights often overlooked by conventional sources and supports better decision-making.

CRITICAL INFRASTRUCTURE

Stephanie Chang, Professor, UBC School of Community and Regional Planning, expert on disaster mitigation/resilience, defined critical infrastructure (CI) as essential, interconnected systems with long service lives. Disruption to any of these systems leads to cascading impacts across the others. An example was in November 2021 when the Highway 1 corridor was blocked. Dr. Chang noted the need for CI risk assessments in our region, referencing work done in other major cities (e.g. San Francisco). She concluded by emphasizing the business case for CI resilience, with $1 of investment in CI protection resulting in $6 of benefits

Tamsin Lyle, Principal Engineer at Ebbwater Consulting, explained that risk assessment is a systematic evaluation of hazards and their consequences, based on our regional priorities. The Lower Fraser Floodplains Coalition (LFFC), working with EPS, is building a holistic model for risk assessment that adds sometimes-neglected considerations of community well-being, cultural stewardship, food sustainability, and long-term sustainability across generations.

DIALOGUES

Current Initiatives & Opportunities: Examples of collaboration and nature-based projects were shared. The Lower Fraser Floodplains Coalition is creating a map, working with communities, staff, and knowledge holders, to appropriately share this information across communities.

Critical Infrastructure in Our Region: Guests identified critical infrastructure systems, as well as known vulnerabilities and interconnections. November 2021 provided important lessons about how flooding affects critical infrastructure systems.

Working at the Right Scale: Guests reflected on how and why to work together—it takes time to build relationships, but partnerships provide opportunities to (1) pool resources and capacity; (2) share useful information; (3) learn new approaches, and (4) advocate for sustainable funding for the region.

NEXT STEPS

Based on the needs, priorities and opportunities discussed during the dialogues, the Lower Fraser Floodplains Coalition has developed a work plan that includes:

- Convening gatherings focused on leadership for relationship building and developing collective mandates that address priorities for communities;
- Convening sessions with First Nations, local governments, infrastructure owners/operators and other stakeholders to have more detailed dialogue about understanding risk and risk reduction opportunities, and the ways that communities are connected and interdependent;
- Supporting First Nations and local governments in developing fundable actions, including nature-based approaches, to reduce flood risk and build resilience.

Introduction

On March 13, 2024 representatives from 14 First Nations and six local governments gathered for the Lower Fraser Floodplains Dialogue for Regional Action: Mid & Up River Gathering. This gathering, held virtually over Zoom, aimed to bring together elected and hereditary leadership and staff from Semá:th to Yale.[1] In total, 64 people were in attendance, including representatives from the BC Ministry of Water, Land, and Resource Stewardship (WLRS). A similar gathering, on March 12, 2024 brought together the Coastal and River Tidal subregions.

The focus of these gatherings was to initiate dialogue about critical infrastructure, local essential services and interconnectedness in these subregions. Objectives included sharing information, fostering relationships among neighbours, and garnering feedback on the proposed subregional approach. This report summarizes the key discussions and insights shared during the event, providing a foundation for informed decision-making and collaborative work moving forward.

WELCOMING & OPENING REMARKS

Slade Williams from Sqwá First Nation set the tone for a collaborative exchange amongst rights- and stakeholders with a meaningful prayer in the Halq'eméylem language of the Mainland Coast Salish First Nations.

Jason Lum, a Councillor in Chilliwack and Chair of the Fraser Valley Regional District (FVRD), underscored the importance of convening to share knowledge and explore opportunities for collaboration.

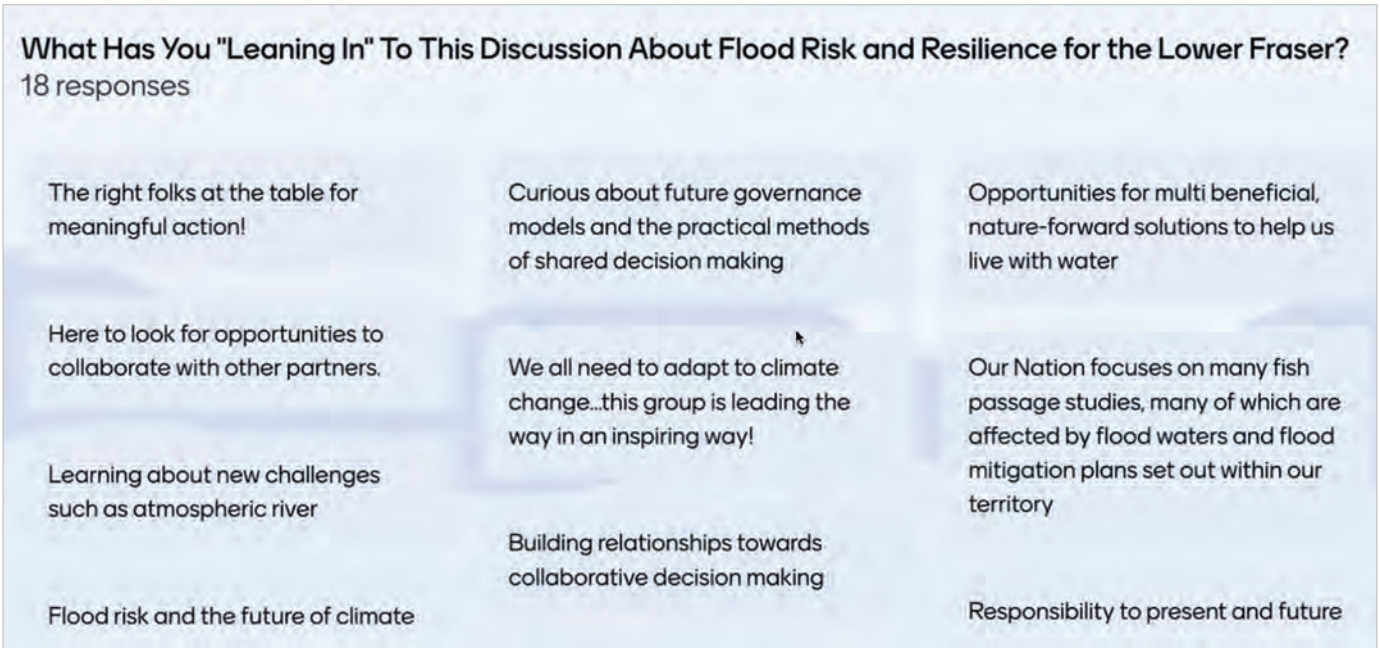
Stó:lō Council Tribal Chief Tyrone McNeil's compelling remarks highlighted the urgent need to reevaluate the approaches to extreme events and advocate for nature-based options in collaboration with neighboring communities. He called for respectful engagement with First Nations including early, constructive dialogue and partnership, in alignment with the *Declaration on the Rights of Indigenous Peoples Act* (BC) and the *United Nations Declaration Act* (Canada) as well as the new BC emergency management legislation. He noted the need to move forward in a way that First Nations rights are respected while reducing the fears that local governments may be having about this change.

There is an opportunity for First Nations and local governments to work together, to find common ground and also to work in ways that build long-term resilience, for 2100 and beyond.

1 The local government equivalent is Mission to Hope.

Responses from a virtual poll during the event where participants shared the benefits and opportunities of working together

Rick McKamey, staff member at Leq'á:mel First Nation



Responses to a second virtual poll during the virtual meeting

Context Setting

Gillian Fuss, Emergency Planning Secretariat (EPS) Manager, and ***Laura Plante, the Executive Director of Flood Resilience at BC Ministry of Water, Lands and Resource Stewardship (WLRS)*** provided a brief overview of the regional flood landscape. EPS and the Lower Fraser Floodplains Coalition (LFFC) have been convening First Nations and local governments in this region to discuss floodplain management and resilience since 2022. These efforts have been complemented by signals from both provincial and federal governments on the importance of climate change and emergency planning: the federal National Adaptation Strategy, the creation of a Ministry Emergency Management & Climate Readiness in BC, and the release of the BC Flood Strategy. Across the region, both local governments and First Nations are undertaking inspiring, on-the-ground work.

EMERGENCY PLANNING SECRETARIAT & HÍLEKW SQ'EQ'Ó

The creation of the EPS, and Hílekw Sq'eq'ó, the Disaster Resilience Regional Action Plan were, in part, a result of gaps in the work of the Lower Mainland Flood Management Strategy (LMFMS), 2014-2023. The LMFMS did not properly include First Nations and failed to propose solutions to outdated diking infrastructure that is too cost prohibitive to replace. To address such oversights, EPS was created to support First Nations in all aspects of emergency management and advocate for the full realization of the *UN Declaration on the Rights of Indigenous Peoples*. With Hílekw Sq'eq'o, EPS seeks to develop a Mainland Coast Salish emergency plan for all hazards and climate change. Priorities within Hílekw Sq'eq'ó include actions that align with the Sendai Framework, strengthen tactical capacity, and promote cultural competency.

LOWER FRASER FLOODPLAINS COALITION

The Lower Fraser Floodplains Coalition works with EPS to convene actors in the Lower Fraser to discuss and strategize on flood resilience. **The LFFC's work is grounded in 5 principles:** 1) understand disaster risk and adapt to climate change 2) advance reconciliation 3) salmon and their ecosystems are thriving 4) sustainable economies and resilient communities and 5) everyone is part of the solution.

In June 2023, the LFFC hosted a second regional forum, bringing together all subregions of the Lower Fraser (the first forum was in July 2022). At the second forum, we heard that critical infrastructure could be a good starting place in working towards a regional strategy, as most people can agree that critical infrastructure services are essential during an emergency to protect lives and livelihoods. There was also continued interest in exploring opportunities for nature-based approaches, and identifying ways to expand those opportunities. For this Mid & Up River gathering, based on this feedback, the LFFC chose to bring together two subregions (or hubs) of the Lower Fraser: Mid & Up River.

LFFC Members: Emergency Planning Secretariat (First Nations-led); UBC Coastal Adaptation Lab, School of Architecture and Landscape Architecture; West Coast Environmental Law; Ebbwater Consulting; Sto:lo Tribal Council; Watershed Watch Salmon Society; Resilient Waters Project; and Kerr Wood Leidal.

BC FLOOD STRATEGY

The BC Flood Strategy was co-developed with First Nations across the province through a "sharing-the-pen" process. With a vision of becoming leaders in innovative flood risk management, the strategy emphasizes the importance of an all-of-society approach, integrated, place-based planning, and bridging the gaps between various strategies at the regional level. Priority actions, in alignment with the Sendai Framework on Disaster Risk Reduction, include understanding flood risk, enhancing flood governance across multiple levels of authority, improving preparedness, response, and recovery efforts, and investing in flood resilience with a desire for stable, multi-year funding. The next phase of the strategy is implementation planning, in collaboration with rights- and stakeholders across the province, to outline a pathway forward for the next 10 years. The BC Flood Strategy was released on March 21, 2024.

Subregional Initiative Showcase

FLOODBOX REPLACEMENT FOR FLOOD & FISH – AGASSIZ SLOUGH

Mayor Sylvia Pranger of the District of Kent shared the success of the Agassiz Slough Floodbox Replacement project. This project replaced a 50-year-old floodbox that defaulted to a closed position and was a barrier to fish passage with updated, fish-friendly infrastructure. The project required over $1 million in funding, and saw multiple partners working together to secure funding, design the project, maintain the site, and monitor the waterway for fish passage.

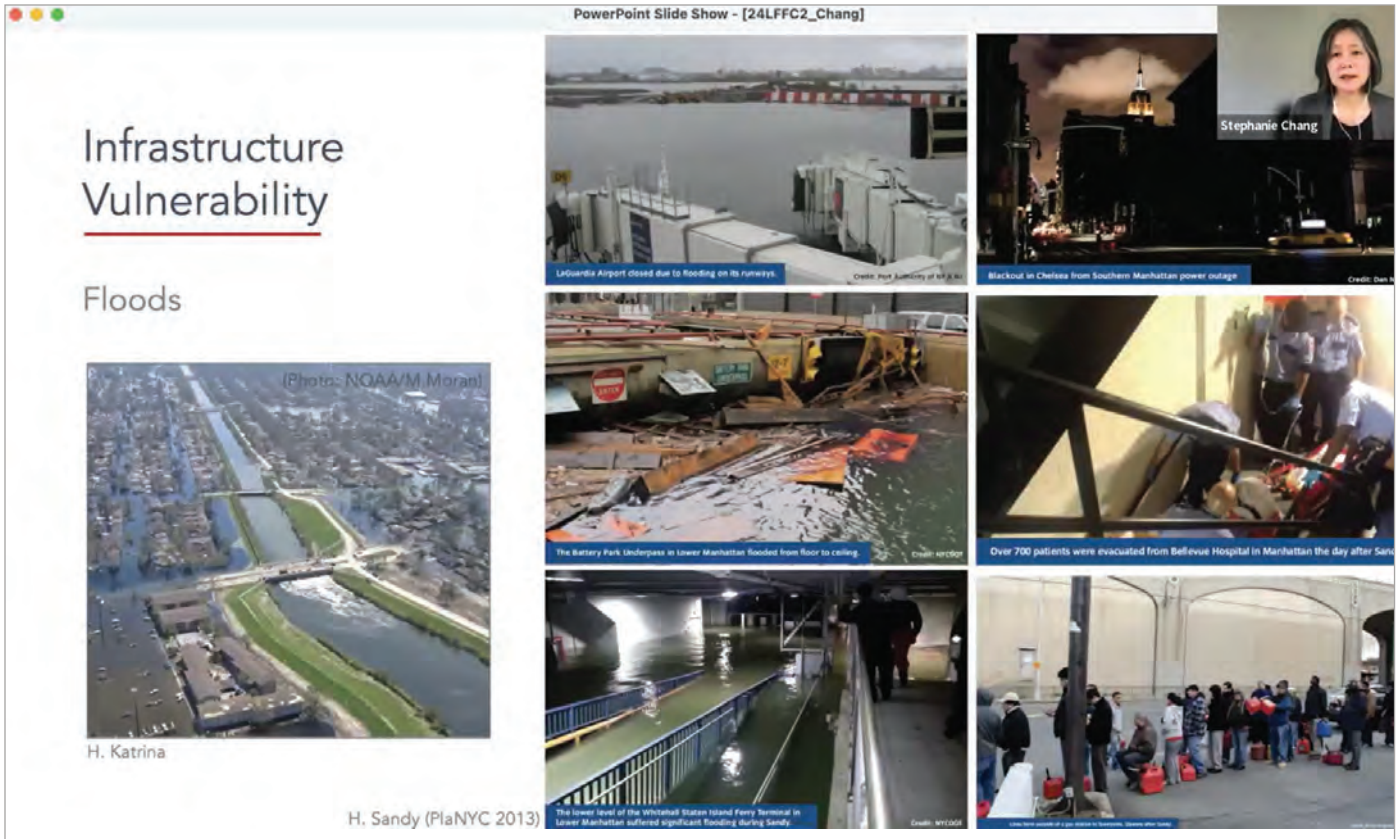
As a result of this project, fish passage was restored to 4 kilometers of waterways upstream most months of the year, except when the flood door is closed to protect Kent from flooding. The upgraded floodbox was one of the only flood infrastructure tools that remained intact during the flood events of November 2021 and effectively managed stormwater from the Agassiz townsite. In April 2023, a coho salmon was caught in the waterway for the first time since 1948, highlighting the project's success in enhancing ecological resilience. Mayor Pranger emphasized the project's multi-value, collaborative approach as a strong path forward for future projects.

WEAVING SCIENCE WITH TRADITIONAL KNOWLEDGE

Collaboration is key. ***Rick McKamey, a staff member at Leq'á:mel First Nation***, presented on the projects taking place on the Leq'á:mel reserve lands. McKamey saw the 2021 floods as a double-edged sword for his community. It both highlighted the flood hazards they face and catalyzed a commitment to collaborative approaches to tackle challenges. Engaging in numerous projects and committees focused on flood management plans, Leq'á:mel First Nation emphasizes the importance of collaboration, recognizing the value in partnering with various stakeholders, including local governments, professionals, as well as with other First Nations.

These efforts have led to projects on Nicomen Slough, Hatzic Valley, and Semá:th Prairie. McKamey emphasized the critical role of Traditional Knowledge (TK), advocating for innovative solutions informed by the ability to weave western science with traditional knowledge for better decision making and results.

Central to collaboration with Leq'á:mel is the recognition that TK serves as evidence for decision-making, offering insights often overlooked by conventional sources.



Dr. Stephanie Chang, UBC Professor, presenting on infrastructure vulnerability experienced during Hurricane Sandy

Critical Infrastructure

To frame the following dialogue on Critical Infrastructure and Risk, two recognized experts gave presentations. ***Stephanie Chang, a respected UBC Professor*** in the field of disaster mitigation/resilience and emergencies presented on Critical Infrastructure and Risk to frame the dialogue that followed at this virtual session. Stephanie Chang offered a method for identifying critical infrastructure (CI) in the region, focusing on important characteristics rather than standardized definitions. These characteristics include: infrastructure that provides essential services, has an extensive network across the geographic region, is interconnected to other systems, and often has a long-service life.

Next, Dr. Chang explained why critical infrastructure is vitally important to protect by highlighting the vulnerabilities and cascading impacts when CI is damaged. For example, during Hurricane Sandy flooding resulted in citywide power outages, thus impacting water and health care systems as New York residents lost access to clean water and operational hospitals. In the Lower Fraser, critical infrastructure whose failure can lead to cascading impacts is at risk of flooding, particularly the Highway 1 corridor. Dr. Chang shared examples of risk assessments for CI prepared for large metropolitan areas like San Francisco that have a high degree of interconnectedness, complexity and geographical challenges like the Lower Fraser. This type of work has not been done in our region, but it could be.

Dr. Chang concluded her presentation by emphasizing the business case for protecting CI. In the U.S.A., cost benefit analysis has shown that every $1 of investment towards CI protection resulted in $6 of benefits, showing significant returns on investment.

Tamsin Lyle, Principal Engineer at Ebbwater Consulting, provided additional information on risks and risk assessment. Tamsin provided three key messages:

- Defining risk involves assessing hazard, exposure, and vulnerability. Vulnerability refers to the likelihood of individuals being threatened by the hazard and level of exposure. Vulnerability can change over time and can be mitigated.
- Risk assessment is a systematic evaluation of hazards and their consequences, accounting for what we, as a region, determine to be priorities. The Lower Fraser Floodplains Coalition (LFFC) is building the foundation for a holistic model for risk assessment that incorporates a range of risk receptors, by engaging in region-specific discussions to identify and address community concerns.
    - This approach moves beyond the model more typically used to consider a range of place-based factors such as community well-being, cultural stewardship, food sustainability, and long-term sustainability across generations.
- In 2023, Ebbwater Consulting produced a draft map to showcase the critical infrastructure (using a simplified definition), that is exposed to Fraser River flooding. This map can be used as a base for further work related to risk assessment and CI prioritization.

Supporting a place-based flood risk assessment: *Diagram draft prepared for EPS, October 2023. Ebbwater Consulting Inc.*

Dialogue 1: Current Initiatives, Opportunities & Next Steps

Guests at the Mid & Up River gathering shared a number of great examples of collaborative and nature-based work that is already underway and helping to build resilience in the region. LFFC (the organizing team for this gathering) has carefully collected that information and will work to develop an accessible map. LFFC will work with communities, staff and knowledge holders to make sure that information is shared appropriately and with proper permissions.

THE FIVE PRINCIPLES IN ACTION: CHALLENGES & OPPORTUNITIES

Guests offered some examples of ways that relationships and coordination on flood and emergency management is moving in a positive direction:

- BC-EMCR is becoming more involved with First Nations partners and local authorities to better understand the situation at the local scale. Conversations have been open and supportive.
- Fraser Valley Regional District (FVRD) is increasingly more aware that it shares space with Lower Fraser First Nations and understands that decisions it makes could impact First Nations living both on or off reserve (for example, in FVRD Electoral Areas), and wants to build connections.

Some challenges in working together in a good way on flood management include:

- FVRD's jurisdiction and the work it can directly do for communities is quite specific and constrained. If it involves a new FVRD 'service', this must be voted on by electors. Working together, so that everyone is part of the solution, requires a clear understanding of what everyone can do.
- Sometimes, we need faster decision making from governments, especially the Province.

Guests also identified ways and opportunities to support better flood management that aligns with the five principles:

- Flood recovery regulations that allow building back better;
- More outreach to local governments from EPS;
- More work to understand risk (instead of just hazard management);
- Collaboration for funding opportunities;
- Regular meetings and an organization to support those meetings; and
- Local governments working with First Nations to understand UNDRIP and DRIPA and what it means for the region.

Dialogue 2: Exploring Critical Infrastructure in the Mid & Up River Subregions

Guests identified hazards and ways that critical infrastructure systems are at risk, and in particular how they were affected by the November 2021 flood event. They also shared thoughts on vulnerabilities, and priorities (and some ideas) for addressing vulnerabilities. Interconnections across critical infrastructure systems were also highlighted.

CRITICAL INFRASTRUCTURE SYSTEMS

Icons in the margin show how infrastructure systems are interconnected and interdependent.


Food


Energy


Communications


Health & Community Wellbeing


Transportation


Water


Emergency

1. Water systems, including water supply, wastewater treatment, and drainage (stormwater and flood water):

- Failures of water supply and wastewater treatment systems create potential for serious environmental and health issues:
  - Underground septic tanks – during the 2021 floods, some community members experienced basement flooding related to septic tanks;
  - Another hazard is septic tanks leaking into groundwater, and affecting communities relying on well water;
- Drainage isn't being managed from a watershed perspective:
  - Activities on slopes above are creating drainage issues in communities below (e.g., gravel mine producing stormwater flows that come down the slopes in new channels and are not connected to conveyance in communities, resulting in flooding);
  - Conveyance of water through linear infrastructure like highways and railways is a problem in low-lying areas receiving water draining down slopes;
- Waterways need to be prioritized for protection from secondary flood hazards

(contamination, landslides) according to ecosystem values.
    - Effluent from farms is a big concern;
- Water systems are linked to other critical infrastructure in relation to risks and resilience. Some examples:
    - Fish passage for salmon in waterways is obstructed by culverts and bridges which impacts access to traditional foods;
    - Pump stations may lose electricity/power supply (e.g., Barrowtown Pump Station and Hatzic Lake system); and
    - Access roads to wastewater treatment facilities and pump stations may be blocked (in 2021, Abbotsford was cut off from Barrowtown pump station).

2. Transportation systems, including highways, access roads, railways, waterways, ports and airports:

- Highway 7 serves as a connection for many First Nations and towns, but doesn't have high enough priority in times of emergency response;
    - River transportation could play a bigger role;
- In 2021 Highway 7 was blocked by landslides and some supplies were brought in by boat;
- Railways are important (CN and CP) because they move a lot of food;
- Highway closures have a range of negative impacts in the Up-river/Mid-river region:
    - can disconnect communities within the same First Nation when they have more than one populated area, including being separated from important services like the emergency operations centre;
    - Re-routing vehicles can create too much traffic in places that aren't prepared for it;
    - Emergency routes need to be accessible. Emergency volunteers had to be brought in by helicopter in some cases in 2021;
    - People can be stranded outside their communities and need to rely on emergency services in other towns;
    - Community members (and people stranded in communities) may lose access to food, medication and gasoline; and
    - Ports are affected and may provide an opportunity to engage the federal government around highways.

3. Energy systems, including BC Hydro, generators, oil and gas pipelines, fuel supply stations:

- BC Hydro is very important:
    - Power connects to other critical infrastructure (e.g., pump stations, in 2021 there were challenges with maintaining the electricity and power supply in major pump stations (Barrowtown and Hatzic Lake system), and we were close to experiencing a worse disaster had those systems failed:
    - One First Nations community was without power for 4 days in 2021, with only one generator in the office building, and it was hard for everybody:

- Some communities have limited back-up generators to sustain CI systems, like wastewater and water systems:
- Having access to gasoline for generators was critical to buffer the impacts of hydro-power outages but this also placed an extra burden on communities with generators:
  - Some residences relied on generators with propane tanks which were not available due to lack of access and movement of resources into the area: and
- Natural gas is particularly critical in the winter months, for heating. Oil and gas pipelines are also important beyond the region for Canada as well as the United States.

4. Food systems, including access to groceries and fresh food (from the region and beyond), First Nations foods from the land and water, local production of milk, poultry, eggs, livestock, access to and from farms:

- Challenges to access groceries and fresh food;
  - First Nations communities may have lower stocks and be especially vulnerable;
- Local production and supply of milk, poultry, eggs, berries, etc., is also affected by access routes to farms;
- Livestock management: time and coordination for farmers to remove livestock and have a place to take it. Boil water advisories in 2021 meant some farmers had issues selling their products;
  - Drowning animals are a big issue for farmers and also in a broader sense because they can lead to contamination of the water systems;
- First Nations ability to harvest and eat traditional foods like salmon can be disrupted by contamination and access issues;
  - Elders in the community who are able to hunt and fish would need power (hydro) to store food;
- Supply chains for imported foods can be affected by lack of access corridors; and
- Considering how to mitigate the post-flood impacts of contamination from gasoline storage, manure pits, fertilizer, pesticides.

5. Communications systems (towers, fibre optics, telephone lines, satellite phones, radios, cell phone calling and data):

- Communications systems are critical:
  - Limited communications limit emergency response capability; some communities lost cell/internet service during the 2021 floods;
  - Some community members only have landlines. On the north side of the Fraser River, some areas do not have wireless service;
  - Necessary to have a way to find out which providers are down and if communications are being received; and
  - Communications are important for emergency response, health and community wellbeing systems, and also support business continuity.

6. Emergency systems, including Emergency Operations Centres (EOC), emergency response personnel (fire, ambulance, police and emergency support services), emergency and access routes, emergency communications, fire halls and police stations, infrastructure repair workers.

- Emergency systems need people in order to operate. The 2021 floods illustrated how emergency response is interconnected with transportation systems that enable people to move around the region:
  - Many staff live elsewhere and commute into work. With access routes blocked, some staff worked remotely, including in EOC-related roles;
  - Emergency response services were heavily impacted because residents in eastern Fraser Valley couldn't get to Vancouver without detouring or helicopter transport. In one case, a Chief Operator was stuck outside of the region. They tried to work remotely, but many problems ensued. They ended up getting boated into the area after a few days;
  - Challenges to get contractors and workers in to complete urgent work.
  - Large communities may be more resilient to events. For example, a 20 person staff can continue to function if one member cannot get to work. If one person is missing in a staff of three, the remaining members would need to work around the clock. Access to smaller communities is important to consider;
- Depending on the scale of the disaster/impacts, there may be capacity for the sharing of emergency services/resources across communities. Neighbouring communities could help each other, making things more tolerable; however, smaller communities cannot spare workers, and especially so if there are region-wide impacts;
- Emergency social services are also important, and connections with healthcare and homecare;
- Emergency Operations Centers also need power to operate;
- Impacts of flooding can also lead to risks of fire:
  - It's risky if people have to resort to candles and fires to stay warm; and
  - There was a fire under power lines in the 2021 flood.

7. Health and community wellbeing systems, including hospitals and medical centers, schools and daycares, access to medicines, home care, safe housing, cultural supports, cultural activities, cultural sites

- During the 2021 event, healthcare was disrupted. People needed to be flown out of the region for dialysis, for example. Homecare patients were isolated from their healthcare providers;
- Access to hospitals is important for those with diabetes and respiratory issues.
- When these services are disrupted, people's health is jeopardized. Challenges accessing homecare patients within a community as well;
- For First Nations, cultural supports may be important in emergency response, and cultural activities may be part of the recovery period; and
- First Nations cultural (e.g., archaeological) sites are likely of critical importance in most cases and need protection.

IDEAS ABOUT NEXT STEPS FOR REDUCING RISK IN THE CONTEXT OF CRITICAL INFRASTRUCTURE SYSTEMS

Strengthen emergency response system

- Ensure each community has food and water;
- Create communications plans;
- Have emergency plans for the infrastructure that runs through First Nations communities (pipelines, railways, roads) in case anything happens;
- Understand where emergency services need back-up options;
- Have interconnected emergency plans across neighbouring communities to help each other out (e.g., resource and infrastructure sharing);
- Evaluate "people" needs, and availability, to do the work (to avoid overloading and bottlenecks), and how to get people to the places they are needed; and
- Ensure there are cultural community navigators,especially when folks are displaced to help communicate and connect. Funding is needed for these positions.

Do a regional risk assessment

- Understand what the risk is (community by community);
- Special attention to the vulnerability of many First Nations communities because of where they were forced to locate their communities, leading to disproportionate exposure to risk;
- Share results from local risk assessments;
- Include the lessons from November 2021;
- Carry out a survey to understand the key risk areas;
- Come to agreement on the list of critical infrastructure;
- Salmon are critical for First Nations in the Lower Fraser, and flood-related impacts like landslides affecting pristine spawning areas for salmon (and sturgeon) need to be pro-actively considered and addressed;
- Identify contaminated sites to prevent future contamination (and consider farm sources as well: gas storage, manure pits, fertilizer, pesticides);
- Assess highway and slope stability; and
- Understand the potential impacts of climate change.

Identify options and pathways for risk reduction

- Use new geo-spatial information to provide better cost analysis (e.g., collaborate with engineers). This will help develop a more concrete list for proposals for funding and will assist with resilience planning;
- Use a coordinated, transparent approach for upgrading infrastructure (regional aspect balanced with local essential services) so that no one is left behind, and smaller communities don't have to use up all of their resources for one infrastructure project;
- Look into more use of waterways as part of the transportation network (as has historically been done by First Nations);
- Explore strategies to give the Fraser River more room. We need a systematic, coordinated and methodological approach to reconnecting the river to its side channels and sloughs
- Consider where to raise or build dikes, and whether this is the appropriate solution.

Dialogue 3: Working at the Right Scale

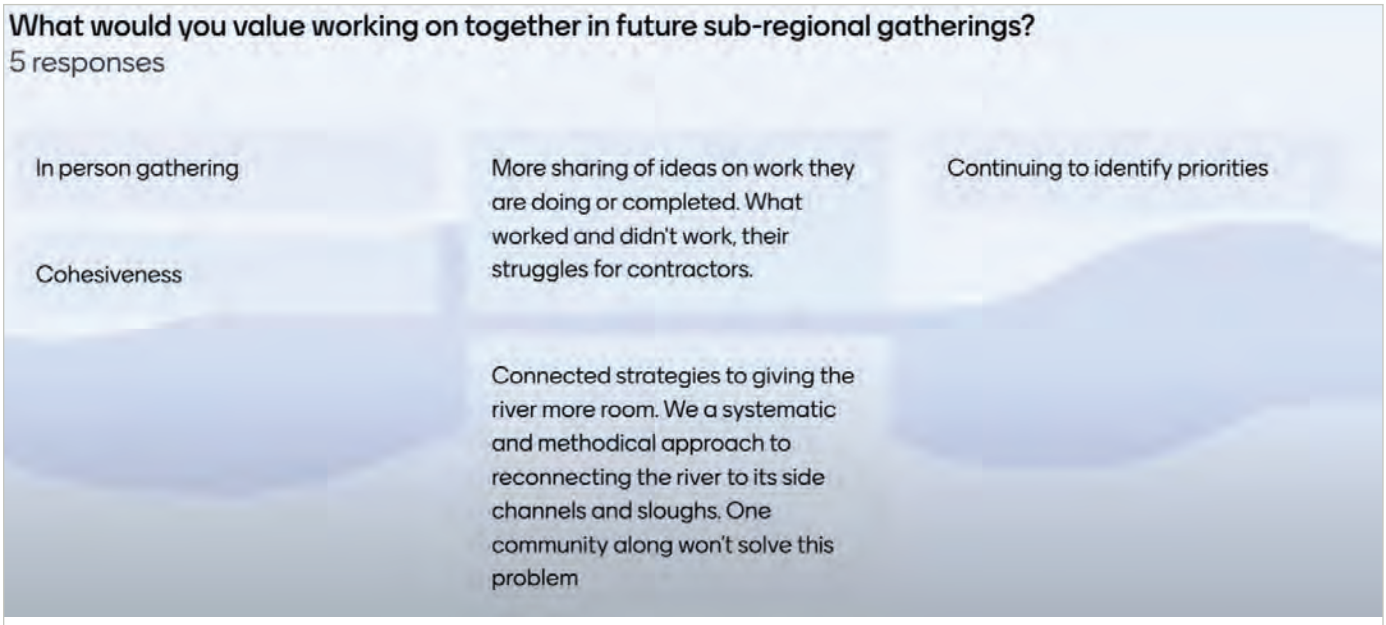
In the first and second rounds of dialogue guests identified how greater collaboration could and does help reduce flood risks and enhance resilience, and also explored some of the ways that communities are currently vulnerable because the risks to critical infrastructure and local essential services are not understood or managed in a coordinated way. In this final round they were asked to reflect on how to work together and build connectedness in flood risk governance.

These are some of the observations that were shared:

- It's hard to get everyone to the table, but it's important to have all the First Nations and local governments together for this work;
- There is a tension between the need to move fast, and taking the time to build the necessary relationships;
- Funding is a perpetual problem. We need reliable sources, criteria that enable the work that is needed, and more funding for critical infrastructure.
- Communication needs to be improved from community to community and across the region.
- Working together is a way to avoid upstream/downstream issues, e.g. where actions that reduce risk and harm upstream have negative impacts downstream.
- Working together is a way to (1) pool resources and capacity; (2) share useful information; (3) learn new approaches, and (4) learn from the experience of other communities;
- Regarding the scale for working together, it should start with neighbours, e.g. local folks that would work together in an emergency, but coordination with the whole length of the river, including coastal communities, is important.
- Some actions are not truly effective at a local scale. For example, connected strategies to give the river more room. We need a systematic and methodological approach to reconnecting the river to its side channels and sloughs. One community doing this won't solve this problem alone.
- It would be helpful for the region if the provincial government also coordinated its work.

Who else should be here:

- All the local and First Nations representatives that weren't able to make it;
- Provincial and federal representatives, i.e., WLRS, EMCR, ISC.
- Infrastructure owners: MOTI, BC Hydro, CN/CP Rail, the Port;
- Improvement districts/diking districts;
- Emergency Committees; and
- Funders.



Responses from a virtual poll of the participants on the value on working together in the future

Next Steps

Based on the results of the dialogue at the March 13 gathering, these are steps that the Lower Fraser Floodplains Coalition will support to advance shared understanding of flood risk and to assist First Nations and local governments to develop fundable actions and projects in accordance with their own priorities and objectives.

In particular, LFFC will work to support continued opportunities for First Nations and local governments to engage at the sub-regional level (for both leadership and staff), securing provincial and federal participation, as appropriate, including:

- Convening gatherings focused on leadership for relationship building and developing collective mandates that address priorities for communities;
- Convening sessions with First Nations, local governments, infrastructure owners/operators and other stakeholders to have more detailed dialogue about understanding risk and risk reduction opportunities, and the ways that communities are connected and interdependent;
- Supporting First Nations and local governments in developing fundable actions, including nature-based approaches, to reduce flood risk and build resilience.

The Lower Fraser Floodplains Coalition is a group of BC-based organizations and experts with the shared goal of helping BC's upcoming flood recovery and management efforts achieve the best possible outcomes.